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> "There are no ancient gentlemen but gardeners. . . They hold up Adam's profession.
> —*Hamlet*, v, 1.

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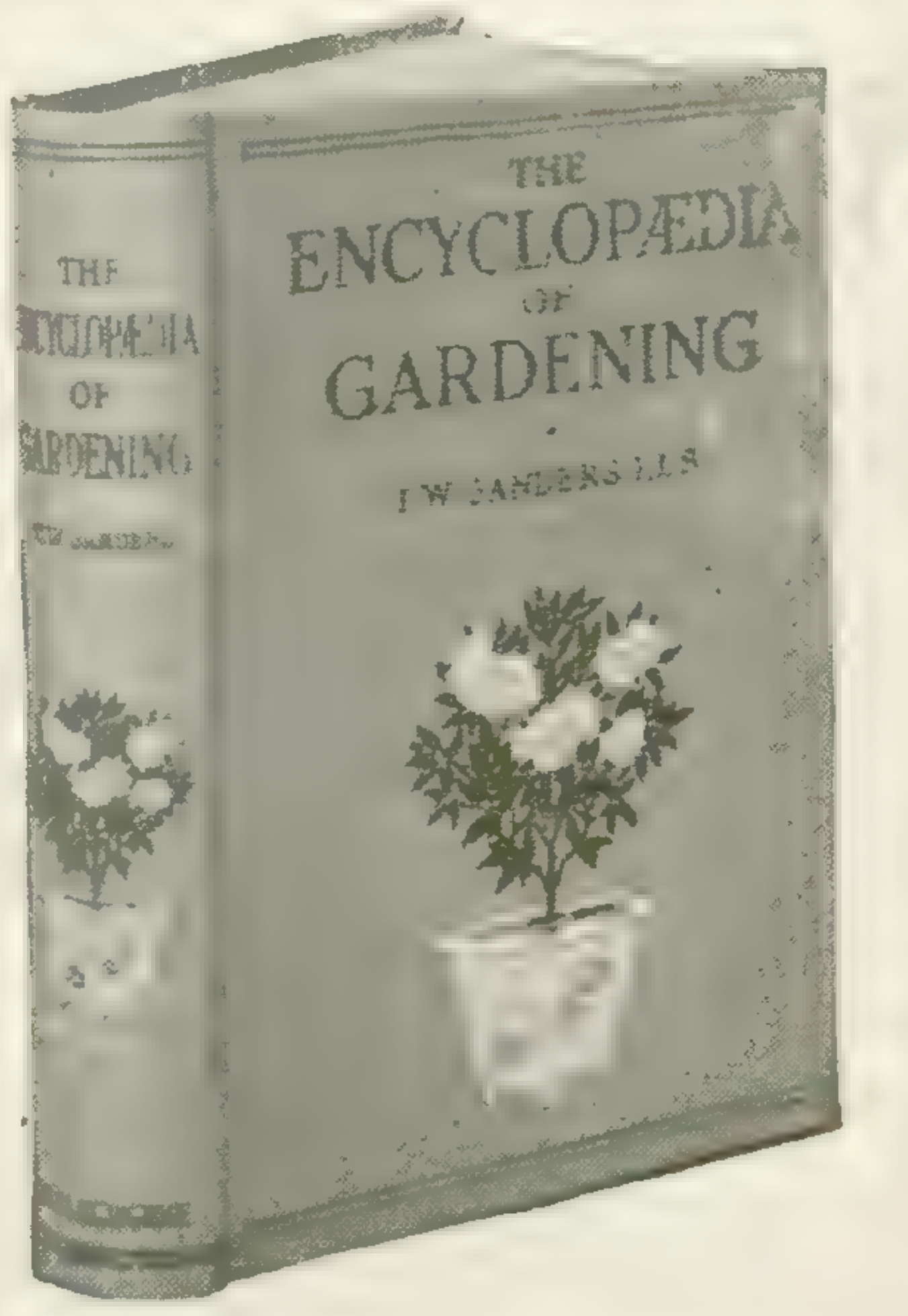

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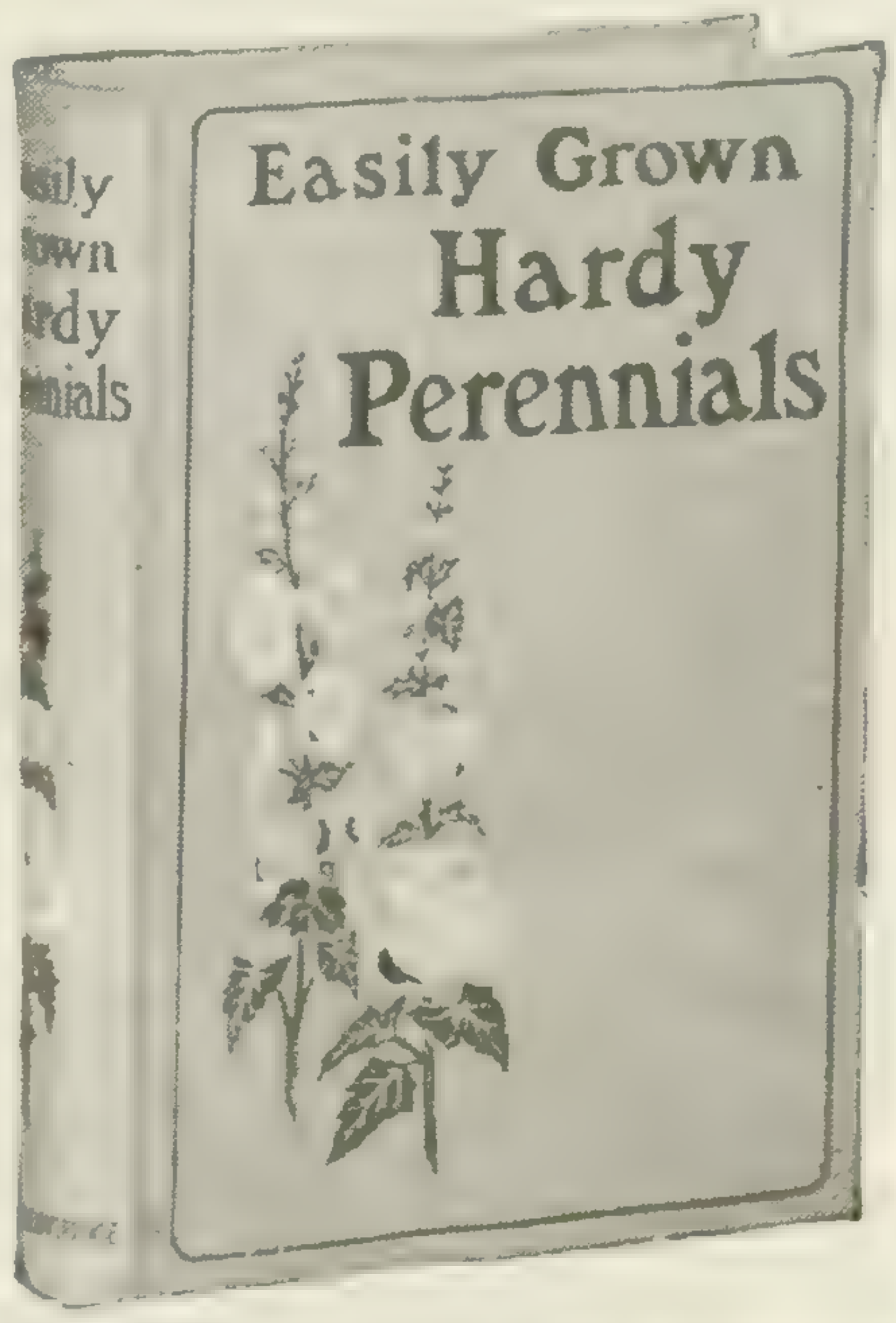

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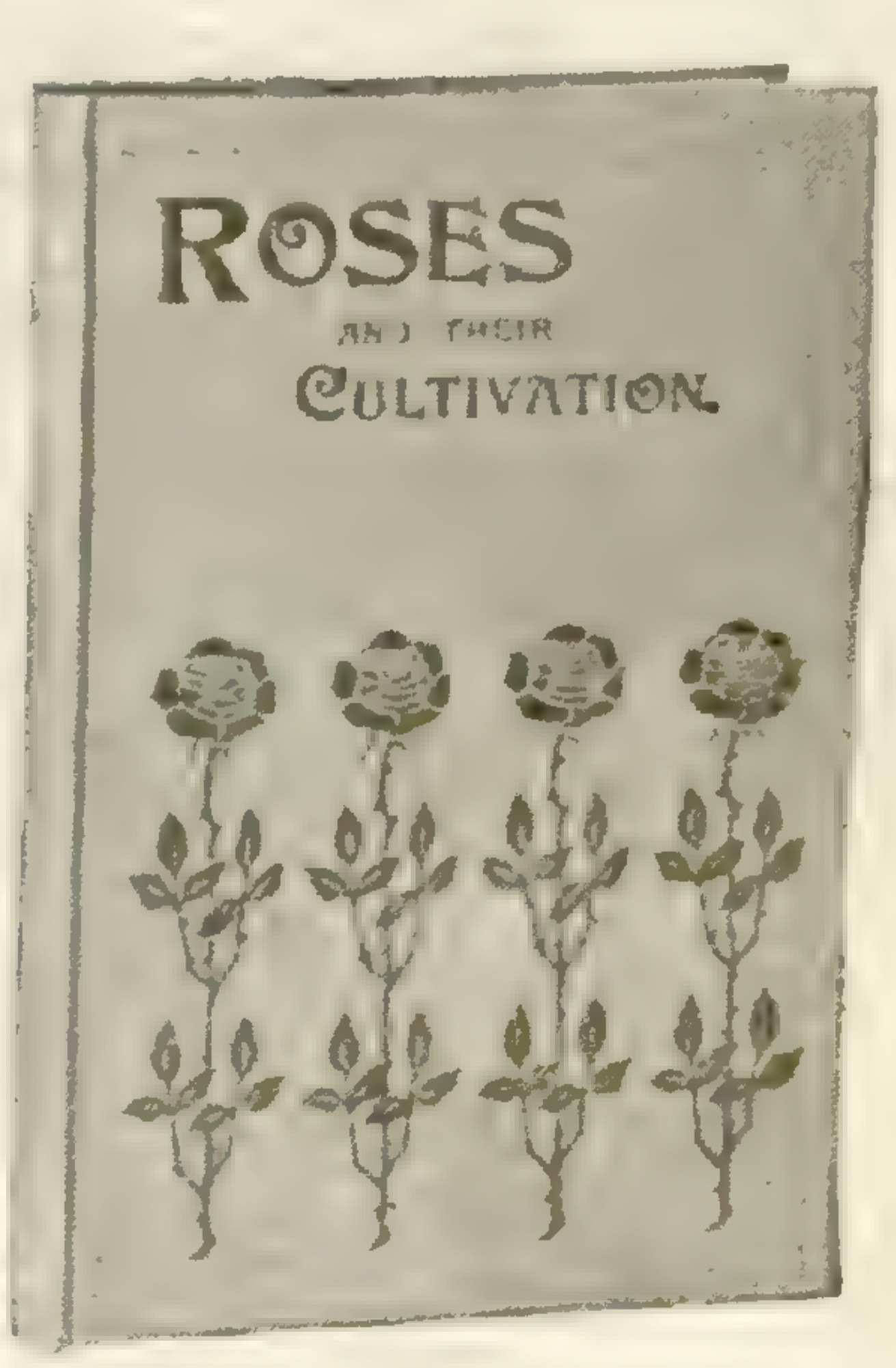

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THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Past and Present.

In alluding to the horticultural aspects of the year on which we have just entered, it appears desirable to briefly refer to a few of the more important events of the past twelve months, with a view to advantage being taken of the lessons they are so well able to afford. There is no occasion for us to give a history of the year in its relation to the gardening art, for all the exhibitions and functions of importance have been fully reported in these pages at the time of their occurence, and the new introductions that have obtained recognition from the leading societies have been described, and a considerable proportion illustrated. Our object in referring to them is to make such deductions from the past as are likely to be useful for future guidance. The exhibition side of horticulture received a full share of attention during the year, and the shows held by the principal societies, both in London and the provinces, were for the most part eminently successful. The exhibitions held by the Royal Horticultural Society at the Temple and Holland Park were highly successful from every point of view, and the interest, the usefulness, and the attractions of the fortnightly displays have been fully maintained and appreciated. On the other hand, the autumn fruit show was so poorly attended that the function will not have a place in the society's programme for the current year. We regret this, because the cultivation of hardy fruits requires the fullest encouragement, and it is possible that the interest might have been maintained had the commercial side of fruit growing been given greater prominence, and the display thereby rendered more diversified and attractive. The society has accomplished much useful work in other directions, and especially at Wisley, and it is satisfactory to have such evidence as the continuous increase of Fellows affords that its efforts in the furtherance of horticulture are fully appreciated by all who are more or less interested in horticulture. The success of the National Rose Society may well be described as phenomenal, for in the increase of membership, in its exhibitions, and in its activity in other directions all previous records were broken; and there is full justification for the belief that these in their turn will be surpassed this year. This success is unquestionably due to the well devised policy adopted some years ago, and continued until the present time, of giving such encouragement to all classes of roses as would ensure their adequate representation at the exhibitions, and of giving the members something, other than tickets of admission to the shows, in return for their subscriptions. The National Sweet Pea Society also achieved a full measure of success during the year; it held two successful exhibitions, conducted a trial of varieties of much value to cultivators, and materially increased the number of its members. This increase in numerical strength and in usefulness may safely be attributed to the successful carrying out of a policy at once comprehensive and vigorous. The Perpetual-Flowering Carnation Society, the most recent of the special societies, appears to have had a fairly successful year, for it held two exhibitions, both of a high order; that in December was extremely beautiful and had much value from an educational standpoint. With reference to the National Dahlia Society, it must be said that at the present time it is in a state of transition, and has the promise of attaining to a higher degree of popularity and usefulness than for some years past. As our readers have been informed, the London Dahlia Union has been amalgamated with it, and this combination, uniting as it does all classes of dahlia growers, should add greatly to the numerical strength of the society, and to its capacity for useful work. As the result of the amalgamation, a more advanced policy has been adopted, and strenuous efforts will, we understand, be made to extend its usefulness in directions other than holding exhibitions. The society will hold two exhibitions, and at both classes for cactus dahlias specially adapted for garden decoration, will, we believe, be provided, and for the first time the pæony-flowered varieties will receive encouragement. An endeavour is being made to arrange for a comprehensive trial of cactus dahlias, and if this can be carried out the society will have an opportunity of showing that it recognises its responsibilities, and intends to render service of far-reaching importance to the general body of cultivators. Horticultural exhibitions of a minor character were held as usual in large numbers, and in many instances they were of so high an order of merit as to prove to demonstration that the societies are doing excellent work. In many cases the exhibitions were decidedly poor, and especially was this so where societies have been so greatly multiplied that every village has its flower show. There are some whose opinions are deserving of respect who say that it is difficult to have too many exhibitions, but it should be remembered that

SIR DANIEL MORRIS, K.C.M.G., M.A., D.C.L., D.Sc., F.L.S.

when the societies in any particular district are so numerous as to be in excess of requirements there is a great waste of money and energy, and an insufficiency of funds to stimulate a really satisfactory competition. There are large numbers of districts where three or four societies could with advantage be amalgamated, and the exhibitions of the combined society be held at the several places in their turn. By this arrangement there would be a saving in the ordinary expenses, and a much larger sum be available for prizes. The result of this change would be exhibitions more interesting and attractive, and certainly more useful in their influence upon the advancement of horticulture. We trust this suggestion will receive careful consideration when arrangements are being made for active work during the year. It will not be found an easy task to combine several societies in a certain district, but considering how important are strong societies, an endeavour should be made to bring about a concentration of effort where it is seen to be specially desirable. Referring more directly to the horticultural programme of the year we need only say that it will be a full one, and that the preparations now being made by the leading societies indicate a degree of activity that speaks well for the advancement of horticulture. So far as this journal is concerned, there certainly will be no relaxation of effort to keep readers fully informed on the most advanced practice in the cultivation of ornamental and useful plants, and of the merits of new introductions as they make their appearance. The illustrated accounts of the more important gardening districts have been so highly appreciated that we shall continue this interesting feature throughout the year. We shall also give direct attention to roses, sweet peas, orchids, dahlias, chrysanthemums, fruits, vegetables, ornamental trees and shrubs, and hardy plants generally.

Sir Daniel Morris, K.C.M.G., etc., whose portrait we now present to our readers, has laboured hard for the empire for many years, and in many places, and though there must be some regret that his unique ability will now be no longer at the service of the nation as heretofore, no one will grudge him the well-earned rest to which he has now retired. After an education at Cheltenham, Royal College of Science, South Kensington, and Dublin University, where he was Gold Medallist, Sir Daniel Morris was appointed Assistant Director of the Ceylon Botanic Gardens in 1877, and while there he successfully investigated the coffee-leaf disease. In 1879 he was appointed Director of the Royal Botanic Gardens, Jamaica. He explored British Honduras in 1882, and reported upon the resources of St. Helena in 1883. It was in 1886 that he became Assistant Director of the Royal Gardens, Kew, and in the following year he became treasurer of the Royal Horticultural Society, a post he occupied until 1890, and in which he did a very great deal to put the society on a sound basis, and so pave the way for the great success that has followed. Sir Daniel went on a special mission to the West Indies in 1890-91, and in 1895 he visited the Bahamas, in each case with a view to improving the agricultural industry. His appointment as scientific adviser to the West India Royal Commission in 1896-7 was everywhere regarded as well chosen, and it was no wonder to any who were acquainted with his ability and wide knowledge, when, in 1898 he was appointed Imperial Commissioner of the West Indian Agricultural Department. In this capacity Sir Daniel Morris has been eminently successful in reviving the fallen industries of the West Indies. Under his guidance the cotton industry and the sugar industry have been re-established, while the banana trade has greatly increased, and cocoa, coffee, arrowroot, citrus fruits, etc., have all been taken up with a will. High cultivation, selection, and improvement of varieties, and prevention of waste have been insisted upon by Sir Daniel and by those capable assistants he gathered around him when he first took charge. He had also a great belief in the value of conferences and the bringing together of growers, traders, and scientists, and that belief led him to organise no fewer than seven inter-colonial agricultural conferences, the last of which, as our readers will remember, was at Jamaica, and was rudely interrupted by the great earthquake. He received his knighthood in 1903 as an acknowledgment of services rendered, but the steady revival of prosperity in the West Indies is the crowning glory of Sir Daniel's work. Sir Daniel Morris is the author of numerous reports upon Colonial matters, and treatises on special Colonial subjects, such as rubber, sisal, hemp, cacao, etc., so that what with studying, travelling, organising, and writing, his life has been an extremely busy, and we may add, an extremely useful one also.

"Gardeners' Magazine" Almanack.—With this issue we present our readers with a double-page almanack for the current year. This has been prepared with special reference to its usefulness in the garden office, and trade establishment, and contains the dates of all the principal exhibitions and meetings that had been arranged at the time of going to press. The fine gold medal hybrid tea rose, William Shean, with which the almanack is illustrated, is one of the many fine varieties raised by Messrs. Alex. Dickson and Sons, of Newtownards.

Christmas Flowers at Belvoir Castle.—Mr. W. H. Divers informs us that sixty-seven species and varieties of hardy plants were in bloom in the Belvoir Castle Gardens on Christmas Day. These were: Achillea aurea; Antirrhinum majus; Anemone fulgens, A. blanda, purple, and A. blanda, pink; Alyssum saxatile, fl. pl.; Arabis alpina, A. alpina, fl. pl., A. bellidifolia; Arbutus andrachne; Berberis Darwini, B. japonica; Ceanothus Gloire de Versailles; Clematis Jackmani, C. Fair Rosamond; Chimonanthus fragrans; Chrysanthemum indicum, many varieties; Coronilla emerus; Crocus Imperati; Cytisus albus; Daisy, common and double in variety; Daphne mezereum; Doronicum excelsum; Erica carnea, E. stricta, E. vagans; Erodium Manescavi; Erysimum Peroffskianum, E. compactum; Escallonia Ingrami; Gentiana acaulis; Helleborus Caucasicus, H. niger; Ionopsidium acaule; Iberis sempervirens; Jasminum nudiflorum; Laurestinus; Leptospermum scoparium, the Manuka tree of New Zealand, which has grown outside here since 1896; Myosotis dissitiflora Dyeræ; Lupinus polyphyllus, pink; Phlox amœna, P. Newry Seedling; Pyrus Japonicum; Polyanthus; Primrose, common yellow and Wilson's Blue; Pyrethrum parthenifolium; Rhododendron Nobleanum; Rose Banksian, and many other varieties; Rosemarinus officinalis; Saxifraga ligulata; Scilla siberica; Strawberry Vicomtesse H. de Thury; Spiræa fillipendula, fl. pl.; Statice sinuata; Stocks, several varieties; Tritelia uniflora; Tussilago fragrans; Ulex europæus or Gorse; Veronica Blue Gem; Vinca major; Viola Bullion; Violets, single Russian and Lady Hume Campbell double; Wallflower, Salmon Queen, Whitethorn, or May (Cratægus oxyacantha). The severe weather experienced since Mr. Divers' note was written has made an end of flowers in the open, and given Britishers an opportunity of participating in the "pleasures" of the so-called "old-fashioned" winter.

Lack of Holly Berries.—One very noticeable feature of the markets during the Christmas season was the great lack of berries on the holly exposed for sale. In the autumn one could not walk through woods and gardens without noticing how finely the holly was berried in the majority of cases; but after the dry weather there came a spell of wet weather, followed by bright days and warm nights that sent the sap surging through the stems and branches, and the berries, like all too many of our apples in the orchard, were literally pushed off the trees; at least, this is the only explanation one can give for the loss of holly berries. Mistletoe, especially imported produce, has been and still is, remarkably fine, being unusually well berried.

Snow and Frost.—As we write practically the whole of England, Wales, and Scotland is white with snow, and in the cities and towns the work of clearing snow from the streets and paths is giving work to the otherwise unemployed. It is Wednesday morning, and the sun is shining and making everything look beautiful under its winter mantle. On Sunday snow began to fall, and continued more or less until Monday night, when very severe weather set in, and Tuesday, December 29, was one of the most wintry days experienced for a very long time, hard frost, keen, driving wind, and heavy snow combining to make travelling a matter of great difficulty everywhere and by any means. We learn of trains snowed up for many hours together, and of cities like Aberdeen practically isolated for a quite long time. Altogether from six inches to a foot of snow fell, but in some districts, as at Alton in Hampshire, and in the extreme northern counties of England, the snow fell to a depth of 2ft. and more. The frost prevented the snow from melting, and even in London there were ten degrees of frost. At Dover and in Paris 14 degrees were registered on Monday night and early Tuesday morning. It is probable that such a severe storm and fall of snow has not been experienced since that dreadful day, January 18, 1881, when an east wind piled up the snow, stopped traffic, and caused a large number of deaths. In March, 1891, there was a heavier fall of snow than on either of these other occasions, but wind and frost were in no sense severe. During the present week the snow has spoiled the prospects of good skating, and the sharp frost has reduced the pleasure of snowballing, but where there are good slopes tobogganing has been, and still is, in full swing.

Tunbridge Wells Gardens.—The second of the two illustrated articles on the gardens round Tunbridge Wells will appear in our next issue.

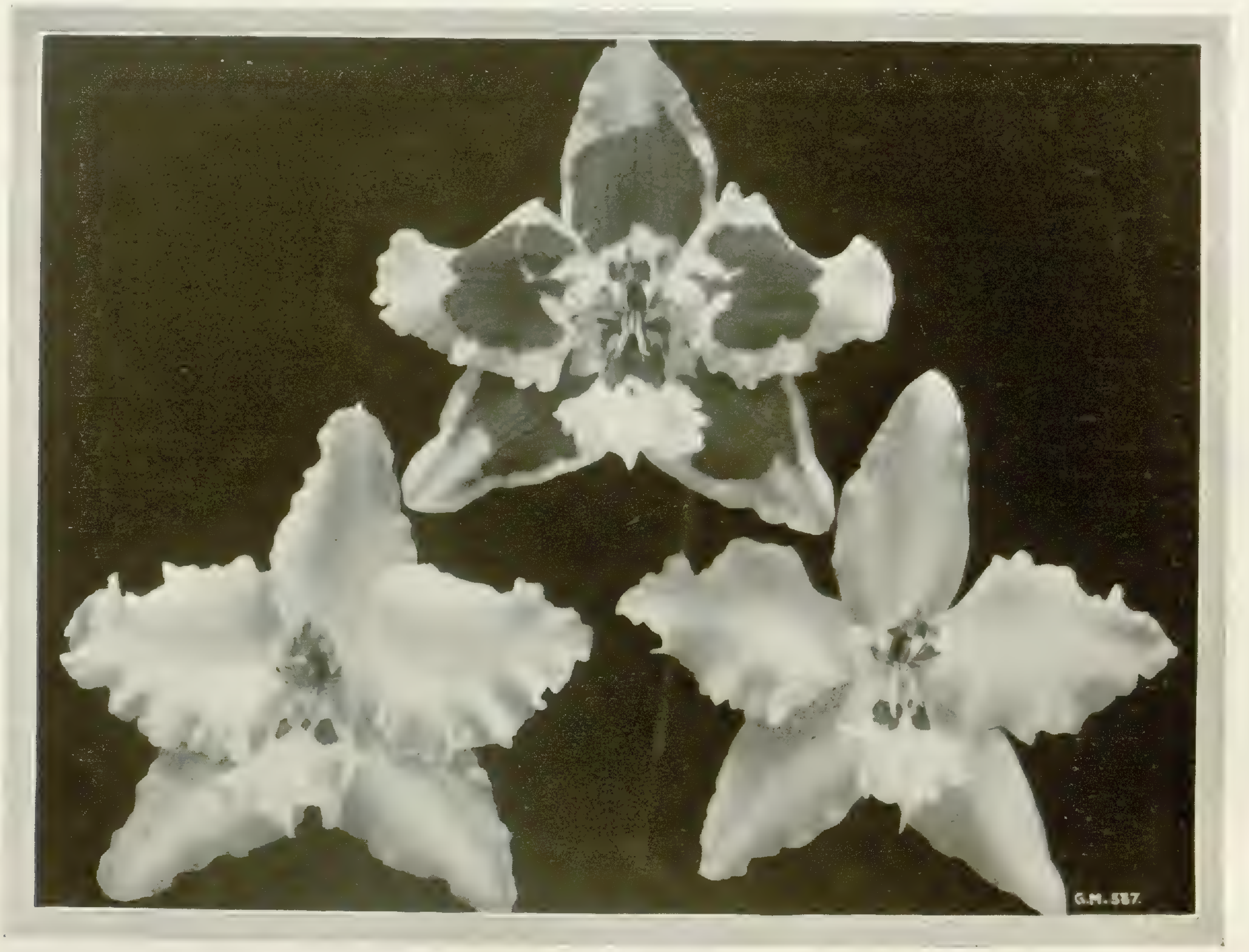
Garden Cities.—The next meeting of the London branch of the British Gardeners' Association will be held on Saturday, January 9, 1909, in the Charles Dickens' Room at Carr's Restaurant, Strand, at 7.30 p.m., when Mr. Cyril Harding, of the Parks Department, Cardiff, will deliver an address upon "Garden Cities: What they are, and what they might be." Professional gardeners are invited to attend whether B.G.A. members or not.

Lecture on Cypripediums.—Mr. Budgett, of Tramore, Henbury, Bristol, whose garden was described in our issue of December 19, gave a most useful and interesting lecture on "Cypripediums" before the Bristol Gardeners' Association a few days ago. Mr. Budgett is a keen amateur grower, and a vice-president of the society, and he obtained a gold medal for his fine exhibit of cypripediums at the recent Bristol Chrysanthemum Show. The lecturer kept chiefly to the insigne section, and he gave a demonstration of the method of cross-fertilisation, showing also how insects effect pollination in the Lady's Slipper Orchids. Mr. Budgett's fund of humour was as much appreciated as his details of cultivation.

Prizes at R.H.S. Meetings in 1909.—The Royal Horticultural Society has decided not to hold a great fruit show during the autumn of 1909, but they have arranged for a series of competitive classes at the various fortnightly meetings at Westminster. Prizes will be offered to both amateur and trade growers. On January 12 there will be four classes for grapes; on January 26 six classes for forced vegetables and salads; February 9, three classes for dessert pears; and February 23, three classes for late dessert pears. Other classes, for later dates have not yet been made known, but we may add that substantial cash prizes for bulbs will be offered on March 9, the Dutch Bulb Growers' Society and Mr. R. Sydenham both contributing considerable sums. On April 20 Messrs. Barr and Sons' silver cup for daffodils will be competed for, and the Veitch Memorial Medal and £5 will be offered for the best group of winter-flowering carnations exhibited on April 6. The Sherwood Cup will be of the value of 20 guineas, intead of ten guineas as previously, and it will be offered for the best group of orchids (traders' or amateurs') staged at the Temple Show.

A SEEDLING ORCHID.

The creation of plants is so vastly interesting to those who are engaged in the work, that the life history of a single individual among the thousands of orchids that are daily and momentarily depending on one for care and attention cannot be overlooked. It may be that the seed has been sown only a few days, and a careful examination bestowed by the aid of a magnifying glass reveals the fact that one individual seed has become plump and so far advanced that its transparent green marks it distinctly from the seeds surrounding it, which display little, if any, signs of activity.



SEEDLING ODONTOGLOSSUMS.
Raised from the same pod of seeds.

Naturally such a tiny atom of life becomes a special care, and with its development interest grows into attachment, as we notice its original vigour is maintained throughout its various stages of development. As if in response to the special care and encouragement it receives, this particular "pet" may develop its growth to such an unusual extent that there is every reason for believing it may create a record as regards the period between seed sowing and the plant reaching its flowering size.

The fascination that has been so great before now becomes excitement when a tiny spike appears and the flower buds advance to that stage where they give some indication of what the flower may be. If it should be an Odontoglossum crispum seedling, derived from the intercrossing of two of the renowned blotched varieties, some evidence is given at an early stage of bud development as to whether or not the blotched characteristics of the parents will be inherited by the offspring, and if such indications are present, the interest becomes greater as the buds reach maturity and the flowers expand. If expectations are realised, then we smile at the writers who contend that the blotched and spotted varieties are hybrids, or, if not, at the most only sports, and, therefore, possessing recessive characters, can only produce the typical forms

We have now achieved success, but how often do we experience disappointment? The fates have been more kind to some of us than to others, and we are satisfied with a reasonable share of the successes.

A most remarkable and, to me, a most significant thing has happened in my own experience, and I know there are others who can support this view, and it is that we invariably find the first plant to flower among a batch of seedlings to be the best variety. So even for those who have grown grey in experience with seedling orchids, there is something very stimulating in the prospect of flowering a first seedling from a new cross

The accompanying illustration will convey some of the pleasures and disappointments attaching to raising seedling orchids. The upper flower represents Odontoglossum ardentissimum Peetersii, and the white forms beneath were obtained from the same seed pod. O. crispum Chapmaniæ, readers may remember, produced flowers from the first pseudo-bulb about two years from seed sowing.

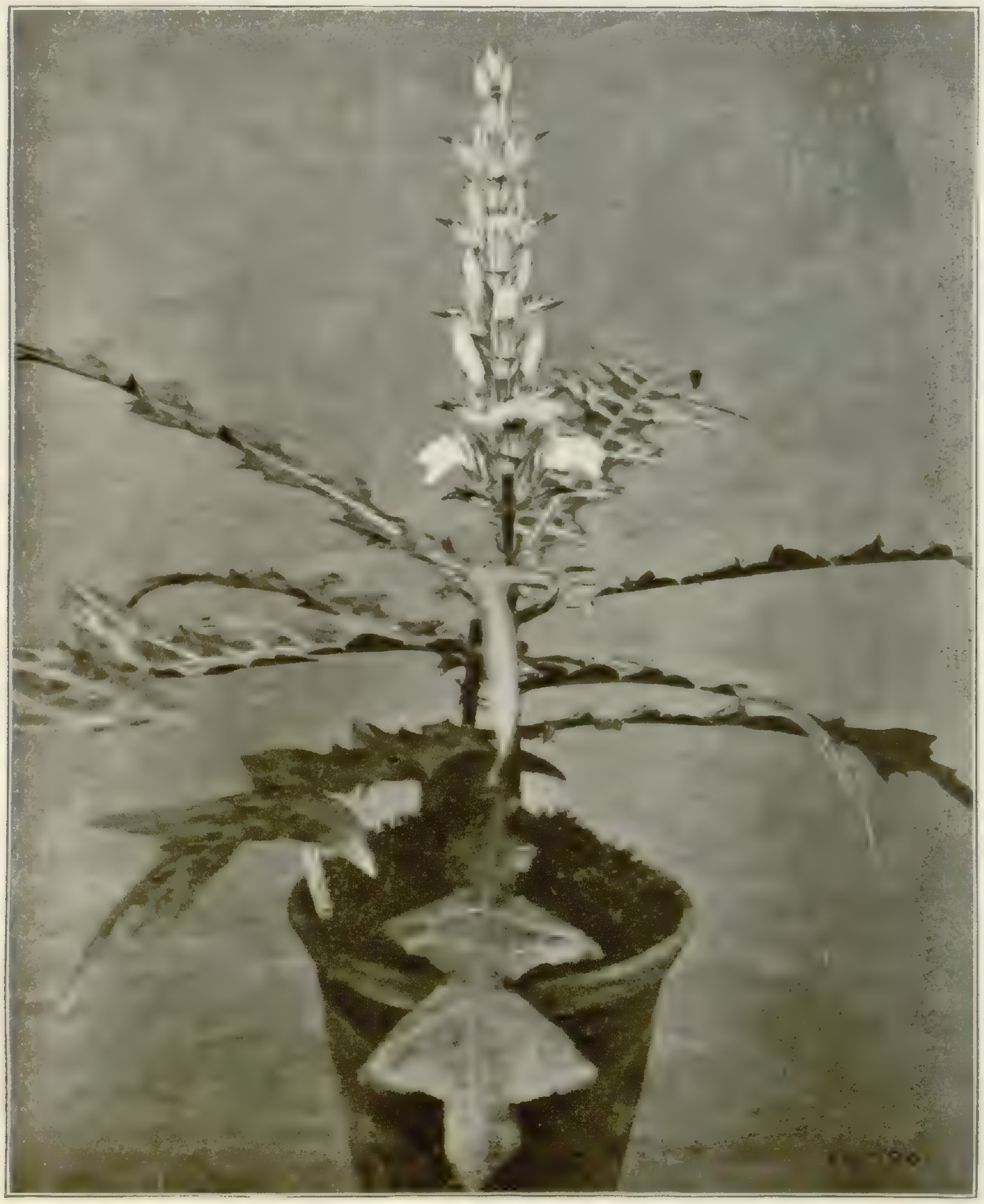
H. J. CHAPMAN

Oakwood Gardens.

COLOUR.

In the autumn, when we see the manifold tints of green which have hitherto prevailed in the landscape rapidly assuming nearly all the tints of the rainbow, even including brilliant hues of crimson and scarlet, which represent exactly the complementary colour of the greens they displace, the question of what colour really is becomes of peculiar interest.

The answer is really that colour is no corporeal thing at all, but only an effect. We may take substances which have most potent dyeing qualities which they can impart to anything with which they can be associated, but, though this seems to contradict our statement, we shall see that it really does not do so. The appearance which we term colour really results from a capacity in the substance concerned to absorb certain constituents of the rays of light and throw off the rest, this rest affecting our eyes in such a way as to agree with our ideas of a certain colour, which we then apply to the substance. In point of fact, however, we view the substance not by virtue of what is in it, but of what it has rejected or failed to appropriate. As red is the complementary colour of green, that is, a set of light rays of separate character, we are entitled to assume that all through the growing season, when foliage is green, it is really appropriating the red rays of light; and in this connection, it is a singular fact, that cultural experiments under red glass have demonstrated that red light greatly stimulates growth, while on the other hand, when green tinted glass was tried at Kew, the results were far from satisfactory. This process of absorption and rejection of the light rays must be an extremely subtle one. Let us, however, first explain their nature more fully.



ACANTHUS MONTANUS.

A handsome species, exhibited by Messrs. J. Veitch and Sons, at R.H.S. meeting on December 22, 1908, when it received a F.C.C. Leaves large, deeply cut, and marbled in two shades of green; flowers, white.

The light which we receive from the sun strikes us as white, which we consider as really colourless, but the sunbeam is an extremely complex affair. It is made up of an infinite series of light and heat waves, which vary greatly in length. Mixed up together they produce no colour effect at all; but when passed through a prism, a triangular bar of cut glass, it is found that the several lengths of the waves determine differences of direction in passing through the differing thicknesses of the glass; and, as a consequence, they are sorted out and distributed in a regular row, forming a colour beam of light which is termed a "spectrum." A sun-lit rain shower does precisely the same thing when we see a rainbow; the white light is broken up into its constituent colours, and always in regular order. In the artificial spectrum, it is found that beyond the visible or colour-producing waves there are others, invisible, which are heat waves, with which, however, we have nothing to do in this connection, though they are doubtless very potent factors in vegetative activity.

Now, in leaves, which change colour markedly in the autumn, and in many flowers which pass through a series of different tints in the course of development and decay, it must be a very subtle process of alteration which induces at one time the absorption of light waves of a certain length, i.e., tint, and their rejection at another, when a different set is selected instead. Then, too, we have multi-coloured flowers of many kinds in which different parts of the petals possess different capacities in this respect in curiously arranged spots and stripes, or in other varied ways. Then, too, the colours, as shown by the "spectrum" or rainbow, are pure colours, there is no mixture of tints at all. Though they grade delicately into one another, and so form intermediate hues, this is quite a different thing from the infinite gamuts of other tints which exist in nature, and in man's artificial productions. Thus in many colours we have a power of absorption and rejection which does not merely mean breaking up the sunbeam and adopting and rejecting adjacent sections of its component colours, but of doing so with all sorts of selected mixtures of non-adjacent ones, just as a painter might dip his brush into the numerous varied tints on his palette as he has to do when he attempts to reproduce them on his canvas.

Finally, we may well give a thought to the wondrous sensibility of our eyes which can not only receive this marvellous complex of rejected and reflected light rays on the retina, but has a nervous system delicate enough to carry the full impression to our brain, and thus enable us to enjoy the infinity and beauty of colour around us.

CHAS T. DRUERY, V.M.H., F.L.S.

CYMBIDIUM EBURNEO-LOWIANUM.

This distinct and handsome orchid was the first cymbidium hybrid introduced. It was raised by Messrs. J. Veitch and Sons, Chelsea, first flowering in 1889, when it received a first-class certificate from the Royal Horticultural Society on March 12 of that year. The annexed figure represents a noble specimen of this hybrid in the collection at Westonbirt. This plant ten years ago was growing in a six-inch pot, it now occupies a teak tub twenty inches in diameter, the plant having been gradually shifted on as it became root-bound. At the last Ghent show this specimen formed the centrepiece of Colonel Holford's exhibit, carrying 24 spikes and 124 flowers. This hybrid shows the usual combination of characters of the two parent species, the leaves being long and gracefully arching in which they much resemble the seed parent. The racemes are quite intermediate, bearing from three to eight flowers each, and ten spikes come well up out of the foliage, these being freely produced annually from healthy established plants. Like the majority of cymbidium hybrids it is a free grower, which makes it a very popular orchid. Here at Westonbirt, all cymbidiums are growing together in a house with a cool intermediate atmospheric temperature.

Westonbirt. H. G. ALEXANDER.

Lady Gardeners not wanted in Austria.—The question of the establishment of schools and classes for women gardeners came up for discussion at the recent meeting of the Imperial Austrian Horticultural Society, and it was discussed with a good deal of warmth. The scheme was rejected by a very large majority, and the president, who was known to favour the proposals, was not re-elected.

DEW AND FROST.

In the vegetable kingdom, the heat of the sun is the cause of growth, and its light the cause of maturity. Animals may live with little or no light, but no green-leaved plant can come to perfection without it. The sun's rays are both those of heat and light. Were it not for the wise prevention of the accumulation upon the earth of the heat received from the sun, all life upon our globe would be destroyed.

Evaporation and the radiation of heat into space from the earth during the night, when it receives little in return, accomplish this purpose, and these means are the source of great benefit. When the surface of the earth has, by this radiation of heat, become colder than the surrounding air, the moisture of the air is condensed upon it in the form of dew, just as when moisture appears on the outside of a glass of ice-water upon being brought from the cold outside air into a warm room. The value of dew to vegetation is manifested in long periods of severe drought. This moisture gathers where it is most needed, on low plants, the roots of which do not penetrate the earth deeply, and on foliage near the ground.

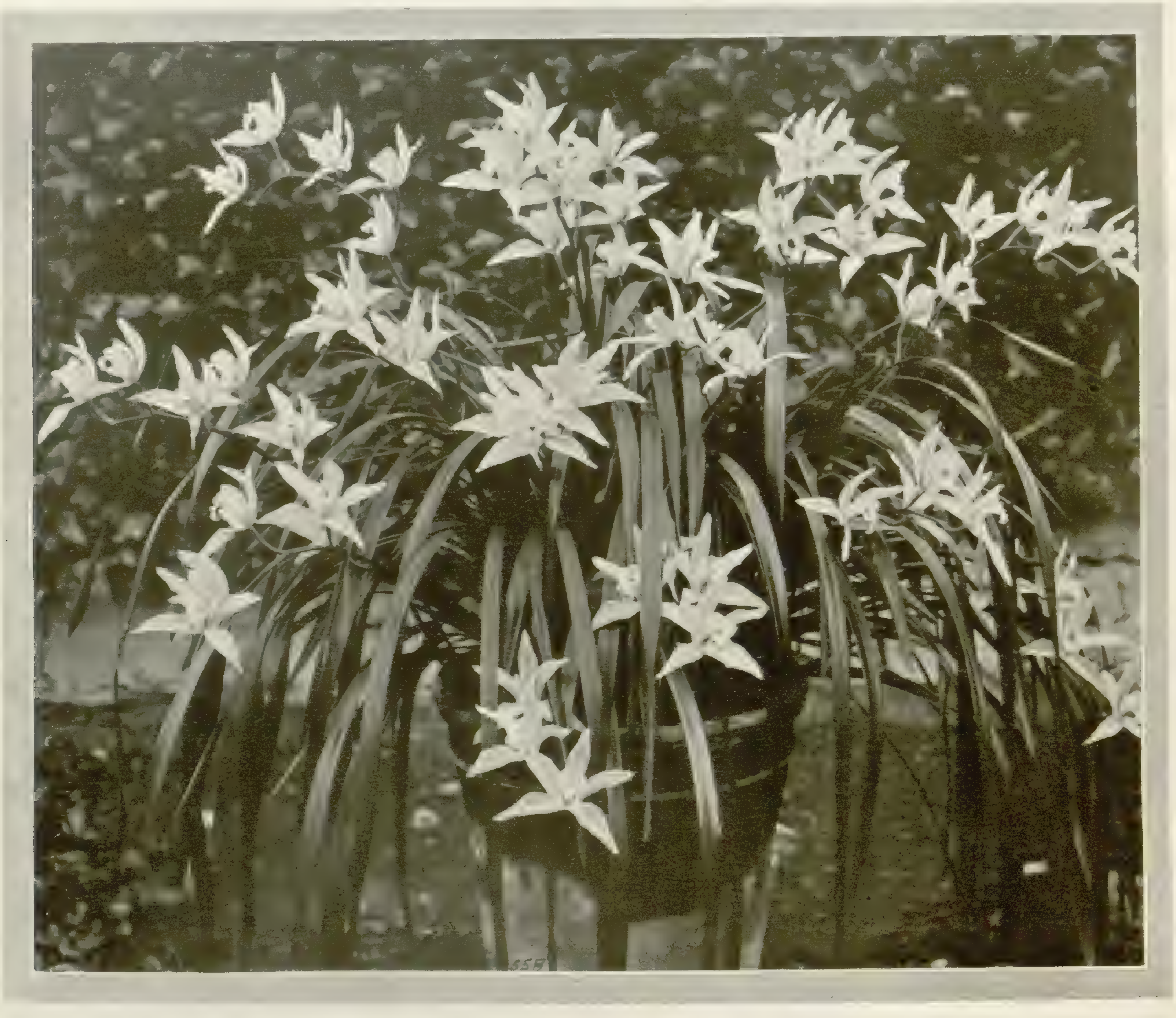
Investigations at Rothamsted, Herts, showed that dew is much richer in plant food than rain, containing twice as much nitrogen, which may serve in some degree to explain its remarkably invigorating effect on vegetation. The precipitation of moisture upon tender vegetation must diminish the cold which occasioned it, and thus prevents the injury that might arise from that cause. The partial prevention of cold on an object near the ground by the interposition of a screen between it and the sky, is due to the reflection of heat by the lower surface of the screen back to the object. This compensates in part for the loss by radiation. The gardener avails himself of this in protecting his plants in cold and clear nights by the interposition of screens, which are most effective when not in contact with the vegetation to be protected. Clouds similarly prevent injury from cold at night by radiating heat to the earth in return for what they intercept from the earth. The lower the clouds the more effective they are. Fog or clouds of smoke have the same effect as clouds of vapour.

The reason why depressed locations suffer most from cold and frost by radiation is that they are more becalmed; and there must also be less dew in them, because of the calm atmosphere which provides the moisture. It is true that at considerable altitudes the air becomes colder as the height increases, but on hills, in cold and clear nights, the frosts are less severe in consequence of the movement in the atmosphere. The dew, which has been deposited upon vegetation by condensation from the atmosphere will become hoar or white frost when the object upon which it has settled is cooled by sufficient radiation to congeal the water into crystals of ice; frost is impossible unless the thermometer falls as low as 44 deg. F.

Plants supplied with heat and moisture may grow for a short time in darkness; but there will be no development of chlorophyll or leaf-green, and they cannot thrive. Plants, in all stages of growth, need the presence of atmospheric air, from the seed requiring oxygen for its germination to the plant which acquires its chief supply of carbon from the air. Water is absolutely necessary in the economy of vegetation.

The management of plants under glass, whether they are to be transferred to the open ground or not, requires an acquaintance with the effects of these various agents and phenomena, so that they may be made to harmonise in the production of a sturdy and healthy vegetation. If a relative excess of either is permitted, failure is certain. A spindling growth will result from too much light or heat; too luxuriant growth from an excess of moisture and heat; and the plants are apt to damp off from much moisture and deficient light.

Harpenden. J. J. Willis.



A FINELY-FLOWERED SPECIMEN OF CYMBIDIUM EBURNEO-LOWIANUM.
In the collection of Lieut.-Colonel Holford, Westonbirt.

Hippeastrums are in many cases throwing up strong spikes, and unless recently potted they should now have some assistance from liquid manure or some approved fertiliser, as the development of the large flowers must severely tax the bulbs. Those which have been stored under stages will require to be examined weekly, as it frequently happens that the spikes are damaged in the early stages of growth by neglect from overcrowding or damping.—Thomas Smith, Walmsgate Gardens, Louth.

GREENHOUSE ANNUALS.

At the present time the tendency is to grow under glass large quantities of a few given subjects rather than to secure as much variety as is reasonably possible in the space to be filled, and this tendency has driven many things almost out of cultivation, and especially such things as are unsuited for house decoration. I am no advocate for the general mixing up of subjects, yet one cannot but regret losses of really beautiful plants, and no class of plants has suffered more from this cult of the big batches than the annuals, and it is quite refreshing now and then to meet with a well-grown group or plant of some old favourite of this class.

For the purpose of these notes I interpret the word annual as meaning any plant which may be raised from seed, and will flower and die within any period of twelve months, no matter when these months begin or end, as I fail to see why plants which go through their course of existence between January 1 and the end of December have any more claim (except that of a foolish custom) to be called annuals, than those which go through the same process, say, from July to the following June.

The plants of this class which I name below, appear to me to be sufficiently beautiful to need very little impetus when fashions change to make them again popular, but almost all of them appear to have suffered in loss of popularity during recent years. Of course, one knows that there are still to be seen occasionally well-grown batches of herbaceous calceolarias, balsams, and, perhaps, still more often of celosias—apart from the cockscomb type, a type that always struck me as more monstrous than beautiful. Another annual which has increased rather than fallen off in popularity in recent years—this popularity being due to its value for house decoration—is the Mock Cypress, Kochia scoparia tricophylla, a very elegant plant at all stages, but more especially in its autumn dress.

The newer forms of nicotiana, such as N. Sanderæ, the flowers of which are carmine-coloured and fairly fixed, and the N. Sanderiana in a variety of colours are at present enjoying a certain amount of popularity, and there is also no question that the newer forms of schizanthus sent out as S. hybrida are particularly and deservedly popular at the present time, few plants giving such a display of elegant flowers in many delicate colours from such a small amount of pot room. Ipomæa rubro cærulea might be much more often seen than it is, for thinly trained over a roof it takes up but little room; and in fact, in addition to its beauty, it may be made a useful adjunct in affording a little shade to plants below. For the same purpose, or for baskets, the various thunbergias, such as T. alata and T. aurantiaca are excellent, and may be used with charming effect.

A not too well-known annual is Exacum affine, which is one of the neatest and most shapely plants for growing in small pots, and a batch of it provides a wealth of greyish blue flowers effective for massing or for facing up groups of other plants with which it may associate in colour. Alonzoa Warscewiczi, with its rosy scarlet flowers, is a very telling and free-flowering annual, covering quite a long season when well grown. Datura cornucopia is a handsome, but little seen plant, good for decorating large conservatories in summer when these are often semi-bare. The browallias and torenias might also be more often grown, and in fact, the plants mentioned are only a small number of annuals, or of plants best treated as annuals, that are sure to some day again become popular.

J. C. TALLACK.

Shipley Hall Gardens.

GOLDEN-LEAVED TREES.

The judicious use in parks or gardens of trees whose leaves are of other colours than green is of considerable advantage from an artistic standpoint, for such trees make distinct breaks of colour, and if planted tastefully blend beautifully with the prevailing hue, and serve to brighten up the landscape at a period when the flowers of most trees have fallen. A comparatively wide selection of trees is at hand for the purpose, and their leaves may be golden, purple, bronze, silver, or variegated. It is, however, with the former only that we are dealing at the present moment, and a considerable number of such trees to select from are at hand.

Golden-leaved trees comprise both deciduous and evergreen subjects, and examples may be obtained for almost any position. They may be used in a diversity of ways, each having its peculiar merit. The larger-growing kinds may be placed in conspicuous positions in large or small groups, whilst as isolated specimens they are equally advantageous. Such groups formed on hillsides are frequently effective, for, in an elevated position, they can be seen from a considerable distance, especially when backed up by green-foliaged trees. Isolated examples are also commendable, especially for lawns and other conspicuous places. The smaller-growing kinds may be requisitioned for the neater parts of the garden, where they are equally at home mixed with purple, silver, or bronze-foliaged subjects, or planted to form simple golden masses, whilst some may be used successfully as dot plants in shrubberies, especially where the prevailing hue is of a somewhat sombre character.

The group may be roughly divided into two divisions, evergreen and deciduous. The former is composed largely of conifers, the only other family which produces suitable material being the holly. Coniferous trees may be divided again into two groups, golden and golden variegated. In the former group the leaves are golden throughout, assuming a more or less greenish tinge towards winter, whilst in the latter the leaves may be striated with green or gold, as in many yews, or the gold and green may be in patches. The latter condition is very noticeable in some of the cupressuses, and varieties exhibiting this character should be avoided, for they rarely behave satisfactorily. The golden patches frequently die, and the variegation gives the trees a more or less diseased appearance. In the following notes varieties of this description are not mentioned.

Cupressus Lawsoniana provides several golden varieties, which assume the same habit as the type, and grow to a considerable size. They are increased by means of cuttings in autumn, or by grafting on to stocks of the type in spring. Good varieties are aurea, lutea, and gracilis aurea. The latter is of very elegant habit, and a distinct acquisition. The Japanese C. obtusa provides several varieties, good forms being aurea, tetragona aurea, and Crippsi. The latter is a strong-growing, richly-coloured variety of good habit, whilst tetragona aurea is of slow growth, rather low stature, and good colour.

In the Retinospora group (C. pisifera) the best golden variety is plumosa aurea. This forms a distinctly beautiful specimen of plumose habit, with delicate golden leaves. It is well adapted for a conspicuous place on a lawn. The American Arbor-vitæ (Thuya occidentalis) provides several golden varieties; aurea and lutea are the best, but they are inferior in merit to the various varieties of cupressus. Thuya plicata aurea is a strong-growing form of the "canoe cedar," whilst zebrina, a variety of the same species, has foliage curiously barred with green and gold. A golden variety of the Chinese Arbor-vitæ (Thuya orientalis) is in cultivation. This is of rather dense, compact habit, and of slow growth. In addition to these there are golden varieties of Pinus sylvestris, Pinus cembra, and the common spruce. The various yews are very ornamental, but more frequently assume a bush-like habit than tree-like proportions. Good ones are T. baccata elegantissima, Barroni, Dovastoni aurea variegata, adpressa aurea, and fastigiata aurea.

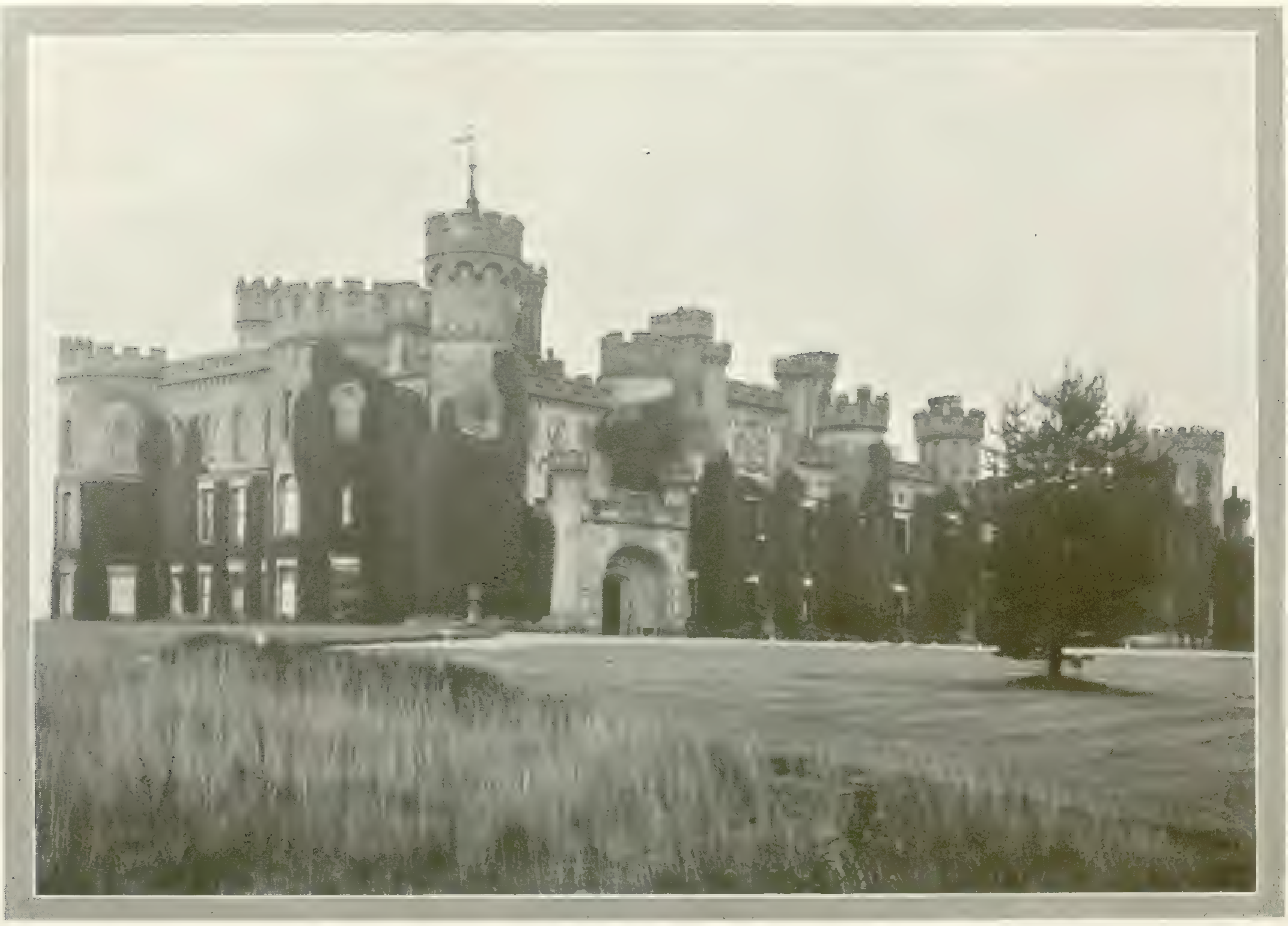
The golden hollies are exceedingly valuable subjects. Some of the best are Golden Queen, Golden Milkmaid, Watereriana, aurea, marginata, latifolia, and Lawsoniana.

For general purposes the deciduous section of the group is possibly of greater value than the evergreen set, for the various varieties thrive in places where coniferous trees would not have much chance. Catalpa bignonioides aurea is one of the best-coloured trees we possess, the colour being a rich gold, whilst it remains good from the time the leaves appear until they fall. Unfortunately, it is of low stature, growing in width more rapidly than in height. Amongst the sycamores and maples there are several golden-leaved and golden-variegated varieties. A few of the most conspicuous are Acer negundo californicum aureum, also known as A. odessanum, a conspicuous and strong-growing tree of good colour; A. negundo aureo-variegatum, a variegated form of the same type: A. Prinz Handjery, a golden-leaved form of the sycamore, of rich colour when the leaves expand, but fading to a yellowish-green tinge towards midsummer: a golden-variegated form of the sycamore, known as flavo-marginatis, is conspicuous, and keeps its colour throughout the summer and autumn, while lutescens, a golden-leaved Acer platanoides, is very pretty.

A set of three elms provide change, one of them, a form of Ulmus campestris, known as Louis van Houtte, being specially worthy of notice. It is of strong growth, and rapidly forms a fine specimen. A form of the same species, known as antarctica aurea, is recognised by its weak growth and small golden leaves, whilst U. montana fastigiata aurea is a golden form of the fastigiate mountain elm. Two oaks are of value, Quercus pedunculata Concordia and Q. rubra aurea, both having rich golden foliage. For damp ground Alnus glutinosa aurea and Populus deltoidea aurea are both useful trees, the latter being a particularly fast grower, and a good subject to plant for a quick effect. Amongst ashes, a golden-variegated form of Fraxinus americana, called aucubæfolia, is showy, and worth a place. In addition to the above-mentioned, there are several of inferior merit, a few of which are Ptelea trifoliata aurea, Pyrus malus aurea, Laburnum vulgare foliis aureis, Acer dasycarpum lutescens, and Pyrus aria chrysophylla. As a miniature tree the golden form of the Japanese maple, Acer japonicum, is very beautiful, while the golden-leaved varieties of Acer palmatum are equally desirable.

W. DALLIMORE.

Kew.



ERIDGE CASTLE, TUNBRIDGE WELLS.

GARDENS ROUND TUNBRIDGE WELLS—I.

Tunbridge Wells is not only popular among those who visit it during periods of relaxation from the sterner aspects of life, but it has become a great residential centre, and within a radius of six or seven miles there are large numbers of mansions set in gardens equally remarkable for their extent, beauty, and high keeping. There is always a difficulty in visiting a great gardening centre for the purpose of giving an account of its distinctive characteristics; but nowhere has the difficulty been greater than in this case. Time and space are limited, but there is hardly a limit to the number of good gardens. Hence many gardens that one would like to see could not be visited, and some that one had the pleasure of seeing have to be referred to more briefly than could be desired, and a goodly number of photographs have to remain, for the present at least, in the portfolio. The gardens that will be described in this and the following issue were selected with a view to include as many distinct types as possible, and thus give as it were a representative sketch of the horticultural aspects of the district.

Eridge Castle.

Chief among the numerous great gardens within a few miles of Tunbridge Wells are those of Eridge Castle, the magnificent seat of the Marquess of Abergavenny, which has been the home of the Nevills for upwards of 500 years. With reference thereto an old writer states "There is a place called Eridge Park, belonging to Lord Abergavenny," wherein, he proceeds, there is "an assemblage of all Nature's beauties—hills, vales, brooks, lawns, glades, thickets, rocks, waterfalls—all wildly noble and irregularly amiable." The description, if quaint, is apt, and conveys in a few words an excellent idea of the many beautiful features that have combined to give Eridge Castle a prominent position among the stately homes of this country. Need it be said that since Hill's time, art has combined with Nature to enhance the charms and interest of the many beautiful features, more especially those that are near the house. Among other things that have been done has been the erection of the castle, which occupies a commanding position in the park, and the creation of the wide-spreading gardens and pleasure grounds that form so glorious a setting to the grey pile.

The castle has for its setting on the south side a magnificent breadth of lawn, with numerous stately trees, of which the fine Cedar of Lebanon, and a few others, are seen in the illustration. On the eastern side, and in a position that did not come within range of the camera, is a specimen of the Weeping Beech that probably has no equal and certainly no superior in the United Kingdom. The height and spread of the branches are quite exceptional, and the contour is perfect. I have seen many fine specimens of this elegant tree, but none that can approach this, which the Marquess of Abergavenny told me was of large size when he was a boy. I shall hope to give an illustration of this beech at no distant date, and it may be of one or two other objects of special interest. On the slopes to the north of the castle there is an extensive pinetum, this being of interest for the many fine specimens of choice kinds it contains and from the fact that a considerable proportion of the trees have been planted by distinguished visitors. There is, for example, a specimen of Abies nobilis, planted in 1881 by King Edward VII., then Prince of Wales; other especially noteworthy examples including Pinus sylvestris, planted in 1882 by the late Duke of Edinburgh; Abies polita, planted in 1886, by the late Duke of Clarence ;, and Sciadopitys verticillata, planted in 1885 by the late Duke of Cambridge, and Abies Douglassi planted in 1877 by the Princess Louise.

At the foot of the steps leading from the terrace on the south side of the castle there is a spacious geometric flower garden, in which plants remarkable for the beauty of their flowers or foliage are used with good effect in giving colour to the scene. These need not be particularised, but it should be mentioned that the colouring is quiet and in full agreement with the beautiful scene in which the beds form a dominant feature. Proceeding across the lawn to the left and taking the walk that intersects the lawn, between the great hedges that form a screen to the kitchen and fruit gardens and the village of glass, and the light iron fence that separates the park from the pleasure grounds, one meets with many attractions. Here we find beds and borders, not perhaps innumerable, but in large numbers, filled with roses, hardy herbaceous plants, and other subjects of value in contributing to the attractions of the pleasure grounds. Situate midway on the walk and among great masses of dwarf and standard roses is the garden pavilion, a structure elegant in design, and with windows so arranged that those who resort to it for rest and refreshment can enjoy both light and air in such measure as they may wish. There is no gloom such as is associated with many garden houses, and those who resort to it can enjoy a book or write letters without difficulty in the matter of light, and enjoy the fresh air, so invigorating in its effect, for which the whole district is famous. They can do more than this, for the structure is so placed as to command a prospect of unsurpassed loveliness. Why garden or summer-houses should so often be placed in out-of-the-way positions, and be fitted with windows unequal to the admission of light and air is difficult to understand, but there is no difficulty in appreciating the advantages which the light and elegant pavilion at Eridge affords. A short distance beyond this structure is an especially fine herbaceous border, and in this one has, in the course of the summer, an opportunity of seeing the hardy geraniums in so high a degree of perfection as to come as a veritable surprise. It would be pleasant to pause and speak of them in detail, but the temptation has to be resisted and the brief statement made that they are all in a robust state of health, and bloom profusely.

THE GEOMETRIC FLOWER GARDEN AT ERIDGE CASTLE.

The grounds of Eridge Castle are rich in beautiful and stately trees, and to some of these a brief reference has already been made. They indeed form a great feature; and of special interest is the long line of tulip trees that arrests the attention of the tree-lover soon after passing the plant border, with its glorious display of hardy geraniums. A single specimen of Liriodendron tulipiferum, rising to a height of fifty or sixty feet, and well furnished throughout, invariably evokes the warmest expression of admiration, and deservedly so, for it is one of the most shapely of deciduous trees, and the foliage has the advantage of being at once distinct and handsome. Here there are fifteen in a row, rising to a great height, and furnished with wide-spreading branches; and as one calls to mind the impression they produced, it is not easy to speak of them without conveying the suggestion of extravagant language. The difficulty, of course, is in speaking of so distinct and interesting a feature in sufficiently appreciative terms. That it is unique goes without saying, and it is not surprising Eridge should be proud of its possession. An illustration is given herewith of the trees, and they are admirably portrayed, but necessarily the fifteen splendidly developed trees lose considerably in being compressed into about twenty square inches.

The department devoted to the production of fruits and vegetables in the open and under glass is such as might be looked for in so princely an establishment, and the judgment and skill that are brought to bear upon its management is exactly what might be expected from so able a gardener as Mr. A. Wilson. Early and late grapes, peaches, and figs are grown on a large scale in the spacious and admirably equipped houses, and in the respective seasons one may see crops that are equally remarkable for their bulk and high quality. Plant culture under glass necessarily receives a full share of attention, for only by such means could decorative plants and cut flowers be produced in sufficient quantities to meet the requirements of so extensive an establishment. In like manner cucumbers, melons, tomatoes, and early vegetables under glass are annually grown in immense quantities. In the six or seven acres devoted to fruits and vegetables grown in the open, there is an abundance of interest, and it may be said of cultural skill also, and one might refer at some length to the many object lessons they afford; but the scheme of these notes does not permit fulness of detail, and therefore this cannot be done.

Buckhurst Park.

This fine seat, the property of F. Benson, Esq., is situate some six or seven miles to the south-west of Tunbridge Wells, and, as in the case of Eridge Castle, the mansion has a glorious setting of rolling meadow and picturesque woodland. The prospect, and more especially from the upper terraces, is wide-spreading, rich, and diversified, and affords one of the finest examples of characteristic English scenery in the southern, and indeed other of the counties. At Buckhurst Park there is the added charm of water, and the large lake, with its spacious island rock garden and its beautiful arborescent fringe, forms a distinct and delightful feature. Not far distant from the present mansion is the site of Old Buckhurst, which for some hundreds of years was the home of the Sackvilles, and was one of the most important of the country houses in the South of England.

A pause might well be made to say that beautiful as were the surroundings of Old Buckhurst when the Sackvilles left it for their new home, they differed greatly from Buckhurst Park of the present day, and it might also be said that the improvements in the gardens and pleasure grounds within the past few years have been little short of marvellous. The changes have been great, and they have been such as to add enormously to their interest and beauty. Mr. Benson naturally takes a keen interest in his fine possessions, and Mrs. Benson, who takes the keenest interest in the ornamental aspects of gardening, has a wide and thorough knowledge of plants, and possesses artistic perceptions of a high order. Consequently, it may be assumed that she has taken an active part in the development of the many features that render a visit to the gardens so delightful. As one remembers the splendid accomplishments in outdoor gardening at Buckhurst Park, it is of interest to call to mind the fact that Mrs. Benson is a sister of Lieut.-Colonel Holford, and that, while the latter has been engaged in setting a splendid example to orchidists, the former has been developing, and with quite exceptional success, a garden on lines that are truly English.

THE FAMOUS ROW OF TULIP TREES AT ERIDGE CASTLE.

The mansion, a stately edifice, occupies a position in the higher parts of the grounds, and has on the north side a belt of finely developed trees, which form an excellent background to the grey masonry. On the east side, which, for the want of a better term, may be described as the garden front, is a large breadth of splendidly kept turf, with a fringe of trees its whole length on the north side, and for one-half its length on the south side. Immediately in front of the mansion is a geometrical flower garden wherein Mr. Philpott, the head gardener, provides an attractive display of flowering and fine foliage plants during the summer months. I had hoped to have given an illustration of this flower garden, and the mansion, with its creeper-clad wall, but the slope in the ground from east to west was sufficient to prevent an adequate representation of the flower garden, and portray the house in its true dignity of expression.

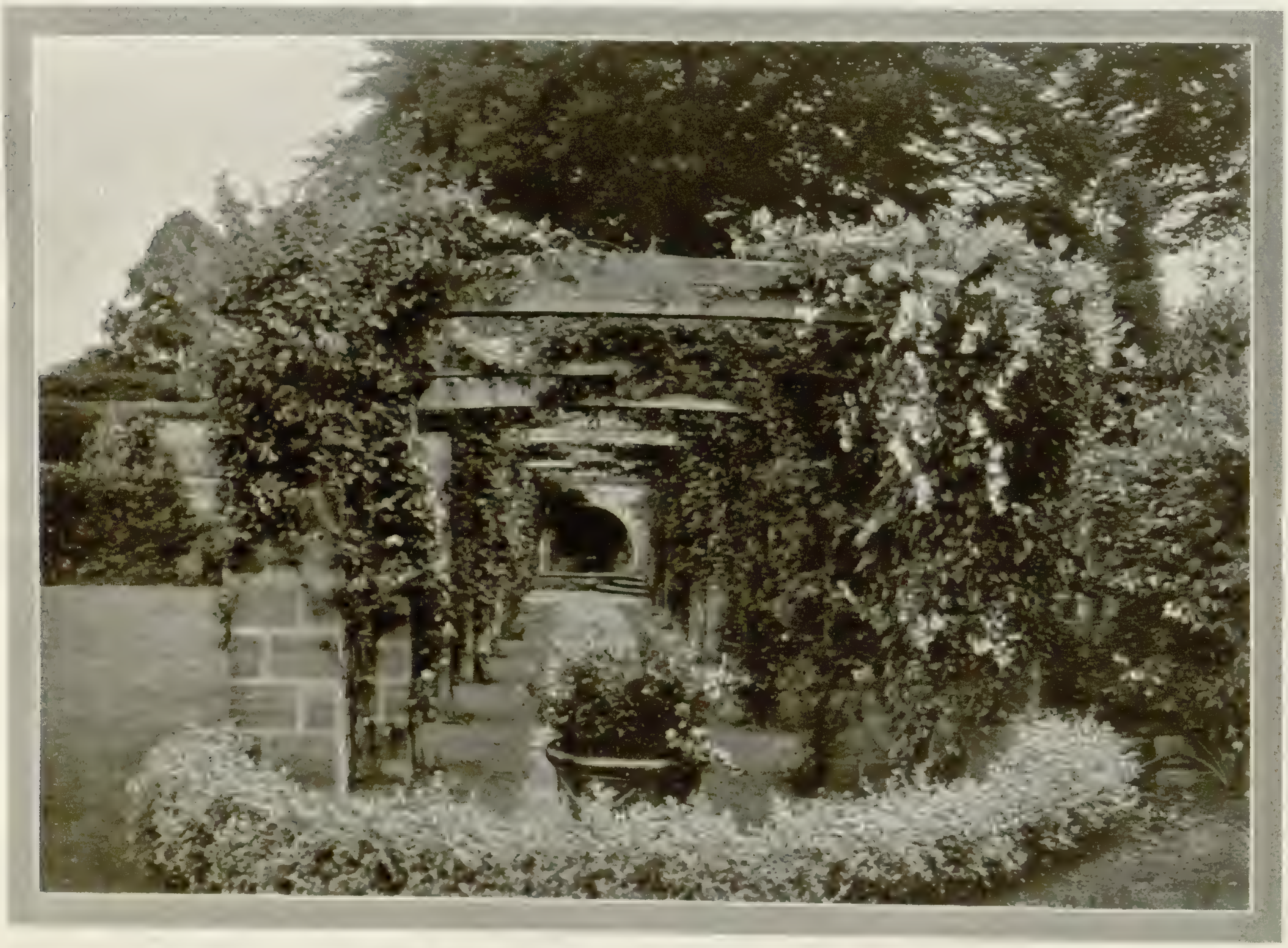
The most noteworthy of the alterations and improvements that have been made are those on the south side. Originally the ground had a continuous slope from within a short distance of the walls of the mansion to the lower part of the pleasure grounds, where they merge into the park. This slope has been broken up by the formation of two terraces, which contribute materially to the stateliness of the mansion and afford additional space for the display of rambling roses and other climbing plants, and of water lilies and other subjects of lowly growth. These terraces are strictly in keeping with the architecture of the mansion, and are supported by walls built with the sandstone peculiar to the district, and indeed taken from the lower part of the lawn contiguous thereto. The walls are strengthened by buttresses, as a matter of course of the same material, and the general effect is such as to convey the impression that the terraces, with their retaining walls have been formed for the support of the ground around the house and not to suggest, as is so often the case, that they are intended for the display of stonework of Italian design. The visitor might well be excused for supposing the terraces to be coincident with the erection of the mansion, and it comes somewhat as a surprise to be told that five years ago the stone with which their walls are built was in situ.

ORNAMENTAL VINES ON TERRACE BUTTRESSES AT BUCKHURST PARK, TUNBRIDGE WELLS.

The upper terrace is of great breadth, and has immediately opposite the mansion a large lily pond, architectural in character and of a design in keeping with the mansion and the other surroundings. Here the finest of the hybrids obtained by M. Marliac and other raisers have found a suitable home, as indicated by the robust leafage and the wealth of splendidly developed flowers that float on the surface or raise themselves above it, according to their peculiarity of growth. At the east end of the terrace, where the low wall divides it from the eastern flower garden already referred to, there is a broad border devoted to hardy herbaceous plants, and therein are represented many of the finest of the hardy perennials that now find favour in the highest state of development of which they are capable. Within a few inches of the supporting wall is a band of lavender, extending the whole length, which is attractive at all times, and especially when in bloom. A glimpse of the lavender is seen in the illustrations of the two ornamental vines growing on the lower terrace. The buttresses that strengthen the upper wall are clothed with ornamental vines and rambling roses, and those strengthening the walls of the lower terrace, of which the fountain and flanking vines are herewith illustrated, are devoted wholly to roses of the rambling type.

Rambling roses form one of the most important and certainly one of the most delightful of the many charming features. They have been planted extensively, and include all the finest introductions of recent years; they are now in the vigour of youth, and they give in their season of flowering a wealth of colour so wondrously beautiful as to surprise even those who are familiar with the flower production of the race when placed under conditions favourable to their growth. In addition to the ramblers that clothe the buttresses of the terrace walls, and are commencing to fling their elegant growths over the newly-constructed pergola, of which an illustration is given, there are large beds devoted to them on the breadth of lawn that extends from the upper pleasure grounds to the lake. These are mostly grown in standard form on stems of varying heights, and are immensely attractive in their season of flowering. With reference to the terrace roses it must be added that at the foot of the wall supporting the lower terrace a border of moderate width has been formed, and that the spaces between the buttresses are filled with dwarf roses, the selection including the finest of the several classes.

One other feature remains to be mentioned, and that is the island rock garden, which of itself is sufficient to make Buckhurst Park famous amongst horticulturists. Briefly stated, there is, in the lower part of the grounds and extending far away into the park, a remarkably fine expanse of water. This contributes its share to the general attractions, but its charm has been materially enhanced by the formation at the north-east corner, and immediately adjoining the pleasure grounds, of an extensive island rock garden. This fine example of artificial rock building is unique in conception, admirably planned, excellent in construction: in a word, is a veritable triumph. The suitability of the garden for the growth of rock plants is evidenced by the vigour of the whole of the subjects that have found a home within it. This rock garden was, I learnt from Mr. Benson, constructed by Messrs. Pulham and Son, who are so well known for their accomplishments in this form of garden adornment. On the bank opposite the rock garden are great breadths of Japanese iris that grow vigorously, as will be seen from the illustration, and annually bloom most profusely. At the north-west corner of the lake the surplus water finds an outlet, and for carrying it away, as it tumbles over the delightful fall, Messrs. Pulham have provided a replica of a Scottish burn; and they have accomplished their object so well as to prove to demonstration their thorough acquaintance with the scenery of the Scottish Highlands, and to give added charm to the grounds.



THE PERGOLA AT BUCKHURST PARK.

Ely Grange.

Ely Grange, the residence of John Waddington, Esq., J.P., occupies a position that strongly appeals to one by reason of its singular beauty; quite close to Frant, which is some three miles distant from Tunbridge Wells, and two miles or so from Eridge Castle. Unlike other of the fine seats that cluster around this old village, Ely Grange is distinctly modern, the handsome mansion representing one of the finest types of the residential building of the higher class that found favour in the second half of the Victorian era, and the grounds have been laid out in accordance with the views on the landscapist's art that obtained some thirty or more years ago. One can admire to the full great houses and gardens whose age can be reckoned by centuries when, as in the case of those around Tunbridge Wells, they are maintained in a high state of keeping. There is no difficulty in obtaining both pleasure and interest from visits to seats that bear the impress of a good old age; but it is agreeable now and again to turn to houses and gardens that are modern, but with a sufficient number of years for the appearance of newness to have worn off, and for the trees and shrubs with which the grounds have been planted to attain to considerable dimensions. To this category belongs Ely Grange, as we now know it, and if one might make a guess in such a matter, it may be said the present mansion was built and the grounds planned about thirty years ago. This suggestion is based on the fact that the grounds have been designed and planted by Mr. Goldring, the head gardener, who has had the good fortune to see his work mature and fully justify his plans, his selections, and his subsequent methods of procedure in management. Mr. Goldring has also had the good fortune, as he so freely acknowledges, of having during the long period he has been at Ely Grange, employers who have taken a keen interest in their garden, have had exceptional taste, and have given him generous support in carrying out whatever may have been considered necessary for adding to the beauty and interest of the demesne.

The grounds of Ely Grange are entered from the Tunbridge Wells side of the estate by a handsome lodge near Frant Church, and between this point and the mansion the visitor has the opportunity of seeing some excellent grouping of trees and some of the finest scenery of which the district can boast. Before, however, passing the lodge gates the visitor will be wise, if he has a taste for English landscape, to pause and enjoy the magnificent prospect obtained from near the church. The hill on which this edifice stands has a height of 600 feet, and from the church tower a fine view of the Weald of Kent and Sussex can be obtained. The mansion occupies a position on the high ground at the south-west side of the park. Around it is a large expanse of tastefully-planted pleasure grounds that forms a charming setting, affords abundant space for lawn games, and full opportunities for display of taste in the use of hardy and tender plants suitable for garden embellishment. The grounds are, moreover, of much interest for the finely developed coniferous and other trees they contain. Associated with the fine specimens of Cedrus Deodara, Wellingtonia gigantea, and abies and pines in variety are several specimens of the golden varieties of Cupressus Lawsoniana that form a fine contrast to the more sombre hues of the other trees, and greatly enhance the general effect. There are also bold masses of evergreen and other shrubs, in which the finer rhododendrons are strongly represented. Along the front of the mansion is a broad terrace with elegant balustrade and handsome vases filled with flowering plants, agaves, and other subjects. A glimpse of these is obtained in the view which includes the terrace, and a peep is also obtained of the park, with the fine lime trees on the rising ground in the far distance. The park is remarkable for its fine limes, which here attain enormous proportions.

A feature at once distinct and interesting is the great natural rock garden, which, commencing at the boundary of the pleasure grounds, extends for some hundreds of yards into the park. Originally this was a lofty bank, surmounted by trees of various descriptions, and it was evidently decided to deal with it in such manner as to convert it into a great natural rock garden.

The bank was planted with coniferous and other trees and shrubs that thrive with their roots searching in the crevices of the rock for sustenance, native ferns and hardy flowering plants that thrive on and about rock. The golden cupressus and grey junipers of columnar habit have been freely planted, and as they are in a robust state of health they are brightly coloured, and produce a rich effect in contrast with the dark green foliage that forms the background. An irregular pathway is taken through the garden, and here and there are open spaces, in which hardy plants not so well able to battle with strong growing neighbours have been given a home in which they thrive and produce a series of charming pictures.

Of the departments devoted to the production of flowers, fruits, and vegetables there is no occasion to speak. It may, however, be mentioned, as a point of special interest, that Mr. Goldring has a high opinion of standard gooseberries, and that the prodigious crops they bear fully justify his views with regard to their usefulness.

GEORGE GORDON.

THE ISLAND ROCK GARDEN, BUCKHURST PARK.

A FAMOUS GARDENING VILLAGE.

Several years ago Mr. Norman C. Cookson, of Oakwood, Wylam-on-Tyne, well known to readers of these pages as a great orchid enthusiast, told me of the great interest taken in gardening matters by the miners in some of the villages of Tynedale. He specially referred to Prudhoe as being a great centre of horticultural activity, and as he told of huge bougainvilleas, statices, allamandas, rondeletias, stephanotis, and the like, and of the wonderful carrots, leeks, and beets, and the fine dahlias, asters, marigolds, etc., produced by the miners, my interest in this Tyneside village grew, and I determined that some day I would visit Prudhoe and West Wylam, if the fates were kind.

Further back than the date of this particular conversation I had seen excellent stove plants at Newcastle Show, but did not realise that many of them were grown by those who gained their living deep down in the mines. But Mr. James Hudson, and my friend Mr. H. J. Chapman, both assured me that these fine examples were grown without any professional assistance, and in houses built by the men themselves, and that they were tended by wife or daughter when the good man was working his shift. So it came about that during last autumn, when on a business trip to the Newcastle district, I paid a visit to several of the most famous growers in the mining villages of Prudhoe and West Wylam, in the company of Mr. H. J. Chapman, who is an "exceeding great" authority on every gardening subject with these enthusiasts.

Every miner has his cottage and a good-sized plot of ground at a nominal rent, and though very few neglect their ground entirely, the degree of interest and enthusiasm possessed by the holder was written plainly across each garden. The gardens are in batches, and you may look across some sets and wonder whether or not every other person is a budding market grower, for the sunlight glistens on scores of glasshouses and hundreds of frames, and upon brilliant patches of florists'. flowers amid which "protectors" are very evident. There is one weak point about the gardens of this district, and that is in comparatively few of them are the flowers, fruits, plants, and vegetables grown for home use. There is a strong sporting instinct in these hardy Northumbrians. They are fighters, too. Perhaps there still remains some of that spirit which pervaded the districts in the old days, when moss troopers and border raiders might swoop down at any time, and when it was often excellent policy to carry the fight beyond the old Roman Wall into the enemies' country. But the fighting nowadays is done with plants or flowers, and in the show tent. The value of the prize does not seem to matter very much to these good people, but the winning of the prize is everything, and no pains are spared to secure it.

I imagine that Prudhoe (which includes West Wylam) has more keen horticultural exhibitors for its size and population than any other place in the United Kingdom. If there is a place can beat it I want to know where it is. The Prudhoe Floral and Horticultural Society has about forty patrons and patronesses, its president and vice-presidents include the leading gentry of the district, and its committee of thirty-seven members is a hard-working one, drawn from among the men themselves, and most of them are miners. The chairman of the committee is Mr. Walter Telford, and he has occupied the position for a long number of years, and has received several handsome tokens of the respect in which he is held by the members, and evidence of the high appreciation they have for the services he renders. Everyone knows "Walter," as he is familiarly called, and his opinion and decision are eagerly sought when knotty points of culture or procedure come up for discussion.

TERRACE GARDEN, ELY GRANGE, TUNBRIDGE WELLS.

Let us peep into Walter Telford's garden. There is no waste room, and the paths are for lean men rather than for fat ones. Just inside the high, well-locked gate is the shed filled almost to overflowing with horticultural impedimenta. Here is a stand of choice flowers, stove and greenhouse kinds, that won first prize somewhere in the district yesterday, and here the dozen roses that missed the premier award by about half a point, and hard by are the remains of sets of exquisitely marked French marigolds, and of fine quilled and Comet asters, that the southern counties would find it hard to match. Mr. Telford's son pulls out some superb leeks from under the potting bench, both "pot" leeks (short thick-stemmed ones), and long leeks, the latter having size and finish that even a Beckett or a Gibson would hardly beat. These, and some wonderful carrots and beet, are quickly wrapped up, and put away for a show a day or two hence, and Mr. Telford, jun., then shows some examples of his skill as a florist, and it is no mean skill either, as many a professional knows to his cost on the show board, and when there is a wedding at Prudhoe, young Telford is in great request for bouquets and floral favours.

What are these deep, frame-like arrangements? They are the deep beds of fine rich soil in which are grown the exhibition carrots, leeks, beet, parsnips, and celery. Boarded up 2½ft. to 3ft. deep, these beds produce wonderful material, and to fill them with the best soil loam is carted long distances. There is no chance work at Prudhoe, for that would mean no chance at all at exhibition time. There are some wonderful stocks of leeks in the village, and leek clubs are a great institution. Most of the successful men keep up their own strain, and not seldom two or three leeks, for stock purposes, have changed hands at 10s. each. They do not mind spending money, these good people, but when they ride a hobby they must have the very best it is possible to obtain.

Farther on are the plots of African and French marigolds, dahlias, roses, gladioli, asters, antirrhinums, and other florists' flowers, all regularly set out, and allowed ample room, but in no sense arranged for effect. Here are frames and handlights, so useful in springtime, and at the far end of the garden is a glasshouse, of quaint design, and well heated. It contains ferns and asparagus in abundance, begonias of sorts, a bougainvillea, and a few oncidiums and cypripediums, besides many other things; but Mr. Telford is not a specimen plant man, his efforts are chiefly devoted to the vegetables and florists' flowers already noted. We leave Mr. Telford's garden, but not until we have promised to return to his house for tea, a promise we fulfil presently, to Mrs. Telford's great delight, and our own great satisfaction. A Northumbrian miner's "tea" is like a Yorkshire tea, only more so.

Another Prudhoe worthy is Mr. R. Arthur, a tall dour man of few words. His garden is almost covered with glass, all built by himself, and heated with a heating apparatus made and designed by himself. He has three good-sized plant houses, cool, warm, and intermediate, and his great hobby is the production of big specimen plants. My visit was untimely, as a dozen of the best plants were away from home, winning prizes for their owner. I am not going to be so foolish as to say that Mr Arthur grows specimen plants that would make Mr. John Cypher turn tail at Shrewsbury Fête, but I assert, and very deliberately, that Mr. Arthur's best half-dozen would not feel ashamed of themselves if they stood in the company of the Cheltenham specimens. Stephanotis floribunda, Rondeletia speciosa, Allamanda Hendersoni, Bougainvillea glabra, statices, Clerodendron Balfouri, and Dipladenia amabilis are the great stand-byes, and they are 3ft to 4ft through, and as much or more in height, and grandly flowered. Kentias, heliconias, and marantas, with Asparagus plumosus, and various adiantums provide the foliage plants, and some of the latter are especially good. Lapagerias, pelargoniums, and fuchsias fill the cooler house, while in the several houses are to be found a number of orchids, notably Cypripedium insigne, a C. Curtisi nearly two feet across Cœlogyne cristata, and Oncidium flexuosum. Not a bad list for a hard-working miner, eh?

Further along the village we visited many another garden, and one thing that struck me was the courtesy of these competitors. Every gate was open for Mr. Chapman and myself, but our guides would not think of entering unless invited, or they had asked permission. In one case the owner was absent, but the gate was opened for us, and promptly shut behind us, but we made the inspection of beautiful dahlias and gladioli, excellent fruit, tomatoes, and leeks, all alone—the others, possible competitors, would not enter, but they knew that the owner would feel very disappointed if we failed to see his crops

But I must close these notes, for the present at any rate, and close with a story told me by Mr. N. C. Cookson. Some time ago it was found that several of the miners were using more than their recognised share of coal for household use, and investigations showed that those who had exceeded the allowance were the men who had glasshouses in their gardens. The coal was being used for the hobby, not for the home alone; this must be stopped. The matter was brought before the board meeting, but Mr. Cookson asked that before any definite step was taken the overseer should submit a chart showing the amount of time worked, the amount of time lost, and the amount of coal worked by the miners. This was drawn up, and it was found without exception that those who had used rather more coal than the usual allowance were all enthusiastic gardeners, and that these men were the best timekeepers and the best workers. In other words, the garden beats the public-house as an attraction for these sturdy miners. Why? Because the garden appeals to all that is best in heart and brain, and brings out the skill of hand and eye.

CHAS. H. CURTIS.

POPULARITY OF FIGS.

The popularity of the fig—or "green fig"—is undeniable. And it may be taken for granted that this popularity is increasing, and deservedly so, for what more luscious morsel can anyone require than a well grown and thoroughly ripened fig, provided always, of course, that it is of a good variety? It will be thought from this latter remark that there are good and bad varieties; but without going so far as to say that any are really bad, one may say that some varieties are not nearly so good as others, and even those generally considered good depend largely for their success upon how they have been produced, and how nearly they are to being thoroughly ripe when picked.

To have a fig in the pink of condition it is necessary to exercise some care in selecting it, as an unripe fig is nauseous, and quite unfit to eat. When a milk-like juice is seen to exude from the end of the stalk one may be sure that fig is not ripe, and should have been left for a few more days. When a fig is perfectly ripe it will have fallen over a little, while a large, bright globule of juice, called a "teardrop," will stand in the eye, and the skin will have slightly cracked, in streaks.

The fig is a native of Syria, and is at home on the shores of the Mediterranean, and is, in consequence, except for a few very favoured localities, unsuited for outdoor culture in this country. Although with the protection that a wall affords the fig may be grown anywhere as an ornamental plant, yet, if fruits are desired, it is necessary that it should be grown under glass, either in pits or houses, which may be either lean-to or span-roofed. Figs may be planted out and trained over walls or wires, or grown in pots. Pot culture is the method I recommend, as by this means the plants are very much more under our control, and those planted out generally grow too strong to be very prolific.

The fig has one quality quite peculiar to itself, and, so far as I know, a quality which does not apply to any other fruit, and that is, it will bear two, and sometimes, under favourable conditions, three crops in one year, but, of course, that means beginning early. Even those who do not happen to have the best of conveniences at disposal, and can only afford the shelter of a cool house, may with proper care be sure of one crop each year. This, to my mind, is a great consideration, and ought, if generally known, to help forward the popularity of the fig.

With regard to soil the fig cannot be said to be very particular; planted out, it will thrive in any good garden soil containing a fair proportion of lime rubbish to make it porous, but for pot culture it will require a somewhat more liberal material. A compost I have found to give good results is one of three parts good loam, and one part lime rubbish, with a few half-inch bones, some wood ashes, and a little well-rotted stable manure. The pots should be well drained, and the soil firmly rammed. It will be necessary, while the plants are growing, to give several top-dressings, which should be of a rich nature, such as a good fertiliser, one containing bonemeal and horn shavings for preference.

Attention to the watering of figs growing in heat is of the utmost importance. If they have been properly potted, and have a free drainage, it will be rather difficult to overwater them during the growing period, and they should be syringed two or three times a day, keeping the atmosphere of the house always moist. If care is taken to shut up early, and conserve sun heat, it is only on dull days and at night that they will require any fire heat.

VIEW IN ROCK GARDEN, ELY GRANGE.

As the fruits reach the ripening stage it will be necessary to reduce the water supply at the roots, and to keep a much drier atmosphere; overwatering at this stage will have the effect of spoiling the flavour of the fruits, while a too humid atmosphere will cause them to split open before nearly ripe. When the shoots have grown four or five inches long they should be stopped by pinching out the growing point; by this means the plant will be induced to push out the fruits, which lie dormant in the axils of the leaves, and too strong a growth is prevented, which saves much after-pruning, and preserves the points of the shoots on which the first crop of figs will be formed for the following year.

The temperature while the figs are making their growth may be, so long as it is a moist heat, from 75 degrees to 90 degrees, and may, with sunshine, run up to as much as a 100 degrees or more, but care must be taken that the plants do not suffer for want of water, or the foliage will flag and burn, and cause a certain amount of disfigurement, and burning is not a sign of good cultivation.

And now with regard to attacks from insects. While the plants are healthy, and kept in a good "growing" condition, there will not be much to fear. Sometimes mealy-bug is rather troublesome, and it should be looked for, and got rid of as soon as it makes its appearance. It may easily be destroyed by examining the plants and touching each individual insect with a small stick which has been dipped in methylated spirit. Red spider and thrips are other pests which have to be dealt with at times, but will quickly disappear under a clean water treatment frequently and briskly applied with the syringe. A more difficult subject to deal with, however, when it makes its appearance, is a small white scale, which adheres very stubbornly to the wood and leaves. Not much can be done for the eradication of this pest while the plants are growing, but it must be dealt with in the winter, when the plants are in a dormant state, and may be scrubbed with a fairly stiff brush, such as a nail brush, with a solution of soft soap or some other good insecticide. It is very important that every bit of it should be killed, for it spreads very rapidly, and will soon infest the whole of the stock.

In giving a short list of varieties—I think a dozen will be enough for all practical purposes—I shall only select those that are of first or medium quality, and are generally recognised as good croppers, as this will enable anyone desirous of growing figs to make a selection, which, if properly managed, cannot fail to give good results.

Bourjassote grise.—This I consider is one of the best, if not the best, of figs in cultivation. The fruit is of medium size, rather flattened in shape, with deep red flesh, and very luscious flavour.

Brown Turkey.—Fruit of medium size and quality. This variety should be selected by those who wish to grow figs in a cool house.

Brunswick.—The fruit of this variety is large, and long in shape, and of medium quality. Another useful variety for cool house.

Col. di Signora Bianca.—Fruit of medium size, with red flesh, very rich in flavour.

De l'Archipel.—Fruit rather above medium size, flesh pale, juicy, and rich.

Gourand Noir.—Fruit medium size, dark purple skin, flesh red and rich.

Monaco Bianco.—Fruit rather above medium size, green skin, red flesh, and very rich. This variety is almost equal to Bourjassote grise.

Negro Largo.—Fruit large, and long in shape, with red flesh of medium quality.

Nebian.—Fruit very large, deep green skin, bright red flesh, and very rich.

Pingo de Mel.—Fruit large, with yellow flesh that is very sweet and juicy. In some cases this variety requires judicious thinning.

St. John's.—Fruit large, with very pale flesh that is sweet and very rich.

Violette de Bordeaux.—Fruit medium size, dark purple skin, flesh red and sweet, of medium quality.

Anyone who has room for it should grow a plant or two of White Ischia. I have not included it in my list because the fruit is rather small; the flesh is pale, tinged with red. It is an enormous cropper, and delicious in flavour.

Chelsea. T. W. TURNER.

Grafting.—Apple and pear trees in a healthy state, but producing fruit of an inferior quality, may be brought into a more useful condition by being grafted during the proper season with a better variety. Prunings for this purpose should be reserved now, choosing clean, healthy shoots of last season's growth; tie them up in small bundles properly labelled, and heel them in the soil on a north border. In very severe weather, cover lightly with some strawy matter. Trees to be grafted may have their branches shortened to within a few inches above where the scions are to be inserted, but care must be taken not to damage or tear the bark in the process.—GEO. WOODGATE, Rolleston Hall Gardens.

LATE SINGLE CHRYSANTHEMUMS.

We remember the late single-flowered chrysanthemums more especially in connection with varieties that came into blossom in late November and early December. In what was described as the "mid-winter show" of the National Chrysanthemum Society these late singles were often represented in beautiful character and pleasing form. It was in this way that growers came to appreciate the flowers, and realise their great possibilities. This was some years ago. Within the interval of time that has since elapsed, development in the single-flowered section has been nothing short of remarkable. The flowering season is no longer confined to a short period towards the close of November, for from August until the closing days of the year the dainty blooms of the single-flowered chrysanthemums are always now in evidence.

Older florists, with few exceptions, saw little that was commendable in the singles in the earlier days. At that time compliments were seldom heard respecting any of the newer varieties as they came into notice, and the wonder is they ever came into public favour at all. Fortunately, there were men who could fully appreciate the decorative worth of the single chrysanthemums, and they meted out their praise in no uncertain terms. As opportunity offered these flowers were set up in many forms of indoor decorations, and so pleasingly did they associate with the heavier-looking double flowers, that their value as decorative material became increasingly apparent. Sprays of blossoms, cut with long, erect stems, may be disposed in large vases, bowls, and numberless other receptacles with the greatest ease. The more dainty sprays make charming individual decorations when set up in the smaller specimen glasses that are numerous in most homes, and we doubt whether their blossoms are regarded with greater favour at any period than the few weeks immediately preceding the festive Christmas season.

At the time of writing we have the singles charmingly represented in several rooms of the house, and in no position do they seem out of place. Their uses are many and varied. At one time it was argued that these flowers did not last well, but in my experience they last quite as long, and, in certain instances, longer, than many of the double-flowered ones. Quite recently, after the lapse of a month, we discarded singles that had done duty three days at the Crystal Palace in November, and were brought home after the event. We have now (December 16), still looking quite bright and beautiful, a goodly number of singles that were shown about a fortnight since, and we have little doubt we shall keep the flowers until after Christmas. By changing the water pretty frequently, and by cutting off a small portion of the stem of the flowers from time to time, they are made to last several weeks.

But it is my endeavour in the present instance to call more especial attention to the late-flowering singles, in the hope that some readers who have not yet come to realise their real worth may, perhaps as an experiment in the first instance, take in hand a small selection. I do not admit that all the late-flowering singles are perfect specimens of their kind, for many of them develop several rows of florets, which the older florists regard unfavourably. There are plenty of good singles, however, quite true to type, that are less pleasing and fascinating than others of a lower standard of quality. After all, it is their decorative worth that we learn to appreciate, and if this be kept in mind by the raisers of these flowers, the single-flowered chrysanthemums will continue to gain in popular esteem.

The propagation of late-flowering singles should not begin too early. There is, unfortunately, a too feverish haste to commence the work of another season. A period of rest is desirable for most plants. I pin my faith to the propagation of late kinds in late January at the earliest. As the days begin to lengthen the new growths appear to possess the necessary vigour to ensure a satisfactory start being made. The rooting process, too, is far more satisfactory at this time than in the dull, miserable weather of a month earlier, so that the prospects are better in every way. This propagation of the late singles may be continued for several months, so long as good clean cuttings are procurable. The chief advantage of the earlier propagation, so far as I have been able to determine, is that larger plants have been produced. If the plants be pinched when they are some six to eight inches in height they will quickly break into growth, and the foundation of a bushy specimen be thereby laid. I make a rule to pinch each succeeding six inches of growth in similar fashion, and when this is continued for some months, and the last pinching carried out about the middle of July, beautiful specimen plants of a bushy character invariably result. The plants should be grown on to the terminal buds, and the more crowded buds in each spray partially be thinned out. Should large, handsome, and especially attractive flowers be desired disbud to one bud on each shoot, and the result will be all that one could well desire.

It is astonishing what some plants will do when treated in this manner; they will yield a wonderful display, that should be especially valued either as plants for conservatory embellishment or for providing a supply of cut flowers throughout December. Cool, or fairly cool treatment under glass is absolutely essential, otherwise the plants will come on with a rush, and disappointment ensue. Just a little more warmth as the buds begin to unfold is desirable, as this assists them at a crucial period, and also helps to dispel damp.

Highgate. D. B. CRANE.

(To be continued.)

PEACHES OUT OF DOORS.

It does seem strange to those who grow really fine peaches on outside walls to hear that peach culture in the open is a lost art, and that the climate of this country has so changed during the last twenty years that glass is an absolute necessity to enable gardeners to present decent fruit to their employers. Some employers also believe that there has been a change, that they agree, and find the necessary glass equipment.

It is a pity such sceptics could not see the peach wall at West Dean Park, Chichester, under the management of Mr. Smith, who smiled at the suggestion I made to him last August, that peaches in the open were a failure. He pointed to a tree of Royal George growing against a south wall, from which they had just previously taken 300 fruits, and by the healthy appearance of wood and leaves, the prospect for next year was equally good. Such trees not being devoured in their early stage of growth by black and green aphis, and later with red spider, have nothing to interfere with their growth, and are able to obtain all they require at the right time. Not so with the trees under the charge of those who complain of the unfitness of wall, soil, and climate. Such grumblers are to be met with almost daily. Alexander Noblesse was another variety pointed to as being a huge success. S. H.

GARDEN ROOT CROPS.

The vegetable crops we grow in gardens and term root crops usually also comprise those with swollen stems, such as the turnip, kohl rabi, celeriac, etc. The greater number of the kinds most commonly grown for consumption are called upon to develop their more important parts below the surface of the soil. This being the case, it will be a matter of some importance to take into consideration the soil, position, and the crop previously removed from it.

If the ground intended for the strictly tap-rooted kinds is vacant during late autumn that will be an advantage which the thoughtful cultivator will not pass by. The greatest advantage to any soil accrues when it is as fully exposed to the elements as possible during the winter months; apart from the weathering influence upon the soil, it is detrimental to insect pests that do great harm to root crops during the summer months, more especially in old gardens where the soil is very rich in organic remains. Rich soils of the class named are fine preserves for the troublesome small pinkish millipedes, and the deadly wireworm; these pests are always devouring vegetable remains or the choicest roots, so that the richest soil in the garden is not the best place for the production of the best tap roots. Humus collects quickly in well-manured low-lying gardens, where drainage is slow, and unless a little lime is used occasionally to rectify the vegetable acids, good crops and clean healthy roots cannot be produced. Anyone having had charge of a garden for a short time will be able to so arrange his crops that those of a tap-rooted character following them will not require the aid of farmyard manure. For such roots as salsify and scorzonera very poor soil will produce more serviceable roots than any other. Salsify is especially addicted to making side roots that detract from its value for market or home use. Not unfrequently root crops in gardens are coarse, but coarseness does not always lie at the door of a rich rooting medium. There are other important points to bear in mind if the highest points in each kind are to be emphasised. Too early sowing of some roots that are intended for late autumn, winter, and spring uses, will result in overgrown produce. Also a highly selected strain, especially of beetroot, is a necessity, if uniform quality is desired.

The most suitable ingredients to add to well-worked soils for spindle and tap-rooted vegetables are, according to the texture of the soil, burnt earth, wood ashes, soot, salt, lime, or, in extreme cases of tenacious soils, old sifted potting soils will lighten and thus warm by greater aeration soils of this character. Forming raised beds on cold soils is also an advantage, more especially when earliness is an important point, whilst on very shallow soils, the same principle holds good in giving a deeper root range. The various ingredients named as being good for root crops usually serve a double purpose. Lime is disliked by insect life, and is often of value to plant growth by liberating locked-up food. Soot helps to attract greater warmth from the sun. Insects dislike it, and it also contains food for stimulating growth. On dry soils salt conserves moisture, is disliked by insects used in the case of beetroots and carrots, and the roots usually turn out much brighter and clearer in the skin. Kainit will practically answer the same purpose for these crops. Anything that has passed through fire, in the shape of prunings, burnt rubbish, and clay are also avoided by insect life. Generally speaking, the spring is the best time to apply any of the things named, lightly forking them into the surface; forking may not be necessary in every case, especially if the surface is very rough, simply spreading and patting down to a level with a large rake will answer the same purpose.

Garden soils generally vary very much in texture, and a large share of practical knowledge must be exercised in working them. If it is not possible to work land in the winter for them, because of such crops as borecole, broccoli, or sprouts occupying it, no one need despair, only in this case there will be no winter frosts to break up the particles of soil, so that the spade or fork must do that part of the work, and thoroughly, too. Small spits are advisable when turning over, and a sprinkling of soot on the face of each trench will do good at these spring preparations. Napiform roots will succeed better in soil well manured; the manure must not, however, be immediately upon the surface, it must be decayed and be sufficiently far from the surface to attract moisture, conserve it and have that cooling effect upon the soil that is so valuable during hot, dry weather. It is necessary in these cases that a portion of the soil upon the surface should be sufficiently firm to induce the swollen part necessary for food being properly developed. If the soil in these cases is rich, loose, and light, too much leaf growth will develop, and at the expense of the edible part required.

Some of our smaller and highly selected stocks of carrots have been so carefully tended for years as regards shape, colour, and uniformity to type, that they may be relied upon, being such small rooters, to revel in almost pure decayed humus, and under such conditions they develop quickly, are of good colour and excellent quality. Of all tap roots grown in gardens, the carrot suffers most in having one or two fixed dates for sowing, instead of commencing in March in the open and continuing to July for a succession of young sweet roots. All the root crops grown succeed better in an open position in gardens, excepting turnips, during the hottest summer months, and during that time kohl rabi is superior to hot stringy turnips. The finest quality in turnips is usually those from July and early August sowings in open positions. Unless good frames are to be had for early crops, April sowings in the open are usually of good quality unless the spring is a very ungenial one, and in that case flower stems appear early and many of the plants are useless. The points that must be considered to be successful are: thorough and deep digging, careful preparation of the seed bed under favourable conditions, the proper solidity accurately gauged according to texture of soil, thin sowing, early thinning, and proper aeration by hoeing, preventive measures for leaf miners, aphides, and underground pests. These few things kept in view will usually bring desirable returns.

CHARLES FOSTER.

Cyclamens are exceedingly useful for furnishing vases and ornamental receptacles indoors during winter and spring. The foliage is always refreshing, particularly when the leaf variegation is well developed, and the flowers are frequently pressed into service to supply the demand for cut flowers for the lightest glasses. Some assistance from artificial manures at this season will enable the plants to produce finer flowers over the maximum period, as to unduly strain them in the earliest part of the season adversely affects the latest flowers, and unless timely nourishment is provided these will inevitably be small and poor.—THOMAS SMITH, Walmsgate Gardens, Louth.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

SEASONABLE NOTES.—Up to the time of writing, we in the North of England have had very little cold weather, and have practically reached the turn of the days without having to resort to excessive fire heat. This, generally speaking, cannot fail to be beneficial to orchids. I consider that excessive fire heat is more detrimental to them than anything else. This is especially the case where the heating arrangements have not been sufficiently considered. Estimates are usually made with the best intentions, and at the lowest possible cost; but frequently the apparatus is not sufficiently powerful for the work it has to do. I wish a few more gentlemen would consider this most important matter from the same point of view as that from which my employer, Mr. Norman Cookson, considers it. The scientific, as well as the practical, from the combustion of the fuel to the air valves, and with the aim in view of supplying heating surface sufficient to provide the necessary temperatures without having to unduly drive the fires, and having the unsavoury smelling pipes, which, in the usual course, necessarily follows insufficiency of piping in the houses. It is for the owners and their gardeners to decide the amount of piping to be supplied with every structure, and a proper system of heating should be one of the first considerations. With plenty of boiler power and heating surface, the pleasure of working is not the only consideration, but it may be looked at from the point of economy in fuel also, which means a great deal in considering the initial cost.

BLINDS IN WINTER.—Dispense with as much fire heat as possible is generally advocated by orchid specialists, and there are many simple appliances that may be brought into use with this end in view. Where lath roller blinds are fitted to the houses, I consider that one of the chief advantages of their use is as a protection against cold winds and frosts in winter; but we have to be particularly careful to prevent their being snow-laden. A few mats sown together and rolled along the roof prevents to a great extent the eaves becoming frozen, and if coverings of this description can be raised slightly above the glass, so that a current of air can pass between, they are found to be more beneficial still. Where the houses are erected with side lights a considerable advantage will be found in suspending a covering from the gutter downwards, old and disused blinds work in to make useful coverings for this purpose. I would advocate in all cases the brickwork being carried to the roof.

CLEAN GLASS.—Keeping the glass clean is another important point at this season of the year; any obstruction to the light at the present season is detrimental to the well-being of the plants. In the neighbourhood of London, and other large towns, the work entailed in keeping the glass clean is very considerable, where fogs are so prevalent; even under more favourable conditions we find it desirable to devote considerable time to cleansing the roofs.—H. J. CHAPMAN, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

PREPARATORY.—Now that the Christmas season is over, with its attendant drain on the resources of the plant houses, etc., one's thoughts naturally turn towards the requirements of the year on which we have just entered, and as our seedsmen have plentifully supplied us with catalogues, it may not be an unwise proceeding to make a few notes of the various seeds required to help us in making the conservatories and greenhouses gay during the year. Those who want a succession of bloom during the season, often from a minimum of space, cannot do better than grow a goodly number of these subjects that are raised from seed each season, flowered in a few months, and thrown away, thus making room for their successors. A selection from the following might be made: Browallia speciosa, begonias, double and single, calceolarias, campanulas, carnations, celosias in variety, Clerodendron fallax, cinerarias, celsias, cyperus, cyclamen, Francoa ramosa, gesneras, gloxinias, humeas, Lobelia tenuior, Medeola asparagoides, mignonette, nicotiana, primulas in variety, rhodanthe, saintpaulia, Schizanthus pinnatus, S. Wisetonensis and retusus, torenias, and Trachelium cæruleum.

SEED SOWING.—It is yet full early to sow seeds of any sort, and by leaving the sowing till, say, the third or last week in the month, with the lengthening days the seeds germinate more quickly, and the seedlings make a stronger growth. It will be wise to see that all the bins (under cover) are filled with loam, leaf-soil, peat, sand, etc., so that when the time arrives all material will be to hand in good condition. All pots, pans, and boxes should be cleaned, and stored in their sizes, the occasional wet days providing the means of having this done by the outside men.

PREPARING FOR SPRING.—As previously mentioned, during the past week or two the resources of the plant houses will have been heavily taxed, and a great many of their contents used in the decoration of the conservatory and indoor apartments. Before refilling with bulbs and forced plants they should have one of their periodical cleanings, and for this purpose everything movable should be taken out of the house, and all shingle cleared off the stages.

CONSERVATORY.—At this season of the year plants should be as lightly disposed as possible in the conservatory, whether it be in groups on the ground, or on stages, allowing as much air as possible to circulate between them, thus helping to prolong the flowering period. Air should be admitted on all favourable occasions, with enough artificial heat to keep everything warm and dry, especially in the cases where the doors open into drawing-rooms. All dead blooms and decaying leaves must be rigorously removed, and everything done to maintain a clean and tidy appearance.

FORCING PLANTS.—Continue to take indoors weekly batches of bulbs, shrubs, and other plants for forcing, to maintain a regular supply of flowers in the conservatory and for the supply of cut flowers. Choose kinds that are naturally early blooming, and the later kinds for successional supplies. Freesias that are producing their flowers should be staked, and placed where they will have a little more heat, giving them occasional supplies of weak liquid manure.—THOMAS STEVENSON, Woburn Place Gardens, Addlestone.

THE FLOWER GARDEN.

PROTECTION.—Although we have had an extremely mild autumn, and, indeed, mild weather until the time of writing, it frequently happens that we experience much colder weather early in the New Year. It will therefore be well to make every provision in case of necessity. Many of the most beautiful half-hardy flowering and foliage shrubs may be safely brought through the severest winter if a timely protection is afforded them. There are many means and ways of accomplishing this. The roots and the base of the plant should receive first of all a good mulching either with long litter, or better still, dried bracken. The same material may be added for protecting the plants generally, and if they are not too large the more tender may be enclosed entirely with mats. Small specimen plants, creepers, and such like should be treated in this way. Fresh cut spruce boughs make admirable protection and shelter for plants growing on pergolas and open fences.

ROSES.—These also should have careful attention at this season of the year. Many of the beautiful teas and hybrid teas, especially when grown in bush form, can be protected from severe weather by applying a good covering both to the roots and growth, of either long litter, straw, or bracken. Standards and half-standards of the more tender varieties should be protected by tying a reasonable amount of clean straw well over the heads.

WATERSIDE PLANTS.—Many of these, although practically hardy, will be much benefited by having some kind of shelter, as well as the more tender of the herbaceous plants. Half-hardy subjects which are being wintered in cold frames, such as pentstemons and calceolarias in variety should be kept safe by having a good lining of long litter placed round the frames, and the glass well covered whenever frost is likely to occur.

THE SHRUBBERIES.—Though I am an advocate of cleaning the whole of the leaves from the shrubbery beds and borders before the end of the old year, I am fully aware that it is absolutely necessary to preserve these in the best possible condition, to apply something in the way of feeding material. This should be applied at the earliest possible moment after this date. I know of nothing better than old hotbed manure for the purpose. Well-decayed garden refuse from a heap is also good for the purpose; this should be wheeled on during frosty weather, or when the surface is dry, and forked in when convenient, sometime before active growth commences.

PLANTING.—Though mid-winter is not an ideal time for transplanting shrubs and trees, it frequently happens, where a large amount of the work has to be done, that it has to be practised. Except in the case of hollies, and conifers generally, if great care is exercised there is no reason why this should not be safely accomplished. Too much care can hardly be taken in preserving a good ball and as many of the fibrous roots as possible; where of large size, suitable appliances must be brought into use. The holes should be large and well prepared, the roots carefully laid out, and any damaged ones cut back from the underside. Unless the soil is an ideal one, it will be necessary to spread a little well-prepared material over the roots to assist them to start away freely. The specimens should be made secure in some way to prevent the wind blowing them about. A thin mulching of half-decayed manure will also be advantageous to them. Any new beds or borders that are being made should now be well trenched, so that the soil is thoroughly exposed to the weather, which will render it suitable for receiving the plants early in April.—E. BECKETT, Aldenham House Gardens.

HARDY FRUITS.

GENERAL REMARKS.—As each season comes round it brings with it its own special work, and if one would succeed in the cultivation of hardy fruits, he must endeavour, as far as possible, to carry out the various items of work at the proper time. The last three months of the year are the most suitable for carrying out such work as root pruning, planting, and branch pruning, therefore it is advisable that the greater portion of this work should be performed by the end of the year, so as not to impede in any way the proper carrying out of the many items that require to be done during the first quarter of the year. This is not always practicable, hence reference is made to these operations.

PLANTING.—It is always advisable if the weather permits to plant new trees in their permanent positions as soon as possible after they are received from the nursery. They then at once commence to re-establish themselves in their new quarters by producing new roots. Trees laid in temporarily will also produce numerous roots, as in the former case, but these young roots, being very delicate, receive much damage when the trees are transferred to their proper positions. Hence the roots of trees which are treated in this fashion are not in such a good position for supplying moisture to the trees as in those trees that are planted on their arrival. It is therefore desirable to have everything in readiness, that they may be promptly planted in their new positions. On heavy soils let the trees be planted practically on the natural level of the ground, and then mound up the soil so as to well cover the roots, which should be spread out as evenly as possible, working some fine soil among them. Finish the operation by thoroughly making the soil firm over and about the roots. Place stakes to standard trees, fastening them securely, but a little loosely for the present, to allow them to sink slightly with the natural sinking of fresh-dug land.

PRUNING.—One of the chief objects in operating on trees growing as standards, pyramids, or bushes, and having ample room to develop, is to shorten the leading and main shoots just as much as will give the branches when carrying a good crop of fruit sufficient rigidity to prevent them breaking under the weight, and prevent their being swayed about easily by strong winds. Such winds, for example, as are experienced at the end of August and early part of September, when many of the varieties of the larger fruits, such as apples and pears, are approaching maturity, and are then more easily shaken off. Another object to be aimed at in pruning is to so shorten the leading growths as to ensure laterals and fruit spurs being produced along the whole length of the branches. If the latter are thinly and evenly distributed there will be nothing to prevent the free access of the sun and air to all parts of the trees. The lateral growths should be shortened to about three buds, or, in other words, to within an inch and a-half of their base. Trees in restricted areas require closer pruning.—GEORGE WOODGATE, Rolleston Hall Gardens.

STEWING PEARS.

The varieties of stewing pears are not numerous, nor is a wide range necessary, considering that those which are classed for the purpose are mostly of good quality, and are fine keepers. Of course, some of our dessert kinds, when cooked, are of the very best quality, but as their season is short they must be used almost at once.

In the variety Catillac we have one of the very best of croppers, standard trees bearing freely in most seasons, and the fruits, when cooked, become a very fine red colour. The pulp may be more gritty than that of some other kinds, yet it is excellent, and another good quality is that it keeps sound until the month of April. When grown as cordons the fruits come to a large size, and are fine for show purposes.

Verulam I have seen as a standard, bearing enormous crops. The fruits resemble greatly those of the old Brown Beurre in shape, and sometimes on the side next the sun the skin becomes a very dark brown colour. When stewed the flesh assumes a very pleasing colour, and is of good flavour. If the fruits are gathered at the right time they will keep sound until the middle of March.

Bellissime d'Hiver I used to grow as a bush, and it usually cropped very satisfactorily. The flesh is fine grained, white, and free from grit. In fact, at one time I thought it one of the best for baking purposes, as it was asked for in preference to Catillac and all others.

Uvedale's St. Germain is one of the largest pears we have. If given a good position on a wall it usually bears a fairly good crop of clean fruits. With me this variety is rather inclined to canker, but on some soils this may not be the case. The pulp, when cooked, is very pleasant, and not very gritty.

Beurre Clairgeau both bakes and stews well, although it is not classed as a cooking variety, but it is, in some gardens, more adapted for either stewing or baking than for dessert. A pear which when cooked is quite excellent is Jersey Gratioli, a variety which does not keep long after it is ripe, and which, with me, in Kent, bore very heavily. H. MARKHAM.

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A RARE OLD FLORIST'S FLOWER.

How is it that in the whole range of English floricultural literature we have no such thing as a book on the tulip. There are a few little pamphlets and cultural treatises extant, but a book in the proper sense of the word there is none. And this is all the more remarkable when we consider the high position that the tulip once occupied as a florist's flower, both at home and abroad. Many writers have discoursed upon its history and culture. Many, too, have told us of the marvels of the famous tulipomania that raged in Holland during the 17th century, and with which in a greater or less degree readers are already familiar. My present purpose, however, is not to deal with this oft-repeated theme, but rather to give a few literary notes concerning the flower as a popular favourite among growers who cherished it for its own sake, and for its beauty, rather than as an object of speculation.

There can be no doubt that the tulip made its first appearance in European gardens during the 16th century, and that for a time it shared with the carnation, the ranunculus, and the anemone, the esteem of the genuine lover of flowers. In fact, these four, with the auricula and the hyacinth, were practically the most widely grown and most highly prized florist's flowers during the 17th and 18th centuries. Some of them, but particularly the tulips, continued to be so well into the 19th century, and the efforts of the English florists finally resulted in the production of a type that, judged by the florists' standard of perfection, had never previously been attained. Groom, Goldham, Maddocks, Clarke, Greig, Sherwood, Davy, and others were well-known growers and raisers nearly a century ago, and their triumphs may be found chronicled in the columns of the gardening press of the period.

Some ten years ago Count Sohns-Laubach, Professor of Botany at Strasburg University, wrote an excellent treatise entitled "Die Geschichte der Tulpen in Mittel-und-Westeuropa." As a literary and historical account of the tulip it has probably no equal in modern times, for he covers the whole scope of tulip lore, beginning with Busbequins in 1554, who was the first to mention it, and appends to his treatise a comprehensive list of tulip literature in all languages and from all time, that was known to him.

A large proportion of the oldest books on this famous flower were, of course, written in Dutch, and this fact renders original research a matter of some difficulty to ordinary English writers. But the tulip was not long before it made its way into France, and there is much interesting historical and literary matter that can be gleaned about the flower from this source. To those readers who care to undertake the labour of original research, and we fear there are but few nowadays who have either the time or capacity for such work, some of our references may be useful, inasmuch as they are chiefly historical and cultural, whereas the Dutch literature largely relates to the mania and the speculation resulting therefrom. The high prices paid for tulip bulbs during the 17th century were those paid by the gamblers, not those by florists. Among the varieties that fetched high prices were the famous Semper Augustus, Viceroy, Admiral Siefkin, Admiral Von der Eyk, Brabanter, Gouda, Beste Anvaers, etc., and in reading of the enormous sums these flowers have fetched we have often wondered what they were like, and whether there still existed any representations of them in any of the Continental works on floriculture. Count Sohns-Laubach work excepted, we know of none, but in that work there is a coloured illustration of three of the most famous of these old-time tulips, viz., Viceroy, Gouda, and Semper Augustus, copied from an original drawing in the possession of Mr. Krelage, the eminent Dutch nurseryman, whose library contains many literary treasures relating to the tulip and other flowers.

Some of the early writers who mentioned the tulip were Gerard, Parkinson, Clusius, and Ferrari. Of course, many others have followed, both from a botanical and horticultural point of view. At one time the flower was simply divided into three sections, early, mid-season, and late, but the florists of various countries and of various times made their own sections and sometimes sub-sections. The French had their glacées, panachées, agates, marquetines, fantasques, jaspées, ranées, morillons, etc. The English in Maddock's day had five distinct sections, viz., the Primo Baguets, Baguet Rigauts, Incomparable Verports, Bybloemens, and Bizards, which fifty years later were reduced to four, the Bizarre, Bylomen, Rose, and Self, while the Dutch had six classes. At a very early stage in the tulip's existence as a florist's flower, the nomenclature began to assume a considerable importance, and the number of varieties was immense. The earliest independent French treatise we know of is "Le Floriste François," published in 1658, and this deals exclusively with the history and culture of the tulip, and contains an alphabetical list of the flowers then known. There are twenty-two pages, containing the names and descriptions of these old-time tulips.

Pierre Morin was one of two brothers who were eminent florists in Paris during the 17th century. His "Remarques Necessaires pour la Culture des Fleurs" ran through many editions, and in the one before me, dated 1670, there are several quaint little catalogues of his bound up at the end of the volume. The tulips form one by themselves, and their season of flowering, early, mid-season, or late, is duly noted. The names are mostly French, and as the tulip had not long been introduced into that country, it is evident that the French florists had been busy in the work of seedling raising.

Another quaint old French book that deals with the history and culture of the tulip is "Connoissance et Culture Parfaite des Belles Fleurs," published in 1696. In this there is no list, but we learn from the opening chapter that the tulip was the Queen of Flowers, that many had given up the culture of the anemone and carnation for the tulip, which had then been known in Paris only about 50 years.

The great French gardener De la Quintinye, published in 1690 his famous "Instructions pour les Jardins Fruitiers et Potagers," which ran through several editions, and had an enormous influence on French gardening. In my copy, dated 1700, there is a work at the end entitled "Nouvelle Instruction pour la Culture des Fleurs," bearing the same date, but which is generally agreed not to have been written by De la Quintinye. In this work we find an important chapter on the tulip, dealing with its classification as a florist's flower, its culture, and a long alphabetical list in double columns of over 400 varieties.

My space is rather limited, and I can only briefly refer to a few other important works in which the tulip finds a place. Among English authors John Rea, in his "Flora Sen de Florum Cultura" (1676), devotes several pages to the flower, with descriptive lists, divided into early, middle, and late kinds. Although the names are strongly suggestive of Dutch and French origin, yet there are a few that would appear by their names to be of English origin.

The English love of floriculture is in a large measure known to be the result of the immigration of Flemish and Huguenot refugees, who brought with them in their flight from persecution their fondness for what we know as florist's flowers. The city of Norwich was at one time peopled largely by these refugees, and has always been a flower-loving city. In and around Spitalfields the silk weavers, mostly descendants from Huguenots, were great cultivators of florist's flowers, even down to quite modern times, and we have often heard from an old inhabitant of the district of the intense interest which they took in their flowers, and in the tulip in particular.

Among the authors on the tulip, which we do not find mentioned in Count Sohns-Laubach's list, is Van Oosten, the author of "The Dutch Gardener," who includes in that work (second edition, 1711) an important treatise, evidently a translation from some French author. We quote from the English edition, but the work also appeared in Dutch and in German, and probably they, too, contained the same treatise. We get some indication of a decline in the absorbing interest in the culture of the tulip for the first time in John Carpenter's "The Retired Gardener" (1717), where, in the chapter on tulips, probably a modified translation from Louis Liger's "Jardinier Fleuriste," he says "never flower made people take more notice of it than this. The passion persons have had for it is surprising; and there has not wanted some in the last age, who have given above three hundred livers (livres) for a tulip root. But now that heat is much abated."

We find no allusion in Count Sohns-Laubach's list to the "Traitè des fleurs à oignons," by Nicolas van Kampen et fils, published at Haarlem in 1760. This work contains an independent treatise of twenty pages on the tulip, and its perusal will interest those who are concerned with the early history, classification, etc., of the flower.

An anonymous French author (since discovered to be Moët) published a bulky little volume in 1754, entitled "Traité de la culture des Renoncules, des Œillets, des Auricules et des Tulipes." This treatise is considered by a well-known French critic to be a mere plagiarism of "Le Floriste François," published nearly a century before, and certainly in the few minutes at my disposal for verifying the alphabetical list of varieties it would seem that there is good reason for the allegation.

One of the most scholarly and capable writers of French flower books was the Père d'Ardine. He wrote quite a series of excellent little books on the popular flowers of his day, and among them was "Traitè des Tulipes." There are two editions, practically identical. One was published at Avignon, in 1760, the other at the same place, five years later. This little book of 252 pages, with several plates, contains a list of authorities, ancient and contemporary, consulted by the author, a man of learning and a florist to boot, together with an explanation of the many technical terms employed by the growers of his day. The historical, literary, and cultural matter render it of paramount importance to every tulip enthusiast interested in the flower who desires knowledge in all matters concerning it.

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Coming down to the close of the eighteenth century we must not forget to mention Maddock's "The Florist's Directory," the first edition of which appeared in 1792. At that time the most popular florist's flowers may be taken to be the hyacinth, tulip, ranunculus, auricula, carnation, pink, and polyanthus. The tulip was a favourite show flower, and continued to be so long into the nineteenth century. We have a curious old florist's book, entitled "An Account of the different Flower Shows held in Lancashire, Cheshire, Yorkshire, and other parts of the Kingdom in 1826, in which the tulip shows occupy a large portion. The details are not descriptive, but are given in the following order—Feathered Bizarres, Feathered Bybloemens, Feathered Roses. Flamed Bizarres, Flamed Bybloemens, Flamed Roses, and Selfs. Under these headings are given the names of the exhibitor, the order in which they showed, and the name of the winning variety. Here again it is apparent that we were still largely indebted to the French and Dutch florists for many of the famous tulips in the winning stands.

The prices paid for tulips during the tulipomania, of course, had nothing to do with their value from the florist's point of view. In later years large sums were occasionally paid for the stock of certain varieties, but in an ordinary way in Maddock's time, anyone could purchase bulbs of good varieties for a few shillings each. There were, of course, exceptions, and in Maddock's catalogue for 1792 we notice Habit de Parade £4 10s.; La Charmante, £4 4s.; La Reine de Toute, £5 5s.; Passe Thalestris, £5 5s.; Prince de Soubise, £4 4s.; Rose Desirè, £4 4s.; La Charbonnière, £5 5s.; Charlemont, £5 5s.; Hector, £4 4s.; Surpasse Catafalque, £6 6s.; Surpasse Pompe Funêbre £10 10s., and many others at lesser prices.

Certainly up to the middle of the nineteenth century tulip growing for show increased in popularity, and many fine examples of the old English tulip were raised. Floricultural literature of the period abounds in illustrations of these triumphs of the florist's art, and the records of the shows in the "Midland Florist," "The Florists' Register," and similar works prove the great interest that was taken in them at the time. In the first two or three decades of the nineteenth century the English show tulip had far surpassed the Continental ones, and in rapidly looking over the records of the period we have come across some fine illustrations in colour of many that occupied a foremost place, and of these Pandora, Fanny Kemble, Apelles, Queen Adelaide, Julia Grisi, Donizelli, Sultan, Salvator Rosa, Everard, Sir Robert Peel, Rose Camuse de Craiz, Elizabeth, Homer, Marcellus, Duchess of Kent, Majestueuse, Daveyana, Walworth, Earl of Liverpool, High Admiral, Polyphemus, were conspicuous examples. C. HARMAN PAYNE.

Home-made Raisins.—Mr. T. Coomber writes: The reference on page 942 of last year's volume to the raisins recently exhibited by Mr. Bennett-Poë recalls to my memory that the late Mr. James Esson, when gardener at Crimonmogate, Aberdeenshire, used to convert grapes into excellent raisins by placing the bunches in single layers, in shallow receptacles having ends and sides formed of wood, and tops and bottoms of perforated zinc. These "boxes" were placed over hot-water pipes, and occasionally turned over, until the process of raisin-making was completed. The raisins thus obtained were very highly valued for dessert.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE,
DECEMBER 22.

Present: Mr. E. A. Bowles, F.L.S. (in the chair); Messrs. A. W. Sutton, G. S. Saunders, J. T. Bennett-Poë, E. M. Holmes, H. J. Chapman, L. Crawshay, A. Worsley, F. J. Baker, J. Fraser, and F. J. Chittenden (secretary).

CALANTHE VARS.—Mr. H. J. Chapman showed two interesting hybrids of calanthe, one of a deep red, the other still deeper in colour. These are interesting on account of the spreading and intensification of the colour, as compared with the original species, C. vestita and C. rosea. The flower was deep red inside, but almost white externally.

MALFORMED CYCLAMEN.—Mr. Crawshay showed an interesting, though not very uncommon, malformation of the cyclamen where two flowers had been produced in the axils of two of the sepals of an otherwise quite normal flower. All the flowers on the plant, which was a seedling, were similarly malformed.

APPLES DECAYING.—Mr. Baker showed specimens of an apple with a wide open "eye," which was decaying from the core inwards. At the "eye" end of the fruit there was a deposit of some material which was thought to be possibly the remains of a spray fluid. It was taken by Mr. Holmes for further examination.

ALBINOS AMONG BRITISH WILD FLOWERS.—Mr. J. Fraser, F.L.S., showed specimens of an albino form of the ordinarily blue Gentiana campestris, remarking that he had found it occupying an area of several square yards at an elevation of about 1,000ft. in the Scottish highlands, while all the plants at a lower elevation were of the usual blue colour. The plant had evidently come true from seed, and this, he thought, was probably true of the majority of albinos when self-fertilised. There are numerous examples of albino varieties of British wild plants occurring naturally, and Mr. Fraser produced a list which, supplemented by other members, is given: Papaver Rheas, Matthiola incana, Viola odorata, V. hirta lactiflora, V. lutea amœna, Polygala vulgaris, P. serpyllacea, P. calcarea, Silene acaulis, Malva moschata, Geranium Robertianum, Ononis spinosa, Trifolium incarnatum, Rubus rusticanus, Rosa canina dumalis, R. c. surculosa, R. dumetorum, Epilobrum hirsutum, Scabiosa succisa, Centaurea nigra, Carduus nutans, Cnicus palustris, C. arvensis, Campanula rotundifolia, Calluna vulgaris, Erica tetralix, Erica cinerea, Centaurium umbellatum, Gentiana campestris, Verbascum nigrum, Bartsia odontites, Ballota nigra, Thymus Chamædrys, Galeopsis tetrahit, Ajuga reptans, Polygonum Bistorta, Orchis muscula, O. maculata, and Scilla non-scripta.

PLANTS IN BLOOM.—Mr. Bowles showed specimens of Felicia petiolaris gathered from the open in a Wimbledon garden, where the plant has flowered up to the present since the autumn. He also showed specimens of the following species of crocus which were flowering outdoors considerably before their normal period of bloom: Crocus Imperati (monophyllus) and a depauperate form of the same species, C. Selberi, and C. chrysanthus: C. Imperati was also shown from Wisley.

HEALING OF WOUNDS.—From Mr. Kingsmill came a portion of the trunk of an oak which had, many years ago, a piece of the stem cut off longitudinally. The wood had subsequently grown over the wound thus made, and completely healed it, so that no trace of the wound could be seen from the outside.

GREASE BANDS.—From Mr. J. Watkins, orchard foreman to Sir Edmund Loder, Maplehurst, Sussex, came a grease band from an apple tree with an enormous number of Winter Moths (Cheimatobia brumata and Hybernia aurantiana), both male and female, adhering to it. Mr. Watkins wrote that when he took the band off nearly 400 male and female moths were upon it, and that there were many bands on which 200 and upwards have been caught. The trees had never been banded before, but now some 10,000 had been done. The Mottled Umber Moth was the first to be caught, but later the Small Winter Moth in much greater abundance. The birds appear to take a great number of the moths from the bands and devour them, particularly the blue tits. Few moths were caught when the bands were first put on (in the first week in October). The larger proportion of females was caught from the middle to the end of November, and a few are still going up. Males were more abundant earlier. The Mottled Umber has been caught chiefly round the edges of the plantation, near the hedges and large oaks.

NEW PLANTS, ETC.

ACANTHUS MONTANUS.

An old, but rare species, from West Africa. It has a very distinct resemblance to the hardy species, but is itself a stove plant. The bracteate inflorescence is soft rose-purple in effect, but the flowers themselves are white, the bracts showing up very conspicuously. The leaves are deeply cut, spiny, and mottled in two shades of green. The plant, as shown, is a very attractive one. F.C.C., R.H.S., December 22. Messrs. James Veitch and Sons, Chelsea.

CALANTHE ANGELA.

A beautiful new calanthe derived from C. Burfordiensis and C. Chapmani. It is brighter than the latter, and differs in having a well-defined three-lobed lip. The latter is brilliant ruby-crimson, and the sepals and petals are a shade or so paler. F.C.C., R.H.S., December 22. Mr. H. J. Chapman, gardener to N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne.

CYPRIPEDIUM ANTINOUS.

This handsome and large-flowered cypripedium is from C. J. Howes, crossed with C. Actæus. It has a broad and bold dorsal sepal that is white, with a green base and purple spots; the lip and petals are yellowish-green tinged with brown. F.C.C., R.H.S., December 22. Mr. H. G. Alexander, orchid grower to Lieut.-Colonel Holford, Westonbirt, Tetbury, Gloucester.

CALANTHE NORMAN.

This is another fine new calanthe, but it was overshadowed by the brilliant C. Angela. It has large flowers of rich rosy-crimson colour, the sepals being tipped with soft white. A.M., R.H.S., December 22. Mr. Norman C. Cookson.

ONCIDIUM BICALLOSUM, SANDER'S VAR.

A distinct and very fine form of an old species. It has a large yellow lip and brown sepals and petals, and is in every way a glorified form of the type. A.M., R.H.S., December 22. Messrs. Sander and Sons, St. Albans.

SARCOCOCCA RUSCIFOLIA.

This dwarf evergreen shrub is a recent introduction from China. It has shiny green ruscus-like foliage, is quite hardy, and promises to be very useful, as it will stand hard wear like a privet. The flowers are white, sweet-scented, and followed by blue berries. A.M., R.H.S., December 22. Messrs. James Veitch and Sons, Chelsea

APPLE ENCORE.

This useful apple has been previously described in our columns, as it gained an A.M. in December, 1906. F.C.C., R.H.S., December 22. Mr. C. Ross, The Gardens, Welford Park, Newbury.

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ANSWERS TO CORRESPONDENTS.

PRUNING HYDRANGEA PANICULATA GRANDIFLORA.—P. M. S., Keighley: This hardy flowering shrub delights in fairly heavy soil. When grown as a lawn group the shoots produced in the previous season should be cut hard back to within a few inches of the soil, as then new strong growths will start from the base and flower finely.

NEW NEPHROLEPIS.—F. F. S., Manchester: The new varieties of Nephrolepis exaltata arrive so fast that it is a difficult matter to keep pace with them; indeed, at the present rate of increase there will soon be sufficient to enable anyone so minded to start the cult of the nephrolepis in much the same way that some take up varieties of Odontoglossum crispum or Cypripedium insigne. A few of the varieties that occur to us are N. todeaoides, N. superba, N. elegantissima, N. Scotti, N. Bostoniensis, N. Whitmanni, and N. Scholzeli.

HARDY ANNUALS FOR A NEW GARDEN.—T. C. M., Coulsden: The following are among the very best of hardy annuals. Of most kinds there are numerous varieties, but a good seed catalogue from any of the firms advertising in our columns will help you in the selection of varieties. The kinds are: Calandrinia, calendula, candytuft, clarkia, coreopsis, cornflowers, gilia, godetia, larkspur, linum, lupin, mignonette, phacelia, and poppy. Stocks, asters, tropæolums, and annual chrysanthemums, all half-hardy, could, without much difficulty, be raised in a frame or cool house, and they would amply repay the trouble taken with them. French and African marigolds and zinnias come under the same category. Tropæolums may be sown out of doors in spring, or in an unheated frame in March, to be planted out when fear of frost has passed.

RAISING CELERY AND LEEKS.—A. L. C., Durham: Early celery may be sown about the third week in February, and the main crop about the first week in March. One sowing of leeks will usually suffice, and this should be made at the end of January. In raising both celery and leeks, prepare shallow boxes by placing a thin layer of crocks in the bottom; then cover with decayed leaves or other loose material, and fill to within about half an inch of the upper edge of the sides with rather fine soil, which should be pressed moderately firm. Sow the seeds thinly, give the surface a liberal sprinkling of water, and place in a frame or house in which a temperature of between 60 and 65 degrees is maintained. As soon as the young plants are making their appearance above the surface place the boxes in a light position near the glass, and maintain the soil in a moderately moist condition. Leaving the seedlings in the seed boxes until the plants are being injured by overcrowding must be avoided, and the proper course is to transplant the celery when the plants have made their first rough leaf, and the leeks when they are two or three inches high. They are best put into shallow boxes, and these should, as in the case of those in which the seed was sown, have crocks and loose material put in the bottom. Instead of fine soil the boxes should be filled with a rich compost. The plants should be put three inches apart in the boxes, and be kept close and warm until they have recovered from the check received in planting. They must then be gradually hardened by an increase in the ventilation, and be then removed to an unheated frame, where they should enjoy a free circulation of air and uninterrupted light, excepting, perhaps, in brilliant sunlight, when a very light shade may be used. All the changes must be gradual, and close attention be paid to the water supply, which should be moderately liberal. Leeks should be planted direct from the boxes into their trenches, but the celery will require to be transplanted to a bed of rich soil made up in an unheated frame or in a sheltered position out of doors, where protection from brilliant sunlight by day and from frosts and cold winds at night can be readily afforded.

COMMON POISONOUS PLANTS.—N. G. G., Saxmundham: A few of the commoner poisonous plants met with in lanes and gardens are: Foxglove, leaves; monkshood, leaves and roots; deadly nightshade, berries; wild arum, leaves, etc.; water hemlock, leaves; water parsnip, roots and leaves; hemlock, stem and leaves; laurel, leaves and berries; yew, leaves and seeds; and laburnum, seeds.

NITRO-BACTERINE.—F. H. W., York: The experiments carried out by Mr. F. G. Chittenden, at the R.H.S. gardens, show that for edible peas nitro-bacterine serves no useful purpose at all. Every care was taken to conduct the trials in a manner that would admit of no possibility of error, and the results, as published in the recent issue of the society's "Journal," are distinctly unfavourable to the inoculation of seeds or soil with nitro-bacterine.

BLANCHING LEEKS.—A. L. C., Durham: The great mistake you have made is that of imagining the leeks can be properly blanched at any period, provided their stems are covered. Earthing up should commence about a month after planting, and the work should be continued every ten days or so until there is a length of twelve or more inches of stem beneath the soil, and the plant has ceased to extend. Clever leek growers use a stiff cardboard collar, placing this around the leek and drawing it up as the work of blanching proceeds.

NAMES OF FRUITS.

S. N., Lynn.—1, Newton Wonder; 2, Fearn's Pippin.

H. L. C., Warminster.—1, Beurre Diel; 2, Lane's Prince Albert; 3, Mère de Ménage.

R. D. G., Somerset.—1, Kerry Pippin; 2, Dumelow's Seedling; 3, Ribston Pippin; 4, not recognised.

F. W., Oxford.—The two small specimens were so small and scabby that it was quite impossible to identify them.

J. B., Poynton.—1, Probably a poorly-coloured Worcester Pearmain; 2, not recognised; 3, evidently a local seedling.

NAMES OF PLANTS.

S. W. P., Holmwood.—Probably Pyrola rotundifolia, but, as you observe, the specimens are not very good ones.

D. C., Retford.—1, Viburnum Tinus; 2, Callicarpa purpurea; 3, Echeveria secunda glauca; 4, Gaultheria procumbens.

J. A., Bournemouth.—1, An olearia, probably O. stellularia; 2, Thuia dolobrata variegata; 3, Thuia dolobrata; 4, not recognised, probably a pittosporum; please send when in flower.

FORTHCOMING ENGAGEMENTS.

MONDAY, January 11.—United Horticultural Benefit and Provident Society; committee meeting.

TUESDAY, January 12. — Royal Horticultural Society; committees meet at 12 o'clock; general meeting at 3 o'clock; Scientific Committee at 4 o'clock.

SATURDAY, January 23.—Annual dinner of the French Horticultural Society of London, at the Café Royal, at 6.30 p.m.; Sir Albert K. Rollit will preside.

Horticultural Societies. — The "Gardening Year Book" for 1909, just issued, contains a full list of the horticultural and botanical societies of the United Kingdom, with the name and address of each secretary, and, so far as could be ascertained at the time of going to press, the dates of the exhibitions for the present year. An additional feature is a directory of the public parks and gardens of the United Kingdom, giving area, name of superintendent, etc. The body of the work is devoted to sound information on the general work in the garden and greenhouse for the whole year, a description of the new plants, flowers, fruit, and orchids, many special articles on sweet peas, bulbs, dahlias, chrysanthemums, and other subjects, and selections of the finest of both hardy and tender ornamental plants, and of fruits and vegetables. The price is 1s., or by post 1s. 3d., from the GARDENERS' MAGAZINE office, 148 and 149, Aldersgate Street, London, E.C.

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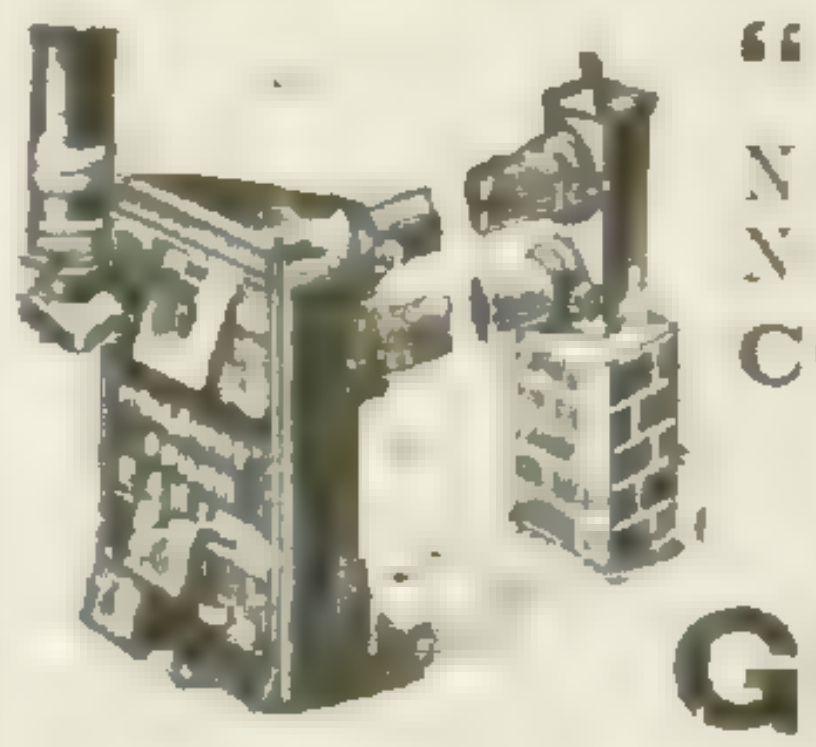

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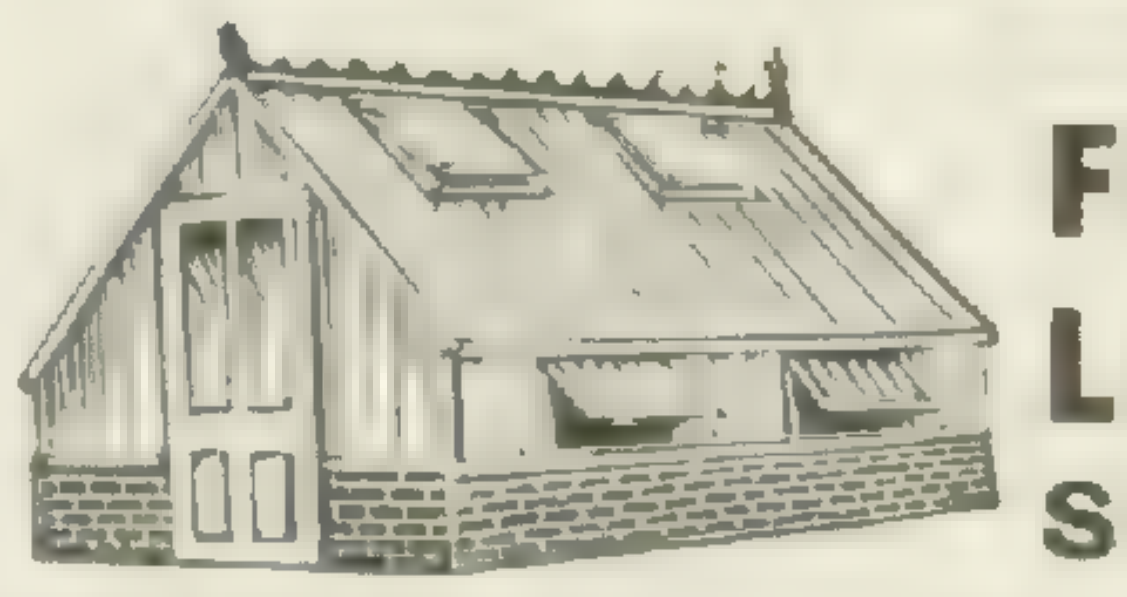

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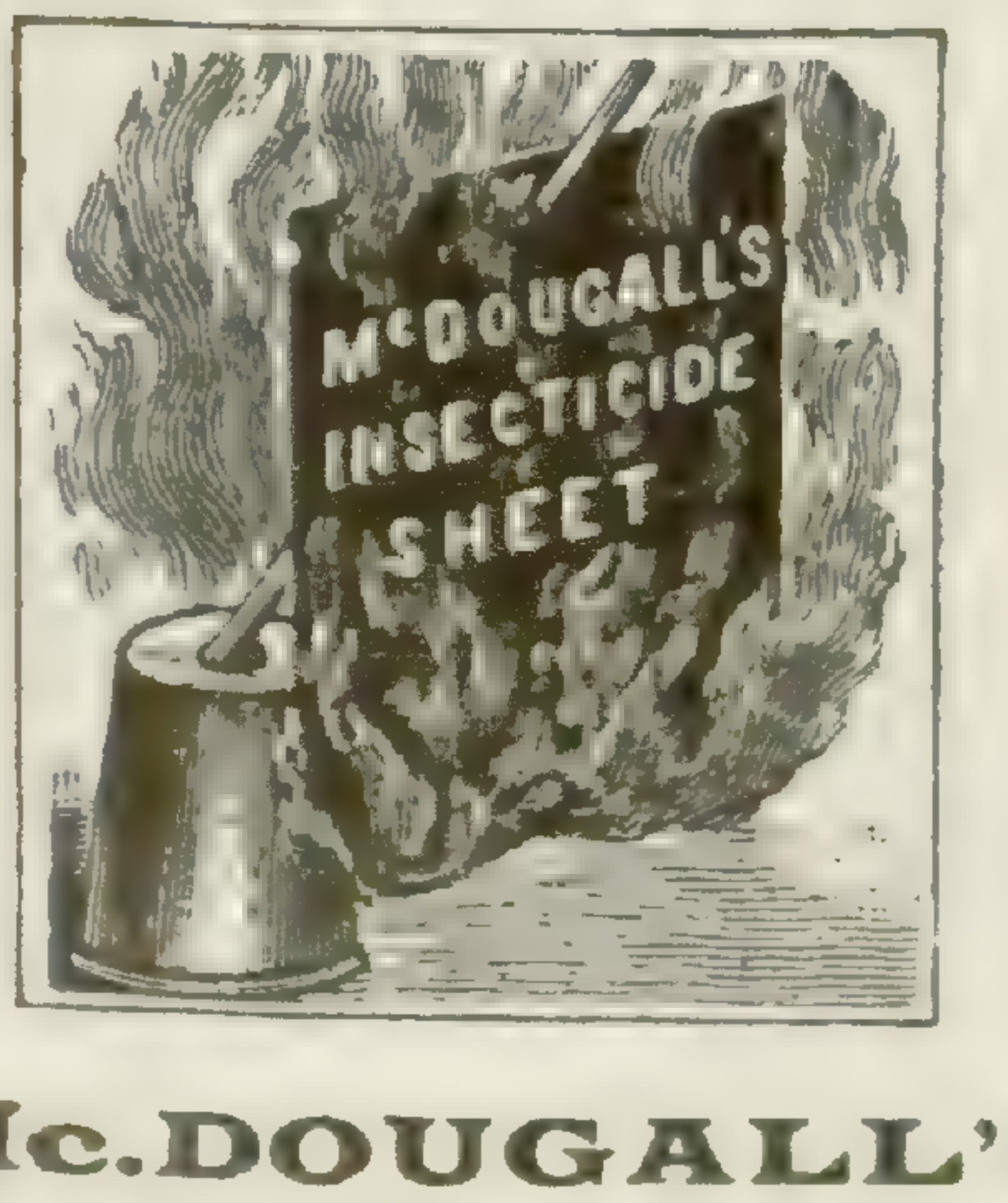

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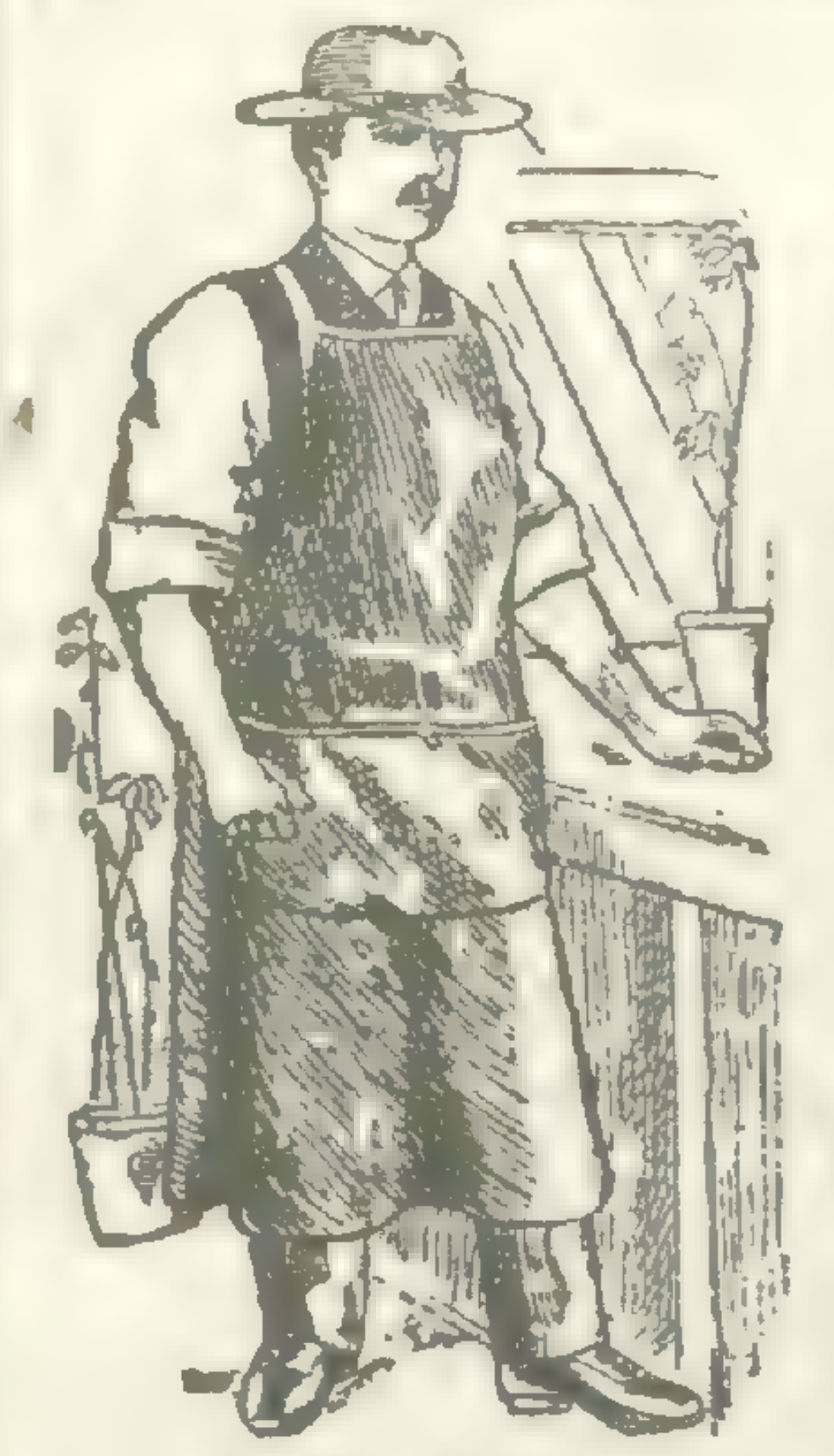
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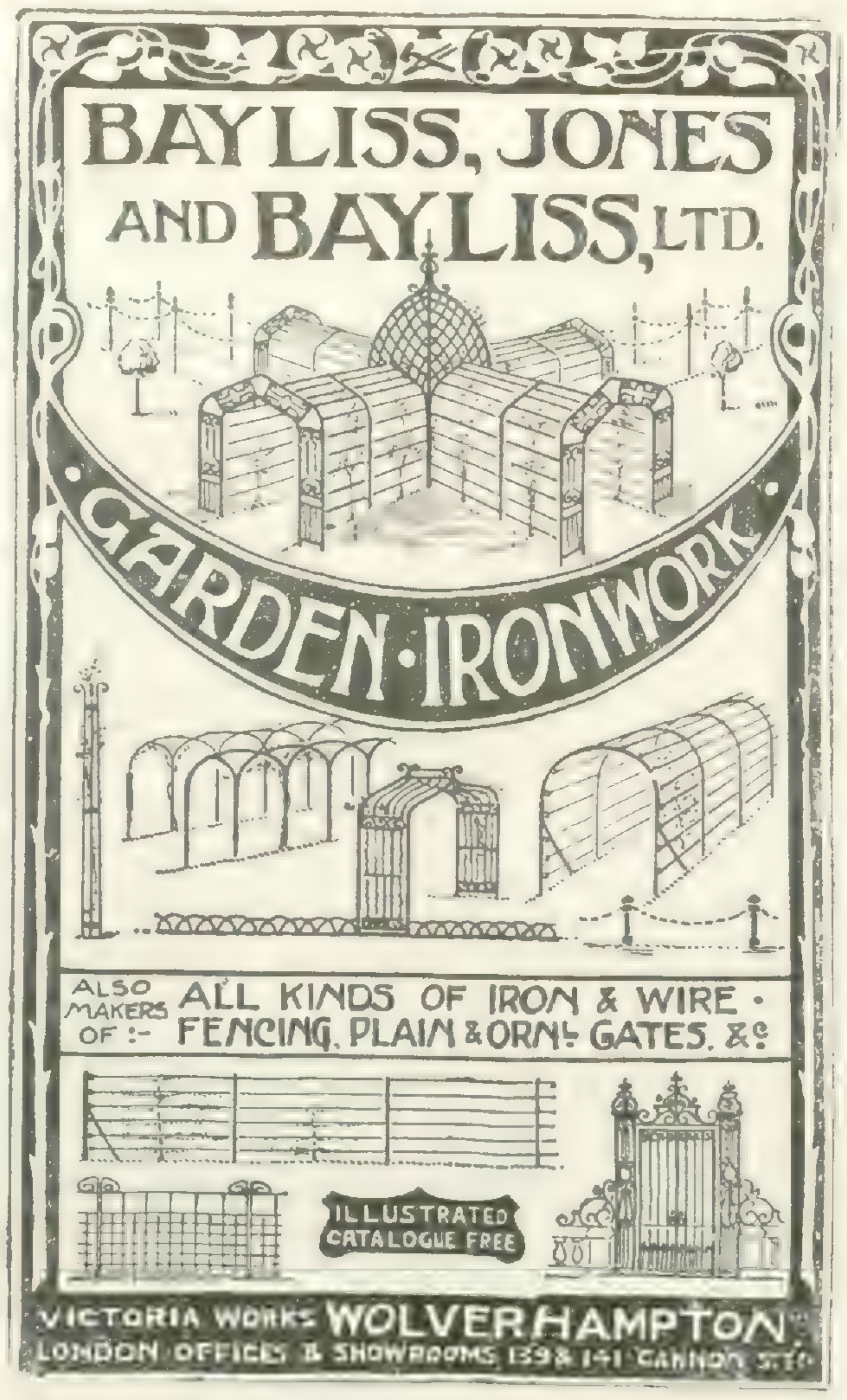
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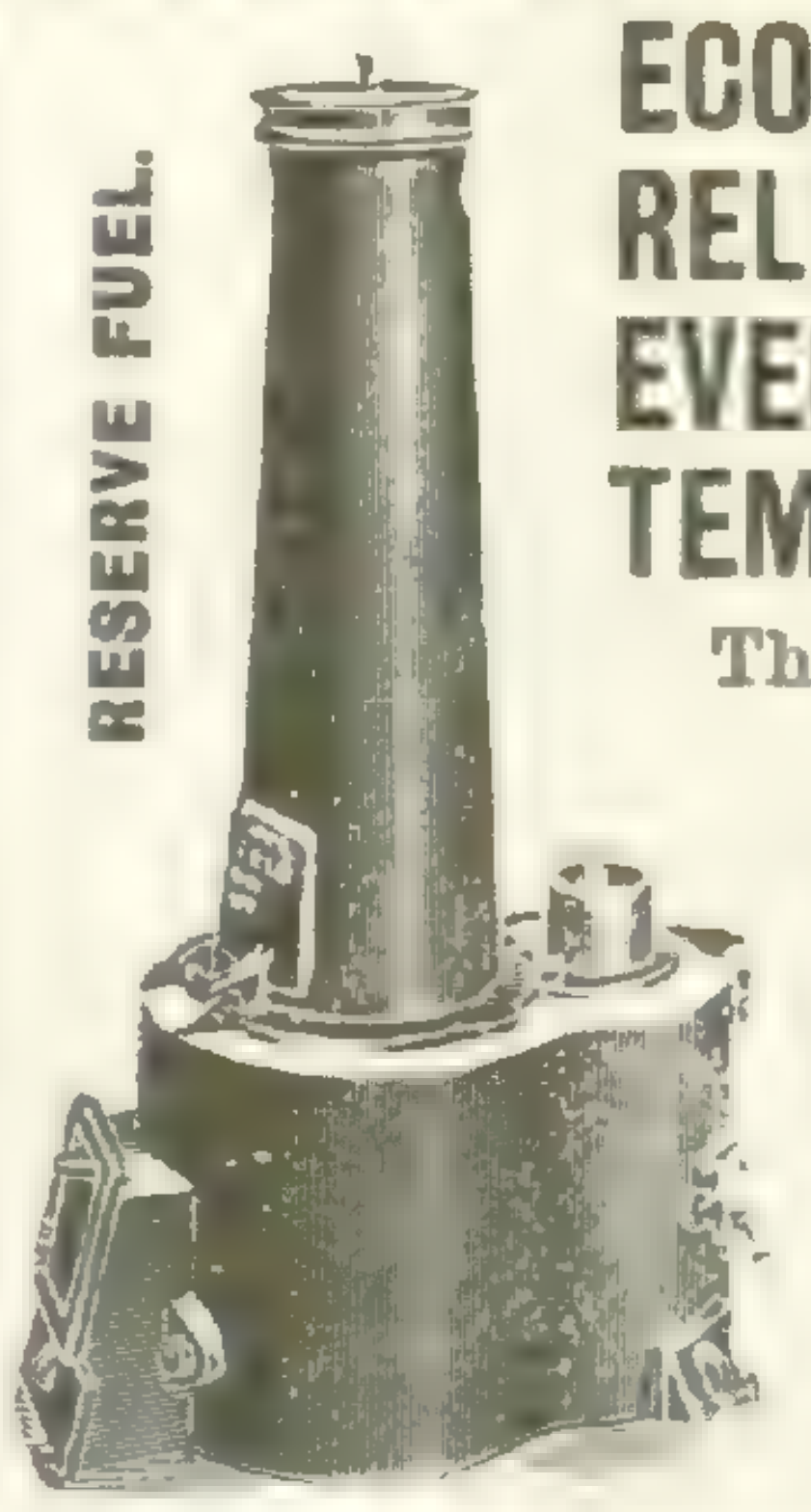
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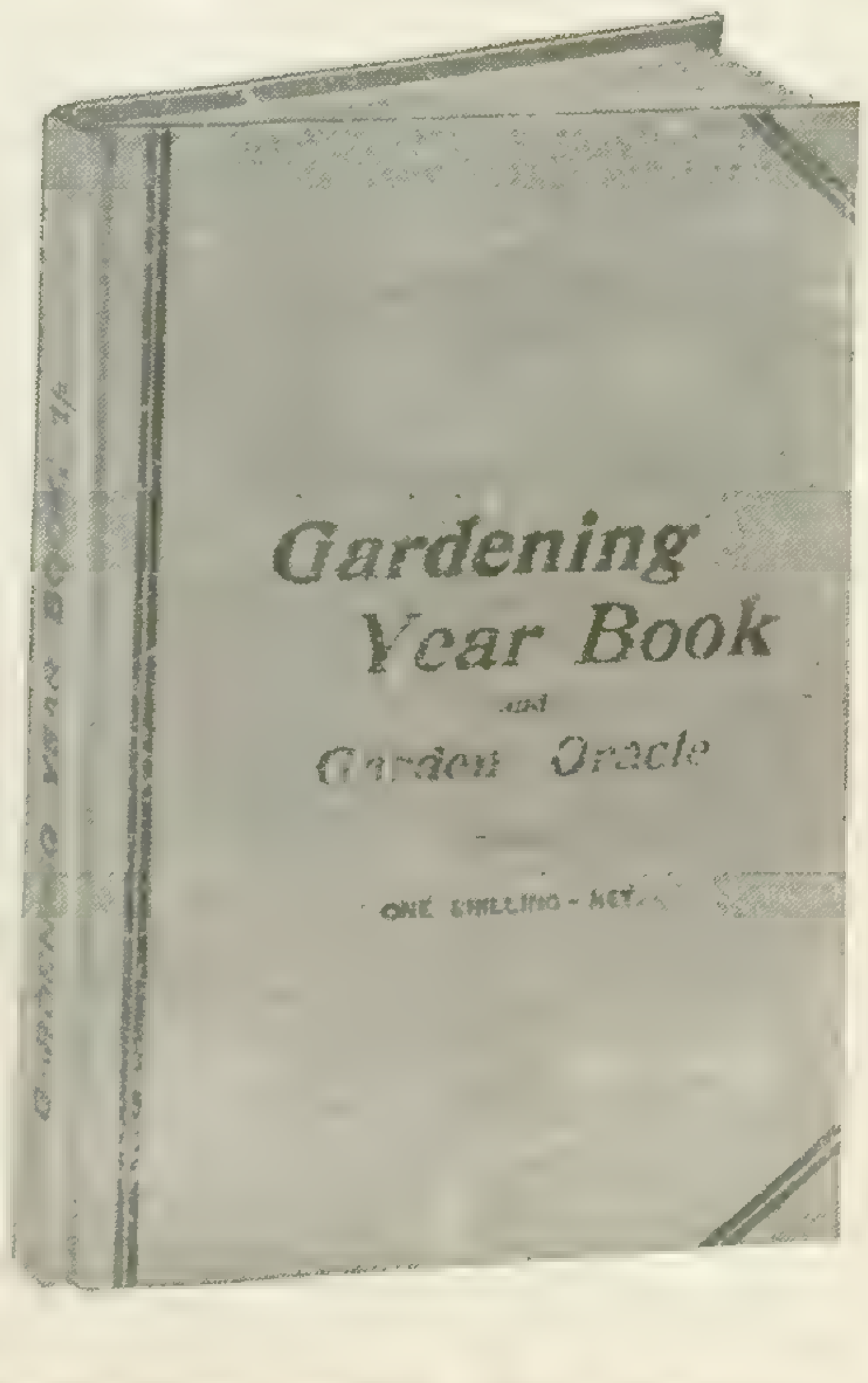

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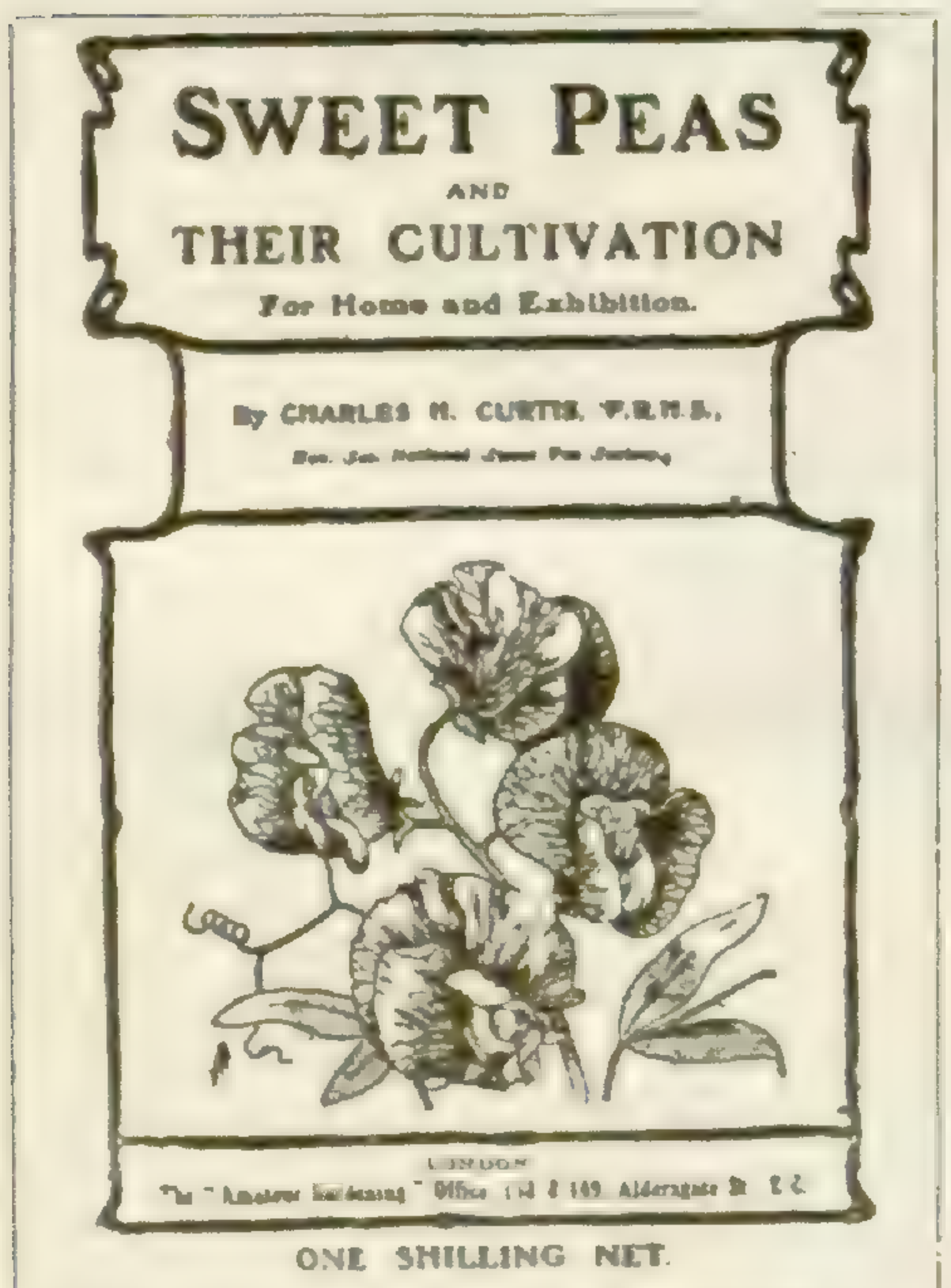

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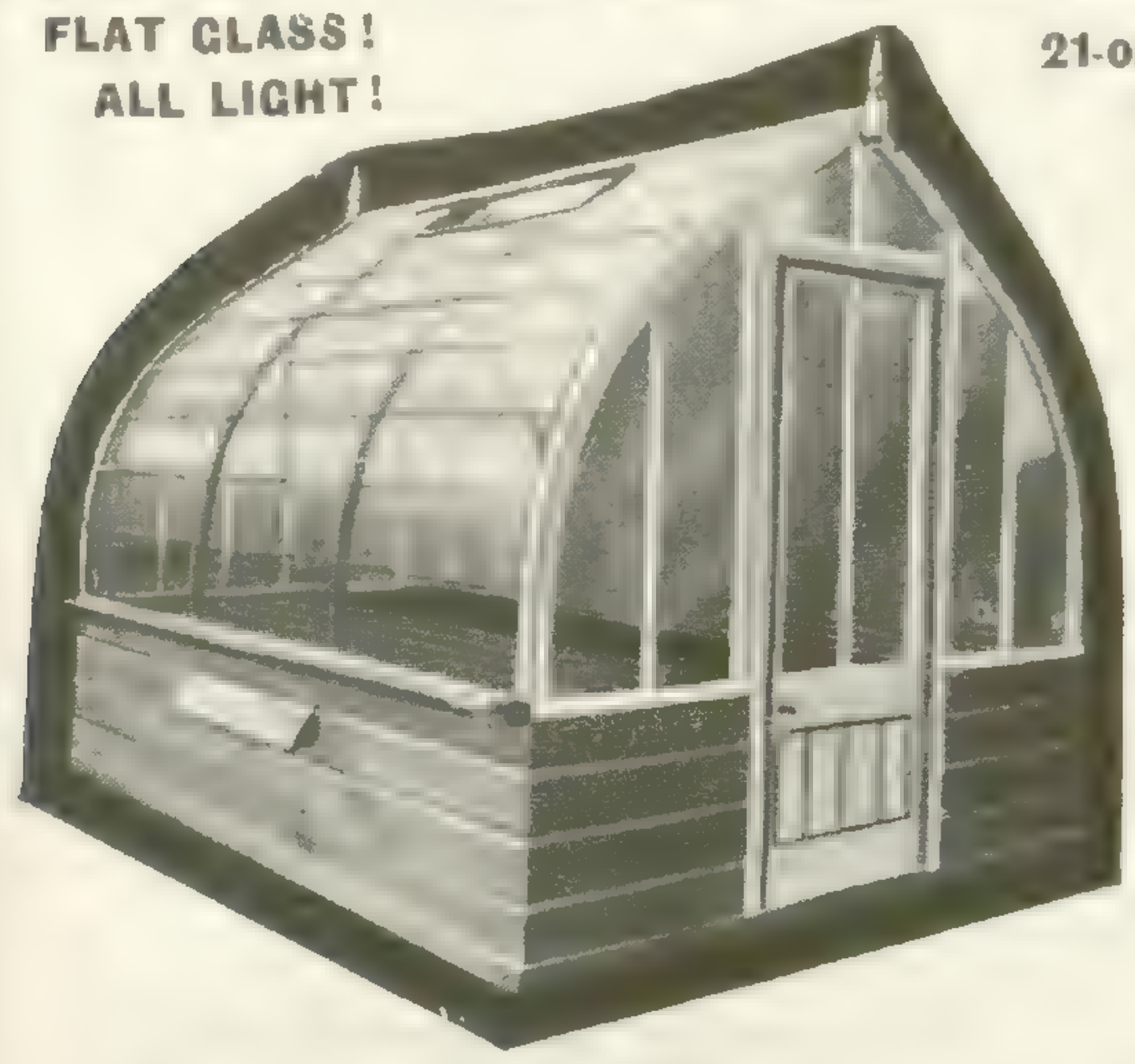

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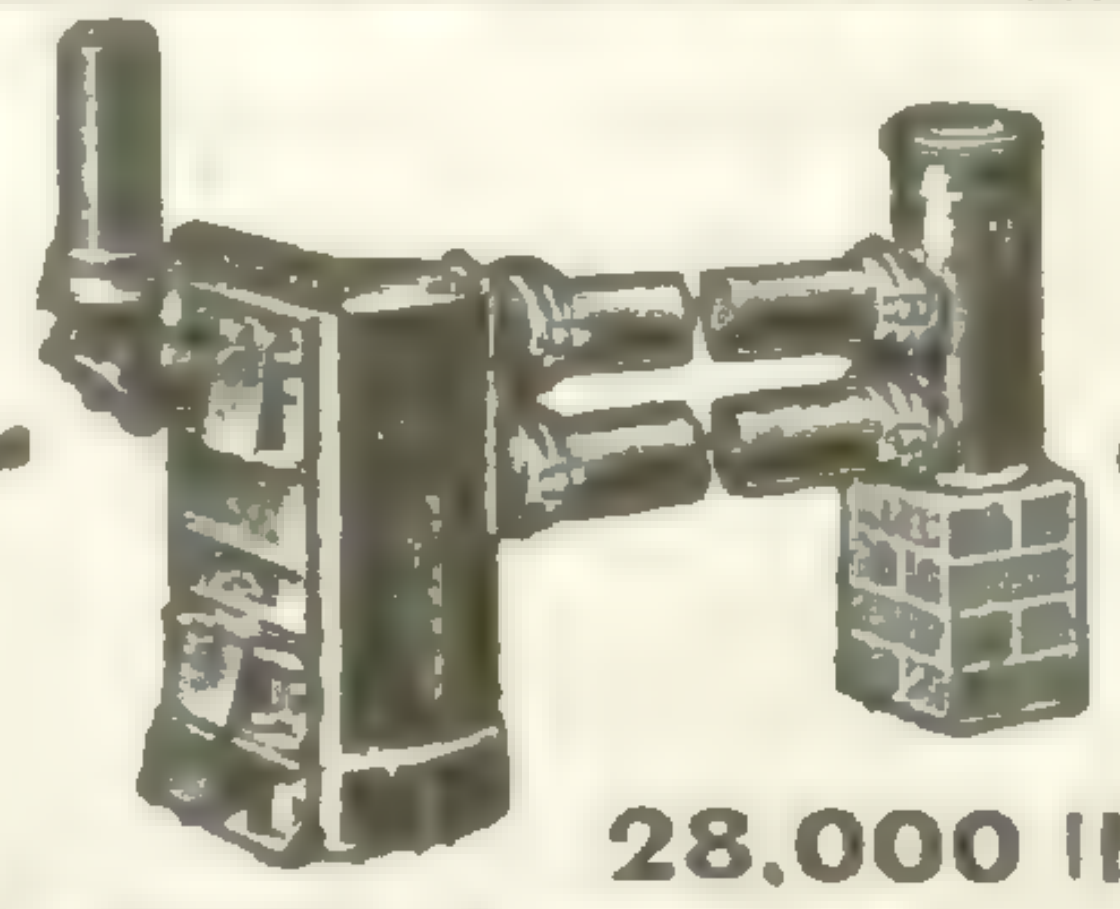

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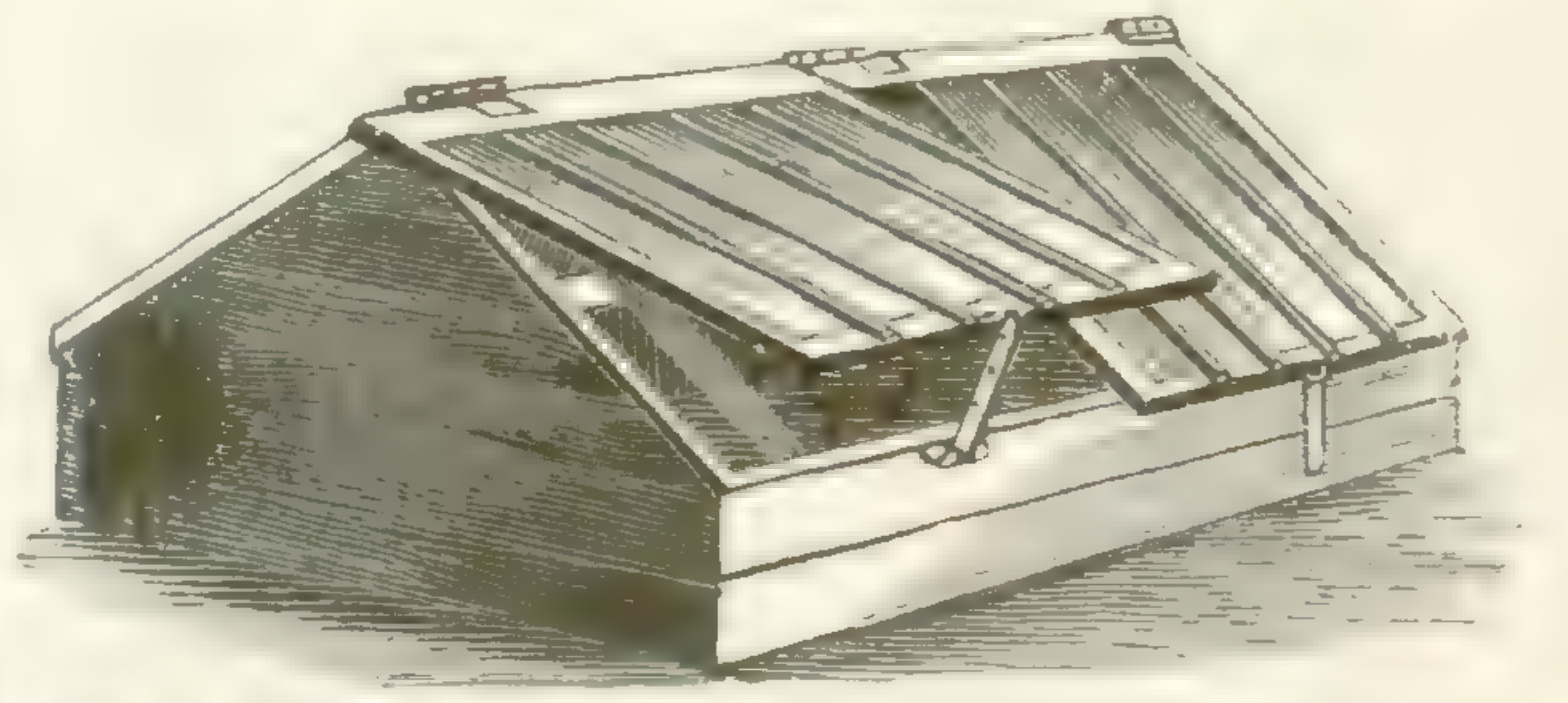

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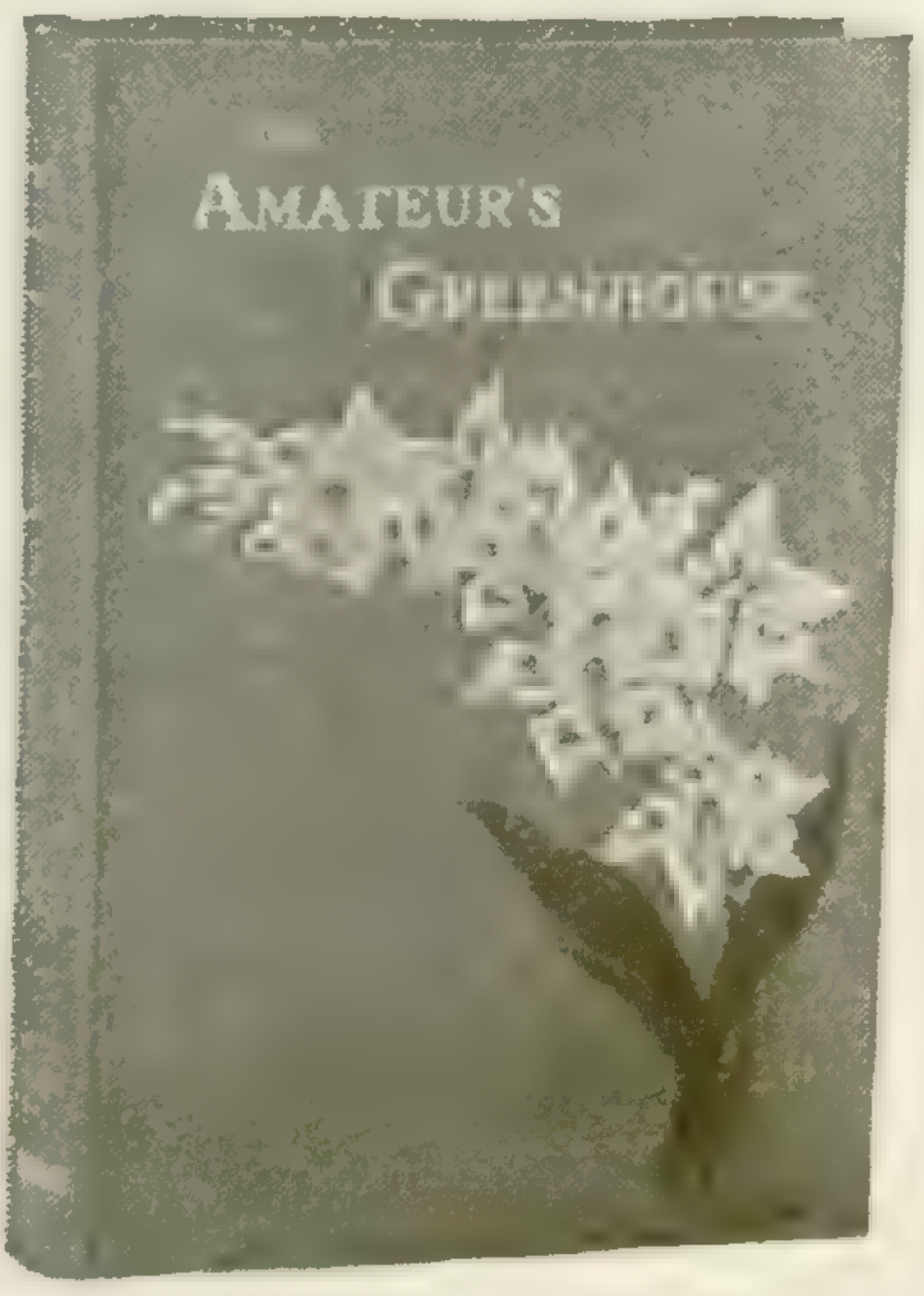

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VOL. LII.—No. 2,880. SATURDAY, JANUARY 9, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Fruit Tree Planting.

There is probably no point in the cultivation of hardy fruits in which there is such a remarkable consensus of opinion as with regard to the manner in which fruit trees should be planted. The majority of, if not all, growers with experience are in agreement with the advice so generally given, that in planting fruit trees the holes taken out should be large enough for the roots to be evenly spread out without twisting or bending, that soil should be carefully worked among the roots, and that when these have been sufficiently covered to prevent their being injured, the soil should be firmly trodden in the process of filling in the holes. Hence the results obtained in the experiments in tree planting that are being conducted on the Woburn Experimental Fruit Farm, will come somewhat as a shock to a very large proportion of those who are engaged in fruit culture. These results would appear to show that the careful manipulation of the roots on which for so long a period much stress has been laid, is not only unnecessary, but that a different practice may with advantage be adopted. These experiments and the results obtained are of special interest from the fact that they had their origin in the desire to show the advantage of carrying out with care the generally accepted orthodox practice. The Duke of Bedford and Mr. Spencer Pickering, the authors of the report, state that "one out of sixty plots of apple trees which were subjected to various different treatments for experimental purposes, was planted in violation of the accepted canons of 'good practice,' in order to obtain some measure of the importance of careful planting, and to afford an object-lesson to visitors of the evils of bad planting." The trees, however, did better than their properly planted neighbours, and to avoid the possibility of error through local influence, the experiment was repeated on a more extended scale with other trees. The results, however, were more decisive than ever in favour of unorthodox planting, and these were confirmed by a third, fourth, and fifth repetition in subsequent years. Experiments have, in addition to those at Ridgmont, been conducted at Harpenden and in fifteen other localities, and altogether 2,000 trees have been utilised, and evidence of the most trustworthy character obtained. The authors state that in the first few experiments on orthodox planting the roots of the trees were not trimmed, but huddled into holes, too small to receive the roots properly, and many of them, instead of being spread out, were pointing downwards or bent. Further that the earth was not shaken in amongst the roots but was thrown on the top, and the whole stamped violently. That trees should be planted firmly in the soil is well known and generally acted upon, but the ramming process adopted in these experiments was, we are told, very different from what would be termed firm planting. "A few forkfuls of earth were removed so as to make a shallow hole; into this the tree was put, with the roots just as they happened to come, the earth was shovelled over them, and rammed with a heavy rammer till the whole was thoroughly puddled, and shook like a jelly at each stroke." The consolidation of the soil round the roots is such that the ground generally remains quite hard during the next twelve months, and even during the second and third years it is possible to recognise the trees that have been rammed by merely pressing the ground with the foot. In all cases where trees have been planted with ramming, the same number of trees, of the same variety, of the same age, and, as nearly as possible, of the same weight, have been planted side by side with them in the orthodox manner with due care. The planting was done at various times throughout the dormant season, and "in some cases the soil was in such a soppy condition that ordinary planting was out of the question." As pointed out in the report, soil, after being puddled in the manner described, is in a most unsuitable condition for vegetation, and if the whole field, or even any large area round the trees were thus treated, the results would be disastrous. But the ramming "is only done over the roots themselves, and before the end of the first season the new roots formed are found to have penetrated beyond the ball of consolidated earth into the loose ground beyond." The several tables given, showing the effect of unorthodox planting on apple trees, are of much interest, and should be carefully examined by those who are interested in this important matter. For our purpose it will suffice to say that of the 70 sets the first year, 41 were in favour of ramming, 19 sets gave no results, and 10 sets were against ramming. With regard to the second year's growth 54 sets were available, and of these 39 were in favour of ramming, nine gave

MR. J. B. STEVENSON,
Superintendent of the Bournemouth Public Parks and Gardens.

no results, and six were against ramming. The effect on root formation, as so well shown in the photographic reproductions, was decidedly in favour of ramming, there being an enormous development of root fibres, as compared with the root systems of trees planted in accordance with orthodox practice. With reference to the effect of ramming on fruit production, none of the plots of apple trees have been left long enough to afford definite evidence, and trees were not allowed to fruit the first and second year. With the bush fruits the crops yielded during the second season after planting, by gooseberries, raspberries, and black currants were alike notably larger, the average excess of the three kinds being 76 per cent. The explanation of the advantages of ramming the soil is in the authors' opinion, "simply that the more intimate contact of the soil with the roots favours the development of a large number of new rootlets from them," and thereby increases the capacity of the root system in providing the trees with the needful supplies of nutriment.

Mr. J. B. Stevenson has, during the past twenty-one years, accomplished so much in developing the horticultural aspects of Bournemouth, and thereby contributed materially to the enjoyment of the many thousands who annually resort to the town for pleasure or the improvement of their health, that we have much satisfaction in presenting our readers with his portrait. A Scotchman by birth, Mr. Stevenson showed early in life a taste for gardening, and the first step that was taken in his training in practical horticulture was his being apprenticed to a nurseryman at Hawick, N.B. Subsequent to his apprenticeship, Mr. Stevenson served in several important gardening establishments in the North of England, and possessing ability of an exceptionally high order, he attained to the position of head gardener at a comparatively early age, and after having reached this position his progress was rapid. Immediately preceding his appointment to the important position he now holds, Mr. Stevenson was head gardener at Partrick House, Swanage, the residence of G. Burt, Esq., and while there he laid out the greater part of the Dirlstone estate for Mr. Burt. In the year 1887 Mr. Stevenson was appointed superintendent of the parks and gardens belonging to the Corporation of Bournemouth, and during the twenty-one years the open spaces under his charge have been greatly increased and much improved. The latest additions have been the King's and Queen's Parks at Boscombe. We need not enumerate the parks and gardens under Mr. Stevenson's direction; they are many, they are all more or less beautiful, and they bear conclusive evidence of skill and judgment in their management. The judgment shown is made abundantly evident by the skill that has been shown in the preservation of the natural features of the several parks and gardens, and in the concealment of the art to which they owe so much of their charm. Annually displays of spring and summer flowering plants are provided in the gardens, and these invariably afford object-lessons of much value in the utilisation in the respective seasons of the subjects most suitable for beautifying the flower garden. While both displays are of quite exceptional merit, the beautiful arrangements of flowers belonging to the spring are, perhaps, the most noteworthy. They certainly contribute in no small degree to the popularity of the gardens, and the high estimation in which Mr. Stevenson is held by those who are well acquainted with his work.

Victoria Medal of Honour.—The vacancies in the roll of the Victoria Medal of Honour in Horticulture caused by the death of Mr. George Nicholson and Mr. Martin Smith, have been filled by the President and Council of the Royal Horticultural Society conferring medals upon Sir Jeremiah Colman, Bart., and Mr. Charles Ross. We have during the past year presented our readers with portraits of these distinguished horticulturists, and given short sketches of the services they have rendered to horticulture.

Forcing by Means of a Hot-water Bath.—Over thirty years ago the late Mr. Robert Owbridge, of Church Walk Nurseries, Stoke Newington, was a frequent contributor to these pages, and he showed how easy it was to force shoots of flowering shrubs into bloom by means of a hot-water bath. He had occasion, owing to building operations, to cut down several large magnolias (M. conspicua) early in the year, and he placed the cut branches in a tank of warm water, where they quickly swelled up their flower buds and expanded their beautiful flowers; these latter were sent to market and secured excellent prices. Quite recently this method of forcing has been brought forward as something quite new, but the only new part about it is that efforts are being made to discover the best time to cut branches for the purpose and the best temperature at which to keep the water. We learn from "Nature" that Dr. H. Molisch, of Vienna, has recently described some experiments upon forcing the resting shoots of woody plants by soaking them in warm water. Twigs of the hazel, bearing male catkins, placed for twelve hours in a bath registering about 30 degs. Cent., in Mid-November, and then removed to a warm house, were hastened into flower in eight days. Flowers of forsythia similarly treated developed in a fortnight. Lilac, dog-wood, horse-chestnut, and other shrubs or trees were also responsive to treatment. The stimulus is only effectual at a certain period, and appears to be distinctly localised. Staminate buds of hazel could be forced in November, but twigs bearing pistillate flowers could not be stimulated until December.

Winter Flowers at Abbotsbury.—As illustrating the mildness of the weather previous to Christmas Day, Mary Countess of Ilchester writes from Abbotsbury Castle, Dorchester: "I am venturing to send you the subjoined list of 120 flowering shrubs and plants that were blooming in the open air in my garden here on December 20, 1908." The list includes abelias, acacias, choisyas, coronillas, cytisus, daphnes, hydrangeas, jasmines, including Jasminum primulinum, lapagerias, narcissi, rhododendrons, spiræas, salvias, and verbenas. It should be added that the gardens of Abbotsbury Castle occupy one of the most favoured positions on the south coast.

Flowers of Switzerland.—At the conversazione of the Horticultural Club, to be held after the monthly house dinner, on January 12, at 6 p.m., at the Hotel Windsor, Victoria Street, S.W., the Rev. Canon Horsley will lecture upon "Flowers of Switzerland," and his lecture will be illustrated by unpublished slides of the people and scenery of the Bernese Oberland.

New Park for Lurgan.—The town of Lurgan, co. Armagh, is adding to its amenities by the creation of a new public park, with an area of 70 acres. Plans for laying out the ground were invited, and the first premium in the competition has been awarded to Messrs. J. Cheal and Sons, of Crawley.

Royal Gardeners' Orphan Fund.—The annual festival dinner of this charity will be held at the Hotel Cecil on May 6. His Grace the Duke of Rutland will preside.

Mr. T. H. Slade, who has during the past fourteen years occupied the position of head gardener at Poltimore Park, Exeter, is, through changes consequent on the death of the late Lord Poltimore, relinquishing his charge. So able an administrator and skilful a cultivator should not be long before obtaining other opportunities for the exercise of his abilities.

Florists' Workshops.—We are informed by the Home Office that in pursuance of section 59 of the Factory and Workshop Act, 1901, the order made on October 13, 1908, granting a special exception to florists' workshops under section 46 of the said Act and so much of the order made on October 13, 1908, granting a special exception under section 45 of the said Act, as relates to florists' workshops, has been rescinded.

The Royal Horticultural Society of Ireland has suffered a loss of about £100 on the work of the year 1908, but, fortunately, it has a reserve fund to fall back upon. The prospects for 1909 are better. There is an increase of sixty-two members, and arrangements have been made whereby the spring show will be held at Ballsbridge in conjunction with the Royal Dublin Society, the latter body having granted the use of the Arts Industries' Hall, and, in addition, promised a donation of £50 towards the show expenses. There will be a rose show in July and a fruit show in the autumn.

The Pink Anemones, so largely imported from France at Christmas and the New Year, have been not nearly so plentiful this season as usual, and enquiry elicits the fact that over large areas of the southern flower-growing districts these anemones are deteriorating rapidly, and that a kind of canker has attacked the fleshy roots. It appears that unless careful selection, raising clean stocks from seeds, or change of stock from cooler districts, are taken in hand promptly, the long-lasting flowers of the pink anemone may soon cease to be marketed in quantity.

The Darwin Commemoration Festival, to take place at Cambridge on June 22-24, 1909, promises to be a most interesting function. A large number of invitations have been sent out to British and foreign universities, colleges, academies, and learned societies, and already two hundred delegates, from North and South America, the countries of Europe, Japan, and the Colonies have signified their intention to be present. It is hoped that Lord Rayleigh will hold a reception on June 22; addresses will be presented on June 23 in the Senate House, and in the afternoon there will be a garden party in the grounds of Christ's College (Darwin's College), to be followed by a banquet in the evening. On Thursday, June 24, Sir Archibald Giekie, president of the Royal Society, will deliver the Rede lecture.

SWAYLANDS HOUSE, TUNBRIDGE WELLS.

GARDENS ROUND TUNBRIDGE WELLS—II.

Penshurst Place.

This stately old mansion, the residence of Lord de l'Isle, is one of the most ancient of the great seats in the neighbourhood of Tunbridge Wells, from which it is seven miles distant, and has long been one of the favourite show places in the district, and highly appreciated is the generosity of the noble owner in opening the house and grounds to the public on certain days of the week. With a history extending over seven or eight centuries Penshurst is rich in tradition, and its fine hall, built by Sir John de Pulteney about the middle of the thirteenth century, and its collection of family portraits by Vandyck, Holbein, De Heere, Gainsborough, and other artists of the highest eminence, render a visit of special interest to all who take an interest in past events and in men who have distinguished themselves, and thereby helped to make the history of their country. In the somewhat quaint and admirably kept gardens those interested in horticulture find much to give them pleasure, and it may be hoped, of profit also, for they are well able to afford object lessons of much value. It is a charming drive direct from Tunbridge Wells, as the country is richly diversified, but Penshurst is the most readily reached by taking the railway to the village of Penshurst, which is two miles distant.

It is generally conceded that the finest view of the old mansion is obtained from the north or Leigh end of the long avenue, which forms so noteworthy a feature. The park is extensive, and has many attractions, and one might well spend several hours among the trees that have in some way or other become famous. The park does not appear to have very favourably impressed Walpole, for after one of his visits he wrote, "The park is forlorn. Instead of Sacchaissa's cipher carved on the beeches I should sooner have expected to have found the milkwoman's score." But Walpole, like some lesser lights, was by no means free from prejudice, and from what we know of him there is no doubt that the thoroughly English character of Sir Philip Sidney, as revealed in his "Arcadia," did not appeal to him. Southey held a very different opinion, for he writes—

"Tread
As with a pilgrim's reverential thoughts
The groves of Penshurst, Sidney here was born,
Sidney, than whom no greater, braver man
His own delightful genius ever feign'd,
Illustrating the groves of Arcady
With courteous courage, and with loyal love."

Whether Sir Phillip Sidney wrote the "Arcadia" at Penshurst is matter for conjecture, but there can be no question that the district afforded the material for many of the descriptions therein. Not a few passages might be cited in proof, but the description of Laconia must suffice, and with reference to it it may be said that it conveys a very good idea of the distinguishing characteristics of the environs of Penshurst at the present day.

"There were hills which garnished their proud heights with stately trees; humble vallies, whose base estate seemed comforted with the refreshing of silver rivers; medowes enamelled with all sorts of eie-pleasing flowers, thickets which being lined with most pleasant shade, were witnessed so too. by the cheerfull disposition of many well-tuned birds; each pasture stored with sheep feeding with sober security, while the pretty lambs, with bleating oratory, craved the damme's comfort; here a shepheard's boy piping, as though hee should never be old; there a yong shepheardess, knitting and withal singing, and it seemed that her voyce comforted her hands to worke, and her hands kept time to her voice music. As for the houses of the country (for many houses come under their eye) they were all scattered, no two being one by the other, and yet not so farre off that it barred mutual succour; a shew, as it were of an accompaniable solitairnesse and of a civil wildnesse."

Passing from the mansion and park, with their many interesting historical and literary associations, to the gardens, one finds a great diversity of charms, and that which perhaps appeals the most strongly to the mind is the care that has been shown in shaping and maintaining the pleasaunce in a form that is in keeping with its environment. Under the shadow, figuratively speaking, of the walls of the ancient pile, is an old English flower garden, with its "knottes" enclosed in broad edgings of box, and filled with plants quiet in colouring and otherwise adapted to their surroundings. This garden, of which an illustration is given, was formed by Mr. Frederick Bridger, who, it may be of interest to know, was born at Penshurst Place, and has had charge of the gardens since 1868, when he succeeded his father, who had been head gardener forty-eight years. In another part of the grounds not far distant is a large and admirably grown collection of hardy plants. This hardy plant garden has been divided into a series of alleys by yew hedges about six feet high. Each alley has two broad borders, intersected by a grass walk of considerable breadth, and some have in each border a row of standard apple trees, as in the case of the one illustrated. The alleys with apple trees are the most picturesque, but it need not be said that the plants attain to the highest degree of perfection in those without them, and, in consequence, most, if not all, the choicer kinds are found therein. Full provisions have been made for the cultivation of the newer water lilies, and sites have been found for the basins where their newness, if the expression is admissible, do not contrast with the many evidences of antiquity.

ROCK AND WATER GARDEN, SWAYLANDS HOUSE.

There are other departments which the practical man would like to explore, and if I refrain from expressing an opinion of the skill that is everywhere evident it is because I feel that praise would be superfluous. I accordingly bring these brief notes to a close, and in doing so I am reminded, as when returning from Penshurst Place, of Ben Jonson's lines relating thereto:

> "Thou art not, Penshurst, built to envious show
> Of touch or marble; nor canst boast a row
> Of polish'd pillars or a roof of gold:
> Thou hast no lantern, whereof tales are told:
> Or stair, or courts; but stand'st an ancient pile,
> And (these grudged at) art reverenced the while.
> Thou joy'st in better marks, of soil, of air,
> Of wood, of water; therein thou art fair.
> Thou hast thy walks for health, as well as sport;
> Thy mount to which the Dryads do resort,
> When Pan and Bacchus their high feasts have made
> Beneath the broad beech and the chestnut shade."

Broom Hill.

This estate, the property of Sir David Salomons, the eminent electrician, occupies a prominent position in a fine open stretch of country between two and three miles beyond Southborough, which has now become a large and important suburb of Tunbridge Wells. Here we find rolling meadow and diversified woodland combining to make a series of pictures so charming in conception and magnificent in proportions as to produce a powerful impression upon those who are happy in the possession of an artistic temperament.

The mansion is a spacious structure of handsome elevation in the Italian style of architecture, and, for the most part, the walls are clothed with Irish ivy; it has also an air of space and comfort that can hardly fail to strongly appeal to those who care but little for houses in which light, and air, and space are sacrificed to ornate design. The gardens and pleasure grounds have an air of quietness which but few visitors can fail to appreciate, for Sir David Salomons regards his garden as a place wherein rest and refreshment of mind may be obtained, and he has also a strong affection for trees and shrubs that are indigenous to this country, or have so long had their home within its boundaries that they are now commonly regarded as such. Standing upon the broad terrace on the south side of the mansion, one is able to enjoy a prospect not less remarkable for its extent than for its exquisite beauty. On a lower slope, in the immediate foreground, the eye ranges over a series of flower beds tastefully filled with plants that give brightness to the scene without being strongly coloured, and is carried over bold masses of choice rhododendrons that, in their season, give a wealth of flowers, specimen trees, belts of shrubs, arrangements of hardy plants, and other subjects, all of which contribute their share to the attractions of the grounds. Included in the scheme of planting are a number of trees that are still regarded as exotics, and among them are some fine conifers, especially noteworthy for their development being the examples of Cedrus Deodara. The ground slopes sharply away from the house in all directions, and along the western side is a broad belt of trees, with a rivulet of water which has been so dealt with as to have been converted into a lake of considerable dimensions at the south-west corner of the grounds, where it forms a distinct and beautiful feature, with its bold background of aspens, willows, and other suitable trees, and groups of rhododendrons on the other side.

Another feature of interest is the fine laurel hedge which skirts the carriage drive on the east side of the mansion, and forms an excellent screen, and effectually shuts out from view the kitchen garden and other of the useful departments. This hedge is between fifteen and sixteen feet high, perfect in keeping, and its appearance suggests that the garden shears are not allowed to touch it when pruning is in progress. Fruit culture, and the production of flowers for decorations in a cut state form an important part of the matters to which Mr. J. Roberts, the able head gardener, has to give his attention, and in dealing with these, as with other points in the management of the gardens under him, affords abundant evidence of his judgment and skill. In the vineries, the vines, most of which were lifted and replanted a few years since, were carrying excellent crops. Peach and nectarine trees, in the structures devoted to these luscious fruits, were bearing abundantly, and the fruit was of high quality. The crops of cucumbers, melons, and tomatoes, which are grown on a large scale, were not less satisfactory. Under glass we noticed immense numbers of carnations, and it may be added that chrysanthemum culture is carried on extensively. Very interesting in the kitchen garden are the avenues of bush apple trees, for they are models of what such trees should be. They are tall and shapely, but the point of special importance is the fact that the leading branches are sufficiently far apart to admit of the production of fruit-bearing spurs throughout their length.

Swaylands House.

Within four or five miles north-west of Tunbridge Wells Swaylands House, the seat of G. J. Drummond, Esq., is reached, and whether the journey be made on foot or by one of the several means of locomotion now available, the visitors will not have long passed the garden gates before receiving an assurance of an ample recompense. There is much charming country between "the Wells" and "Swaylands," and if the opportunities for studying the characteristics of the scenery have been taken advantage of, the visitor will, on arrival at his destination, be in the best possible frame of mind for fully enjoying the charms in which these fine gardens are so rich. Whether interested in roses, rock gardening, or hardy plants, he will find abundant entertainment.

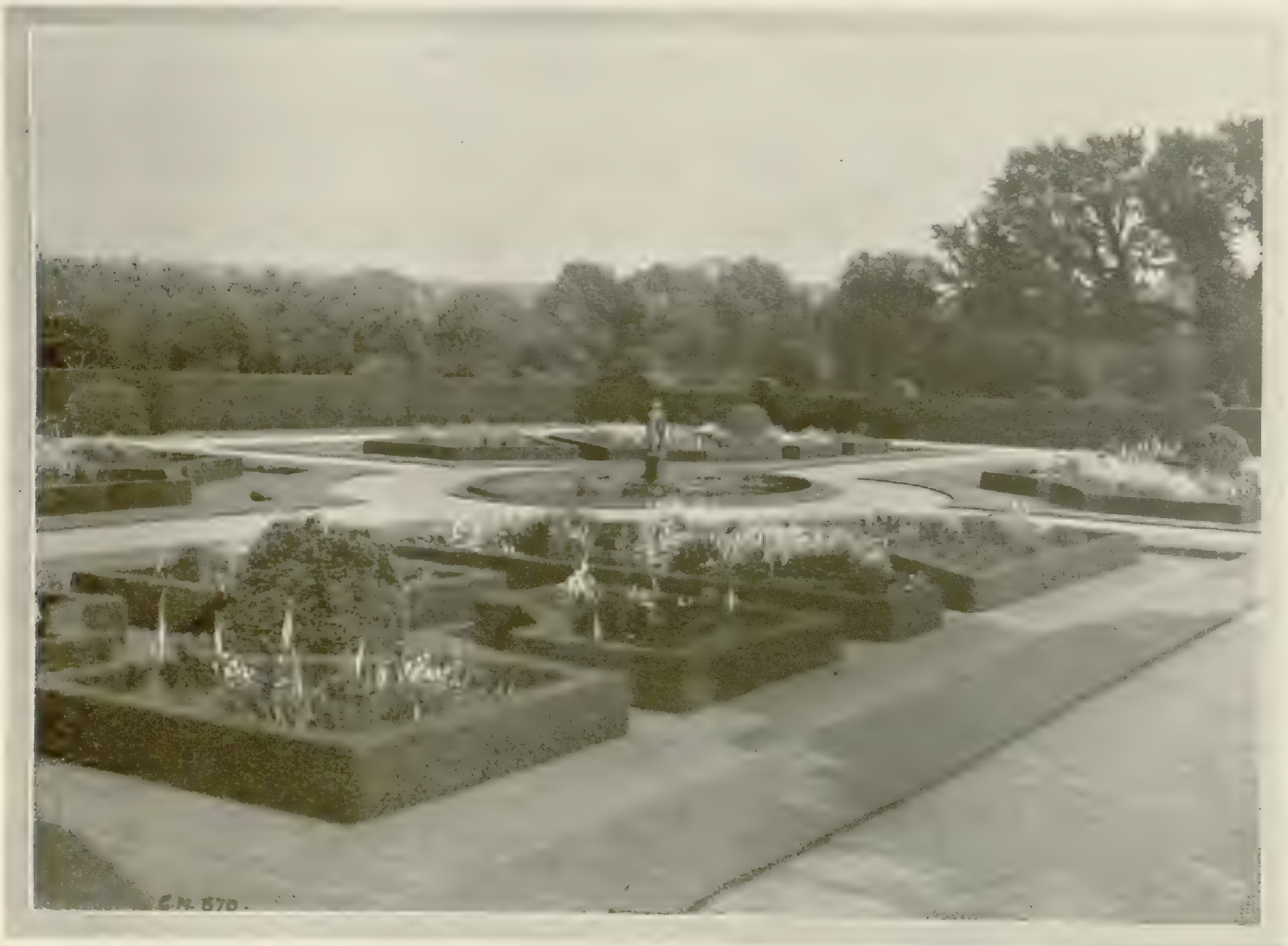
The gardens of Swaylands House are extensive, tasteful, and admirably kept, and they possess, in addition to their many other advantages, features that are quite unique, and of these the rock garden, magnificent in plan and execution, is the most noteworthy. The stately mansion occupies a broad plateau in the higher part of the grounds, and, like so many other of the great houses in the Tunbridge Wells district, commands a wide-spreading, highly-diversified, and beautiful landscape. The plateau has for its southern boundary a supporting wall of grey sandstone, and extending the whole length of this is a narrow border devoted to hardy perennials. The length of the wall and its parallel border is probably a fifth of a mile, and this point assumes some importance when one looks over the wall and sees the wide border at its foot furnished with the finest of the hardy perennials now at the command of the cultivator. The latter border impresses one more strongly when seen from one end of the broad walk alongside it. The length of the border is shown in the accompanying illustration, but owing to the strong sunlight at the time the photograph was taken, and the proximity of several large trees, the lighting is not all that one could wish.

FLOWERY CLIFFS IN ROCK GARDEN, SWAYLANDS HOUSE.

At the eastern end of the plateau there is a broad expanse of lawn, in part devoted to garden games and in part to the growth of roses, which form a distinct and pleasing feature. Here weeping standards are employed, both in beds and singly, with good effect, and one may see specimens of the more popular kinds of a size that is not at all common. The cultivation of rambling roses in standard form has received attention here for a considerable period, and it is probable that when the history of weeping standards comes to be written, the historian will find that Mr. R. Hosier, the able head gardener, was one of the first to recognise the value of weeping standards, if not the originator of them. Rumour credits him with their origination, and the specimens under his charge prove to demonstration his long and thorough acquaintance with them. Dwarf roses are also admirably grown in this part of the grounds, and singly on the lawn, and in the fringe of trees that shelter the mansion from the north-east are well-developed examples of many choice trees.

Proceeding down the slopes towards the south an entrance is found to the rock garden, which is so enormous in its area, so distinct in its features, and, moreover, so rich in its attractions, that one quickly appreciates the great difficulty in conveying to those who have not had the pleasure of seeing it an adequate idea of its characteristics. There should be no difficulty in making it quite clear that the whole of the rock garden has been planned and constructed by Mr. R. Hosier, with, of course, the aid of such suggestions as may have been made by his employer, or that the task which has been accomplished is one of which both the owner of Swaylands House and his gardener have full justification for indulging in a strong sense of satisfaction. The general view of the rock garden will give some idea of its scope; but, unfortunately, for the purpose of photography the dark grey rocks and the green leafage have much the same tone value, and, consequently, in the illustration the rocks do not stand out quite so clear and distinct as could be desired for graphic purposes. Along the lower side of the rock garden is a fine sheet of water fringed with suitable moisture-loving vegetation. On the far side of the water is a broad walk, bounded on one side with rockwork, and if readers will compare the rocks, which rise to a height of fifteen or more feet, in the second of the two illustrations, with the foreground of the first, they will be better able to understand how large is the area over which the garden extends. Broad walks run in all directions, in accordance with a well-devised plan, and are skilfully flanked with rock, in some cases rising to a height of twenty feet, and so arranged as to afford a good foothold for the plants, trees, or shrubs with which they are furnished. In some parts the walks open out, and low slopes are provided for the cultivation of the choicer alpines, of which there is a large collection. Elsewhere the walks assume the appearance of narrow ravines, with great masses of rock frowning ominously overhead; and here and there one meets with large caverns, and on the moist walls forming the entrance may be found hartstongues and other ferns that thrive in cool, moist, dark positions.

In traversing the huge lengths of walk within this remarkable garden one is not only interested in the skill displayed and the success achieved in giving it a truly naturalistic appearance, and providing for the requirements of the varied forms of vegetation, but surprised by the enormous size of the greater proportion of the pieces of rock used. Blocks weighing from one to two tons are quite common, and there are numbers of others weighing from three to nine tons, such weights not being very easy to hoist to a considerable height, and place in their proper positions. Mr. Hosier does not, however, appear to have experienced any great difficulty, for he regards what has been done in the creation of this great feature a very ordinary accomplishment. The garden is highly attractive from the opening days of spring until the trees assume their autumnal tints; but it is seen at its best when immense breadths of arabis and alyssum, that the sterner precipices are veiled with, are at the zenith of their floral beauty. This has not as yet been my pleasure, but I trust that some day I may be able to record its accomplishment.

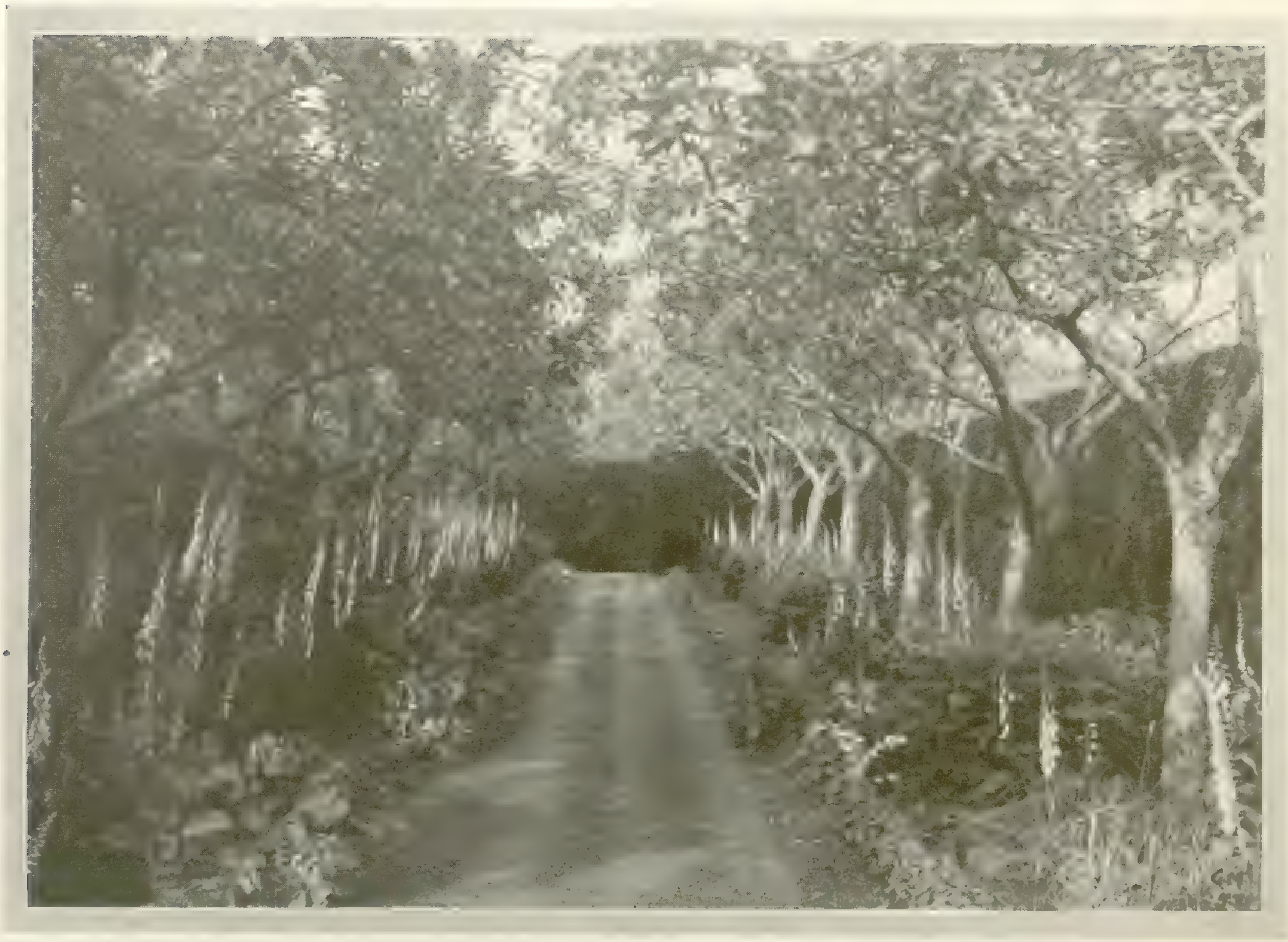


OLD ENGLISH FLOWER GARDEN AT PENSHURST PLACE, TUNBRIDGE WELLS.

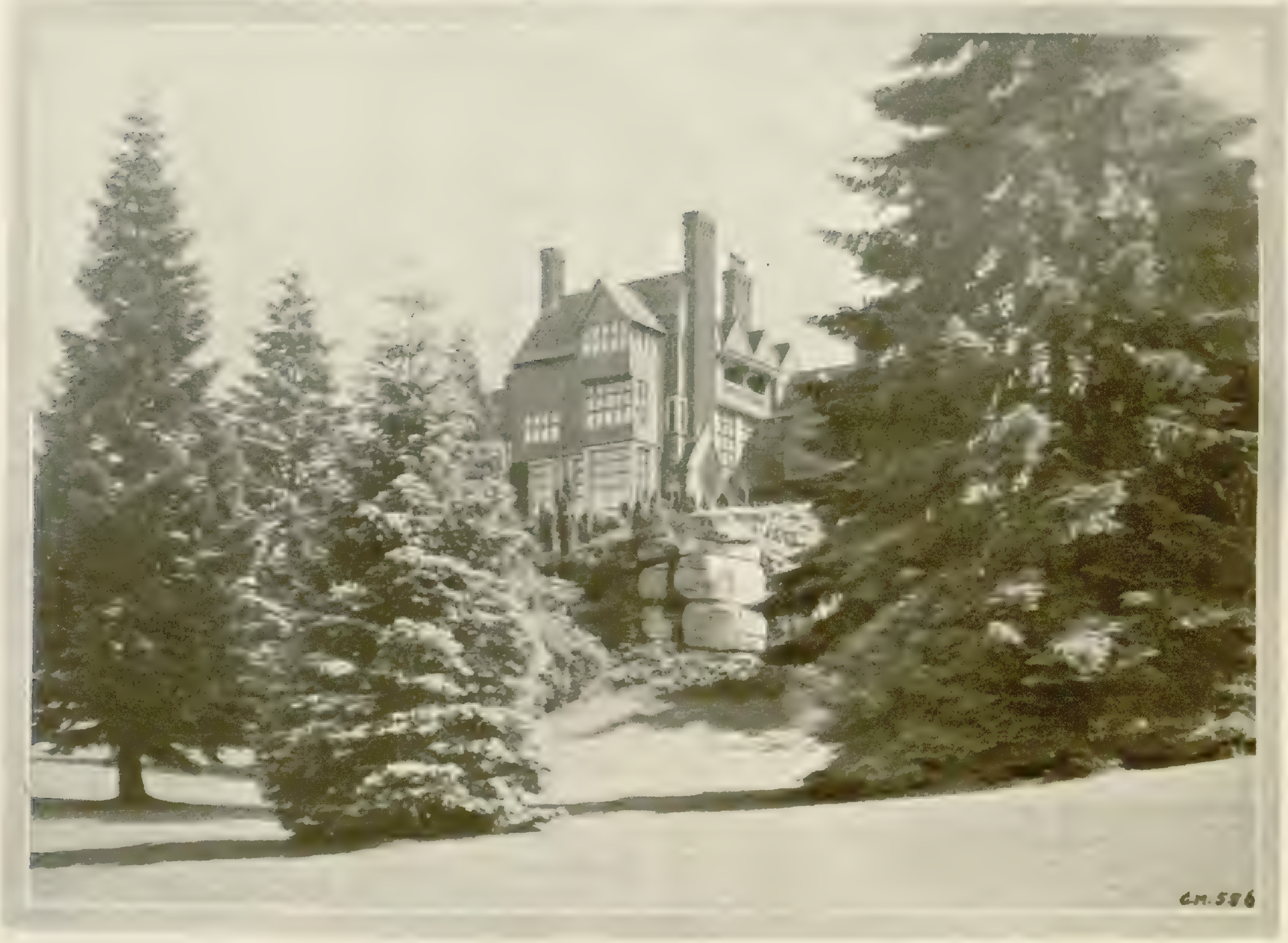
Leyswood.

Especially picturesque are the grounds of Leyswood, Mrs. Temple's charming residence, which is situate near Groombridge, and the great masses of rock that crop out here and there, and especially in the large area devoted to conifers, suggests a scene in the highlands of Scotland rather than the grounds of a private residence in a southern county of England. Very beautiful is the scene that presents itself to the visitor as he enters the grounds by way of the carriage drive that passes through the pinetum, of which a small portion is herewith illustrated. To the right are masses of rock, surmounted by beeches and other of the strong-growing deciduous trees; to the left is a broad rocky bank rising to a great height, and increasing in grandeur as it comes opposite to the mansion, where the drive passes through a comparatively wide ravine to reach the plateau beyond. Between the drive and the rocks to the right the broad area is devoted to choice coniferous trees, and here may be seen magnificent specimens of Abies Albertiana, A. pungens glauca, Cupressus Lawsoniana, Picea nobilis, and other of the finer kinds. On the rocks to the left rhododendrons luxuriate, and seedlings in considerable numbers have effected a lodgment in the crevices of the rock, where they grow freely, and produce a rich display of colour early in the summer. Here also are many other beautiful shrubs, with a goodly number of deciduous and other trees. The mansion, of which one side is seen through the trees, stands on a broad plateau, and on the far side is a large wood, and in the centre of this is a geometric flower garden in which displays of great beauty are annually produced. Many are the finely developed trees on the margin of the flower garden, and the tree lover, as well as those who appreciate the charm of summer flowers, will find plenty to interest them within this garden, that if not exactly unique, is so distinct from the flower gardens usually met with, that it may be so spoken of without any considerable departure from exactitude of description.

One might linger long among the trees and flowers, and also among the dark grey rocks, but the "glass" at Leyswood forms a great, and certainly interesting feature. Not to have a walk through the numerous richly-furnished glass houses would be to miss one of the greatest attractions a gardener could well have. There are orchid houses, plant stoves, greenhouses, and structures devoted to grapes, peaches, melons, and tomatoes that one might be excused were he to indulge in a few statistics. I shall, however, resist the temptation to do so, and say at once that the structure which most strongly appeals to me is the magnificent camellia house, filled from end to end with splendidly developed specimens that annually yield freely of their handsome flowers. This house has a length of 100 feet, and a width of 25 feet, and within its portals are represented upwards of sixty of the finest varieties that have been introduced to cultivation. This collection may certainly be described as unique. I certainly so regard it, but if there is another private garden containing so large a collection of specimen camellias I should like to hear of it. Orchids are so extensively grown as to necessitate several structures for their accommodation. In one of these may be seen 2,000 or more cattleyas and laelias in splendid health, for Mr. Bristow is not less successful in the cultivation of these as of the many other plants under his care. Odontoglossums are sufficiently numerous to occupy two or three houses, and these include large numbers of superb forms. Cypripediums occupy much space in other structures, for of these the collection is large, and, it may be added, in the finest condition. Miltonias, masdevallias, and dendrobiums are not less noteworthy in their way, and disas are grown exten-



AN APPLE TREE ALLEY, PENSHURST PLACE.



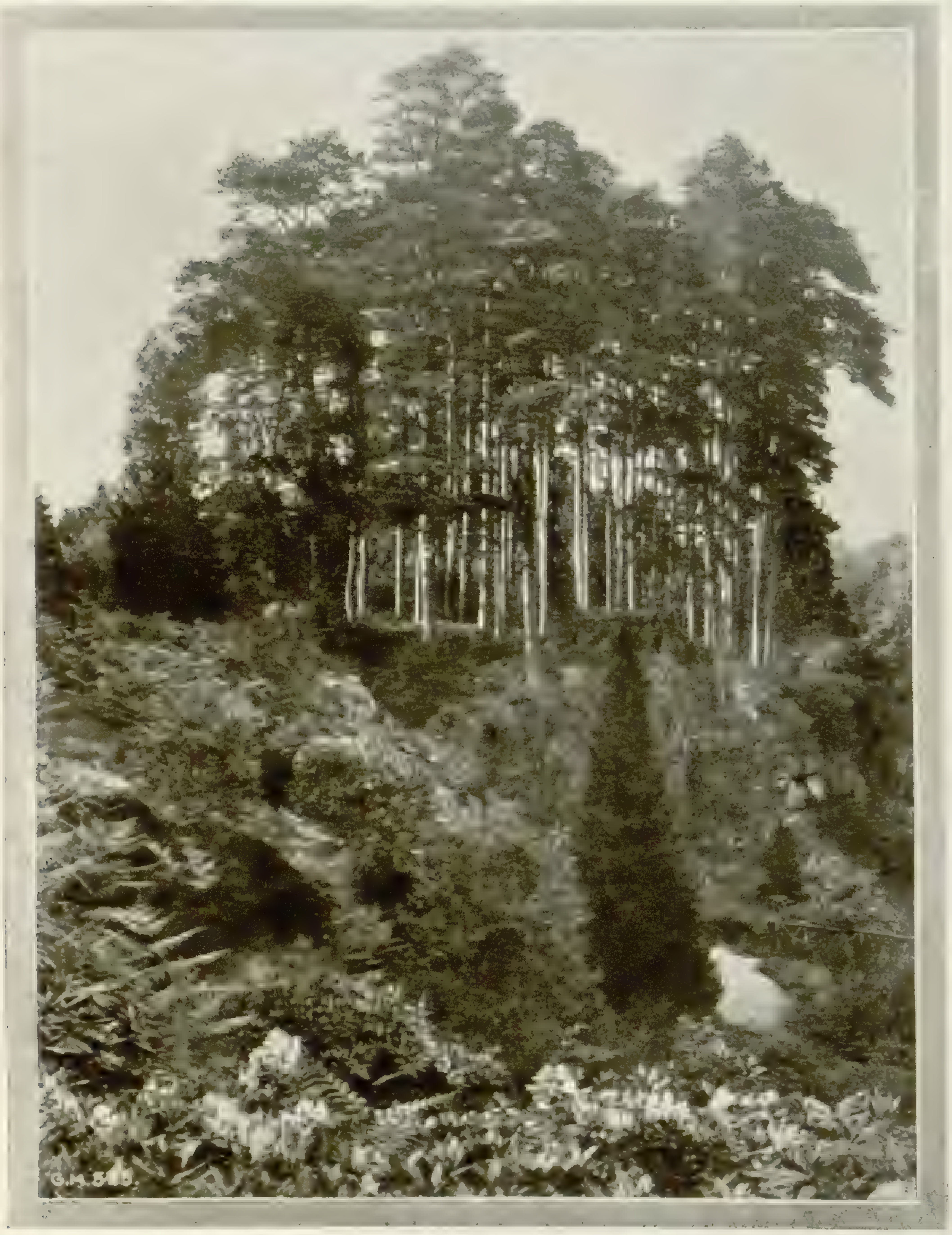
LEYSWOOD, TUNBRIDGE WELLS.

sively, and with quite exceptional success. The spacious structures devoted to nepenthes, to caladiums, to miscellaneous stove plants, and to palms and bananas contain much that is of interest, and afford proof of cultural skill of a high order. Not less evident is the cultural skill which Mr. Bristow brings to bear upon the fruits under glass, and as the splendid crops of Muscats and other grapes, of peaches and nectarines, and of figs are called to mind, the desire arises to refer to them in detail, but the space available prevents practical effect being given to that desire.

Glen Andred.

Having undertaken a rather wider range of visits than was possible of accomplishment within the twelve hours that had been allotted for them on the day that Glen Andred was included in the programme, I was not able to see so much of its beautiful gardens as I could have wished. Although, to quote from a well-known and somewhat hackneyed poem, "The shades of night were falling fast" when I reached Glen Andred, I managed to obtain a few good photographs, and see enough of the gardens to recognise the fact that the Rev. E. H. Boardman takes a keen interest in them, and that his gardener, Mr. J. Legg, is a skilful cultivator. The residence and its grounds are within a short distance of Leyswood; some writers would probably describe them as within a stone's throw, but as that would hardly be exact, it is better to leave the distance an unknown quantity, or make a guess that the entrance lodges are a quarter of a mile apart. In general character the grounds of the two residences have much that is in common. The mansions stand on broad plateaux in the higher parts of the grounds, and command views that are certainly unsurpassed both for their wide range and extreme beauty. They have also bold masses of rock cropping up in various parts of the grounds, and the open valley, devoted to conifers at Leyswood, has its counterpart at Glen Andred in a charming glen, of which the dominant feature is the great group of Scots firs herewith illustrated. Through this glen runs a stream of water, which is here and there widened out to provide accommodation for choice water lilies and other aquatics. On the bold rocky banks are masses of rhododendrons, and on the lower banks in the open spaces suitable sites have been found for a goodly number of rock plants. Within the glen also have been planted large numbers of choice deciduous and evergreen shrubs, and one might well spend several hours in exploring it, and enjoying the many objects of interest with which it is beautified. From every turn of the walk running through the glen the remarkable group of Scots firs presents a charming effect, and from no point does it more greatly impress one than when seen from the windows of the mansion which stands at the head of the glen. In the grounds around the mansion are borders of herbaceous plants, masses of roses, and not a few specimen conifers, more or less noteworthy, the most remarkable examples being, perhaps, those of Abies Albertiana, Cupressus Lawsoniana, and Wellingtonia gigantea.

George Gordon.



A REMARKABLE GROUP OF SCOTS FIRS AT GLEN ANDRED, TUNBRIDGE WELLS.

PRIMULA MINIMA.

To see a good plant of Primula minima, or even a good illustration of this miniature primrose, is sufficient to set one afire to possess and to cultivate with success such a charming little flower. It is not so easy to do either, but the acquisition is by no means so difficult as the cultivation, and the number of those who have succeeded in keeping this primrose in a happy and healthy condition for a few years in our British gardens is limited indeed. It is almost impossible to give it the conditions it enjoys at home; and, above all, the short and hard-growing grassy vegetation in which it flourishes at home is practically impossible of attainment in our land. At home it grows among miniature grasses, but when we bring these to our climate they grow out of recognition, while the primula does not increase proportionately, with the result that the primrose is choked out and perishes, although one can succeed no better, if as well, if we leave it unsheltered and unsurrounded by this grassy growth.

I have just been refreshing my memory with a look at the coloured drawing of this primrose in Wooster's "Alpine Plants," and, although the colouring is not very faithful, a peep at the illustration is sufficient to imbue one with the desire to repossess this beautiful little plant from the high Alps of the South of Europe.

As it grows from 7,000 to 8,000 feet above the level of the sea, we cannot be expected to give it exactly the conditions under which it flourishes at home. Its height is only about an inch and a-half, while its flowers, which are pink, violet, or rarely, white, are sometimes quite an inch across. It should have a compost of loam and grit, and should be kept moist—conditions which, however, would send to grossness the plants among which it grows at home. Plenty of stones about its crown will be most helpful, and will to some extent, compensate for the natural shelter it receives at home. On the other hand, these stones become hot in the sun, and this suggests the provision of at least partial shade, which can best be secured by means of a large stone to shield the primrose from the strongest sun.

It has often been remarked that the hybrids between this fairy primrose and others are by far more satisfactory than P. minima itself, and that such forms as P. Floerkiana and P. Fosteri are both more easily grown and are more appreciated in the garden.

S. Arnott.

Sweet - scented Daphnes.—Daphne indica (odora) can be procured in two forms, one having red, the other white flowers; in both instances these are deliciously scented, and for this reason they are commendable subjects to include among spring-flowering greenhouse plants. A strong point in their favour is that when in flower they may be removed indoors, and if placed in any well-lighted room they retain their beauty and fragrance for some considerable time. There are also variegated forms, with flowers quite as sweetly scented as in the type.—Thomas Smith, Walmsgate Gardens, Louth.

THE WEATHER IN 1908 AT BUXTED PARK.

The year just ended cannot be looked upon as one of the best, though from a horticultural point of view we have had many worse. The early spring was anything but favourable to growth, but yet we had fair crops of fruit, though stone fruits were below the average. April and August were the two worst months. January was by no means so cold as we experience it sometimes, though on two successive nights we registered 23 degrees of frost. On the whole, however, it was a dry month, for, with the exception of the heavy snow storm on the night of the 7th, which did such damage to trees and shrubs—equalling when melted more than two inches of rain—and though rain fell more or less on fifteen days, the total amount, including the snow water, was only 2.41 inches. Rain fell on 21 days in February, the total fall being 1.41 inches. The most frost registered during the month was 11 degrees on the 13th; the warmest night was on the 21st, when the temperature did not fall below 44 degrees.

The weather in March was very peculiar, for though rain fell on 24 days, the total amount did not reach three inches. There were some very cold nights, notably on the 12th and 15th, when 14 degrees of frost were registered. The highest maximum reading was on the 24th, when the temperature rose to 57 degrees in the shade. The early part of April was dry, and the ground in good condition for seed sowing. Up to the 18th of the month only .38 of an inch of rain fell, but from that date to the end of the month the weather was winterly, heavy snow storms on the 23rd and 25th being accompanied by sharp frosts at night, which did considerable damage to the fruit blossom. Rain fell more or less on 14 days, the total fall being 2.11 inches. The warmest day was on the 30th, when the temperature reached 64 degrees in the shade. May was a fine month, for though rain fell more or less on 13 days, amounting to 1.79 inches, there was some very warm weather. On the 2nd the temperature reached 78 degrees in the shade, and on the 19th and 31st 81 degrees, which helped vegetation very much. There was only one night in which the temperature fell below 32 degrees, and that was on the 24th. In June we had some remarkable weather, the average maximum temperature in the shade for the first four days was 84.50 degrees, while that for the whole month was 73.25 degrees. On the 4th the temperature reached 92 degrees in the shade, while on the 7th it fell to 35 degrees. The minimum average temperature for the month was 46.26 degrees, or two degrees higher than that of May. The rainfall was 1.28 inches, rain falling more or less on nine days.

The fine weather of the latter half of June continued until July 7. The first three or four nights were remarkable for the fine display of the Aurora Borealis, so seldom seen during the summer months. From the 7th to the 19th we had showery weather, afterwards fine until the end of the month. The total rainfall was 3.51 inches. The average maximum temperature was 75 degrees, and minimum 49.22 degrees. In August, with the exception of a slight shower on the 5th, no rain fell until the 20th, but from that date to the end of the month 5.51 inches were registered, the heaviest fall being on the 23rd. This was the wettest August since 1860, when the fall in August of that year was 5.84 inches, or just a third of an inch more than in 1908. In 1852 the rainfall for August was 6.01 inches, and in 1848 6.05 inches, which were the wettest Augusts in this district since 1843 of which I have a record. The average maximum temperature for the month was 72 degrees in the shade, minimum being 45 degrees.

Coming to September we find the rainfall was slight, being 1.19 inches, which fell on thirteen days, this being considerably below the average for the month. The average maximum temperature was 69 degrees in the shade, the hottest days being on the 18th and 30th, when the temperature reached 79 degrees. The average minimum was 42.20 degrees, the coldest night being on the 13th, when there were 3 degrees of frost registered. Taking the month altogether it was a very pleasant one. The last three days were warm and sunny, while the night of the 28th was the warmest during the year; the temperature not falling below 61 degrees. The fine weather experienced during the last few days of September continued well on into October, for with the exception of a slight shower on the 9th and 16th no rain fell for the first three weeks. The day temperature, too, during the early part of the month was exceptional; for the first four days it averaged 79.50 degrees. The total rainfall for the month was only 1.73 inches. There have only been six times during the last 65 years when the rainfall for October has been less than during the last. One of these was after the wet summer of 1879, when the total rainfall for October in that year was only 0.77 inches, and for the two succeeding months 2.30 inches. It will be remembered that the winter of 1879-80 was very severe, frost commencing in November and continuing more or less until February. The maximum temperature for October was 64.13 degrees, and the minimum 42.29 degrees. With such weather it was no wonder that vegetation remained active. With us no frost was registered until the 22nd, and as the weather had been fine, tender vegetables and choice flowers were to be had in abundance outside.

The first ten days of November were dry, and, though the nights were somewhat cold, it was not until the night of the

LAKE IN PLEASURE GROUNDS AT BROOM HILL, TUNBRIDGE WELLS.

9th that we experienced any severe frost; the temperature then fell to 19, or 13 degrees, the next night there was 10 degrees of frost, which put an end to all outside flowers. On the whole, November was a fine month, the rain amounting to 1.56 inches, and this fell on seven days. Fog here was very prevalent during this month, and on eight days the equivalent of .01 inches of rain was registered.

Up to the 21st the weather in December was dull and damp, and the wind southwards. The wind then changed to the east, and the temperature fell considerably, the maximum readings being only just above freezing point, and this continued until the 30th. On the 29th the highest maximum temperature was 24 degrees or 8 degrees of frost, with a very keen wind blowing from the east. We have not had such a cold day since January 18, 1881. On the night of the 29th we registered 29 degrees of frost, and on the 30th 28 degrees, which are the lowest temperatures for several years. The fall of snow on the 29th averaged about six inches, but with a strong wind there were drifts in places. The average maximum temperature for the month was 44.18 degrees, and the minimum 32.10 degrees. The warmest day was on the 13th, when the temperature reached 55 in the shade, and the coldest night was on the 29th, when the temperature fell to 3 degrees. The rainfall for the month was 3.35 inches, and that for the year was 28.80 inches, which is about an inch below the average. The highest reading of the barometer was on the 31st, when the mercury stood at 30.75, which is the highest reached since 1905. The lowest reading was on the 11th, when it fell to 28.40. December in 1908 will be remembered for its fogs, for during the whole time I have been here these have not been so frequent or so thick. On the 31st the temperature changed about 7 a.m., and a thick fog set in, the temperature rising sharply until the maximum was 40 degrees. So closed the year of 1908.

H. C. Prinsep.

THE RASPBERRY.

The raspberry takes a prominent place amongst hardy small fruits, and deservedly so, for it makes one of the best preserves, and a most excellent tart, and, moreover, it is perfectly hardy, comparatively easily cultivated, and a heavy cropper, affording a good succession of fruit. Another valuable attribute is its late season of flowering, which enables its blossoms to escape the spring frosts that are often disastrous to the flowers of the strawberry, currant, gooseberry, etc.

I have remarked that this fruit is comparatively easy of culture, but from this it must not be understood that it can be successfully grown without any trouble. It will nevertheless succeed in most garden soils, though that most suitable for it is a good deep loam, neither very heavy or very light. This should be deeply trenched, preferably in the manner known as bastard trenching, by which means the surface soil —usually the best—is left upon the surface. After trenching is completed, a dressing of farmyard manure, more or less heavy, according to requirements, should be dug in a spit deep. It is important to do this part of the cultivation thoroughly well, as the length of time a plantation will last in good condition depends greatly upon the way it is done. Upon very porous or light soils it is advisable to choose, if at command, a partially shaded situation.

For planting purposes strong, well-rooted canes should be secured, and planted as early as is practicable in autumn, so that fresh root action can take place, and the plants become established before winter sets in. Of the several modes commonly adopted of arranging and training the plants, that of placing them in rows six feet apart, and two feet asunder in the rows, and training the canes upon horizontal wires, is the best. The older method of planting in rows five feet or six feet apart, with the plants about four feet asunder in the rows, and of tying three or four canes from each plant to firmly secured upright stakes, still has its advocates, as has also that of planting in a similar manner to the last-named, allotting each plant four canes, and arching two of them in one direction and the others in the opposite, and fastening their points to the points of canes of the adjoining plants, thus making a succession of arches along the rows. Next to the practice sometimes carried out of merely thinning and shortening the canes, without using supports of any kind, this is the most inexpensive method, while it also affords the young shoots free space in which to develop.

The raspberry being a surface-rooting subject, and a lover of root moisture, is greatly benefited by being mulched with stable litter during the summer, and watered with farmyard liquid. A good dressing of farmyard manure lightly forked into the soil early in spring is likewise of much benefit. Failing this, top-dressings of suitable artificial fertilisers should be afforded. These are easily applied, and are beneficial, but they are not—at least with us—so valuable for the raspberry as good farmyard manure, which is nourishing, but also acts as a good rooting medium. As soon as the young growths have made sufficient advance to enable one to ascertain which of them will make the best canes, sufficient of the most suitable should be selected for fruiting, and the remainder cut out. In attending to this it should be remembered that the crowding of growths works serious evils, both by causing weak growth and preventing the canes from perfectly maturing, as well as unnecessarily exhausting the soil. Once the fruit is gathered the old canes should be cut out and the young ones loosely looped to their supports.

By the end of February the canes should have been secured to their supports, those upon horizontal wires being eight inches apart, and those having stakes as supports should be drawn together by strong ties, but not closely enough to cause crowding. This should be followed up by shortening the canes in agreement with their strength and the manner of training. Newly planted canes should be cut down at this time to within nine inches or a foot of the ground.

Autumn-fruiting raspberries are especially useful in the kitchen; they are best planted in rows running north and south, and should have their shoots, which are usually far too freely produced, well thinned out in early summer, the strongest being selected to carry the crop. As these bear fruit upon the current year's growth all the canes should be cut down to the ground level early in March, but other details of culture should be carried out as directed for summer-fruiting varieties.

T. Coomber.

The Hendre Gardens.

Everyone interested in a garden should obtain a copy of the Alphabet of Gardening, by T. W. Sanders. Thoroughly practical information is given as to soils, manures, seed sowing, planting, potting, budding, pruning, grafting, forcing, hybridising, etc., with explanatory diagrams. Price 1s. 6d. net, by post 1s. 9d.; cloth, 2s., by post 2s. 3d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London

JANUARY COLOUR.

A poet has called January

"Sad month of drab and dun,
Sleet grey, and icy white
Of beaten snow;
Month without glimpse of sun,
And dearth of happy light,
When naught can grow."

but he was, assuredly, no gardener. Every possessor of trees and shrubs or herbaceous border, can trace the coming spring, and note the swelling bud and deepening tint of branch. All the same, it is best for us so to plant our pleasure grounds that plenty of colour will be visible during January, when no left-over flowers can possibly have been spared to us by November and December, however genial.

Gold tells wonderfully in the landscape, and gold we may have in plenty. The golden privet is the brightest of shrubs, and keeps its foliage well in sheltered localities or the southern counties; in many parts of Sussex it can be safely used for a front garden hedge, for example. Against a white or gray wall its hue is of such value that it may be trained out as though it were more rare.

The variegated golden euonymus strikes a deeper note of colour, and is a great deal more robust. Perhaps its best form is that of a rounded pillar, well clipped, and therefore so dense as to offer a close surface to defy cutting winds: low globe-shaped bushes are pretty on a lawn or by the house steps; porch shelters or arbours can be completely formed of it.

The snowberry tree, Symphoricarpus racemosus, is always a noteworthy feature of a January landscape; there are fewer berries than during November, but quite enough to weigh down the branches, so that they gracefully sweep the grass, and what a brilliant ivory-white the mass appears under even faint gleams of sunset! A background of aucubas is always a cheerful feature, one to be placed behind the snowberry advisably, or close to clumps of the stately pampas grass, which gives an ornamental effect for so long a period. Ivies are among the colour producers of January. A red-brick wall climbed by any silver variegated variety is a joy to look upon, especially after being washed by winter rains or after having been buried beneath cleansing snows. Gold variegated ivies light up gray walls or fences admirably, and a whole house-side or turret, clothed in the cream blotched version even of the common ivy, Hedera helix variegata, proves a welcome feature. Then there is rich colour, of a sort, to be gained from Hedera helix purpurea, one of the best of all climbers against white walls, and the gay green of Hedera helix algeriensis offers yet another feast for the eye.

Yes, green is a colour of which we must make the most at this season, instead of regarding it as merely foliage-tint to show off red and pink, blue, gold, and violet blossoms later. It is for its verdant beauty of hue that the common laurel is so valuable, the ordinary glossy euonymus also. The gorse has its own merits in the garden scene, even when it bears none of the seldom absent yellow flowers; the rhododendron's solemn green serves to contrast with more vivid leaves.

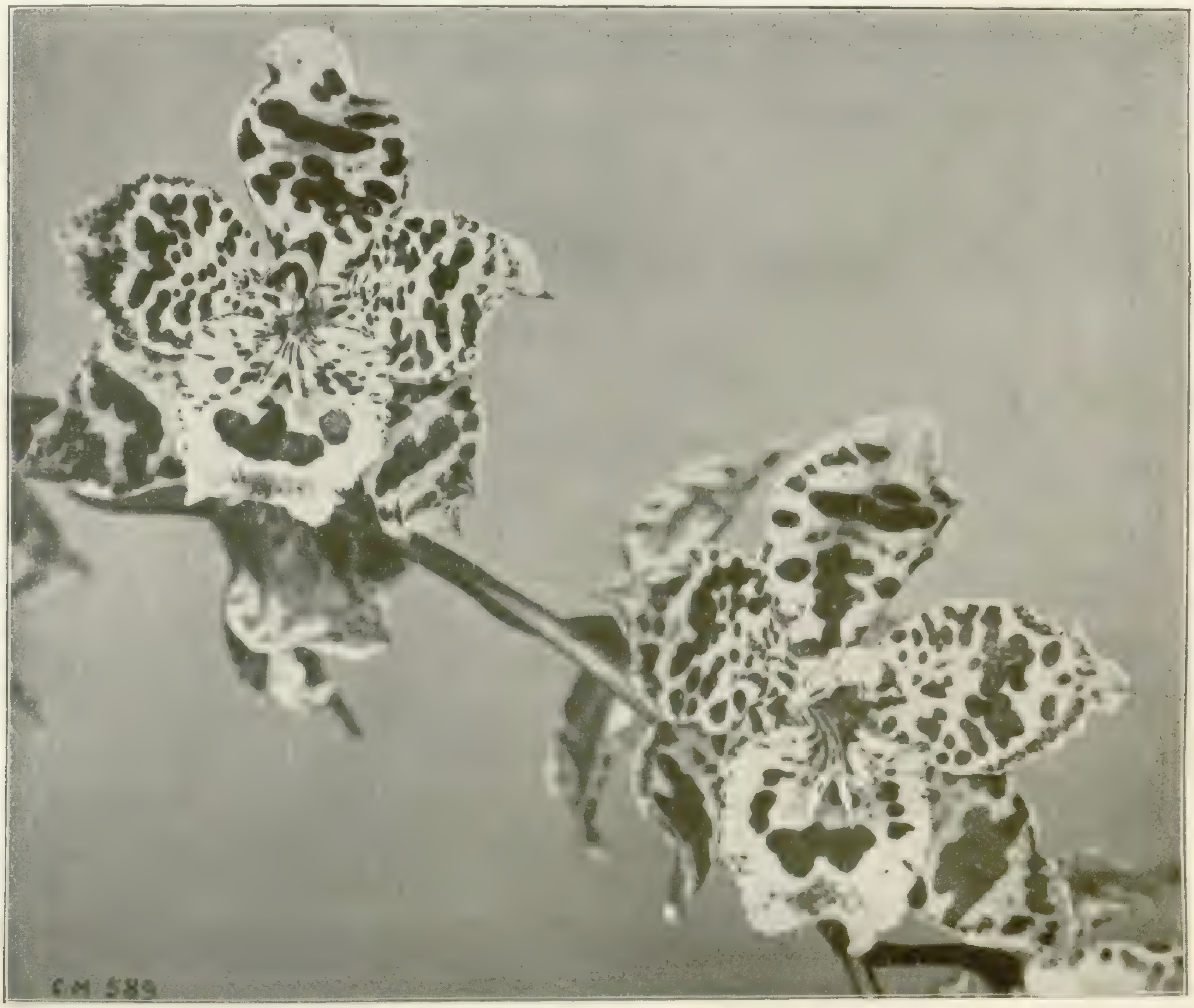
Then Lonicera japonica aureo-reticulata is a gay climber that is seen at its best when closely grown in pillar fashion up verandah pillars; Berberis aquifolium is scarcely ever without ruddy warmth. Golden firs and silver box increase our indebtedness to the shrub family. Perhaps the very brightest of all January colours is that of the vermilion-berried fire thorn, Cratægus pyracantha, for which reason it should be lavishly employed in all gardens, and guarded, if necessary, by black cotton from the visits of too many birds. The best berried hollies may be similarly protected. Hawthorn and Rosa rugosa fruits shine out, too, with welcome effect, while whole stretches of ground can be cloaked by the spreading branches and crimson berries of the useful cotoneasters.

M. H.

NEW PLANTS, ETC.

ODONTOGLOSSUM MAGALI SANDER.

A very beautiful and finely formed odontoglossum, obtained by crossing O. Rolfeæ with O. Adrianæ F. K. Sander. The flowers are of large size, and the ground colour is creamy white, freely mottled and blotched with bright rose, and with numerous blotches of bright purple-brown. The white lip has a golden crest, and is marked with rose and red-purple. F.C.C., R.H.S., December 22. Messrs. Sander and Sons, St. Albans.



ODONTOGLOSSUM MAGALI SANDER.
Exhibited by Messrs. Sander and Sons at R.H.S. Meeting, December 22, 1908, when a F.C.C. was conferred upon it. Flowers marked with rose and purple-brown on a white ground.

CYPRIPEDIUM ELATIOR.

A very pretty orchid derived from C. Leeanum and C. Baron Schröder. The influence of C. Leeanum is not so marked as usual, while the violet-purple colouring of C. Baron Schröder is very evident. The shape of the latter is also maintained. The white dorsal sepal is marked with rose-purple, and the lip and petals are shaded with violet-purple. A.M., R.H.S., December 22. Messrs. J. Veitch and Sons, Chelsea.

APPLE WILLIAM CRUMP.

This is said to be a good dessert variety, obtained by crossing Cox's Orange Pippin with Worcester Pearmain, but we were unable to find examples of it for description. A.M., R.H.S., December 22. Mr. W. Crump, The Gardens, Madresfield Court.

MUSSÆNDA ERYTHROPHYLLA.

A handsome shrub which has long been known to science, having been described in 1827 from specimens collected by Thonning on the Gold Coast; but the oldest of the specimens in the Kew herbarium were collected by Mr. Gustav Mann early in 1862 in the Cameroons, at an elevation of between 3,000 and 4,500 feet. It has since been collected by several travellers in various localities ranging from Sierra Leone to Angola, and eastward to Uganda, and it is described as forming one of the most striking objects on the outskirts of the forests. The flowers are produced in terminal cymes, and are bright red, the stalks clothed with long crimson hairs. One or more of the calyx lobes in each cluster of flowers expands into a leaf-like structure about five inches in length and four inches in breadth, and of a brilliant crimson hue. These brightly coloured leaf-lobes constitute the chief attraction of the shrub, and Mr. Watson describes them as "being quite as effective as the bracts of the poinsettia, and they appear to be quite as persistent." Bot. Mag., t. 8222.

MECONOPSIS SINUATA LATIFOLIA.

A beautiful and rare form of fairly free growth with broad leaves, and bearing bright blue flowers. Seeds were collected by Lieut.-Colonel H. Appleton in North Kashmir, where it is rare, and these were sent to Kew in February, 1906, and in June of last year the plants raised from them flowered. Lieut.-Colonel Prain suggests that the treatment suitable for Meconopsis aculeata, which succeeds best in moist, shady places, planted in a peaty soil, should be adopted for this form also, which loses its crown of leaves during winter. Bot. Mag., 8223.

PYRUS SINENSIS.

An interesting pear that has long been in cultivation in Northern China and Japan, and, according to Siebold, several distinct varieties have been raised in the last named country. The tree attains a height of between 30 and 40 feet, has white flowers, and these are succeeded by brown globose fruits from two to three inches in diameter. Bot. Mag., t. 8226.

BERBERIS YUNNANENSIS.

A handsome species from Western China, forming a compact bush from two to three feet in height, and bearing a profusion of pale yellow flowers. This species was first discovered by Delavay in 1885, near Lankong, Yunnan, at an altitude of 10,000 feet. Since then it has been collected in Western China by Mr. E. H. Wilson, who also found in the same region the closely allied species B. macrosepala, which previously was only known from the Sikkim Himalaya. A valuable addition to the cultivated barberries. Bot. Mag., t. 8224.

CORYTHOLOMA MACROPODUM.

An interesting gesneriad with bifoliate stems and medium sized cinnabar-red flowers, borne in clusters of five or six. Bot. Mag., t. 8228.

ERIA HYACINTHOIDES.

An interesting Javan orchid, originally described by Blume in 1821 under the name of Dendrolirium hyacinthoides. It is free in growth, and produces, in May, elegant spikes of white oflwers. Bot. Mag., t. 8229.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

SEASONABLE NOTES.—Cleaning the plants is one of the principal items to be attended to at the present season of the year. It frequently occurs that the prevailing conditions outside are of such a nature at this season, that outside work is at a standstill, and so where labour is restricted the opportunity thus afforded should be made use of, for a careful and handy man adapts himself readily to cleaning. As many of the East Indian and warm house orchids are now in a dormant state, these plants should be carefully examined for scale or other insect pests that may have established themselves. In dealing with vandas, ærides and their allied species, it will often be found that, while the leaves may be totally free from insect pests, the axils of the leaves and the stems of the plants are infested. It is not only necessary to dislodge these, but also to carefully remove any dead leaf sheaths lower down the stem.

SCALE is a most troublesome pest, and secretes itself in these difficult positions only to infest the plant the more completely immediately any signs of renewed vitality are apparent. Practically the same remarks will apply to the deciduous dendrobiums, and if these are cleaned before the flower buds plump up, not only can the work be done with less risk of injury, but it will practically ensure the cleanliness of the plants for the next season.

CALANTHES, especially where they have to be grown with other plants, are particularly subjected to attacks from scale, therefore, as fast as the flower spikes are removed, and before they are placed in their resting quarters, it is advisable to carefully examine the pseudo-bulbs. Scale will frequently be found among the roots at the base of the pseudo-bulbs, in the dead bases of the leaves, or even under the outer bulb covering, should this become loose or decayed. As these pests attack the young growth almost immediately they start, the proper cleansing of the pseudo-bulbs is an important item at this season of the year.

PLANTS COMING INTO FLOWER.—At the present season there are many of the early spring and late winter-flowering orchids in various stages of bud development. In the case of odontoglossums that have developed their pseudo-bulbs during the winter months, these will naturally be of a green and sappy nature. It is advisable to harden and ripen such growths as much as possible—in fact, unless this is done, the result will be want of substance as well as of colour in the flowers. It is advisable to place such plants in a position near the glass, where they may receive the full advantage to be obtained from the available light. In the cattleya house the early-flowering species and hybrids will be pushing their flowers forward, and as soon as these can be clearly distinguished in the sheath, the plants must have every assistance that will lead to the satisfactory expansion of the flowers. The flowers of Mexican lælias, especially L. anceps and its varieties, last for a long period when they are placed in a cool, dry atmosphere as soon as the blooms have expanded. H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

POINSETTIAS.—The bulk of our plants have just been removed to a warm corridor, and few plants are better suited for this purpose during the winter months. The bright crimson bracts are very effective when the plants are grown in different heights, upon single stems, and kept in a warm, fairly dry atmosphere, with the roots sufficiently moist to prevent the foliage from flagging. It is remarkable for how long a time they continue effective and retain their foliage, even when the bracts fall. Many of our plants this season developed three distinct sets of bracts in place of the one generally formed, and the effect was good. In many instances the plants will be more forward, and as these are removed from their flowering quarters, with wood not quite matured, place them in a temperature of 50 degs., and give water occasionally to prevent excessive dryness before resting.

PRUNING.—Plants that are required for early flowering, such as allamandas, bougainvilleas, etc., should have that operation performed before they start into growth; but where due attention was given to stopping while growth was in progress, little pruning will be required. Potting is best deferred until growth has fairly started, for at this season root action is very slow. Keep the plants near to the glass, which should be clean.

MEALY BUG.—Use every means to secure the destruction of this pest. In many instances all kinds of produce is expected from under glass, and the removal of plants from one house to another becomes necessary. A week or two at this season can be well spent before active growth commences thoroughly cleaning each plant. Do not spare the plant, whether bush or climber, if difficult to effectually clean, for a fresh start with a clean stock will well repay in view of the incessant warfare that has to be waged against this pest.

TEMPERATURE.—It is unwise at this season to unduly excite plant life, as this means exhausted vitality. For the stove proper it answers best to keep the temperature at the minimum point for a while; a night temperature of 58 to 60 deg. will be ample, rising about 5 deg. in the morning; then slacken the fire for the rest of the day. For the intermediate house or cooler stove 5 deg. lower will be quite safe. The use of the syringe can almost be dispensed with at the present, for with a reduced temperature and no great amount of firing required, moisture will not be so easily dispelled. The evaporating pans may be kept fairly dry if no frosty weather intervenes to necessitate hard firing. Excess of water at the roots at this season is liable to do injury. Allow plants to become moderately dry, and then give sufficient water to moisten the ball through, and use water the same temperature as the house in which the plants are growing.—W. Fyfe, Locking Gardens.

FRUITS UNDER GLASS.

BOTTLING GRAPES.—All bunches of grapes remaining upon the vines should now be cut as soon as possible. They should be cut with long laterals, so that when placed in the bottles they will hang quite clear of them. Before cutting the bunches so fill the bottles with soft water that when placed at a sharp angle the water will reach the necks. Place them in a warm and dry room, a temperature of 50 or 55 deg. being the most suitable. A higher temperature would cause the berries to shrivel quickly, and a lower one would cause damp and decay. Cut out all decaying berries, as one will soon injure its neighbours. Grapes that have ripened well on vines that have not been overcropped keep the best. Muscat of Alexandria, Gros Colmar, and Alicante and Lady Downes are the best grapes for the table at this season.

PRUNING AND CLEANING VINES.—After the grapes are cut the vines should be pruned and the houses thoroughly cleansed. Every portion of the wood, iron, and glass should be subjected to a good scouring, especially if any insect pests have been prevalent. Cleanse the rods by means of a washing with a nicotine preparation, using it at a temperature of 80 deg., and thoroughly soak the bark. After this has been done it will be found an easy matter to pull off the loose bark, under which insects hibernate. Thoroughly wash the walls with hot lime mixed with flowers of sulphur. If a pound packet of size is added to the wash it will adhere to the wall splendidly. Thoroughly clean the border, and top-dress with an approved vine manure, pricking it in with a fork as deep as possible without damaging the roots.

EARLY VINERY.—During very dull or sharp weather do not attempt very hard forcing, but where vines are breaking the temperature should be maintained at about 60 degrees, as, when once started, they must be kept in a progressive state. Damp down as often as is necessary, especially near the pipes and in other dry spots, doing this without causing much vapour. These dry spots in a clean house are often a source of danger from attacks of red-spider.

EARLY PEACH HOUSE.—On bright days well spray the trees. It is not a large amount of moisture that is necessary, but the thorough moistening of the wood. Do not allow the temperature to rise beyond 50 deg., as undue excitement in cold weather may cause the buds to drop. See that the border is not dry near the pipes, and, if necessary, give a good watering, using tepid water.

LATE PEACH HOUSES should be cleaned and the trees pruned and tied. In training avoid crowding the branches, but leave plenty of room for leaf development. When the flowers of the trees in the first house show colour, another house should be started. Avoid, where possible, crowding plants into the peach and other fruit houses. I know that owing to an insufficiency of room this is frequently done, and very often the practice results in the trees or vines being infested, more especially with mealy bug, and gardeners have themselves to blame for allowing infested plants to be brought into fruit houses.

CUCUMBERS.—These plants must be kept in a temperature ranging from 65 to 70 degrees. The floors should be damped several times each day, and the leaves be gently sprayed occasionally, taking advantage of favourable opportunities. Water with weak liquid manure, and lightly top-dress occasionally at this season. Cut fruits as soon as they are of a usable size, and stand them with the stalk end in water in the house where growing. Sutton's Everyday is a good variety, and is just coming into bearing. Carter's Model we were cutting at Christmas, and on New Year's Day. Sow seeds now for a future crop, and put one seed in each pot, which should be of small size.

TOMATOES.—These should be kept on the dry side, and not too warm. Sunrise has been fruiting splendidly, and appears to be an excellent fruit for both early and late uses.—W. A. Cook, Leonardslee Gardens, Horsham, Sussex.

THE KITCHEN GARDEN.

CHICORY is most useful in mixed salads at this season of the year, and in many gardens it might be grown rather more largely than is at present the case. The roots are not difficult to grow, and new growth and well-blanched leaves can be obtained with the aid of a mushroom house or warm cellar. Where chicory is grown the best course is to lift the roots and lay them in trenches with the crowns just above the surface, and then cover them with sufficient leaves to prevent the frost freezing the soil about them. They can then be drawn from and started at any time as required without reference to the condition of the soil. In starting the roots take boxes about twelve inches in depth, and in these pack them rather close together with rather moist soil between them, and at a depth that will bring the crown level with the surface. The boxes containing the roots are then placed in a mushroom house or warm cellar, where new growth soon commences. They may be placed in a shed or glass house, provided light can be excluded and a temperature of 55 or 60 degrees maintained. The leaves should be cut when from six to eight inches long.

CAULIFLOWERS.—Where a supply is required as early as heads can be obtained by the ordinary method of culture, a comparatively small sowing of seed should be made at once of one or more of the varieties of the early forcing type. Sow thinly in pans or shallow boxes, and place them in a structure in which a temperature of about 60 degrees is maintained. When the seedlings begin to make their appearance above the surface place them where they will derive full advantage from the light, and, if convenient, where the temperature will not be much lower than is suggested for the germination of the seeds. There is much risk at this season of the year of losses from damping off, when seedlings of cauliflowers and other brassicas are watered overhead, and therefore, should the soil become dry, stand the boxes or pans in a vessel containing water equal to about two-thirds their depth, and leave until there is evidence of the moisture coming to the surface. When large enough to handle prick off into other boxes, and from these transfer to three-inch pots, putting one in each, and grow in a cool, airy position and gradually harden off.

HOTBEDS are such valuable aids in raising stocks of ornamental and useful plants from seeds, and for the production and rooting of cuttings of various kinds, that the necessary preparations should now be made. Whether early vegetables are in request or not hotbeds will be found most useful at some time or other in assisting various vegetable crops during the preparatory stages, and with crops of carrots, radishes, etc., they are essential. Stable litter and leaves collected in the autumn are the best materials, and when mixed in the proportion of one part litter to two parts of leaves the heat will be steady and long lasting. Both litter and leaves should be well shaken up before they are mixed, and after the mixing they should be turned over every alternate day until the heat has become steady, and the materials are sweetened. Each time the heap is turned over the materials on the outside should be kept towards the centre.

LETTUCES. — Tender lettuces will be in brisk demand from now onward, and arrangements should be made for maintaining a successional supply. Select one of the quick-hearting cabbage varieties of the Tom Thumb type, and sow thinly in boxes, and place them where the seeds will have the assistance of a temperature much the same as advised for cauliflowers. If the young plants are rather crowded transplant in other boxes, putting them about two inches apart. Immediately the leaves begin to touch after transplanting transfer to a hotbed in a suitable state to receive them. A bottom heat of 65 degrees will be sufficient to start them into a vigorous growth. Seedlings not crowded may remain in the seed-boxes until transferred to the hotbed.

FRENCH BEANS.—A sowing should now be made for the purpose of raising a stock of plants that will come into bearing in March. Deep pans, nine or ten inches in diameter, are preferable for sowings thus early. Fill the pans to within half-an-inch of the rim with rich compost, and plant ten seeds in each. If all germinate remove the two weakest plants. The soil should be moist enough to render watering unnecessary until the seedlings are up, and a temperature of about 65 degrees should be maintained.

Lilium Henryi.—One of the finest batches of this lily that I have seen growing was in the garden at West Dean Park, Chichester, where it occupies a position in front of some shrubs on the lawn, in a south-western aspect. At the end of August the plants were still flowering freely at a height of 7 feet. Six years ago the soil was prepared by deep trenching and the addition of peat, leaves, etc., at planting time, and nothing has been done since beyond giving an occasional mulching with leaf-mould. —S. P.

Standard Gooseberry Trees.—The practice of planting standard-trained trees of popular gooseberries does not meet with much favour. Why, it is difficult to say, except it be the question of cost. Fruiting trees with small heads, grafted on the Ribes aureum to obtain the necessary height of 3 to 4 feet, cost about 2s. 6d. each. Carefully managed trees are productive, easy to keep free from insect pests, and to gather the fruit from: and the fruit does not become splashed with soil during heavy rainstorms as in the case of bush trees.—E.

FERN SPORE SOWING.

To those who have any taste at all for the peculiar beauty of ferns, and are capable of exercising a little of that patience and care which are inseparable from success in all of the finer branches of propagative and selective culture, there is no pursuit capable of yielding more satisfactory results in amateur hands than that of sowing fern spores. With the hardy fern varieties which we have in view no heat is required to induce germination, and all the preliminary operations can be effected in a north window, trouble only arising under limited conditions of space when an abundant harvest of good things begin to assert themselves, and demand more and more room for development. Even in the case of only a small garden being available for the overflow, a very good collection can be accommodated therein.

In the very early days of the writer's experiments in this connection, a reference to the register kept from the outset shows that a pinch of spores of a very finely crested Hartstongue yielded about 800 typical plants, not a bad result for a first attempt, and one which acted as a very strong encouragement to continue, and thus led to subsequent results of a very remarkable kind, new and unexpected "strains" arising which have ranked with the most beautiful ferns in the world.

Obviously, to attain such results as these, it is essential to obtain the spores from thoroughbred varieties. Selective culture in plants follows precisely the same lines as selective breeding in animals. Defects are just as likely to be inherited as good points, and no judicious breeder willingly raises stock by means of defective parents. Many ferns are defective in make, the fronds and their parts being irregular or depauperate or inconstant, many, on the other hand, are thoroughbreds, i.e., their fronds are symmetrical, and however varied in character are varied on regular lines. Given such forms we may be fairly sure that the progeny will inherit this regularity and symmetry, while with the others, it is equally to be expected that the irregularities will be transmitted, and the ferns be, as a result, from the present-day point of view, valueless. When, half a century ago, British fern varieties became the "rage," the nurserymen who supplied the market put forward a host of irregular monstrosities, "defectuosums," "irregulares," "depauperatums," "curiosums," etc., etc., which entirely swamped the thoroughbreds, and, as might be expected, gave British ferns such a bad name that the "rage" was a short-lived one, and popular neglect followed.

We mention this as a warning to the would-be fern raiser before we proceed to advise "How it is done," especially as if our advice be followed the crop will be so great that he can very well afford to destroy the ineligible as fast as they appear, and only bring on the very best. Fern spores may really be sown at any time, but the most favourable period is in July or August, so soon as the spore heaps, which are usually seen in dots or lines at the back of adult fern fronds, are brown, and therefore ripe. If a small piece of the frond be detached, and laid back downwards on a sheet of glazed paper, in a few hours a brown snuff-like dust will be shed, and this consists of the spores, and perhaps some of the spore capsules. If a tiny pinch of this deposit be placed on the stage of a microscope it will be seen to consist of thousands of spores, a valuable lesson for the sower, as over thick sowing is a fertile source of failure. Sowing is done in a number of ways; some recommend sowing on a block of peat installed in a saucer of water and covered with a bell-glass, others use a porous brick in the same way. The method, however, which we have found most successful is as follows:

We take a small pot or pan, drain it in the usual way with a few crocks, fill it with ordinary fern compost of leaf-mould and loam, equal parts, and a liberal dash of silver sand. We then top this with crumbs of yellow loam, make the surface even, place a piece of paper on it to prevent washing up, and then pour boiling water on to the paper until it runs out scalding hot at the bottom. This kills possible worms, germs, and other spores, and gives our fern spores a fair field and all the favour possible. When the pot or pan is quite cold we scatter the spores very thinly and evenly over the surface, and cover it with a glass slip. When a number of sowings are in question a very good way is to sow in very small pots bedded in cocoanut fibre in a large square pan, which can be covered with a single pane of glass. These pots can all be scalded at once, fibre and all, but when the sowing is done, each pot should be taken out, and the sowing done some distance away from the others, since spores are very light and float in the air, and hence this precaution is necessary if pure sowings of each variety is desired. A small label with a number should then be inserted in each pot, and the sowing registered for future reference. The pan can then be placed in a well-lighted place out of direct sunshine, and all that is needed is to see that the cocoanut fibre is kept thoroughly moist, no water, however, being poured into the pots themselves.

In a week or two a faint green tinge will pervade the surface of the soil, indicating that the spores have germinated, and in time, a few weeks more, it will be covered with a mass of small green heart-shaped scales. If the sowing has, despite our warning, been too thick, these scales will be small and densely crowded, in which case it is well to prepare a scalded pan of soil, and prick out small clumps of these about the size of a pea, an inch apart, so as to give them room to expand. The next thing will be the appearance of a multitude of tiny fronds amid these scales; then follow others, each larger than the former, and at this stage the experienced eye can usually detect what to encourage and what to repress. The next and successive stages simply consist in separating the youngsters and giving them more and more room, according to their requirements, always weeding out and destroying defective ones, and not forgetting in this transplanting process to number them as per register if any value be attached to pedigree records.

During this process of development, it will probably happen that ferns will appear which have not intentionally been sown, owing to stray spores having fallen on the selected fronds, but more interesting than this may be the appearance of greatly advanced forms, i.e., far better than those sown from, or even very distinct in make. Some most remarkable breaks have occured in this direction, and indeed it is not too much to say that the most beautiful British ferns we possess have thus originated as secondary sports, yet, be it remarked, always from thoroughbred parents. That is a first essential, and we cannot too strongly counsel the sowing only from very good forms, and, having obtained improvements on these, to follow this improvement up by sowing again from the best, since it is in this way that we can raise British ferns higher in the decorative scale.

Chas. T. Druery, V.M.H., F.L.S.

BLOSSOMING OF APPLES.

Mr. Cecil H. Hooper, as already noticed in these columns, has kept a record of the condition of flowering of the different kinds and varieties of fruits at the Wye Agricultural College, Kent, in 1908. This record is published in the December (1908) issue of the "Journal of the Board of Agriculture," and from it we extract the following interesting portion dealing with apples. There is scarcely any need to point out that the comparative earliness or lateness of blossoming of certain varieties may have a very great deal to do with the success or failure of such varieties in certain districts:

The habit of the apple is for the leaves to unfold before the flowers open. Records were taken of ninety-six varieties out of 135 varieties growing in the college plantations; the blossoms were in general abundant and the weather favourable, and without frost.

There seemed to be very little difference in the time of flowering between bush and standard trees of the same variety on cultivated land, nor did the stock appear to influence the date of flowering, whether they were worked on the crab, free, Nonsuch, English broad-leaved paradise, or French narrow-leaved paradise.

One point of interest noticed in the manure trial plots was the late flowering of Wellington apples in a plot without potash. The eight plots received various combinations of artificial manures, and it was observed that Wellingtons on the plot receiving nitrate of soda and superphosphate without potash were notably later in flower than on any of the other plots, including the unmanured; the fruit was less in size and quantity, and the growth also of the trees is less than on other plots.

There does not appear to be any relation between the time of flowering and that of maturing fruit, although some of the early flowering apples, such as Irish Peach, Mank's Codlin, Duchess of Oldenburgh, and Mr. Gladstone come in season early, whilst Court Pendu Plat or the Wiseapple, and most of the cider apples, are the latest to flower, Court Pendu Plat being in season from December to May. Two cooking apples, Golden Noble and Wellington, each commenced to flower on 19th May, were in full bloom on the 27th, and their petals had fallen on 3rd July, but their respective seasons were different, that of Golden Noble being from September to December, that of Wellington from November to March.

The earliest flowering apples were in bloom an average of 16½ days, the second early, 15⅓ days; the mid-season, 14⅔ days; the late flowering, 13¼ days; the latest flowering, 17 days, or an average of 15 days from 83 varieties recorded. The earliest flowering trees took an average of 8 days between commencing to flower and being in full bloom; the second early took 6 days; the mid-season averaged 5 days; the late 5½ days, and the latest also 5½ days. Some varieties, such as Winter Quoining, Hoary Morning, Blenheim Orange, and Loddington, had only a short flowering period of nine to eleven days, whilst of varieties having a long duration of flowering may be mentioned Mank's Codlin, Prince Bismarck, Ribston Pippin, Irish Peach, Cox's Orange Pippin, Bramley's Seedling, Potts's Seedling. Lane's Prince Albert was eighteen or nineteen days in flower, and Graham's Royal Jubilee twenty-one days.

Earliest Flowering Apples.

The earliest varieties in the college plantations in 1908 were: 6th May, Irish Peach (18 days); 9th May, Mank's Codlin (19 days); 10th May, Adam's Pearmain (17 days), and Duchess of Oldenburgh (18 days); 11th May, Prince Bismarck (19 days); 12th May, Pearson's Plate (15 days), Tyler's Kernel (16 days), Gravenstein (16 days), Ribston Pippin (19 days), Charles Ross (19 days), Wagener (10 days), White Transparent (13 days), Mr. Gladstone (16 days), Washington (17 days), and Scarlet Nonpareil (17 days).

Second Early Flowering Apples.

On 13th May, Royal Snow (14 days), Duchess's Favourite (14 days), Byford Wonder (15 days), Warner's King (15 days), Alfriston (15 days), Baumann's Red Winter Reinette (16 days), Boston Russet (17 days), Braddick's Nonpareil (18 days), and Stirling Castle (18 days); 14th May, Shepherd's Fame (10 days), Flower of Kent (11 days), Beauty of Kent (15 days), Calville Malingre (15 days), Christmas Pearmain (16 days), Lord Suffield (17 days), Cox's Orange Pippin (19 days), Saltmarsh's Queen (17 days), and American Mother (21 days); 15th May, King Harry (9 days), Golden Spire (14 days), Hambledon Deux Ans (14 days), Leather-coat (15 days), Beauty of Bath (15 days), Yorkshire Beauty (15 days), Brownlee's Russett (16 days), Worcester Pearmain (16 days), Peasgood's Nonsuch (16 days), Okera (16 days), and New Hawthornden (17 days).

Mid-season Flowering Apples.

On 16th May, Twenty Ounce commenced to flower, and continued in bloom 12 days, Scott's Winter (13 days), Roundway Nonsuch, Roundway Magnum Bonum, D'Arcy Spice (15 days), Fearn's Pippin (16 days), Lady Sudeley (16 days), Bramley's Seedling (18 days), Potts's Seedling (18 days), Royal Late (18 days), and Lane's Prince Albert (18 days); 7th May, Egremont Russet, Allen's Everlasting (12 days), and Summer Pippin (15 days); 18th May, Winter Quoining (9 days), Hoary Morning (10 days), Colonel Vaughan, Mère de Ménage (13 days), Sturmer Pippin (13 days), Norfolk Wonder (13 days), Lady Henniker (14 days), Betty Geeson (14 days), King of the Pippins (15 days), Gascoyne's Scarlet (16 days), Seaton House (16 days), Brabant Bellefleur (16 days), Gloria Mundi (15 days), Belle de Pontoise (16 days), Cat's-head (16 days), Allington Pippin (16 days), and Vicar of Beighton.

Late Flowering Apples.

On 19th May, Hambling's Seedling, Lord Derby (13 days), Ecklinville (14 days), Striped Beefing, Calville Rouge (cider), Golden Noble (16 days), Wellington (16 days); 20th May, Foster's Seedling (11 days), Slack my Girdle (cider) (10 days), Dutch Mignonne, London Pippin, Cornish Gilliflower (12 days), and the Sandringham (16 days); 21st May, Blenheim Orange (11 days), Loddington (11 days).

Latest Apples.

23rd May, Graham's Royal Jubilee (21 days), and Jersey Chisel (cider); 26th May, Cherry Pearmain (cider) (16 days), and Foxwhelp (cider); 27th May, Medlar commenced to flower—full bloom 3rd June, petals fallen 15th June (20 days); 28th May, Broad-leaved Norman (cider) (16 days); 30th May, Court Pendu Plat (14 days); 3rd June, Argile Gris (cider).

Mr. F. Ivo Neame, of Faversham, has sent me a record for 1907 and 1908 of the opening, full blossom, and fall of petals of some 22 apples and 7 pears, taken at his farms at Selling and Chilham, which corresponds fairly closely with my own record at Wye.

Mr. Frederick Chittenden, however, has sent particulars of the record of blossoming, taken at the Royal Horticultural Society's gardens at Wisley, Surrey, in which he points out some instances in which the order of flowering at Wisley differs from mine, showing that observations should be taken in different localities and for several years to get greater exactitude.

Mr. Edward A. Bunyard, who kindly sent me notes on the first flowers of some 170 varieties taken this year at Maidstone, remarked: "It is curious to notice the short duration of blossom this year, from earliest to latest only about fifteen days.

Period of Blossoming in United States.

A bulletin issued this year by the New York Experiment Station on "The Relation of the Weather to the Setting of Fruit," gives the average duration, according to six years' record, in that State, as about 9 days for apples, while five years' records show pears to be 7 days in flower; peaches, 8 days; plums, 7 days; cherries, 7 days; and grapes, 10 days. The number of trees on which the observations were made is given in each case, and varies from three to six. The first varieties of apples began to flower on 10th May, the last on 20th May. The shortest length of time for any apple to be in flower is six days, and the longest twelve days. Thus the apple trees in this State appear to take but nine days, to do what takes the apples here fifteen days to accomplish. No correlation was observed between the times of blooming and fruiting, but much stress is laid on the importance of cross-fertilisation, and the planting together of varieties that bloom simultaneously is recommended.

The order of flowering of different varieties in New York State is in general similar to that in England. The Gravenstein, Duchess of Oldenburgh, Twenty Ounce, Wagener, Washington, Gladstone, Bismarck, and Beauty of Bath are among the early bloomers, whilst the later ones include Ribston, King of the Pippins, Cox's Orange, and Lane's Prince Albert.

My thanks, writes Mr. Hooper, are due to the Principal of the South Eastern Agricultural College, Professor M. J. R. Dunstan, M.A., for the use of the College plantations for observation, and to Mr. Seymour Deadman, Instructor in Fruit-growing, for his assistance and information, particularly as to varieties; also to those gentlemen who have kindly allowed me to compare their records of time of blossoming with my own.

WHITE JAPANESE CHRYSANTHEMUMS.

Although we have an immense number of desirable white-flowered chrysanthemums suitable for the ordinary forms of decoration, one cannot but realise how scarce are the best of exhibition varieties becoming. There appears to be a dearth of this type of flower, and nothing since the introduction of Mrs. A. T. Miller have we seen that is likely to become prominent and retain a high position. Anyone who can introduce a variety as good as Mrs. A. T. Miller, which is not quite of the quality it was at one time owing to its constitution becoming weaker, will, I am sure, reap a rich reward. Since the introduction of Mrs. A. T. Miller we have had nothing of a similar character, although, no doubt, introducers claim high favours for certain varieties. If we examine the reports of shows we quickly find a paucity of white varieties. For instance, the premier collection in the vase class at the November show of the National Chrysanthemum Society for twelve varieties contained but two white varieties, namely, Edith Smith and Maud Jefferies, and of the eighteen varieties named in the report of the thirty-six class at the same show but one white variety, Mrs. Norman Davis, is given. In the large class at Edinburgh for fifteen varieties, quite at the end of the season, we find there but two whites, Marquis V. Venosta and Miss R. Stoop. In the Scottish cup class for eight varieties but one was staged, Mrs. A. T. Miller. It was the same at all other shows; there is a paucity of white-flowered varieties, but plenty of yellows. At Edinburgh there were no fewer than five in the premier collection of fifteen, and four in the first prize collection of twelve vases at the N.C.S. exhibition.

Varieties of somewhat recent introduction as whites are Formality, which I regard as being much too small for present-day requirements, but a promising variety for decoration; F. W. Lever is promising, if deeply built enough; North Pole has little promise of value; Mrs. J. W. Cole is a sport from a variety now exhausted. Miss Faith Moore, too small. The newer variety, Mrs. Norman Davis, has not made the headway amongst exhibitors that was expected. Somehow the blooms do not build up so shapely or full as is desirable in the finest of exhibition specimens. E. MOLYNEUX.

"CHRYSANTHEMUMS AND HOW TO GROW THEM FOR EXHIBITION," by J. B. Wroe. Fifth Edition, revised to January, 1908, and including the new varieties.—Full details on timing and stopping for Northern, Southern, and Midland growers, selections of the best varieties, illustrated instructions on taking the buds, cuttings, staging, etc. Prices 1s. net, by post 1s. 2d.; cloth, 1s. 6d., by post 1s. 8d., from Wm. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate street, London, E.C.

EXHIBITIONS AND MEETINGS.

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Royal Dublin Society.

In accordance with the usual custom, the Royal Dublin Society arranged a short winter course of lectures adapted to the requirements of an audience of juveniles. The course was inaugurated by the first of two lectures by Mr. F. W. Moore, V.M.H., keeper of the Glasnevin Botanic Gardens, on "Plant Life." This lecture was devoted to "Plants which like Wet Feet," and while strictly scientific in treatment, proved immensely interesting to the large number of juveniles who had assembled in the lecture theatre of Leinster House.

In his opening remarks, Mr. Moore directed attention to the necessity of water in the life of plants, and described its functions. When plants were supplied with water they were not being given food, but only the material out of which they could make their food. It should also be borne in mind that there was not in water all that was necessary for the life of plants. They required certain mineral food, such as magnesia and potash, and these as well as other substances such as carbon were necessary to continue the chain of their existence. The mineral substances, even though they might be required in small quantities, were just as much a necessity to the plant as carbon, though the latter might be almost half its weight. These mineral constituents were supplied in solution by water, and plants derived them from the soil by means of their roots. The water was distributed through the plant by means of a delicately elaborate system, which the lecturer explained by means of lantern slides. As showing the amount of water which entered into the composition of plants it was mentioned that the apple contained 85 per cent., the peach and the melon 90 per cent., and the potato 75 per cent. The process of ripening, generally speaking, meant the process by means of which the superfluous water was driven off without disturbing the tissue of the plant. For instance, in haymaking 65 per cent. of the water contained in meadow hay was driven off. Proceeding to deal more in detail with his subject, Mr. Moore explained the adaptations which enabled water lilies and other such plants to live in water, and the distinctions to be drawn between plants living in running water as distinguished from still water. A contrast was also made between a giant water plant, such as the lotus, as found in Egypt, India, and China, and the small water lily as found in this country. Other interesting points in the lecture were those relating to waterside and bog plants, and the changes which were brought about in them as summer passed into winter.

Windsor Rose Society.

The Mayor of Windsor presided over the annual meeting of this society, which was held in the Guildhall Council Chamber. There was a large attendance of members, and the report and balance-sheet presented were of a highly satisfactory character.

The report stated that the society might be heartily congratulated upon the progress made during the year, and upon the remarkable success of the annual exhibition, which was held on the slopes of Windsor Castle. There was a magnificent display of roses, the members attended in large numbers, and the general public were so strongly represented as to show the great interest taken in the society and its work. The Hon. Treasurer, in presenting the financial statement, said there was a substantial balance in hand. The Mayor of Windsor, in moving the adoption of the report, spoke of its successful character and of the splendid work that had been accomplished by the society. The motion having been duly seconded, was unanimously adopted.

The Marquis of Normanby was re-elected president; Mr. C. H. Burt, hon. secretary; the Rev. S. K. Tahourdin, hon. treasurer; and Mr. Street, hon. auditor.

The next annual exhibition was fixed for Saturday, June 26.

Reading Gardeners' Association.

The recent fortnightly meeting of the year was held in the Abbey Hall, when, owing doubtless to the inclemency of the weather, the attendance was not so large. Mr. T. Tunbridge, chairman, presided, and the nomination of officers for 1909, the election to take place at the annual meeting on January 11, was first proceeded with.

The subject for the evening was "Strawberries in Pots," the lecturer being Mr. Durbidge, of the Gardens, Mapledurham House, who, in a brief but very practical paper, gave some particularly valuable information respecting the propagation, feeding, and subsequent fruiting of the "Queen" of spring fruits. Mr. Durbidge also named the varieties he had by experience found best suited for culture in pots, and concluded his paper with a few useful hints with reference to the packing of strawberries when, as was often the case, it was required to forward them per rail or parcel post.

A highly instructive debate followed, as may be gathered from the number taking part in the discussion, which included Messrs. Alderman F. B. Parfitt (president), T. Tunbridge, T. Neve, Hinton, W. Townsend, H. C. Loader, L. Castle (hon. secretary), H. Goodyer, Winterbourne, C. Woolford, E. J. Dore, Wilson, Reeves, F. Townsend, Alexander, Judd, Selman.

APPLE SALES.

"H," on p. 968, 1908, writes, I think, without experience of apple sales, but from hearsay. I do say that overstocked markets at the end of September and October are the cause of low prices. I do not mean they are overstocked by English fruit, but by that from other countries. The middle of last November I had a conversation with one of the largest fruit merchants in the south of England, one who handles yearly many tons of apples for a large shipping business. When offering him a big batch of Bramley's Seedling apple, he said, "I do not wish to see another English apple this year; just look at this consignment I have received from a new apple centre." Washington State, I think he said. My reply was: "Yes, they have a fine appearance, are beautifully coloured and graded, but what of the flavour?" "Oh, quite good enough for my purpose," he said. "How can you compare your Bramley's with these?"

Eventually he offered me 5s. per bushel for my lot! Now, what would "H." say to such an offer, and what would be his remedy? It will be interesting to learn. He knows that foreign apples will continue to arrive from one place or another until next June, and that the price of English fruit will not increase. "H." cannot be conversant with apple sales, or he would know that the average quotation per bushel in Covent Garden is 6s. for Annie Elizabeth, and 5s. 6d. for Bramley's.

If "H." had a little experience of growing and selling I venture to say he would not write so glibly about the sales. If the British public, who consume apples, knew, or cared, more about the quality than they appear to do now, and were less carried away by a bright exterior, there might still be a fair chance for the ordinary grower. I do not say there are more apples produced in this country at the end of September than can be consumed, but I do say we cannot compete with foreigners until we get the British public to lend us a helping hand.

E. M.

NEW AND OLD PLANT HOUSES.

The early hours of December 29, 1908, will long be remembered by gardeners from their trying experiences with the various hot-houses under their charge. On such a morning the outdoor gardener scored points; that is, the single-handed man, who has no "glass."

A very practical lesson was taught us of the superiority of new and up-to-date hot-houses to old houses. Drip is the cause of much mischief in old houses, and it occurs with snow as well as with rain, when the panes of glass in old houses do not fit. On the morning of December 29 the young man in charge of the fires looked like a defeated hero, for he had heroically tried to keep up the temperatures, but was beaten, especially in the old houses.

Our houses vary in age from nearly sixty years to sixteen months, and I never saw such a sight in my life as in one of the old houses, the principal sufferers, amongst other plants less tender, being a large batch of cinerarias. The very thin snow as it fell was so fine that, with the aid of a fearful wind, it found its way into the house by way of the laps of the glass, and the plants were weighted down with it. Some of the largest leaves were broken off. There was no frost in the house, but I had the plants quickly taken to a dark shed, where they remained until the snow had melted, and they do not seem much the worse for their covering. In some parts of the old houses there were large drifts of snow, which had insidiously crept in at the large laps. We have eight houses devoted to orchids only, and one of these is comparatively old, having been erected in 1881. This is filled with cattleyas, and on Monday, December 28, owing to the low temperature, I instructed a man, who was cleaning plants in the house, to stop up the crevices where the lights did not fit with strips of old shading material, and by taking this precaution very little snow found its way inside. We have just twenty hot-houses, of which only four are old, as we have done much rebuilding within recent years.

This experience brings into relief the futility of expecting good results from tumble-down, rotten old plant houses, as besides admitting cold winds and snow, they let in the terrible fogs. It is no use closing an old hothouse to keep the deadly enemy, fog, out, when it can enter at so many places. Of course, all new houses will become old in process of time, but when commencing to fall to pieces, as it were, they should be renewed. It will be found that a great saving is effected in fuel with a hot-house that is quite sound. Repairing old greenhouses is the most unsatisfactory work a carpenter or joiner can undertake.

Cheshire. W. M.

Heliotrope Mdme. de Bussey.—Those who are seeking a desirable heliotrope for the flower garden could not do better than procure this dwarf-growing variety, which produces enormous flower trusses of an exceptionally attractive colour and delicious perfume. Growing as standards, with the pots plunged in grass, in a mass, with sufficient space between for each plant to stand alone, it produces a fine effect in the garden, especially if backed up by greenery of some kind.—S.

Plants of Humea elegans that are being wintered with a view to employing them in the flower garden next summer will require close attention in watering throughout the dullest months of winter. A mistake is often made by unduly inciting growth in winter by very high temperatures, whereas a moderately warm greenhouse, with a maximum temperature of 55 degrees, will meet all their requirements, and provided the water supply is carefully regulated, they will turn out strong and well-rooted, capable of being shifted on into larger pots as soon as the days lengthen in spring.—THOMAS SMITH, Walmsgate Gardens, Louth.

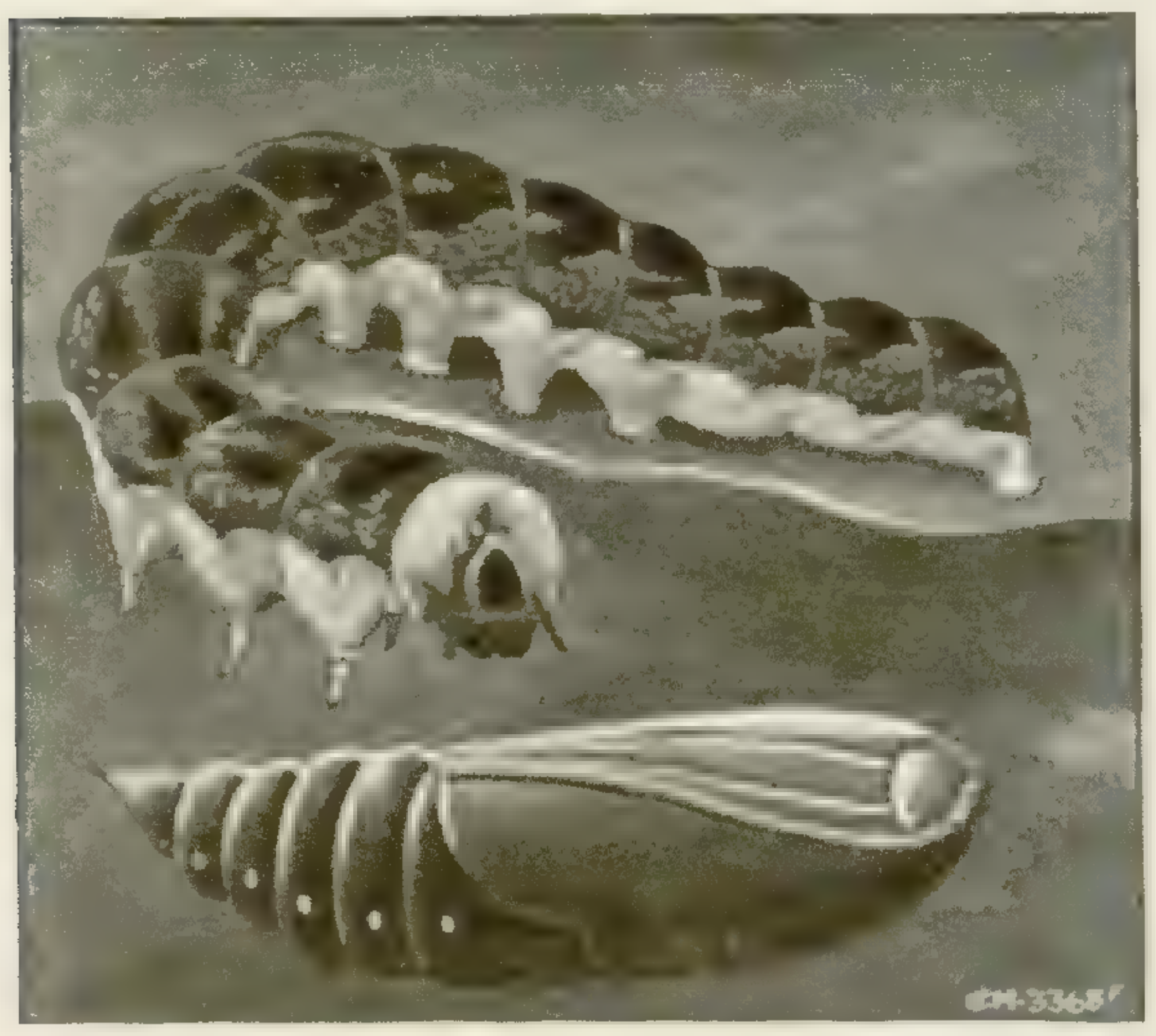
ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

BEAUTY OF WILTS APPLE.—A. S., Guildford: We submitted the specimens to a well known authority, who writes us that the variety is Round Winter Nonsuch, sometimes known as Beauty of Wilts. Mr. T. Smith, Coombe House Gardens, Westbury-on-Trym, writes: "Re Beauty of Wilts apple, 'Scott's Orchardist' has the following: Beauty of Wilts, Dredge's (Harvey's) Pippin. Fruit medium sized; roundish Skin, yellow on the shaded side, but washed with fine red and marked with crimson dots on the sunny side; flesh firm, crisp, juicy, and richly flavoured; a first-rate fruit, and the tree attains the middle size, is healthy, and a prolific bearer." Turning to Dr. Hogg's "Fruit Manual," we find "Dredge's Beauty of Wilts" referred to Harvey's Pippin, and under the latter we find a description very closely like the one Mr. T. Smith has sent, as above, but it differs a little, and points out that the variety is "an excellent apple, either for culinary purposes or dessert use; it is in season from December to February. The tree is a free grower, and an excellent bearer; it attains above the middle size, and may be grown either as an open dwarf, or an espalier, when grafted on the paradise stock."

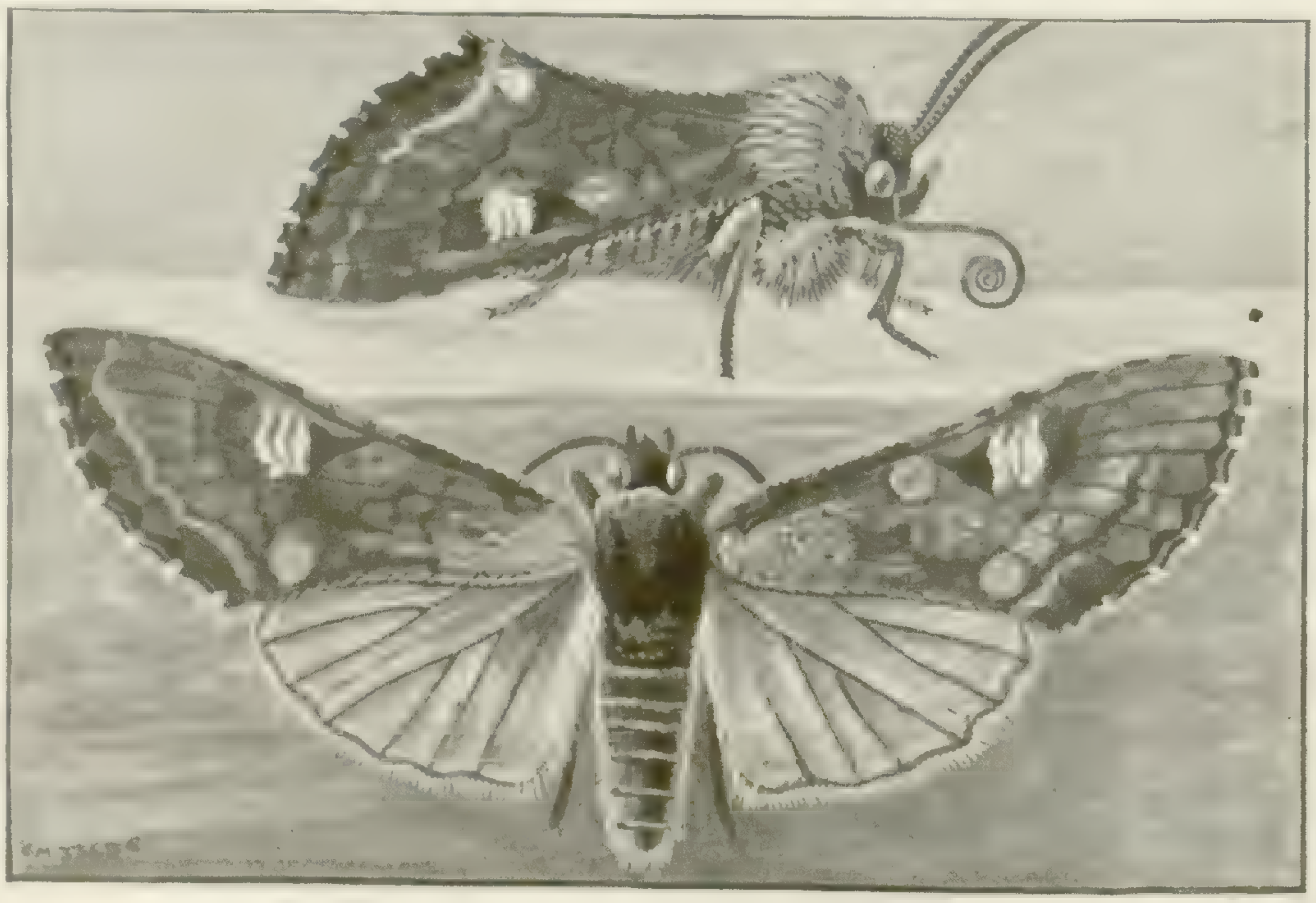

CATERPILLAR AND CHRYSALIS OF THE CABBAGE MOTH.

HARDY PERENNIALS.—M. E., Hertford: Tree lupins, pentstemons, carnations, and Lilium candidum are certainly all hardy perennials, but they are not all hardy herbaceous perennials; indeed, Lilium candidum is the only one that properly answers to the latter description.

BEGONIAS FOR THE CONSERVATORY.—E. C. J., Cardiff: It is by no means necessary to obtain tubers of named varieties of begonias, unless one desires to make a speciality of these flowers. The best strains of seeds now give such fine varieties of the tuberous section that, in most gardens, the named varieties are not essential. Good flowering plants may be obtained in three or four months from seed sown in February, but the amateur with few conveniences should purchase corms mixed, or in distinct colours, raised from seed in the year previous, as they are inexpensive, and will save much trouble. The most suitable compost is one consisting of mellow fibrous loam, and small proportions of powdery manure and silver sand. Start the corms with little artificial heat, and preferably in a pit where they can have a position near the glass and enjoy liberal atmospheric humidity and a free circulation of air. The fibrous-rooted or shrubby begonias are useful for giving colour to the stove and intermediate house from October to April. The tops of the shoots strike readily with the assistance of a brisk temperature and sandy soil, and the best month in which to propagate a stock is March. Single plants in five or six-inch pots are the most useful. Ornamental-leaved begonias are readily propagated by means of their leaves during the summer. They require an intermediate temperature, liberal supplies of water, and a moderately light position, without exposure to the direct rays of the sun.

SINGLE CHRYSANTHEMUMS.—E. M. A., Formby: Many thanks for your kindly letter. Cuttings of single chrysanthemums should be taken any time during the present month. The plants may be treated pretty much on the same lines as Japanese varieties so far as potting, etc., is concerned, but they will not need such heavy feeding. The plants should have their growing points pinched out several times during the summer, but should be allowed to extend from June or July onwards. Some amount of disbudding will be necessary for show purposes, as one flower per stem will then be sufficient unless the blooms have to be shown in sprays. Excluding the very newest varieties, as these have not all been sufficiently proven, a good dozen of single chrysanthemums for exhibition would consist of Annie Farina, Edith Pagram, Mrs. J. F. McLeod, Bronze Pagram, Kate Williams, Eureka, Earlswood Glory, Mrs. E. Cannell, Elsie Neville, Crown Jewel, Pretoria, Miss Tackey Bird, Sylvia, and Grace. Mr. Crane's articles on "Late Single Chrysanthemums," now appearing, will be of material assistance to you.

CABBAGE MOTH.—N. R. T., Chesham: It is not at all an easy matter to identify a chrysalis, but our opinion that the one sent represented the cabbage moth was confirmed by your subsequent letter, in which the moths that attacked your cabbage crops last year, were fairly well described. This moth (Mamestra brassicæ) lays its eggs upon cabbages and similar crops about May, and the caterpillars appear in about a fortnight, and are ready for pupation about a month later. Two broods appear during the season, hence the greater need for reducing the pest in every possible way. The caterpillars are dull greenish-grey, with a yellowish undersurface, and their general features, as well as those of the chrysalis, are shown in the present illustration, which represents them larger than life size. The moths, also represented larger than life size, fly during evening and night, though sometimes seen by day, and are therefore not so easily detected as the day-flying cabbage butterfly. Moreover, the caterpillars hide beneath the leaves during the daytime, and quickly eat into the heart of a cabbage, rendering the latter uneatable and causing it to soon turn rotten. The chrysalids of the late brood pass the winter in the soil beneath the crops they have infested, though they are not seldom found in the rubbish heap, having been carted there during a general clear up of the infested plot. This points to the necessity of regularly burning or quick-liming the material in the rubbish corner. Hand-picking at the time of the infestation—May, June, and July—is a matter of first importance, and a keen-sighted boy will soon rid a plot of these unpleasant and unwelcome guests. At present the soil should be examined for the chrysalis, and these, as found, may be burned or thrown into the chicken run, where they will soon be made short work of.


CABBAGE MOTH.

NAMES OF PLANTS.

C. G. J., Homersham.—Acacia dealbata.

T. M., Merthyr.—1, Cratægus Lelandi; 2, Exacum affine; 3, Moschosma riparia.

F. B. J., Winchester.—1, Cryptomeria elegans; 2, Thuia dolobrata; 3, Eucalyptus globulus.

F. F., Derby.—1, Euphorbia splendens; 2, Opuntia ficus-indica; 3, Ficus radicans variegata.

M. D. E., Dulwich.—1, Woodwardia radicans; 2, Davallia bullata; 3, D. pentaphylla; 4, Eriostemon buxifolium; 5, Ophiopogon Jaburan.

NAMES OF FRUITS.

H. M. S., London.—Ribston Pippin.

W. B., Horley.—Grange's Pearmain.

A. F., Carmarthen.—1, Winter Majetin, 2, Grange's Pearmain.

W. H., Yeovil.— Bess Pool. The pear could not be identified.

Messrs. Dickson and Robinson's Annual Dinner.—For the thirteenth consecutive year has just taken place the annual dinner given to the employees by the firm of Messrs. Dickson and Robinson, the King's seedsmen, of Manchester. Held at the Victoria Hotel in that city, and presided over, as it has been from the first, by the firm's senior partner, Mr. Robinson, the evening proved a greater success than any one of those past. Pleasant exchanges of the markedly good feeling between the firm and its staff were embodied in the toasts. A pleasing little digression in the programme made, to all present, the evening of special interest. The recent marriage of Mr. W. P. Robinson gave opportunity to the staff to give practical expression to their good wishes for his future happiness, and consolidate even more the ever-existing good feeling. This expression took the form of a handsome clock suitably inscribed. Mr. Anderson made the presentation, and was supported by Mr. Ward.

NOTES OF OBSERVATION.

Coleus thyrsoideus supplies a colour among indoor winter-flowering plants that is far from being common. The plants are voracious feeders, and unless grown in small pots they are inclined to grow rather coarse. Confined to 4¾in. pots, and grown in a cool greenhouse until the approach of winter, the resulting plants are dwarf and stocky. Weak liquid manure will prove beneficial if applied previous to flowering. As the majority of spring-blooming plants produce light-coloured flowers, we can, by the grouping of this coleus, add brightness and variety, features which at this season are doubly welcome.—THOMAS SMITH, Walmsgate Gardens, Louth.

Flowers in Bloom.—Notwithstanding the severe frost here, 24 degrees in the American Garden (19 degrees in the screen), Erica lusitanica, Chimonanthus fragrans, and Jasminum nudiflorum are flowering freely, and present a bright appearance. The hellebores and Galanthus Elwesi are just opening their flowers. With reference to this snowdrop it may be stated that, when birds are destructive, it is a good plan to use some black cotton, twisted about on small green twigs. This will frighten them away, and will not appear unsightly. Erica carnea does not appear to have taken any harm from the frost, as the plants are as smart as ever. —W. A. COOK, Leonardslee Gardens.

Pelargonium Paul Crampel as a Standard.—Those who require standard pelargoniums in pots for placing in suitable positions on terraces and lawns, or other desirable situations in summer, should grow this, the brightest of all summer-flowering varieties. Plants raised from stout cuttings grown on vigorously soon reach the height required, three feet to four feet for the taller specimens. By repeated pinching of the points as fast as a little growth is made, the foundation of good heads is soon made, and the plants can afterwards be grown on as desired. As a free-flowering variety this pelargonium has few equals, and certainly no superior, when we consider its vigorous growth. In the gardens at West Dean Park last summer I saw some charming standards of this variety, arranged on the grass with a background of evergreens, and the great masses of flower trusses produced a brilliant effect.—S.

Lonicera fragrantissima. — This is one of the earliest honeysuckles to blossom, its flowers appearing with the earliest days of the year when the weather is favourable. It was introduced from China by Robert Fortune over half-a-century ago, and one of the first plants introduced to this country is recorded as being in the Horticultural Society's garden, growing against a wall, about, or previous to, 1850. This, however, was not the first plant to blossom in the country, for, according to Lindley and Paxton, in their "Flower Garden," vol. iii, p. 75, Fig. 268, it blossomed for the first time in the garden of the Marquis of Salisbury at Hatfield, in January, 1852. When mature it attains a height of 5ft. or 6ft., with a wide spread. The leaves are semi-evergreen, being retained until well on into spring. The flowers are borne, usually in pairs, from the leaf axils; they are pure white, and very fragrant. A second species, L. Standishi, also flowers about the same time. It likewise is a Chinese species, and confusion often exists between the two plants. The latter is the better-known shrub, and differs by having larger hairy leaves, which are not retained after autumn, and by its stiffer habit and cream-coloured flowers. The points of resemblance are, they bloom at the same time, and the flowers of both are fragrant. Both species thrive in loamy soil, and are suitable for outdoor borders or for placing in pots to blossom in the greenhouse for the sake of their fragrance. L. Standishi bears ornamental fruit. When ripe it is scarlet.—W. D.

OBITUARY.

MR. GEORGE FIELD MORRIS, F.S.I.

We regret to have to announce the death of Mr. George Field Morris, F.S.I. (late senior partner of the well-known firm of Messrs. Protheroe and Morris), which took place at his residence, Madeira, Cambridge Park, Wanstead, early on Saturday last.

The deceased gentleman was born on September 2, 1831, and educated at Forest Place Academy, Leytonstone. His father, Mr. Thomas Morris, was one of the two founders of the firm of Messrs. Protheroe and Morris, who commenced business as horticultural auctioneers and nurserymen about the year 1830 at Highbury, but it was in 1840, when the American nurseries at Leytonstone were acquired that the modern development of the firm commenced. To our readers their name is doubtless familiar in connection with the sales of orchids, lilies, and bulbs of every description, which take place periodically at their headquarters, 67 and 68, Cheapside. The late Mr. Morris, at the age of fourteen, entered the nursery business, and early made himself acquainted with those details of horticulture which stood him in good stead in after years.

As an auctioneer, he conducted his first sale in 1860, and opened a branch at Leytonstone in 1870. Four years later, in conjunction with the late Mr. W. H. Protheroe, he established a city office at 98, Gracechurch Street, and subsequently at the present offices in Cheapside. His was a well-known figure at the Mart and Garraways, while the firm's special horticultural sales took him into all parts of the country; in addition to which he enjoyed a considerable practice in arbitrations and railway claims.

After being a member of the firm for fifty-eight years, he retired in 1903 to enjoy a well-earned leisure in the cultivation of the beautiful grounds of Madeira, his private residence at Wanstead. The late Mr. Morris was an excellent musician, and another of his hobbies was painting in water colours—a capital little landscape being completed by him as recently as last month. Golf, cycling, and long walks were his favourite recreations.

He was twice married, and leaves a son and daughter, the former, Mr. Harold George Morris, having been a partner in the firm since 1889. Mr. Morris had only been ill for a short time, the actual cause of death being heart failure. His remains were interred in the City of London Cemetery, Manor Park, on Tuesday.

THE POISONS AND PHARMACY ACT, 1908.

The Traders in Poisonous Compounds for Trade Purposes Protection Society was formed in 1900 in consequence of prosecutions which had taken place of tradesmen (nurserymen, seedsmen, and ironmongers), for having sold or kept open shops for the sale of insecticides, weed killers, and sheep dips, containing a poison, and notably the cases of the Pharmaceutical Society v. White, and the Pharmaceutical Society v. Wrench. The writer, who was the promoter of the society, was appointed treasurer, a position he still fills, and Mr. T. G. Dobbs, of 14, Sansome Street, Worcester, was appointed and continues to act as secretary and solicitor. Offices were taken at 5, Clement's Inn, London, after the organisation commenced to grow, but the finances of the society being insufficient to keep such London offices going, the society's work for the last few years has been conducted from the offices of the secretary, at Worcester.

A Bill was prepared by the secretary and solicitor known as the "Trades Poisons and Poisonous Compounds Bill," and the provisions of this Bill were brought forcibly before the Board of Agriculture and the Lord President of the Privy Council, who, realising that some alteration in the law was required, appointed a Departmental Committee to consider the matter. The Traders' Society being the prime movers in the agitation, was asked to submit witnesses, which was done, with the result that in 1903 the Departmental Committee made their report, and recommended an alteration in the law on the lines of the Trades Poisons Bill.

Following this up, the society organised deputations to wait upon the President of the Board of Agriculture, and eventually the Government took the matter up and introduced the Poisons and Pharmacy Bill. Petitions were signed and presented to Parliament, and the agricultural and horticultural societies, and chambers of commerce were asked to co-operate in the effort which the Traders' Society was making to get the Pharmacy Act, 1868, amended; but it was only after much patient work and perseverance on the part of the Traders' Society that the Bill was successfully pioneered through Parliament, which was done last session, and has now become law.

G. H. RICHARDS.
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FORTHCOMING ENGAGEMENTS.

MONDAY, January 11.—United Horticultural Benefit and Provident Society; committee meeting.

TUESDAY, January 12. — Royal Horticultural Society; committees meet at 12 o'clock; general meeting at 3 o'clock; Scientific Committee at 4 o'clock.

SATURDAY, January 23.—Annual dinner of the French Horticultural Society of London, at the Café Royal, at 6.30 p.m.; Sir Albert K. Rollit will preside.

The Selborne Society has revived the old title of its magazine, which will henceforth be called "The Selborne Magazine (and Nature Notes)," and will be published by Messrs. George Philip and Son, Lim., of 32, Fleet Street, E.C. All communications with regard to the society should be addressed to the Hon. General Secretary of the Selborne Society, 20, Hanover Square, London, as heretofore.

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Trade is rather quiet and supplies are moderate. Roses and chrysanthemums are dearer.

		s. d.		s. d.
Acacia	per doz. bun.	10 0	to	12 0
Adiantum cuneatum	per doz. bun.	5 0		9 0
Arums	per doz.	3 0		5 0
Asparagus	per doz. bun.	1 6		6 0
Azaleas	per doz. bun.	4 0		6 0
Bouvardias	per doz. bun.	6 0		8 0
Camellias	per doz.	1 6		2 0
Carnations	per doz. blms.	1 0		3 6
,,	per doz. bun.	8 0		12 0
Cattleyas	per doz.	8 0		10 6
Chrysanthemums	per doz. bun.	7 0		18 0
,,	per doz. blms.	3 0		5 0
Croton leaves	per bun.	1 0		1 6
Cypripediums	per doz. blms.	2 0		3 0
Daffodils	per bun.	1 0		1 3
Eucharis	per doz.	3 0		4 0
French fern	per doz. bun.	1 0		3 0
Gardenias	per doz.	3 0		5 0
Hyacinths, Roman	per doz. bun.	6 0		10 0
Lapagerias	per doz.	1 6		2 0
Lilac (French)	per bun.	3 0		4 0
Lilium auratum	per bun.	2 0		4 0
,, speciosum	per bun.	1 6		3 0
,, longiflorum	per bun.	3 0		5 0
Lily of the Valley	per doz.	8 0		15 0
Marguerites, white	per doz. bun.	2 0		4 0
,, yellow	per doz. bun.	2 0		3 0
Mignonette	per doz. bun.	2 0		4 0
Narcissus, Paper White	per doz. bun.	2 0		3 6
,, Soleil d'Or	per doz. bun.	3 0		4 0
Odontoglossums	per doz. blms.	2 6		3 6
Pelargoniums	per doz. bun	5 0		6 0
Roses	per doz.	2 0		6 0
Stocks	per doz. bun.	3 0		6 0
Tulips	per doz.	1 6		3 0
Tuberoses	per doz.	0 3		0 6
Violets	per doz. bun.	1 6		4 6

Fruits.

Fairly good supplies are offered but business is not very brisk.

		s. d.		s. d.
Apples, cooking	per bush.	3 0	to	7 0
,, dessert	per ½-sieve	2 0		6 0
,, Cox's Orange Pippin	per box of 2 doz.	2 0		3 0
,, American	per barrel	12 0		17 6
,, Nova Scotian	per barrel	10 0		23 0
,, Canadian	per barrel	14 0		25 0
,, Californian	per case	6 0		10 0
Bananas	per bun.	3 0		10 0
Chestnuts	per bag	7 0		10 6
Cranberries	per case	8 0		14 0
Figs	per box	0 10		1 6
Grapes, English	per lb.	0 9		5 0
,, Almeria	per bar.	10 0		20 0
Lemons	per case	7 0		25 0
Melons	per case	4 0		5 6
Nuts, Cob	per 12lb.	12 0		15 0
Oranges, Jamaica	per case	6 0		10 0
,, Jaffa	per case	8 0		10 6
,, Murcia	per case	6 0		18 0
,, Tangerines	per box	0 9		1 6
Pears, Californian	per case	6 0		8 0
Pineapples	each	2 6		5 0

Vegetables.

Greenstuffs are short but of roots, etc., there is abundance; business is steady.

		s. d.		s. d.
Artichokes, Globe	per doz.	3 0	to	4 6
Asparagus	per bundle	4 6		5 0
,, Sprue	per bun.	0 7		0 8
Beet	per bush.	1 3		2 0
Beans (Guernsey)	per lb.	1 0		1 8
Brussels Sprouts	per bush.	3 6		4 0
Cabbage	per tally	4 0		5 0
Carrots	per doz. bun.	0 9		1 4
Cauliflowers	per doz.	2 6		4 6
Celery	per doz. rolls	4 0		9 0
Celeriac	per doz.	1 6		1 9
Cucumbers	per doz.	5 0		10 6
Endive	per doz.	1 6		2 0
Horseradish	per doz. bun.	8 0		15 0
Leeks	per doz. bun.	0 9		1 0
Lettuce	per doz.	1 0		1 4
Mint	per doz. bun.	3 0		6 0
Mushrooms	[illegible]	8 0		12 0
Onions, Pickling	per bush.	3 0		4 0
,, Valencia	per case	7 0		9 0
Parsley	per doz. bun.	1 0		2 0
Parsnips	per bag	2 0		2 6
Spinach	per basket	2 0		2 6
Tomatoes	per doz. lbs.	4 0		6 0
,, Canary	per pack.	7 0		10 6
Turnips	per doz. bun.	1 0		1 3

LONDON POTATO MARKETS.

Large supplies now come forward, but there is not sufficient [illegible] of business to keep up prices.

		s. d.		s. d.
British Queen	per ton	[illegible]	to	[illegible]
Dunbars	per ton	[illegible]		[illegible]
Epicure	per ton	[illegible]		[illegible]
Evergood	per ton	[illegible]		[illegible]
Sharpe's Express	per ton	70 0		[illegible]
Maincrop	per ton	[illegible]		70 0
Puritan	per ton	[illegible]		[illegible]
Royal Kidney	per ton	50 0		55 0
Up-to-Date	per ton	[illegible]		[illegible]
Blacklands	per ton	45 0		50 0

METEOROLOGICAL OBSERVATIONS.

TAKEN BY THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1908-9. DECEMBER 27 TO JANUARY 2.	SUNSHINE.	TEMPERATURE OF THE AIR.			
		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Dec. 27—Sunday	—	32	32	33	32
,, 28—Monday	2 45	24	24	28	22
,, 29—Tuesday	—	21	21	22	21
,, 30—Wednesday	3 0	10	10	38	8
,, 31—Thursday	—	38	36	43	10
Jan. 1—Friday	0 5	40	40	47	38
,, 2—Saturday	—	45	44	49	40
Means	0 50	30	30	37	24

DATE. 1908-9. DECEMBER 27 TO JANUARY 2.	RAIN.	TEMPERATURE OF THE SOIL. AT 9 A.M.			LOWEST TEMPERATURE ON GRASS.
		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
Dec. 27—Sunday	—	40	44	47	31
,, 28—Monday	0·05	38	43	47	15
,, 29—Tuesday	0·36	37	42	46	16
,, 30—Wednesday	0·04	36	41	45	0
,, 31—Thursday	0·13	36	40	45	5
Jan. 1—Friday	—	36	40	44	31
,, 2—Saturday	0·01	40	41	44	38
Means	(total) 0·59	38	42	45	19

CATALOGUES RECEIVED.

HENRY ECKFORD, WEM, SALOP.—Although this is a good catalogue of flower and vegetable seeds, it is especially notable as being the one to which we look first for sweet peas, as Wem is "the headquarters" for these flowers.

DICKSON AND ROBINSON, CATHEDRAL STREET, MANCHESTER.—A large, well-arranged, and freely illustrated catalogue of flower and vegetable seeds.

HORACE J. WRIGHT, DAULT ROAD, WANDSWORTH.—A handy vegetable and flower seed catalogue, prominence being given to sweet peas. It contains a coloured plate of Evelyn Hemus, Mrs. Henry Bell, and St. George.

PAUL AND SONS, CHESHUNT.—An excellent descriptive and illustrated rose catalogue for 1908-9. Many of the illustrations, representing the newer Cheshunt roses, have appeared in these pages.

DOBBIE AND CO., ROTHESAY.—The useful spring catalogue from this firm is well arranged, and full of interest. Seeds and plants are listed, and special features are made of sweet peas and dahlias.

C. W. BREADMORE, 120, HIGH STREET, WINCHESTER.—In this catalogue of vegetable and flower seeds sweet peas occupy by far the most prominent position, and this is what one would expect, remembering Mr. Breadmore's position as a grower and raiser of these flowers.

ALEX. DICKSON AND SONS, LIM., BELFAST AND DUBLIN.—An excellent and handy catalogue of flower and vegetable seeds, including several novelties in both departments.

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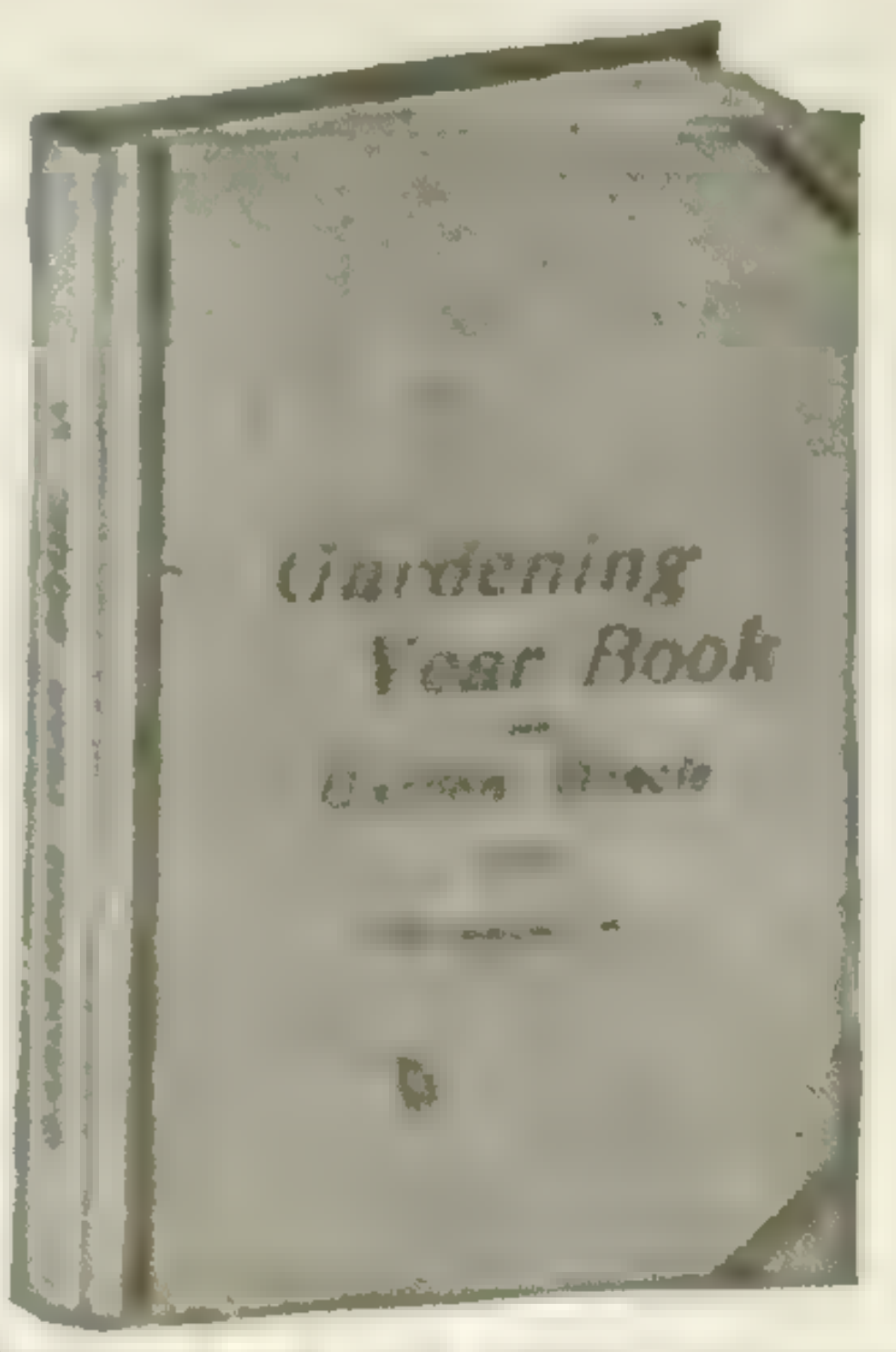

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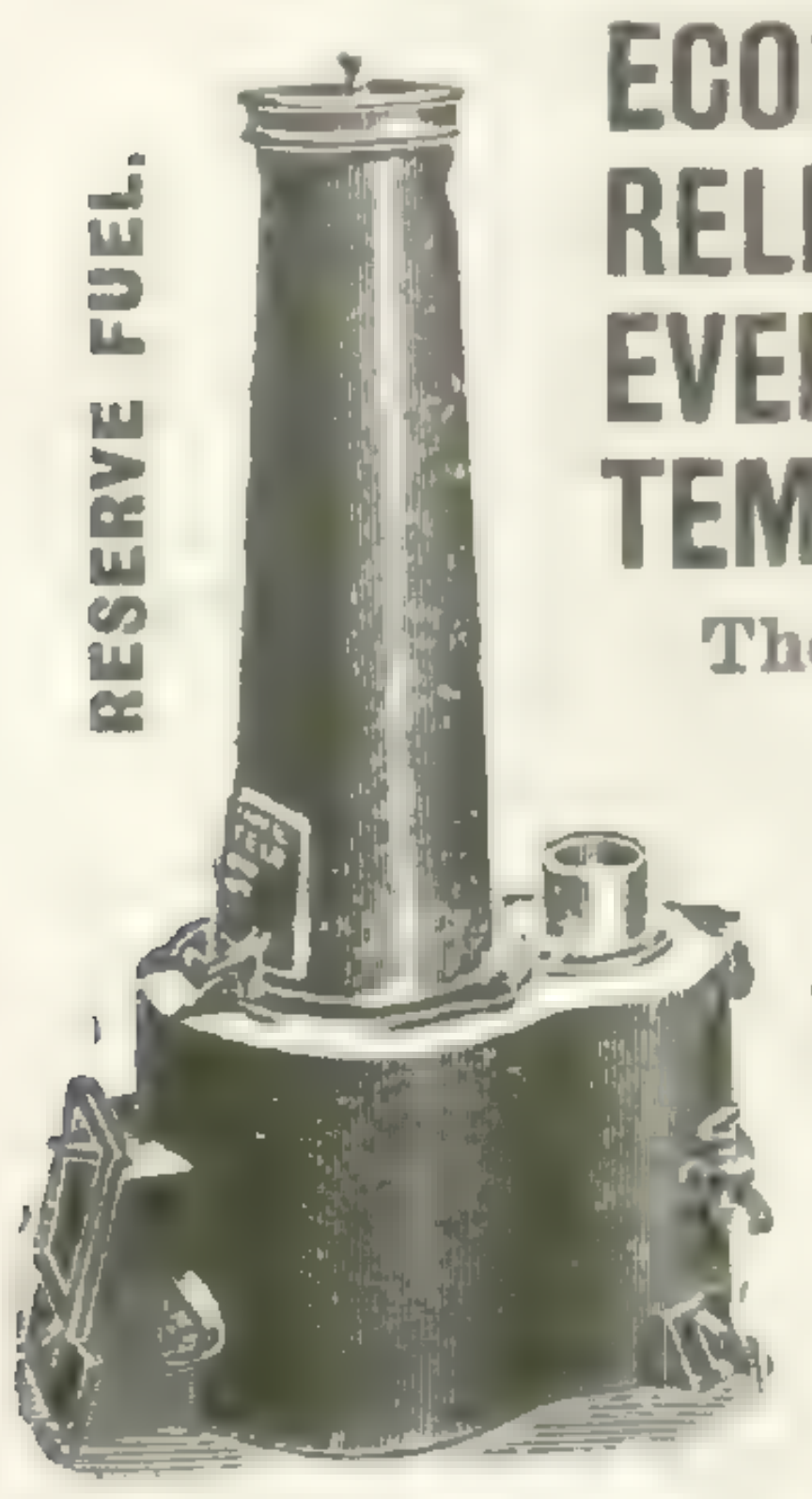
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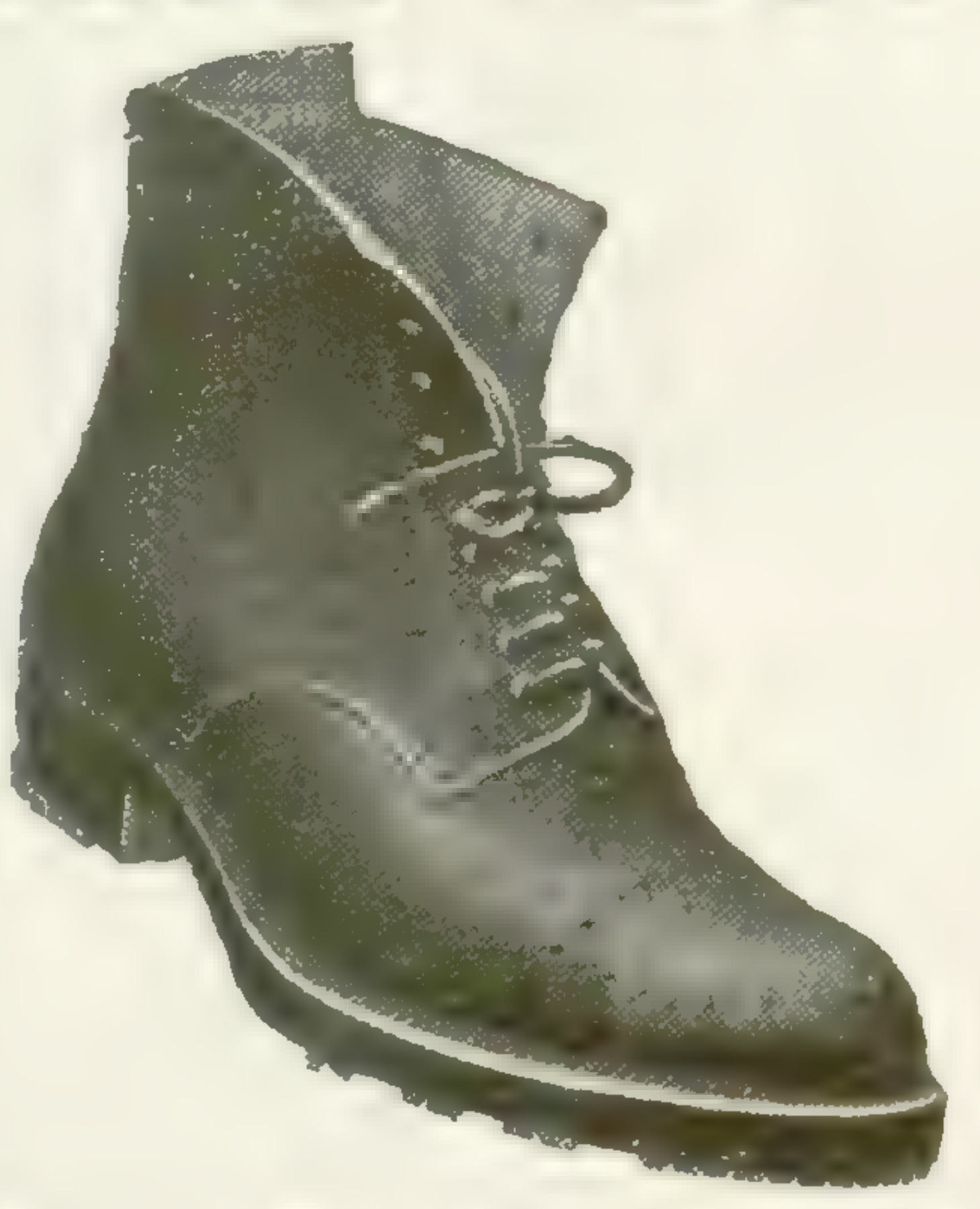

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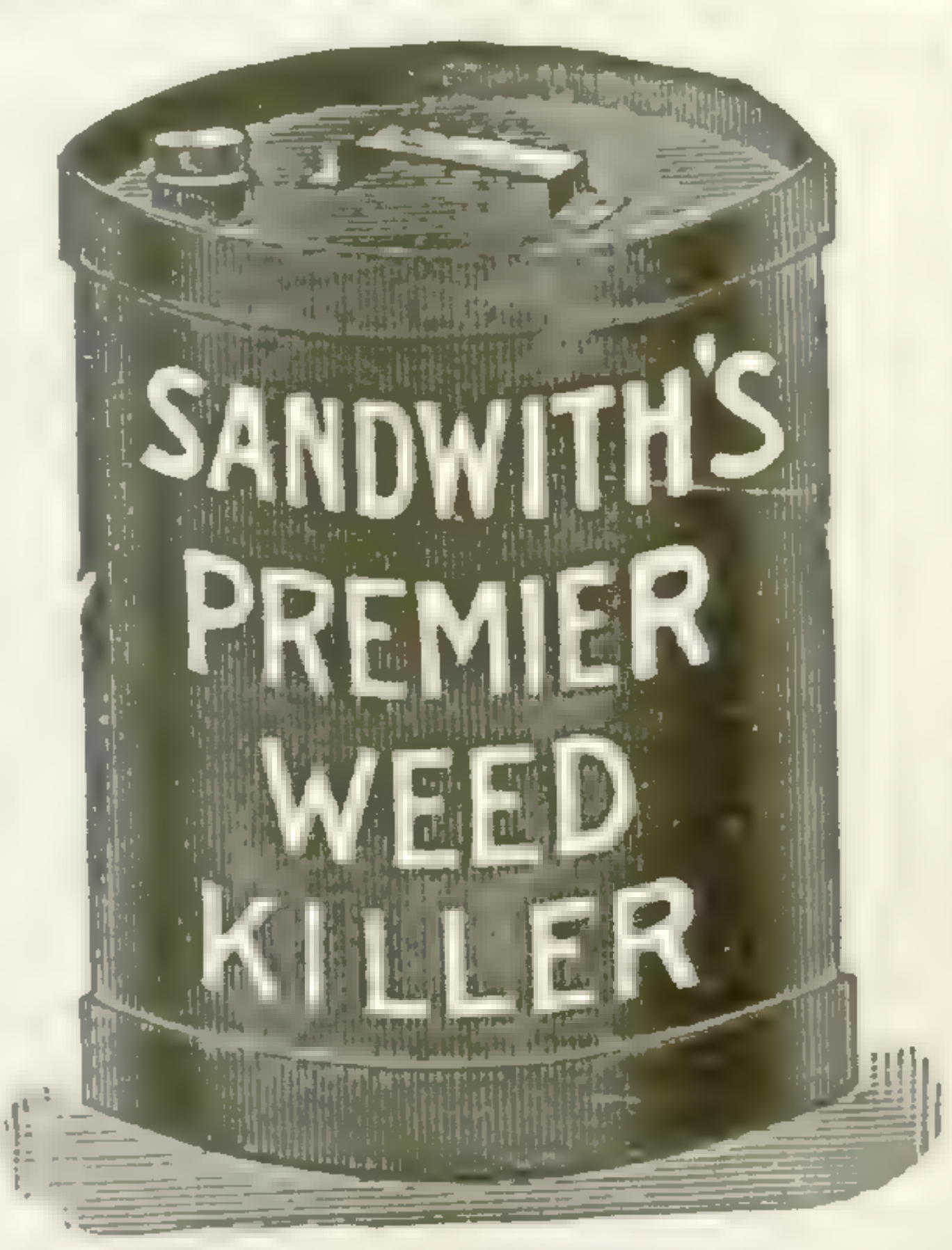

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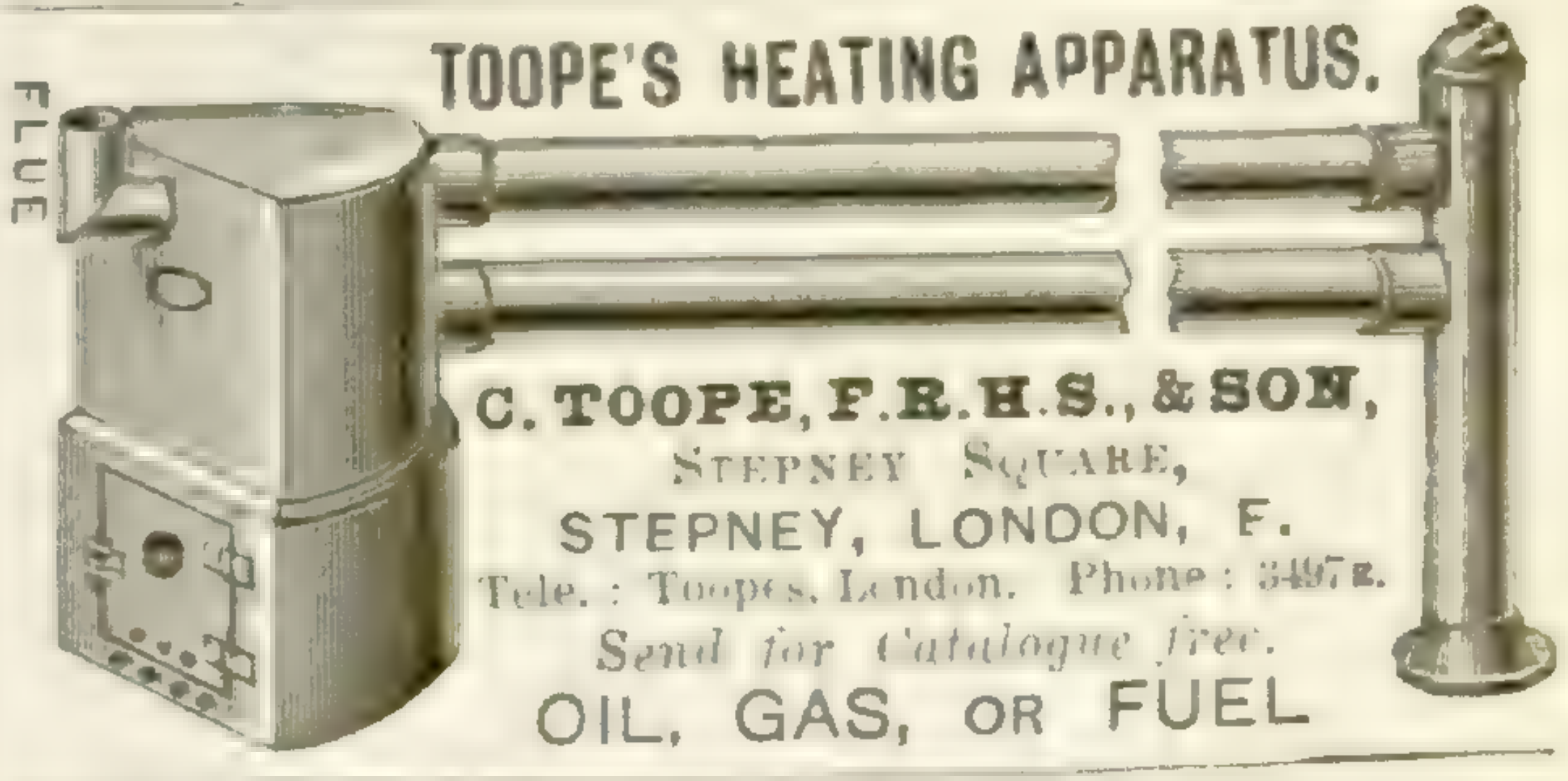

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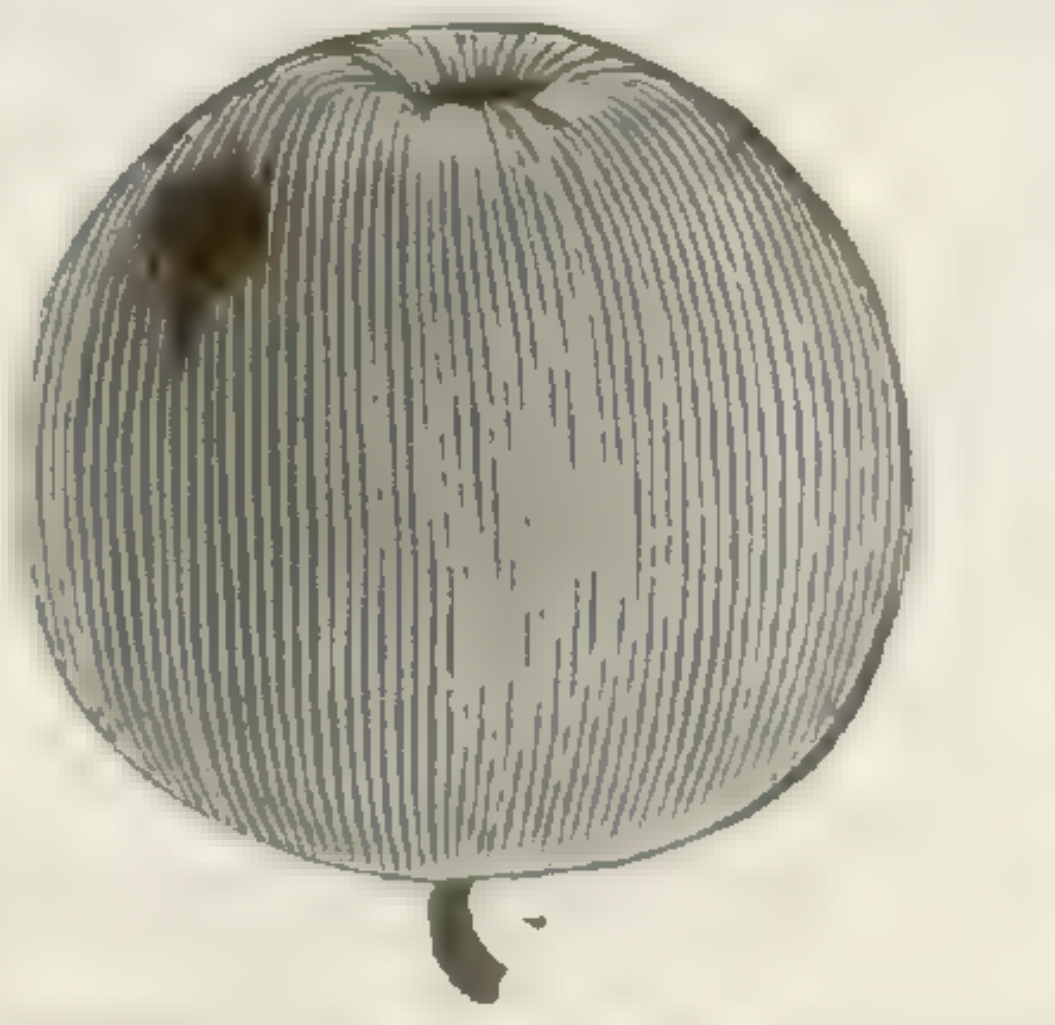

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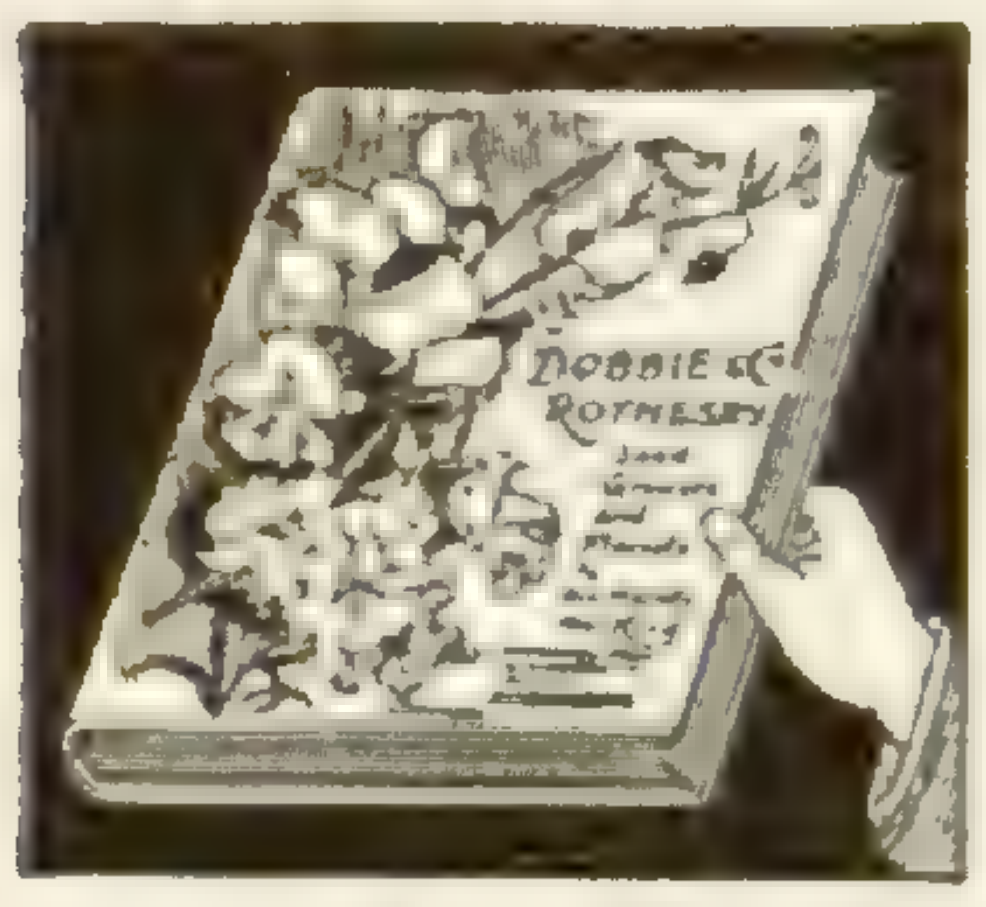

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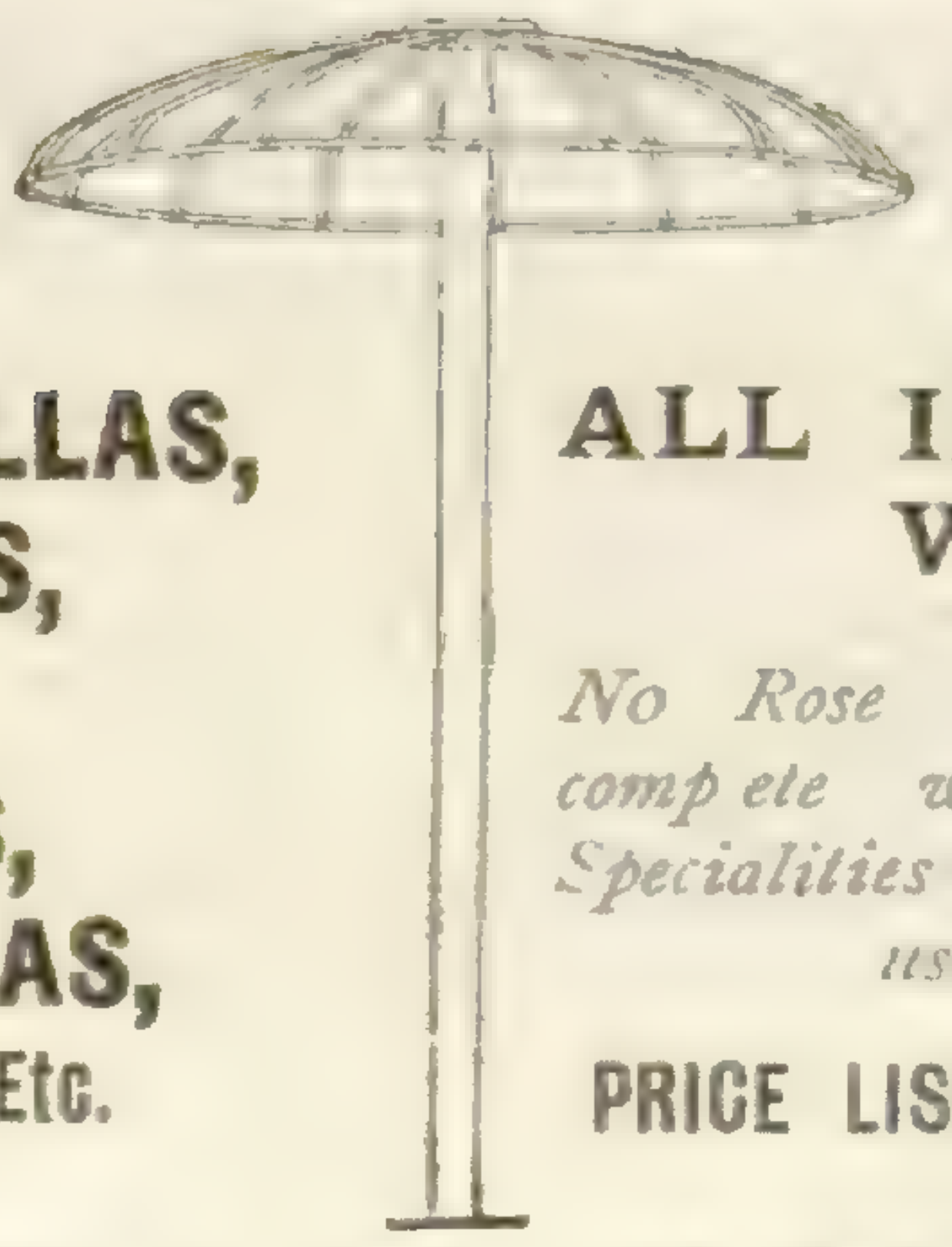

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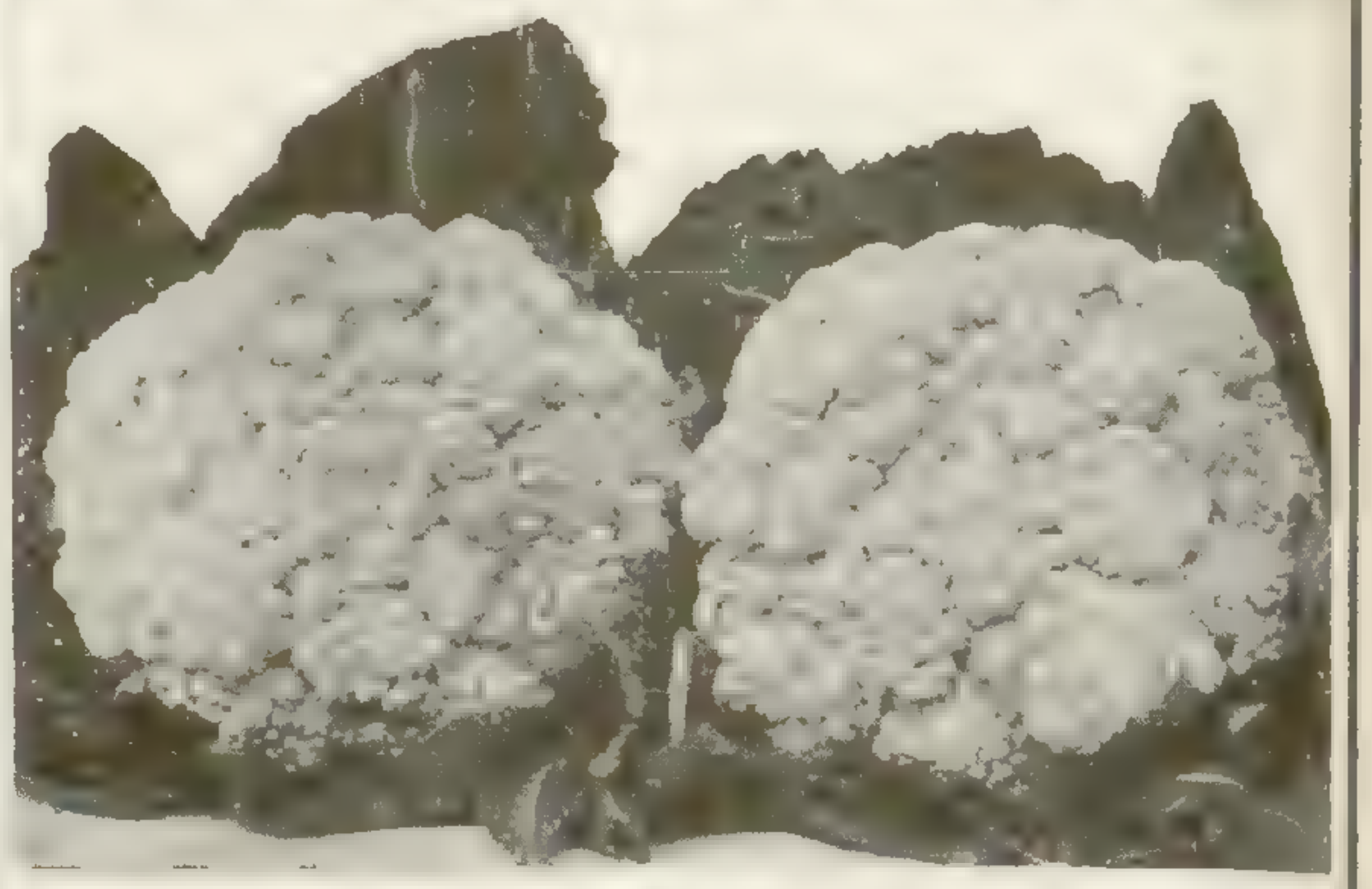

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VOL. LII.—No. 2,881. SATURDAY, JANUARY 16, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

◆

Periodic Growth.

One of the main peculiarities of most vital phenomena is their rhythmic or recurrent character. Like the tides of the ocean, they have their periods of ebbing and flowing, the pulse, as it were, of Nature; an alternation of activity and rest, instead of a constant even and uninterrupted progress. In the animal kingdom these periods may be of two kinds. Thus in man the alternation of day and night determines naturally periods of work and sleep, which in noctural animals may be reversed, while in hybernating animals the lack of food in the winter has determined a long period of dormancy during that season, independently of the shorter sleeping periods of the warmer seasons. The great underlying cause of this periodicity lies in the fact that the revolution of the earth on its axis, and its greater revolution round the sun, determine two different alternations, both determining in their turn a waxing and a waning in the vital stimulus of the solar rays of light and heat and electricity. Its diurnal revolution on its axis results in night and day, and its annual revolution round the sun, coupled with the fact that it spins aslant, and not perpendicularly, causes a sort of swing which, as we know, reduces the sunshine north and south of the tropics for six months in the year, and increases it in like ratio for the other six months, creating summers and winters of varying intensity as either pole is approached. In the great process of evolution of organic life, these oscillating phases have inevitably affected it accordingly. It is a first essential of continued existence that an organism should fit itself to its environment, and it is to the infinite variety of conditions brought about by, first, this cosmic variation of stimulus; second, the varied conditions of the terrestrial surface, and of the oceanic waters; and, thirdly, the inconceivably complex interrelations of organic life itself in the internecine struggle for existence, that we owe all the wonderful beauty of adaptation at which the student of Nature finds himself overwhelmed with admiration and awe. In the plant world the periodic growth is determined by two main factors, heat and cold, and humidity and drought. Warmth and humidity are first essentials to plant activity, the warmth as a stimulus, and humidity, or water, as a formative material. The seasons vary in character in different parts of the world. In tropical regions, for the reason already indicated, the amount of sunshine varies little from year's end to year's end, the sun rises and sets regularly at six o'clock a.m. and p.m. every day. Under such conditions plant periodicity is largely akin, as regards rest and activity, to that of animals, but, as a rule, owing to periodic winds, this uniformity is disturbed, and periods of drought and torrential rains occur which mean equal periods of rest and activity for the plant life of such regions. At high elevations, too, even in the tropics, as we ascend we find a gradual alteration in the climatal conditions as the temperature falls, but, of course, periodicity cannot be so well marked under these comparatively equable conditions as it is in temperate and arctic regions, where, at the poles, the extreme is six months day and six months night. In our own land it is easy to see how annual periodicity is practically enforced. The great bulk of our deciduous trees, did they refuse to shed their foliage, would be shattered by the first heavy fall of snow, from which even the evergreens often suffer greatly, although their glossy leaves or narrow needle-like ones, are designed to retain it as little as possible. Most of the herbaceous foliage is destroyed by frost, and it is, moreover, a well-recognised fact by all plant growers, that if continued growth be induced artificially, the vigour of the plant is as inevitably sapped and weakened as is the vigour of a human being persistently deprived of sleep. Nature, however, has no hard and fast rules, and thus in our early spring flowers, tulips, hyacinths, scillas, daffodils, crocuses, etc., we see exceptions to the rule of active growth in summer and rest in winter, since it is during the winter that their roots are active in preparing for the spring display of foliage and flower, while during the summer they have insisted upon resting, defying the blandishments of sun and shower, which have stimulated the great host of other plants to the utmost. Most of such exceptions are due, however, to the fact that the plants concerned are really the outcome of different environments in other countries, but manage to hold their own in this without sacrificing their native periodicity.

MR. A. D. WEBSTER,
Superintendent of Regent's Park, London.

Mr. A. D. Webster, whose portrait we have the pleasure of giving herewith, has for some years past occupied the position of superintendent of Regent's Park, and during the period in which he has been in charge of this magnificent open space he has given many proofs of his intimate acquaintance with trees and shrubs, and the conditions under which their charms are displayed to the best advantage. Mr. Webster has also worthily maintained the traditions of this fine park for the beauty of its floral displays, and annually visitors have had the opportunity of enjoying arrangements of both spring and flowering plants of the most charming description, and in the summer season horticulturists have had the opportunity of obtaining lessons of immense value in the association of plants remarkable for the beauty of their foliage with plants grown for their flowers. Some of the more noteworthy of the examples have been illustrated in these pages, and we have also given illustrations of the delightful effects produced by the culture of crocuses in the grass. Born at Balmoral, where his father was manager of woodlands to the late Prince Consort, Mr. Webster devoted quite early in life his attention to aboriculture, and achieved much success, as evidenced by his acting in the capacity of manager of woodlands to Lord Penrhyn, the Earl of Derby, and the Duke of Bedford, previous to his joining his Majesty's Office of Works twelve years ago. Mr. Webster is a Fellow of the Botanical Society, and Honorary Corresponding Member of the Royal Horticultural Society, and the author of several arboricultural, botanical, and horticultural works. These latter comprise, "Practical Forestry," "Foresters' Diary," "Hardy Ornamental Flowering Trees and Shrubs," "Hardy Coniferous Trees," "Flora of Kent," "Forest Flora of Carnarvonshire," "British Orchids," and "Greenwich Park and its Associations."

Berlin International Horticultural Exhibition.—The preparations that are being made for the international horticultural exhibition that will be held at Berlin from April 2 to 13 are being rapidly proceeded with. The exhibition will be held in the new halls of the Zoological Gardens, Berlin, which are described as being admirably adapted to a horticultural display on a large scale. The two halls forming the building will be converted into one. In the arrangement of the plants in these two halls an endeavour will be made to combine horticulture and art in such manner as will produce a harmonious effect. It is intended to reproduce the chateau and its gardens which the Emperor William has recently purchased in the island of Corfu. This chateau was built, and the gardens laid out, by Empress Eugenie of Austria, and it is proposed to transform the gallery and orchestra of one of the halls into the terrace of the chateau. The sum of about £700 is offered as prizes by the committee, and there are in addition numerous special prizes, among them being a prize of the value of £250, given by the City authorities.

Sicilian Fruits.—The complete destruction of Messina and the enormous amount of damage done to neighbouring towns has very naturally had the effect of turning the attention of the whole civilised world to the island of Sicily, which forms so important a part of the Italian kingdom. Notwithstanding its great natural attractions, this beautiful Mediterranean island has hitherto obtained but little attention from tourists, and is, in consequence, less known than many parts of Europe which are certainly not more interesting or attractive, or more accessible. Sicily has an area of 1,246 square miles, and is almost wholly devoted to agricultural pursuits. Large areas of land along the coasts are cultivated as vineyards, or devoted to lemon, orange, and olive groves, and by far the greater portion of the groves wherein lemons and oranges flourish are in the provinces of Messina and Palermo. The lemon and orange groves are chiefly on the slopes of mountains of moderate height, or on the lower slopes of those of considerable altitude, as it is found that the crops are heavier and the fruit of finer quality when produced by trees growing on high ground. Lemons are the most important of the Sicilian fruits exported in a fresh state, and it is a point of some interest that while oranges of equal and indeed superior quality are grown in other parts of the world, the lemons of Sicily are as yet unequalled in quality. Lemons that surpass them in appearance are grown in the district of which Naples is the centre, and at Murcia, so famous for its oranges, but in neither case are they equal to them in quality. In Sicily it has long been the practice to employ the bitter orange as a stock for lemons, it having been found that the trees when provided with foster roots are less liable to gum, and therefore retain their health and productiveness for a much longer period. According to the most recent available reports the gross annual return from the lemon groves ranges from £30 to £45, or about double that from vineyards. Almonds and hazel nuts are also largely grown for export.

Liverpool Horticultural Association. The annual chrysanthemum and fruit show of this association will be held on Wednesday and Thursday, November 3 and 4.

Food of British Birds.—Mr. Robert Newstead, M.Sc., A.L.S., has compiled a most interesting account of the food of British birds, and the records are based upon 871 post-mortem examinations of the stomach contents and the "pellets" or "castings" of 128 species of British birds. These are supplemented by field observations, making up a total of over 1,100 records. In the majority of cases the material was collected in the county of Chester, so the details concerning the dietary of the birds must be considered as more or less of a local character. A weak point is the great, or total, absence of spring and summer records, but Mr. Newstead has compiled these records as a suggestion for others to take up the work, rather than as a complete statement. However, taken in the aggregate, these records show clearly what an important part our British birds play in checking the increase and lessening the ravages of many of the pests of the garden and field. The records are issued as a supplement to the "Journal" of the Board of Agriculture for December, and as it can be obtained post free for 4d., we heartily commend it to all our readers who have any doubt as to the usefulness, or otherwise, of our native birds.

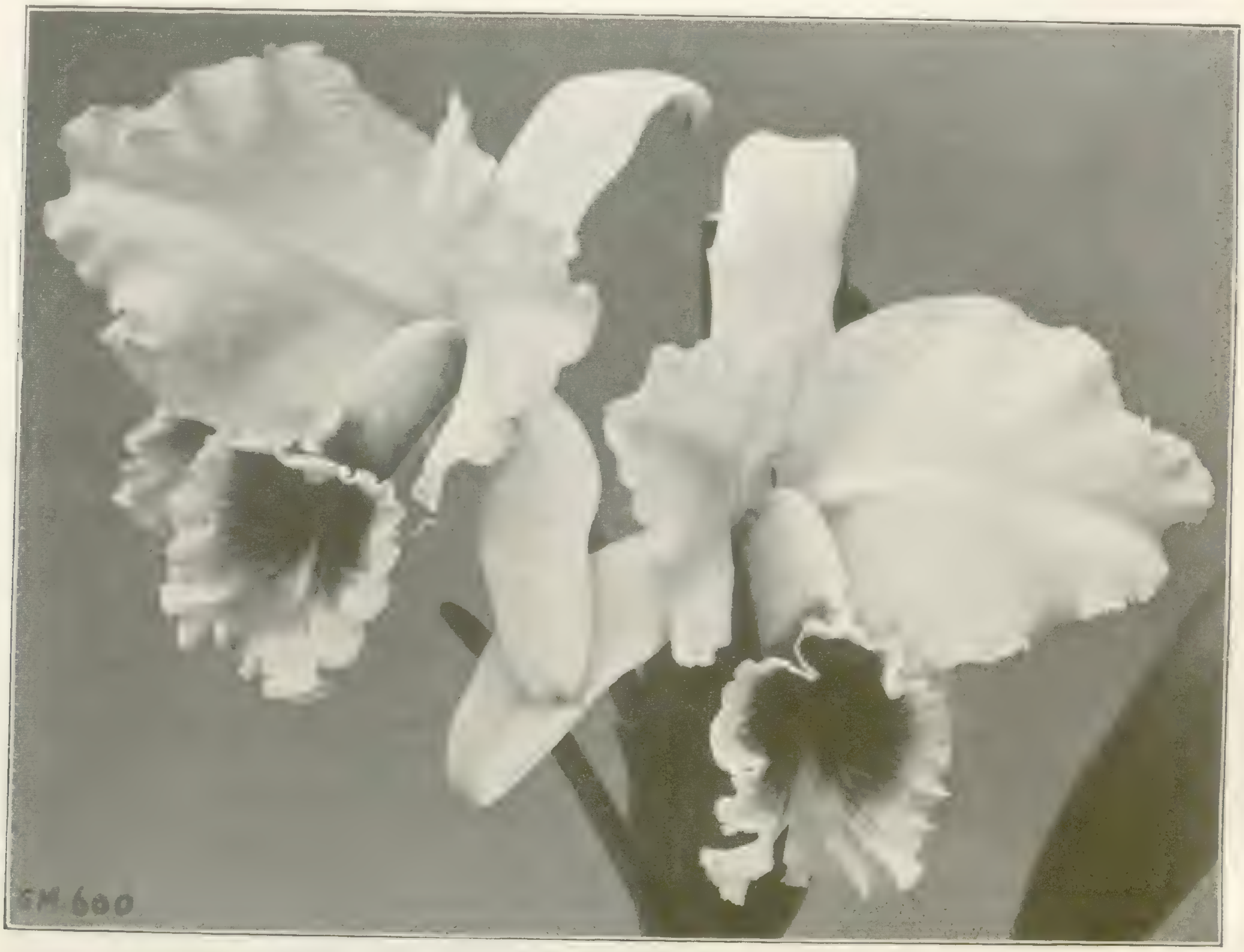
Fruit Imports, 1908.—The value of foreign fruits imported into the United Kingdom during the past year was considerably less than in 1907, and much of this shrinkage was due to the decrease in values in December last. The imports of apples during the twelve months ended with December last aggregated 3,376,579 cwt., of the value of £2,079,703, as compared with 3,526,232 cwt., of the value of £2,231,327 in the year previous. Of apricots and peaches the imports were 30,620 cwt., of the value of £60,141, or a decrease in quantity of about 8,000 cwt., and in value of about £18,000. Bananas were imported in larger numbers, but the values were lower, and the total was 6,385,449 bunches, of the value of £1,769,249. Cherry imports aggregated 160,479 cwt., of the value of £235,523, these figures representing a decrease of about 5,000 cwt. in quantity and an increase of about £36,000 in value. With regard to the imports of currants, the aggregate was 102,110 cwt., of the value of £121,852, these figures representing decreases, the drop in value being considerable. The imports of gooseberries were 44,518 cwt., of the value of £25,529, these figures representing a small decrease both in quantity and value. Grapes also show a decrease, the aggregate having been 673,673 cwt., of the value of £728,026. In the imports of pears there was an increase on the year, notwithstanding the big drop in December, the total being 523,029 cwt., of the value of £515,914. The imports of plums was also larger, the aggregate having been 402,881 cwt., of the value of £428,966. The imports of strawberries have for several years past decreased at the rate of about 10,000 cwt. annually, and the aggregate last year was 33,391 cwt., of the value of £45,791. The total value of the fruit and nuts imported in 1908 was £10,372,244, as compared with £10,722,239 in 1907.

Changes at the Kew Herbarium.—Consequent on his having reached the age limit Mr. W. Botting Hemsley, F.R.S., has retired from the position of keeper of the Herbarium, which he has occupied with singular success for some years past. Dr. Otto Stapf, F.R.S., principal assistant of phanerogams, has been appointed keeper of the Herbarium, and Mr. C. H. Wright, A.L.S., principal assistant of phanerogams.

"**My Garden Diary,**" published by Messrs. Sutton and Sons, is distinguished by its elegance and utility, and enjoys so high a degree of popularity that it invariably receives a warm welcome from both amateur and professional gardeners. The reminders bear the impress of being based on a thorough acquaintance with the garden and its work, and will be found of much service to all who are engaged in gardening. There are numerous selections of plants and blank spaces for memoranda. The cover is embellished with flowers of cinerarias printed in colours.

Gardeners' Royal Benevolent Institution.—The annual meeting of this institution will be held at "Simpson's," Strand, on Thursday next, the 21st inst., at 2.45 p.m. Mr. H. J. Veitch, V.M.H., treasurer and chairman of committee, will preside, and the business will include the election of eighteen annuitants and the consideration of the following notice of motion by Mr. W. A. Bilney, J.P., honorary solicitor: "That every person having attained the age of 70 years who is in receipt of an annuity from the institution, and is eligible for a Government old age pension of less than the maximum allowance of 5s. per week, or whose total income does not exceed £31 10s. per annum, may have such charitable annuity reduced as the committee may determine under Rule III. 6, so as to render him or her eligible to apply for a pension on the Government scale, provided always that such reduction does not involve the beneficiary in any pecuniary loss." In some quarters exception has been taken to this proposal, but it should be remembered that by effecting a reduction in the amount paid to annuitants over 70 years of age, the committee will be in a position to recommend a much larger number of candidates for election in future years than has hitherto been possible. This year there are 73 candidates, and as only 18 can be elected on Thursday, 55 will have to bear the bitter disappointment inseparable from a failure to obtain a position on the pension list. The annual friendly supper will be held after the annual meeting, also at Simpson's, at 6 p.m., when Mr. W. J. Jefferies, of Cirencester, will preside.

Vegetables of Foreign Growth were sent to the home markets in large quantities during the past year, although the supplies were less than in 1907, when the imports were exceptionally heavy. The potato imports amounted to 7,038,323 cwt., of the value of £1,970,216, as compared with 8,249,366 cwt., of the value of £2,371,545 in 1907. In the imports of onions there was a considerable decrease, the aggregate having been 7,896,108 bushels, of the value of £993,669, as compared with 8,645,048 bushels, of the value of £1,036,231, in the year previous. The imports of tomatoes were 1,168,283 cwt., of the value of £955,985, these figures representing an increase in quantity of about 25,000 cwt., and a decrease in value of £65,820.



CATTLEYA PERCIVALIANA CHARLESWORTH'S VARIETY.

A distinct and beautiful variety of this useful winter-flowering species, exhibited by Messrs. Charlesworth and Co., Hayward's Heath, at the R.H.S. Meeting on the 12th inst., when it received a first-class certificate. Sepal and petals white, and the labellum rich purple and orange.

Fighting the Coccus at Burnham Beeches.—It is not long since we drew attention to the enormous spread of the Beech Coccus on the fine trees at Burnham Beeches, and to the need of the adoption of strong measures for the eradication or reduction of this dreaded pest. We now learn that Mr. Duchesne, the superintendent, has taken advantage of the powers permitted him by the City of London's Corn, Coal, and Finance Committee, to follow up a regular system of spraying with a paraffin emulsion. Some good people who have no knowledge of the pest consider that now the trees have been sprayed there is an end to the infestation. We wish we could believe it. If the pest is to be kept under, then there must be no half-hearted attack, but rather a continuance of attacks by means of the most approved methods. The Beech Coccus is not a thing to play with.

Trials at Wisley in 1909-10.—Trials of the following fruits, flowers, and vegetables at the Royal Horticultural Society's Gardens at Wisley during 1909 have been arranged. Autumnal raspberries—15 canes of each variety to be sent at once. Tree carnations—four plants of each variety to be sent in February, two for out, two for indoors. Annuals—seeds to be sent in January. Garden dahlias, show, and cactus excluded—Two plants of each variety to be sent in April. Early-flowering outdoor chrysanthemums—two plants of each variety to be sent in April. Pentstemons—two plants of each variety to be sent in April or seed in January. Potatoes—each variety must be labelled as being "early," "mid-season," or "late"; 20 tubers of each to be sent by February. Also experiments with the same variety—viz., "The Factor" (20 tubers)—secured from as many varying sources as possible, under different soil and climatic conditions. Send particulars of soil and climate. Cauliflower—¼oz. of seed of each variety. Lettuce—¼oz. of each variety. Kidney beans—½ pint of each variety. All parcels should be addressed: if sent by post—The Superintendent, R.H.S. Gardens, Wisley, Ripley, Surrey. If by rail, to Horsley Station, L. and S.W.R., with advice by post to the superintendent.

Prizes for Botanical Investigations.—We learn from "Nature" that the French Academy of Sciences proposes to offer the following prizes for botanical study in 1909: The Desmazières (1,600 francs), for a memoir on cryptogams; the Montagne prize (1,500 francs), for work on the anatomy, physiology, development, or description of the lower cryptogams; the de Coincy prize (900 francs), for a work on phanerogams; the de la Fons-Melicocq prize (900 francs), for a work dealing with the botany of the North of France; the Bordin prize (3,000 francs), for a study of the origin, development, and disappearance of the transitory tissues which may enter at various periods into the structure of the vascular plant. To determine, in each particular case, the ephemeral role of the tissue considered.

Continental Gardens and Nurseries.—Mr. W. J. Bean, the assistant curator, Royal Gardens, Kew, spent twenty-four days on the Continent in June last, visiting famous continental gardens, parks, and nurseries, and in the recent issue of the Kew Bulletin he gives an account of his journey and a very interesting account it is. Among the chief places he visited were Brussels, Boskoop, Hessi's Nursery at Weenen, Herrenhausen Gardens, Berlin Botanic Gardens, M. Leon Spathe's Nursery, Sans Souci Gardens, Dresden Botanic Gardens, the Grosse Garden of Dresden, Dresden Botanic Gardens, Vienna Botanic Gardens, Schönbrunn, Ischl Forests, Munich, Lemoine's Nurseries at Nancy, Vilmorin's Nurseries at Verrieres—M. Buisson and M. Maurice de Vilmorin's Garden at Les Barres, with its rich collection of rare trees and shrubs. The account is well worth reading, as Mr. Bean accords praise or blame freely, and his criticisms are of special value.

BRACKEN AS LITTER.

The following important and interesting article, from the pen of Mr. Edward J. Russell, D.Sc. (Lond.), "Goldsmith" Chemist for Soil Investigation, Rothamsted Experimental Station, appeared in the "Journal" of the Board of Agriculture for October:

In many districts, especially where there are large stretches of sandy heaths, quantities of bracken are obtainable, and are in common use for litter. Its value for this purpose appears to be considerable, and farmers who use it speak well of it. A century ago Arthur Young praised it highly, advising farmers in September to "cut fern, called in some places brakes and brakens. This is most profitable work, and should never be neglected. Carry it into the farmyard, and build large stacks of it. . . You will be able to raise immense quantities of dung, and it is well known that no vegetable yields such a quantity of salts as fern, from which we are to conclude that it is well adapted to the making manure. The good farmer, in this work of bringing fern, should not confine himself to his own wastes, but purchase it of his neighbours." Whilst no careful comparison with straw seems to have been made, there is a fairly general opinion that bracken is nearly as useful as straw, so far as the animals are concerned, although a competent observer has noted that the animals' coats are not so good, indicating that they do not do quite so well on bracken as on straw. Litter, however, fulfils another important function besides ministering to the comfort of the animals; it has a great effect on the composition, and particularly on the value of the dung. This function only is dealt with in the present paper.

The simplest way of ascertaining the value of bracken as litter is to compare it with straw, which is by far the commonest of all littering materials, and would, as a matter of fact, be the alternative generally adopted on farms where bracken is used.

Litter contributes in at least three ways to the value of the manure. It absorbs and retains a number of valuable substances, including ammonia, that would otherwise escape as gas, and the easily soluble nitrogen compounds of the urine which might be lost either by washing out or by conversion into ammonia; the importance of this is evident when it is remembered that the nitrogen compounds most easily lost are those most "available" for the plant, and therefore of most value. It also absorbs potassium compounds which occur dissolved in the urine, and are liable to be lost in the drainage water. Secondly, when it decomposes it restores to the soil those food constituents which it had during its lifetime assimilated, and which obviously have been, and may again, become "available" as plant food. Thirdly, during the decomposition process the stems and leaves—the "long" materials in fact—are converted into black, sticky humus possessing properties of great value for improving the soil.

Bracken as an Absorbent.

All substances containing cellulose have the power of absorbing water, dissolved bodies, ammonia, etc., and consequently all dead plants, leaves, stems, sawdust, peat moss, and similar materials possess this property. They are not all equally good, however, and naturally those which can most readily take up and retain ammonia and soluble bodies are of most value as litter. Bracken, and especially the leafy part, is better than straw, while the hard stems have about the same value; both are, however, much below peat moss. Samples of straw and bracken were allowed to stand in contact with a weak solution of ammonia, and then left to dry for two days in the air. They all retained some ammonia at the end of this time, but not equal amounts, the relative figures being:

Bracken.			Straw.
Entire.	Leafy part.	Stems.	
70	100	33	30

It is evident that the superiority of the bracken is due to the leaves, which, being small, expose a large surface to the ammonia, and facilitate the process of absorption.

In another experiment bracken was tested against peat moss, and the relative quantities of ammonia absorbed from a weak solution were as follows:

Peat moss.		Bracken.
100	...	25

These figures, of course, cannot lay claim to any absolute value, since the relative proportion of leaf and stem in the bracken has so great an effect on its absorptive power; they show, however, that bracken is superior, weight for weight, to straw.

The power of retaining water and soluble substances varies in the same way; peat moss is best, bracken next, and straw third, and again bracken owes its power largely to its small leaves. These experiments were made with equal weights of material; if, however, an equal bulk be taken, bracken is inferior to straw as an absorbent because it is so much lighter.

The Composition of Bracken.

Although bracken has long been used in agricultural practice, very few analyses are recorded, and these show, as would be expected, a certain amount of variation because the composition of bracken depends to some extent on the soil on which it grows and also on the time of cutting. The young plant is richest in nitrogen and potash; before the leaf and stem die there is probably a transference of some of the food material to the root just as takes place in certain other plants, but a good deal is left behind, and the whole of this is secured if the bracken is cut in autumn, as usual, and kept sheltered from excessive rain. Of course, if it is left out during the winter, and not cut till after a great amount of washing has taken place a loss of substance is likely to result.

An important point about the composition of bracken is the large amount of nitrogen present; usually about 1.3 per cent. is found, and even higher figures are recorded. Straw, on the other hand, only contains about one-third of this, viz., .5 per cent. The amount of potash shows considerable variation, doubtless following the rather large variations in the small amounts present in the light gravelly or sandy soils where bracken commonly grows. English samples usually show about .1 per cent.; foreign samples are considerably higher. The potash content of straw is also liable to variation, but the average is probably somewhere between .6 and 1 per cent., so that straw is much richer than bracken in this constituent. The phosphoric acid in bracken is about .2 per cent.; straw contains about the same. In the following table are given (1) analyses made by the writer of samples from Haslemere and Harpenden respectively; (2) the average composition calculated from all the analyses the writer has been able to find; (3) the average composition of English samples. For purposes of comparison the average composition of wheat straw is also included:

—	Dry Matter.	Total Mineral Matter.	Nitrogen.	Phosphoric Acid.	Potash.
Bracken from Haslemere (Sept.)	84·36	5·87	1·30	0·19	0·16
Bracken from Harpenden (April)	83·19	3·61	1·00	0·11	0·06
Average of all analyses, English and foreign ...	...	5·12	1·33	0·26	0·50
Average of English analyses only*	86·37	4·70	1·44	0·20	0·11
Wheat straw	86·4	5·3	0·48	0·22	0·63

* Includes analyses kindly supplied to me by Dr. J. A. Voelcker and Mr. John Hughes.

The low value for the Harpenden sample, collected in April, after it had been lying on the common exposed to the bleaching action of the winter rain, is interesting.

It is evident that bracken is richer than straw, and the difference in value comes out still more clearly if we work out the manurial value on the unit system. There is some difficulty in fixing values in the case of bracken and straw, but on a moderate estimate, taking the value of nitrogen as 5s. per unit, of phosphoric acid as 3s., and of potash as 4s., the value as manure of English bracken in the above table is 8s. 6d. per ton, and of wheat straw 5s. 6d. per ton. Bracken is, therefore, 50 per cent. more valuable than straw, so far as its content of fertilising materials is concerned.

(To be continued.)

OPPORTUNISM.

"There is a tide in the affairs of men,
Which, taken at the flood, leads on to fortune;

Omitted, all the voyage of their life
Is bound in shallows and in miseries.
On such a full sea are we now afloat;
And we must take the current as it serves,
Or lose our ventures."

—Julius Cæsar, Act IV., Sc. 3.

A really successful gardener must be many things, but one thing especially he must be in this uncertain climate of ours, and that is an opportunist, which, for the benefit of young readers, I may define as a man who takes advantage of opportunities, and when his circumstances will not adapt themselves to him adapts himself to his circumstances. We all know him in the farming profession, the man to whom we always look to be the first to finish sowing in the spring as he is the first to finish haying and harvest, while his neighbour, the afternoon farmer, having only three or four more days' work to do when the weather breaks up, is another month before he can finish. The opportunist, either in farming or gardening, divides work into two main classes—that which can be done at any time within certain limits, and that which can only be done under certain favourable conditions, and he never spends a minute upon work of the first class when it is possible to do work of the second.

If we apply this maxim to gardening practice we shall employ, say, a dry spell in November in doing work which can only be done at that season and under the prevailing conditions, such as any bulb planting, the transferring of plants from the nursery beds to their permanent positions, the planting or removing of fruit trees, and the numerous other jobs which make a nice November such a busy and enjoyable time for the gardener who looks ahead. Such a one will not waste time at such a valuable season, which may end any day, in pruning trees, cutting down herbaceous perennials, clearing up leaves (more than is absolutely necessary), and other work which can be done as well in damp weather as in dry.

Similarly, on a dry day in March, when the soil is like an ash heap after the recent frost, which went away without rain, such a one will not waste a minute more than is necessary doing work in the houses or the potting shed, when he may get in his early potatoes, carrots, and peas, under such perfect conditions.

The carrying out of this principle every day all through the year in arranging the routine work of the garden, will mean that, like the farmer who always finishes sowing or harvest first in his district, the gardener will generally be ahead of his neighbours in point of time, and generally, as a consequence, in results, too. It is only carrying out the principle of the homely saying that "the early bird catches the worm," the said early bird knowing perfectly well that he can sit on the tree and sing for hours after the drying wind and men have driven the worms far into their burrows.

ALGAR PETTS.

ARENARIAS OR SANDWORTS

There are among the arenarias or sandworts many weeds, but there are also many choice garden flowers, and these are, as a rule, eminently suited for the rock garden. They seldom present many difficulties in the way of cultivation, and, if given reasonable conditions at first, require little attention for years at a time. This cannot be said of many alpine flowers, and it is no slight merit for such useful plants to possess. They are generally pleasing alike in foliage and in flower, and several are of surpassing beauty, giving us sheets of snowy-white flowers or an abundance of lovely starry blossoms of the greatest beauty.

Generally speaking, their true places are the rock garden and the wall garden, but some may be employed as carpeters for taller plants and others may be utilised, when supported by stones, for edging the herbaceous border. The rock garden is, however, the true home for the arenarias, where they can spread into little carpets of green, covered in their season with snowy, creamy, or pinkish flowers. Their cultivation presents, as a whole, little difficulty, and in discussing the genus as a whole in detail, it will suffice to say that the plants in general like a sandy soil, plenty of stones, and a fair amount of sun, except where mentioned in the following notes, from which I have excluded the sandworts that are practically of no garden value.

ARENARIA MONTANA IN THE ROCK GARDEN AT MULLABODEN.

Arenaria balearica.

Were one limited to, say, two species or arenarias this would almost undoubtedly be one of the two. No flower of its size presents so attractive an aspect to the lover of alpine flowers as this, and when seen in its fullest beauty in May and June, although it lasts longer in some seasons and places, it is one of the most exquisite of alpines, with its tiny foliage clinging close to the stones and profusely spangled with tiny white flowers, of starry shape, and on short wiry stalks, just above the carpet of greenery. We have nothing like it in the range of alpines. It is of easy culture, but dislikes to be fully exposed to a hot sun. Shade, and a red sandstone over which to cling are its great luxuries. Any porous stone will do, and it will even live on dry soil without stone if the district is not too wet, but the old red sandstone seems to suit it particularly well. Shade it must have to some degree, and an experimental planting I made a year ago on two sides of a path emphasised my former experience in this way. I have used it as a carpeter, but it is most at home creeping up a stone. It is increased by division and by means of seeds.

Arenaria ciliata.

But little taller than A. balearica is the ciliate sandwort, A. ciliata, growing about three inches high, but erect in habit. It is inferior to several others, and may well be omitted where these are grown. It also has white flowers of considerable purity. It is suited to the rock garden on the level or a slope of small gradient.

Arenaria gothica.

This beautiful little sandwort is now achieving the favour it deserves, especially when it is grown under dry conditions among limestone, which it appears to prefer. It should only reach a height of some three inches, but under cultivation it has a tendency to become a little taller. It makes little dark green ovate leaves on stems which bear wonderfully pretty shining white flowers, large for the plant and of almost dazzling whiteness. Kept in the poorest soil, among stones, A. gothica will retain its alpine character better than in rich soil, and keep its rather trailing habit and the purity of its blossoms.

Arenaria grandiflora.

Partaking much of the character of A. montana, this is, under some conditions, hardly distinguishable from it, especially if the latter is well grown. It has, however, fewer but larger flowers, and on the rockery, trailing over stones and covering a large space with its dark green leaves and shining white flowers, it is of splendid effect. It has a tendency to run at the roots, but, although a good grower when established, young plants are difficult to make at home. It seems to like a fairly moist; but well-drained soil, well up on the rockwork. It is increased by division.

Arenaria graminifolia.

I have now known this plant for many years, but it is not one which I care about. It has long, rather grassy leaves, is of trailing habit, and gives a number of very small dull white flowers. It is pretty widely cultivated in nurseries, but does not deserve the prominent position sometimes given to it.

Arenaria Huteri.

Huter's sandwort is not yet in general cultivation, but it is one of real worth, and in a few years is likely to be more generally introduced into gardens. It is only an inch or two high, and has wiry little stems and flowers which are large for the size of the plant they adorn. These blooms are pure white. This sandwort revels in stones, but must not be too dry at the roots, although in a thoroughly well-drained position.

Arenaria Ledebouriana.

Although the flowers are small, and not so white as those of many of the other arenarias, I like Ledebour's sandwort, which has fine, grassy leaves, and many little flowers on wiry stalks. They are not so thickly set on the plant as are those of some, but they always seem to me to give a pretty lacelike aspect to the tuft which appeals to me. In poor sandy soil, with freestone chippings it is doing well with me.

Arenaria montana.

The accompanying illustration, which shows a plant in the rock garden at Mullaboden, is full justification for saying that this, with A. balearica, would be chosen by the present writer were he limited to two sandworts. It is "a joy for ever" with its masses of dark green leaves trailing over the stones, and covered with many large pure white blooms of much beauty. Its flowering is so dense that at times hardly a leaf is seen. The mountain sandwort will thrive well up on the rockery as well as near its base, and its only fault is that it is inclined to run a good deal at the roots —a tendency which must be guarded against as other plants will thus be imperilled. A gem of the first water, however, A. montana is an indispensable thing.

Arenaria purpurascens.

The purplish sandwort is a valuable plant when it can be obtained true. It gives us a mass of trailing glossy leaves, all starred over with pretty pale lilac blossoms. It is very distinct from the others in its colouring, and deserves a good place in a sunny situation among loam, sand, and grit. Over a stone it is a really pretty sandwort.

Other Species.

Among the other desirable sandworts are Arenarias laricifolia, pinifolia, and Rosani, all of which have biggish white flowers on slender stems, and make good carpets of pretty green foliage. They resemble each other considerably. Norvegica, again, is allied to gothica, but less desirable. Verna, however, deserves a note to itself, because of its value as a carpeter. It is ofttimes called cæspitosa, and is well known under that name. It makes moss-like carpets covered with starry white flowers. The golden-leaved variety aurea, is more used for carpeting and flowers less freely. There is also a charming variety of A. verna with dainty little double white flowers, but it appears to be of a delicate constitution, and unfit to bear the vicissitudes of alpine flowers grown in the open. Where it will thrive, however, it is a fascinating little thing indeed.

These little sandworts are among the most charming of our alpine flowers, and will continue to increase in favour, so beautiful are they at all seasons as a rule.

S. Arnott.

Wyken Pippin Apple.—This apple is grown by myself, but I see no value in it at all. With me it does not crop freely, and the fruit is much too small to be useful. My trees are grafted on Ecklinville, which makes a good stock for most varieties. Although this apple may have a certain amount of flavour, it is distinctly "dry," too much so to be pleasant, and to justify my opinion that it is an apple not required, although some persons seem to have a weakness for it. —S.

Rainfall at Leonardslee, 1908. —It may appear strange, but most of the rain fell at night time. Rainfall in 1907 was 25.94in. :—

Amount Registered.	Rainy Days.
January, 1.82in.	11
February, 1.19in.	16
March, 2.56in.	20
April, 2.50in.	13
May, 2.84in.	14
June, 2.08in.	5
July, 2.14in.	12
August, 4.48in.	15
September, 1.32in.	13
October, 2.32in.	14
November, 1.37in.	20
December, 4.16in.	26
Total, 28.78in.	179

W. A. Cook.

BEGONIA IMPROVEMENTS.

It must be fully apparent to even the most casual observer that one of the most striking phases of present-day floriculture is the continued improvement among begonias. The extreme variability of begonias and the way in which they have lent themselves to the skill of the hybridist has resulted in the origination of a wonderful diversity of form, colour, etc., and also of entirely new types.

With reference to winter-flowering begonias, it is pleasing to note the influence of B. socotrana in the favourites of to-day. Since its discovery in 1880, it has been so successfully utilised that the majority of the best winter-flowering varieties owe much to it. Such widely divergent types as Gloire de Lorraine, and the semi-tuberous sections, gain much from its influence.

Gloire de Lorraine and its varieties are wonderfully popular, and the wealth of colour which they give in the conservatories during the dull months is very great. Even in trade circles this type of begonia is very largely grown. The sports which have been obtained from the type have given additional interest and beauty, and the manner in which the Lorraines are spoken of is but a surety of their popularity. Such varieties as Caledonia, Turnford Hall, Mrs. L. de Rothschild, The King, and others are evidence of its sportive character, and show that improvements can be obtained by taking advantage of this characteristic.

Another notable advance is among the hybrid forms, obtained by crossing socotrana with tuberous-rooted varieties. These, which include such well-known forms as Ensign, Winter Cheer, John Heal, Mrs. Heal, Winter Perfection, are enriched by the more recent novelties, such as Bowdon Beauty, double rosy-pink; Elatior, double carmine, bright and free; Winter Glow, double fiery red; and the pretty double pink Julius. The glorious novelty Patrie, is most free in blooming, and is somewhat like the Lorraines in flower and foliage, but slightly larger. Its parentage is B. socotrana crossed with a deep yellow variety of B. Pearcei, and this has given to Patrie a glowing salmon colouring, shading nearly to gold. It is remarkable for its beauty and freedom, and for its long duration, which is from November until April. That this variety will prove a welcome addition one does not doubt in the least, especially as it responds to good treatment as readily as the Lorraines.

A blending of the qualities of B. socotrana with B. semperflorens, or B. Dregei should result in some pleasing, easily-grown varieties, and really one cannot have too many good begonias for winter flowering. "After winter, the spring," and while the winter begonias are still in our midst, we are thinking of those which are to display their beauty abroad during the summer months.

Improvements are especially noticeable among the bedding begonias. We now have such sterling bedding doubles as Argus, a floriferous bright scarlet; Colonel Laussedat, a charming yellow, very dwarf and free; Gambetta, a glorious glowing orange, strong and vigorous in growth and blossom; Lafayette, a rich crimson, of good habit; Washington, a well-known gem; and the new Rouget de l'Isle, a magnificent double scarlet of remarkable beauty, superior to Lafayette in all points.

The variations which occur in the tuberous begonias are already well known, and such selected strains as Crispa, with its lovely forms and colourings; Cristata, with its quaint crested blossoms; and the curiously spotted Marmorata, with its scarlet and crimson flowers, heavily marked with white, will readily occur to the mind of the reader, as representing the strides which have been made in this direction. In addition, we have now from different sources some fine double strains, both of Cristata and Marmorata, both of which are pleasing in the double form.

Scented begonias are also receiving much attention from Continental raisers, and a group of hybrids raised by crossing selected forms of B. Pearcei with B. Baumanni, combine, with rosy-salmon colouring, a pleasing fragrance. Extremely notable in this direction are the improved double forms of B. odoratissima, and anyone making a selection of begonias for indoor decoration during the coming season should endeavour to secure a few of these forms. With good sized, erect blossoms, rounded leaves, and a charming tea-rose scent, these double begonias are certainly notable acquisitions; Alba plena, double white; Rosea plena, double pink; and Rubra plena, double crimson, are very pronounced varieties. The crossing of B. Baumanni, with selected single begonias and steady re-selection of the seedlings, has resulted in a good strain of singles, with a noticeable fragrance.

Attention is also being paid to the daintier types of bedding begonias, of which B. Boliviensis and B. Worthiana are pleasing examples. The extreme value of this class has led to a widespread adoption of them for bedding and for other decorative purposes. One of the best novelties of late years was Bertini, a popular rich red, of good habit. This is now followed by Bertini nana, a very dwarf, compact edition of the well-known form, which should be very serviceable for small beds or for edging.

P. S. Hayward.

RAMBLING ROSES IN POTS.

During the last few years a remarkable change has been brought about in the material for conservatory decoration through the spring months. Leaving entirely out of the question all retarded subjects and forced bulbous plants, we have now a vast number of beautiful flowering trees and shrubs that lend themselves to forcing, and which provide wonderful displays of bloom at a quite low cost. Roses have ever been favourites, and much time, skill, and money have been expended on producing early blooms for the conservatory or the home. Not seldom, when H.P. varieties alone have been used, the results have not been commensurate with the cost of production, but now that we have so many free-flowering H.T. varieties that do well and are fine for cutting, better results follow. For conservatory decoration, however, nothing can exceed in beauty or usefulness many of the exquisite rambling roses, notably those descended from Rosa Wichuraiana. So popular have these become that there is not the slightest difficulty in obtaining strong, well-established young plants in pots suitable for gentle forcing. The canes may be long, but if a short time before they come into flower these are bent to form a fan-shaped or other design, a wealth of flowers is presently produced and set out in a most attractive manner.

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K.

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A. J. Cook pale lavender purple; **Black Knight,** bronzy chocolate; **Countess Spencer,** large wavy pink; **Duke of Westminster,** rosy violet; **Herbert Smith,** orange and crimson bicolor; **King Edward VII.,** rich crimson; **Lady Grisel Hamilton,** pale lavender; **Mrs. Collier,** pale primrose; **Nora Unwin,** waved white; **Queen of Spain,** salmon-pink; **Sybil Eckford,** creamy buff, flushed pale pink; **Triumph,** rosy salmon and blush.

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Apple Blossom Spencer (20), rosy pink and blush, waved, **6d.**; **Audrey Crier, (10),** bright rosy pink, waved; **Evelyn Hemus (15),** waved primrose, with picotee edge of pink, **6d.**; **Jet (50),** the darkest of all Sweet Peas, **3d.**; **Mother o' Pearl (Aldersey) (25),** a beautiful silvery lavender, slightly hooded and sweetly scented, **4d.**; **Mrs. Routzahn Spencer (10), the gem for 1909,** a buff or pale primrose ground shaded with salmon pink, a much improved **Mrs. Henry Bell, 6d.**; **Paradise Carmine (15),** a large waved, carmine and rose; **Queen Victoria Spencer (10),** a waved deep primrose, slightly shaded pale rose; **Saint George (15),** a grand orange scarlet, **1s.**; **Sutton's Queen (25),** a buff ground **Countess Spencer, 4d.**; **The King (12),** a fine waved form of **King Edward VII.**; **The Marquis (12),** large waved rosy mauve.

COLLECTIONS Nos. 3 and 4 may be had together for 5/-,
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which, with the nine added varieties, will be 57 in all, and making it the best collection, considering the varieties, ever offered for the money.

A few packets of Mr. Hugh Aldersey's celebrated SYEIRA LEE (20 Seeds), 1s.; sold as not quite fixed. Mr. Malcolm's MRS. A. MALCOLM (25 Seeds), 1s.; (10 Seeds), 6d.; CHRISSIE UNWIN (20 Seeds), 6d.; JOHN INGMAN (50 Seeds), 3d.; re-selected, but not guaranteed as quite fixed. ROSIE SYDENHAM (20 Seeds), 4d.; not quite fixed; also ROMANI RAUNI (Aldersey) (20 seeds), 1s., sold as not quite fixed.

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GOLD MEDAL.

(See Illustration on page 51 of this paper.)

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NATURALLY-GROWN LAURELS.

Of late years a great deal of abuse has been heaped on the common laurel, and efforts have been made to oust it from the garden, which, in some instances, have been attended with a considerable amount of success. This is rather a pity, as when naturally grown and fully developed, the laurel is a very ornamental and useful evergreen, which thrives in a variety of positions, and has the advantage of flowering freely. Undoubtedly, a few years ago laurels were greatly overdone in gardens, and because of their cheapness they were planted here, there, and everywhere, without any thought as to their appropriateness or otherwise for the various situations. Then, instead of allowing the plants to develop into fine specimens, they were regularly clipped hard back each year, usually in the form of sloping banks. This occurred in almost every garden one entered, and naturally-grown bushes were the exception.

These banks of laurel in every conceivable position were very monotonous, and by their repeated occurrence gardens were frequently void of interest so far as shrubberies were concerned. This was not, however, the fault of the plant, but the manner in which it was abused, and a finely developed laurel is a very stately and handsome shrub. A fully-grown specimen may be anything from 12 to 18ft. in height and more than that in diameter, with a free branch arrangement and dense leafage, the leaves being large, glossy, and of a rich shade of green. To be seen at their best laurels should be planted to form isolated specimens or be placed singly in shrubberies, where they can develop freely. They are not fastidious regarding soil, as they thrive in that of a sandy character and also in loam of considerable density. They may also be planted in full sun or in partial shade.

When selecting plants to form specimens preference should be given to those which show a free habit of branching and bear large leaves. Forms are in commerce which possess a very dense habit, but these do not form such handsome specimens as the others, whilst those with small or thin leaves are less satisfactory than those which bear large foliage. Of the numerous varieties good ones are camelliæfolia, colchica, latifolia, and Otini. The latter is very distinct by reason of its large oval leaves, which are of a very dark hue. The variety camelliæfolia is a very strong grower, and is sometimes trained to form a standard, the trunk attaining a considerable size. It is also known as magnoliæfolia. Mature plants usually bloom each spring, every branch being laden with racemes of white or creamish coloured flowers, which are borne from the leaf axils. Should a large example show signs of becoming ragged, the shortening of a long shoot here and there is usually sufficient to coax it back into shape.

D.

ASPERULA ORIENTALIS; A USEFUL BLUE-FLOWERED ANNUAL.

ASPERULA ORIENTALIS.

When selecting hardy annuals for the border this charming free-flowering species should not be overlooked. It grows about a foot high, and produces an abundance of its terminal heads of sky blue sweetly scented flowers from July till October. It is admirably adapted for bouquet making, lasting well when cut. It rejoices in an open, sunny position, and keeps quite fresh where many annuals become dried up on our light, dry soil. It is native of the Caucasus, and is also known under the names of A. azurea and A. azurea-setosa.

E. J. Allard.

Cambridge Botanic Gardens.

ESPALIER FRUIT TREES.

Young apple and pear trees which have not reached their proper height should have their main upright growth cut back to a bud immediately above two others which are well situated for producing the next tier of branches. Shorten the leaders on the horizontal growths back sufficiently to ensure the development of the dormant buds. Keep the laterals well spurred in by pruning them back to within an inch and a-half of their base. Older trees, which have filled their allotted space, should have their leaders treated as laterals, and be pruned as already advised. Old trees are frequently found to have a superfluity of fruiting spurs, many of them projecting somewhat farther from the branches than is required, and these, at the same time, are not conducive to the health of the buds which are growing near their base by excluding from them both light and air. These long and often useless spurs should be shortened back to within an inch from the main branch, from whence, if the tree is in a healthy condition, young growth will push forth. Remove every old tie each season to prevent possible loss of some of the branches later on. A good opportunity is offered, when the trees are released from their supports to clear the branches from such pests as woolly aphis and the mussel scale, which are often found on the underside of the branches, and also on that part of the branch which is in contact with its iron or wood supports. Such positions are generally difficult to reach with the sprayer. Scrub the branches well with some soapy water, using a stiff scrubbing brush, and working the point of the brush well into the crevices to dislodge the aphis, and well around the base of the buds, and the whole of the main stem and branches, to remove the scale. Make the trees secure by refastening them in their proper positions to the supports, always allowing plenty of space for the future swelling of the branches, more especially on young trees.

George Woodgate.

ROSE HEDGES.

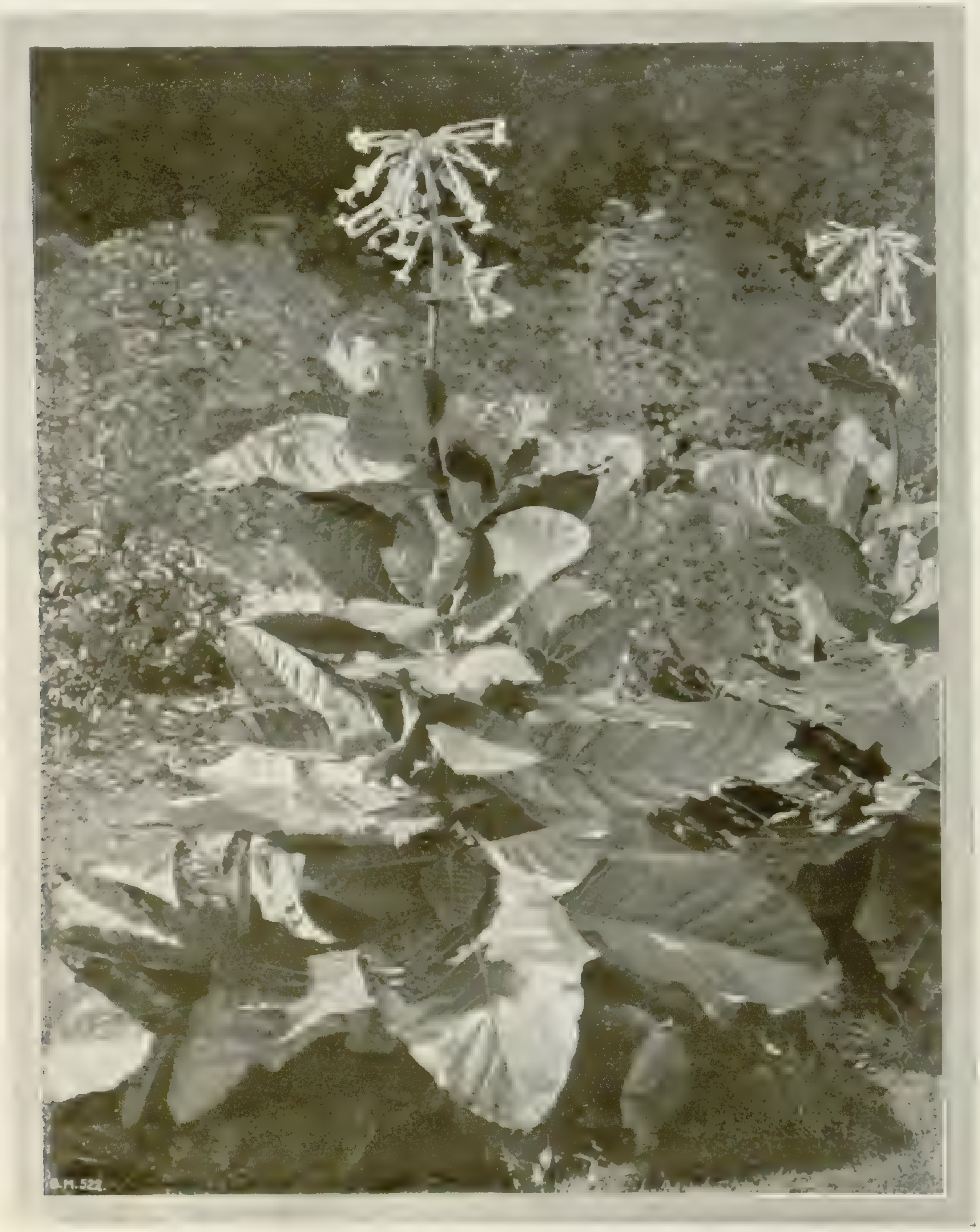
I think we do not use the rose enough in the form of hedges. Many varieties lend themselves far better to this style of culture than a large number of the plants that are often utilised for it. If we want a hedge for effect, for protection, or for dividing the garden, we can select suitable varieties.

One of the most impregnable hedges we could possibly have can be quickly built up of Penzance briars, Rugosas, and such of the polyanthas as Queen Alexandra, Psyche, Blush Rambler, and a few more. True, these take up a little more space than the ordinary quickset and privet, but they are infinitely more beautiful, grow quicker, and are no more trouble to keep within bounds. One most essential point is to keep to one style of growth throughout the length of hedge, even though more than one variety of rose is to be used. Blush Rambler and Queen Alexandra go well together, but it would not be advisable to put Dorothy Perkins, Lady Gay, or Hiawatha with them, because the last-named have a tendency to ramble wider and keep to the ground line unless some other means of support are employed. Still, this latter class of rose makes a grand hedge if we can supply a few strong stakes and wires to keep them a little within bounds, and in this case I should prefer a double row of supports. There is not so much difficulty in pruning these roses as one might at first imagine. It is simply a matter of removing the greater portion of dead or exhausted wood. There will always be plenty of good shoots coming out from the sides and top that may be tied to, or pulled under, the supporting wires, and the looser they are within reason the more effectual the hedge will be.

Where there is ample room few things are more showy and bold than a hedge of these roses. They are among our earliest bloomers, and after making a gorgeous show from four to six weeks, they still carry good foliage that is seldom affected by mildew or red rust, and the majority of them are almost evergreen. This class of rose will provide a hedge 6ft. to 10ft. high, and may be from 3ft. to 5ft. through. For a hedge of 3ft. to 5ft. in height we can do better by selecting the rugosas and similar growers; Fellenberg among the hybrid Chinas, for example, or Mrs. Bosanquet from the hybrid Bourbons.

One of the prettiest hedges I have seen was made up with Gruss an Teplitz, and this rose can scarcely be put to more effective use. In this instance the pruning was done with the hedge-shears (?) similar to an ordinary hedge; the resulting growth soon broke up any undue formality, and throughout the season it was a glow of colour and handsome foliage. From the dwarf polyanthas, of which Maman Levavasseur, Mrs. Cutbush, Flocon de Neige, and Madame N. Levavasseur are examples, we can have hedges from 18in. to 2ft. high. If care is taken to select free and fairly erect growing varieties we can secure any intermediate height up to the extreme reached by the Penzance briars. Even the common sweet briar is not used so much as it deserves, and this can be clipped to any size and is always pleasing, more especially after a summer shower, when the fragrance of the leaves is very pronounced.

A. PIPER.



NICOTIANA SYLVESTRIS IN A BRENTWOOD GARDEN.

ORNAMENTAL TOBACCOS.

Among the nicotianas there are a few varieties which make splendid subjects for that class of gardening usually known as sub-tropical. Most of them are very quick in growth, have large leaves, and produce a tropical-like effect, which gives an air of grandeur to the garden when they are well placed either as "dot" plants or in the centres of large beds. They are also very striking when in association with other sub-tropical plants, such as the ricinus, wigandias, the larger-leaved solanums, and others of that class. In their use the matter of effective grouping should meet with full consideration, and if this is well carried out there can be no question as to their decorative value.

These tobaccos are easily grown, and should be raised from seeds sown in March or early in April, and grown on quickly without a check, and in rich soil, until, say, the end of May, when they should be planted out in a deep soil rich in humus, and with a liberal quantity of well-decayed manure. It is important they should be induced to grow quickly to their fullest possible size, for if they are allowed to become stunted or puny their great attraction is considerably minimised. With a view to the best development a sheltered and warm position should be selected, for shelter and warmth tend to quick growth, and in addition prevent the leaves being injured, as they certainly would be if exposed to any rough winds. The old N. wigandoides is not now so often seen as it was formerly, but it is a noble plant, with broad, woolly leaves of erect habit. It grows six feet high in the season, and being of a shrubby habit it could be kept over the winter in the greenhouse, though this is hardly worth while in an ordinary way, as the plant loses much of its attractiveness when allowed to branch. N. colossea is a very noble form, the young leaves are very effectively tinted with red, it grows with great freedom when well planted, and its leaves reach at least two feet in length by one foot in breadth. If this can be given proper attention, and pot or box room, seeds should be sown in heat as early as February, and it will repay the extra trouble. N. tabacum macrophylla, or macrophylla gigantea, is a handsome plant with bread leaves, and reaching a height of six feet, the plants being crowned in season with rosy-red flowers.

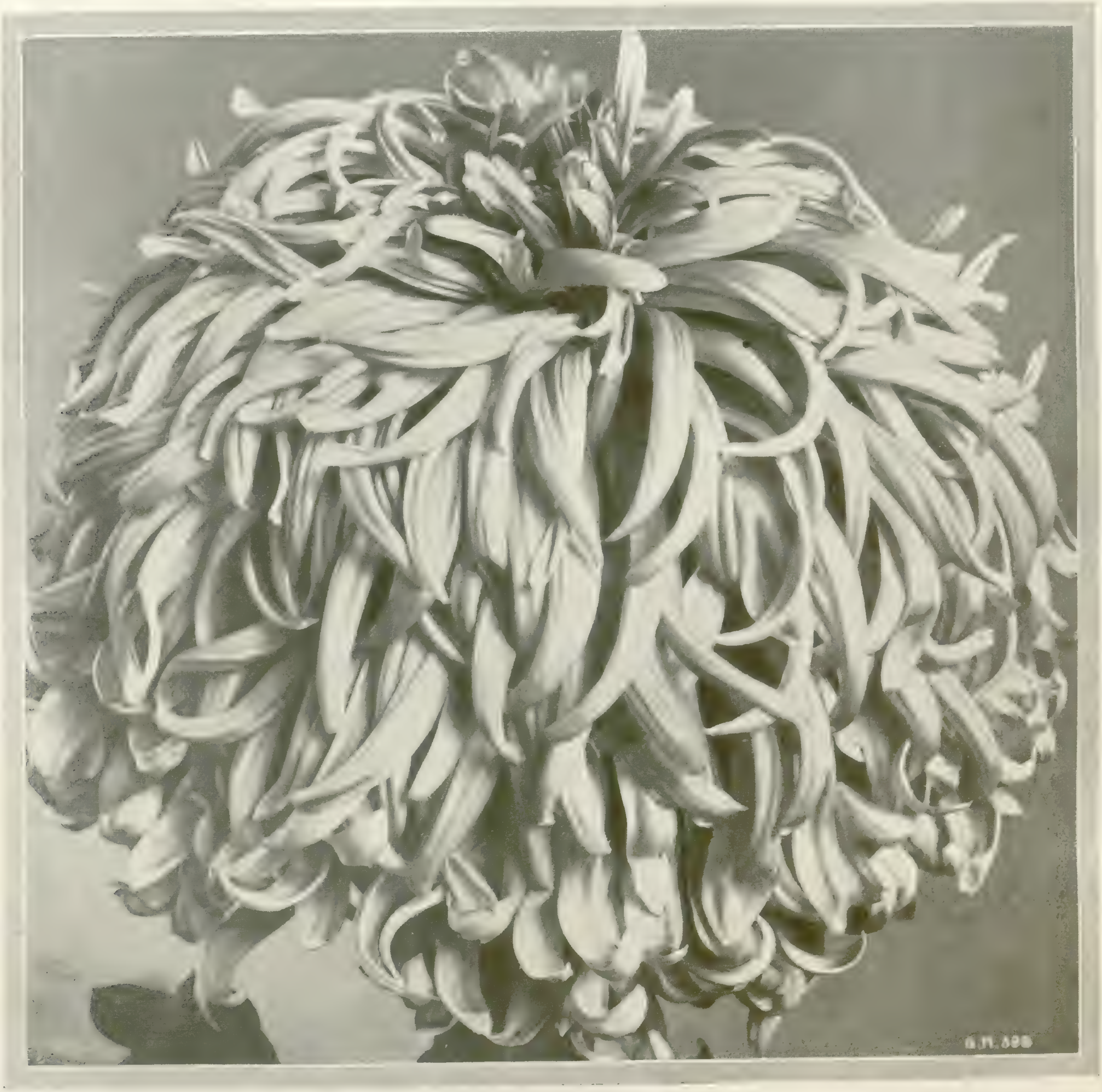
Newer than any of the foregoing is N. sylvestris, the subject of the accompanying illustration; this has the double merit of bold, handsome, large leaves, and a free-flowering habit well shown in the illustration. It is certainly one of the best of the tobaccos, and its chaste white and sweet-scented flowers are very attractive when surmounting a well-grown specimen. Like all tobaccos grown for their flowers, this should be grown where shaded from the midday sun, for though it does not close its flowers quite so readily under full light, as does N. affinis and its varieties, it has a tendency that way, and does not look its best in bright weather under the direct rays of the sun.

J. C. TALLACK.

Shipley Hall Gardens.

A BEAUTIFUL CHRYSANTHEMUM.

Although the advances made in the varieties belonging to the Japanese section of the chrysanthemum are not at the present time so marked as they were from ten to twenty years ago, there can be no question as to good progress being still made in the work of improvement. The high state of development to which those varieties have been brought, as the result of the strenuous and well-directed efforts of raisers, has very naturally made growers more exacting in their requirements, and less ready to become enthusiastic over novelties. Each year varieties more or less meritorious are introduced, and it cultivators do not become enthusiastic over them they are not less ready to show their appreciation of improved forms than they were in bygone years, as evidenced by the rapidity with which blooms make their appearance in exhibition stands. The extremely beautiful variety, Edith Jameson, of which an illustration is given herewith, is a case in point. Blooms were shown by Mr. Norman Davis, of Framfield, by whom it was introduced, at one of the meetings of the Royal Horticultural Society held in the autumn of 1907, and the Floral Committee unanimously made an Award of Merit in its favour. They also received a full share of attention from the many visitors to the meeting, and the variety was reported upon in these pages, and described as one of the very finest flowers of its season. There were, however, no enthusiastic references to it by growers in the Press, yet it would appear that they were not slow to add it to their collections, for last autumn we met with it in many winning stands in various parts of the country. The high opinion we formed of the variety when we first saw it has been amply confirmed by the results obtained in the chrysanthemum season of last year. There is no occasion to suggest comparison with other varieties introduced in the same season by describing Edith Jameson as the best variety of the year, but it may be said that it is one of the most beautiful of the Japanese chrysanthemums, and that it has no equal in its attractive shade of colour, which may be described as a rich magenta-purple.



JAPANESE CHRYSANTHEMUM, EDITH JAMESON.
Introduced by Mr. Norman Davis; the flowers are very large, and the colour magenta purple.

CIDERLAND.

From time immemorial cider has been the standard beverage in the West Country, and every farm in the apple-growing districts has its orchard attached, in which the fruit is grown for making the family drink. For the most part the trees are old, and consist of varieties of doubtful origin, considering that when many of the ancient orchards were established, the method of propagating was that of sowing the seeds of the apples as they came from the mill, and growing the seedlings until they eventually became trees and bore fruit. Some of these varieties enjoy local reputation for making good cider, and for the most part they bear the names of the person on whose farm they were raised, while other varieties are of little or no value whatever, but for some reason which it is difficult to explain they have been allowed to remain, perhaps because the West Country farmer works on the principle that all is grist that comes to the mill.

It would be hardly correct to say that the major portion of the trees in West Country orchards are grown or ever have been, but on the other hand they have grown themselves, with little or no care or attention, since they were planted simply because Dame Nature has adapted the soil and situation to them. One wonders what the wealth of the West Country in apple production might have been had the trees been given the care and attention they receive, say, on the other side of the Atlantic, but that is part of another story, and I am dealing with the orchards as they are. From the point of view of an up-to-date fruit-grower, a typical West Country cider orchard provides material for criticism and ridicule. The thick, over-crowded trees, the congested heads, and moss-covered limbs are pointed to as illustrations of how fruit trees should not be grown, and the way they are stuck about in the orchard gives one the impression that they were never planted, but grew there of their own free will.

The artist looks at the trees with other eyes, the gnarled, twisted stems and the want of order appeal to him, while the mistletoe which grows in the branches is to him charming. Of course, you cannot expect the artist to see with a fruit expert's vision, and, however much West Country orchards may be open to the criticisms of the latter, they have served the purpose of models for some of the most beautiful pictures ever hung. As for the farmer, it is not usual for him to look upon the orchard with the eye of either fruit expert or artist. He realises, perhaps, that the orchard is not what it ought to be, but there it is, and was much the same in his father's day, and it serves the purpose of providing apples for filling the cider casks with liquor. If the crop fails one year he does not trouble to look into the causes, for the simple reason that there always were failures, and he expects there always will be, while if he gets a bountiful return of fruit he fills his casks with cider and is thankful. As for the mistletoe, well, it may be a parasite, and is perhaps harmful, but it seems to take a lot of it to kill an apple tree, so he leaves it alone, unless he can, by cutting it turn it into money at Christmas time. There are a few, indeed, who say that they make more of the mistletoe in the orchard than of the apples, and considering the character of some of the latter one can quite believe it.

In the spring when the trees are in bloom the old orchards are delightfully beautiful, what with the pink blossoms overhead and the flowers that spring up in the grass beneath, and the orchard presents another picture when the fruits turn their rosy cheeks to be kissed by the sun. As autumn comes on, and the yellow leaves flicker mournfully to the ground, you see waggons drawn up under the trees, and it is a standing job to pick up the fruit as it falls, and put it into the vehicle to be drawn to the cider house ready for the grinding. Want of care and cleanliness in dealing with the fruit is often urged against the local cider maker, and not in many cases, I fear, without cause, and the liquor produced tells the tale. In the old days cider-making was a stock job through the winter, like threshing with a flail, but that was when all the juice was squeezed out of the apples under stone rollers that were pulled slowly round by a horse hitched to a shaft outside the shed. In a good many establishments the grinding is still done in the old stone mill, but in others the ancient apparatus has given place to the modern cider mill, made of machinery which tears the fruit to pieces and extracts the juice in much less time. In his cider-making, as in other operations, the farmer to-day has to reduce the labour as much as possible, and consequently he employs the modern mill, which goes round the country grinding as the itinerant threshing machine does for threshing, but there are some of the old-fashioned people who contend that there is no cider like that pressed out under the ancient stone roller. I think their days are numbered, however, and old cider troughs are much in demand as ornaments in flower gardens, so they will be handed down to posterity as relics of customs past.

There is cider and cider in the farmhouse cellars in the West Country, some quite pleasant and palatable, and some that only an educated cider drinker could quaff with relish. As a rule, the cider on the household table is not quite the same as the cider for the men, but the latter must be wholesome if the sturdy frames and healthy-looking faces of the West Country labourers are anything to go by. It is customary in the West for the labourers to receive so much cider a day, and wherever the latter are at work, be it hay-making in the heat of the summer or ploughing on the coldest day in winter, the little wooden keg containing the liquor goes with them, and, if accounts be true, the power of the beverage to cool the human body in the summer and warm it in the winter must be wonderful. There is one thing certain, that of all the alcoholic beverages made, there is none more wholesome than cider.

To-day there is a strong movement on foot to popularise cider as a national drink. Whether it will succeed remains to be proved, but the National Fruit and Cider Institute at Bristol, which is maintained by the Board of Agriculture, the Bath and West Society, and the County Councils of Devon, Somerset, Gloucester, Hereford, Monmouth, and Worcester, is being used as a means to the above end. The Institute realises that if good cider is to be made in the future good varieties of cider apples must be planted, and this year some hundreds of trees are being distributed in the adjoining counties for the purpose of establishing experimental cider orchards. There is little fear of cider-making being discontinued on farms for domestic purposes, but it is thought by some authorities that cider as a commercial beverage will be factory-made, because the best appliances cannot be kept on every homestead, and that the part of the farmer will be to grow apples for the maker.

Years ago when the majority of West Country orchards were established, almost the only use for apples was for cider-making, but now there is a demand for table fruit as well. This demand has led to the planting of culinary and dessert apples, somewhat to the neglect of vintage fruit, and most of the cider apples, as well as the majority of the perry pears, come from old trees, and perhaps the finest old specimens of the latter in the country are to be seen in the county of Hereford. It would be fatal to the interests of the cider industry to stop planting vintage fruits, because the old trees, in spite of their tenacity, cannot go on for ever, and it is a pity that more than one good old local cider apple has dropped out of cultivation with the death of the trees that grew them. It is hoped, therefore, that the cider makers of this generation will realise that there is another to follow them, and to remember that if their forebears had not planted there would be no apples to grind now for filling the cider casks. G. H. H.

PROFITABLE FRUIT GROWING for Cottagers and Small Holders of Land.—By John Wright, V.M.H. A Gold Medal Essay, written for the Worshipful Company of Fruiterers. Fully illustrated. Price 1s., by post 1s. 3d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

BLACKBERRIES AND LOGANBERRIES.

The merits of these fruits are not nearly so much appreciated as they deserve. Few people seem to know what the loganberry is, and when you talk about blackberries so many persons seem to think one is alluding to the wild blackberries of the hedges. To America belongs the credit of introducing the blackberry as a cultivated fruit and the loganberry also. Both require the same treatment, and this is quite of a simple character, very much resembling that needed for raspberries, but they may be made a more ornamental feature in the garden. A very pretty archway can be made with blackberries over a path in the kitchen or fruit garden, or they can be trained in pergola fashion. Wire arches are easily fixed over a path, and may be of any width, and 7 or 8ft. high in the centre and 2ft. apart. Or a more continuous arrangement can be made by placing the arches 12in. apart. The former distance is the better, as more space is provided for the plants, and the many sucker-like growths springing from the base of each clump are stouter.

To obtain the fullest crops from both of these fruits liberal treatment is an absolute necessity, as vigorous growths are required annually to cover the space allotted, and produce fruit of large size and high quality. Deeply trenched and heavily manured soil is the first consideration, in the same way that early autumn planting affords an opportunity for the plants to make satisfactory progress the first season. Instead of attempting to obtain a crop of fruit the first season after planting, it is better to cut the canes back to within six inches of the soil and thus encourage them to make strong shoots in the following season, as from these heavier crops the next and subsequent years will be obtained. Weakly growths are of little value as they produce small fruits and a light crop.

Should the first summer be a dry one abundance of water to the roots and copious syringing of the foliage after hot days will do much toward encouraging freedom of growth. The annual pruning should be done directly the fruit is gathered by cutting away all the old fruiting canes and making space for the suckerlike growths of the current year. By pruning thus early the latter have a much better opportunity for attaining full development and maturity, and, as a consequence, give a more satisfactory crop the following year. In training the shoots over the arches it is desirable to keep them thin, so that they are not so crowded as to deprive each other of the needful light and space. The following year the shoots pushing from these stout growths which give the clusters of fruit will hang mainly downwards with the weight of their fruit, and under the arches have a very pretty effect. As blackberries are gross feeders, heavy mulchings of half decayed horse manure will do much towards assisting the fruit to swell to its fullest size, and develop its full flavour. When these berries are thoroughly established manure should be annually added to the soil to maintain a vigorous growth, and copious supplies of liquid manure should be given when the fruit sprays are growing from the main rods, and when the berries are approaching the ripening stage. As to variety there is not much to say about this. Laciniatus, or parsley-leaved, an English-raised variety, is quite the best of the cultivated blackberries. Wilson Junior is the best of the American blackberries for culture in this country. S. H. P.

GREENHOUSE CYTISUS.

Among shrubs that delight us with their flowers in the greenhouse during spring, few are more welcome than those species of cytisus generally regarded as too tender for the open air, so that unless in favoured districts, glass protection becomes necessary in winter; nor is this regrettable, for being singularly amenable to pot culture they have for long been grown under this system, and it is probable that few subjects give anything like an equal return for the small amount of labour or expense that their cultivation entails.

The species of cytisus generally favoured are, for the most part, natives of Teneriffe and the Canary Islands. With rare exceptions they produce yellow flowers, borne upon the terminal and lateral branches in the form of light and graceful racemes; the flowers are often sweetly scented, and the foliage is trifoliate in every instance.

The best and oldest cytisuses are C. canariensis, which has comparatively large and effective foliage; to some extent this is surpassed in the variety Everestianus, which has deeper-coloured flowers; and Attleanus, racemosa, and the variety elegans have smaller leaves. Although all have yellow flowers yet their relative size and varied disposition imparts a seeming individuality to each, which renders them more or less distinct. With gentle forcing the flowering season begins in February, and can readily be prolonged into May by growing a percentage of the plants cool, while a late-flowering species, like C. canariensis, can be profitably employed to this end. A very old favourite, and at one time very popular, is the white-flowered Cytisus fragrans, a species having very fragrant flowers.

The propagation of these brooms is effected in spring either by seed, which germinates readily in heat, or by cuttings of the young growths inserted in pots of sandy soil and placed upon a gentle hotbed. After the cuttings are rooted they are potted singly, and grown in an intermediate house until June, when they are plunged out of doors for the summer, which induces a short, sturdy growth, and also materially influences the ripening of the shoots, so that a free and more abundant harvest of flowers naturally follows. The growing season is generally complete by September, and about this date the plants are removed to a cool frost-proof frame or orchard house. Water must be sparingly applied, as anything approaching saturation at this period proves fatal.

Old plants after flowering should have the shoots pruned back, placing the plants in a warm, moist house to induce the new growth to break regularly, and at this stage any repotting necessary should be performed.

The soil should consist of good loam, with plenty of grit or sharp sand added, and an efficient drainage should be provided. Artificial manures are seldom necessary while the plants are young, but old specimens are benefited by the judicious use of some approved fertiliser in the potting compost. Liquid manure can generally be used to advantage if supplied previous to the opening of the flowers.

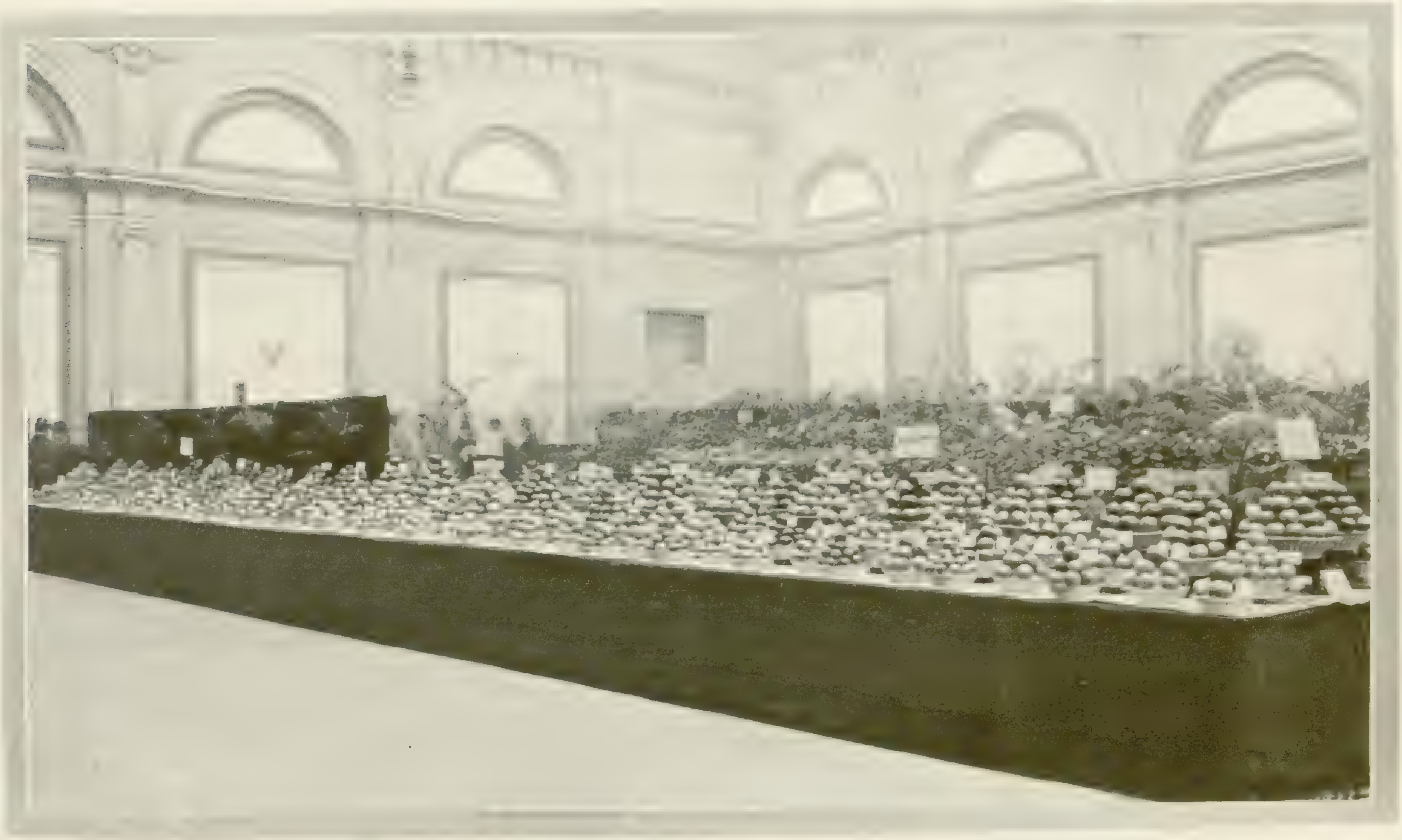
Greenhouse cytisuses lend themselves to training into various forms, such as pyramids and standards. Young plants should be selected, and the main shoot run up to the required height, then, by pinching out the points of the laterals the necessary shape is obtained. Several years will be required to develop large specimens. Small examples adapted for table or room decoration are grown from cuttings rooted in the spring of the previous year. These will require pots five inches in diameter, and they should be allowed to run up from 24 to 30 inches in height, and by systematic pinching have the diameter kept in proportion to the height.

Thomas Smith.

Walmsgate Gardens, Louth.

A NOTEWORTHY COLLECTION OF APPLES.

As stated on page 969 of last year's volume of the Gardeners' Magazine, Messrs. James Veitch and Sons, of Chelsea, contributed to the second of the two meetings held by the Royal Horticultural Society in December last a collection of apples that, by reason of its comprehensiveness and remarkable excellence attracted much attention. In the collection were represented one hundred and fifty varieties, and the fruits were, without exception, of the largest size, splendidly coloured, finely finished, and in a high state of preservation. While appreciating, as in the case of other visitors, the attractiveness of this immense display of apples, it appealed to us the most strongly as a demonstration of the possibilities of keeping apples in excellent condition for a considerably longer period than is by many considered practicable. In many gardens it would not be possible to have some of the varieties included in the collection in a good state of preservation at the end of December, because of the structures provided for the storage of apples falling short in one or more of their details. A cool, equable temperature, and an atmosphere free from excessive dryness are two conditions essential to the perfect keeping of apples and pears, and these have been fully complied with in the fruit room which Messrs. Veitch have had in use for some years past in their Langley nurseries, which are now the headquarters of their fruit department. This structure is one that might be imitated on a smaller scale in private gardens, where fruit culture is carried out on a comparatively large scale, as it is important apples and pears should be had in good condition for as long a period as possible. Messrs. J. Veitch and Sons were, we would add, awarded by the Royal Horticultural Society a gold medal for this fine collection.



THE REMARKABLY FINE COLLECTION OF APPLES

For which Messrs. J. Veitch and Sons were awarded the Gold Medal of the Royal Horticultural Society at the meeting held December 22, 1908.

LATE SINGLE CHRYSANTHEMUMS.

(Concluded from p. 14.)

Selection of Varieties.

From the many late-flowering singles, it so difficult to make a limited selection. The following, however, are worthy of a place in every collection: Framfield Beauty is indeed a beauty, bearing large, deep, rich velvety crimson flowers of good form. J. F. McLeod is a variety but little known, but valued for its large golden-yellow blossoms, that are borne in lovely sprays. A variety with flowers of medium size is J. T. Angus. In this case the colour is rosy-cerise, and it is one of the best of this colour in the late kinds. A beauty for Christmas displays is Hilda, the colour being a warm orange terra-cotta. A variety that is worthy of inclusion in the smallest collections is Framfield White. The blossoms are of the purest white, and are borne on stiff, erect sprays. Either partially or severely disbudded, this is a chaste and beautiful late kind. A very late kind is Robert Morgan; the flowers are large, and of pleasing form, and their colour is an intense rosy-amaranth. A good bush plant is a chestnut-coloured variety named Mrs. Baillie, which in December is usually in good form; the habit is dwarf. A charming pink is Lorna Dando; under careful treatment its blossoms may be gathered at Christmas. Edgar Forbes is another fine flower, the colour being a shade of rosy-mauve on white ground. Cannell's Gem is a beautiful flower of a rich rosy-amaranth colour, and the dwarf plants are at their best in December.

Those who have a preference for flowers with large flat florets will find their needs supplied in Wyndham. This is a beauty, and the flowers are pure white. A dainty sort is seen in the blossoms of Mrs. Norris. The colour is yellow. In Lady Windsor we have a variety producing large flowers of deep rosy-lilac, with white centre, and in Golden Star a variety with clear yellow blossoms and greenish disc. What some growers regard as a single of poinsettia-like form is Dorothy Fortescue. It is a pure white flower of large size, and is beautiful for late use. For years the cerise-pink blossoms of Mrs. D. B. Crane have been useful for December displays, and they are still valued, although the variety has been in commerce a long time. Lovely sprays of reddish terra-cotta flowers are seen in Nora Davies, a reliable variety for fairly late use, and in the spidery blossoms with tubular florets of Thirza Cherry, we have decorative material of the very best; the colour is a shade of soft mauve.

A few good new things are Aurora Boreale, orange-shaded crimson; Cloth of Gold, old gold; Ursa Major, pink, with white zone round yellow disc; and a grand trio of yellow varieties, named respectively, Pollux, Juno, and Perseus, combining richness of colour and vigour of constitution. Doreen, deep yellow; Annie Farrant, rich crimson; Cannell's White; G. W. Forbes, crimson, shaded amaranth; Jack Lay, buff-yellow shaded red; and Edith Pagram, were some of the better varieties at the December show of the National Chrysanthemum Society.

Highgate. D. B. Crane.

The Midland Carnation Society's Show will be held in the Botanic Gardens, Edgbaston, on Wednesday and Thursday, July 28 and 29 next.

ALPINE FLOWERS AT HOME.

While England was having a beautiful summer, Switzerland experienced one of the worst for fifty years. Three really fine days together were quite rare last season, but on September 17 a spell of beautiful weather set in which lasted till October 19, when a little rain fell. Two days later at Lucerne it was as cold as in December, the thermometer registering only 2 degrees Cent., such cold not having been felt in October for ten years. It was all the more uncomfortable as it followed several weeks of such unusually warm weather. A sea of mist covered Switzerland from the Alps to the Jura, so that to obtain sunshine it was necessary to ascend to about 1,400 metres, where the sky was blue and clear.

One of the worst features of the summer weather in 1908 was the gales, and the very sudden way in which they would spring up. In August much damage was done to fruit and other trees in the Rhone valley, but in the mountains very few firs, pines, or larches were blown down, notwithstanding the terrible storms; for their strong horizontal roots penetrate such long distances even on the poorest and rockiest of soils. Far more trees in the Alps are destroyed by avalanches of snow in the spring than by gales.

As late as the middle of May there was a foot of snow at Brigue in the Rhone Valley, and the cold and wet summer had the effect of keeping back some of the Alpine plants; so that during a few sunny days in the second week of September, when I did the so-called "Tour du Mont Blanc," a magnificent walk around the whole range of Mont Blanc, which better than anything else gives one an idea of the huge extent of this massif and of its innumerable peaks and glaciers—many alpine plants were in bloom. These included several gentians, campanulas, and saxifrages; rampions, hedysarums, elegant erigerons, Alpine asters, handsome Carline thistles, and other composites, and these were decorating some of the Italian passes as one is accustomed to see them in July and August. Yet on September 12 at 7 a.m., hoar frost covered the vegetation in the Italian Val Ferret above Courmayeur, as low as 5,000ft., and before the top of the Col de Ferret was reached the snow was driving fitfully across from the Grandes Jorasses, and battling with the sun for supremacy. Alpine plants seem inured to violent climatic idiosyncrasies, and perhaps it is that they owe much of the brilliance and purity of their flowers to this trait.

In the Swiss Val Ferret the fine sweep of pastures above Pras de Fort, which in July were a mass of gorgeous flowers with Lilium Martagon, deep blue campanulas, and the handsome Astrantia major predominating, had not given their usual second crop of grass, and they looked as if they had been mown the previous week, whereas in reality the grass was cut the first week in August. The villagers had never known such a cold and wet summer.

On arriving at Lac Champex on September 13, the ground was white with snow, and never before in the knowledge of the people had snow fallen in the middle of September. Next morning it was still snowing, but in the afternoon I ventured to resume my journey over the mountains to the Col de la Forclaz, the starting-point of the tour. The snow was rapidly melting, though the pines on the higher slopes were prettily wreathed in white. The clanging bells of cattle in the distance were heard, and soon the cows were met on their tortuous downward march from the "alp" called Bovine, where they had spent a short and cold three months.

Then at 6,500ft. above the sea ripe raspberries and a few lingering strawberries were gathered amidst the melting snow. Bilberries, so common in this part of Switzerland, were abundant everywhere, and at that time of year their foliage—from a deep orange to a bright crimson—gives an unusual richness of colour to many a mountain side.

Autumn visitors to the Alps, at any rate, have the pleasure of seeing innumerable shrubs and trees in fruit. And in September there is a crispness in the air and a transparency in the atmosphere that is rare in the height of summer; so that the effect of distance and mid-distance is never so beautiful; the rocky hills are rarely so blue in summer, nor are the mountain tops so pure a pink as when lit up by an evening glow in autumn.

Nowhere are berries of all kinds more abundant than in the Trient valley. The berberis early in September is a deep brick-red in the warmer spots, and higher up the berries vary from light green and yellow to the deepest orange. Wild raspberries, as fine and as fully flavoured as those in gardens, are so abundant that they are served for dessert in the hotels. Red currants, which grow on bushes larger than those at home, are left for the birds. In dry places in woods and on heaths the brilliant scarlet berries of the dwarf cowberry (Vaccinium vitis idœa) attracts the eye, and it forms as beautiful an object in autumn as its pale pink waxlike blossoms do in summer, and it should be more frequently cultivated. The roots of this plant sometimes penetrate enormous distances, and occasionally it is found growing in decaying wood between the bark and the main portion of the trunk of a tree. The coral-red bunches of fruit of the mountain elder adorn many a gloomy glen, and this shrub often grows in just the places where the Wych elm is found native, but perhaps at a slightly higher elevation.

Purple and nearly black berries are as common as red in the Alps, but the Stone bramble (Rubus saxatilis), with its transparent red drupes as large as red currants, is the only bramble frequently found high up in the Swiss Alps, except occasionally in warmer spots the pretty Rubus tomentosus, a bramble with greenish-white flowers and leaves with a thick whitish felt beneath. This blackberry is not found in the British Isles, though its distribution further south is so extensive.

A Cornish correspondent speaks of the thermometer being 79 degrees Fahr. on October 2. It can hardly have been less that day, and for several subsequent days in some of the Swiss mountains. That morning I was crossing the famous Joch Pass from Engelberg to Meiringen, and the weather was so warm and so absolutely still that on arriving at the deep blue Engstlensee, more than 6,000ft. above the sea, I had a brief, but very brief, dip in its crystal waters, though the lake is fed from a glacier not far off. Some years ago this lake was stocked with Canadian trout, and they seem to thrive, notwithstanding the altitude, the stony bottom, bare of algæ, etc., and the dearth of vegetation suitable for the growth of larvæ; for some trout of three and five pounds were caught last summer. Perhaps, like Alpine plants they have a knack of adapting themselves to their environment.

On October 13 I was collecting roots of Alpines for a friend, and even so late in the season Gentiana asclepiadea and G. ciliata were in bloom. Both these handsome species might be more cultivated in

England, and particularly as they are the latest of all the Alpine gentians to blossom, G. ciliata never being seen in flower until the middle of August. It delights in shaley banks without much other vegetation, but is also seen in pastures on a limestone soil. It is, however, a difficult plant to get up, for the stem easily breaks off from the small delicate root. G. asclepiadea, on the contrary, has a long, thick taproot. That day the white flowers of Ranunculus alpestris were still adorning a desolate waste, and on a limestone rock hard by was a plant of the rare Delphinium elatum at the most unusual height of about 6,000ft.

Stray flowers of Gentiana verna are frequently seen late in autumn, and last October I had the pleasure of seeing quite a second harvest of G. bavarica in two swampy places. In June I came upon a large area of G. bavarica with violet flowers, which variety does not appear to have been recorded before.

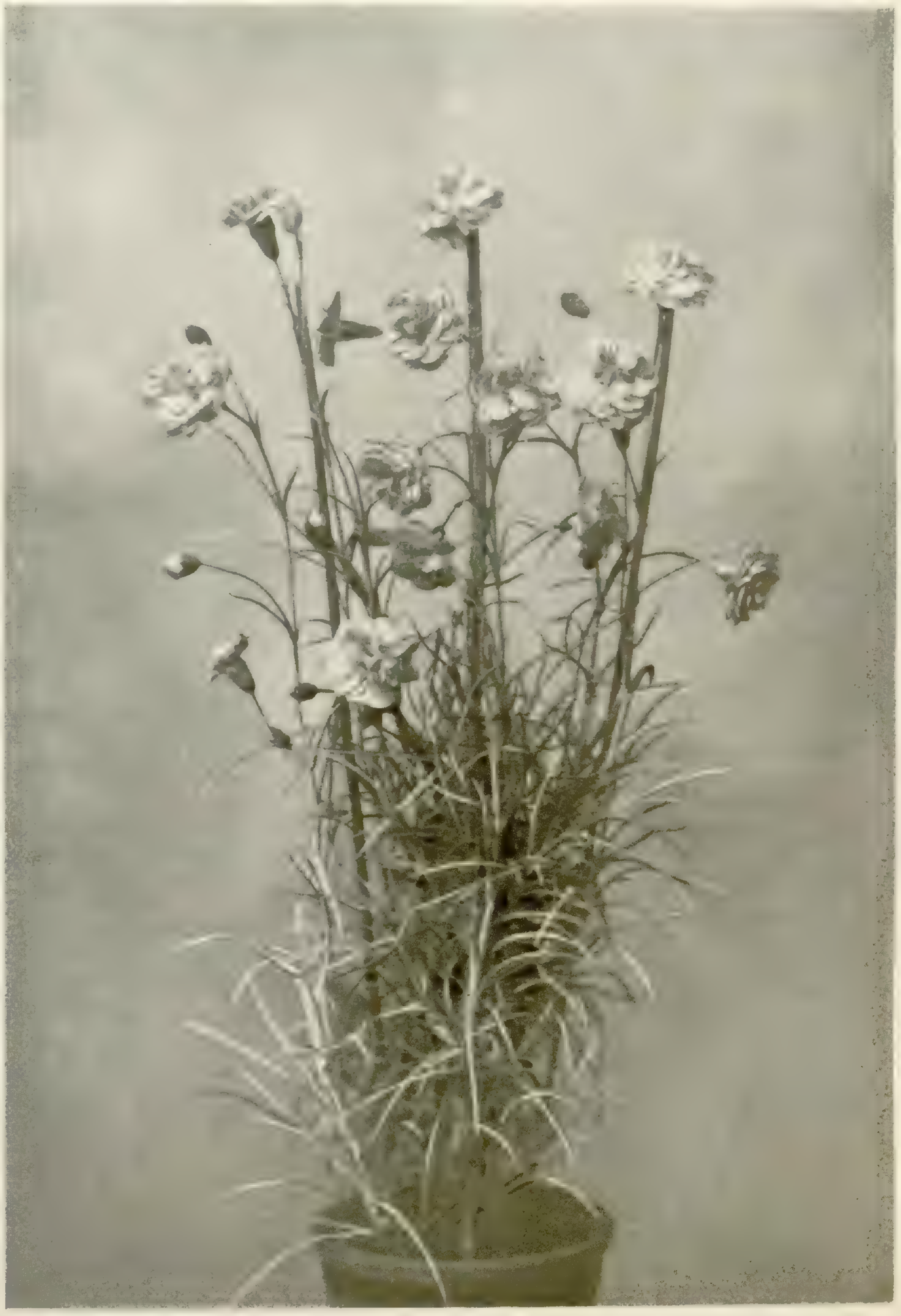
A friend at the Col de la Forclaz wrote: "Perfectly grand weather up here, and not a bit broken yet! Very cold at nights, but magnificent all day. I found eight or nine Gentiana verna to-day on a sunny slope; also polygala in quantity; also Campanula barbata and Geum montanum, and one beautifully fresh tuft of Gentiana germanica. Not bad for October 21!"

The lower slopes of Pilatus were, on October 22, bright with purple milkwort and centaurea, and large mauve scabious, and golden in places with yellow hawkweeds. But a damp chilliness was in the air, which was not only depressing for mortals, but had the effect of depriving many of the beeches of their leaves, which a week before were a blaze of gold and brown.

H. S. Thompson.

NEW PERPETUAL-FLOWERING PINK.

Pinks are so highly appreciated for their elegance, attractive colouring, and fragrance, by the flower-loving community, that the new perpetual variety Progress should have a warm welcome, and attain to a high degree of popularity. This new addition to the list of pinks was raised by Mr. C. H. Herbert, Hazelwood Road Nurseries, Acock's Green, Birmingham, from a cross effected between two of the finest of the laced pinks, namely Chaundy's Arthur Brown, and Thurstan's Robert Houlgrave, and is remarkable for its vigorous habit and freedom and continuity of flowering. The blooms, as so well shown in the accompanying illustration, are of large size and fine form, and the calyx is remarkable for its freedom from splitting, a point of considerable importance in estimating the merit of a pink, whether intended for border culture or for the production of exhibition blooms. The colour is very beautiful, and has been described as rose-mauve. As indicating the vigour of the variety, it may be mentioned that the plants attain a height of about thirty inches, and produce their flowers on long, stiff stalks. Mr. Herbert informs us that the variety was raised three years ago, and that the original plant is still in the position in which it was first planted. Sixty layers were taken off the first autumn, new growth was made freely in the following spring, and in August forty-nine layers were made, seventy-three new shoots taken off for cuttings, and thirty-two spikes of bloom were cut, which is certainly not a bad record for one plant. Progress has received certificates at Birmingham, Shrewsbury, and Wolverhampton.



NEW PERPETUAL-FLOWERING PINK, PROGRESS.
Raised by Mr. C. H. Herbert, Acocks Green, Birmingham. Colour of flowers, rose-mauve.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

SEED SOWING.—It is desirable to reserve a portion of all orchid seeds that have ripened during the autumn and winter months to be sown early in the new year, or as soon after the turn of the days as possible. For the epiphytal kinds, especially the cattleyas and their allies, I do not see that there is any advantage gained by sowing seed during the closing months of the year. Seeds sown then lay in a semi-dormant state for a considerable period, and when they actually start into growth the growth produced is so weakly that the seedlings are subject to damp off. Whereas, plants raised from seeds sown at the present time have the advantage of daily increasing light, and of shading not being required for some weeks to come. Thus there are increased facilities for the rapid germination of the seed, and for the growth of the seedlings during their earlier stages. In the case of the terrestrial kinds it does make a great difference as to what time of the year their seeds are sown. Seeds of cypripediums should always be sown immediately the seed pod is ripened. In sowing seeds of this section several seed beds should be provided on which to sow the seeds, it being a mistake to sow them all on one bed. It will frequently occur that you may sow seeds on, say, half a dozen pots, and in the case of only one may the conditions be favourable to the successful germination of seeds. I have taken seeds from a bed where they have failed to germinate and placed them on a bed where seeds from the same seed pods have been germinating, and found they have produced satisfactory results. Seeds of calanthes also should be sown on different pots, as the conditions are evidently not favourable in every pot for their germination.

The various methods of sowing seeds of epiphytal kinds is now so generally well understood that it is hardly necessary to refer to them There are many who still adhere to the old method of sowing the seeds on selected pots of plants of the kinds to which the particular seeds belong. This appears the only way in which odontoglossum seeds will germinate; I certainly have not discovered a more satisfactory method, but for cattleyas and their allies, dendrobiums, epidendrums, sophronitis, etc., I consider the method too slow. Certainly two or more years can be saved between sowing and flowering by sowing on artificially-made beds. Especially is this the case where every assistance is given to the seeds and encouragement to the plants. I do not think there is any more simple or better method than to take a piece of canvas four or five inches square, lay it in the palm of the left hand, put a handful of chopped sphagnum moss in the centre, roll this firmly into a ball, and place in the centre of a well-drained four-inch pot. Keep the edges of the canvas down by packing it round with chopped moss. Water with rain water, and sow the seeds on the canvas forming the mound in the centre. The pots should be stood in a warm, moist position, and if a propagating case is available take advantage of it. If treated as seeds of ordinary plants there will be little difficulty in securing germination.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

CONSERVATORY. — As chrysanthemums are now practically over, we are not quite so well supplied with good-sized bright plants for conservatory decoration; but where good batches of arum lilies and poinsettias are grown these will help to carry us on till some of the larger forced plants are in bloom; but for dwarfer plants we are better off, as many of the earlier bulbs are now coming into bloom. They should not be left in the greenhouses till fully in bloom, but as the flowers begin to open they should be gradually inured to the drier air of the conservatory. By this course of procedure they will last some few days longer, a point deserving of consideration.

CHRYSANTHEMUMS.—Those who wish to have good blooms from early in January till the middle of February should at once commence the work of propagation. The stock plants will, in most cases, have had a good rest, and consequently good firm cuttings will be easily procured. These, if not in a frame or house with a very little artificial heat, will most likely overtake plants raised from cuttings that were rooted in November and December. In taking the cuttings they should be obtained as far from the base of the parent as possible, and if there is a danger of rust spores being on them they should be dipped before insertion in a solution of sulphide of potassium, half-an-ounce to the gallon of water. If they are sprayed three or four times while in the small stage, rust will not greatly trouble them afterwards, at least, this is my experience. The cuttings should, if possible, be inserted singly in thumb pots, but if more convenient, they may be put three or four round the sides of a larger three-inch pot. Use a light compost, say, one part each of loam, leaf-soil, and sand, and plunge the pots to the rim in a bed of cocoa-nut fibre refuse in a slightly heated pit. Give sufficient water, and shut the frame up close, and keep them slightly damp by syringing on all bright days. Admit a little air during the night, which will lessen the possibilities of losing the cuttings by damping off, and it will be found that they will commence rooting in three or four weeks, after which they will require air daily.

PROPAGATION.—No time should now be lost in commencing the propagation of various classes of plants that have to be renewed annually, and if not already inserted, a good batch of winter-blooming carnations should be put in at once. These like a nice mild bottom heat, and if short, stout growths are taken off with a heel, they will not be long in rooting, but overhead moisture must not be liberal, or they will probably break into growth before rooting nicely, and this means a weakly growth. Coleus in small pots are always useful for edging groups in the conservatory, and as they are very easily and quickly grown a batch of cuttings may be put in from time to time. I usually put in a pot of cuttings of each variety in the autumn, and these take up little room, and give one, two, or three crops of cuttings during the spring. Cuttings of Abutilon Swatzi may now be rooted, as also may be cuttings of Begonias metallica and Haageana, both of which are excellent for a dark corner of the conservatory, where most other plants would only live a week or two.

SEED SOWING.—Seeds of the following may now be sown: Begonias, gloxinias, streptocarpus, medeolas, Asparagus plumosa, and Schizanthus pinnatus. In the case of the schizanthus I prefer to sow a few seeds in three-inch pots, and thin the seedlings to four or five in each, and shift into 32's or 24's when sufficiently advanced, according to the sized plant required.

GREENHOUSE PLANTS, such as Arum lilies, carnations, cinerarias, cyclamen, primulas, and eupatoriums will now be growing rather more freely with the lengthening days, and in most cases they will require rather liberal supplies of water, also a light top-dressing once a week of some approved artificial manure may be given with advantage, alternated with weak liquid manure, made from horse, cow, or sheep droppings; but give it little and often, rather than in heavy doses, as the soft roots of most of the above-mentioned plants will not stand too heavy manuring. — Thomas Stevenson, Woburn Place Gardens.

THE FLOWER GARDEN.

SUMMER BEDDING PLANTS.—Having decided on the arrangement of the various kinds of plants for the beautifying of the beds and borders during the summer, stock should be taken of the various kinds of plants required, and preparation should be made accordingly. It is well to bear in mind that the better the plants are prepared and established before putting them out the more satisfactory will be the results. Everything should be done that is possible to create an effect immediately the bedding out is completed, and this is accomplished by having the plants of many of the leading kinds well established in single pots. Fortunately, summer bedding has undergone a marvellous change during the past few years; and in the place of pelargoniums, calceolarias, ageratum, lobelia, and similar subjects, each good in its way, one must, to be up to date, be prepared with quite a different class of plants. Without doubt much more pleasing and natural effects are produced by the materials now so freely used. Among these are the new and improved forms of lantanas, abutilons, fuchsias, the fine forms of tuberous and fibrous-rooted begonias, swainsonia, a delightful plant, heliotropes, Plumbago capensis, the old Calceolaria amplexicaulis, C. Burbidgei, the new hybrid forms of ivy-leaved pelargoniums, new bedding verbenas, including Warley Scarlet and Miss Willmott, cannas in variety, salvias, improved forms of Lobelia cardinalis, and many others. All these, when well grown and suitably arranged, form a pleasing and artistic combination.

POTTING.—No time should now be lost in potting off singly the various kinds of pelargoniums, fuchsias, calceolarias, salvias, swainsonias, lantanas, and such-like into three-inch pots. These should be grown on in a temperature of about 50 degrees, and by the end of March, wherever possible, they should receive another shift into five or six inch pots. It is far better to grow half the quantity of plants, and treat them well, than to have double the quantity badly grown.

OLD STOCK PLANTS, which will consist of fuchsias, plumbagos, heliotropes, lantanas, etc., which were potted up, and stored thickly in some frost-proof place, should now be overhauled, pruned back, and started gently into growth, and converted into either bush, pyramidal, or standard specimens. After commencing to grow vigorously they should be shifted into other pots. An early vinery or orchard house will be an ideal place in which to start them.

PROPAGATION.—Much will now have to be done for providing a suitable number of low-growing subjects for carpeting and edging beds filled with tall-growing plants, and these, in nearly all cases make much better material when cuttings are taken from the stock plants and rooted in the spring, they will nearly all root most freely in a propagating pit when the young growth is inserted. Such plants will include verbenas of all kinds, young plants, especially of these, are much to be preferred to old ones. Mesembryanthemum, iresine, coleus, Tropaeolum The Queen (a variegated form, with beautiful dark flowers, a charming plant, which should be much more largely grown), alternantheras, lobelias of the dwarf-growing type, and Lobelia cardinalis in variety. I find the last-named best wintered in a cold frame, and not parted too early, because of it having a habit of dying off when disturbed very early in the year.—E. Beckett, Aldenham House Gardens.

HARDY FRUITS.

FIG TREES in the more southern counties may generally be expected to pass through our ordinary winters without receiving any material damage; but in the Midlands and northern counties some protection is necessary to prevent injury to the young fruiting wood. In the majority of cases in this country, fig trees are usually planted against walls, and therefore can the more easily be protected. Release the branches and at the same time cut clean away any old wood that has become useless; loop the branches together in convenient bundles, and cover each with some light strawy litter or bracken, binding it well round with string to prevent its being blown off by the wind, afterwards making the bundles perfectly secure by fastening them to the wall with a piece of stout cord.

CORDONS, whether growing horizontally, obliquely, or upright, will require treatment according to their condition. If the trees have room for extension, shorten the leaders in proportion to the growth, and for the proper development of the fruit spurs, always prune close to a healthy bud which promises to furnish a growth suitable for training in the direction required. Remove old ties, and, if necessary, scrub the main branches with soapy water before retying.

MORELLO CHERRIES produce the greater portion of their fruits on young wood of the preceding season's growth, therefore sufficient of the older wood should be removed each season to allow of the new growths being laid in. Superfluous young shoots should be cut back to within an inch of their base to form fruiting spurs; remove the trees from the walls, loop the branches together in convenient bundles, and spray with an insecticide to destroy any black fly which may be secreted in the axils of the buds, as these, if not destroyed during the winter, prove very troublesome when the trees are in leaf. Re-fasten the trees to the walls, allowing on an average about four inches between the growths.

THE SLUG WORM (Selandria atra) was very prevalent in these gardens some eight or nine years ago, and destroyed a large amount of foliage on the pear and cherry. During the following winter we gave the soil, as far as the branches extended, a good soaking of diluted gas-water, i.e., one gallon of gas-water to six of clear water; this proved most efficacious in destroying the cocoons, as no signs of this pest have been noted until this last summer, when a few isolated larvæ were seen on the pear. We are now repeating the experiment which has hitherto proved so satisfactory. The gas-water contains a certain proportion of ammonia in its composition, which is beneficial to most hardy fruits, but the liquid must always be diluted as advised above.—Geo. Woodgate, Rolleston Hall Gardens.

A Laburnum Avenue.—Now that pergolas and arches over which flowering plants are trained are so popular, a pleasant change could easily be introduced by planting an avenue wholly, or mixed among other subjects, of standard-grown trees of Laburnum Waterer's Hybrid, which is probably the best for flowering in May and June. If a succession is required, then plant the Scotch variety, L. alpinum, which is an elegant-growing form. Trained over an archway or pergola, the golden racemes produce a very fine effect.—E.

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EXHIBITIONS AND MEETINGS.

◆

Royal Horticultural Society.

The first meeting of the year was well attended, but the exhibition was not a large one. Orchids were fairly plentiful, and ferns and carnations, with a big group of stove plants, almost made up the display.

FLORAL COMMITTEE.

Right opposite the entrance, filling a central position on the far side of the hall, Messrs. Jas. Veitch and Sons, Chelsea, put up one of their fine exhibits of stove plants, orchids, etc. Every plant represented excellent culture, and the crotons were very fine indeed. Dieffenbachia Fournieri, Phyllotænium Lindeni, Heliconia illustris rubricaulis, Anthurium crystallinum, Coccoloba pubescens, Alpinia Sanderiana, and Phœnix Roebelini were all grandly represented, and there were excellent examples of Nepenthes Morganiæ, N. Chelsoni excellens, N. Hookeriana, and N. Dicksoniana. The flowering subjects included a central group of odontoglossums and lycastes, flanked by small groups of hybrid cypripediums, camellias, Javanico-jasminiflorum rhododendron hybrids, Crowea latifolia, Begonia Agatha, the bright blue Coleus thyrsoideus, Primula Kewensis, Gomphia olivæformis, and some amaryllis. The whole group was arranged in a very pleasing and effective manner, and was the great feature of the exhibition. The Messrs. Veitch had also a group of perpetual-flowering carnations, showing these as growing plants in pots, and staging the leading varieties.

A pretty group of perpetual carnations was tastefully arranged by Mr. H. Burnett, Guernsey, who had very bright, clean, but not over-large flowers of Mrs. H. Burnett, Marmion, Mikado, Enchantress, Britannia, Afterglow, and Winona, and some yellow seedlings. Very beautiful and interesting were the finely-grown bertolonias shown by Mr. L. R. Russell, Richmond. Each plant was in a pan and covered with a bell-glass. The exquisite colouring and venation of these plants is beyond description, the blue and green and silver being most subtly intermixed. The varieties represented were B. Mdme. Van Houtte, B. Souvenir de Gand, B. Comte. de Kerchove, B. Mdme. A. Bleu—a fine silvery-variegated form; B. Cerise cristata, and B. Mdme. Ed. Pynaert.

Messrs. Barr and Sons, Covent Garden, exhibited a number of pretty snowdrops, and a little collection of early crocuses; with these were red and yellow-barked willows, Iris stylosa, hellebores, Cyclamen coum roseum, Gaultheria procumbens, and some saxifragas.

Mr. Herbert Chapman, Guldeford Lodge, Rye, submitted the charming Freesia Chapmani, and a number of seedlings, as well as the pinkish hybrids raised by Ragioneri. Mr. N. Molyneux, Rookebury Park, Fareham, showed a pretty late white chrysanthemum, named Maud Allan (A.M.), a fine decorative variety. A pretty little wild cyclamen from Palestine was shown by Mr. A. W. Sutton, Bucklebury Place, near Reading. The new Begonia Patrie (A.M.), a cross between B. socotrana and B. Pearcei, was shown by Messrs. V. Lemoine and Son, Nancy, France; this has small, pretty carmine-pink flowers, and is a free bloomer.

A particularly fine group was the one so admirably arranged by Mr. W. H. Page, Tangley Nurseries, Hampton. It consisted of big stands of Lilium speciosum and L. longiflorum, with large vases of Mrs. T. W. Lawson, Marmion, White Perfection, Enchantress, Governor Roosevelt, Winsor, and Mikado carnations, in front of them, and with a small group of Golden Spur daffodils in the middle. Messrs. Hugh Low and Co., Bush Hill Park, Enfield, showed good batches of Dracæna Victoria, D. De Grooti, and D. Prince Albert, as well as a selection of winter-flowering carnations and some good cyclamen. The contribution from Messrs. W. Cutbush and Son, Highgate, consisted of hardy flowers, such as Hamamelis arborea, Daphne Mezereon, Cyclamen coum, crocuses, Iris histrioides, etc.

A large and very interesting exhibit of ferns was arranged by Messrs. H. B. May and Sons, Edmonton, and the feature of the exhibit was the display of small creeping ferns grown on short tree fern stems, and among these we made special note of Polypodium repens, P. piloselloides, Asplenium obtusalobum, Polypodium vaccinifolium, Drymoglossum spathulatum, and Niphobolus rupestris. Other polypodiums were largely represented, and the whole exhibit attracted a great deal of attention.

ORCHID COMMITTEE.

A charming group of orchids, in which beautiful odontoglossums and graceful lælias figured largely, was set up by Messrs. Charlesworth and Co., Hayward's Heath. The white varieties of Lælia anceps were very beautiful and filled the centre of the display. On one side were numerous examples of Cattleya Octave Doin, and a few of the yellow L.-c. Andromeda and C. Percivaliana alba (F.C.C.). On the other side were some delightful plants of Odontoglossum ardentissimum, in variety, O. Armaimvillierense Xanthotes, O. Lambeauianum, O. crispo-Harryanum, and O. Bohnhofiæ. A few other good things were Sophro-cattleya Doris, Cypripedium Beckmanni, C. Baron Schroder, and Saccolabium bellinum. Mons. Mertens. Ghent, contributed a few beautiful cross-bred odontoglossums of remarkable colouring, but none of them were labelled.

Mr. J. Collier, gardener to Sir Jeremiah Colman, Bart., V.M.H., Gatton Park, Reigate, showed several forms of Lælia anceps, Phaio-calanthe Colmani, Cymbidium grandiflorum, C. Lady Colman, Spathoglottis Colmani, and the curious Warscewiczella valata. From Messrs. Hugh Low and Co., Bush Hill Park, Enfield, came some good cypripediums and odontoglossums, the former including C. Helen II. Cattleya Leda and C. Maggie Raphael were shown by Mr. R. G. Thwaites, Chessington, Streatham; a fine specimen of Masdevallia ignea, from Mr. Ballantine, gardener to Baron Schroder, The Dell, Egham, gained a Cultural Commendation. Mr. W. H. White, orchid grower to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, showed a fine brown odontoglossum named O. Swietenia-color, surely a queer name, and given, we understand, because the chief floral colour resembles mahogany (Swietenia).

Messrs. J. and A. McBean, Cooksbridge, submitted the fine Cypripedium Memoria Jerninghamiæ, some good odontoglossums, and Lælia anceps. Mr. Walter Cobb, and Mr. H. T. Pitt both sent cypripediums. Mr. A. W. Jensen, Lindfield, Hayward's Heath, showed a few good white ground odontoglossums. Messrs. Armstrong and Brown, Tunbridge Wells, showed Cypripedium Venus, Oakwood var., C. Helen II. Armstrongæ, C. Maudiæ, etc. Mr. Francis Wellesley, Westfield, Woking, sent the pretty little Sophrocattleya Mrs. Francis Wellesley, a rosy flower obtained by crossing C. labiata with Sophronitis grandiflora. Mr. Alexander, orchid grower to Lieut.-Colonel Holford, Westonbirt, Gloucester, staged a couple of good plants of the pure white and graceful Vanda Watsoni (A.M.), Cattleya Maggie Raphael Westonbirt var. (A.M.), with beautifully-coloured lip; Brasso-cattleya Mrs. J. Leeman var. Rajah, and the handsome Cypripedium Bellerophon. Mr. H. J. Chapman, gardener to N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne, brought up Odontoglossum ardentissimum Norman Cookson (A.M.). Mr. Bromilow, Rann Lea, Rainhill, sent Cypripedium Bromilowæ, another albino of Charlesworthi style; and C. Œson giganteum (F.C.C.).

Miss M. Walters-Anson, Dovedale, Streatham, contributed a small collection of orchid paintings, all well executed.

FRUIT AND VEGETABLE COMMITTEE.

From the University College, Reading, Mr. Chas. Foster brought up excellent samples of Sutton's Eclipse and Sunbeam tomatoes, sown July, 1908; French Frame cabbage lettuce, sown September 16, 1908; and Early Nantes carrots, from the open ground, without protection. A large number of seedling apples were contributed, and Mr. Allan, Gunton Park Gardens, exhibited a dozen good fruits of The Blickling pear.

In the competitive class for a pair of bunches of late grapes, Mr. W. Lintott, gardener to Sir Walpole Greenwell, Bart., Marden Park, Woldingham, secured first prize with good examples of Lady Downes.

CERTIFICATES AND AWARDS.

First-Class Certificate.—Cattleya Percivaliana alba, from Messrs. Charlesworth and Co., Hayward's Heath; Cypripedium Œson giganteum, from Mr. Bromilow, Rann Lea, Rainhill, Lancs.

Award of Merit.—Cattleya Maggie Raphael Westonbirt var., and Vanda Watsoni, from Mr. Alexander, orchid grower to Lieut.-Colonel Holford, Westonbirt, Gloucester; Odontoglossum ardentissimum Norman Cookson, from Mr. H. J. Chapman, gardener to N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne; Begonia Patrie, from Messrs. Victor Lemoine and Co., Nancy, France; Chrysanthemum Maud Allan, from Mr. N. Molyneux, Rookesbury Park, Fareham.

MEDALS.

Gold.—Messrs. James Veitch and Sons, Chelsea.

Silver-Gilt Flora.—Mr. W. H. Page, Tangley Nurseries, Hampton; Messrs. H. B. May and Sons, Edmonton; Messrs. Charlesworth and Co., Hayward's Heath.

Silver Flora.—Mr. L. R. Russell, Richmond.

Silver Banksian.—Mr. H. Burnett, Guernsey; Messrs. W. Cutbush and Son, Highgate; Messrs. Hugh Low and Co., Enfield, one for dracænas and one for orchids; Mr. J. Collier, gardener to Sir Jeremiah Colman, Bart., V.M.H., Gatton Park, Reigate.

Cardiff Gardeners' Association.

The fortnightly meeting of the above association was held at St. John's Schools, on the 5th inst., Mr. H. R. Farmer, F.R.H.S., occupying the chair. A lecture and demonstration on "The Manipulation of Florists' Flowers" was given by Mr. Sydney Case, of Cardiff. The lecturer described the present method of wiring flowers, which is a decided improvement on the method in vogue in years gone by. The most delicate kinds of flowers were shown to the members, who were very much interested in the masterly manipulation and grand display which Mr. Case had provided.

On the motion of Mr. Mague, seconded by Mr. G. Drake, a hearty vote of thanks was accorded Mr. Case for his interesting, instructive, and much-appreciated lecture, and this was suitably acknowledged.

Chester Paxton Society.

The members forming the Executive and Districts Committees of this society accepted an invitation to dinner from their respected chairman, Mr. A. W. Armstrong, at the Blossoms Hotel on Saturday last. About thirty sat down to an excellent repast, which was presided over by Mr. Armstrong, and he was ably supported by Mr. J. D. Siddall, Mr. N. F. Barnes, Mr. J. Simon, and Mr. G. P. Miln (hon. secretary). After the dinner an excellent programme of music was well rendered by Messrs. G. H. Plant, W. C. Armstrong, W. Fergusson, S. Dring, W. H. Harker, and A. E. Ward, the latter also acting as accompanist. The music was interspersed with toasts and speeches, including "The King," "The Paxton Society," "The Chairman," "The Visitors," and "The Artistes." The singing of "Auld Lang Syne" and "God save the King" by the company brought a very pleasant evening to a close.

Beckenham Horticultural Society.

Notwithstanding a local snowstorm, there was a large gathering of the members of this society at the Church House, Beckenham, on Friday, January 8, to hear Mr. Chas. H. Curtis lecture on "Sweet Peas and Their Culture." Mr. A. J. Baker, of the Kent County Council, presided. Mr. Thos. Crosswell, gardener to Mrs. Bullivant, Homewood, Beckenham, showed two very fine specimens of Cypripedium insigne, one of them, in a six-inch pot, carrying 43 flowers.

Mr. Curtis gave the history of the sweet pea, an account of its evolution, methods of cultivation, modern varieties, and the work of the National Sweet Pea Society. He was heartily thanked for his lecture.

APPLE SALES.

"E. M.," page 37, is quite welcome to any opinion he may have respecting my experience of apple sales, but I rather fancy he has a few more wrinkles to learn himself, or he would succeed in selling his apples better. Everybody knows that the imports of foreign apples affects the prices of home-grown produce; but, in spite of "E. M.'s" arguments, I still contend that the selling of late-keeping apples of the Bramley's Seedling type in September and October has a considerable effect in over-stocking the markets at the above season, and keeping down prices. As a matter of fact, there was a perfect slump of apples in my own district last autumn, and it was brought about largely by the gales of wind which blew off large quantities of fruit that were rushed into the markets and sold for what they would fetch. Naturally, the overwhelming abundance of this class of produce affected the sale of the best. As your correspondent seems to know all about apple sales, it may be no news to him to hear that in December Bramley's Seedlings and Newton Wonders were sold in wholesale fruit markets in the West of England for 16s. and 18s. per cwt. Would the same apples have fetched as much money if they had been sold in September, October, or even November? Hardly, even though in all probability there are more foreign apples about now than there were then. Though "E. M." has such a poor opinion of my knowledge and experience, I will not question his, but, in comparing his figures with the above, it is evident that markets are either better in some districts than others, or else "E. M." was too anxious to sell.

H.

The Moonlight Broom. — There are few more lovely things than good plants of the common broom, Cytisus scoparius, and those who have frequent opportunities of seeing it in plenty by the wayside and the wilds need ask for nothing more beautiful. In our gardens, too, we have C. scoparius Andreanus and the several lovely varieties which have sprung from it of recent years. Very beautiful are these, but the brooms are all so beautiful that many of us may find room for the Moonlight one, C. scoparius pallidus, which has flowers of a beautiful creamy white, not, after all, unlike the pallid light of Luna herself. In the garden or the wild garden it is a beautiful thing, with its blooms the size of a good variety of the common broom, but distinct in its tone of colour. Like the others of its class, the Moonlight Broom should be well cut back after flowering. Hard cutting back not only conduces to greater shapeliness, but also to much greater freedom of flower. A dry bank suits this broom well.—S. Arnott.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

RHUBARB.—M. A., Devon: The old stools will give useful supplies if lifted and placed in a mushroom house or other structure, in which a temperature sufficient to stimulate growth is maintained. Medium-sized stools with three or four well-developed crowns are preferable, as all the "sticks" will then be of good size and uniform in development. We would suggest that you plant a fresh bed each year for maintaining a succession of young crowns for yielding early supplies. Old stools should be divided into portions having two or three crowns each, and remain in the beds two years. Deep digging and liberal manuring are essential to success in the preparation of roots for the production of early supplies.

BEAUTIFUL-LEAVED TREES.—R. B., Hants: As you have not devoted any considerable share of your attention to the study of tree life, you cannot have an adequate idea of the number and beauty of the trees with leafage and colours other than green, because of their paucity in gardens, even when the area comprises many acres. Therefore we would strongly advise you to visit neighbouring nurseries and botanic gardens within a convenient distance during the summer and early autumn for the purpose of becoming acquainted with them. We have frequently urged the more extended use of trees with richly-coloured leafage, but we have been careful to avoid being understood as suggesting that they should predominate. So far from this being the case we would direct special attention to the fact that in the garden, as in the field and woodland, Nature's scheme of colouring should be adopted. Or, in other words, the prevailing colour should be green, with masses of silver and gold and crimson to light it up, and bring out by way of contrast the various shades of green afforded by the numerous trees and shrubs. Whilst it is not possible to enter fully into the details of the arrangement of trees with brightly coloured foliage, it may be useful to point out that the practice so common of distributing each of the kinds selected over the garden should be avoided. The best method of dealing with them is to arrange, as far as it can be done, each form in a group by itself, the number of trees in each to be determined by the space available and the area of the garden. In extensive pleasure grounds the groups may be repeated, but as it is most desirable each part should present some new feature or effect, the greatest possible care must be taken to avoid unnecessary repetitions. In some cases single specimens will be admissible, and indeed desirable, more particularly in the case of the golden conifers, but care must be taken to plant them where they will have space for their full development, and amid suitable surroundings.

LEGAL QUESTION. — F. H. M., Yorkshire: We are anxious to assist our readers to the fullest possible extent; but your question is a purely legal one, and has no reference to the garden, except so far as its tenure is concerned as a part of the dwelling-house. Moreover, the question could only be answered after a careful examination of the lease, and the correspondence relating to repairs. We suggest that you consult a solicitor of standing.

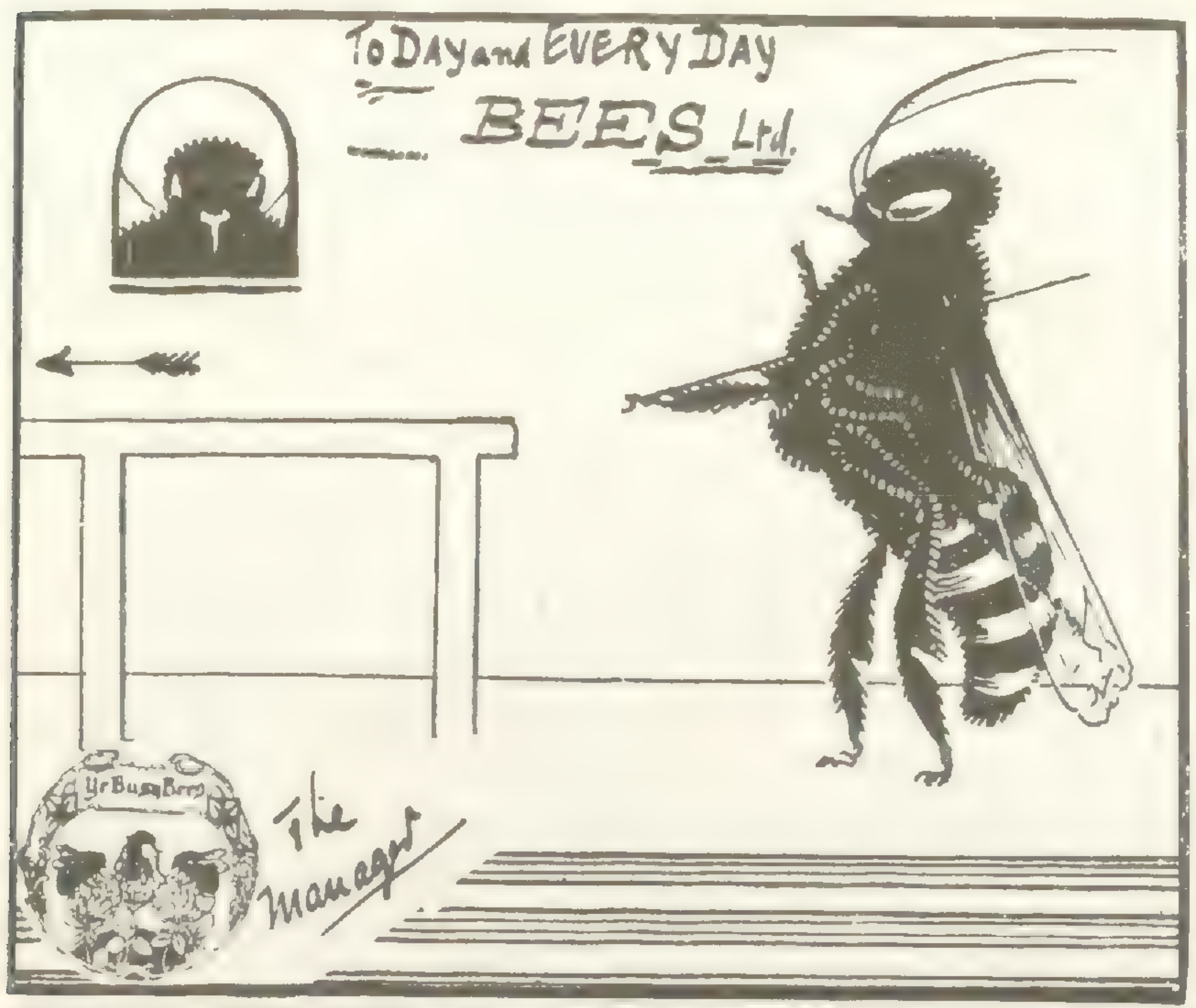
DESTRUCTION OF VERMIN. — Most gardens are pestered with Rats and Mice. Every effort should be made at this time of the year to exterminate them before seeds are sown. Danysz Virus is first rate stuff for killing these vermin. Single tube, 2s.; three tubes, 5s. Post free from DANYSZ VIRUS LTD., 52, Leadenhall Street, Garden Dept., London, E.C.—[Advt.]

NITRO-BACTERINE. — Amateur, Essex: The whole matter is in an elementary stage, and too much importance should not be attached to reports, whether they be favourable or otherwise. Further experiments are necessary, but to have much value they should be conducted in a systematic manner under diverse conditions in different parts of the country. The application of bacteria cultures will, it may be assumed, prove useful to leguminous plants on soils that are deficient in beneficent micro-organisms, but it is not probable that they will have the effect of greatly increasing the crops of such plants in highly-cultivated ground that is rich in humus. You might conduct a few trials with leguminous crops; they would be interesting, and the cost would not be great.

VALOTTA PURPUREA.—Mr. C. Thrower, gardener to Mrs. W. Matthews, Chesham Park, Anerley, writes with reference to this handsome bulbous plant: "I have read with much interest 'T. B.'s' notes on Valotta purpurea, and I fully agree with him that satisfactory results cannot be obtained by indifferent treatment. I also agree with him that the bulbs require repotting every second or third year. Those under my charge are repotted every second year, but not in August, as your correspondent advises. In that month my plants are producing their scapes, and the flowers are invariably at their best the first week in September. I have exhibited the specimens on several occasions, and they have always been shown in that week. I enclose a photograph of three specimens grown in a 12-inch pot, and bearing thirty-one, thirty, and twenty-nine spikes, each spike bearing five or six flowers. After the flowers have lost their freshness and beauty water is given sparingly to induce the bulbs to pass into a state of rest. They are not dried completely off, as I consider that undesirable. The flowers are removed as they lose their beauty, and thus seeding is prevented, which would impose a tax on the bulbs. The spike is allowed to die down naturally, and not cut away while in a green state, much sap being lost when so cut, to the injury of the bulb. After the spikes have died down naturally, the decayed leaves are removed. In repotting, which is done in January, the bulbs are shaken out, and all the young bulbs are removed. They are put in 10-inch pots, nine in each, and a compost consisting of good loam, spent mushroom bed, and some mortar, is used. The pots are, of course, efficiently drained. [The photograph sent by Mr. Thrower fully justifies the course of procedure he has adopted, and represents specimens that are quite exceptional in their development. We regret the photograph is not suitable for reproduction.]

BOUGAINVILLEA GLABRA.—N.: This beautiful climber is equally at home in the plant stove and warm conservatory, and you might plant it with advantage in your spacious structure. It should be planted in a well-drained border.

LILACS FOR FORCING.—R. B., Dorset: It is a mistake to suppose that lilacs suitable for forcing cannot be as successfully grown in this country as in France, and many proofs of this could be given were it necessary. But to achieve success in the production of plants for flowering under glass a well-devised course of procedure must be followed. The first step is to select varieties such as Charles X., Marie Legray, Madame Lemoine, and Dr. Lindley, that are adapted to the purpose, and the next is to grow them in such manner as will ensure their having an abundance of fibrous roots and stout, short-jointed wood well furnished with flower buds. Strong healthy suckers should be selected, and planted in an open position, the distance to be twelve inches apart in rows with two feet spaces between them. The planting should be done some time between the end of October and the end of February, but the sooner the better after the beginning of November. Previous to new growth commencing, cut them down to within about nine inches of the surface of the ground. In the following November lift and replant eighteen inches apart in rows, with two and a-half feet spaces be-



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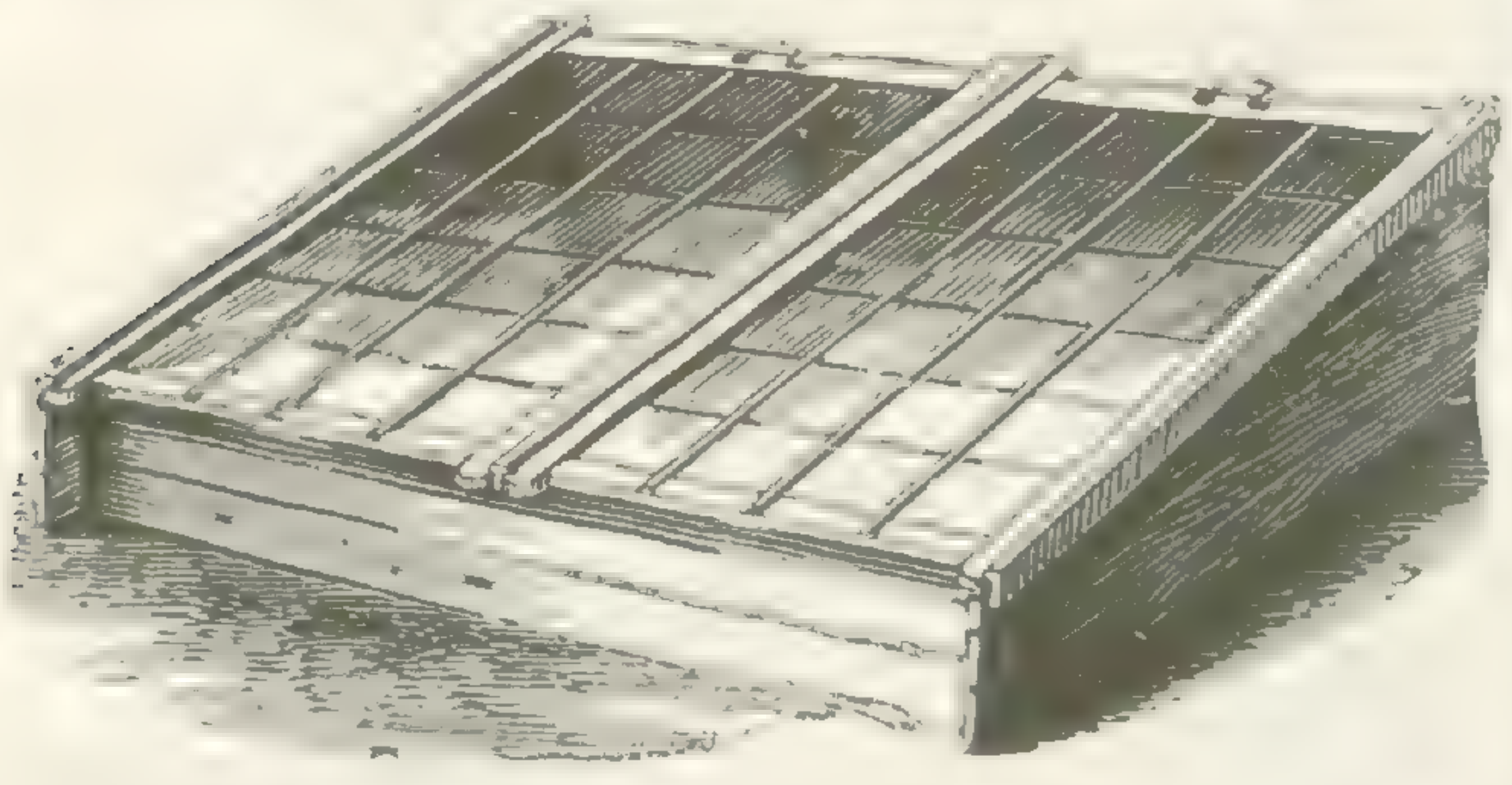

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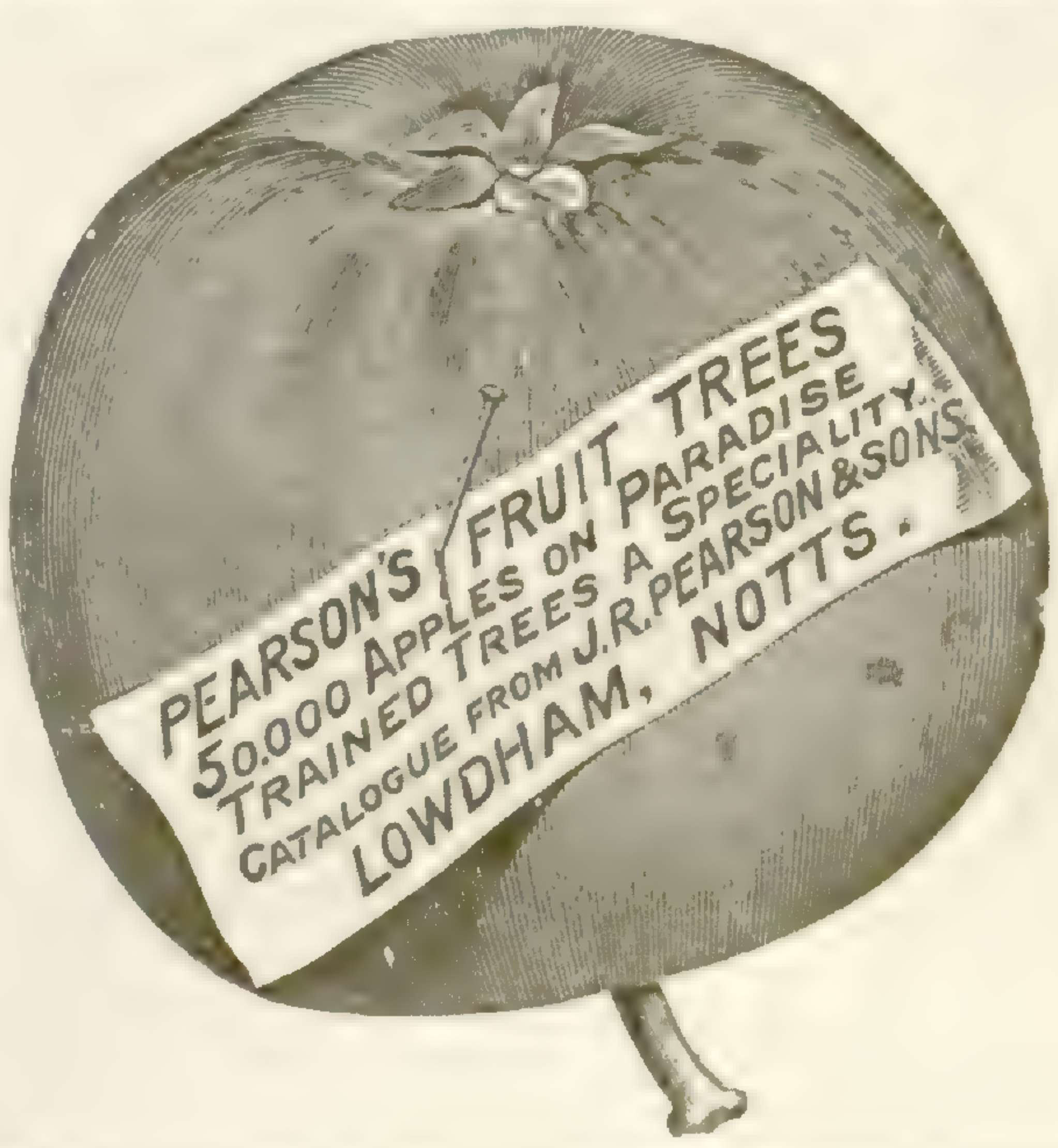
PEARSON'S FRUIT TREES
50,000 APPLES ON PARADISE
TRAINED TREES A SPECIALITY.
CATALOGUE FROM J. R. PEARSON & SONS
LOWDHAM, NOTTS.

NOVELTY OF THE SEASON.

"PROGRESS,"
NEW PERPETUAL FLOWERING PINK.

It is quite distinct from any other pink; flowers a lovely rosy-mauve, of perfect form and calyx, borne on long, stiff stems, and with delightful fragrance; a grand border flower; also excellent for pot culture. Price 3s. each, or 5s. per pair.

C. H. HERBERT, The Nurseries, Hazelwood Road, Acock's Green, Birmingham.

tween them. During the winter shorten the shoots to about one-half their length. By the following winter they will have made neat bushes, and may be lifted and potted up for flowering in the following spring, provided, of course, they are well furnished with flower buds. The potting should be done quite early in November, and pots be used just large enough to hold the roots with a moderate quantity of rich compost about them. Those not provided with flower buds or having but few should be replanted, and have a little more space than they were allowed in the bed from which they were lifted. When required for forcing into bloom early in the year, it is advisable to grow the plants in pots during the previous year. They should be potted up in the second autumn,and put in pots of a suitable size with a rich, substantial compost. Throughout the winter and the following summer the pots should be stood on a thick bed of ashes, or a hard surface, and have loose material packed about them. When making their growth an occasional supply of liquid manure of a moderate strength will be of considerable assistance.

ACACIAS. — F. M. W., Middlesex: The number of acacias suitable for gardens in which the space under glass is limited, and the conservatory of moderate dimensions is small, but the following would form a suitable selection for your purpose: A. armata, A. Drummondi, A. grandis, A. longifolia magnifica, and A. pulchella. These are all suitable for pot culture.

PEACH BORDERS.—W. Smith, Beds: It is quite true that peach and nectarine trees growing under glass should enjoy a thorough rest during the late autumn and early winter months; but this rest should not, as you have been advised, be brought about by keeping the border dry. Erroneous ideas on some points of practice would appear, from the advice you have received, to die hard. That relating to the desirability of keeping indoor peach borders dry for the purpose of ensuring a thorough rest to the trees, is certainly very tenacious of life, although every peach or nectarine growing in the open is a proof that a liberal amount of moisture in the soil does not prevent the trees enjoying the complete rest essential to successful results. It is not advisable to keep indoor borders so wet from the beginning of November till the end of January as the outside borders usually are, but the soil should be maintained in a moist state. When borders in which trees under glass are growing are allowed to become dry, and remain so for even a short period, the trees usually shed prematurely a considerable proportion of their buds.

HOLLYHOCKS.—R. Morris, Kent: Hollyhocks raised from seed sown at once, and grown on steadily until the season is sufficiently advanced for them to be bedded out, will produce good spikes of bloom at the end of the summer or early in the autumn. Seed from a good strain, such as may be obtained from any of the seedsmen advertising in these pages, will produce a good percentage of plants bearing double flowers. If a considerable proportion are single or semi-double it will not matter, as both single and semi-double varieties are extremely beautiful. It is important to sow the seed at once, and to shift on the seedlings as may be necessary to prevent them becoming pot-bound before they are transferred to the borders. We need hardly state that the latter should be liberally dressed with manure and deeply dug.

NAMES OF FRUITS.

W.—1, Newton Wonder; 2, Rambour Papaleu.

N. M.—1, Belle Angevine; 2, Winter Orange.

R. Thomson.—1, Catillac; 2, Easter Beurre.

K. S.—1, Hormead Pearmain; 2, King of Tomkins County.

Amateur.—1, Mannington's Pearmain; 2, Bramley's Seedling; 3, Pomme Gris.

S. B.—Probably a local seedling; it is of no merit, and we would suggest grafting the tree with a variety of high quality.

NAMES OF PLANTS.

H. S.—A poor form of Cattleya Percivil-iana.

S. T. H.—The camellias are: 1, Alba plena; 2, conspicua; 3, Donkelaari.

F. — 1, Odontoglossum ardentissimum; 2, Masdevallia ignea; 3, Cypripedium insigne Sanderæ.

B. W.—A good type of Primula obconica, but not of sufficient merit to justify a varietal designation.

B. F.—1, Phyllanthus mimosæfolius; 2, Maranta alba lineata; 3, Pothos celatocaulis; 4, Asparagus declinatus.

M.—We cannot undertake to name florists' flowers, and, owing to the blooms of the carnations having been wrapped in dry cotton, they were so much shrivelled when they reached us as to be quite past recognition.

MARKETS.

COVENT GARDEN.

Flowers.

Trade has somewhat improved, and as the supplies are rather moderate choice flowers have improved a little in price.

		s.	d.		s.	d
Acacia	per doz. bun.	10	0	to	12	0
Adiantum cuneatum	per doz. bun.	5	0		9	0
Arums	per doz.	3	0		4	0
Asparagus	per doz. bun.	1	6		6	0
Azaleas	per doz. bun.	4	0		6	0
Bouvardias	per doz. bun.	6	0		8	0
Camellias	per doz.	1	6		2	0
Carnations	per doz. blms.	1	6		3	0
,,	per doz. bun.	9	0		12	6
Cattleyas	per doz.	8	0		12	0
Chrysanthemums	per doz. bun.	7	0		18	0
,,	per doz. blms.	2	0		4	0
Croton leaves	per bun.	1	0		1	0
Cypripediums	per doz. blms.	2	0		3	0
Daffodils	per bun.	1	0		1	3
Eucharis	per doz.	2	6		4	6
French fern	per doz. bun.	1	0		3	6
Gardenias	per doz.	3	0		5	0
Hyacinths, Roman	per doz. bun.	9	0		12	0
Lapagerias	per doz.	1	0		2	0
Lilac (French)	per bun.	3	0		4	0
Lilium auratum	per bun.	2	0		4	0
,, speciosum	per bun.	1	6		3	0
,, longiflorum	per bun.	3	0		5	0
Lily of the Valley	per doz.	8	0		15	0
Marguerites, white	per doz. bun.	2	0		3	0
,, yellow	per doz. bun.	2	0		3	0
Mignonette	per doz. bun.	2	0		3	0
Narcissus, Paper White	per doz. bun.	2	0		2	6
,, Soleil d'Or	per doz. bun.	3	0		4	0
Odontoglossums	per doz. blms.	2	6		3	6
Pelargoniums	per doz. bun.	5	0		6	0
Roses	per doz.	2	0		8	0
Spiræas	per doz. bun.	5	0		7	6
Stocks	per doz. bun.	4	0		6	0
Tulips	per doz.	1	0		3	0
Tuberoses	per doz. blms.	0	3		0	6
Violets	per doz. bun.	1	6		3	0
,, Parmas	per bun.	4	0		5	0

Fruits.

Supplies are about equal to the demand.

		s.	d.		s.	d.
Apples, cooking	per bush.	3	6	to	7	6
,, dessert	per ½-sieve	2	0		6	0
,, American	per barrel	23	0		30	0
,, Nova Scotian	per barrel	21	0		23	0
,, Californian	per case	8	0		10	6
Bananas	per bun.	3	0		12	0
Chestnuts	per bag	7	0		10	6
Cranberries	per case	8	0		14	0
Figs	per box	0	10		1	6
Grapes, English	per lb.	1	0		8	0
,, Almeria	per bar.	12	6		20	0
Lemons	per case	9	0		25	0
Medlars	per case	4	0		5	6
Nuts, Cob	per 12lb.	12	0		15	0
Oranges, Jamaica	per case	6	0		10	0
,, Jaffa	per case	9	0		10	6
,, Murcia	per case	6	0		18	0
,, Tangerines	per box	0	9		1	6
Pears, Californian	per case	8	0		20	0
,, Catillac	per crate	8	0		12	0
Pineapples	each	2	6		4	6

Vegetables.

There has been an improvement in greenstuffs and roots are plentiful; the demand is moderate.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	3	0	to	4	6
Asparagus	per bundle	4	6		5	0
,, Sprue	per bun.	0	8		1	0
Beet	per bush.	1	3		2	0
Beans (Guernsey)	per lb.	1	0		2	0
Brussels Sprouts	per ½-bush.	3	0		3	6
Cabbage	per tally	6	0		9	0
Carrots	per doz. bun.	0	9		1	4
Cauliflowers	per doz.	2	6		5	0
Celery	per doz. rolls	4	0		9	0
Celeraic	per doz.	2	6		3	6
Chicory	per lb.	0	4		0	6
Cucumbers	per doz.	5	0		10	0
Endive	per doz.	1	6		2	0

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Dr. J. Collis Browne's
CHLORODYNE
HAS STOOD THE TEST OF TWO GENERATIONS.
The Best Remedy known for
COUGHS, COLDS,
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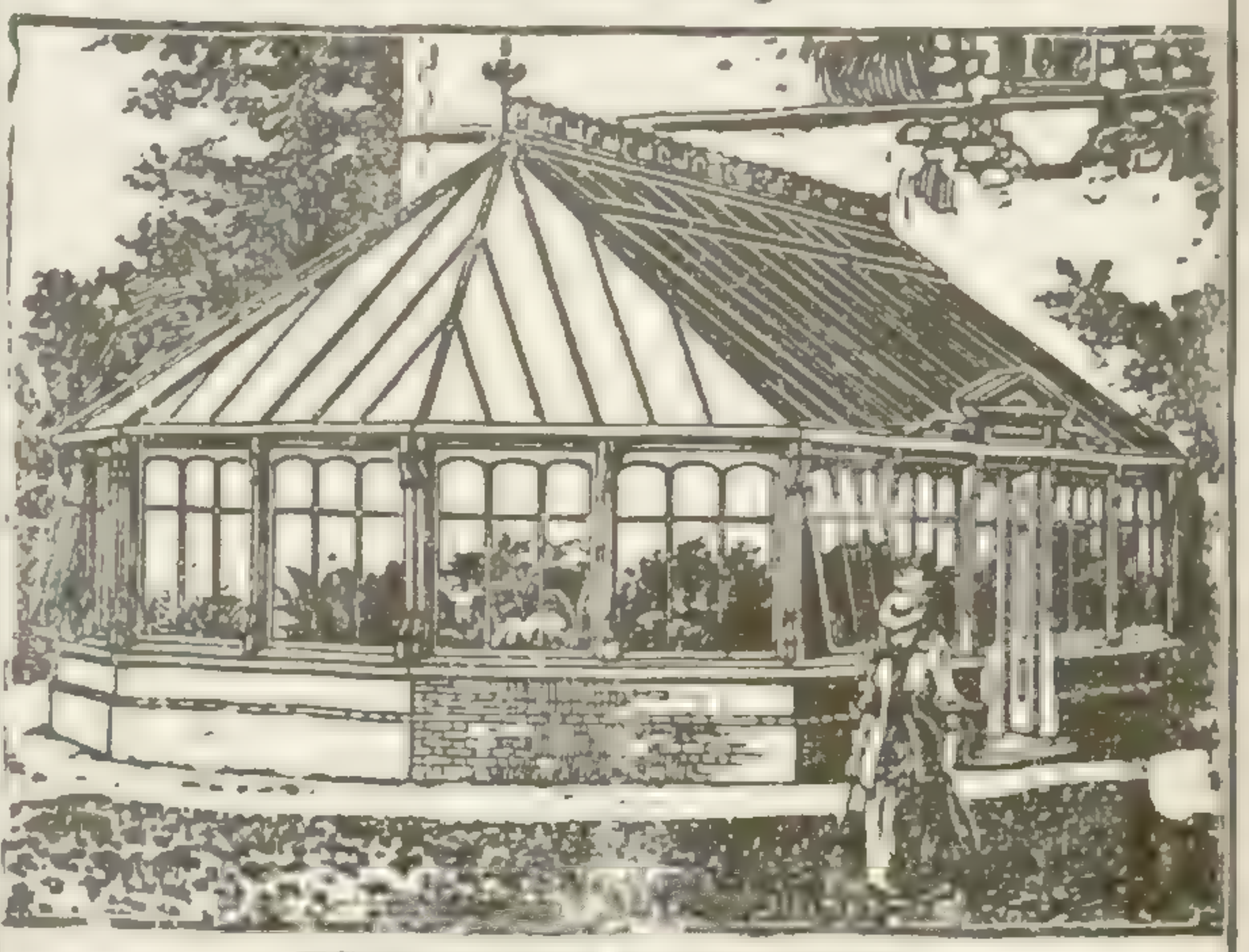
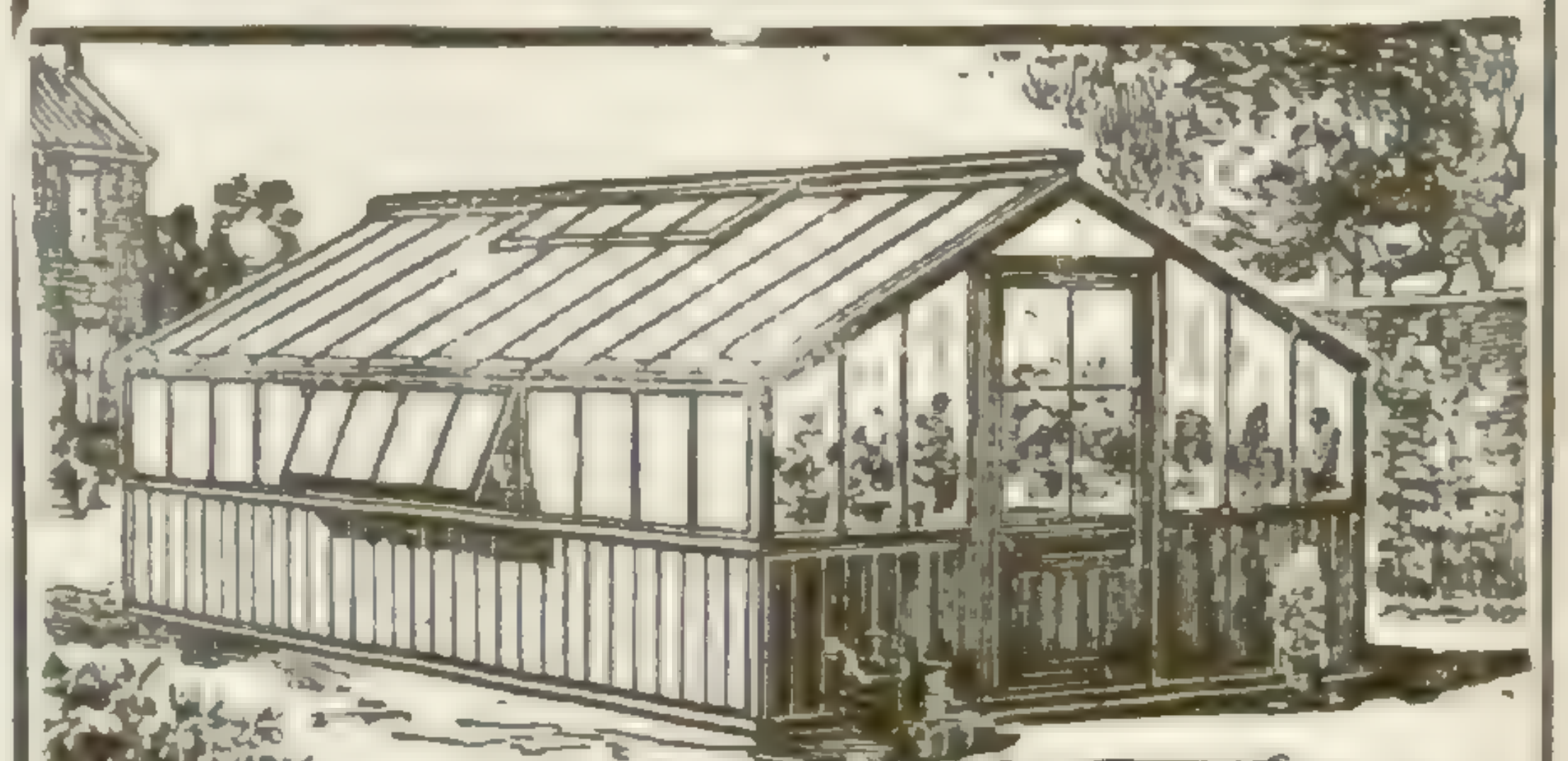
CONSERVATORIES
Designed to Suit any Situation.



ESTIMATES SUBMITTED.
No. 49A.—SPAN-ROOF GREENHOUSE.



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[These Houses are sent out well made, painted three coats, glazed 21 oz. glass, and carriage paid.
Boilers of all Makes and sizes.
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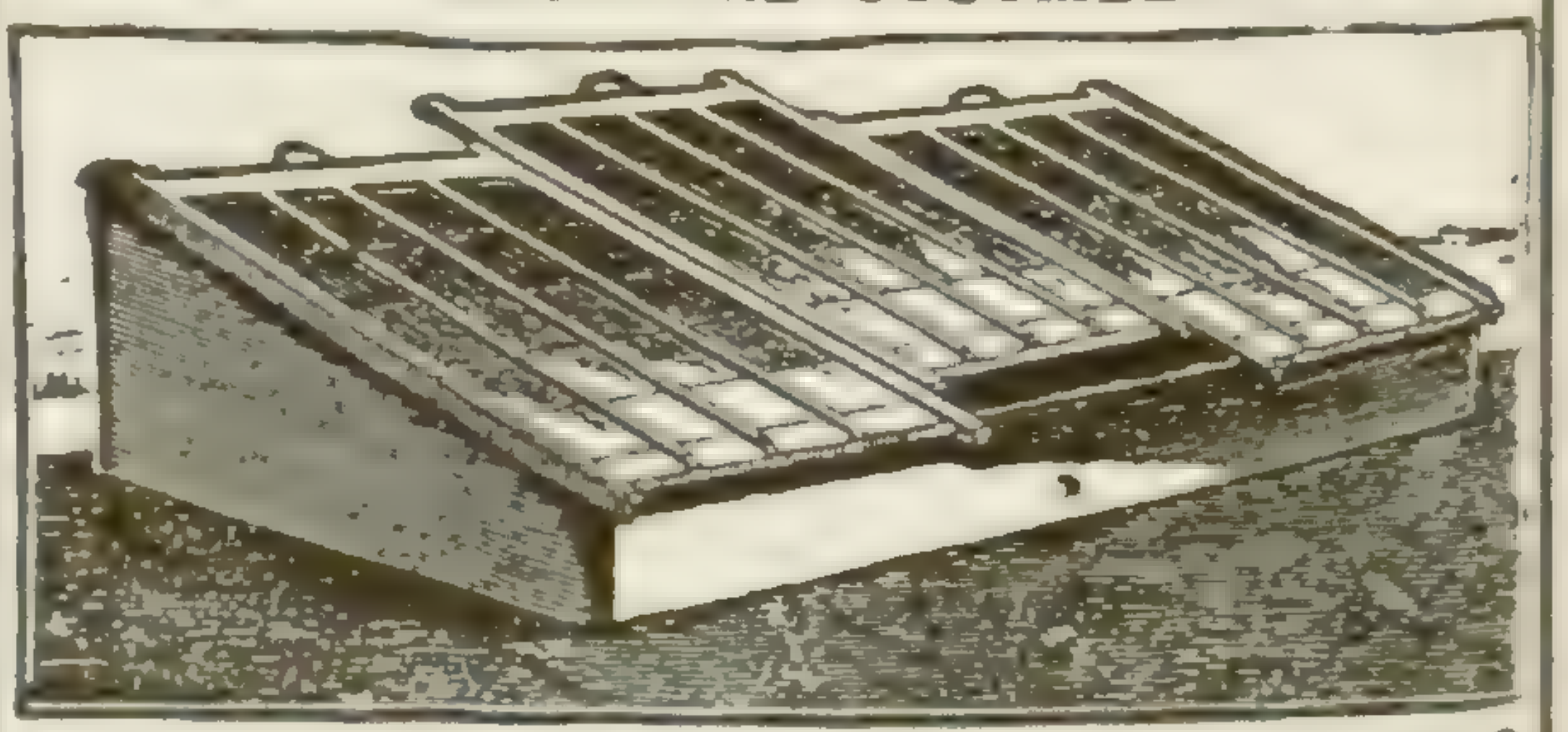

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Of all insect pests that ravage flower and kitchen gardens, the wireworm is the deadliest. The damage it does annually is appalling.

To exterminate the wireworm, the centipede, the leather jacket, the eel-worm and the millipede that ruin your garden, use

KILOGRUB

the surest and most effective pest-destroyer yet produced, and use it **now.**

"Kilogrub" is a chemical powder, which, well worked into the soil, gives out fumes which are fatal.

No insect pest can live on "Kilogrub" treated soil.

Only 2 or 3 ounces are necessary for a square yard.

Remember:—Kilogrub is a proved success—try it to-day.

Prices, cash with order carriage paid:—

7 lbs.	**2s. 0d.**	½ cwt.	**7s. 0d.**
¼ cwt.	**5s. 0d.**	1 cwt.	**11s. 6d.**

Sample Tin, **9d.**

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A non-poisonous Insecticide with pleasant delicate odour for orchids and general use under glass.
6 galls., **7/6** per gall.; 3 gall., **8/-** per gall.; 1 gall., **9/-**
½ gall., **5/-**.

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A most valuable Winter Wash extensively used in the largest orchards throughout the country upon Fruit Trees and Bush Fruits with most satisfactory results.
1 to 5 tins, **1/3**; 8 tins, **1/2**; 12 tins, **1/1**; 20 tins, **11d.**; 40 tins, **10d.** each.

BENTLEY'S NICOTINE COMPOUND.

We unhesitatingly claim for this Compound that it is not surpassed in quality or safety by any other Fumigant.
1 quart for 80,000 cubic feet, **29/-**; 1 pint for 40,000 cubic feet, **15/-**; No. 3 size for 32,000 cubic feet, **12/6.**

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A high-grade manure used by the leading growers and exhibitors for making new Vine Borders.
10 cwts., **£5 7s. 6d.**; 5 cwts., **£2 17s. 6d.**; 1 cwt., **12/-**; ½ cwt., **6/6.**

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Specially prepared for top-dressing. The richest manure manufactured.
1 ton, **£15**; 10 cwts., **£7 15s.**; 5 cwts., **£4 2s. 6d.**; 1 cwt., **17/-**; ½ cwt., **9/6**; tins, **3/-** each.

Carriage paid on 7/6 orders and upwards

Write for descriptive Catalogue of Horticultural Specialities and Sundries.

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CHEMICAL WORKS, BARROW-ON-HUMBER, HULL.

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FUMIGANT for **GREENHOUSES.**—Pt., **15/-**; ½ pt., **7/6**; **4/6**, **3/-**, **1/8** and **10d.** Cost of fumigating, **4½d.** 1,000 cubic ft. **Fumigators, 1/-** each, for 5,000 cub. ft. **NICOTICIDE PLANT SPRAY.**—½ Pt. **1/2**; Pt., **2/-**; Qrt. **3/6**; ½Gal. **5/-**; Gal. **10/-**. All goods carr. paid. Ask your seedsman and insist on having same.—**HUNTER & GOW,**
46, Thomas Street, Liverpool.

V1 FLUID
THE WINTER SPRAY FLUID.

The Priory Gardens, Roehampton, S.W. November 14th, 1908.

Sirs,—I purchased 2 gallons of V1 and sprayed about half the trees under my charge here, doing the other half with another preparation. I have much pleasure in saying that V1 has exceeded my expectations; the trees kept clean all the Summer, with the exception of a slight attack of Green Fly upon the young shoots of some plum trees, which was soon got rid of by an application of V2 Fluid. I have no hesitation in saying that if your two Fluids are as effectual in the future as they have been here this season, no one need have dirty trees or maggoty and misshapen fruits.

Yours respectfully, **D. CAMPBELL.**

V1 FLUID IS EASY TO MIX AND EASY TO APPLY.

1 Gallon of Fluid makes 100 Gallons of Spray Mixture.

Prices and Descriptive Booklet on application to:—

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RESERVE FUEL.

**ECONOMICAL,
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TEMPERATURE.**

Heating from 15 to 3,000 feet of 4in. Pipe.

GUARANTEED MINIMUM BURNING 12 HOURS.

Thousands in use giving the utmost satisfaction.

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Price 3/6, by post 3/10.

ENCYCLOPÆDIA OF GARDENING. A Dictionary of Plants, Flowers, Fruit, Vegetables, Shrubs, etc. Instructions for Cultivation, etc.

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148 and 149, Aldersgate Street, London, E.C.

CAUSTIC ALKALI.

☞ **THE FAMOUS WINTER WASH.**

REMOVES all decayed Bark, Lichens, Moss & Slime.
DESTROYS the Eggs of Winter Moth & all Insects.

Prices:
5 tins, **7/-**; 10 tins, **11/-**; 20 tins, **20/-**; 40 tins, **37/6.**
Carriage paid to any Station in Great Britain.

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THE GARDENERS' MAGAZINE
when writing to Advertisers.

OBITUARY.

◆

MR. DAVID CROLL.

There were laid to rest in Barnhill Cemetery, Broughty Ferry, on Monday, 11th inst., the remains of Mr. David Croll, the well-known rose-grower, and who for many years occupied a foremost place in Scottish horticultural circles. To those who knew him intimately, Mr. Croll's death caused no surprise, as he had been in failing health for some considerable time. Born at Duntrune, near Dundee, sixty-eight years ago, where his father carried on the trade of a miller, Mr. Croll as a boy entered the service of his uncle, Mr. P. W. Laird, nurseryman, Broughty Ferry, under whose tuition he acquired a thorough insight and knowledge of the practical and higher branches of the business. Subsequently, to acquire greater experience, he engaged with Messrs. Alexander Cross and Sons, seedsmen, Glasgow, in whose service he remained for a number of years. Returning to his native district about thirty years ago, he started business on his own account, taking into partnership with him his brother William, and for many years the firm of Messrs. D. and W. Croll, Dundee, has occupied a leading place among the horticulturists of the kingdom. Mr. Croll is survived by a widow and two sons and two daughters, the eldest son now succeeding his father in the business.

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Situations Wanted.

GARDENER (Head), where several are kept; 5 years as Head to present Employer, who highly recommends; previously Foreman in large establishment; thoroughly experienced; excellent references; age 31. H. KERCHER, Dudbrook, Brentwood, Essex.

GARDENER (Head, where three or four are kept); age 30; married; good experience, Inside and Out, including Grapes, Peaches, Melons, Stove and Greenhouse Plants (Carnations especially), Mushrooms, also Hardy Fruits and Vegetables; good references; nearly 3 years here as Second Gardener. A. JAMES, Buttenham Park, Ipswich.

COL. A. E. JENKINS wishes to recommend his late HEAD WORKING GARDENER to any lady or gentleman requiring a thorough good Man, well up in his profession, including forcing vines, cucumbers, stove and greenhouse plants, with 18 years' experience. Apply F. HUGHES, Wherwell, Andover, Hants.

GARDENER (Head working, where three or four are kept); life experience; age 28; married, two children; abstainer; excellent references. HOLDEN, Shottesbrooke, Maidenhead.

GARDENER (Head working), married, age 42, abstainer; over 26 years' experience in all branches; highest references; highly recommended; disengaged any time. CHEAL, Rose Cottage, Cliffe, Lewes.

ADVERTISER seeks Engagement as HEAD WORKING GARDENER, with Lady or Gentleman requiring the services of a thorough practical Man, in all branches (Inside and Out); highest references, extending over 19 years; 6 years as head; married; age 33. W. GUNSTON, Bridge Road, Itchen, Southampton.

GARDENER (Head Working, where several are kept); life experience in all branches; especially Grapes, Melons, Peaches, Cucumbers, and Stove and Greenhouse Plants; also Flower and Kitchen Garden; 21 years in last place, having left through death of employer; good references. C. T. M., 18, Pentland Street, Wandsworth, S.W.

GARDENER (Head Working, or good Single-handed, with help); experienced in all branches; age 37; abstainer; married; two children; good references. ELLIS, c/o J. Tufnail, Stationer, Newbury.

GARDENER (Head Working or good Single-handed) seeks Situation; 23 years' experience; good references; abstainer; age 39; married, one child (six). HUGHES, Portley Wood Lodge, Whyteleafe, Surrey.

GARDENER (Head Working, of four or five). —Mr. SMITH, Colston Bassett Gardens, Notts, can with confidence recommend his FOREMAN (H. ASBURY) as a steady, reliable man; well up in all branches; life experience; age 30; married when suited. Address as above.

GARDENER (Head working), thoroughly experienced in all branches, desires Situation; certified R.H.S.; formerly with Mr. E. Beckett, V.M.H.; married, no family; first-class testimonials. J. TAYLOR, New Cottages, Pans Lane, Devizes, Wilts.

GARDENER (Head working, where three or four are kept), life experience in all branches, both Inside and Out; highly recommended; 9 years' excellent character. J. DENTON, Church Walk, Harrold, Beds.

GARDENER (Head Working), where more are kept; 25 years' practical experience all branches, Inside and Out, early and late Forcing, Vines, Cucumbers, Melons, Stove, and Greenhouse Plants, Herbaceous Borders; thoroughly reliable; highly recommended; married, without encumbrance. WOODHOUSE, Eastwood Road, Bramley, Surrey.

GARDENER (Head Working), age 47; good practical experience in all branches, Inside and Out; many years as Head; can have good references. H. TURNER, Fineshade, Stamford.

S. C. GIBBONS, Esq., can highly recommend J. TANNER as HEAD WORKING GARDENER where more are kept; life experience in all branches; married; age 40; no children; leaving through giving up of the establishment. Apply, J. TANNER, Rothesay, Franklyn Road, Hayward's Heath, Sussex.

GARDENER (Head of two or three or thorough Single-handed); married; age 40; life experience in Fruit, Flowers, and Vegetables; Inside and Out; good character. J. S., 5, White Cottages, Clay Hill, Enfield.

GARDENER seeks SITUATION, Second or Single-handed, with or without help; all-round Inside and Out; married and disengaged when suited; age 27; good references; three years present situation, second of seven; well recommended. ODDY, Avenue House Gardens, Finchley, N. No circulars.

GARDENER (Single-handed or with help); married; age 38; one boy, age seven; disengaged January 30; two years here; good references. H. Q., The Grange Gardens, Acton Lane, Harlesden, N.W.

GARDENER (Single-handed or good Second); life experience, Inside and Out; 10 years last situation; good reference; age 34. G. HARDING, 2, Gravel Pit Hill, High Street, Hampton Wick.

GARDENER (Single-handed or with help); 15 years' practical experience in all branches; married when suited; highly recommended. J. RANDELL, 3, Railway Cottages, Durnsford Road, Wimbledon, Surrey.

GARDENER seeks SITUATION (Single-handed or with help); seven years' practical experience in all branches, Early and Late Forcing, Vines, Cucumbers, Melons, Herbaceous Borders, Chrysanthemums, and Vegetables; thoroughly reliable, good character; age 25; married, one child. A. E. BEACHER, 7, Albert Road, Rustington, near Worthing, Sussex.

GARDENER (Single-handed or with help); eleven years' experience, both Inside and Out; age 26, single. Apply S. STAGG, Birchden Cottages, Groombridge, Sussex.

GARDENER (Single-handed or with help); 12 years' experience; Inside and Out; good character; age 28; married, two children. H. ALLISTON, 27, Keemor Street, Woolwich.

GARDENER (good Single-handed); age 31; married; practical life experience in all branches; life abstainer; excellent references; disengaged. F. STOWE, 14, Southern Rd., Thame, Oxon.

GARDENER (Single-handed, or with help); Vines, Stove, Greenhouse Plants; experienced Inside and Out; good character by me; age 35; married (boy 5 years); willing to be useful. State terms. C. H. SMITH, 44, Ravenbourne Road, Catford, S.E. Disengaged when suited.

GARDENER, age 24, seeks SITUATION as good Single Hand; 9 years' experience; abstainer; Churchman. P. JANES, Spurgrove, Hambledon, Henley-on-Thames.

FOREMAN (Inside).—Mr. MARKWELL, Brandfold Gardens, Goudhurst, can highly recommend YOUNG MAN as above, well up in vines, peaches, stove, and greenhouse plants, also carnations and chrysanthemums; 11 years' practical experience; age 27.

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FOREMAN seeks SITUATION in the Plant and Fruit Houses; good practical experience, and can be well recommended; age 28; abstainer. J. SHORT, Downside, Chilcompton, near Bath.

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GARDENER (Under), Second of two or three; 26, single; good references; disengaged; recommended by Lady F. Blunt. H. JENNINGS, Watson Road, Westcott, Dorking.

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GARDENER (Under) (21), seeks RE-ENGAGEMENT, Inside, or Inside and Out; bothy preferred; 4 years' experience; good references; disengaged at week's notice. STEPTOE, Queen's Road, Marlow.

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For JANUARY 23, 1909.

Please Repeat my Advertisement.

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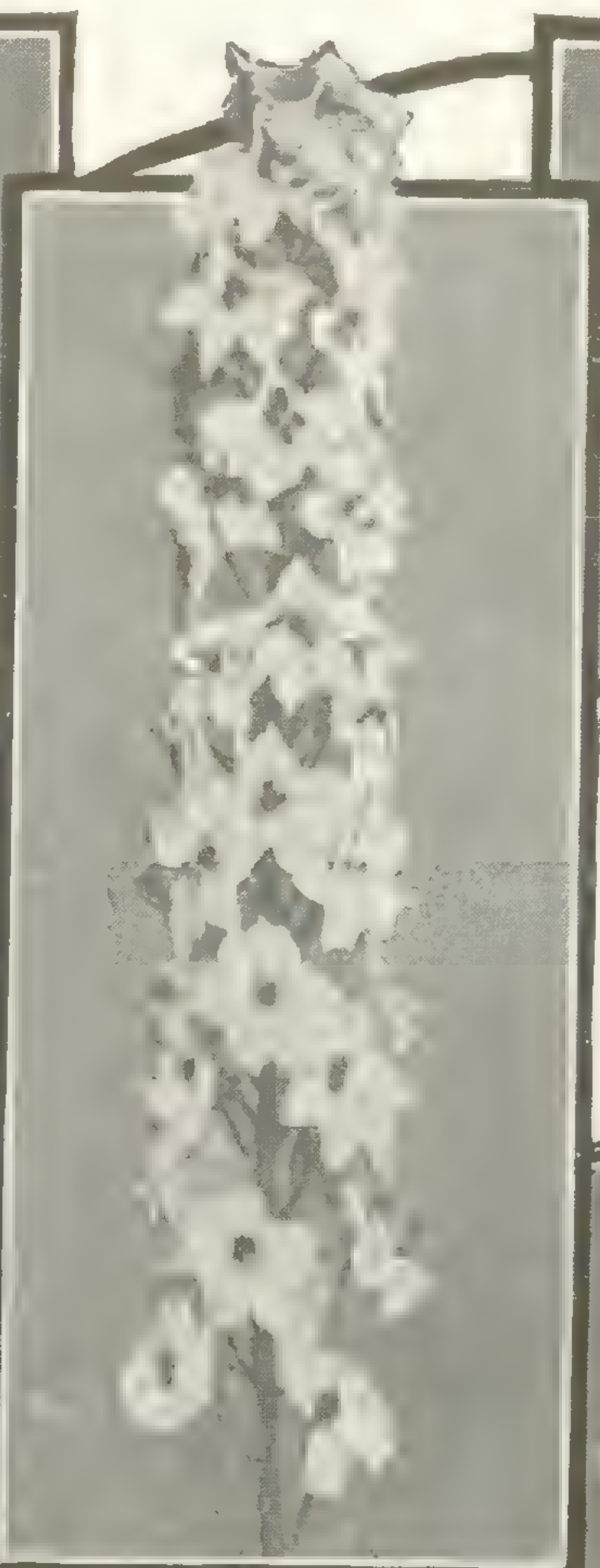

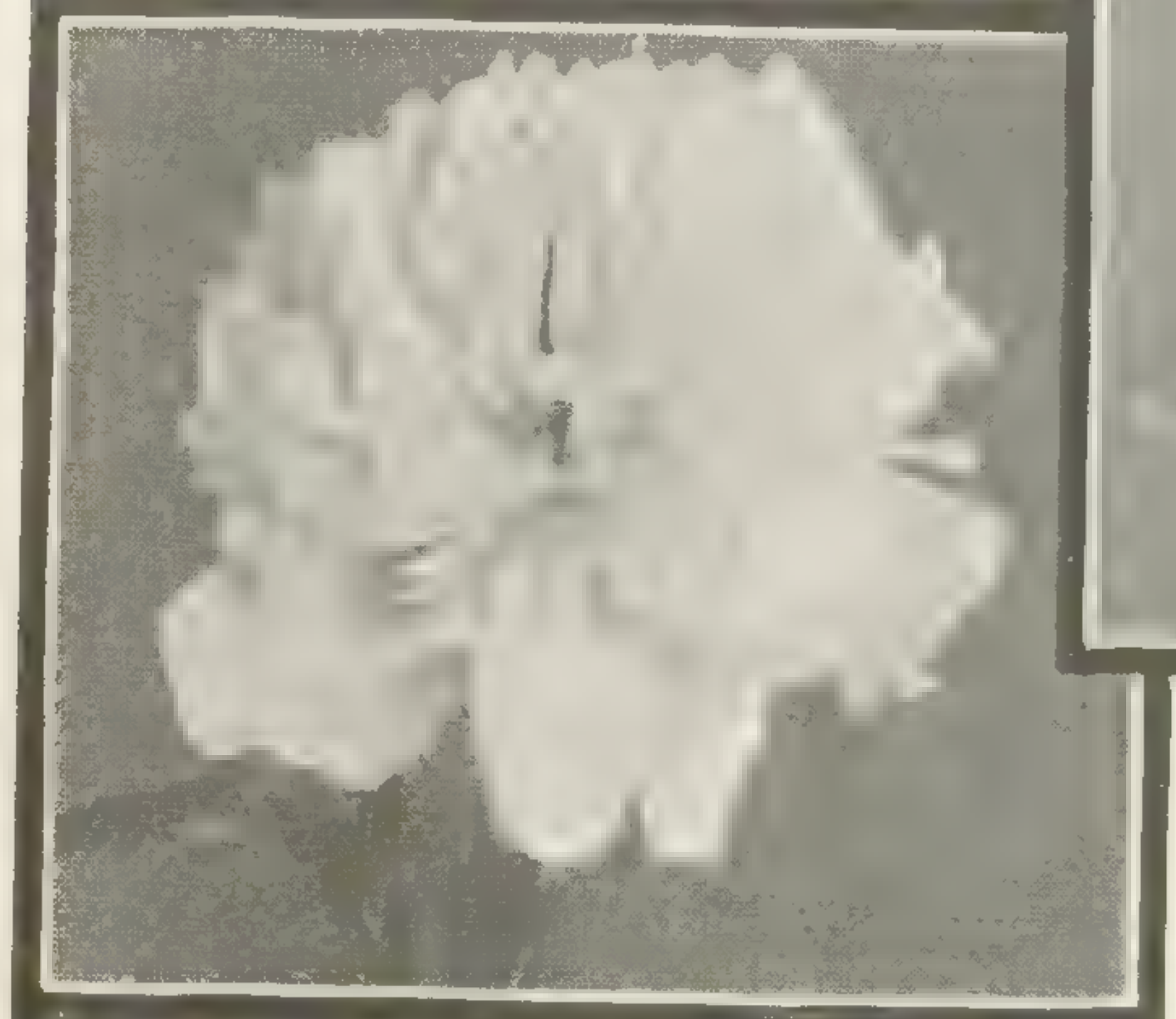
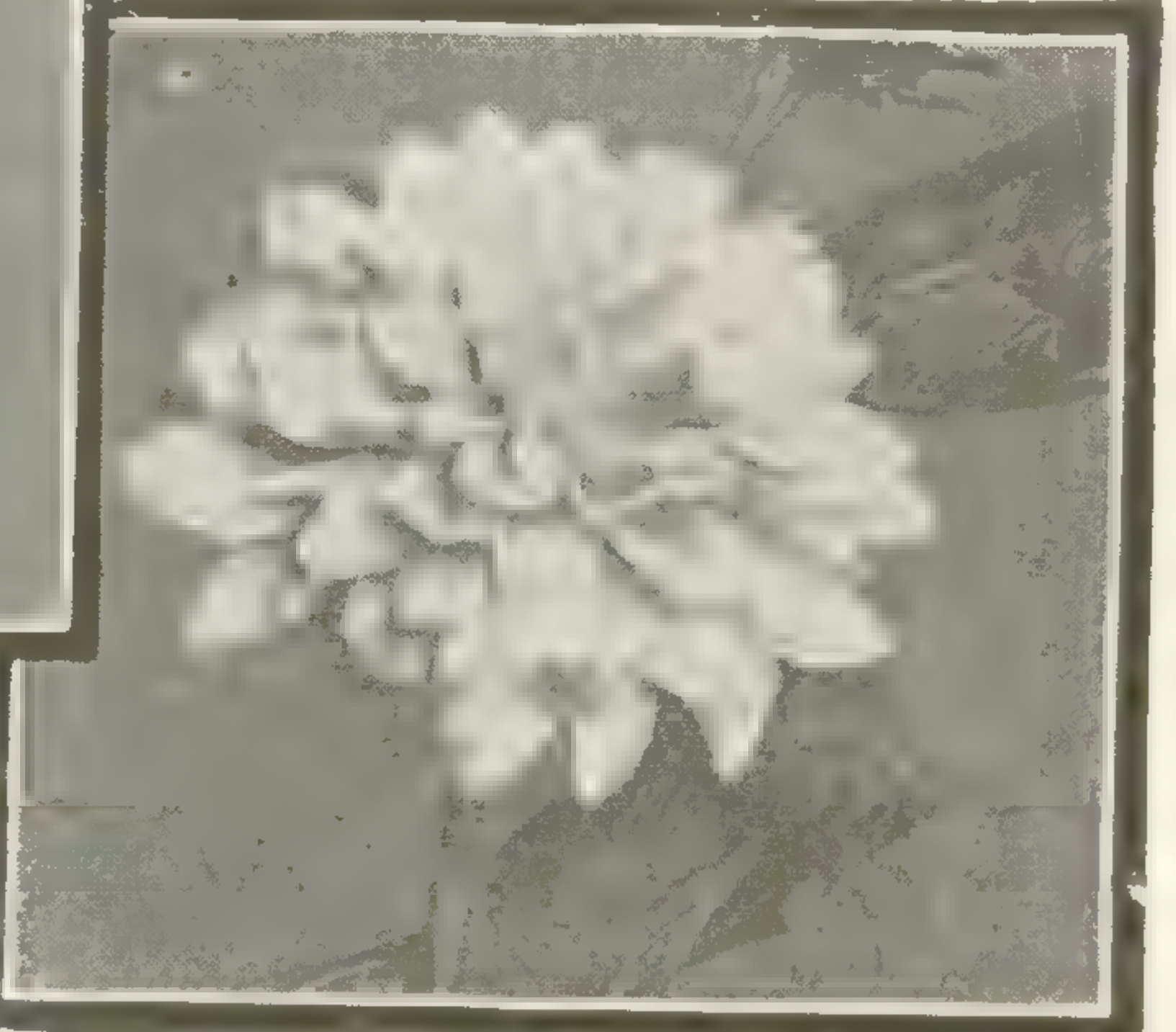

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Height above Sea-level, 150 feet.

DATE. 1909. JANUARY 3 TO JANUARY 9.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Jan. 3—Sunday	—	45	45	48	41
,, 4—Monday	—	42	42	45	42
,, 5—Tuesday ...	—	34	34	40	33
,, 6—Wednesday .	1 20	40	38	46	34
,, 7—Thursday ...	2 55	41	39	45	36
,, 8—Friday	4 10	37	35	42	37
,, 9—Saturday ...	2 50	35	33	42	34
Means	1 : 5	39	38	44	37

DATE. 1909. JANUARY 3 TO JANUARY 9.	RAIN.	TEMPERATURE OF THE SOIL. AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
Jan. 3—Sunday	—	42	42	44	41
,, 4—Monday	—	42	43	44	38
,, 5—Tuesday ...	—	41	43	44	26
,, 6—Wednesday.	—	40	42	45	29
,, 7—Thursday ..	0·10	40	42	45	30
,, 8—Friday	—	40	42	44	32
,, 9—Saturday ...	0·06	38	42	44	28
Means ...	(total) 0·16	40	42	44	32

FORTHCOMING ENGAGEMENTS.

THURSDAY, January 21.—Gardeners' Royal Benevolent Institution: Annual Meeting and Election of Pensioners, 2.45 p.m.; friendly supper, 6 p.m., at Simpson's, Strand.

SATURDAY, January 23.—Annual dinner of the French Horticultural Society of London, at the Café Royal, at 6.30 p.m.; Sir Albert K. Rollit will preside.

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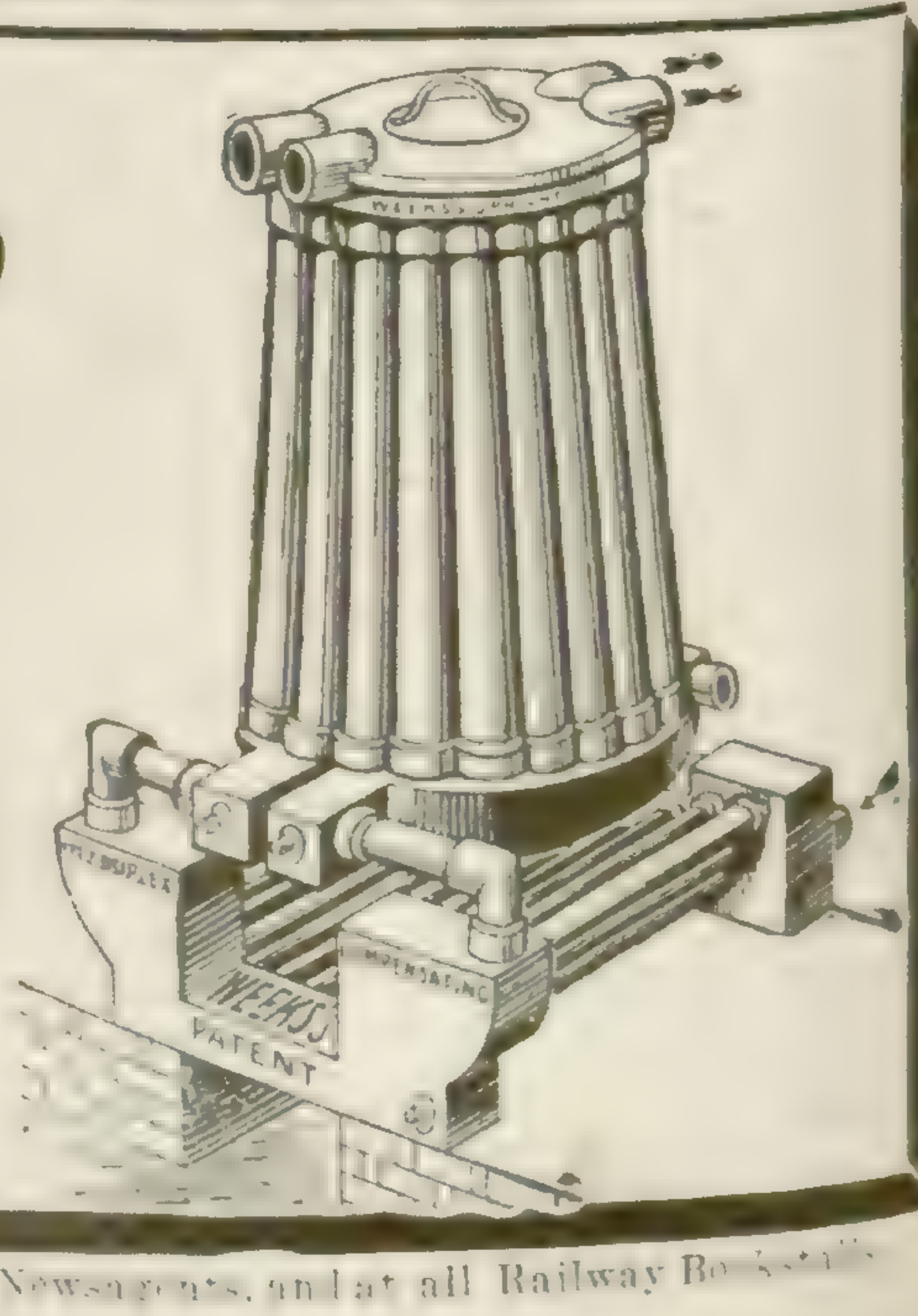

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THE GARDENERS' MAGAZINE.

No. 2,882. Vol. LII.
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SALES NEXT WEEK.

MONDAY and FRIDAY next, Jan. 25th and 29th, at Twelve o'clock.—Choice hardy BORDER and HERBACEOUS PLANTS, Perennials, etc., Liliums, Spring-flowering and Other Bulbs, Gladiolus, Begonias, Gloxinias, etc., 200 Azaleas (Indica and Mollis), and 50 Rhododendrons.

At Half-past One o'clock.—1,000 ROSES, Standard, Dwarf, Climbing, Tea, etc.; also Fruit Trees in variety.

WEDNESDAY next, Jan. 27th, at Half-past Eleven o'clock. Thousands of PÆONIES, Gladiolus, Begonias, Gloxinias, etc.

At Twelve o'clock.—200 lots of HERBACEOUS PLANTS; also a quantity of Hardy Bulbs and Border Plants, Ferns, Lilies, Lily of Valley, Gladiolus, Spiræas, Begonias, etc.

At One o'clock.—A consignment of 800 cases JAPANESE LILIUMS.

At Half-past One o'clock.—3,500 ROSES, Standard, Dwarf, Climbing, Tea, etc.; also Fruit Trees of sorts.

At Five o'clock.—600 AZALEAS of sorts, 100 Rhododendrons, Camellias, etc.; also 100 lots Ornamental and Decorative Palms and Plants.

FRIDAY next, Jan. 29th, at a Quarter to One o'clock.—Grand imported ONCIDIUMS in variety, 100 lots of imported Odontoglossum Crispum, Carderian type. Established Orchids, Orchids in flower and bud.

MESSRS. PROTHEROE and MORRIS will SELL the above BY AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C.

On view morning of sale, and catalogues had.

MACKERETH'S SWEET PEA LIST

is "one of the most interesting Lists of Sweet Peas which I have received up to the present time," says Mr. W. P. Wright in "The Gardener," Dec. 12th. It contains particulars of the chief novelties of the year, including as it does those of Miss Hemus, Messrs. Burpee, Morse, Malcolm, Lumley, Stark, Cole, Dobbie, Baker, and others.

All lovers of Sweet Peas ought to grow Malcolm's Mrs. A. Malcolm, Malcolm's Cream Waved, and Lumley's Anna Lumley, the best and truest dark Sweet Pea.

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The finest Broad Bean for Show purposes, 1/6 per qt.

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NOTICE.

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The Two Magnificent Crimson Japs—

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will be despatched about the middle of February (as far as stock permits). Well established plants in pots.

These are the Finest Crimsons for Exhibition yet introduced, and the last-named will probably prove the **Best Novelty of the Season.**

It was the only Crimson or richly coloured variety certificated by the N.C.S. in November.

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Employment THE GARDENERS' MAGAZINE Register.

The charge for an Advertisement INCLUDES A FREE ENTRY ON THE REGISTER. Immediate Notice must be given when an engagement is secured.

A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

GARDENER (Head), where several are kept; 5 years as Head to present Employer, who highly recommends; previously Foreman in large establishment; thoroughly experienced; excellent references; age 31. H. KERCHER, Dudbrook, Brentwood, Essex.

GARDENER (Head, where three or four are kept); age 30; married; good experience, Inside and Out, including Grapes, Peaches, Melons, Stove and Greenhouse Plants (Carnations especially), Mushrooms, also Hardy Fruits and Vegetables; good references; nearly 3 years here as Second Gardener. A. JAMES, Brettenham Park, Ipswich.

GARDENER (Head Working), thoroughly experienced in all branches, desires SITUATION; certified R.H.S.; formerly with Mr. E. Beckett, V.M.H.; married, no family; first-class testimonials. J. TAYLOR, New Cottages, Pans Lane, Devizes, Wilts.

GARDENER (Head working), married, age 42; abstainer; over 26 years' experience in all branches; highest references; highly recommended; disengaged any time. CHEAL, Rose Cottage, Cliffe, Lewes.

ADVERTISER seeks Engagement as HEAD WORKING GARDENER, with Lady or Gentleman requiring the services of a thorough practical Man, in all branches (Inside and Out); highest references, extending over 19 years; 6 years as head; married; age 33. W. GUNSTON, Bridge Road, Itchen, Southampton.

GARDENER (Head Working, where several are kept); life experience in all branches; especially Grapes, Melons, Peaches, Cucumbers, and Stove and Greenhouse Plants; also Flower and Kitchen Garden; 21 years in last place, having left through death of employer; good references. C. T. M., 18, Pentland Street, Wandsworth, S.W.

GARDENER (Head Working, or good Single-handed, with help): experienced in all branches; age 37; abstainer; married; two children; good references. ELLIS, c/o J. Tufnail, Stationer, Newbury.

GARDENER (Head Working, of four or five). —Mr. SMITH, Colston Bassett Gardens, Notts, can with confidence recommend his FOREMAN (H. ASBURY) as a steady, reliable man; well up in all branches; life experience; age 30; married when suited. Address as above.

GARDENER (Head working), thoroughly experienced in all branches, desires Situation; certified R.H.S.; formerly with Mr. E. Beckett, V.M.H.; married, no family; first-class testimonials. J. TAYLOR, New Cottages, Pans Lane, Devizes, Wilts.

GARDENER (Head working, where three or four are kept), life experience in all branches, both Inside and Out; highly recommended; 9 years' excellent character. J. DENTON, Church Walk, Harrold, Beds.

GARDENER (Head Working), where more are kept; 25 years' practical experience all branches, Inside and Out, early and late Forcing. Vines, Cucumbers, Melons, Stove, and Greenhouse Plants, Herbaceous Borders; thoroughly reliable; highly recommended; married, without encumbrance. WOODHOUSE, Eastwood Road. Bramley, Surrey.

GARDENER (Head of two or three or thorough Single-handed); married; age 40; life experience in Fruit, Flowers, and Vegetables; Inside and Out; good character. J. S., 5, White Cottages, Clay Hill, Enfield.

GARDENER (Head Working), age 47; good practical experience in all branches. Inside and Out; many years as Head; can have good references. H. TURNER, Fineshade, Stamford.

GARDENER (Head working, where three or four are kept); life experience; age 28; married, two children; abstainer; excellent references. HOLDEN. Shottesbrooke. Maidenhead.

GARDENER (Head or good Single-handed); 16 years' experience, Inside and Out, married, age 31; over 4 years in present situation; good references. GOLDSON, St. James Street, Southover, Lewes.

GARDENER (Head Working); age 33; practical experience in all branches, Inside and Out, early and late forcing of vines, melons, cucumbers, stove and greenhouse plants, flower and kitchen garden. F. G. H., 1, Waterford Villas, Salisbury Road, New Malden, Surrey.

GARDENER (Head), age 38, married; life experience; thorough knowledge of vines, melons, peaches, stove and greenhouse plants, early forcings, kitchen and flower gardening; five years in last situation; can be highly recommended as to character and abilities.—DUNKLEY, Manor House, Whalton, Morpeth.

GARDENER (Head Working), age 39; thoroughly conversant with all branches, including the French System, Intensive Cultivation of Vegetables and Salads; good references. D., 36, Florence Road, Southall, Middlesex.

GARDENER (Head), 38, married, no family; Continental and English experience; Glass, Landscape, Rock, and Water Gardens; well versed in raising of Rare Plants, Aquatic and Land, Fruit Culture, Vegetables, etc.; good controller of men. MAX BAUER, 552, Abbeydale Road, Sheffield.

MR. USHER, Gardener to Sir Randolf Baker wishes to recommend his Foreman as HEAD WORKING GARDENER in Small Establishment; disengaged when suited. A. BILES, Ranston, Blandford.

MR. J. MAYNE BICTON wishes to recommend W. H. BROOKS as HEAD WORKING GARDENER, where three or more are kept; life experience in all branches; highest references; 7 years in present place; age 38; married, 2 children, ages 14 and 11. The Gardens, Itchen, Stoke, Alresford, Hants.

MR. HEMMING, Alexandra Palace, N., highly recommends S. WELLS as HEAD WORKING GARDENER; experienced in all branches of large establishments, including Addington Park, Preston Hall, Hall Barn; age 29; at liberty when suited. 1, Buckingham Road, Wood Green, London, N.

THE DOWAGER LADY HILLINGDON, Wildernesse, Kent, can with every confidence recommend her late General Foreman to any lady or gentleman in want of a HEAD-WORKING GARDENER, where four or five men are kept; 19 years' experience; previously Foreman Raby Castle Gardens; excellent references.—A. STEWART, Canongate, Alnwick, Northumberland; disengaged.

GARDENER (Single-handed) seeks SITUATION; pony not objected to; age 24; good references. Apply E. VICKERS, Park Cottages, Gosfield, near Halstead, Essex.

GARDENER (good Single-handed); age 31; married; practical life experience in all branches; life abstainer; excellent references; disengaged. F. STOWE, 14, Southern Rd., Thame, Oxon.

GARDENER (Single-handed or with help); good Second's place not objected to; married, age 36; tall; one child; life experience Inside and Out; good references. H. WARNER, 17, Salmestone Road, Margate, Kent.

GARDENER seeks SITUATION (Single-handed or with help); seven years' practical experience in all branches. Early and Late Forcing; Vines, Cucumbers, Melons, Herbaceous Borders, Chrysanthemums, and Vegetables; thoroughly reliable, good character; age 25; married, one child. A. E. BEACHER, 7, Albert Road, Rustington, near Worthing, Sussex.

GARDENER (Single-handed, or with help; Vines, Stove, Greenhouse Plants; experience; Inside and Out; good character by me; age 35; married (boy 5 years); willing to be useful. State terms. C. H. SMITH, 44, Ravenbourne Road, Catford, S.E. Disengaged when suited.

GARDENER seeks SITUATION, single-handed, or where help is given; 12 years' experience Inside and Out; age 30; married, 1 child, 3 years present situation. B., care of Proctor, Eas Street, Alford, Lincolnshire.

FOREMAN or FIRST JOURNEYMAN Inside, age 25; experienced in Vines, Peaches, Tomatoes, Cucumbers, Stove, and Greenhouse Plan etc.; well recommended. F. O. CORMELL, Mickleto Campden, Glos.

FOREMAN (Inside); age 26; well up in Tree and Malmaison Carnations, Fruits, etc.; good references. A. E. MOSS, Woughton Green, Bletchley, Bucks.

GARDENER (Second) seeks SITUATION, life experience Inside and Out; good references age 25; married. Apply, OVALL, Angel Cottag South Weald, near Brentwood

J. PARKER, Gardener to the Earl Ferrers Staunton Harold, Ashby-de-la-Zouch, ca highly recommend Young Man, age 24, as PLEASUR GROUND FOREMAN; Midlands preferred. Apply above; or J. CRIPPS, Spring Woods, Hackwood Park Basingstoke, Hants.

MR. PASCOE, Undermount Gardens, ca well recommend J. OLDING as FOREMAN SECOND; 2½ years Foreman here; 12 years' experience with Greenhouse and Stove Plants, Vines, Peaches, etc., Chrysanthemums, and Conservatory Decorations; good knowledge of Outside if required; excellent character; good references; age 27; leaving through death. Address, Bonchurch, Isle of Wight.

JOURNEYMAN (age 20) seeks SITUATION (Inside); 6 years' experience, Inside and Out; 3 years present situation; well recommended; bothy. Yorkshire or Derbyshire preferred. G. U. NEALE Newbold Fields, Chesterfield, Derbyshire.

MR. C. K. NORMAN highly recommends his Under Gardener as SECOND JOURNEYMAN; well up in his work; 6½ years' experience; age 22. ERNEST JARVIS, Brantham Court, near Manningtree, Essex.

MR. GEO. CHANDLER, The Gardens, Hollingbury Copse, Ditchling Road, Brighton, can confidently recommend a Young Man for Inside and Outside; 3 years here: strong, active, and willing; abstainer; age 18.

W. THEOBALD, Hatchford Park, Cobham, Surrey, recommends a strong, active Young Man; age 22; Inside, under foreman, in good establishment; experienced, and interested in his work

GROWER, Cucumbers, Tomatoes, Chrysa themums, and General Nursery Stuff; good references; quite capable of taking charge; marr J. LASHMAR, 3, West View, Longton, Preston

WANTED, SITUATION as UNDER GARDENER; 18 months' experience; leaving no fault; age 20; first-class character. Apply F. BAKER, Compton Pauncefote, North Cadbury Somerset.

SITUATION COUPON

To the Advertisement Manager of "THE GARDENERS' MAGAZINE," 148 & 149, Aldersgate Street, London, E.C.

For JANUARY 30, 1909.

Please Repeat my Advertisement.

Name……………………………………

Address……………………………………

……………………………………

Date……………………

THIS COUPON, duly filled up, should be forwarded not later than Tuesday for the next issue.

Situations Wanted—*continued.*

AS UNDER-GARDENER or single-handed lawnsman, or kitchen garden, YOUNG MAN, 24, seeks SIT.; 9 years' good all-round experience in large places; cottage or otherwise: married when suited. Apply R. LOCK, Arborfield, Weybridge, Surrey.

IMPROVER.—I can strongly recommend L. BUTLER, age 17. Inside or Inside and Out; 3½ years' good experience; strong, active, obliging. Further particulars, A. E. T. ROGERS, Sudeley Castle Gardens, Winchcombe, Glos.

MR. C. BLICK will be pleased to recommend R. GOLDSMITH as IMPROVER (Inside) in good establishment; age 18; 4 years' experience. Address. Warren Cottages, Hayes, Kent.

SITUATION as CARNATION GROWER: four years' experience with leading firms in America; good references; age 25; married. Disengaged. (Private place preferred.) J. H. MURLEY, Hea Moor, Penzance, Cornwall.

HANDY MAN wants SITUATION to assist Gardener; understands Bees (Certificated Expert). Can make the appliances, etc.; total abstainer. J. SHORT, 6, Freshwell Street, Saffron Walden, Essex.

HANDY MAN seeks SITUATION on Estate, Gentleman's Garden, or Nursery; wife Laundress, Poultry, or Help in House; well recommended. SANDERS, 2, Nelson Road, Gorleston-on-Sea.

LANDSCAPE GARDENER (22); six years' practical experience; good Draughtsman; seeks now or later Engagement; Trade or Private; good references. H. SAND, 6, Charles Street, Hillingdon Heath, Middlesex.

LADY recommends TWO LADS, ages 15 and 16, for Work in Garden; separate places; tall and good appearance; previous experience; to live in preferred; Church of England. Miss EDITH BROWN, The Priory, Little Waldingfield, Sudbury, Suffolk.

MESSRS. DROVERS highly recommend YOUTH, age 19, good worker, under the foreman for improvement; bothy. Nurseries, Fareham.

YOUNG MAN (20) seeks SITUATION in Garden; abstainer; strong and willing; three years' good character; left through reducing of establishment. Apply FRY, The Hut, Knightsbridge, Newbury.

YOUNG MAN seeks SITUATION in kitchen Garden or Kitchen Garden and Pleasure Grounds; good reference; age 23. Apply A. G. SLEET, The Gardens, Hatchford Park, Cobham, Surrey.

YOUNG MAN (27) seeks RE-ENGAGEMENT as Leading Hand in Kitchen Garden; leaving through reductions; used to duty, Bothy, etc.; good reference. A. E. FRENCH, 33, Spring Gardens, Northampton.

YOUNG MAN, 19, desires SITUATION as IMPROVER in Kitchen Garden or Pleasure Grounds; 4½ years' good character. Apply, A. ARGENT, Aldborough Hatch, Ilford, Essex.

PARISH OF SAINT LEONARD, SHOREDITCH.

COTTAGE HOMES, HORNCHURCH.

FOSTER-FATHER (GARDENER) AND FOSTER-MOTHER.

The Guardians of the Poor of the above-named Parish, invite APPLICATIONS from Married Couples (without children living with them preferred), for the APPOINTMENTS of FOSTER-FATHER and FOSTER-MOTHER, at one of the Cottages comprising these Homes.

The husband must be a Skilled Gardener, and he and his wife will be required to take charge of a Cottage capable of accommodating 32 Boys, and be competent, the man, to cultivate with assistance, extensive vegetable and flower gardens and to teach gardening, and the wife with the assistance of the Boys, to perform all the domestic work of the Cottage.

Salary, for the Foster-Father, £34, rising £2 annually to £42 per annum, and for the Foster-Mother £22, rising £2 annually to £28 per annum, together with board and apartments and an allowance of £3 per annum each, in lieu of beer should it be desired.

The appointments will be made subject to deductions under the Poor Law Officers' Superannuation Act, 1896.

Applications, upon forms to be obtained at my office as under, by forwarding a stamped addressed envelope, or by personal application, are to be sent in on or before WEDNESDAY, the 27th instant.

None but persons whose characters in all respects will bear the closest investigation need apply.

Further particulars can be obtained upon application to the Superintendent of the Homes, which are near Romford, Essex.

Canvassing the Guardians is prohibited, and will disqualify candidates.

By order,
ROBERT CLAY,
Clerk to the Guardians.

Clerk's Office,
213, Kingsland Road, N.E.,
January 18, 1909.

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BEGONIAS

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SINGLE, all colours, mixed, 2/6 doz.; 18/- 100. Separate colours, 4/- doz.; 25/- 100. Choice extra selected, 8/- doz. DOUBLE, all colours, mixed, 3/6 doz.; 25/- 100. Separate colours, 5/- doz.; 35/- 100. Choice extra selected, 12/- and 25/- doz. FRILLED-EDGED and CRESTED SINGLES, all colours, mixed, 6/- doz. Separate colours, extra good, 9/- doz. SPECIAL BEDDING VARIETIES: — Major Hope, Washington, Worthiana, Count Zepplin, Phosphorascens, &c.

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DOUBLE, mixed, 2/6 and 5/- packet.
SINGLE, mixed, 1/- and 2/6 per packet.

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Vegetable and Flower
SEEDS.

Collections to give an ample supply of well selected Vegetables the year round from 10/6 and upwards.

Collections of Choice Flower Seeds from 2/6 to 60/-.

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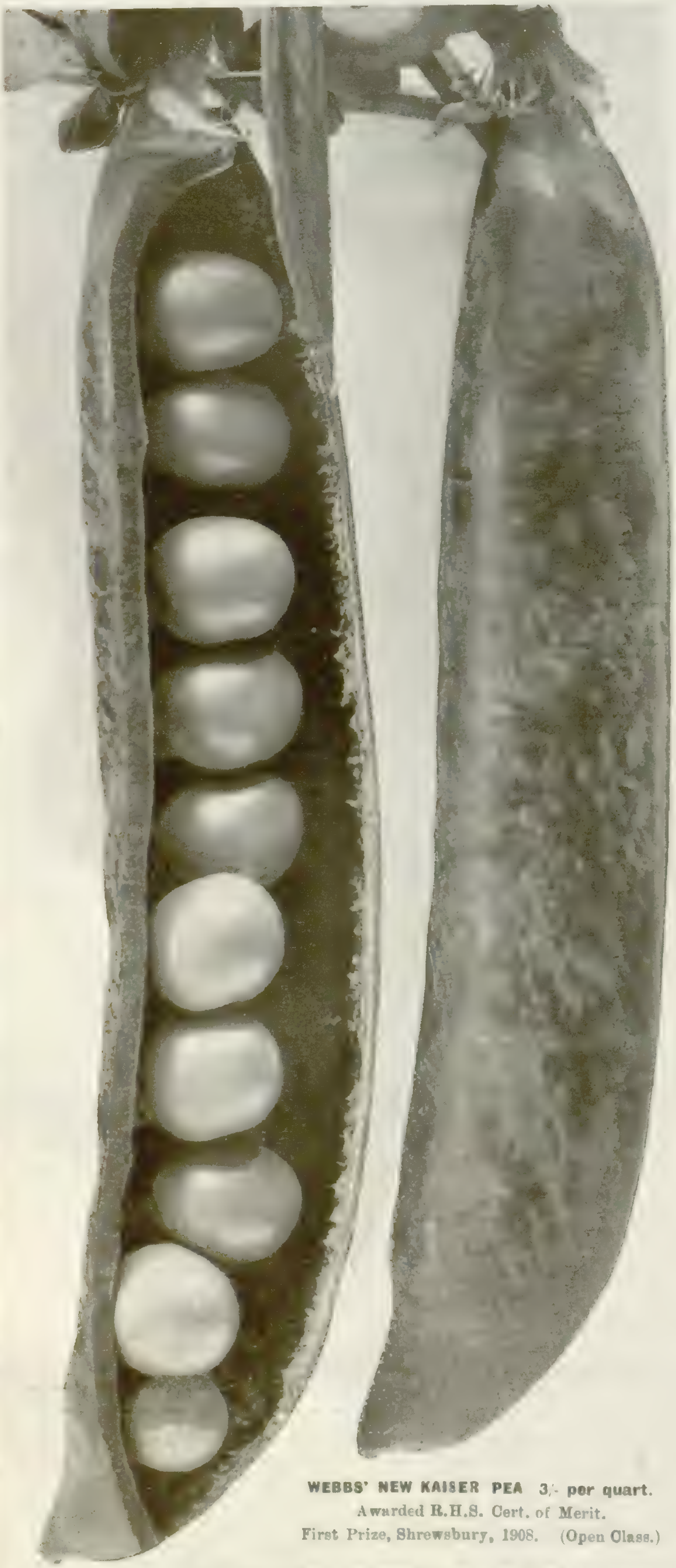

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VOL. LII.—No. 2,882. SATURDAY, JANUARY 23, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Old Age in Plants.

In connection with potatoes it is considered by some authorities that when a variety is propagated solely by its tubers for a long period, which means practically that its individuality is maintained throughout, it is apt to become weak in constitution, and therefore more liable to disease than it was originally. The implication is that a potato plant grows old, and that senility leads to death in the same way as in the animal kingdom. It is, however, somewhat of an open question whether this is really the case with perennial plants. Propagation by means of tubers, bulbs, or other similar accumulations in the soil of nourishment associated with buds, is practically much the same in principle as propagation by cuttings, inasmuch as no matter how extensively multiplication by this means may be carried on, or for how long, the entire result consists of parts of the original individual; and, taking a tree as an example, and imputing to this tree a normal life of a century, it would be natural to expect that by the end of a century all its parts would perish of old age. In point of fact, however, there is no definite evidence that mere old age determines the life of an individual plant at all. Death is brought about by other causes. In a tree the annual increase of its foliar system, laterally and perpendicularly, means a greater and greater risk of destruction by storms, which, if only partial, causes wounds, which are liable in an old tree to lead to decay of the internal wood, and thus to its eventual death. Given, however, such conditions of shelter as obtain in the region of the giant redwoods and eucalyptus, and we find evidence that the individual tree continues to grow healthily for many centuries. Given, too, such examples of longevity in trees which may be propagated by cuttings, and there is no doubt whatever that such cuttings could be struck with equal ease if taken now as when the tree was a sapling, and there is equally little doubt that, given like favourable conditions to those enjoyed for centuries by the parents, a young plant so raised would exist equally long, and so on practically ad infinitum. Tall, slender plants, such as palms, with a purely subterrestrial root system, have their life period determined by the fact that all their growth being upward, a time must come when the strain on the root system is too great, and, under stress of wind, they topple over; given, however, a tree fern, with a partly aerial root system springing from the frond bases, and, although subject to the same risk for the same reason, its summits could root where it fell, and so practically give it an entirely fresh lease, presenting again an indefinite life period in which senile decay plays no part at all. As a matter of fact, apart from annuals and biennials, the life period of vegetation seems quite indefinite, if we regard the entire plant as the unit, but in reality it is the leaf which is the unit, and in this we see exemplified within a comparatively short period, the several stages of youth, maturity, senile decay, and death. The plant itself, adhering to a tree as a typical example, is a community, a sort of commonwealth, which the successive generations of individuals, i.e., the leaves, contribute to create, support, and extend. There is no limit to the continued existence of such a community, unless, as we have seen, it is formed on such lines as to involve, sooner or later, a breakdown, coupled with no recuperative provision. The giant sequoia is a typical success, year after year, and century after century, it has judiciously buttressed its enormous trunk in proportion to its increasing altitude, a living pyramid of strength, while the palm we may cite as a typical failure through making no such provision. Turning back now to the humbler but far more important potato, we may see that grave doubts exist as to whether the decadence of varieties propagated asexually for long periods, is due to senile decay. May it not be partly due to faulty methods of storage and propagation?

MR. GEORGE J. INGRAM,
Secretary of the Gardeners' Royal Benevolent Institution.

Mr. George J. Ingram has, during the eighteen years he has occupied the position of secretary of the Gardeners' Royal Benevolent Institution, rendered such splendid service in the cause of charity in its relation to gardening, that we feel sure his portrait, which is given herewith, will be welcomed by a very large number of our readers. In briefly alluding to Mr. Ingram and his work, there is no occasion to write the history of the splendid charity with which he is associated, or to dwell upon the remarkable ability he has brought to bear upon the duties of his important office. These things are well known to the general body of horticulturists, but comparatively few may be fully acquainted with the enormous growth of the Gardeners' Royal Benevolent Institution during the period Mr. Ingram has been its secretary. Therefore, it may be of interest to state that when in 1891 Mr. Ingram was appointed, the annual income was £5,296, whereas last year it was over £9,000. During the same period the pensioners have increased from 156 to 224, and the amount disbursed in pensions has increased from about £2,500 to nearly £4,000. In addition, the Victorian Era Fund and the Good Samaritan Fund have been instituted, and from these, a sum of about £250 is annually expended in ministering to the needs of candidates awaiting election. Mr. Ingram is careful to avoid at all times claiming credit for the growth of the charity, but we know that the committee and other officers give him a very large share thereof, and very highly appreciate the zeal and judgment with which he discharges his exacting duties. We know also that he is very highly esteemed, and deservedly so, by the general body of horticulturists.

Cornish Gardens.—In the issues for February 6 and 13 we shall give an illustrated account of some of the more famous of the many fine gardens in Cornwall. The gardens that will be described and illustrated will include those of Bosahan, Pencarrow, Prideaux Place, Tregye, and Trevarrick.

Lilac Flowers in their normal colours have been steadily increasing in popularity for some years past, and the demand for them this season would appear to be larger than in any previous year. For a long period it was the practice to import the whole of the lilac flowers sent to Covent Garden during the winter from France, and these were invariably white. These flowers were not, however, those of one of the white lilacs, but of the common lilac, or of one of the two fine forms Charles X. or Dr. Lindley. The flowers of these when the plants are forced in a high temperature and a subdued light, lose their normal colour and develop white. Of late years the forcing of lilacs has been greatly extended in this country, and large quantities of the fragrant blossom in its natural colour, in addition to liberal supplies of white lilac, are annually sent to the flower markets. The soft colouring of the flowers of such varieties as Charles X. and Dr. Lindley, when developed with full exposure to the light and a moderate temperature, soon became popular for decorative purposes, and have been largely used for several years past. The French growers, quick to note the trend of public taste, turned their attention to the production of coloured lilac, and now send consignments to Covent Garden weekly, but the quality is not, as a whole, equal to the flowers of home growth.

A Profitable Garden.—The garden on the Brighton Downs, of which we have heard much during the past two or three years, appears to have produced exceptionally good crops during the past year. Originally three-quarters of an acre, the area was increased eleven months since to one acre and twenty rods. According to the statement of accounts the sum realised from the sale of produce was £105 10s. 2½d., and the expenses £18 8s. 11d., leaving a margin of profit of £87 1s. 3½d., without taking into account the vegetables consumed at home. The largest amounts received for the sale of produce were cabbages £11 11s. 11d.; cauliflowers and broccoli, £11 2s. 10½d.; potatoes, £9 4s. 10d.; and lettuces, £9 0s. 6d.; and the principal expenses were: rent, £5 18s. 6d.; seeds, £2 11s. 11d.; frame lights, £2 2s.; and manure £2 0s. 6d. The owner, Mr. Vincent, contends that with good cultivation a profit of £1 per rod can be made from garden ground, but with reference to this, the fact should not be overlooked that no allowance is made for labour. This being so, it would be more correct to say that £1 per rod can be obtained for the crops produced.

Winter Flowers in a Cornish Garden.—Mr. Howard Fox, whose beautiful gardens at Falmouth we described and illustrated early in 1908, writes: The recent cold snap must have spoiled the floral beauty of most English gardens, but it did not reach the south-west of Cornwall, so here they remain in very exceptional winter luxuriance. We have, for instance, at Falmouth the following trees, shrubs, and herbaceous plants flowering in the open air: Abutilon, Boule de Neige, 8ft. high; A. megapotamicum, 10ft.; Crusader, 8ft.; Prince of Wales, 10ft.; Acacia dealbata, 30ft.; A. longifolia, 20ft.; Acanthus mollis, Brugmansia lutea, 6ft.; B. sanguinea, 8ft.; Calceolaria amplexicaulis, C. Burbidgi, 5ft.; Citron, Madras, in fruit and flower on a wall; Clianthus puniceus, cyclamens in variety; Coleonema alba (syn. Diosma ericoides) has been showing flowers every day for the past two years; Cestrum elegans (syn. Habrothamnus fasciculatus); Cytisus prolifera, 12ft. high; Daphne vera indica; Desfontainea spinosa; ericas in variety; Eupatorium micranthum (syn. Weinmannianum), 10ft.; fuchsias, roses, and hydrangeas in variety; Melianthus major, 10ft.; Musa japonica (banana); Senecio grandifolia, Solanum Balbisii covered with orange-coloured spines, 6ft. high; salvias in variety; Sparmannia Africana, 6ft.

Loganberries are to supplant hops on the farm belonging to the Tunbridge Wells Corporation. Hops having failed to give a remunerative return, it was decided at a recent meeting of the Corporation to discontinue their cultivation and to devote the land now occupied by them to the loganberry. A commencement will be made with three hundred plants, and if the results should prove satisfactory the cultivation of this fruit will be extended.

Fruit Culture around Wisbech.—The Board of Agriculture and Fisheries have been supplied with some carefully compiled estimates of the production of the fruit crops in the neighbourhood of Wisbech, and the following summary of them is given in the current issue of the Board's "Journal." The ordinary rent of farm land is put at £2 per acre, while small occupiers of selected land adapted for fruit growing and conveniently situated may pay from £2 10s. to £4 per acre. In a few instances large farms occupied by old tenants are rented for less than £2 per acre. There is not a great difference in the rent of medium-sized fen farms and those on silt land. A good crop of strawberries is estimated at three tons, and a moderate crop at half that amount. An average price is £17 per ton. From full-grown gooseberry bushes a return of six to eight tons is regarded as a good crop, and of two to three tons as a moderate one. These are valued at £9 a ton. Plums in this locality are generally grown round the orchards near the dykes, chiefly for shelter, but an acre of mature trees might be expected to yield five tons at £6 a ton, while a more moderate crop would produce three tons. As regards apples from full-grown trees, ten tons an acre should be secured in good years, and about half this quantity in less favourable seasons. The price would be about £7 a ton. Bramley's Seedling would possibly yield much more on a good soil, while choicer and more delicate kinds would produce less. Owing to the variation in seasons, age of trees, and kinds of apples, it is difficult to arrive at an average.

Flowering of Gooseberries in 1908.—Mr. Cecil H. Hooper points out the need for careful records of the flowering dates of various fruits, the state of the weather at flowering time, the duration of the flowering period, and the amount of the crop. This he does in the current issue of the "Journal" of the Board of Agriculture, in an article to which we hope to refer again. He shows that at Wy gooseberries began to flower on April 15; by the 19th about a quarter of the flowers were open; on the following night there was a frost of 10 deg., with slight snow, and again when nearly in full bloom on the nights of the 24th, 25th, and 26th they were subjected to frosts of 8, 5, and 2 degs. respectively; on the first night there was snow, which apparently protected the blossoms, as they did not shrivel and fall as might have been expected. Birds (probably house sparrows and chaffinches) "snibbed" many blossoms near the farm buildings between April 15 and 25. The bushes were in full bloom from the 28th to May 1, and continued in flower till May 13, the flowers at the tips of the boughs being the last to open; by the 21st the flowers and berries that had been pecked by birds had fallen. The duration of flowering from the opening of the first flowers to the closing of the last was thirty-six days. Picking the green berries commenced on May 26, about a month after full flower. The crop was good, the picking was done by going over the bushes three times with intervals between. The weight of fruit on one good bush was 21lb. The first ripe gooseberries were picked on July 10, the fruit from a good bush of Yellow Roughs weighing 14lb. The different varieties of gooseberry in the plantations appear to flower at nearly the same time—Lancashire Lad, Berry's Early Kent, and Whinham's Industry, commencing to flower in the order named.

Importation of Gooseberry and Currant Bushes.—The Amendment Order of 1908 (No. 2), which came into operation in December last, provides that the American Gooseberry Mildew (Prohibition of Importation of Bushes) Order of 1907 shall not apply to the landing of any currant bush under the authority of a licence authorising such landing obtained from the Board of Agriculture, nor to any bush so landed. A penalty not exceeding £10 is imposed for irregular dealing with imported bushes, and a power of entry is given to inspectors of the Board of Agriculture or of the local authority appointed under the Destructive Insects and Pests Acts, 1877 and 1907. If on examination an inspector finds any bush which is affected with American gooseberry mildew (Sphaerotheca mors-uvae) he is to prohibit the removal of any gooseberry or currant bush from the premises.

Polypodium Mandaianum, one of the most recent of the exotic ferns introduced to cultivation, has the promise of proving a valuable addition to the ferns suitable for conservatory and house decoration. It originated with Mr. W. A. Manda of New Jersey, and at the National Flower Show held in America a short time since was awarded the gold medal for the best new plant in commerce. We have no information as to its parentage, but the fronds are tall and arching, and the pinnae are of great breadth and deeply cut, in much the same manner as are those of the fronds of the Welsh polypody.

PROTECTION OF FRUIT BUDS FROM BIRDS.

At this season of the year the visit from the bullfinch becomes assertive where there are gooseberry and other fruit trees, to whose buds these birds are so partial. Various means are devised for protecting the buds, and probably the best that can be adopted is an enclosure of wire netting, but as this is not admissible in every instance of fruit culture, other practices have to be adopted to effect the desired object. There is much that can be said in favour of wire netting, because, not only can the buds be made safe, but the ripening crop also, for it is well known that much trouble comes in summer when such fruits are exposed to native birds. Especially are gardens much visited by fruit-eating birds when they happen to be located near extensive woodlands, for then not only are local-bred birds in evidence, but they apparently invite their feathered friends from a distance.

Various scares are devised, but they have not much permanent effect; indeed, when the weather is very dry the blackbird and thrush are actually bold enough to allow joint gathering from the same tree. In such cases fixed or moving scares are not of much effect, and nets must be well placed, and free from broken meshes, to make the crop secure from their raids.

At the present time the safety of the buds is uppermost in most gardeners' minds, and it behoves those who are usually victimised, if they have not already taken steps to repress their attacks, to make early preparations. We do not know what may be the actual reason, but usually we find no mischievous inclinations on the part of bullfinches until the new year has commenced. Probably there are sufficient privet or other berries in the woods and hedgerows to satisfy them until that season, and possibly, too, the swelling up of the buds makes them more attractive to the eye and pleasant to the palate of these birds. In town gardens sparrows are even more destructive than bullfinches, and early measures have often to be taken to prevent them doing much damage.

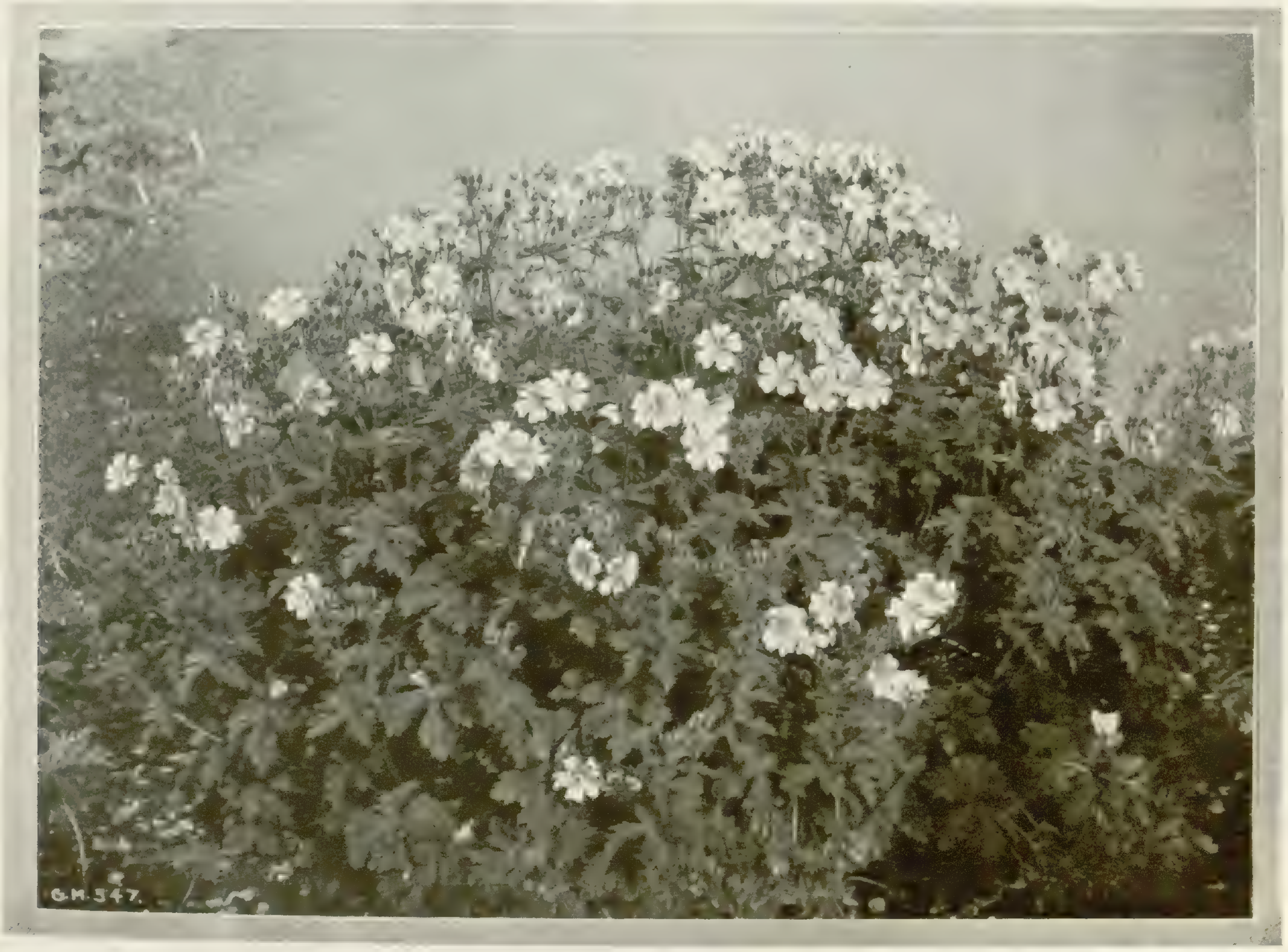
Some cultivators pin their faith on soot and lime dustings, which perhaps sometimes serve the purpose very well; in showery weather it needs to be applied often, and it may be said other remedies necessitate some degree of repetition. Quassia extract is a favourite of others, while petroleum emulsions have long been regarded as important in bud protection.

Since nicotine has entered so largely into the prescriptions employed in the garden, one does not wonder it has been utilised in the protection of gooseberry buds. It was by accident that we came to regard this with much favour for the purpose of winter spraying. Having used a nicotine emulsion on some fruit trees quite early in the season as a preventive of red spider, we were surprised to find that an offensive odour had been imparted and that it remained a considerable period. This experience suggested that bush gooseberries exposed to the raids of birds might be protected by a spraying with the emulsion. With knapsack pump one annual spraying is now given, and since the first use of nicotine emulsion we have not had much anxiety for the safety of these trees. It would appear to be so extremely nauseous that a little goes a long way, and especially when these economical spray pumps or an Abol syringe is used for applying the liquid.

Beside acting as a deterrent of bud-eating birds, it has another very material value—a red spider exterminant—and in some gardens this insect is very insidious in its attacks on gooseberry trees. Last summer, after the crop had been gathered in a green state, nicotine emulsion was applied to a small plantation of gooseberry trees here which had become rather seriously infested with red spider. The results were magical, for not a living "spider" could be found a week later when an inspection was made. Thus trees that are remembered to have been injured last year with red spider may be advantageously dressed with a two-fold object. We therefore advise those who may have the dual worry incident to winter bud-eating birds and summer attacks of red spider to give nicotine emulsion an early trial. Fresh slaked lime may still be used in cases where birds have been kept in abeyance with its aid, dusting it on while the branches are damp Only new lime becomes permanently adhesive.

W. Strugnell.

Rood Ashton Gardens.



[Photo: E. J. Allard.

GERANIUM IBERICUM PLATYPETALUM.

GERANIUM IBERICUM PLATYPETALUM.

There are over one hundred species of geraniums known to botanists, including a dozen native of Britain. Perhaps none are more worthy of a place in the flower border than the one of which I send a photograph. It is a strong-growing perennial, attaining a height of two feet or more; the flowers are of a deep violet colour, beautifully striped with red, and measure over an inch in diameter. The stems are densely clothed with prettily-lobed leaves, fringed at the margin. It is at its best about midsummer, and affords a bright patch of an unusual colour for a considerable time. It is native of Georgia, and is somewhat larger in every respect than the type.

E. J. Allard.

Cambridge Botanic Gardens.

NEW HARDY TREES AND SHRUBS OF 1908.

The number of hardy trees and shrubs, exclusive of roses, which have received either first-class certificates or awards of merit from the Royal Horticultural Society during the year 1908, show a decided falling off from the preceding year, when three first-class certificates and fifteen awards of merit were given. The numbers for 1908 are two certificates and but eight awards of merit, whereas in 1906 there were nine awards but no certificates. It is very interesting to note how the numbers fluctuate year by year, and one frequently notes a "fat" and a "lean" season alternately.

When referring to the lists of awards for the last few years one cannot fail to note the important part that Mr. E. H. Wilson's travels in China on behalf of Messrs. Veitch have played in the introduction of new trees and shrubs, for in 1907 the three first-class certificates and four of the awards of merit were obtained by his plants, and in 1908 the only two certificates and two of the awards of merit were made in favour of plants sent home by the same collector.

To the readers of the Gardeners' Magazine these new trees and shrubs will be by no means unknown, as not only is a full description given at the time the award is made, but lifelike illustrations of some of the principal ones have appeared in these pages during the past year, viz.: Viburnum Carlesi, on April 24, page 323; Deutzia Wilsoni, June 20, page 473; Ilex Pernyi, September 19, page 715; and Populus lasiocarpa, October 10, page 763.

A complete list of trees and shrubs receiving awards in 1908 is given below:

Viburnum Carlesi.—A very pretty member of the extensive viburnum family, and one, I should say, destined ere long to become a general favourite. It is a native of Corea, but was first brought prominently forward by Messrs. Boehmer, of Yokohama, Japan. In the autumn of 1905 it was distributed by MM. Lemoine et fils, of Nancy. This viburnum belongs to the deciduous group of the genus, and the leaves, which are more or less pubescent, are somewhat like those of the Wayfaring tree (Viburnum lantana). In general appearance the flowers, borne in rounded terminal heads, suggest those of some of the rondeletias. The buds are reddish, but when fully expanded this tint, being on the reverse of the petals, is hidden, and the expanded blossoms are then pure white. Individually the blooms are larger than those of the Laurustinus (Virburnum tinus), of a thick wax-like texture, and very fragrant. An award of merit was given to this viburnum on April 14. The specimen appeared to have been brought on under glass, but on May 9 a specimen out of doors at Kew was flowering beautifully in the open ground despite the severe weather experienced about a fortnight before.

Azalea occidentalis graciosa.—The Temple Show rarely passes without one of the many beautiful hardy azaleas there exhibited being selected for an award of merit. This variety, which was so honoured in 1908, is a very free-flowering variety, whose large, fragrant blossoms are in colour white, with yellow markings in the two upper segments. In the bud state the flowers show just a suspicion of rose.

Philadelphus Lemoinei Rosace.—One of the finest of all the beautiful varieties of Philadelphus Lemoinei. The flowers are comparatively large, and semi-double. They are decidedly suggestive of a small rose, and in colour white. This variety possesses the pleasing fragrance of many of the forms of Philadelphus Lemoinei, a fragrance inherited from one of its parents, namely, the little P. microphyllus. An award of merit was given to it on June 9.

Rhodothamnus Kamtschaticus.—A dwarf-growing ericaceous shrub, nearly related to the rhododendron; indeed, it was at one time included in that genus. It is of a deciduous nature, and forms a somewhat spreading shrub about a foot high, clothed with hairy leaves, ovate in shape, and an inch or a little more in length. The comparatively large solitary flowers are about 1½ inches across and of a deep rosy-purple colour. In general appearance they very much suggest those of the Himalayan Rhododendron lepidotum. This rhodothamnus is of wide geographical distribution, being found in the northern region of both hemispheres. Award of merit June 9.

Deutzia Wilsoni.—One of the many new deutzias that we have received from China during late years, through the medium of the collector whose name it bears. It is certainly a very promising species, and forms a sturdy bush, clothed with deep green lanceolate leaves. The pure white flowers are borne in both terminal and axillary spikes for a long distance along the shoots, and when the strongest of these arching over with their weight of blossom are at their best, it forms an exceedingly charming and graceful shrub. Award of merit June 9.

Erica cinerea pygmæa.—Our own native Grey Heath, Erica cinerea, is represented in gardens by numerous varieties, whose blossoms vary in colour from white to deep red. This dwarf form, much less in stature than the type, is also remarkable for the brilliant tint of its crimson blossoms. Award of merit June 23.

Coriaria japonica.—A very pretty shrub, which is seen at its best in the southern part of this country. It is of a low, spreading habit, and though the flowers are not at all showy they are succeeded by berry-like fruits, which first take on a reddish hue, finally deepening to dark purple when ripe. This coriaria was given an award of merit on July 21.

Ilex Pernyi.—The first tree or shrub to be given a first-class certificate in 1908 was this dwarf-growing member of the holly family. The general opinion is that this honour was well deserved, as it is a decidedly pretty little evergreen, and one likely to become popular, especially for small gardens. It was introduced from China by the Messrs. Veitch, through their collector, Mr. E. H. Wilson. It is of dense compact habit of growth, the leaves being from 1in. to 1½in. long and closely set on the branches. Each leaf is oval in general outline, but it has usually two prominent spine-tipped teeth at each end, and a long, tapering, sharp pointed apex. The berries are much like those of the common holly. The general aspect of the foliage much suggests a small form of another Chinese holly—Ilex cornuta. First-class certificate, September 1.

Populus lasiocarpa.—A new Chinese species of poplar, particularly remarkable for the large size of its leaves. They are broadly cordate in shape, and as shown on young plants are about a foot long by ten inches or so in width. The footstalk and prominent veins are bright red, and thus stand out conspicuously against the deep green of the rest of its leaf. It is said to form a fine tree, 50ft. or so in height, and, judging by appearances, its growth will be rapid. It is very possible that if this poplar be cut down annually, as is often done in the case of the ailanthus, paulownia, etc., it might prove of great value for sub-tropical beds. First-class certificate, September 15.

Sarcococca ruscifolia.—The sarcococcas constitute a small genus of evergreen shrubs, natives of the Himalayas, Afghanistan, and surrounding districts. They belong to the natural order Euphorbiaceæ, and their nearest relatives, from a botanical standpoint, among hardy shrubs, are the different forms of box. Sarcococca pruniformis, a somewhat tender shrub, was introduced as long ago as 1820, and with this species Sarcococca ruscifolia has been previously confounded. It is, however, now considered to be distinct, and an award of merit was given it at the meeting of the Royal Horticultural Society on December 22. As shown it is a dwarf evergreen shrub, with shining, bright green, pointed leaves. The flowers, borne in small clusters in the axils of the leaves, are whitish and fragrant. They are succeeded by small berries, which are said to be of a bright blue colour when ripe. W. T.

WATERING PLANTS.

One very important factor in the successful culture of plants in pots is the right use of the watering can. It would be difficult to lay down any definite laws on the subject, and still more to find those who would carry them out if laid down. Watering has to be regulated to a great extent by local circumstances, also by the requirements of the different kinds of plants under treatment. More mischief is done at this time of the year by over-watering than by insufficient watering. This is particularly the case in regard to fern culture.

It is a common idea that all ferns require to be potted in peat, heavily shaded, and drenched with water, but many of our most tender ferns may be grown fully exposed to the sun, potted in loam and kept rather dry than otherwise. It is after repotting that they are most liable to suffer from too much moisture. If the new soil besomes sour before the roots have taken hold of it they will not make a good start, but after the pots are well filled with roots they will take and need more water. Yet either extreme should thus be avoided.

With all flowering plants the evil of over-watering is equally apparent. Various subjects, of course, require different treatment, and just at the time they are in full bloom they take up much more water than previously, without regard to the pots being fuller of roots than at the earlier period, and many fail to flower satisfactorily if only once allowed to become too dry, after the buds have set. Take camellias for example, I believe there are more buds lost through drought than any other cause, though keeping the house too warm for a few days and then lowering the temperature again will prove equally disastrous. Poinsettias and Euphorbia jacquiniaeflora are both very liable to lose their roots through either extreme. The result is more frequently seen when the soil is too wet; yet, at the same time, it may be caused through being too dry in the first place.

During winter plants standing on a moist base will require comparatively little water, while those on a dry stage, specially if there are hot-water pipes beneath, are liable to dry at the bottom while the surface may appear moist.

T. B. Field.

Ashwellthorpe Gardens.

PILLAR ROSES.

Pillar roses form a delightful feature in the garden when planted in suitable positions, and given the attention necessary to ensure the full development of their distinctive characteristics, and are usually much admired by visitors. This admiration is largely due to the fact that roses suitable for training to pillars are sparingly grown, and not always with the success one could wish. That these charming roses should not be planted in larger numbers and cultivated with a full measure of success is difficult to understand even by those who are familiar with their peculiarities, and with what is being done in gardens in the matter of rose growing. Sometimes the results are more or less unsatisfactory owing to the use of rampant varieties that are only suitable for pergolas, for climbing tall trees, for flinging their long, slender growths over rough supports in the wild garden, and in other positions where they can grow unrestricted without the risk of injury to roses and shrubs generally of moderate growth. Roses of more moderate growth than the ramblers are the best suited for pillars, especially when, as in many cases, they are associated with dwarf bushes and standards.

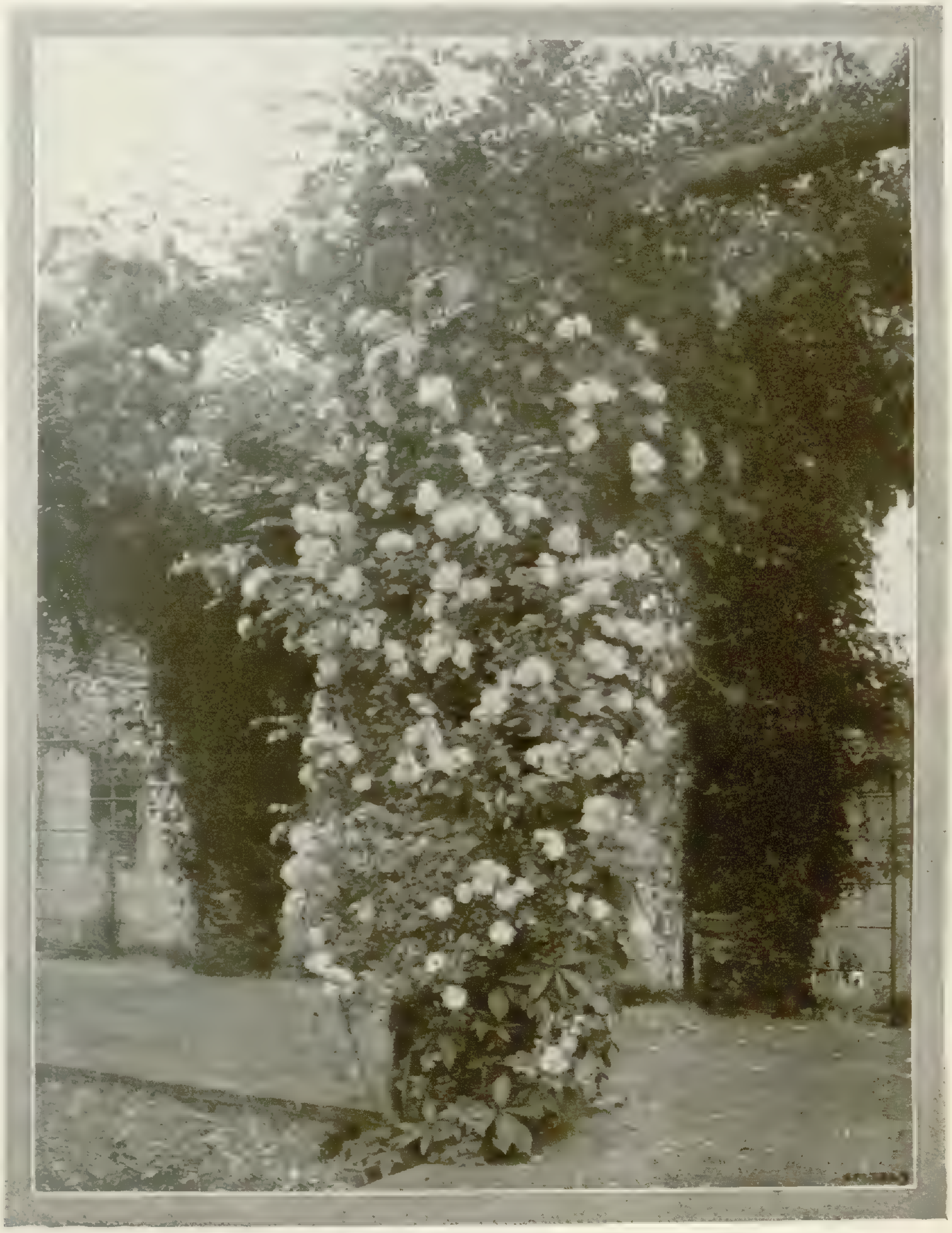
Varieties that will, under ordinary good culture, reach the top of pillars ranging from seven to nine feet high in two years, should, as a rule, be selected. As a guide to the planter the following may be mentioned, as especially desirable: Alister Stella Gray, Ards Pillar, Billiard et Barre, Climbing Mrs. W. J. Grant, Dr. Rouges, Francoise Crousse, Gruss an Teplitz, Leuchtstern, Madame Berard, Madame Alfred Carrière, Madame Pierre Cochet, Psyche, William Allen Richardson. The foregoing varieties present a pleasing appearance when trained to larch poles from four to six inches in diameter. Unfortunately, these poles decay at the base in the course of a few years, and there is a risk of the pillars being blown over when well furnished. The iron rods sometimes recommended and used for the support of roses of this class do not afford a sufficient training space, and for this reason I much prefer the admirable rose pillars manufactured by Messrs. Barnard and Bishop, of Norwich. They afford plenty of space for training the growth, and there is no risk of their being blown over.

There is no occasion to deal in detail with the management of roses trained to pillars. Like other roses of vigorous growth they prefer a soil that has been liberally manured and deeply dug previous to planting. It is therefore a good practice to mark out the station for each, and spread partly rotted manure from the stable or farmyard over the surface to a depth of six or seven inches; then stir the soil with spade or fork to a depth of two feet, and well incorporate the manure with it. As a matter of course, the planting should be done during the season of rest, and the soil should, when being filled in about the roots, be trodden very firmly. It is a good practice to cut the shoots back to within a few inches of their base in the spring following the planting. Frequently, the lower portions of pillars present a somewhat bare appearance, but this may, to a large extent, be prevented by a simple course of procedure. When the main shoots are shortened in the spring, instead of fastening them to the pillars, bend them down, and make secure to short stakes. Allow them to remain until the lower buds are well started, and then train to their permanent supports. This will necessitate additional work, and great care in handling, but the improved results will be ample compensation.

Viator.

PRIMULA FORBESI.

Old plants of Primula Forbesi that have done service in the greenhouse during the winter should be retained for planting out in the open some time during March or April, choosing a half-shaded border or part of the rock garden where they will continue to produce a bright display during the summer months. The baby primrose, as it is commonly called, is, to some extent, overshadowed by the innumerable florists' forms of the Chinese primula, nevertheless, it is an ideal subject for amateurs to flower in small pots in the greenhouse during winter.



ROSE ELECTRA, TRAINED TO A BRICK PILLAR
In the Gardens of East Burnham Park.

Early in August these old plants are lifted and divided, single crowns are placed in pots 2½ inches in diameter, using a light rich soil. For a month or six weeks afterwards they are grown in a cold frame, suppressing all flower spikes as they appear. About the first week in October the plants are removed to the greenhouse, and from this time forward they are encouraged to develop their flower spikes. Very soon the flowers begin to unfold, forming, when fully developed, perfect miniatures of blossom. The distinct value of small pots is now apparent, as it admits of their use in table decorations, and endless means can be found for employing them indoors in filling bowls of porcelain or filigree, either alone or when associated with ferns or small palms as foliage subjects.

Primula Forbesi is easy to raise from seed sown in small pots of carefully prepared soil; the seed is sown on the surface, and the finest covering of soil applied, and the pots have small sheets of glass laid over them to retain the moisture till germination takes place. When the seedlings are large enough to handle they are pricked into thumb pots, and grown in a cold frame throughout the summer months: those from spring sowing will flower in summer, while seeds sown at the end of May will give strong plants to bloom in winter.

The flowers of P. Forbesi bear a strong resemblance to our native Bird's E'en (P. farinosa) in colour, as also in the distinctive marking around the mouth of the corolla tube, while in the leaves it resembles the hardy Chinese species, P. cortusoides. The flowers are produced in successive whorls, and the slender stems and tiny leaves are coated with a white farinose powder, giving the plants a silvery appearance. It is a native of Yunnan, China.

Thomas Smith.

Walmsgate Gardens.

"CHRYSANTHEMUMS AND HOW TO GROW THEM FOR EXHIBITION," by J. B. Wroe. Fifth Edition, revised to January, 1908, and including the new varieties.—Full details on timing and stopping for Northern, Southern, and Midland growers, selections of the best varieties, illustrated instructions on taking the buds, cuttings, staging, etc. Prices 1s. net, by post 1s. 2d.; cloth, 1s. 6d., by post 1s. 8d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

FLORAL DECORATIONS.

In the arranging of cut flowers, as in every branch of art, tastes differ widely, and not only so, but styles approved yesterday are often condemned to-day, and that not simply by the spread of refinement among the mass of the people, for it is said that not many years ago the decoration of royal dinner tables usually consisted of a combination of fruit and flowers, whereas now such a method is generally discountenanced.

A generation ago, when the use of cut flowers in the house was, comparatively speaking, in its infancy, it was quite usual to go round the garden and pick a variety of flowers pretty much as they took one's fancy, afterwards putting them all together in an upright vase, only giving such attention to the arrangement as was necessary to avoid the actual crushing of the flowers; and such a method, even to-day, is by no means uncommon in the houses of the middle-classes, especially where material prosperity has increased faster than the appreciation of the beauty of form and colour. Still, in the houses of people of culture and refinement—an ever-increasing class—this method, or want of method, has disappeared, and there has been a general movement in favour of floral arrangements consisting of only one or two different kinds of flowers, with some greenery, preferably that belonging to the flowers it is put with, or to one of them.

It is said that the origin of this latter fashion is in part owing to the Japanese, whose arrangement of flowers, though altogether conventional, has been studied and systematised for so long and in such detail that Josiah Conder's great book on the subject is properly called "The Floral Art of Japan." The essence of the Japanese system of floral arrangements is extreme economy in the use of material, and, to the stranger's gaze, apparent simplicity, though in reality every blossom, leaf, and twig, conform to certain ancient rules of relationship to the other blossoms, leaves, and twigs of the composition.

The limitation of variety in floral arrangements which has found favour with some of the best judges in this country of recent years has been justified and upheld as being a return to Nature, who never gives us incongruous juxtapositions, and its supporters say that if in arranging flowers we were to try and imagine how they would be placed in a state of Nature we could not go far wrong. Nature never puts a dozen different kinds of things on a piece of ground six inches across, or sets side by side geraniums and maidenhair fern, carrot leaves, and begonias, seakale leaves and dahlias, etc.

However convenient it may be sometimes to resort to some of these unnatural associations, it did seem as if this school of floral artists was founded on unassailable principles. But such a belief can no longer be held. Two profusely illustrated books on floral decoration were issued from the Press in 1907 by well-known writers and acknowledged authorities upon their subject, and many, if not most of the illustrations in both books represented mixed arrangements of three or four, or even more, different kinds of flowers. As photographs, or copies of photographs, the illustrations were certainly very beautiful, and doubtless the originals from which the photographs were taken were beautiful also, for the flowers were arranged by those who had made a life-long study of the subject, both as regards beauty of form and the blending, harmonising, and contrasting of various shades of colour, and were doubtless irreproachable from both points of view, and to those who know nothing of flowers in other than the cut state would be quite satisfying. But not so to the man who loves the flowers when growing more than when cut, who has studied their different habitats, and to whom a flower taken out of that habitat is a flower divorced from the setting Nature made for it. To such a one, mixed arrangements, unless of flowers one sees naturally associated together, give no pleasure, while the unnatural associations in anything but wreaths, buttonholes, and other confessedly artificial and conventional forms, are little less than a desecration.

We must consider the merits and demerits of mixed arrangements in the two-fold aspect of colour and form. As regards colour only, mixed arrangements made by someone possessing a thoroughly trained eye may be a perfect poem if we can disregard the flowers as individuals and simply regard them as so many dead bits of colour, or dummies. Regarded from this point of view only it may have greater richness, and may be a greater feast to the eye than a simple bowl of roses or sweet peas. But to those who love both flowers and Nature in general such arrangements can only give pleasure in so far as they are to some extent a reproduction of associations that may be met with in the garden or in wild Nature, always assuming that the garden is planted with due regard to colour effect. We know what pleasure is often derived from unlooked for associations in the garden. I had an instance last year in a self-sown scarlet nasturtium running over a clump of pale lilac-blue Michaelmas daisies and there is endless scope for colour effect in the various colours of sweet peas, chrysanthemums, dahlias, etc., so that it is not necessary to a colour scheme to put a dozen different kinds of flowers into one receptacle.

Moreover, apart from the dissatisfaction it may give to a true Nature lover, one needs to be very sure of the truth of one's sense of colour, or one may be setting up a composition giving great satisfaction to oneself but positive annoyance to someone with this sense more highly cultivated. People with small gardens often want to make them a museum of varieties with only a plant or two of each, with the result that one can only get enough to fill a good-sized vessel by mixing a number of kinds together. Here is a dilemma which the owners of such gardens must settle for themselves according to their tastes.

As regards form, the same general remarks apply to some extent; but though one may learn from a book that certain colours go well together and others do not, yet, the recognition of beauty of form, and still more the capacity to produce it, can only be obtained in their fulness by long continued observation. It is obvious that if a dozen different flowers are to be put in one receptacle the arrangement must be a very large one indeed if the individual items composing it are to have the opportunity to display their full beauty of flower, leaf, and stem. It is in this respect, perhaps, more than from the point of view of colour effect, that small arrangements are to be preferred, and this is the great study of the floral decorators of Japan. If a vessel is filled with flowers of the same species—not necessarily of the same colour—their beauty of form, by reason of different pieces of the same plant revealing different points of beauty, will have a much better chance of making itself felt than if there were a dozen or more kinds of flowers in the same receptacle, when, even if the individual flowers have the chance of fully displaying their full beauty, the effect produced is that of general indefiniteness, leaving no distinct impression upon the eye, as so many sermons leave no distinct impression upon the mind for the same reason.

To sum up then in conclusion, my idea is that simple arrangements of one or two kinds of flowers are more likely to give general pleasure than more elaborate arrangements, the latter often giving no satisfaction to the real garden lover, while sometimes, by reason of the ambition of those arranging them outstepping their powers of performance, they may even offend better-trained eyes, either by reason of their unhappy colour effect or concealment of the true beauty of the flowers employed.

Alger Petts.

THE CATALPA.

This tree is still mostly a stranger in our gardens, though there are many fine specimens which have been established for years in different parts of the country. It is difficult to overestimate the value of this noble tree, it has so many advantages that were one in the unhappy position of having to plant but one tree in the grounds, it would scarcely be possible to select a better!

Two others run it very close, but the catalpa would always be one point ahead, on account of its late period of flowering, in the second or third week of July and on during August, at a time when there is no other large mass of blossom to be looked for. The manner of flowering superficially recalls the horse-chestnut, but the blossoms themselves are far daintier and more lovely, being quite orchid-like, and delicate in appearance and colouring. The leafage retains its pure clear green to the last, and grows old gracefully, remaining on the branches, with one exception, longer than that of any other tree. This would make it invaluable, but besides this, it has in its favour the size and beautiful form of the leaf, the contrast of this in its unchanging spring green, to the dark wood of trunk and branches.

The distinctive growth of the whole tree and its late period of flowering make it the most desirable of all the trees, even for towns, where it thrives amazingly, and has there a value all its own amongst its darkened, withered, scorched, and leafless fellows. It possesses, in fact, but one drawback in that it makes a late start in spring, and at that time of year does not show the cheerful pale greenery which is one of the chief charms of spring; this, however, is to its own advantage, as it otherwise might be harmed by the late frosts.

Some trees do not lose very much by being set in close company with others. The catalpa, however, is pre-eminently one that needs a good prominent position, not only on account of its individuality, but to allow it to develop its shapely limbs and produce uniformly the wonderful blossoms. It is a quick grower, and flowers when about fifteen years old, and never attains a very great height, generally only about 30 to 40 feet.

It may be planted in most positions, preferring, however, a moist soil.

E. Curgwen.

MANURE HEAPS.

Whether the advent of motor vehicles and their extended use will ultimately cause the manure heap to vanish cannot be said, but in three or four cases with which I am familiar the motors have certainly reduced the number of horses required. I think all gardeners should, so far as possible, encourage foxhunting, because the attendant large stud of hunters required provides much grand garden manure, indeed, no better manure is made than where a large number of hunters are kept.

The horses are always well cared for and much straw is used for bedding purposes. Of course motors will materially lessen the number of carriage horses required, but they will not supersede the horse for riding and hunting purposes.

In very large places the manure is carted from the stables every morning, and it is usually taken to a stockyard where horses, cows, oxen, pigs, poultry, etc., work among it and convert it into rotten manure for the farm, and, of course, as much for the garden as the gardener requires. But the land agent or steward naturally does not like too much of his manure to be carted to the garden, for he has never enough for farm purposes. It is useless, however, for a gardener to try and produce good crops from the same old garden year after year unless he adds a plentiful supply of manure. In large establishments the preparation of the manure rests with the farm men, and the gardener simply fetches the finished article, well rotted, and to use a familiar phrase, "it cuts out like butter."

In smaller establishments the care of the manure heap generally rests with the gardener, the stablemen cart or wheel it out and leave it, and the garden men turn it to induce rottenness. One of the chief points to be observed is to not allow the manure heap to become very hot, as great heat from fermentation engenders dryness, and it also kills the manure, indeed, if a considerable quantity of manure was tipped in a heap and it became hot, the lower portion would become dust dry and would never be fit for use. A common error in the preparation of manure is a wet position; the site for a manure heap should be chosen where all superfluous water can be drained into a receptacle of some sort to be used as liquid manure. A well drained stockyard should always have a large underground tank to receive all drainage, and this should be pumped out and used by a liquid manure distributing cart, or in some other way.

The manure heap should be turned often, and when stacked to be prepared for use make the heap about 4ft. wide, 2ft. 6in. deep, and, of course, the quantity will regulate the length. Manure from the stables, with careful attention, should be ready for use in ten or twelve weeks. For many crops manure in a newer state can be used, but I am writing of rotten manure. I am a great advocate of a very large manure bed for gourds, vegetable marrows, and gherkins, and the bed should be dug out about 4ft. 6in., or 5ft. wide, and from 1ft. 6in. to 2ft. deep, and any length convenient. Into this hole any vegetable matter may be tipped during the winter, and in May this should be topped with stable manure and the marrows planted and grown on it. After the frost has killed them in the autumn the manure can be used for various purposes in the garden, and the pit is then ready for the same course of action each succeeding year.

One way of securing good manure for the garden that used to be practised had much to recommend it, and that was when rhubarb and seakale beds were covered with leaves and stable manure mixed, to cause a gentle heat to force rhubarb in tubs and seakale in pots. The same plan does not obtain now in many places, as the respective roots are lifted and forced in heated frames or houses, and nowadays the old manure heated frame is not so common as it used to be, so the gardener's sources of supply are to some extent restricted.

The commercial value of rotten stable manure in our district is now 4s. 6d. per ton; about ten years ago an advance of 6d. per ton was made, the former price being 4s. per ton. The very great anxiety to obtain manure from stables in large towns by farmers, market gardeners, etc., who make a practice of loading in to market with produce, and fill their lorries, carts, etc. with manure for the homeward journey, makes it appear very plainly that the humble manure heap plays a very important part in our gardening business. It is a question of great importance to gardeners and farmers whether the very large quantity of land in the British Isles that is now laid down with grass is not against their best interests, for really the cereal crops with the grand straw they produced were the backbone of really good farmyard manure, and no amount of peat moss litter, sawdust, tan, or any other sort of bedding will ever equal good straw in making a good and serviceable manure heap.

W. M.

Cheshire.

LILIUM LONGIFLORUM.

Although Mr. W. H. Page, of the Tangley Nurseries, Hampton, has become famous as a cultivator and exhibitor of perpetual-flowering carnations, it is well-known that his activities include the growth of various lilies on a very large scale for the production of flowers for market. In the growth of lilies Mr. Page is not less successful than he is with carnations, and visitors to the exhibitions and meetings of the Royal Horticultural Society will have a lively recollection of the magnificent vases and stands of these flowers that usually form part of his collections. On the 12th inst., three effective arrangements of lilies in bamboo stands were shown by Mr. Page in addition to a beautiful display of carnations, and it affords us much pleasure to give an illustration of the fine stand of flowers of Lilium longiflorum giganteum, which formed the centre-piece of his attractive exhibit.

LILIUM LONGIFLORUM GIGANTEUM.
A magnificent stand of this fine pure white lily, exhibited by Mr. W. H. Page, at the R.H.S. Meeting on January 12.

COLOUR EFFECTS IN THE FLOWER GARDEN.

Concurrently with the increase in the popularity of hardy plants, mixed borders have assumed a position in the flower garden of commanding importance, and in consequence thereof their planting and management calls for the exercise of much taste and great skill. In bygone days, when hardy plants were relegated to an unimportant position, the chief points the cultivator had to consider were selecting a position where they would enjoy the light and air essential to their health and provide a suitable soil. Now, something more has to be done. Positions have to be selected for the borders where they will best fit into the general scheme of the garden and contribute the most liberally to its interest and attractiveness. The conditions must, it need hardly be said, be favourable to a vigorous growth, and the plants should be arranged in the border with due regard to the production of an effect that will at once appeal to the eye when the border is being inspected, wholly apart from its surroundings. For example, the plants should be so arranged that they will occupy positions in the border relative to their height that will prevent a suggestion of flatness or formality, and also the plants of low stature being hidden from view by their taller neighbours. Due regard has of necessity to be paid to the flowers, as well as to the growth, and care taken to produce as far as is possible harmonious colour effects.

In the planting of borders, where the garden is of limited dimensions, the practice so general of including a diversity of colours in the same border is undoubtedly the best. It certainly enables the owner to enjoy a greater diversity of form as well as of colouring than is possible when the selection is limited to plants bearing flowers of one colour. This is so obvious that there is no occasion to labour the point; but it can hardly fail to prove useful to point out that in borders in which there is a wide range of colours a much more tasteful effect is produced when the colours are spread with a bold hand, than when they are so distributed as to suggest that they had been sprinkled with the aid of a loose brush. Not only is it desirable to adopt a bold style of planting for the purpose of obtaining striking colour effects, but the scheme is far more pleasing when the plants of the same or closely-allied kinds are so arranged as to give prominence to their distinctive habits and foliage.

Where the flower garden and pleasure grounds are of sufficient area to afford space for several borders, in addition, a pleasing innovation upon the old practice may be made by limiting one or more borders to plants producing red, blue, or white flowers, according to the taste of the owners. In several gardens that we have had the pleasure of visiting the planting of borders with distinctive colours has been carried out with much success. White borders would appear to be the most popular, the ratio being, according to our observations in different parts of the country, three borders of white flowers to one border of red or blue flowers. It is simply a question of taste. We should place blue first, red second, and white third, but we would advise planters to follow the bent of their own mind in deciding which of the colours they will select if they are not able to have more than one or two.

The finest of the red and blue borders that have as yet come under our notice are those in the gardens of Hillingdon Court, Uxbridge, the residence of Lord Hillingdon. These have the advantage of being spacious and of having been judiciously planted, and with the aid of the accompanying illustrations it will not be difficult to realise their extent and beauty. One of the finest of the examples of planting with white flowers that we have seen was in one of the many fine gardens in the vicinity of Norwich. It is only in large gardens that spacious borders, such as those illustrated, can be devoted to separate colours, but a feature of a quite charming character can be obtained in borders of quite small proportions, provided they are kept well apart.

THE RED WALK, HILLINGDON COURT.

[Photo: H. N. King.

In the blue border at Hillingdon Court Anchusa italica Dropmore variety, violas, lavender, delphiniums, and lupins are prominent, but there would be no difficulty in having a comparatively large and varied selection, if so desired. Among other blue-flowered plants of special excellence are aquilegias, asters annual and perennial, campanulas, dracocephalums, echinops, erigerons, eryngiums, galegas, gentians, geraniums, iris in great variety, lithospermums, mertensias, polemoniums, scabiosas, stokesias, and veronicas. In the planting of red borders the example that has been set by Mr. Allan, the head gardener at Hillingdon Court, should be followed, and roses be very largely planted. Varieties of great excellence, with red flowers, may be selected from the hybrid perpetuals, hybrid teas, teas, and dwarf polyanthas. The association of standards and dwarf bushes, as in the Hillingdon Court border, is essential to the production of a pleasing effect, and a few pillar roses trained to rustic poles may be introduced if considered desirable. If a border more varied than would be obtained by roses alone is required, herbaceous pæonies, carnations, hardy heaths, pentstemons, Oriental poppies, pyrethrums, hardy fuchsias, should be freely selected from. Carnations, it should be remembered, consort admirably with roses, and red stocks and asters, which are readily raised in large quantities from seed, will also be useful, as will dwarf cannas with soft red flowers. In the association of miscellaneous plants with roses care must be taken to arrange them in such manner that those of strong growth will not injure the roses. G.

[Photo: H. N. King.

THE BLUE WALK, HILLINGDON COURT.

The Lawrence Medal.—In the year 1906 Sir Trevor Lawrence, Bart., completed the 21st year as president of the Royal Horticultural Society, when the Fellows, as an expression of their appreciation of the services he had rendered the society, decided to found a gold medal to be known as "The Lawrence Medal." The funds necessary to give practical expression to this decision were subscribed within a comparatively short period; and, after full consideration and some unavoidable delay, the execution of the work has been entrusted to Mr. Bertram Mackennal, the well-known medallist.

AMONG THE ROSES.

On looking over our roses since the frost I find they have come through the ordeal much better than might have been expected, more especially when we consider the excessively keen wind that prevailed. A keen wind appears to do much more harm during a severe frost than does a frost of greater severity with a still air, and this is most marked upon newly-planted roses and the hedge briars for standard stocks. It is very trying to the last-named, because they have no roots with which to draw up supplies of moisture from the soil, and, consequently, the cells become dried up. I often think that we might do better by protecting these a little more. In the first place, the stocks are taken from the shelter of hedgerow or copse, have had almost the whole of their roots cut off, and are not much more than a sucker roughly removed from a stub of old growth. With scarcely any root, and fully exposed to the open, it is surprising they do so well.

After the frost and wind it will be advisable to examine the beds, and tread the plants up firmly, and where the frost has partially raised them they should be pressed down to their original position. Cuttings of roses are often drawn up as much as two or three inches at these times, and need pressing down before the roots start from the callus that has already formed.

At any time now, according to the condition of the soil, the ground may be dug over very lightly. One great advantage of digging is the ease with which one can use the hoe early in the season to keep down seedling weeds. Some growers have a strong objection to digging among their roses, and I do not advise the spade to be inserted its full length. Three or four inches is the depth we favour, and the ground is turned over as roughly as possible.

Where planting has still to be done I would recommend deferring it until the middle or end of February, unless the ground is in a very favourable condition. By that time, moreover, one can see where the beds need filling up, and with the influence of sun and a little warmer soil the roots will begin to run freely at once. One can fill up vacant spaces until May with plants from pots.

It is too early to prune, except one has a number of roses upon walls or arbour which necessitate a considerable amount of work just at a time when so many things demand urgent attention. A great deal of this work can be done now by thinning out the old wood, and it is well to take advantage of quiet days before we are overpressed in other directions.

This is a very busy time under glass. Pruning should be completed now, and a little higher temperature afforded as the season advances. Steady forcing is preferable. It is astonishing how quickly the plants will respond to a moderate temperature as the sun gains power. A slight check after too hasty forcing is the cause of many blind or flowerless growths. Another frequent cause of this comes from using insecticides of too great a strength, sometimes in fumigation, and sometimes in solution. That pearl among white roses, Niphetos, is very apt to lose its tips of growth and buds through these causes, and

I have frequently lost a quantity of very young growths through this, and the roots being a little too dry. A judicious use of the syringe and light fumigation, alternately, is more beneficial than a strong application of either remedy by itself. Liquid manure from the cow stall has proved the best with me for pot roses. Ventilation needs very great care at this season, and not much is required until March. The long rods of Marechal Niel and other climbers will be pushing into new growth, and we often find these secured too closely to the glass roof, with the result that many of the flowering shoots are against the glass before the buds form, and so suffer from extremes of temperature, which often completely spoil the crop. Eighteen to twenty-four inches is none too far from the glass, as all young growth is certain to draw that way. A. Piper.

PEARS NOT KEEPING.

At page 911 of last year's volume of the Gardeners' Magazine is an article on pears which appears to be somewhat out of place, as the varieties your correspondent mentions are usually in December pretty well all finished. For example, Emile d'Heyst is an October-November pear in the south and west. Marie Louise belongs to the same period, Doyenne du Comice is a November pear, but from a south wall, in a good season, the fruit will be ripe at the end of October, and can be hastened by placing in heat. The fruits, however, are not so good as when allowed to hang on the tree till they are really fit for gathering. I have kept Doyenne du Comice till December 10, but the fruits must be kept very cool to remain in good condition so late. Charles Ernest is another pear that is much in evidence in the month of November, and I do not think it is better at any time than in the last fortnight of November and the first week in December. Catalogues are sometimes a little misleading with regard to the season in which pears attain maturity; but with experience and observation this can soon be put right. It will be noticed that most all of the leading growers place Charles Ernest and Doyenne du Comice first in the list for November and December, but in the south and south-west it is impossible to keep either of these in perfect condition till Christmas. Glou Morceau, Hacon's Incomparable, Nouvelle Fulvie, and Winter Nelis are the best varieties for the dessert at Christmas. With regard to apples, I have not found that these are keeping badly. Of course, the early varieties are sure to go off when their season is over, and there are so many varieties that are in season in October and the early part of November, and in a mild season they apparently appear to go off quickly.

Leonardslee Gardens. W. A. Cook.

Saxifraga Rudolphiana. — The greater number of the saxifrages of the oppositifolia section have one common failing, which renders them less useful than they should be for our gardens. This is the difficulty of inducing them to flower freely in cultivation for any number of years if left alone. This is particularly noticeable with some of the larger varieties of S. oppositifolia, and it is frequently necessary, if much in the way of flower is wanted, to tear the plants to pieces occasionally, and to replant them. Sometimes they will even grow bare and unsightly in the centre if left alone. I have found, when I grew it some years ago, that S. Rudolphiana, which belongs to this section, and which, I consider, should not have specific rank, is less troublesome in this respect, and I found that it would go on longer without this operation of splitting up, or, rather, tearing to pieces, than its allies. It is also earlier than S. oppositifolia, and a better bloomer, generally covering itself with fine flowers of a rosy purple. It grows only two or three inches high.—S. Arnott.

IMITATION IN GARDEN PLANTING.

The "sincerest form of flattery" is a mistake when carried to excess in garden-planting; we all visit our neighbours' grounds as well as our own, and have little pleasure in finding them very similar; if the same plants are better grown than in our case we are naturally pained; if they are worse grown our satisfaction can be at best a base one. Come out of a rhododendron shrubbery into one of hawthorns, and the change is a lesson as well as a delight. Study a tea rosery after rambling among the home hybrid perpetuals, and a new pleasure is gained. Turn from flat geometrical beds to a display of perennial-filled ones, and the contrast is as instructive as charming.

In the gardens of large estates there are usually some noted or striking features, but the rest of the arrangements follow upon conventional lines; in villa gardens even this originality is seldom achieved, and whether trees, shrubs, bedding, herbaceous or annual plants are considered they will be found of the ordinary kinds, set in familar style. There is especial reason to regret this uniformity in the case of front gardens, because the whole aspect of our country and suburban roads would be glorified by a brave abandonment of old combinations and methods. The speculative builder receives most of the blame for the tame character of front plots, but in truth the leaseholders and purchasers are far more culpable, since the trees and plants that have been put in to give something of a cultivated effect are easy to move either for rearrangement or abandonment. It is not that the shrubs, etc., are ill-chosen so often as that they are not used boldly. Take the golden elder as an example, as a hedge along a boundary it presents a grand appearance, yet it is never seen except as a squeezed specimen among other specimens, firs, laburnums, hawthorns, lilacs, etc. A laburnum row against a railing would be so uncommon as to constitute a noted show each spring, but who cares to observe or comment upon the single laburnums that are dotted along roadways, one in each garden?

An old author has stated: "Floriculture differs from kitchen gardening in one grand principle—that whereas the latter has no free-will in the choice of the objects of its care—for whether in Great Britain, or Australia, in Russia or in Italy, a gentleman's household must be supplied with all possible, as well as all necessary vegetables and fruits. The flower gardener enjoys a wide range, and liberty of selection, which makes a failure on his part incalculably more discreditable."

No doubt the commonplace planting we witness is just the result of a species of greed, the desire to have a lilac if the next-door neighbour has one, also a double crimson may to match his, as many hybrid perpetual roses, a rockery covered also with aubrietia and arabis in spring, beds similarly gay with first wallflowers, then pelargoniums, and, if possible, a few more tulips and calceolarias, edged by crocuses and lobelia. The lesson to be learnt is not to covet all flowers, but find greater content in perfect culture of a very few.

The same ancient writer gives this advice, in chatty form: "What style of garden shall we have? To what branch of horticulture shall we give our attention? On which group of the vegetable kingdom shall we spend our money? How shall the exterior of our villa residence look from without and within? Shall we form a little arboretum, and nestle ourselves beneath a cluster of some dozen or twenty rare hardy trees? Shall we go into the Dutch line and gratify our taste for florist's flowers? Shall we make a rosery, and be content to look a little naked in the winter if we can but have a blaze of bloom during summer and autumn? Any of these proposed plans can be carried out in villa gardening; only there must be no indecision, no patch-work, half-measures, nor coalitions of opposite aims and principles."

Is there anywhere in England, I wonder, a sunny front garden given up to the cultivation of lilies with pansies and violas? The Crown Imperial and the "Lent lily" might be allowed to appear before true lilies, and masses of the crimson scarlet Schizostylis coccinea, could be permitted to yield brilliant blossoms in November. Surely such a style of planting, if well carried out, would be renowned for more miles than can be estimated? A garden of white roses chiefly would be a delightful one in front of a new red-brick villa; a few dark-foliaged evergreen shrubs would be needed to form an effective background, the carpeting plants could be mostly white-blossomed also.

A semi-shady front garden given up to woodland or wild plants might be scorned by a vulgar few, but would gratify the artistic tastes of innumerable passers-by. Foxgloves, single roses, honeysuckles, Myosotis palustris, various orchids, daffodils, bluebells, blackberries, Solomon's seal, mulleins, ranunculuses, calthas, primroses, and violets should appear in it.

> "Many such there are.
> Fair ferns and flowers, and chiefly that tall fern,
> So stately, of the Queen Osmunda named:
> Plant lovelier in its retired abode
> On Grasmere's beach, than Naiad by the side
> Of Grecian brook, or Lady of the Mere,
> Sole-sitting by the shores of old Romance."
> —Wordsworth.

It is even rare for the rosery to occupy wholly the front garden, yet in many cases this would be far more suitable than locating it behind the house, losing thereby the best sunshine and aspect. Lastly, it should be more realised that flowering trees will flourish among lower-growing shrubs; a thicket of rhododendron can be partly overhung by acacias, Berberis aquifolium by laburnum and double peaches and cherries, laurustinus by almonds. M. H.

Daphne Mezereum grandiflora.—This distinct variety of the common "Mezereon" is worth planting in every garden where winter-flowering shrubs are encouraged, for it possesses a lengthy flowering season, and is at its best a month in advance of the type. It is a very old garden plant, although it is difficult to obtain in the present day in quantity, and was mentioned by Loudon nearly seventy years ago, under the name of autumnale or autumnalis. This synonymous name was probably given on account of its habit of opening some of its flowers in autumn. The blossoms commence to open in October, and a few continue to expand throughout November, December, and early in January, the majority opening rather rapidly towards the end of the latter month, and continuing until March. In colour they are very similar to those of the type, whilst they are equally fragrant and larger. The whole plant is more vigorous than the type, the wood being stronger, and the bush of larger dimensions. It is increased by grafting on stocks of the type, but is not one of the easiest shrubs to deal with. Two-year-old wood is often better for scions than that formed in the previous summer.—W. D.

THE FERTILITY OF SOILS.

All land that can be worked at all can be made fertile, and that to a degree above the present indifferent average. Poor land can be made sufficiently rich if treated in an intelligent manner, and the experiment is well deserving of some effort, even when accompanied with some risk.

This question of fertility may be viewed in several ways. The essence of fertility is to have two forms of soil in the right condition. These forms are organic and inorganic. No crop can be produced from either separately, and when they exist together, there must be the right conditions of warmth, air, and moisture to enable them to be of use to the growing plant. In the absence of either organic or inorganic matter fertility cannot exist, and even then the surrounding conditions must be suitable. Without the inorganic material we lack the matter and the body; failing the organic part we are without the force. With the two under suitable conditions there can be built up a substantial crop.

Inorganic matter is by far the greater portion of most soils. It is the dead part of the soil. If soil be burnt the organic part is got rid of, but the inorganic remains. An ordinary piece of rock or stone is wholly inorganic. It will not burn. Coal, on the other hand, has much organic matter as is known by the amount which can be burnt from it and the difference in weight between a piece of coal and a piece of coke. To ascertain the amount of organic or inorganic matter in a soil, place a sample in a place where it will become quite dry. Then weigh 100lbs., or 10lbs., and burn it. Weigh the ash that remains and the difference will show the amount of organic matter in the soil.

Although inorganic matter is the dead matter of the soil it must not be supposed that its necessity and usefulness can be ignored. It plays its part in the composition of crops quite as effectively as does the organic portion. The one gives life and motion, the other substance and support. It must be understood that a plant can only assimilate food in a soluble or liquid form, and the chief object of cultivation is to assist in dissolving both organic and inorganic matter.

Organic matter is an essential part of a fertile soil, for without it no crop can grow. All cultivable soil contains organic matter, though not always in an available form. This is an important distinction and touches a fundamental principle of fertility. A soil may contain much matter which goes to the make-up of the proposed crop, and yet be unable to support that crop. It may seem paradoxical to assert that fertile land may not be productive, or that unproductive soils may possess the elements of fertility. That this is the case has been proved by chemical analyses. A soil which has been unable to support a full crop has been tested by expert analysts and found to contain plant food of the kind required, and far in excess of what would be needed for an average crop. The analysis of a soil is no criterion of its productiveness unless such a statement shows how much of the plant food is ready for immediate use by the plant.

A safe and simple method of ascertaining the value of a soil would be to collect from various quarters of a plot an average sample of soil. Tie this in a thin muslin bag and put it to soak in clear rain water. After a few days the water should be analysed. This would show roughly the amount of plant food which is soluble and thus ready for immediate use, for it must be borne in mind that the root-hairs of the plant can only take up food in a liquid state. The value of a soil can only be rightly gauged by distinguishing between the plant food which is active and that which is inert.

The organic or vegetable and animal matter in a soil is often spoken of as humus. Besides affording plant food humus acts beneficially in a mechanical manner. It imparts a dark colour to the soil, and thereby in some degree helps to absorb and retain sun-heat. It keeps the soil open, and thereby obviates the danger of stagnation. It is capable of absorbing water in much the same way as a sponge, and is thus of considerable advantage to a dry soil. It opens the soil to the influence of air. It makes the soil proportionately less weighty. It also serves as the happy hunting ground of myriads of little organisms which perform the task of converting plant food into a form such as can be beneficially used by the crop. Without humus in the soil the proportion of these organisms would be considerably reduced, and the crop thereby have less food for assimilation.

DECORATIVE CHRYSANTHEMUM, MAUD ALLAN.
Exhibited by Mr. N. Molyneux at R.H.S. Meeting, January 12, when an A.M. was made in its favour. Flowers much reduced; pure white.

That lime is of value as a plant food is disputed by some, but that it is of great use in bringing the soil into a state of fertility is acknowledged by all, though not sufficiently appreciated by practical cultivators. Lime has the property of rendering the organic matter fit for immediate use. It accelerates the decomposition of manures, and thus brings into use at once food which might have remained inert for a considerable time. But its effect is not confined to organic matter, for in combination with the mineral portion it forms many useful salts. It is chiefly known and used as a corrective of sourness due to a superabundance of manure. If lime is freely used and a good crop taken from the land there is little fear of the soil becoming sour. In fact, heavy manuring, heavy cropping, and frequent liming should go together. In gardens where initial outlay is an important factor less manure could be used one year and the money thus saved invested in lime.

Lime is essential to fertility, and is usually found in all soils, but, as with manure, it is used up by continuous cropping, and if the supply is not kept up the quality and quantity of the produce will suffer. Especially is lime needed when through exigencies of space the same land has to have the same class of crop drawn from it year after year. The available plant food required by that especial crop becomes used up, whilst there is a superabundance of matter which cannot be utilised. Lime will in such a case counteract the acidity of the unused plant food and bring more food into a fit state for the plants' nourishment. In fruit culture lime is most necessary, and its judicious use tends to considerably reduce the ravages of insect and fungoid pests.

WILLIAM F. ROWLES.

NEW PLANTS, ETC.

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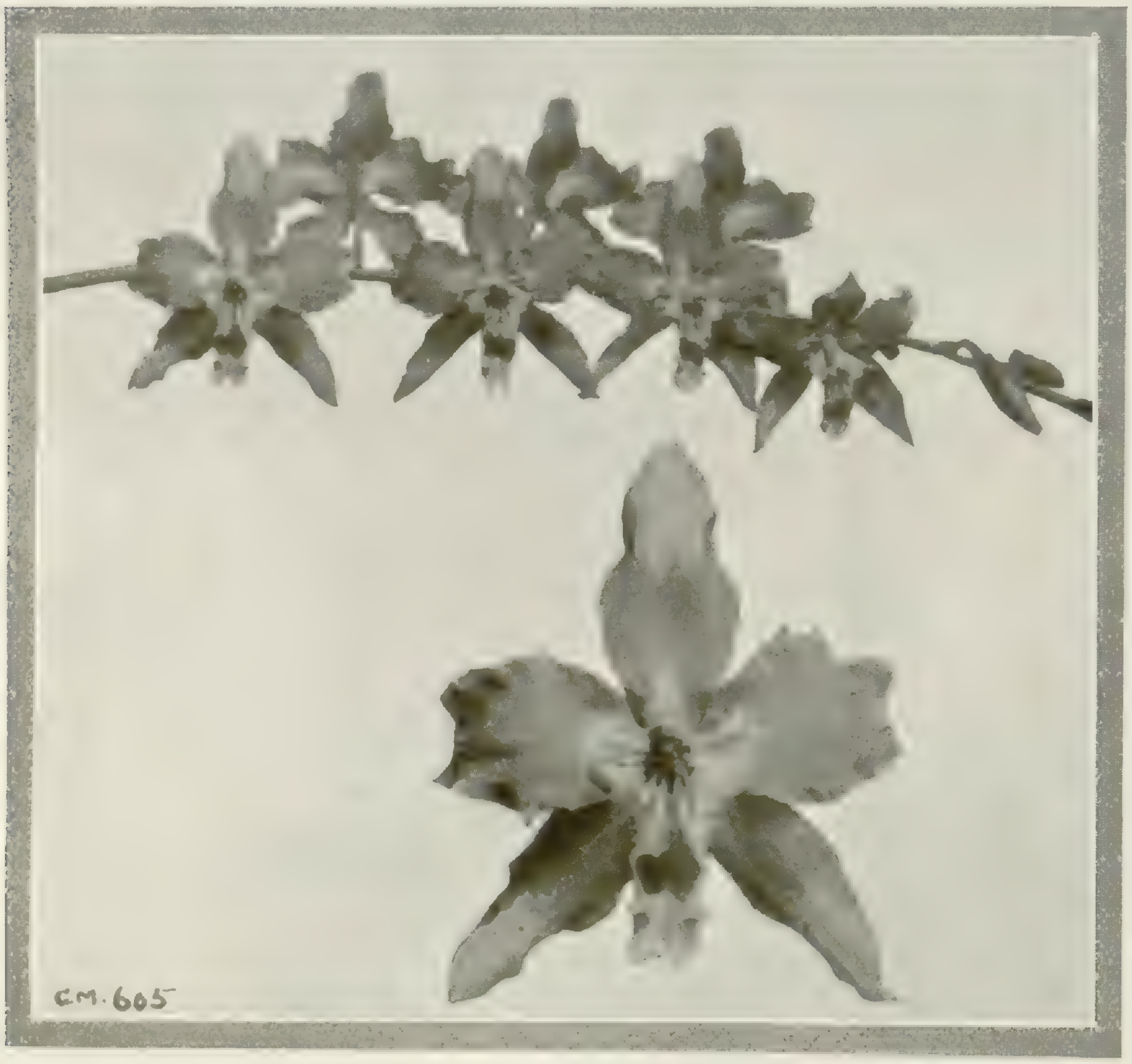
CHRYSANTHEMUM MAUD ALLAN.

A distinct Japanese variety of much value for decorative purposes at midwinter. The blooms are pure white, comparatively small, but full, and with narrow, slightly revolute florets. A.M., R.H.S., January 12. Mr. N. Molyneux, Wickham.

ODONTIODA CHELSIENSIS.

This beautiful bigeneric hybrid, of which a characteristic illustration is given herewith, was raised in the nurseries of Messrs. William Bull and Sons, Chelsea, from a cross effected between Cochlioda vulcanica grandiflora and Odontoglossum crispum. The plant is of comparatively strong growth, and the flowers are of fine form, and deep rose-carmine richly shaded with violet-purple. The single flower in the illustration is reproduced in its natural size. This beautiful hybrid was exhibited by Messrs. W. Bull and Sons at the monthly meeting of the Manchester and North of England Orchid Society, held at Manchester on the 7th inst., and received the distinction of an Award of Merit.



ODONTIODA CHELSIENSIS.
Exhibited by Messrs. W. Bull and Sons at the meeting of the North of England Orchid Society, January 7, when it received an A.M. Colour, rose-carmine, shaded with violet-purple.

ODONTOGLOSSUM ARDENTISSIMUM NORMAN COOKSON.

A distinct and beautiful variety; the flowers of medium size, with broad, rounded sepals and petals, marked with very large blotches of red-purple on a white ground. A.M., R.H.S., January 12. Mr. Norman C. Cookson, Wylam-on-Tyne (gardener, Mr. H. J. Chapman).

CATTLEYA PERCIVALIANA, CHARLESWORTH'S VARIETY.

A remarkably handsome form, of which an illustration was given in our issue of the 16th inst. The flowers are comparatively large, the petals and sepals white, and the lip rich purple-crimson, marked with gold at the base. F.C.C., R.H.S., January 12. Messrs. Charlesworth and Co., Haywards Heath.

VANDA WATSONI.

A charming species, having a habit similar to that of V. Kimballiana, bearing erect spikes of small white flowers. A.M., R.H.S., January 12. Lieut.-Colonel Holford.

CATTLEYA MAGGIE RAPHAEL WESTONBIRT VARIETY.

A handsome form of this beautiful hybrid, which was obtained by the intercrossing of C. Dowiana aurea and C. Trianæ Imperator. The flowers are of large size and fine form; the petals are pale rose, and the lip rich purple-crimson, with golden reticulation at the base. A.M., R.H.S., January 12. Lieut.-Colonel Holford, Westonbirt (orchid grower, Mr. H. G. Alexander).

BEGONIA PATRIÆ.

A rather dwarf-growing begonia, obtained from a cross effected between B. socotrana and B. Pearcei. The plants are dense and free-branching, attain a height of ten or eleven inches, and produce a profusion of rather small, bright rose-pink flowers. The leaves are similar to the first-named of its parents, and the plants produce rudimentary tubers only, as in the case of other hybrids that have had as their parents B. socotrana and a tuberous-rooted variety. A.M., R.H.S., January 12. Messrs. Lemoine and Sons, Nancy, France.

PEAR BLICKLING.

A midwinter pear that has the recommendation of being a good cropper, of bearing fruit that is rich in flavour, and of ripening early in January, when first-class pears are none too plentiful. F.C.C., R.H.S., January 12. Colonel C. Harbord, Gunton Park, Norwich (gardener, Mr. W. Allan).

COLUMNEA MAGNIFICA.

An attractive gesnerad, discovered about the middle of the last century by Warscewicz in the province of Veraguas Panama, but it does not seem to have been collected again until 1906, when it was discovered in the mountains of Costa Rica by Carlos Wercklé at an altitude of between 6,000 and 7,000 feet. The plant attains a height of about twelve inches, has oblanceolate leaves, and large vermilion flowers, which are borne on the upper part of the stem. It thrives under the same conditions as gesnerias. Bot. Mag., t. 8225.

HIBISCUS APONEURUS.

A comparatively small-growing species, bearing bright scarlet flowers an inch or so in diameter, and thriving in a warm greenhouse. While not entitled to a foremost position among decorative plants, it is sufficiently attractive to justify it receiving the attention of cultivators, more especially as it is not difficult to grow. Bot. Mag., t. 8231.

EUPATORIUM RAFFILLI.

A valuable winter-flowering species closely allied to E. (Hebeclinium) ianthinum, under which name it has for some years been grown in the Birmingham Botanic Gardens. It is superior to that species, the flower heads being larger and of a richer purple hue, and the leaves are of finer proportions. Plants raised from cuttings early in the summer and grown on in a warm house attain to goodly proportions, and produce an effective display of bloom at midwinter, extending over four or five weeks. Bot. Mag., t. 8227.

SINGLE-FLOWERED CHRYSANTHEMUMS.

I was pleased to read what was so well said recently (p. 909, 1908, about single-flowered chrysanthemums, in the able leader on "The Past Chrysanthemum Season." For something over twenty years I have advocated the extension of this type for decorative purposes, both as plants and cut flowers, knowing well their value in decorations, and I am pleased to see that they now occupy so strong a position at the shows, interesting the public, and providing much pleasure at home.

The introduction, in 1885, of that charming variety Mary Anderson, by Teesdale, probably did more to hasten public interest in this type than any other one thing. The colour of this variety is so pleasing—blush white—as to enchant one at first sight; while its form leaves little to be desired. I am not acquainted with a single society which does not include a class or classes for this section in its schedule.

Nowhere in Great Britain can single varieties be seen in such fine condition as at the Edinburgh show, where they have vastly improved during the last few years. The Scottish Horticultural Association offers a first prize of £2 for six varieties, to be shown separately in 8-inch vases, and this produces a fine display of well-grown blooms. Just consider the effect made by as many as six dozen blooms of one variety in a vase, and so arranged that one flower does not interfere with its neighbour, and above a green base made by their own foliage. Given ample table space, and this sufficiently low to enable visitors to look down upon the blossoms, it is small wonder this type does receive favourable encomiums.

Contrast these conditions with the best encouragement offered by the leading English society—the National Chrysanthemum Society—which offers 30s. for "twelve vases, not less than six varieties"; as though there would be any difficulty in obtaining twelve distinct sorts! Although this class produced a strong entry, there was nothing particularly striking in any one of the exhibits. Much the best exhibit of these flowers at the November show was the premier prize entry of one vase, arranged with any foliage. There the true decorative effect of the flower was developed, and it received much notice and not a little admiration. In trade exhibits too single-flowered forms were more prominent than usual, showing that even the growers are recognising the trend of public opinion.

I would suggest that some of the varieties of the new race have too many florets, thus rendering them an approach to semi-doubles, which, in my opinion, is a step in the wrong direction. A single row of florets, or, at the most, two, is sufficient for a single-flowered variety.

E. Molyneux.

BRACKEN AS LITTER.

(Concluded from page 44.)

The Composition of the Dung.

The extent to which the litter contributes to the composition of dung depends very largely on the management. If the dung is made with large quantities of litter in open yards and exposed to rain so that the urine and soluble matters generally get washed away, a large proportion of its fertilising constituents comes from the litter. When dung is made in stalls with less litter and less liability to loss, the proportion of fertilising material contributed by the animals' excretions is greatly increased, and the litter plays a lesser part except as an absorbent. Dung made from bracken may for two reasons be expected to contain more nitrogen than straw-made dung; bracken contains more nitrogen than straw, and it has also a larger power of soaking up urine. The amount of potash present might be either higher or lower; bracken is poorer in potash than straw, but this deficiency is counteracted by its greater power of absorbing urine which contains the greater part of the potash voided by the animal, so that one would not expect much difference either way. These points are illustrated by the following analyses of dung made in the Haslemere district:

—	Water.	Nitrogen	Potash.	Phosphoric Acid.
Straw-made dung	69·2	0·67	0·91	0·32
Fern-made dung.	70·2	0·71	0·90	0·28

The fern dung is somewhat richer in nitrogen than the straw dung, and contains the same amount of potash. It was the lighter of the two, weighing less than an equal bulk of the straw dung. This may have been an accidental difference in making, but if it is generally true it indicates that bracken does not get trodden in so readily as straw, in which case it would not exert its full absorptive power, and would lose much of the advantage it possesses over straw. In spite of all this, however, the fern dung comes out slightly richer than the other.

The Rate of Decomposition of the Dung.

The rate at which dung will decay in the soil is a very important factor in cases like the present, where a comparison is being made between two lots of dung made from different littering materials. The coarse, fibrous matter of which the litter is composed has properties altogether different from those possessed by the black structureless humus into which it changes on decay. Fibrous material opens up a soil and prevents settling or panning down, it has no binding tendency on a light soil, but rather the reverse; it has no particular power of increasing the amount of water retained by the soil, on the contrary, by opening the soil and allowing air to enter and water vapour to escape it tends to bring about a loss of water. Humus, on the other hand, has a binding tendency, and causes a light soil to hold better together, it increases the water holding power of the soil, and keeps the soil moist. The properties of fibrous material may often make it very useful on a heavy soil where its power of lightening the soil and promoting aeration is an advantage, and its drying out tendency is no disadvantage because of the ample supply of water; but on a light, dry soil fibrous material may be harmful because it leads to loss of water, of which there is already a deficit. Dung in which the litter decomposes slowly will, therefore, be less useful on a light soil, but may be more useful on a heavy soil than dung in which the litter rots down quickly.

The respective behaviour of straw and fern dung was investigated by marking out two small plots and digging dung into them in November at the rate of 20 tons to the acre; one plot received the straw dung, the other the fern dung analysed above. At the end of March the ground was carefully forked over. The straw dung was found to have decomposed fairly completely into black humus, the fern dung had not, the leaves had decomposed, but the stems remained, and, indeed they seemed almost unaltered. It appears, then, that fern dung decomposes less rapidly in the soil and leaves behind it a larger residue of unchanged fibrous material than straw dung.

These observations enable us to explain a local preference that seems at first sight entirely a matter of prejudice. Gardeners on the light sands at Haslemere, where both straw and fern-made dung are available, prefer the straw dung and are willing to pay a higher price for it, alleging, among other reasons, that it is better and lasts longer in the soil. A little further off, however, on the heavy clay soils the fern dung is considered better. As is often the case with local preferences this is not entirely prejudice, but is capable of rational explanation. The fibrous residue remaining for some time after the application of the fern dung tends to open up the soil, to let in air and to let out water vapour on the light sand, already sufficiently aërated, but insufficiently supplied with water; this is a disadvantage, and goes to counteract the good effect of the rest of the manure, making it, on the whole, probably less useful than straw dung. On the heavier clay, the water supply is ample, but the air supply is not. In this case, therefore, the lightening and opening-up effect of the fern stems is an advantage.

Conclusion.

Where bracken can be obtained its use for litter is a matter deserving serious consideration. It suits the animals, though not so well as straw.

It contains three times as much nitrogen, and as much phosphoric acid as straw, but less potash. Its manurial value is about 50 per cent. higher than that of straw. It possesses greater power of absorbing ammonia and urine than an equal weight of straw, the fine leaves especially being effective. This increased power is, however, only shown to its full extent when the bracken is trodden in as completely as straw would have been.

Dung made from bracken may be expected to be somewhat richer than dung made from straw. On the other hand, it takes longer to decompose in the soil, the fibrous woody stems being only very slowly attacked. It therefore opens up the soil to a greater extent than straw-made dung would do, and is for that reason likely to be more effective on a heavy clay than on a light sandy soil.

Bulbs, Tubers, and Roots generally, whether of flowers or vegetables, which have been stored away for the winter, should be periodically examined, and in the event of any showing signs of decay, these should be promptly removed. Neglect in this respect means irreparable loss. If in the case of begonias, dahlias, etc., these should by some unforeseen cause become too damp, or be frozen owing to insufficient protection, decay will sooner or later set in. But by carefully examining the tubers during periods of inclement weather, very heavy losses, even in extreme instances, can be prevented. Shrivelling through over-dry conditions is equally fatal to roots and tubers, more so when these later have to be depended upon for propagating purposes. To prevent shrivelling, put a small quantity of lightly moistened cocoanut-fibre refuse among the roots. Potatoes which are held in store for seed purposes should have early attention, and, be the quantity large or small, they are best stored in wood trays specially constructed for this purpose; although for small quantities, garden seed or cutting boxes will answer the same purpose. Place the tubers on end with the most prominent eyes uppermost, and store in a cool shed which admits a fair amount of light, and is also absolutely frost-proof.—Thomas Smith.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

DECIDUOUS DENDROBIUMS.—Importations of such species as D. Wardianum, D. nobile, D. crassinode, D. Falconeri, D. devonianum, and others, are now, and will for some months to come, be frequently arriving, and the opportunities thus afforded of securing plants to replenish those kinds which usually deteriorate under cultivation should be taken advantage of. D. Wardianum is one of the most useful and beautiful, and in general gardens no orchid is more serviceable for decorative purposes, but where the leading growths have to be cut away for decorative purposes when in flower, there is but little left for the production of the future growth. Where plants have to be treated in this way I certainly would advise that the stock of this species should be annually replenished by securing imported plants. I would further suggest that the plants from the earlier importation should be secured. The summer seasons are usually of such short duration that the earlier the plants are started the better are the prospects of their maturing their growth under favourable conditions. Securing early imported plants is most essential when they are required to be in bloom earlier than the month of April.

STARTING IMPORTED DENDROBIUMS.—Where imported plants of the above-named dendrobiums are obtained shallow pans or baskets should be used. It is particularly desirable to avoid using a large quantity of potting material, and to use an ample drainage of clean crocks. Neat wire handles should be affixed, and where necessary the pseudo-bulbs should be secured to the wires or suitable stakes. The growths of such pendulous-growing kinds as D. Wardianum, D. Falconeri, and others should be permitted to extend naturally, and not be tied in an upright position until after the growth is completed. The general treatment of imported dendrobiums is not to afford too much root moisture until after the growths have become well advanced, or should they be placed in too warm conditions, a temperature of about 55 to 60 deg. is ample until after the new growths start. More liberal treatment may afterwards be given. Where the atmosphere of the house is on the dry side the pseudo-bulbs may be syringed overhead in bright weather just sufficient to keep them from shrivelling.

DENDROBIUM FORMOSUM. — The usefulness of this species appears to be generally overlooked in gardens. There is certainly no orchid flowering in the months of October and November that is more serviceable, either for decorations or the supply of cut flowers. Importations of this species usually reach this country during the spring months, and I consider that gardeners having the facilities of an ordinary plant stove should grow these plants in quantity. I am well aware that this species is considered somewhat difficult of cultivation, but it is grown more successfully now than in the past, and I am quite sure that, if the plants are grown suspended in an ordinary plant stove, with ample drainage and a small quantity of potting compost about the roots, the difficulties of culture will, to a great extent, be removed, and with this success assured D. formosum should become more generally appreciated.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

REPOTTING.—Even should the weather appear favourable for making a commencement, it will pay in the long run to wait a few weeks longer. We may yet have a return of the weather of December 29, when we registered 29 deg. of frost. Severe weather such as that would tend to check healthy development in the case of plants that have been disturbed at the roots. When plants commence to make fresh growth too soon in the new year, it is not a gain, for it involves a great cost in firing, and is injurious to plants, more especially is this so in the case of those which have had their roots pruned and partially shaken out of the old soil. It is better to wait until the sun's rays will give more warmth, and the conditions generally be much more favourable to healthy growth.

SPECIAL CASES.—Such plants as stephanotis, gardenias, and eucharis, required in bloom as early as possible, should be brought forward in a forcing pit by themselves, where the temperature can be maintained without much extra firing. If leaves and stable litter are used for plunging material, clear tepid water will be only necessary for producing the necessary moist condition of the atmosphere. If such materials as tan and cocoanut-fibre refuse are used, damp in the early part of the afternoon with liquid manure. Admit all the light possible by keeping the glass clean, to regulate the temperature and prevent the escape of moisture. When sharp frosts or cold searching winds prevail, regulate the temperature carefully; it is advisable to prevent a rapid fall of the temperature during darkness by having all accessible roofs covered with canvas upon wooden rollers, or upon wires with rings, which can be quickly applied.

GLOXINIAS.—Where successional batches of these lovely flowering plants are grown give frequent attention to see that they are not suffering from being kept too dry, or injured, as sometimes happens, by being in close contact with the hot-water pipes. A frequent mistake made with these bulbs is that of allowing them to start into growth unobserved. For the first batch the plants that show first signs of growth should be selected. They resent a close, heavy soil, and succeed best in a compost of fibrous loam, peat, and leaf-soil, mixed with a little sand. Make the compost moderately firm, and when the potting is completed the tops of the corms should be level with the surface. Place the plants on a bed of gravel or cocoanut-fibre refuse near to the glass in a structure in which a temperature of 60 deg. is maintained. It will be some time before the tubers make many roots, so that occasional damping the pots and surroundings with the syringe will be all that is really necessary.

GESNERA EXONIENSIS. — Plants that are now coming into flower may be assisted by occasional applications of weak liquid manure. Few stove subjects flowering in winter are more effective or more easily grown, the beautiful velvety leaves covered with shining red hairs, and the bold spikes of rich orange-red flowers combine to produce a rich effect. They remain in bloom a considerable time, a succession of flowers being produced in the course of the development of the spikes.—W. Fyfe, Lockinge Park Gardens.

HARDY FRUITS.

WALL TREES.—Any pruning and training remaining to be done should be attended to and finished as soon as possible. Loosen the trees from the walls, and brush over as much of the back portion of the main branches as it is possible to get at with soapy water or some approved insecticide, and give the walls a good syringing with paraffin emulsion to destroy as many as possible of the various pests which secrete themselves in the crevices. When securing the trees in their proper positions with ties or shreds, be careful to allow ample room between the branches, and thus prevent over-crowding of the foliage when the trees are in full growth. Young shoots should, if required, be reserved during the summer to take the place of unsatisfactory or worn-out branches. Those reserved for this purpose should be laid in the position they are required to fill, and if gross cut them back to about one-third of their length to ensure the growth of the back buds. Prune all laterals to within about an inch and a-half of their base, not just above the point of the summer pinching, which is sometimes done; also the leading branches of trees that have filled their allotted space. Young trees should have their leading growths pruned back about one-third of their length. Collect all prunings, shreds, and other tying material up, and have them burnt.

BUSH FRUITS.—Red and white currants, also gooseberries, require much the same treatment. Shorten the leading branches back to within six or eight inches of the old wood, and prune all laterals back to an inch. These are often left with their branches much too close together, with the result that the trees produce more fruit than can be brought to perfection. See that ample room is now provided by well thinning out the branches.

THE BLACK CURRANT differs from the red and white varieties in the manner of pruning, inasmuch as the fruit is chiefly produced on the young wood of the previous season. Therefore cut out as much of the old fruiting wood as can be spared to make room for the young shoots, and thin out the latter if necessary; also slightly shorten those left if very vigorous, to induce young growths to push from the lower parts of the bushes. Trees which have only a few enlarged buds on them should have all these carefully picked off and burnt, but where trees are found to be badly infested with the currant gall mite, they should be dug up and burnt. Dusting the bushes with a mixture of sulphur and lime during March, April, and May is recommended for its destruction.

WINTER SPRAYING. — After the trees are pruned they should be sprayed with the potash and soda emulsion, or by some other wash known to be efficient. Whatever kind of emulsion is used, spraying should be done as early after this date as possible.

FRUIT ROOM.—Examine the collections of fruit in hand frequently, removing any that show signs of decay. Late varieties, as Newton Wonder, Annie Elizabeth, Dumelow's Seedling, Claygate Pearmain, Reinette du Canada, and Sturmer Pippin among apples, and Bergamotte Esperen, Beurre Rance, Olivier de Serres, and Nec Plus Meuris among the pears, should have special attention and care to ensure their being sent to the table in good condition. Keep the room as cool as possible, and the atmosphere dry by admitting a little air through the ventilators on occasions when the temperature outside averages 40 deg. — George Woodgate, Rolleston Hall Gardens.

THE KITCHEN GARDEN.

THE FORCING of vegetables and salads will for the next few months claim a large share of attention to ensure the requisite quantities being prepared and planted to meet the demands. Where plenty of stable manure has been sweetened, and tree leaves preserved for this object, matters will be greatly facilitated. In all cases make the beds firm by constant treading as they are made, and incorporate plenty of leaves in them, thus prolonging the heat. The inside of the pits or frames that may be utilised for forcing should be white-washed or painted white, to obtain the maximum light to the crops. Potatoes that have been laid out singly to sprout should be planted before the shoots have attained any considerable length, provided the beds are in readiness to receive them by the temperature decreasing to a safe degree. Sowings of seeds of carrots, radishes, and turnips must also be made for succession as required. If a sowing of lettuce was made during the first days of this month, and placed in heat, the young plants will be nearly large enough for pricking out over a mild hot-bed at about six inches apart in fine, rich soil. They should be kept close till the young roots are pushing freely into the new soil, then more air may be gradually given as the weather will allow.

PEAS.—Make a sowing of peas in 60-sized pots or narrow boxes in a rather open porous compost, and place them on a covering of ashes in a cool frame. After the seed has germinated and the plants have appeared above the soil, give plenty of air on every favourable occasion, while during mild days the plants will be benefited by being fully exposed, thus ensuring sturdy growth. Early Giant, William the First, and Gradus are suitable and satisfactory for this sowing. Perhaps the last-named in the colder counties, as here, gives better returns as a second early. When the soil outside is in a sufficiently dry condition also make a sowing of one or more of the above varieties on a warm border in drills 6ft. apart; these will, in an average season, turn in for use at about six to nine days after the pot-sown ones. For narrow borders such varieties as Chelsea Gem, Excelsior, May Queen, or Mayflower are more suitable, and often give splendid results in these warm positions if mulched and watered when filling their pods.

BROAD BEANS. — A sowing should be made in a rather sheltered position in drills at about 2ft. apart, the beans being put 1ft. apart in the row. The variety that is sent out as Mammoth Longpod is very hardy and prolific for early crops. Early Longpod is also largely grown. Mice are sometimes troublesome with this crop, as with peas, and it is advisable, if pestered with them, to sow seed more thickly than is recommended, and afterwards thin out the plants to the desired distance.

RHUBARB.—Lift a quantity of crowns during fine weather, and expose them to the open for a few days, previous to placing them in the mushroom house for forcing, which will assist the earliest batch or two. As the season advances this will not be so necessary, as growth will more readily respond when placed in warmth.

SEAKALE.—A batch of crowns should be taken up from the open quarters and placed in trenches that they may be sheltered in case of severe frosts setting in and thereby be at hand for introducing to the forcing house as required.

GENERAL REMARKS.—Take every advantage to forward the wheeling on of manure and trenching the quarters. Too much importance cannot be attached to this part of kitchen gardening. Where it is possible map out the sites that different crops are to occupy, and treat them accordingly. For such seed beds as for carrots, onions, beet, etc., lay the land up to exposure by trenching early. Give a top-dressing of wood ashes or soot, and on heavy cropped land a dressing of lime is very beneficial. When the men are unable to work outside during bad weather, keep them occupied under cover in preparing the seakale throngs for planting later, examining the stock of roots, and removing any that may be decayed and are likely to contaminate others. —C. Flack, Cholmondeley Castle Gardens.

Shortia galacifolia is an exceedingly beautiful and interesting plant in the rock garden, growing in close tufts, and spreading by means of short underground stems. The leaves spring from a central crown, and are evergreen; their glossy surface is veined, and they assume a rich bronze-purple in autumn, which is retained throughout winter. The white-frilled pendulous flowers are produced late in March and April, on crimson-coloured stems, the bracts also being crimson. It grows six inches in height here, where planted in light sandy peat soil in a half-shady spot. Where the exposure is more open the growth is dwarfer and the leaves are correspondingly richer coloured. The history of Shortia galacifolia as recounted in "Flora and Sylva" is quite as interesting as the plant itself. "It was in the winter of 1788 that Michaux first found it in the mountains of Carolina. For years the imperfect specimen lay unnoticed till Asa Grey saw them in Michaux's Herbarium in Paris. Recognising in them an unknown species, a search for it began, which was only rewarded in the spring of 1877 with the finding of a tiny patch of plants upon the banks of the Catawba river in Dowell's County, North Carolina. This shortia has proved less rare than was at first supposed. It grows beneath trees in a light, moist soil of humus and leaf-mould, along with such plants as mitchella, asarum, and galax."—Flora Bot. 3, p. 8.—Thomas Smith, Walmsgate Gardens.

NOTES ON SOME NEW ROSES
No. III.

We now come to another selection of the new roses of 1908, and here the writer's comments must be taken for what they may be worth, since it has been his misfortune to have seen them at the exhibitions only; he has no knowledge of them as viewed growing.

Albatross, H.T. (W. Paul and Son).—Ivory-white, erect, globular, resembling White Lady, but possibly fuller. The growth is apparently moderate.

Buttercup Rambler (Paul and Son).—Deep golden-yellow in bud, paler in the more expanded flower. Bloom, single, and after the style of Reœ, small, and buttercup in form. A distinct colour.

Charlotte Klemm, H.T. (Turke).—Colour, brilliant fiery red. Flowers semi-double, of medium size, produced in clusters. Said to be a seedling of Fabvier, crossed with Alfred Colomb. In habit it resembles Fabvier, but more intense in colour. As exhibited by Messrs. William Paul and Son at the exhibition held in the R.H.S. Hall in July, it was most attractive.

Elaine, H.T. (William Paul and Son).—Colour pale lemon-white, buds tipped with pink, thick deep broad petals much reflexed. The raisers speak of it as having "a distinct cactus-like appearance."

Ecarlate, H.T. (Boytard).—Colour scarlet-red, cupped, half full medium-sized flowers, free, and very floriferous. Said to be mildew-proof, and for this reason it is likely to supersede Marquise de Salisbury, a variety it closely resembles. Has been finely staged in the decorative classes this year by Messrs. Frank Cant and Co. and other exhibitors. Probably an excellent variety.

Lady Godiva, Wichuraiana (Paul and Son). A soft flesh pink sport from Dorothy Perkins, very charming; well staged at the exhibitions this year, and finely illustrated in the GARDENERS' MAGAZINE; good.

Laurent Carle, H.T. (Pernet-Ducher). Colour brilliant carmine. Flowers, large, pointed, and fairly full. Vigorous and free.

Mrs. William Cooper, H.T. (Hugh Dickson). Colour deep rosy-pink. Flowers large, cupped, and of good substance; fragrant.

Paula, Tea (Paul and Son). Colour sulphur-yellow, semi-double, free, vigorous, and fragrant. Distinct.

Refulgence, Hybrid Sweet Briar (William Paul and Son). Remarkable for the size and brilliancy of its flowers, which are dazzling scarlet, semi-single, with rich golden stamens, produced in clusters, ten to twenty on a stem. It appears to be a great advance on the Penzance briars, and is most attractive and promising. Award of Merit, R.H.S.

Starlight, Multiflora (Paul and Son).—Colour, white suffused pink. Large single flowers. A notable addition to the multifloras.

Snowstorm, Hybrid Musk (Paul and Son). Colour, pure white. Flowers produced in clusters, semi-single, reminding one of R. alba. Very free flowering, and, what is most valuable, it is a perpetual, giving blooms well into the autumn. A vigorous bush. Promising.

White Dorothy, Wichuraiana (Benjamin Cant and Sons).—The best description of this beautiful rose is that it is a pure white Dorothy Perkins; if anything, stronger in growth, and flowers slightly larger than Dorothy Perkins, from which it is a sport. It was magnificently staged by the introducers at the N.R.S. exhibition at Manchester in six vases, having large trusses of clean, fresh flowers, contrasting well with the stout, deep green, glossy foliage. The flowers, it was stated, were all cut from maiden plants. Without any doubt it will soon be as popular, if not more so, as Dorothy Perkins. Gold Medal, N.R.S., Manchester.

Of the roses mentioned in the foregoing lists the writer's selection would be, first and foremost, W. R. Smith (Tea), together with Molly Sharman-Crawford (Tea), Dr. O. Donel Brown (Hybrid Tea), White Dorothy, Refulgence, and Snowstorm.

JOSEPH H. PEMBERTON.

INCURVED CHRYSANTHEMUMS.

In looking round the November show held at the Crystal Palace, I was struck by the indifferent quality of the blooms in the incurved section, and could not but deplore the lack of interest taken in this section, not only by visitors, but by cultivators. The Floral Committee of the National Chrysanthemum Society is much to blame for certificating varieties like Mrs. James Hygate, which is really a small Japanese variety, and was so classed the year previous. Such action on the part of an important and what should be a trustworthy body, cannot but lower the confidence of the public in its actions. Many of the varieties now admitted into the incurved section are, at the best, mongrels.

With a view of improving the colours of varieties in this section, raisers have fertilised the blooms with pollen of Japanese varieties, but, unfortunately, in the raising of new chrysanthemums no definite results can be depended upon. Good seedling varieties are quite a matter of chance, and no definite line of action in the selection of parents is of value. What was at one time a prolific source of new and improved varieties seems to be almost lost now. I allude to sporting, the origin and cause of which seems to be as far off as ever; experts cannot tell us anything fresh in this direction. Why we have fewer sports in any section of the chrysanthemum now than formerly is passing strange. Queen of England and its sports gave us as many as eight distinct varieties; Princess of Wales as many; Princess Teck half-a-dozen, and so on. Even in the Japanese section, which is much larger than any other, there is a great dearth of new and desirable additions as the result of sporting. Madame Paolo Radaelli is the most prolific variety that I can recall at the present moment, and even that, at the most, has given but three.

Varieties noted at the Crystal Palace as being most objectionable as incurved blooms, owing to their rough appearance and their lack of semblance to the true incurved or globe flower, were Mrs. A. H. Hall, H. Hearne, Mrs. James Hygate, W. Pascoe, Souvenir de W. Clibran, Triomphe de Montbrun, Lady Isabel, M. Muelenare, and Chrysanthemiste Bruant. As long as varieties like these are staged in the condition alluded to, there is little prospect of the section becoming more popular.

Much the best exhibit in the show in question was that in the class for twelve blooms, from Mr. J. Preece, Great Warley. The varieties included Clara Wells, which is a splendid addition from Australia, having all the characteristics of a true incurved bloom; and Daisy Southam, a desirable rich yellow with a deep bronze suffusion. Duchess of Fife, Embléme Poitevine, Godfrey's Eclipse, Buttercup, Mrs. G. Denyers, and Mrs. H. J. Jones were especially noteworthy for depth, solidity, and finish. Varieties like these cannot but be an improvement to any stand,

E. MOLYNEUX.

STATE AFFORESTATION.

The second report, relating to afforestation, of the Royal Commission on Coast Erosion, the Reclamation of Tidal Lands, and Afforestation, has been issued as a Blue Book (Cd. 4,460). The report is remarkable for its fulness and interest, and is especially deserving of the attention of those who are interested in the question of extending the area of woodlands and forests in this country. Attached to the report is the following summary of the conclusions at which the Commissioners have arrived.

Forestry as an Investment.

(1.) The natural conditions of soil and climate in the United Kingdom are favourable to the production of high-class commercial timber such as is annually imported into the country in very great quantities.

(2.) The afforestation of suitable lands in the United Kingdom, if undertaken on an adequate scale, and in accordance with well-recognised scientific principles, should prove at present prices a sound and remunerative investment.

(3.) In estimating the profits of sylviculture account must, moreover, be taken of two facts: the increasing consumption of timber per head of population all over the world, in spite of the introduction of alternative materials; and, further, the exploitation, waste, and destruction by fire of the virgin forests, especially those yielding the more important building timbers. Already a noticeable shortage of timber supply has resulted, as is evidenced by steadily rising prices and depreciating qualities in all markets. It seems impossible to escape from the conclusion that this tendency will be continued and accentuated, and that a steady and a very considerable rise in prices may be looked for throughout the present century. The security which afforestation offers for investment is therefore likely to be an improving one, with a corresponding increase in profits, but, to avoid all that is speculative, this prospect has been disregarded in framing our estimates.

Land Suitable for Sylviculture.

(4.) The amount of land suitable for afforestation, but not now under timber, in the United Kingdom may roughly be put at a maximum of 9,000,000 acres. In determining this figure two considerations have been taken into account, besides elevation and physical suitability of soil. The first is that the value of the land is not in excess of a sum on which a fair return may be anticipated on the expenditure. This will naturally vary according to the productive capacity of the soil and the crop which it will carry. The second consideration is that the land could not be more profitably utilised in any other way.

(5.) A forest of 9,000,000 acres, in which are represented the various series of age-classes, may be expected to yield 9,000,000 loads annually in perpetuity. The importation of foreign timber from temperate climates into the United Kingdom in the year 1907 exceeded 8,500,000 loads, or approximately the annual supply which could be expected from the afforestation of the above-mentioned area.

(6.) The withdrawal of 9,000,000 acres from its present uses would cause some gradual curtailment of food supplies and displacement of labour. Land suitable for afforestation is mostly devoted to the production of mutton. Calculations on the basis of the present consumption show that at most 60,000 tons, or 4.8 per cent. of the total home production of meat, or 2.6 per cent. of the present national consumption, would be ultimately displaced. As to labour, the employment furnished by the present uses, mostly sheep farming, to which the land in question is devoted, may be taken to average one man to 1,000 acres. This does not represent one-tenth of the permanent employment afforded by the maintenance of a similar area of land under forest.

(7.) Systematic sylviculture aims at the production of a steady and continuous supply of marketable timber. To ensure the maintenance of these supplies the area should be divided for planting by the average number of years which the crop needs to mature; for example, if the life of the crop be taken as eighty years, the area to be afforested every year would, out of a total area of 9,000,000 acres, be 112,500 acres. But a more rapid system of planting may be adopted without seriously complicating the rotation, and, further, some adaptation to the temporary fluctuations of the labour market is feasible.

(8.) The distribution of this 9,000,000 acres of suitable land is somewhat irregular. By far the largest areas are to be met with in the west and north of England, and throughout similar regions in Scotland, Ireland, and Wales also contain a relatively large amount of this type of land. In the south and east of England, on the other hand, the areas in the aggregate are less extensive. Great diversity exists in the size of these areas, some counties offering large contiguous stretches, while in others the areas are characterised by their discontinuous nature.

Administration of Woods and Forests.

(9.) The administration of national forest lands should be entrusted to special Commissioners.

(10.) In dealing with these lands, sub-division into distinct districts, with an executive and administrative sub-centre, commends itself from various points of view. Thus local employment would be afforded, local subsidiary industries would be encouraged, public recreation grounds would be provided, and, in connection with the establishment of such forests, small holdings would undoubtedly be multiplied.

(11.) Sylviculture in the United Kingdom is an enterprise which rarely appeals to the private landowner or capitalist. The prolonged time for which capital must be locked up before any return can be expected, the loss of rent and burden of rates over the whole period, and the absence of security for continuous care and management, act as deterrents. None of these objections applies to the State, whose corporate life and resources lend themselves in an especial degree to an undertaking of this character. If the State plants, it will certainly reap, which the individual owner can rarely hope to do.

(12.) If afforestation be promoted on a large scale the provision of suitable lands is the first step. For this purpose a general survey should be made, and the extent and distribution of such lands ascertained. As a rule, it will be found expedient for the State to purchase from time to time such areas as are destined for planting, but some progress may conceivably be made along the lines of profit-sharing, in which case the owner would forego the purchase price. Experience proves that, although much of the land required may be expected to be purchasable by voluntary treaty, yet compulsory powers would be necessary to facilitate transactions where voluntary treaty had broken down.

A Comprehensive Scheme.

(13.) The value of land falling within the definition of "suitability" may be taken, except in rare instances, to lie between £2 and £10 freehold value; but the average value of suitable lands, including the necessary buildings, and other preliminary equipment, may be taken as £6 10s. per acre, and the average cost of afforestation also at £6 10s. per acre. If 150,000 acres be annually taken in hand, a sum of about £2,000,000 would be needed annually to finance the undertaking.

(14.) Money expended in afforestation differs in kind from other calls on the national purse. It is a productive investment of capital. To provide this capital sum out of taxes would be an act of unprecedented generosity on the part of the present generation of taxpayers in favour of their posterity. No stronger justification for proceeding by loan than a reproductive outlay exists. The loan should be based on actuarial calculations showing initial cost, expenses of upkeep and management calculated at compound interest over the whole period, and the value of the property when fully matured. Such actuarial statements we have given, which show for the full scheme that, after allowing 3 per cent. compound interest on all the capital invested, the approximate equalised revenue would at the end of eighty years amount to £17,411,000 per annum, while the value of the property might be expected to be £562,075,000, or £106,993,000 in excess of the sum involved in its creation. A smaller scheme involving the afforestation of 6,000,000 acres (75,000 acres annually for eighty years) would show a profit of about £10,000,000 annually, or a capital value of £320,000,000, being £60,944,000 in excess of the cost of production.

(15.) Coming to ways and means by which a loan of this character may best be provided, a point of great importance to be borne in mind is that, although the period of rotation of a timber crop may be taken as eighty years, yet after forty years, owing to the value of thinnings, and the receipts of some short-period crops, the forest becomes practically self-supporting. Between the fortieth and eightieth years, the sales of timber will be sufficient to meet the annual charges, including the upkeep and the extension of the forest. After the eightieth year a large annual revenue will be derived. These considerations point to a free loan from the Treasury to the Forest Commissioners; the net deficit to be met would in the first year be £90,000 or £45,000, according to the extent of the operation, and would reach its maximum in the fortieth year, amounting in that year to £3,131,250 or £1,565,625. After this period the deficit would be insignificant, while in the eighty-first year the revenue derived would be £17,411,000 or £10,000,000 respectively, representing about 3¾ per cent. on the total accumulated costs of the undertaking.

Increase of Employment.

(16.) On the question of labour and its relations to forestry, the conclusions to which the evidence before them leads your Commissioners are, that the operations involved in afforestation vary in the degree of requisite skill from little or none in rough road-making and surface draining to a considerable amount in the planting. Your Commissioners wish to make it clear that they have in contemplation a scheme of national afforestation on economic lines. They have no hesitation in asserting that there are in the United Kingdom at any time, and especially in winter, thousands of men out of work for longer or shorter periods, who are quite ready and able to perform the less skilled work without previous training, and with satisfactory results. There is a still larger class of unemployed who are capable of being trained to perform this or the higher class of labour, and such men can, if desired, be recruited through labour colonies, distress committees, labour bureaux, or charitable agencies. There is, then, no need to accept inefficient labour with the object of affording occupation to the unemployed. The labour employed in the national forests should not fall below the ordinary standards, and should be remunerated at the ordinary rate of the district for similar labour. Subject to the requisite standard of efficiency being attained, preference should be given to those temporarily or permanently unemployed in the district, especially where evidence of such efficiency can be furnished by public or private agencies for the reclamation and training of the unemployed class.

(17.) To establish afforestation on commercial lines does not, however, preclude its being used as an instrument of social regeneration. A broad view of economics cannot exclude from its cognisance the grave national charge which unemployment with all its concomitant results involves, to say nothing of the personal deterioration by which it is often accompanied. Sylviculture is not unsuitable for building up the moral and physical fibre of even the most depressed of the unemployed classes, and its agency may well be invoked for this purpose, and advantage taken of its healthy and wholesome influences, provided that any additional expense incurred by the employment of less efficient labour be defrayed from a separate account.

Amount of Employment.

(18.) In estimating the amount of employment furnished by afforestation it is well to distinguish between the temporary labour involved in the creation of the forest and the permanent labour needed for its maintenance. Taking varying circumstances into consideration, it may be said that, on the average, it will take twelve men to afforest 100 acres in the planting season of four to five months, and that every 100 acres afforested will provide permanent employment for at least one man. If 150,000 acres be anually taken in hand, the labour of 18,000 men will be needed and permanent employment will in due course be afforded to 1,500 men, rising by an additional 1,500 every year until the end of the rotation. The number permanently employed would then approach 100,000. The labour absorbed by felling and converting timber, to say nothing of subsidiary industries which spring up around a timber supply, has been considered too remote to warrant detailed estimation, but there is undoubtedly a large field of employment in this connection. It is important to remember that, on the basis of £1,000,000 being annually spent on the operations of afforestation, apart from the cost of the land, employment would be afforded, directly and indirectly, to many more than 18,000 men. Indeed, the number employed may be roughly taken to be represented by about double that figure. For the incidental occupations, such as building, the making of implements, the provision of materials, etc., all involve the employment of additional labour.

(19.) A special advantage of forestry in relation to labour is that it offers a new source of employment. The labour connected with timber and timber products imported into the country is performed abroad, and thousands of families are maintained on the produce of the labour associated with the timber industry. Another advantage bound up with the extension of sylviculture is that the market for its produce is so great that it is inconceivable that it could seriously interfere with the output from private woodlands, and no difficulty of competition between the State and individuals need be apprehended.

(20.) The acquisition of grazing areas, private or common, for sylviculture might necessitate a modification of the existing agricultural system on certain farms. It is unreasonable to suppose that the remaining lowland areas on such farms could not, in many cases, either be adapted to other forms of agriculture or be profitably utilised for small holdings. Further, the conversion of comparatively unprofitable lands into forests enhances the productiveness of the adjacent areas, and should materially assist the small holdings movement. It has also the advantage of furnishing winter employment to small holders.

FORTHCOMING ENGAGEMENTS.

SATURDAY, January 23.—Annual dinner of the French Horticultural Society of London, at the Café Royal, at 6.30 p.m.; Sir Albert K. Rollit will preside.

TUESDAY, January 26.—Royal Horticultural Society: Fruit, Floral, and Orchid Committees meet at noon; general meeting and lecture on "A Method of using Domestic Sewage in Horticulture," by Mr. W. D. Scott Moncreiff, at 3 o'clock; Scientific Committee at 4 o'clock.

WEDNESDAY, January 27.—Royal Society of Arts meeting.

DESTRUCTION OF VERMIN. — Most [illegible] are pestered with Rats and Mice. Every effort should be made at this time of the year to exterminate them before seeds are sown. Danysz Virus is [illegible] stuff for killing these vermin. Single tube, 2s.; three tubes, 5s. Post free from DANYSZ VIRUS LTD., 52 Leadenhall Street, Garden Dept., London, E.C.—[Advt.]

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EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, JANUARY 12.

Present: Mr. E. A. Bowles, M.A., F.L.S. (in the chair), Dr. M. C. Cooke, Messrs. Hales, Chapman, Güssow, Fawcett, Worsdell, Saunders, Fraser, Holmes, Bennett-Pöe, Rolfe, and Chittenden (secretary).

RICHARDIA DISEASED.—A large spathe of R. æthiopica was exhibited having about half the outer part brown and dead. Similar brown spots had appeared upon the leaves. No fungus was present, and the committee thought that in all probability the trouble was due to overfeeding.

MALFORMED ORCHID. — From Mr. Lynch, V.M.H., of Cambridge Botanic Garden, came a malformed flower of Cypripedium Dominianum with a normal flower for comparison. The flower had the sepals fused and a double lip; it was taken by Mr. Saunders for further examination.

DISEASED CARNATIONS.—Specimens of diseased carnations from Natal, where a very large number of plants had suffered at all stages. These were referred to Mr. Saunders and other members of the committee for further investigation.

NOMENCLATURE OF MULTIGENERIC ORCHID HYBRIDS. — The chairman announced that the sub-committee appointed to consider this question had arrived at the decision that the best solution of the question lay in coining names for each of the combinations of genera made, consisting of a commemorative name and the termination "ara." The full text of their finding will be laid before the committee at an early date.

PARASITIC ROSE CANKER.—Mr. Chittenden showed specimens of the rose canker described in the Journal R.H.S., vol. xxxiv., p. 222. The roses attacked had been imported from Germany three years since.

Birmingham Gardeners' Association.

The presentation of the annual report, balance-sheet, and election of officers and committee for 1909 took place on January 11. The principal event in connection with the election of officers was the resignation of the respected chairman, Mr. Walter Jones, who succeeded Mr. W. B. Latham in that office in 1905. Mr. Jones was actuated in resigning chiefly owing to the inconvenience occasioned by his recent change of residence, and the distance from the meetings. As an expression of the high esteem in which Mr. Jones was held by the members he was elected a vice-president of the society, and in responding he said he would attend the general meetings as often as possible, and continue to promote the interests and welfare of the society to the best of his ability.

In proposing a successor to the vacant chair Mr. Jones heartily advocated the election of the vice-chairman, Mr. T. Humphreys (curator, The Botanical Gardens, Edgbaston, Birmingham), and this was unanimously endorsed. Mr. C. H. Herbert (one of the oldest members of the society) was elected vice-chairman. Mr. William Spinks was re-elected treasurer; Mr. William Gardiner, librarian; and Mr. W. L. Deedman, secretary. The remaining members of the committee were re-elected, with the exception of Messrs. William Morter, T. Mumford, and E. Burden, who were succeeded by Messrs. George Giles, James Webb, and A. D. Christie.

The appointment of a new president, made necessary by the resignation of Mr. Walter E. Collinge, M.S.C., F.E.S. (late of the Birmingham University), was postponed for the time being.

East Anglian Horticultural Club.

The nineteenth annual dinner was held on the 13th inst. at the Boar's Head Hotel, Norwich. The tables were prettily decorated with pot plants from Messrs. Daniels Bros., Lim., nurseries, and cut flowers from the members. Mr. J. Powley was in the chair, supported by Messrs. T. B. Field, J. E. T. Pollard, W. Smith, Charles Daniels, W. Chettleburgh, L. Smith, P. G. Bishop, H. Goude, J. Clayton, James Forder, H. Perry, J. F. Betts, Mr. W. L. Wallis (the popular secretary), and many other of the leading local horticulturists.

After the loyal toasts had been duly honoured Mr. J. E. T. Pollard submitted that of "Success to the East Anglian Horticultural Club." He was pleased to note that such a splendid report could be issued—a membership of 346, and funds in hand £139 16s. 6d. The president suitably responded. Mr. L. Smith proposed "Success to the Norfolk and Norwich Horticultural Society." He said he was sorry that this society, which had been holding flower shows in and around Norwich for over 70 years, seemed to be losing public favour. It was not due to the exhibits or exhibitors, they were as keen as ever. It was public apathy. Still, he looked ahead for better times. Mr. William Smith replied, and said that 1908 was not such a bad year for them as 1907. He had, of course, received much advice on how to make the finances increase, but his general answer was, let us have more subscribing members.

Mr. T. B. Field gave the toast of "The Royal Horticultural Society," and in the course of some excellent remarks, said how much to the advantage of the young members it would be if they entered the examinations of the R.H.S., and were able to secure a certificate of proficiency. Mr. Charles Daniels responded, and gave some facts and figures of the useful work being carried on by the society at Wisley. He introduced a local suggestion worthy of further consideration, viz., that of establishing a small experimental garden in the city or suburbs for botanical and horticultural instruction. Several other toasts were given, and some capital songs rendered.

Reading Gardeners' Association.

The annual general meeting of this flourishing society was held in the Abbey Hall, Reading (by kind permission of Messrs. Sutton and Sons), and there was a very large assemblage of members. The number from a distance who attended being particularly noticeable, Maidenhead, Henley, Wokingham, Pangbourne, etc., being strongly represented.

The principal business of the meeting was the election of officers for the ensuing year, and the passing of the balance-sheet and committee's report for 1908. Mr. Alderman Parfitt, J.P. (president), occupied the chair.

The minutes of the last annual meeting having been confirmed and signed, the Secretary read the report of the association's doings during the year which has just closed, fully reviewing the work, also the pleasures of the society, special reference being made to the excursions to Guildford, Aldenham House Gardens, and to the president's fruit plantation at Caversham.

The balance-sheet was then presented by the Hon. Treasurer, and showed the association to be in a highly satisfactory condition financially.

The election of officers then took place, and resulted as follows: President, Mr. Alderman F. B. Parfitt, J.P.; vice-president, Mr. Leonard Sutton, J.P.; trustees, Mr. A. C. Bartholomew and Mr. Martin J. Sutton, J.P.; chairman, Mr. A. F. Bailey; vice-chairman, Mr. H. C. Loader; librarian, Mr. E. J. Dore, assistant librarian, Mr. F. W. Exler; treasurer, Mr. F. W. Macdonald, F.R.H.S.; auditors, Messrs. W. Badcock and A. Smith; hon. secretary, Mr. L. Castle; committee, Messrs. F. Alexander, F. Barnes, W. Blackwell, W. C. Blaxill, H. G. Cox, D. Dore, C. Foster, F.R.H.S., R. A. Hatton, G. Herridge, G. Hinton, T. Judd, T. Neve, T. J. Powell, G. Stanton, F.R.H.S., F. Townsend, W. J. Townsend, T. Tunbridge, P.C., F.R.H.S., W. Turnham, W. H. Wilson, and J. Wynn.

Votes of thanks were accorded the retiring chairman, Mr. T. Tunbridge; and vice-chairman, Mr. G. Hinton. On the proposition of the Vice-President, it was resolved that the annual tea and entertainment take place as usual, arrangements being left in the hands of a sub-committee. Mr. Chas. Foster, F.R.H.S., Assistant Director in Horticulture at the University College, Reading, kindly exhibited some beautifully-grown specimens of Sutton's Eclipse and Sutton's Sunbeam tomatoes, the fruit being intended for transit to London was displayed in boxes to illustrate the correct method of packing for despatch by rail.

A hearty vote of thanks to the president concluded the meeting. Several new members were elected.

Chester Paxton Society.

Mr. J. D. Siddall spoke on "Winter Botany" at the meeting of the Chester Paxton Society, held on Saturday at the Grosvenor Museum. The lecture was illustrated by a set of beautiful lantern slides.

Mr. A. W. Armstrong presided, and briefly introduced Mr. Siddall, who dealt with the aspects of plant life in winter, including British plants which are to be found in flower during the winter months. Particulars of several of the winter-flowering shrubs and berry-bearing plants were also given, these being illustrated by actual specimens, including some beautiful sprays of the Arbutus unedo (Strawberry Tree). Indoor flowering plants were also dealt with, this part of the subject being illustrated by some fine examples of Japanese chrysanthemums, as well as several reproductions of photographs taken at the society's exhibitions at the Town Hall. At the close of the lecture, Mr. Siddall was, on the proposition of Mr. J. Naylor, seconded by Mr. R. Wakefield, accorded a hearty vote of thanks.

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Bath Gardeners' Debating Society.

The first meeting of the new session of this society was held at the Foresters' Hall, on Monday, Mr. T. Parrott presiding over a large attendance of members. The paper for the evening was read by Mr. A. Bailey, on "Achimenes." He said he did not know for what reason these flowers were less popular than they were some twenty or thirty years ago, when they were very great favourites. As summer flowers they had been somewhat displaced by the enormous strides made by their rivals the begonia and gloxinia. He, however, thought the time was not far distant when they would again attain to a high degree of popularity. Well-grown specimens made excellent subjects for the conservatory and house decoration. They were to be had in various colours, and no doubt if a greater demand arose others would follow. The lecturer then touched on their introduction and cultural treatment. The discussion following was taken part in by several of the members. A hearty vote of thanks was accorded Mr. Bailey for his paper. Four new members were elected.

Esher.

On Wednesday, the 13th inst., Mr. Edwin Beckett, V.M.H., of Aldenham House Gardens, Elstree, had the honour of giving a lecture before Her Royal Highness the Duchess of Albany, who was attended by Captain Seymour and Mrs. Royle, and a large audience, including the principal residents of Esher, at the Parish Hall. Mr. S. A. P. Kitcat, the newly-elected president, received the Royal party, and introduced the lecturer.

Mr. Beckett took for the subject of his lecture, "Vegetables and Their Culture," and made reference to all the more important points connected with this branch of gardening. The lecture was illustrated by a large number of lantern slides, these showing the best types of vegetables to grow; also many of the collections which he has exhibited at various times at the leading shows in the United Kingdom. The lecturer also made mention of the rapid strides which have been made during recent years in encouraging the cultivation of vegetables.

Mr. Beckett was asked many questions at the close of his lecture, and was accorded a hearty vote of thanks for his instructive and interesting address.

METEOROLOGICAL OBSERVATIONS.

TAKEN BY THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1909. January 10 to January 16.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Jan. 10—Sunday	—	42	41	49	35
„ 11—Monday	1 30	47	46	49	42
„ 12—Tuesday ...	3 35	40	38	45	40
„ 13—Wednesday.	—	36	36	47	35
„ 14—Thursday ...	3 10	41	38	51	36
„ 15—Friday	6 40	38	35	45	38
„ 16—Saturday ...	5 0	36	34	41	36
Means	2 50	40	38	47	37

Date. 1909. January 10 to January 16.	Rain.	Temperature of the Soil. At 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
Jan. 10—Sunday	0·19	39	41	44	31
„ 11—Monday	—	42	42	44	40
„ 12—Tuesday ...	0·01	42	43	44	35
„ 13—Wednesday.	0·04	39	42	44	28
„ 14—Thursday ..	0·18	40	42	44	36
„ 15—Friday	0·08	42	42	44	33
„ 16—Saturday ...	—	40	42	44	32
Means ...	(total) 0·50	41	42	44	34

ANSWERS TO CORRESPONDENTS.

LIME-WASH ON HOT-WATER PIPES.—C. J., Brentford: The use of lime-wash on the hot-water pipes is not at all likely to prove harmful to the vines, or to pot plants, as the application would, we assume, be made when the vines are dormant. Lime would tend to injure the pipes in a very small way, and its use as a coating is very objectionable, the repeated coatings tending to keep the heat in instead of allowing it to radiate. There are some special mixtures for painting hot-water pipes with, but you may safely rely upon the old-fashioned method of using lamp-black and oil. Have the pipes thoroughly cleaned before applying the lamp-black.

KALANCHOE FLAMMEA.—E. C., Kenilworth: Put briefly, the cultivation of Kalanchoe flammea consists in sowing the seeds in well-drained pans of sandy soil during March or April, in a temperature of 60 to 70 deg., and the seeds need very little soil over them. Very little water will be needed by the seedlings, and they must be kept near the glass and soon transferred to a temperature of 55 to 65 deg., and this temperature, allowing for a rise by sunheat, should be provided all through the summer and autumn. No fire heat will be necessary for several months, but at all times it must be remembered that kalanchoes love light and sunshine, and do not like excess of moisture, either at the roots or in the atmosphere. Overpotting must be avoided; 48 and 32-sized pots are ample for good specimens. Sandy loam, some old dried cow manure, crushed mortar rubbish, and sand make up a suitable compost. In the case of old plants hardly any water will be needed from November to March, a moderate amount from August to November, and larger supplies from April to August; this, of course, is only a general rule. Propagation can be readily effected by means of cuttings of young shoots about three inches long, inserted in sandy soil about June or July, and placed on a shelf in a greenhouse. The cuttings should be left exposed to the light for two or three days before being inserted. Cut down the old plants directly they have finished flowering, and repot again in spring when new growth commences.

DAMAGED HYACINTHS.—R. B., Worsley: The hyacinths should have been removed from the plunging material before the leaves began to open, and while yet the growth was practically solid. After the leaves opened the moist plunging material came into contact with the delicate bloom spike, and, besides surrounding it with unsuitable conditions of moisture, kept it dark and pressed down upon it. The result is that decay followed injury, and some of the best bulbs are now useless, so far as flowering this season is concerned, and in all probability they are so much injured as to be absolutely useless.

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CALADIUMS.—A. R. C., Winchester: Unless you have a special end in view, February will be quite soon enough to start the caladiums, placing the corms in pots just large enough to accommodate them, and potting them into larger sizes as roots and growths advance.

CALLISTEPHUS. — E. F., Oxford: The Callistephus is the China Aster, but we have become so used to regarding the numerous beautiful garden varieties of this annual as asters, and they are so catalogued in seed lists, that those not in touch with botanical nomenclature are not seldom led to believe that Aster is the generic title. Callistephus hortensis, or Chinensis is the botanical name of the China Aster, while the Asters, botanically considered, are the plants we know popularly as Michaelmas Daisies.

MOSSY LAWN.—I. M. P., Worcester: The fact that the lawn is poor and mossy at once proves that the soil and position are by no means good. A large amount of moss in a lawn usually indicates lack of proper drainage, therefore, your first business must be to consider whether it is desirable or necessary to cut drains across the lawn. If draining cannot be performed, the next best thing is to work over the lawn vigorously with a sharp toothed iron rake, working out the moss by this means. Such work makes the lawn look very bad for a short time, but the removal of the moss, and the scarifying given by the rake, both assist the grass considerably, giving it a chance to tiller-out and spread. Having thoroughly worked the lawn in this fashion, and carted away and burned the moss, leave all alone for a week or ten days. Meanwhile prepare a quantity of fine rich soil, such as old potting soil, hot-bed material, ashes from burnt garden refuse, road sweepings, etc., passing it all through a fine-meshed sieve and thoroughly mixing it. Add to this compost about one-sixth of its bulk of fresh air-slaked lime, and then apply as soon as possible, at the rate of 200 bushels per half-acre. Spread the material evenly, and rake it in carefully. It may be a good plan to sow grass seeds towards the end of March, and if you tell your seedsman the kind of soil and position you have to deal with he will supply suitable renovating mixture.

MISTLETOE.—F. B., Woodford Green. March is usually regarded as the best time for the insertion of mistletoe seeds into the crevice of the bark of a suitable tree, such as the apple, lime, poplar, oak, thorn, maple, or Mountain Ash. A notch should be made in the bark, if one does not already exist, on the underside of the selected branch, and into this the ripe berry and seeds should be pressed. A thin piece of muslin may be tied round the branch so as to cover the inserted berry, and thus prevent birds from extracting it. The covering must be examined from time to time, and be removed directly germination has commenced.

NAMES OF PLANTS.

W. P., West Norwood.—Viburnum odoratissimum.

C. V. B., Rotherham.—A seedling form of Begonia Rex.

C. S., Dorking.—1, Yucca aloeifolia; 2, Picea Pinsapo; 3, Arbutus unedo.

M. B. J., Chester.—1, Pandanus utilis; 2, Sonerilla marmorata; 3, Begonia fuchsioides; 4, Exacum affine.

F. P., Canterbury.—1, a Bauhinia, probably B. racemosa; 2, Citrus japonica; 3, Lachenalia Nelsoni.

L. C. D., Bideford.—1, Odontoglossum crispum, a pretty variety, but not a specially valuable one; 2, Maxillaria luteo-alba; 3, Cypripedium Leeanum.

NAMES OF FRUITS.

F. R., Rochester.—Bergamotte Esperen.

B. M. S., Sutton.—1, Court of Wick; 2, Waltham Abbey Seedling; 3, not recognised.

A. H. T., Leicester.—1, Yorkshire Greening; 2, probably Pearson's Plate; 3, Nonpareil.

M. T. J., Colchester.—1, Hambledon Deux Ans; 2, Beauty of Kent; 3, Court Pendu Plat; 4, Norfolk Beefing.

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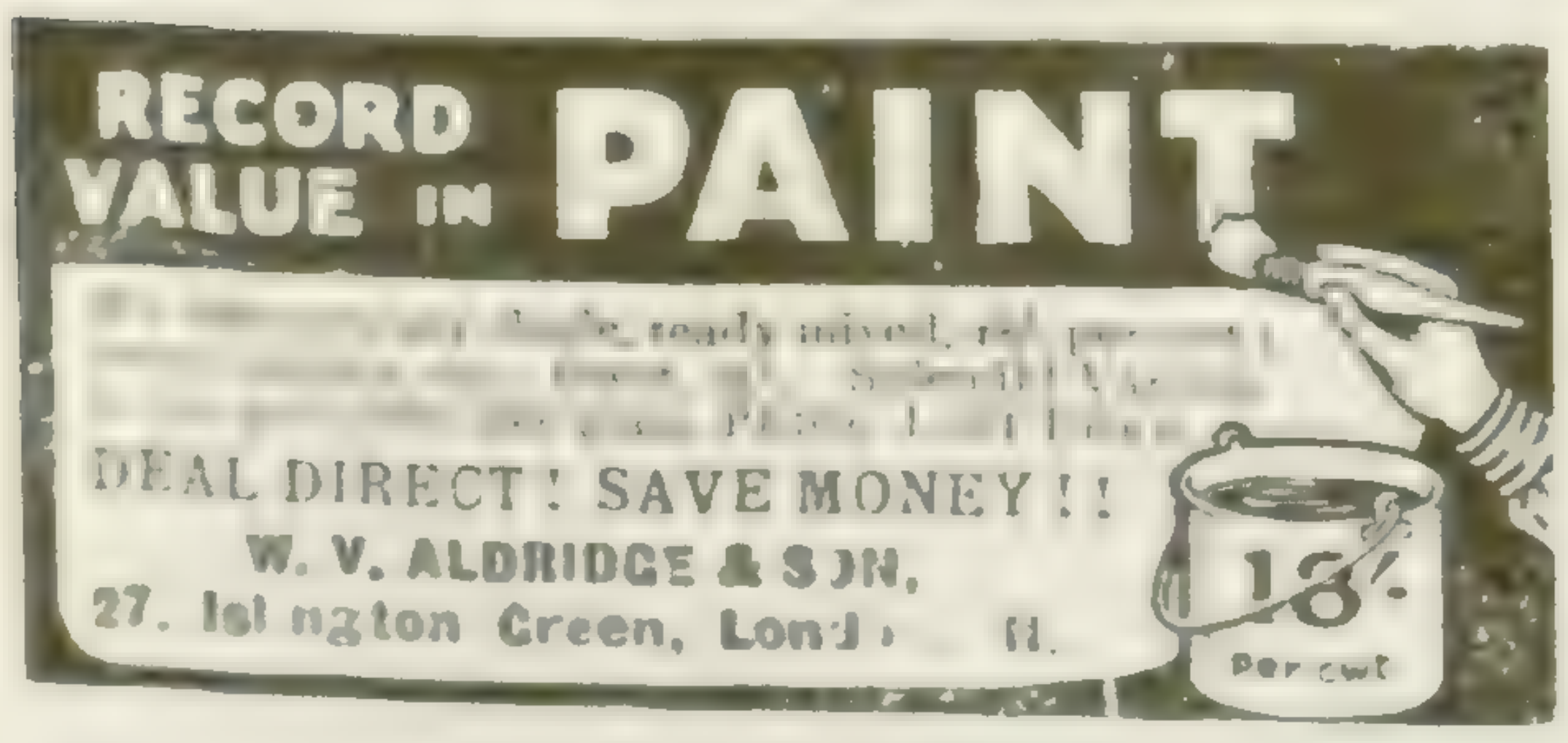
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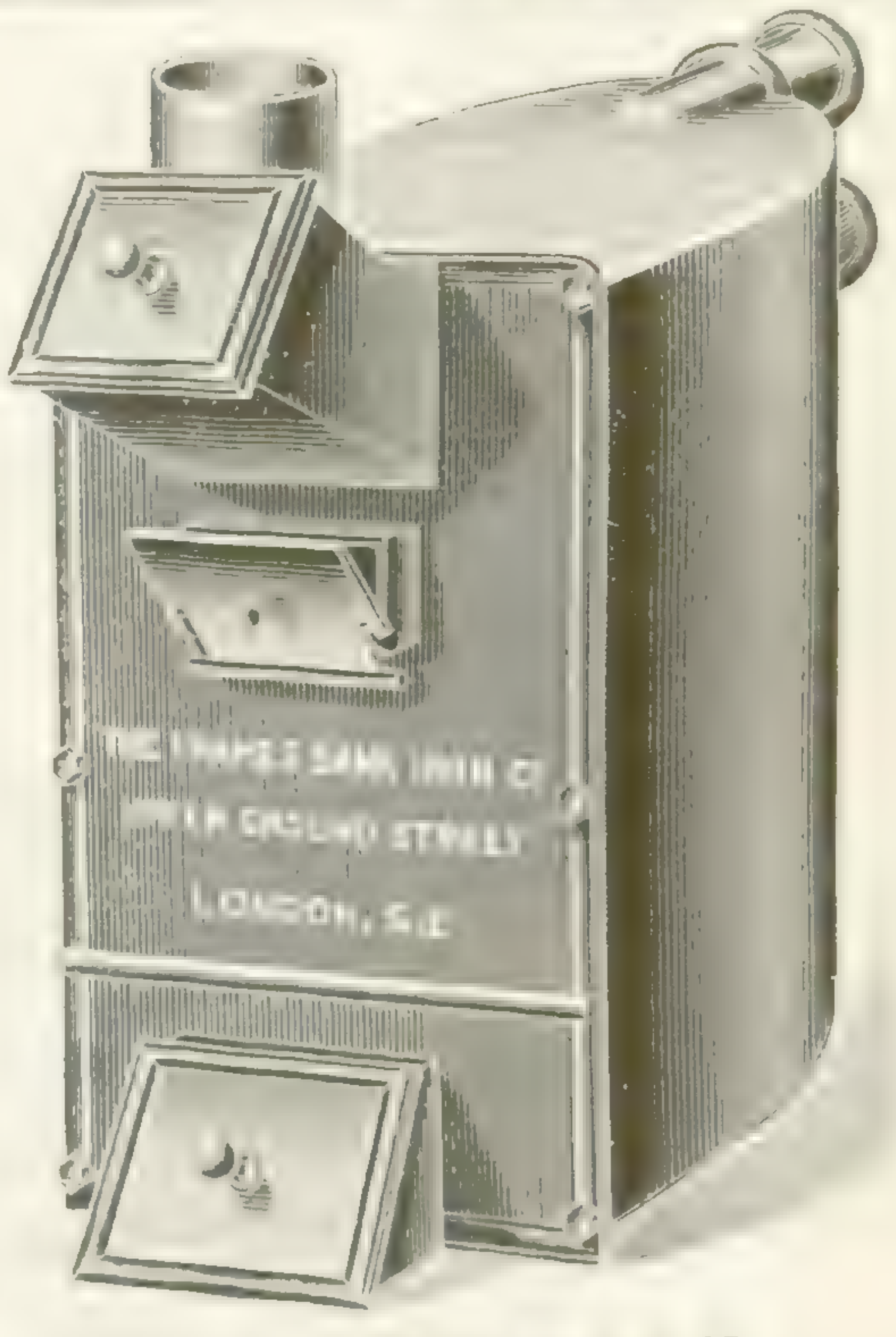

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Arums	per doz.	3	0		4	0
Asparagus	per doz. bun.	1	6		6	0
Azaleas	per doz. bun.	4	0		6	0
Bouvardias	per doz. bun.	6	0		8	6
Camellias	per doz.	1	6		2	0
Carnations	per doz. blms.	1	6		3	6
,,	per doz. bun.	9	0		12	0
Cattleyas	per doz.	8	0		10	6
Chrysanthemums	per doz. bun.	7	0		18	0
,,	per doz. blms.	2	0		4	0
Croton leaves	per bun.	1	0		1	6
Cypripediums	per doz. blms.	2	0		3	0
Daffodils	per bun.	1	0		1	3
Eucharis	per doz.	2	6		4	0
French fern	per doz. bun.	1	0		3	0
Gardenias	per doz.	3	0		5	0
Hyacinths, Roman	per doz. bun.	7	6		10	0
Lapagerias	per doz.	1	6		2	0
Lilac (French)	per bun.	3	0		4	0
Lilium auratum	per bun.	2	0		4	0
,, speciosum	per bun.	1	6		3	0
,, longiflorum	per bun.	3	0		5	0
Lily of the Valley	per doz.	6	0		12	0
Marguerites, white	per doz. bun.	2	0		3	0
,, yellow	per doz. bun.	2	0		3	0
Mignonette	per doz. bun.	2	0		5	0
Narcissus, Paper White	per doz. bun.	2	0		2	6
,, Soleil d'Or	per doz. bun.	3	0		4	0
Odontoglossums	per doz. blms.	2	6		4	0
Pelargoniums	per doz. bun.	5	0		6	0
Roses	per doz.	3	0		8	0
Spiræas	per doz. bun.	5	0		7	6
Stocks	per doz. bun.	4	0		6	0
Tulips	per doz.	1	0		3	6
Tuberoses	per doz. blms.	0	3		0	4
Violets	per doz. bun.	1	6		3	0
,, Parmas	per bun.	4	0		4	[illegible]

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,, Californian	per case	8	0		10	6
Bananas	per bun.	3	0		12	0
Chestnuts	per bag	7	0		10	0
Cranberries	per case	8	0		12	0
Figs	per box	0	10		1	6
Grapes, English	per lb.	1	0		8	6
,, Almeria	per bar.	12	6		22	0
Lemons	per case	9	0		25	0
Medlars	per case	4	0		5	6
Nuts, Cob	per 12lb.	12	0		15	0
Oranges, Jamaica	per case	6	0		10	0
,, Jaffa	per case	9	0		10	6
,, Murcia	per case	6	0		15	0
,, Tangerines	per box	0	9		1	6
Pears, Californian	per case	8	0		20	0
,, Catillac	per crate	8	0		12	0
Pineapples	each	2	6		4	6

Vegetables.

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		s.	d.		s.	d.
Artichokes, Globe	per doz.	3	0	to	4	0
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,, Sprue	per bun.	0	8		1	0
Beet	per bush.	1	3		2	0
Beans (Guernsey)	per lb.	1	0		2	0
Brussels Sprouts	per ½-bush.	3	0		3	6
Cabbage	per tally	6	0		8	0
Carrots	per doz. bun.	0	9		1	4
Cauliflowers	per doz.	2	6		5	0
Celery	per doz. rolls	4	0		8	0
Celeraic	per doz.	2	6		3	[illegible]
Chicory	per lb.	0	4		0	[illegible]
Cucumbers	per doz.	5	0		10	0
Endive	per doz.	1	6		2	0
Horseradish	per doz. bun.	8	0		12	0
Leeks	per doz. bun.	1	0		1	[illegible]
Lettuce	per doz.	2	0		2	[illegible]
Mint	per doz. bun.	3	0		6	0
Mushrooms	per doz. lb.	8	0		12	0
Onions, Pickling	per bush.	3	6		4	[illegible]
,, Valencia	per case	10	0		12	0
Parsley	per doz. bun.	3	0		3	[illegible]
Parsnips	per bag	2	0		2	[illegible]
Spinach	per basket	2	6		3	[illegible]
Tomatoes	per doz. lbs.	4	0		[illegible]	0
,, Canary	per pack.	7	0		10	[illegible]
Turnips	per doz. bun.	1	0		2	0

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Maincrop	per ton	60	0		70	0
Royal Kidney	per ton	50	0		55	0
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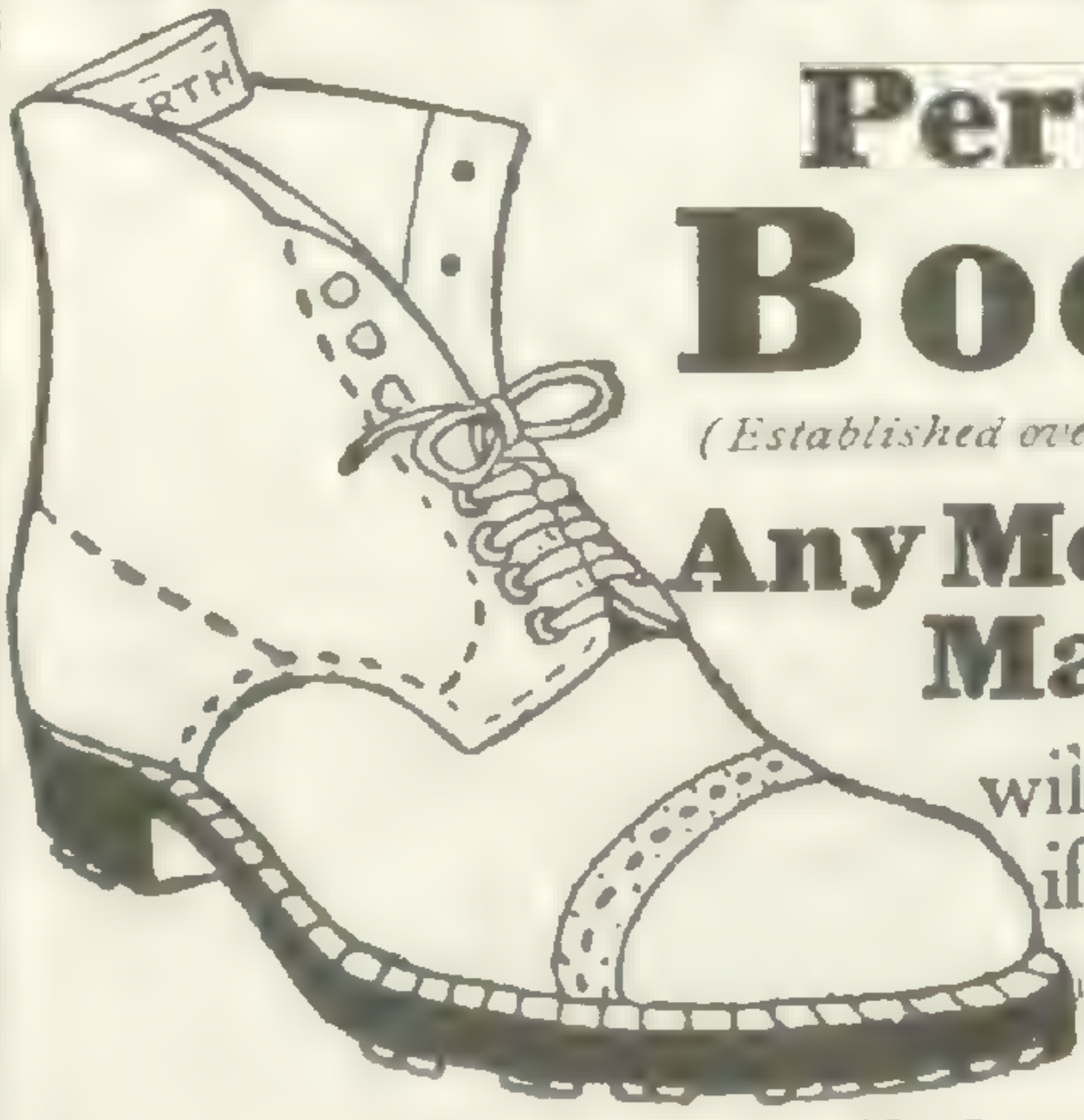

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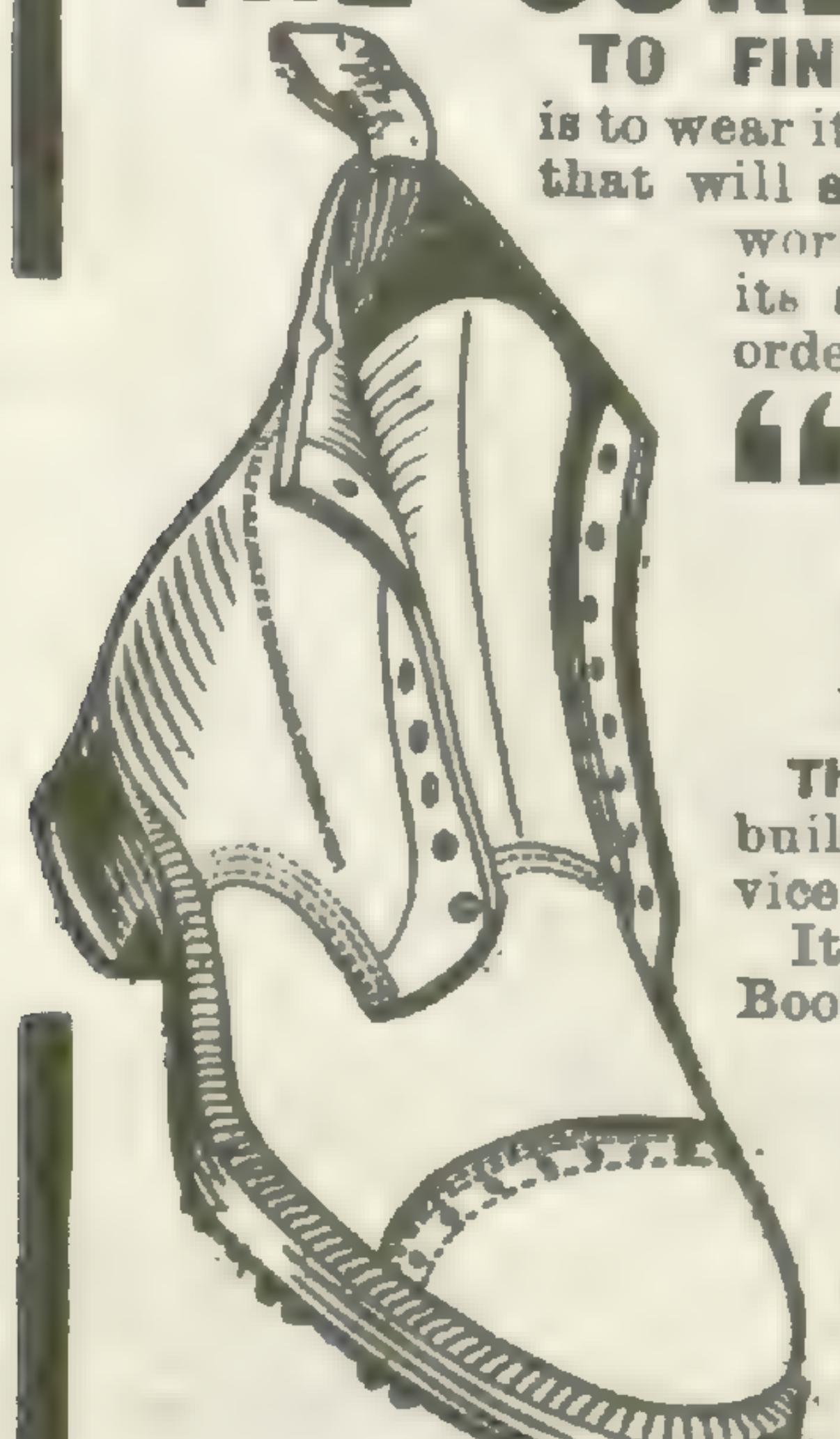

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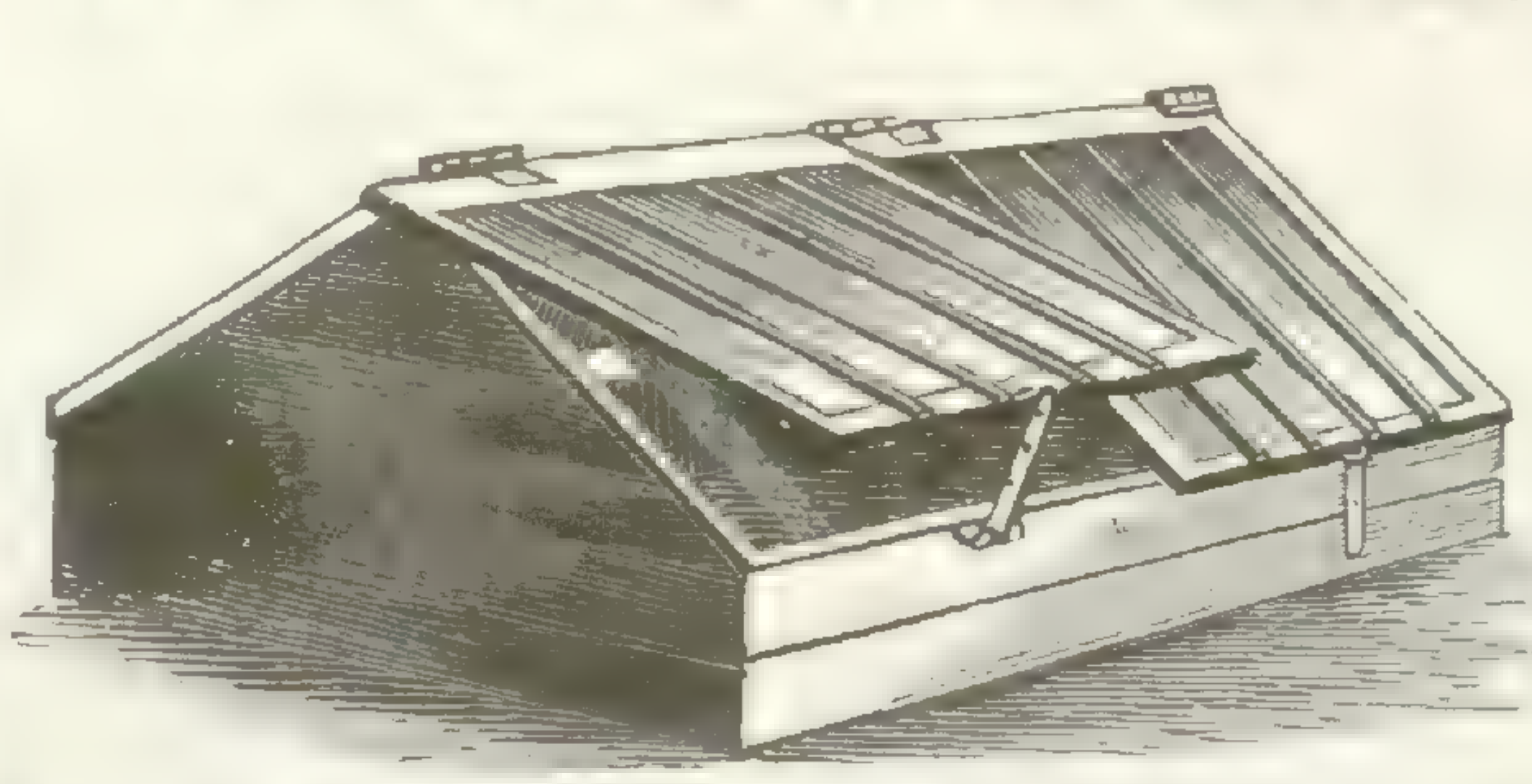

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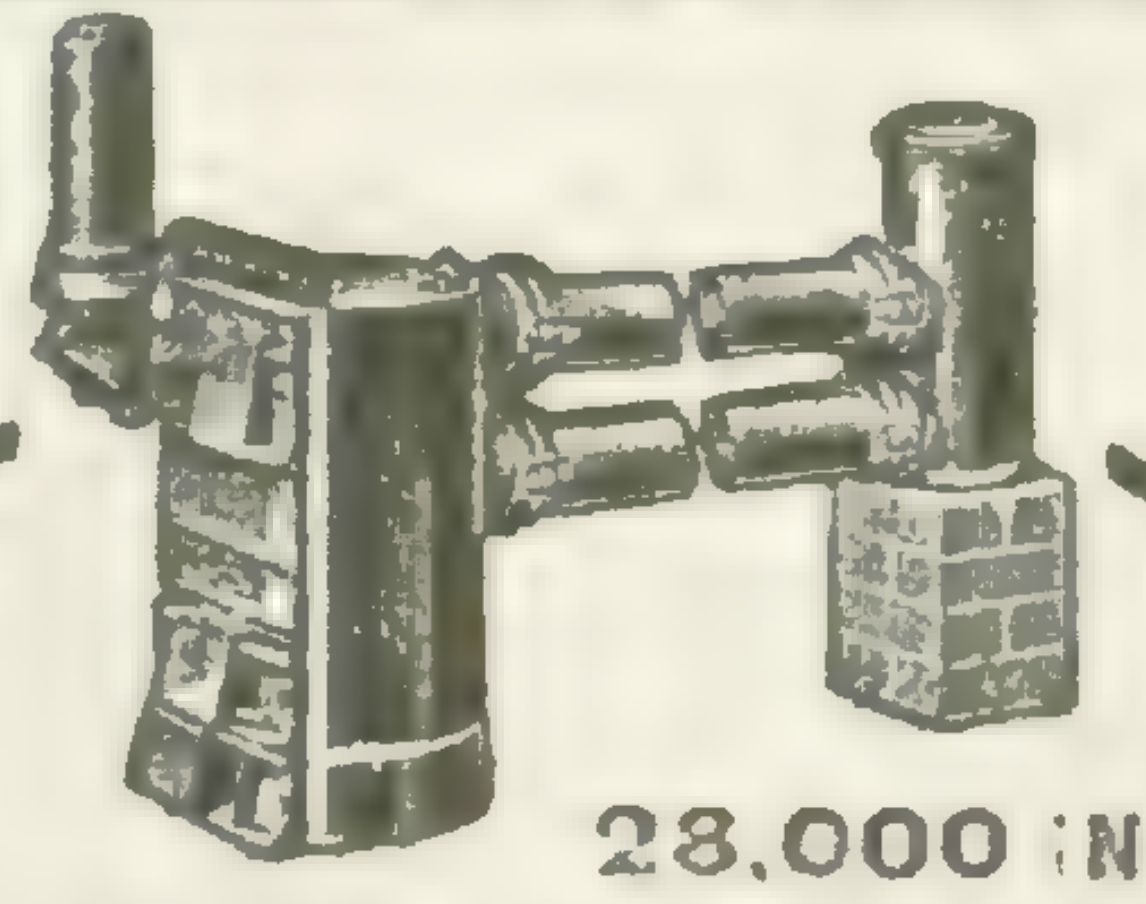

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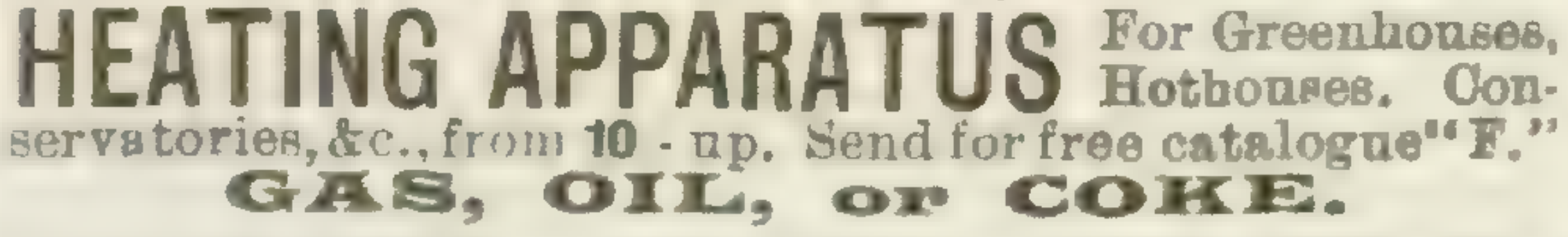

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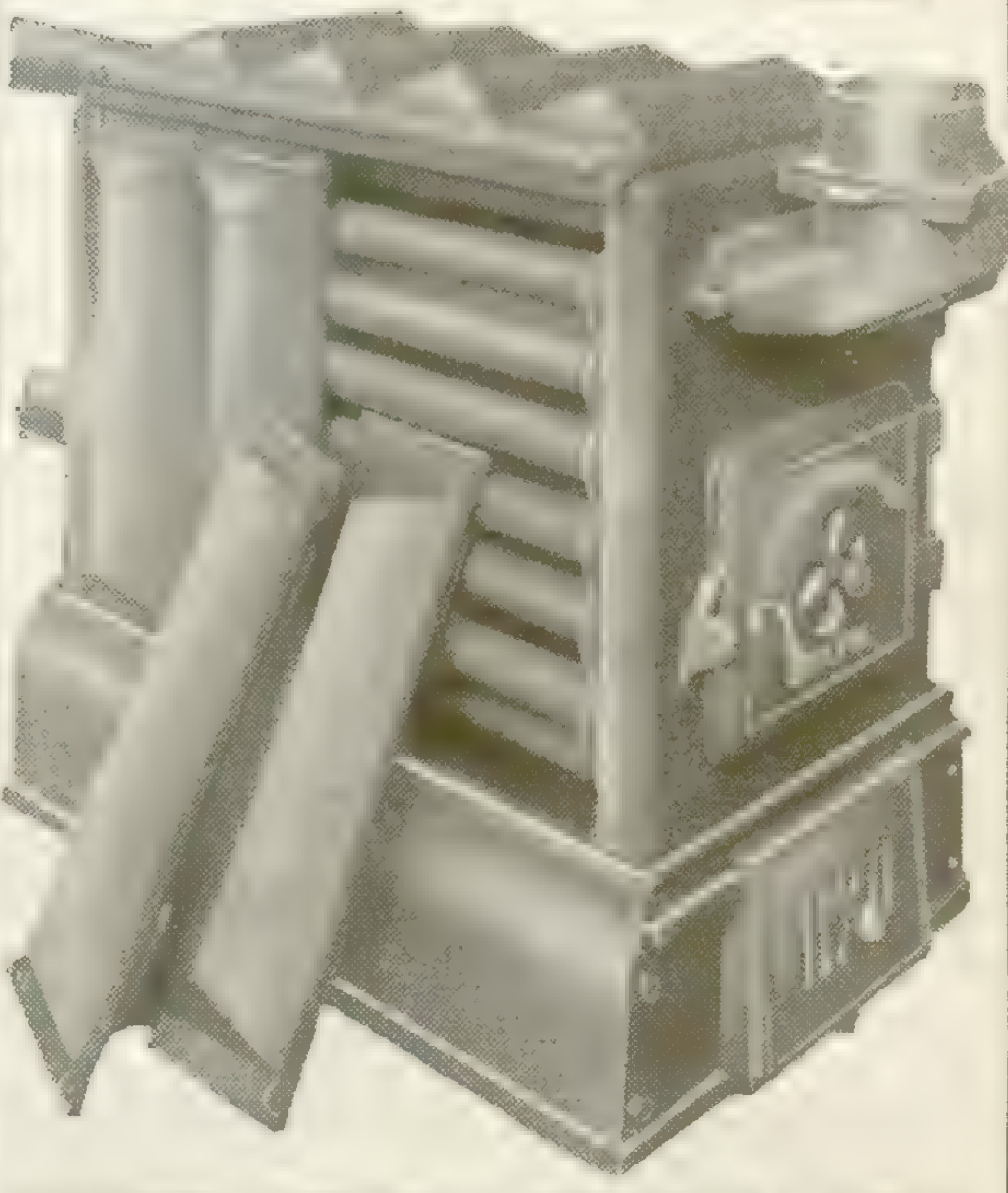

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THE GARDENERS' MAGAZINE
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NOTICE.

To CHRYSANTHEMUM GROWERS.

The Two Magnificent Crimson Japs—

"Ella Ainsley" and "J. W. Molyneux"

will be despatched about the middle of February (as far as stock permits). Well established plants in pots.

These are the Finest Crimsons for Exhibition yet introduced, and the last-named will probably prove the Best **Novelty of the Season.**

It was the only Crimson or richly coloured variety certificated by the N.C.S. in November.

DESCRIPTIVE CATALOGUE, POST FREE.

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EXHIBITION PURPOSES

Selected and Tested Strains of
RELIABLE VEGETABLE SEEDS.
CHOICE FLOWER SEEDS, etc.
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ROSES and **FRUIT TREES** of vigorous growth.

Write for our Large **ILLUSTRATED LIST** for 1909. Full of valuable information to Amateur or Professional. Gratis and Post Free on application.

McHATTIE & CO.,
Seed Merchants and Nurserymen, **CHESTER.**

BLACKMORE & LANGDON'S
NEW CATALOGUE OF

BEGONIAS (awarded **18** Gold Medals) Border **CARNATIONS**, Perpetual Flowering **CARNATIONS**, **CYCLAMEN**, **LILY OF THE VALLEY**, **POLYANTHUS**, **VIOLETS**, &c., for 1909, is NOW READY. If you are interested in any of the above plants you cannot do better than send your name and address, that we may post you a copy. Please mention this Paper.

TWERTON HILL NURSERY, BATH.

THE BEAUTIFUL BURMESE LILY,

LILIUM SULPHUREUM.

WE do not claim to be recognised bulb importers, our trade being confined principally to Orchids. Our collector has for some years sent small consignments of this Lilium, which have been distributed amongst our orchid customers. So many enquiries came to hand during their last flowering season from gentlemen who had seen them in various places, we instructed our collector to make an effort to send us a good consignment. These bulbs come from such a remote part, that unless collected in conjunction with orchids, they cannot be placed on the market at a price likely to be popular, hence this lovely Lilium has hitherto remained in the background. The consignment now to hand consists of a magnificent lot of bulbs, all in sound, perfect condition. The handsome flowers are borne many on a stem, very large, often measuring 10 inches in length. The colour is of a bright sulphur yellow, toning to creamy white towards the edges. Deliciously perfumed, the substance of the flower is remarkable. Very free in habit, even the smallest bulbs flower well. For autumn decorative work it is invaluable.

Treatment. It must not be supposed because this Lilium originates in Burma that it requires warm treatment; it is found high up on the hills. In a good sunny position it will thrive and flower well in the outside gardens of the Midlands and South of England, and although we have seen it flower well outside in the North, a bad summer might cause the flowers to come late. For the North it is best to grow them in pots, starting in a cool airy house, bedding the pots outside during the summer months, and removing into the house if necessary to flower. If required earlier in the South they can be started in the same way; a house where geraniums are wintered is very suitable. They like a mixture of loam, peat, and sand, and a nice light position in the house.

For the purpose of making the widest possible distribution of these Bulbs not more than 12 will be supplied to each Customer.

A.—Good Bulbs	7 inches in circumference,	**1/6** each;	3 for **4/-**;	12 for **15/-**
B.—Fine Bulbs	8 and 9 ,, ,, ...	**2/-** ,,	3 ,, **5/-**;	12 ,, **19/-**
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D.—Extra Fine Bulbs	11 and 12 ,, ,,	**4/-** ,,	3 ,, **11/-**;	12 ,, **40/-**
E.—A Few Wonderful Bulbs ...	13 and 14 ,, ,,	**6/-** ,,	3 ,, **16/-**;	12 ,, **60/-**

MOCRE Limited, RAWDON, via LEEDS.

Sales by Auction.

SALES NEXT WEEK.

MONDAY and FRIDAY next, Feb. 1st and 5th, at Twelve o'clock. Large quantities of HERBACEOUS and BORDER PLANTS, Perennials, etc.; Gladiolus, Begonias, Gloxinias, Tuberoses, 200 Azaleas of sorts, and 50 Rhododendrons; 50 lots of choice Greenhouse Plants, Ferns, etc.

At Half-past one o'clock.—1,000 ROSES, Standard, Dwarf, Climbing, etc.; also Fruit Trees of sorts.

WEDNESDAY next, Feb. 3rd, at Twelve o'clock.—200 lots of hardy Herbaceous Plants in variety. Rare hardy Border Bulbs and Tubers, Begonias, Japanese Liliums, Spiræas, etc.

At Half-past One o'clock.—3,500 ROSES, Standard, Dwarf, Climbing, etc., also Fruit Trees in variety.

At Five o'clock.—100 lots of choice ORNAMENTAL and DECORATIVE PALMS and PLANTS, 600 Azaleas in variety, 100 Rhododendrons, Camellias, etc.

MESSRS PROTHEROE and MORRIS will SELL the above BY AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, E.C.

On view morning of sale, and catalogues had.

THE NURSERIES, HARLOW COMMON.

AMBROSE and SON are instructed by Mr. G. Cook to SELL BY AUCTION at the Cock Hotel, Epping, on February 12, at Four p.m. The above FREEHOLD RESIDENCE, containing three reception, four bedrooms, kitchen, usual offices, stabling, and other outbuildings, and GROUNDS (nearly 2 acres), comprising orchard of 300 trees, kitchen garden, paddock, two ponds. The property is well adapted for combining poultry farming and fruit and plant growing. Particulars and conditions of sale from Arnold Richardson, Esq., Solicitor, Epping and Ongar, or of Messrs. Ambrose and Son, Auctioneers, Loughton and Epping.

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FOR SALE, 4 large plants, Orchids, Cœlogyne christata, well set with buds; 3 specimen Palms in pots, Latania borbonica, Kentia Fosteriana, and Phœnix dactylifera, healthy plants. WILLIAM GREEN, The Cottage, Ferndale Road, Leytonstone.

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50,000 APPLES ON PARADISE
TRAINED TREES A SPECIALITY.
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NEW PERPETUAL FLOWERING PINK.

It is quite distinct from any other pink; flowers a lovely rosy-mauve, of perfect form and calyx, borne on long, stiff stems, and with delightful fragrance; a grand border flower; also excellent for pot culture. Price 3s. each, or 5s. per pair.

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Our SEED CATALOGUE for 1909,

Containing all the best varieties of

VEGETABLE & FLOWER SEEDS.

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1909—FORBES'—1909

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TO HIS MAJESTY THE KING

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FOR
WINTER
DECORATIVE
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A SECTION OF ONE OF THE PRIMULA HOUSES AT READING.

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The Duchess. One of the most beautiful Primulas yet raised. Large pure white flower, with unique zone of rosy-carmine surrounding a clear yellow eye. Per packet, 2/6

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Giant Pink. The finest Primula in all the Giant section, petals extremely large and of great substance. The delicate carmine-pink colour is particularly valuable for indoor decoration. Per packet, 3/6

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Giant Salmon Pink. (TERRA COTTA.) A distinct and valuable addition to our Giant Primulas. Per packet, 3/6

Giant, mixed. Including the named varieties and many others, which, though true Giants, do not come sufficiently true from seed to be offered separately. Per packet 3/6

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White Star. The original variety. Pure white flowers produced in abundance. Per packet, 2/6

Light Blue Star. A delicate porcelain blue shade. Per packet, 2/6

Ruby Star. By far the darkest and richest coloured Star Primula yet introduced. Per packet, 2/6

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Giant Star. Flowers of the true Star type, but as large as those of the fringed forms of P. sinensis. White and carmine, each per packet, 2/6

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Highest Awards at the Franco-British Exhibition, 1908.

For complete Lists and full descriptions of all the best varieties, see — SUTTON'S AMATEUR'S GUIDE IN HORTICULTURE, for 1909. *NOW — READY.*

SUTTON & SONS, The King's Seedsmen, Reading.

VOL. LII.—No. 2,883. SATURDAY, JANUARY 30, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Soil Inoculation.

There are unquestionable proofs that for a period of 2,000 years at least cultivators have been familiar with the fact that a leguminous crop has so beneficial an effect upon the soil as to greatly improve it for the succeeding crop. There is also evidence that they gave practical effect to their knowledge. Pliny, in dealing with the field bean in his "Natural History" (Book XVIII.), writes: "It fertilises the ground in which it has been sown, as well as any manure"; hence, he continues, "in the neighbourhood of Thessaly and Macedonia, as soon as it begins to blossom they turn up the soil." In other words, they ploughed in the plants for the enrichment of the soil, in much the same manner as it has been done in this and other countries in modern times. This beneficent action of the leguminous plants gave rise to considerable speculation on the part of those not accustomed to take a superficial view of things; and it was conjectured by some that they enriched the soil, taking fertilising matter from the atmosphere and conveying it to the soil by means of the roots in process of decay. It was not, however, until the middle of the last century that the beneficial effect of these plants upon the soil was investigated on scientific lines. Boussingault gave his attention to the matter, and in 1854 he submitted his views thereon, and these were to the effect that the only source from which plants could derive their supplies of nitrogen was the fixed nitrogen in the soil. Gilbert and Lawes supported Boussingault, and it was not until some thirty years later that Hellreigel was able to demonstrate, as the result of his researches, that leguminous plants did obtain the nitrogen necessary to their growth from the free nitrogen of the air. Two years later Wilfarth was able to show that these plants could be successfully grown in soil free from nitrogenous matter, provided their roots were well furnished with nodules. About the same time as Wilfarth was able to publish the results of his researches Beijerinck was successful in isolating a bacterium found in the nodules, which he named Bacillus radicicola, and is now known as Pseudomonas radicicola. Since then other scientists have been busily engaged in investigating this beneficent organism, and these investigations had not proceeded far before it was felt that if soils more or less deficient of this bacterium could be inoculated therewith, it would be an enormous gain to cultivators. As so well known, nitrogen is one of the most important constituents of plant food, and the materials from which it is derived are the most costly of fertilisers. Hellreigel, Nobbe, and other investigators have demonstrated the possibility of this being done, but much more has to be accomplished before conclusive evidence can be obtained as to the conditions under which soil inoculation can be the most successfully effected. In the earliest experiments newly-reclaimed land was inoculated by soil obtained from land on which a leguminous crop had been grown, and the results were considered satisfactory. On the other hand, cultivated land inoculated in a similar manner gave results of a negative character. The removal of any considerable quantity of soil from one place to another is a costly matter, and to provide a means by which soil might be inoculated in a less troublesome and expensive manner, Nobbe and Hiltner directed their attention to the preparation of a pure culture for distribution in the ordinary way of business among cultivators. This culture was introduced under the name of Nitragin, but it was less successful than was anticipated. It has, we understand been since improved. In America considerable attention has been devoted to soil inoculation by means of pure cultures, but the reports on their use indicate the necessity for further trials. More recently Professor Bottomley, of King's College, London, has become impressed with the importance of soil inoculation as a means of increasing the productiveness of soils deficient in bacteria, and two years ago he introduced a culture under the distinctive title of Nitro-bacterine. This has been widely distributed, and a considerable diversity of opinion has been expressed with regard to its value. Consequently, the results of the experiment that was carried out in the Wisley Gardens of the Royal Horticultural Society last year are of special interest. The experiment was conducted by Mr. F. J. Chittenden, F.L.S., the director of the Wisley Laboratory, and the report is published in the current issue of the society's "Journal." The conditions under which the experiment was carried out appear to us to have been most favourable, for the soil of the gardens is light and sandy, and deficient in humus, as compared with a highly cultivated garden. We learn from the report that one-half of the ground set apart for the experiment had for the previous four years received ordinary garden cultivation, the crop in 1907 having been celery. The other half had not carried a crop in the previous year, and the two parts were

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divided by a broad path. Each half of the area was divided into twelve equal plots, each having an area of two rods. Culinary peas were selected for the purposes of the experiment, and the varieties were Ne Plus Ultra, Duke of Albany, Telegraph, and Maincrop, and it is unfortunate that a considerable number of the plants of the last-named failed to make a satisfactory growth. In the report the number of pods, and the weight of the pods and the peas are given, and the counting and weighing of the produce must have been a serious business, but it is only by such method of procedure that a clear idea can be obtained of the results of an experiment. It is not possible here to do more than briefly refer to the totals. Table A shows that in the first two unmanured plots there was, in the case of the inoculated soil, a percentage decrease of 3 grammes in the weight of the pods, and of 4 grammes in the weight of the seeds. The plots included in Table B were not manured or inoculated, but the seed in one plot was inoculated, and here there was a percentage decrease of 23 grammes in the weight of pods, and of 21 grammes in the weight of seed. Table C, devoted to the plots which received a dressing of manure at the rate of 10 tons per acre, shows a percentage increase of 6 grammes in the weight of pods, and 5 grammes in the weight of peas. The plots included in Table D received a dressing of lime, and here the weight of pods was practically equal, but there was a percentage increase in the weight of peas of 4 grammes in favour of the inoculated plot. Table E shows that with a dressing of lime, kainit, and superphosphate, there was a percentage decrease in the produce of the inoculated plot of 14 grammes in the weight of pods, and of 16 grammes in the weight of seeds. Table F shows that with a dressing of calcium cyanamide there was a percentage decrease of 2 grammes in the weight of pods, and an increase of 3 grammes in the weight of peas. The inoculated plots on the fallow land that had not been manured gave much better results. Table H shows that with inoculated soil and seed, the percentage increase was 10 grammes in the weight of pods, and 14 grammes in the weight of peas. The treated plot included in Table I had simply the seed inoculated, and this gave a percentage increases of 13 grammes and 17 grammes. Table K contains the results of the soil manured and the seed inoculated, and this shows considerable decreases, and Table L is devoted to the results obtained with the addition of a dressing of lime, but owing to the difference in the number of plants in some of the rows there is no occasion to quote the figures. In the aggregate there was scarcely any difference in the produce of the two sets of plots, and therefore the results obtained at Wisley must be regarded as negative.

Mr. R. L. Harrow, whose portrait we have the pleasure of giving in this issue, has for some years past been at the head of the practical side of the work of the Royal Botanic Gardens, Edinburgh, and has, by his remarkable ability and courtesy, won golden opinions from those who have had opportunities for becoming acquainted with the judgment he displays in the discharge of his duties. Some eighteen years ago Mr. Harrow was, after occupying the position of sub-foreman in the Royal Gardens, Kew, appointed to the charge of the glass department at Edinburgh, and in this position he achieved so high a degree of success that when, some years later, Mr. A. D. Richardson retired from the curatorship, Mr. Harrow was appointed to the important position he now holds. As befits the occupant of a position involving the discharge of duties of the most diverse character, Mr. Harrow is fully conversant with the various classes of plants, trees, and shrubs that have a place in a botanic garden of the highest class, but his knowledge of the many plants from tropical and temperate regions is quite remarkable; especially is this made evident by the splendid condition of the occupants of the fine structures that form so distinct and interesting a feature of the Edinburgh establishment.

Sweet Pea Annual and Schedule for 1909.—Mr. Charles H. Curtis, hon. secretary of the National Sweet Pea Society, asks us to state that the Sweet Pea Annual and Schedule for 1909 will be ready during the present week. The despatch of copies will commence on Wednesday, and any member not receiving a copy by the end of the week should notify the hon. secretary at once. The "Annual" will this year be sent to non-members for 2s. post free, not 1s. 3d. as hitherto. The London exhibition will be held on July 23, and the provincial show at Saltaire on July 13. A new and complete catalogue of sweet pea names and descriptions will be ready about the end of February, and all new members joining the society for 1909 will receive a copy gratis; it will be sold at 6d. per copy.

Cornish Gardens.—In the issues for February 6 and 13 we shall give an illustrated account of some of the more famous of the many fine gardens in Cornwall. The gardens that will be described and illustrated will include those of Bosahan, Pencarrow, Prideaux Place, Tregye, and Trevarrick.

Glastonbury Thorn (Cratægus monogyna, var. præcox).—The sacred legend which is associated with the flowering of this thorn in midwinter always gives the tree a peculiar interest to the general public. There is a specimen of it growing in the Thorn Avenue at Kew (South of the Temperate House) which does not flower regularly in midwinter. Mr. W. J. Bean, writes in the "Kew Bulletin," that with a mild November and December such as is frequently experienced, it will flower about Old Christmas Day (January 6), but if cold weather sets in before the New Year the flowers may not open until March or April. This season, however, they have been extraordinarily early. The tree was in full blossom in the first week of November, before any leaves had fallen. This was no doubt accounted for by the unusual warmth of the past autumn. In addition to these early blossoms, the Glastonbury thorn at Kew always bears others at the normal flowering time of the species—May and June—and from them a crop of haws is developed. This tree was, in November, 1908, carrying flowers, fruit, and full foliage simultaneously.

National Chrysanthemum Society.—The annual meeting of this society will be held at Essex Hall, Essex Street, Strand, on Monday next, February 1. Sir Albert Rollit, president, will take the chair at 7 p.m. We are pleased to learn from the report that an improvement in the financial position of the society has been effected during the past year. The report states, "It will be observed from the statement of assets and liabilities that the society's finances show a considerable improvement when compared with the previous year. The surplus of assets over liabilities has been increased during the year under review from £53 15s. 1d. to £10 18s. 9d., which will more than enable the committee to carry out the policy set forth in the last report of retransferring £25 to reserve account from the year's income. The committee will continue to keep a careful watch, in advance, on the society's finances, as the great importance of having a reserve to fall back upon becomes increasingly obvious every day."

Cider Vintage of 1908.—In an interesting communication to the "Times" Mr. C. W. Radcliffe Cook writes with reference to the ciders of last year's make that, although they have not quite come up to the expectation that was formed of them before cidermaking began, they will, on the whole, be of good quality. The display of blossom was magnificent, and gave promise of a bumper crop; but spring frosts and violent and bitter winds just as the young foliage was breaking gave the trees a check, from which some of them never quite recovered. The inclemency of the weather at the period in question seems to have been more felt in the west Midland counties than in the south-western. In the former, a considerable quantity of fruit fell from the trees during the heat of summer, leaving about half a full crop; whereas in the latter two-thirds of a crop was obtained, and in some parts, especially in Devonshire, a full crop. The prolonged spell of drought in the summer, when the fruit should have been swelling, retarded its growth; and in the late autumn, when it should have been ripening, the rains caused it to start growing again. This, with the absence of sun, caused the juice to be somewhat deficient in sugar, while it contained rather more than the average percentage of acid and rather less than the average percentage of tannin. Some of the best varieties, especially the later sorts, were, however, less adversely affected by climatic influences than those of inferior grades: and the analysis of the juice of some of the former kinds made at the National Fruit and Cider Institute has shown an astonishingly high specific gravity due to a preponderance of saccharine ingredients, so that the ciders made from such varieties will probably be full bodied and of fine flavour. Taking, therefore, the apple crop all round, we may come to the satisfactory conclusion that the vintage of 1908, though not a grand vintage, will be abundant in quantity, and above the average in quality, in the latter respect resembling somewhat the vintage of 1905.

Perpetual-Flowering Carnation Society.—The annual general meeting of this society will be held in the Hotel Windsor, Victoria Street, London, S.W., Wednesday, February 10, at 4 p.m., and the spring show at the R.H.S. Hall, Vincent Square, on March 24.

Horticultural Club.—The annual meeting of the Horticultural Club will be held at the Hotel Windsor on February at 5.30 p.m. This will be followed by the annual dinner at the same hotel at 5 p.m. Sir Frank Crisp has kindly undertaken to provide the music, and as a larger attendance than usual is expected, members and their friends are advised to inform the honorary secretary of their intention to be present as early as possible. No seats, we are informed, can be reserved after February 4.

Italian Gardens.—At a meeting of the Italian Circle of the Lyceum Club, Mr. Joseph Cheal, of Crawley, gave a lecture, illustrated by lantern slides, on the "Old Gardens of Italy." The Italian love of gardening, Mr. Cheal pointed out, dated from an early period. Roman generals, no doubt, brought home marvellous tales of the gardens of Assyria, Babylonia, and Egypt, and it was probably this that fired the imagination of Lucullus, whose magnificent garden at Naples is described by Pompey. The Emperor Hadrian, early in the second century, seemed to have stimulated the taste for horticulture, and Pliny the younger, about the same time, not only designed gardens, but had left descriptions of some of the gardens of the period. For several centuries during the decline of the Roman power the love of gardening also declined. There was a great revival in this direction, however, about the close of the fourteenth century. A great impetus to gardening seemed to have been given by Lorenzo de Medici, a friend of Michael Angelo, and his family had much to do with the creation of the beautiful villas and gardens around Rome and Florence. Zoological specimens were also introduced into gardens and parks, which were stocked with choice specimens of birds and animals. During the period of the Renaissance, Senators and others and Church dignitaries seemed to have vied with each other in the making of gardens, many of which could be seen to-day, some in varying stages of decay, others still maintained and preserved with great care.

New Open Space for Bristol. Mr. G. A. Wills has acquired 73 acres, the property of the Leigh Woods Land Company, Clifton, including the famous Nightingale Valley, for preservation for the public use.

Erfurt, the Flower City.—The United States Consul at Weimar, Mr. W. L. Lowrie, writing about the German seed and plant trade, tells us that the soil about Erfurt is especially adapted to the culture of vegetables and plants. It is deep, rich, and well watered. The annual rainfall is heavy, and the surrounding hills afford good protection from the cool winds which sometimes sweep down from the Thuringerwald. There are 108 concerns engaged in the seed industry, also 35 seed exporters and 24 florists. An idea of the extent of this business may be gained from the area of glass employed. The total is 113,735 square metres (the square metre equals 10.764 square feet), of which 30,867 square metres cover propagating houses and 82,858 square metres are used over specially fertilised beds. Nearly 3,000 people are employed in various capacities. While there are no statistics available in regard to the total annual output of the Erfurt seed and plant concerns, a single firm produces each year 70,000 to 80.000 cyclamens. 100,000 lilies of the valley. 60.000 apples in pots. 20.000 pears. 10.000 plum, apricot, peach, and quince plants, 30,000 strawberry plants, 300,000 short-stemmed and 40.000 long-stemmed roses. This concern has a dozen large hothouses and salesrooms, packing rooms, a blacksmith shop, a carpenter shop, and a bindery where the cut flowers are arranged and the dried plants and mosses are put together in wreaths or bundles. Garden products grown in Erfurt may not be peddled in the city.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

The sixty-ninth annual general meeting of this institution was held on Thursday, January 21, at "Simpson's," 101, Strand. There was a good attendance, and Mr. H. J. Veitch, V.M.H., presided. More than usual interest was evinced in this meeting because since the last meeting the Old Age Pension Act has come into force, and there was no little speculation as to the effect the provisions of this Act might have upon the institution, and also what steps the committee proposed to take with regard to them.

Those present included Messrs. A. W. Sutton, J. Hudson, G. Wythes, Owen Thomas, P. Veitch, A. Dean, J. McIndoe, G. Monro, W. Iceton, W. Bates, W. Denning, W. James, D. Ingamells, J. Wheeler, G. Gordon, C. Fielder, W. Barr, A. White, A. Paul, J. Jefferies, etc., etc.

CYCLAMEN SUTTON'S GIANT WHITE.

One of the many finely-flowered plants of the superb strain of large-flowered cyclamen, exhibited by Messrs. Sutton and Sons at the Royal Horticultural Society's Meeting on Tuesday last.

After the usual formal proceedings, the Secretary, Mr. G. J. Ingram, read the report of the committee for the year 1908. The following is the report abridged:—

COMMITTEE'S REPORT FOR 1908.

The charity has been in existence seventy years, it has distributed in permanent and temporary help upwards of £125,000, and at no other period in its history has it done so much in the way of assisting the necessitous and suffering as in the year now under review.

At the commencement of 1908, 231 persons—133 men and 98 widows—were receiving yearly allowances amounting in the aggregate to over £4,000. During the year sixteen (eleven men and five widows) have passed away; of the men, four left widows, who, being necessitous and in every way deserving, were at once placed on the funds without election, under Rule III. 10, to receive the widow's allowance of £16 a year. In addition to those who died, one widow has gone to Australia to reside with her son, and another widow has been removed to an infirmary by medical orders. There were therefore at the close of the year 217 persons on the funds, and the committee recommend for election this day eighteen candidates from an approved list of seventy-three applicants. Although the number of beneficiaries will thus be increased to 235, or four more than at the corresponding period of last year, the committee deeply regret their inability to recommend a larger number, the more so as the claims for help are more numerous than ever before—the list of applicants this year showing an increase of twenty on that at any previous election. The two special funds, the "Victorian Era Fund" and the "Good Samaritan Fund," still prove of the utmost value and usefulness by the timely help they afford.

The annual festival dinner, which took place at the Hotel Metropole in June last, under the presidency of the Right Hon. Lord Aldenham, was most successful, and the committee take this opportunity of tendering their grateful thanks to his lordship for his warm and sympathetic advocacy of the objects and aims of the charity as well as its needs. They also desire to offer their sincere thanks to those gentlemen who acted as stewards or collectors; to the horticultural Press; to the donors of flowers; to those who decorated the tables, and to other friends who helped to secure the success of the festival. The committee have further to express their gratitude to those who have so kindly allowed their beautiful gardens to be opened to the public for the benefit of the funds of the institution, notably the Right Hon. Earl Beauchamp (Madresfield), Lord Northbourne (Betteshanger), Mary Countess of Ilchester (Holland House), the Lady Battersea (Overstrand), Sir Frank Crisp (Friar Park), and E. J. Wythes, Esq. (Epping); thanks are also due to Messrs. Fisher, Son, and Sibray, Lim., for opening the Royal Nurseries at Handsworth for the same purpose; the committee are also indebted to the Messrs. Geo. Monro Concert Committee for again most kindly allocating a portion of the proceeds derived from their well-known and successful annual concert.

With much gratification the committee refer to the generous kindness of N. N. Sherwood, Esq., for his gift of £25 for unsuccessful and needy applicants; to Arthur W. Sutton, Esq., for kindly giving a year's allowance of £20 for an applicant suffering from incurable paralysis; and to George Monro, Esq., for his kind contribution of £16 towards the maintenance of an aged widow. The recipients were truly grateful for these unexpected bounties.

The services of the honorary treasurers and honorary secretaries of the several auxiliaries are keenly appreciated, and the committee gladly place on record their indebtedness for the kind and valued efforts of the following gentlemen on behalf of the work, viz.:—

Bristol and Bath.—Col. H. Cary Batton, president; W. A. Garaway, Esq., hon. treasurer; and Mr. George Harris, hon. secretary.

Worcester.—Right Hon. Earl Beauchamp, K.C.M.G., president; Mr. John White, hon. treasurer; and Mr. Percy G. White, hon. secretary.

Devon and Exeter.—C. R. Collins, Esq., president; and Mr. W. Mackay, hon. treasurer and secretary.

Wolverhampton.—C. T. Mander, Esq., J.P., president; Mr. Bradley, hon. treasurer; and Mr. Tom B. Dobbs, hon. secretary.

Berkshire, Reading, and District.—Mrs. Rowland Spurling, president; Arthur W. Sutton, Esq., J.P., V.M.H., hon. treasurer; and Mr. L. Castle, hon. secretary.

Liverpool Auxiliary.—The Right Hon. the Earl of Derby, president; A. J. Crippin, Esq., hon. treasurer; and R. G. Waterman, Esq., hon. secretary.

It is with much pleasure the committee announce that Lionel de Rothschild, Esq., has kindly consented to preside at the seventieth anniversary festival dinner in aid of the funds at the Hotel Metropole, on Wednesday, June 23 next. They have also to report that George W. F. Macnaughton, Esq., M.D., M.R.C.P., has kindly consented to accept the office of honorary physician to the institution.

With regard to the Government Old Age Pension Act, it will be seen that the honorary solicitor has given notice of motion to be submitted to the subscribers at the meeting this day. Its intention (if the subscribers see fit to adopt it) is to enable the committee to act under Rule III. 6, should circumstances render it necessary and desirable to do so, without, however, causing any pecuniary loss to the beneficiary or applicant for help; and the committee would point out that of those now applying through incapacity and distress, there are forty-one whose ages alone render them ineligible for the benefit of State aid. The importance, therefore, of continued support to the institution is thus manifest.

In conclusion, the committee most earnestly appeal for increased means for this national horticultural charity, which for seventy years has carried on its beneficent work with such comfort and help to the recipients of its benefits as cannot be overstated.

Harry J. Veitch, Esq.,
Treasurer and Chairman of Committee.
George J. Ingram, Secretary.

FINANCE.

BALANCE SHEET FOR YEAR ENDING DECEMBER 31, 1908.

Income.

	£	s.	d.
To Balance	£1,129	9	6
Amount on deposit	3,880	0	0
Annual subscriptions	1,434	0	6
Donations at and in consequence of Festival Dinner, including special gifts	1,954	17	10
Legacies—			
Mrs. A. H. Lewis-Hill, with interest	1,007	4	5
Mr. B. Greaves	50	0	0
Return of Income Tax	42	18	6
Dividends and Interest	880	0	10
	£10,378	11	7

Expenditure.

	£	s.	d.
By Pensions and gratuities, including special gifts from Messrs. Sherwood, Sutton, and Munro	£4,039	12	0
Expenses of annual meeting and election	10	3	4
Rent, firing, lighting and salaries of Secretary and Clerk	566	9	7
Printing (less Advertisements)	80	11	8
Expenses of Festival Dinner (less dinner charges)	54	13	0
Postages, telegrams, repairs, etc.	78	9	6
Placed on deposit	3,530	0	0
ditto Mrs. Lewis-Hill's legacy	1,007	4	5
Balance with Treasurer	999	8	4
Balance with Secretary	11	19	9
	£10,378	11	7

VICTORIAN ERA FUND—BALANCE-SHEET, 1908.

	£	s.	d.
To Balance, January 1, 1908	£184	11	5
Dividends	155	0	6
Return of Income Tax	8	3	2
	£347	15	1
By Gratuities	£177	8	0
Balance in hand, December 31, 1908	170	7	1
	£347	15	1

GOOD SAMARITAN FUND—BALANCE-SHEET, 1908.

	£	s.	d.
To Balance, January 1, 1908	£267	7	5
Donations	64	19	6
Dividends	72	13	6
Return of Income Tax	3	6	2
	£408	6	7
By Gratuities	£101	10	0
Balance in hand, December 31, 1908	306	16	7
	£408	6	7

Mr. Harry J. Veitch moved the adoption of the report, and in so doing said that the institution was making steady progress. He also referred to the legacies received during the past year, and urged that friends when making their wills would remember the institution, so that more suffering and aged gardeners might be assisted. Mr. Roupell formally seconded the motion, and it was unanimously adopted.

Mr. A. W. Sutton moved the thanks of the meeting to Mr. Harry J. Veitch for his services as chairman and treasurer, and his re-election to those positions. Mr. Sutton referred to Mr. Veitch as the "friend of gardeners." Mr. Alex. Dean seconded the motion, and it was heartily adopted. On the motion of Mr. G. Monro and Mr. Wheeler, Mr. G. J. Ingram was unanimously re-elected secretary of the institution, and his able services were eulogised by each gentleman. Mr. Ingram suitably replied.

Mr. R. G. Waterman proposed that Messrs. E. T. Cook, D. Fleming, J. Jennings, J. McIndoe, F. W. Moore, A. W. Sutton, Owen Thomas, Bailey Wadds, and George Woodward be re-elected as members of committee, and that Mr. Fred Cooper be elected in place of Mr. R. Millican Hogg, resigned; carried. On the motion of Mr. Wythes and Mr. C. Fielder, Messrs. T. Manning and T. Swift were heartily re-elected auditors of the institution's accounts. The old arbitrators were also again re-elected on the motion of Mr. O. Thomas and Mr. E. T. Cook.

Mr. White, in the absence of Mr. W. A. Bilney (through illness) formally moved:—"That every person having attained the age of seventy years who is in receipt of an annuity from the institution, and is eligible for a Government Old Age Pension of less than the maximum allowance of 5s. per week, or whose total income does not exceed £31 10s. per annum, may have such charitable annuity reduced as the committee may determine under Rule III. 6, so as to render him or her eligible to apply for a pension on the Government scale, provided always that such reduction does not involve the beneficiary in any pecuniary loss," and said he thought few would be against this proposal, which would permit the committee to extend the benefits of the institution without in any way causing a loss to present annuitants. Mr. D. Denning seconded the motion. Mr. Sutton, Mr. Dean, and Mr. Monro all spoke to the motion, the former suggesting the deletion of the word "charitable" before "annuity." Mr. Owen Thomas also spoke, and the motion was carried with the deletion already referred to. The committee will now meet and fully consider the whole subject of old age pensions as far as they apply to the institution, and will publish the decisions arrived at in due course in the horticultural Press.

Mr. Cooper and Mr. G. Monro were appointed scrutineers of the ballot, and the Chairman announced that Mr. A. W. Sutton had kindly promised to renew his donation of a pension to one of the most deserving of the unsuccessful candidates.

ELECTION OF PENSIONERS.

The declaration of the poll took place rather later than usual. The successful candidates were Emma J. Whitehurst, J. G. Anstey, Matilda Ings, H. Heims, Thomas Jones, J. Burton, H. Cooper, Wm. Gardiner, Jane Noble, Harriett Helman, Wm. Cope, H. Gage, T. C. Cushion, Ed. Tibbles, G. Lawrence, J. Throp, J. Talmage, Wm. Reynolds. These were declared duly elected, and then it was proposed by Mr. H. J. Veitch, seconded by Mr. G. Monro, and carried, that Nancy Wright and James Young be placed on the funds without election. It was notified that W. J. Williams would receive the pension given by Mr. A. W. Sutton, and Laura Stockwell, a candidate both very poor and very ill (not on the list of candidates) would receive Mr. Monro's donation.

The meeting closed with votes of thanks to the scrutineers and chairman.

FRIENDLY SUPPER.

Very soon after the declaration of the poll the annual friendly supper was held, under the presidency of Mr. W. J. Jefferies. After supper there were the usual loyal toasts, and a few other toasts and speeches, and all the speakers were commendably brief.

The Chairman, in proposing "Success to the Institution," referred to the great benefits it conferred on the old and disabled, but he threw the responsibility of advocating the claims of the institution upon Mr. Harry J. Veitch, who said he had responded more than forty times to a similar toast, and therefore could not be expected to say anything new. Mr. Veitch briefly reviewed the work of the institution, referred to some special cases that had been relieved, and thanked all who had helped, and in his inimitable manner invited increased support. Mr. Veitch's remark that every one was pleased to see Mr. N. N. Sherwood back among them again, was thoroughly endorsed by the company, and when Mr. Sherwood rose he received quite an ovation. With all his old breeziness and jollity Mr. Sherwood acknowledged the welcome, but there was an added touch of sympathy and kindliness to suffering humanity in his remarks that materialised in a promise to provide pensions this year for two deserving unsuccessful candidates. This promise was given as a thank-offering for return to health, and as a part of the doctrine he believed in and endeavoured to act up to, i.e., of doing at least one good turn each day to someone. Needless to say, those present showed their appreciation of Mr. Sherwood's generosity.

Mr. W. Atkinson proposed "The Chairman"; Mr. G. Bunyard, V.M.H., "The Committee and Country Friends," to which Mr. G. Monro and Mr. R. G. Waterman (the Liverpool correspondent) replied. Mr. G. J. Ingram made a capital little speech in response to the toast of his health, and some little amusement was caused by the Chairman calling upon four horticultural pressmen present to respond to "The Press."

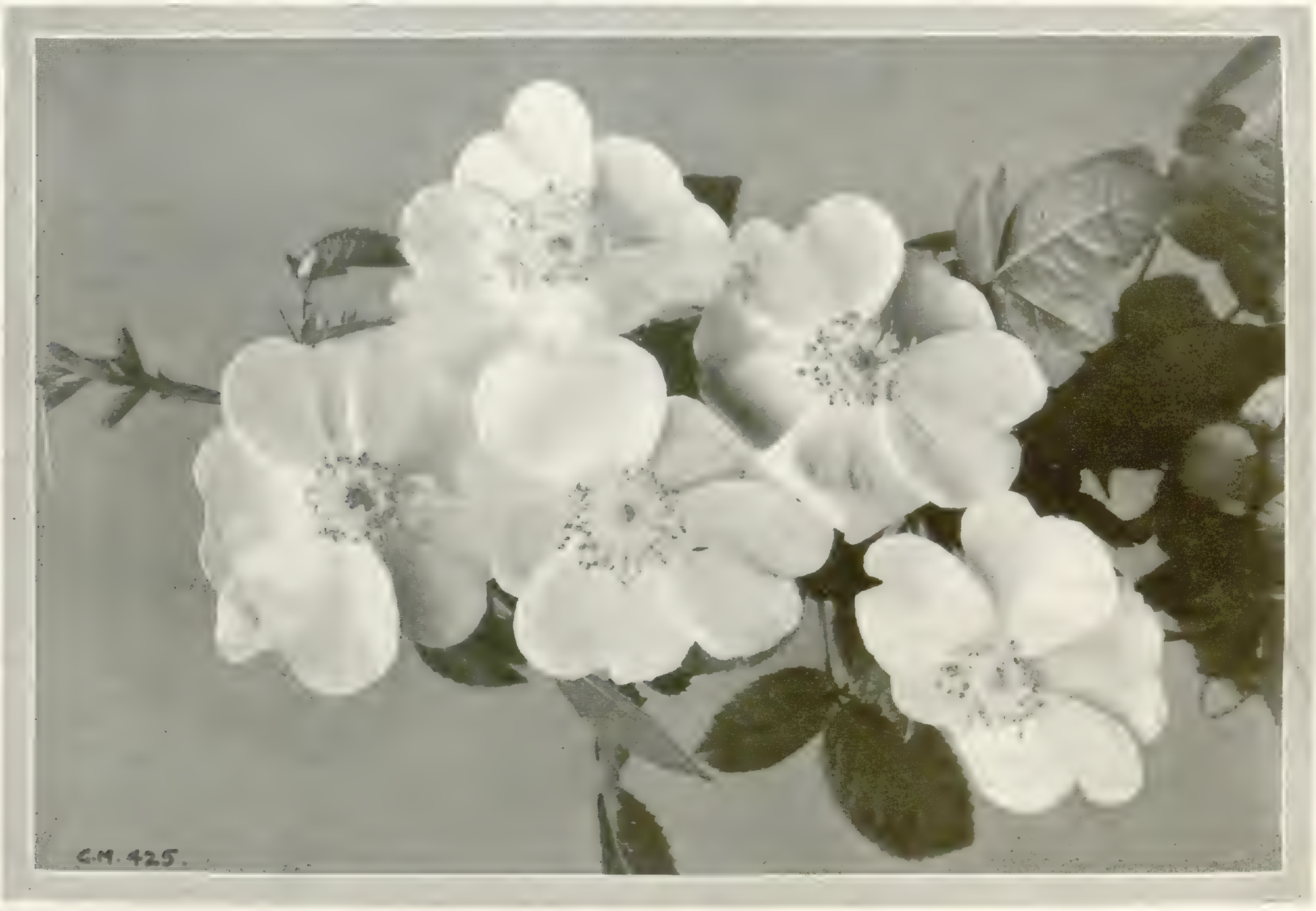
PENZANCE BRIARS.

Whether rose lovers have shown their appreciation of the endeavours of the late Lord Penzance to enhance the attractions of the flower garden by planting as freely as they should have done the beautiful briars that he was successful in creating, is an open question. I am inclined to the opinion they have not done so, for many are the gardens that might be visited in which they are wholly unrepresented. They are not, of course, so useful for small beds and borders as are roses of moderate growth, such as the hybrid perpetuals and hybrid teas; but there are few gardens in which suitable positions cannot be found for some of them. This being so, I would advise those who love roses to have a look round, with a view to finding positions for a few of the best. For the information of those who know but little or anything of the Penzance briars, it may be useful to point out that they are robust in growth, have fragrant leaves, and exquisitely coloured flowers, and are free in blooming. The illustration herewith of Rose Bradwardine gives an excellent idea of the form of the flowers and of the manner in which they are borne, but it must be pointed out that they are shown below the natural size.

The manner of disposing them in the pleasure grounds must be determined by the area, the contour, and other considerations. Bold groups on a closely shaven lawn, and within a short distance of the residence will not appear out of place, but they produce a more pleasing effect when they are assigned a place in a less highly-dressed part of the pleasure grounds. They certainly add considerably to the attractions of the wild garden when planted in open sunny positions and given the small amount of attention necessary to maintain them in a healthy state, and to keep them free from a superabundance of old wood. Highly effective groups may be formed by planting them in threes, each triple consisting of one variety. When so planted they should be arranged in the form of a triangle, with eighteen inch sides. If larger groups are required the number of plants may be increased to five or more, and a proportionately larger space allowed them. They are admirably adapted for hedges and screens, and in many cases they may be used instead of the commoner shrubs for the purpose of separating one part of the garden from the other. When utilised in the formation of screens and hedges they should be arranged eighteen inches apart in a single row.

Previous to planting the soil should be well prepared by deep digging and moderate manuring, and in planting the soil should be trodden very firmly about the roots. Very little pruning is required by the Penzance briars. It is a good rule to cut the whole of the growths to within ten inches or so of the ground level early in the first spring after planting. Subsequently the pruning should be limited to the removal of old and useless wood. Should the bushes become somewhat bare and unsightly at the base, as they sometimes do, cut them hard back to obtain new growth from near the base, or destroy them and form fresh clumps with new plants, and, as far as practicable, in new positions. All the varieties in cultivation are well worth growing, but for the guidance of those whose space is limited, I would suggest the following as being especially desirable: Anne of Geierstein, rose-crimson; Amy Robsart, rich rose; Edith Bellenden, soft pink; Jeannie Deans, rose-crimson; Julia Mannering, bright pink; Lucy Bertram, bright crimson; and Rose Bradwardine, bright rose-pink.

VIATOR.



[Photo: J. E. Tyler.

PENZANCE BRIAR ROSE BRADWARDINE.
Flowers bright rose-pink.

TOWN GARDENING.

No less a distinguished critic than Maurice Maeterlinck has recently turned his attention to town and city gardens as they exist at the present day in this country.

He condemns in a certain measure the majority of these gardens, especially in regard to those formed during recent years, and vividly describes one of these creations, "the winding paths that lead nowhere, the inevitable lake, the indispensable lawn, the useless mounds and valleys, and the everlasting flower beds," as "paltry and monotonous combinations."

There is, possibly, need for this criticism, and we rather welcome it, especially coming from so gifted a writer, but in the finding of a substitute for this state of affairs we are offered either the "French or Italian garden," or the "very forest itself." To my mind, the task set before town and city gardeners in the planting of open spaces is far from being an easy one. As a rule many things have to be taken into consideration, and one need not wonder why the general run of town gardens have something in common. In the effort to provide gardens in towns that shall combine in their entirety "a playground for the children," "shady walks and shelters for the aged," "flowers for those who are denied the country," and to make the most natural and undulating picture possible, the town gardener is forced to ring the changes upon the very features which are roundly condemned, and should he in his difficulty, produce a garden similar in style to the one in the next town, one should at least regard him in no unkindly mood for having solved his problem in the same way as others in the same position.

It has been suggested that town gardens should be in complete harmony with the adjacent buildings, and in considering the suggestion one wonders if this would not make for the monotony which M. Maeterlinck decries. Ofttimes a daring subtle contrast will effect the miraculous in the garden, and will give pleasure and delight where a formal arrangement would repeat itself until it becomes wearisome to the eye. I am not in favour of gaudy colour effects, or of hastily planned gardens, but one thing is apparent, that a decided contrast will emphasise the lines and graces of any two given objects. That is why well-grown foliage upon a house front is so pleasing. There is no greater contrast than stone and brick walls and green foliage, and yet how admirably the result justifies the blending of the two.

Ivies, vitis, clematis, magnolias, roses, and a score of kindred subjects will immensely improve the appearance of walls, and in the same manner will carefully-chosen trees, flowers, and shrubs create charming effects in the open spaces of our towns. I would not endeavour to minimise the work of the town gardener. He is far more limited in his choice of subjects than his brother in the countryside. He is usually limited in space, and also has to contend with architectural ugliness. And one can well understand that to arrange a town garden in a thoroughly satisfactory manner will call for the artist's eye and the practical man's knowledge.

Not that well-conceived town gardens are an exception, for there are many wherein simplicity of design is combined with natural beauty of the subjects used, but the idea which I want to bring into prominence is that he who would be successful in this phase of gardening must devote himself to the thorough mastery of his work, for it is a subject which will call for as much study and thought as the architecture of the houses themselves.

The planting of trees in the streets of our towns should also be carefully considered. This is gradually extending among those who have the making of the towns, but much more might be done in this direction. Limes are popular and effective, and are very suitable for street planting. Chestnuts also are very good, and beautiful when in blossom. Elms make wonderful avenues, especially when used in conjunction with large buildings which stand well back in their own grounds, but are very treacherous as they age. Planes and maples also furnish useful material for town planting, but one would naturally ask why not widen the range, and utilise as street trees those favourite flowering trees which are seen in many town gardens.

Especially do my remarks apply to the almond, the cherry, the laburnum, the thorns or cratægus, the acacias, and the mespilus. And a word for those delightfully coloured subjects, the bronze and purple beeches, and Prunus Pissardi.

Our English gardens, arranged in a natural style, have been spoken of as "being adapted from China and Japan," though why they should be so described is difficult to understand.

Certainly we have gained much from the gardens of the Celestial Empire, and the Flowery Land, both in floral wealth and in ideas, and we are grateful to the gardens of the East for yielding up their treasures to us, though why a "natural" garden should be considered a derivative from the Far East I certainly fail to see.

It is, however, to the country garden that we can apply our Japanese ideas, for in these there is more scope for those delightful iris gardens, those exquisite lily pools, those dainty wistaria-clad tea-houses, those trinkling rills margined with primulas, and those lovely sweeps of bamboos, and stretches of lilies, and one can reproduce them in our country gardens, or harmonise them with more typically English effects

But to the town gardener one is compelled to give a word of cheer. After all there is nothing like foliage and flowers, either inside or outside of a town house. They are the representatives of the open country beyond, they speak with no uncertain voice of the breeze-blown hills, the flower-clad vales, the shady forest, and the azure skies, and cheer the toiler and the town dweller with their message from Nature and the wilds.

In conclusion, the more we foster the town gardener's art, the further we emphasise the value of town planting upon our municipal authorities; and the further we spread the knowledge and the love of flowers and trees among the rising generation, the better, happier, and healthier will town life become. P. S. Hayward.

WEATHER AT ROTHAMSTED IN 1908.

The meteorological records of the Rothamsted Experimental Station, Hertfordshire, for 1908 show that the year was characterised by a deficiency of rain, as was that of the previous year, 1907. There were but three months of excessive rainfall, and nine months showed a deficiency. The number of rainy days were, however, 184, being 12 days in excess of the average of the past 55 years.

The mean temperature of the year was slightly in excess of the average. The most unseasonably warm months were February, May, October, and November, whereas only April was unseasonably cold. There were six months of temperature above the average record and six months below. The bright sunshine record showed five months in excess and seven months deficient. The sunniest month of the year was June, when the record of sunshine exceeded the average by 50 hours.

There were 18 days on which snow fell, and the total depth would probably aggregate to 2 feet; the greatest quantity of snow fell during Easter week: about 2 inches fell on Easter Sunday, April 19, about 6 inches on April 23, and about 3 inches on April 25. Such a fall of snow as that experienced during the Easter season has not occurred at Rothamsted since the year 1876. From April 11 to 14 in that year a great quantity of snow fell, which averaged more than a foot in depth, and drifts in the narrow lanes around the Rothamsted estate were from three to four feet deep.

January of 1908 gave 14 hours more than average sunshine, but both rainfall and temperature were less than the normal.

February, the "double-faced," was quite in accordance with ancient traditions. In its short space it treated us to hail, snow, frost, lightning, rain, and gales, to say nothing of the sudden transformations that occurred as regards temperature, which, on the whole, was high compared with the average, while rainfall and sunshine were deficient. The comparative genial weather of the first three weeks of February encouraged both farmers and gardeners to proceed briskly with outdoor work. Gardeners who were fortunate enough to secure a good seed bed, sowed seed of onions, parsnips, broad beans, and early peas extensively.

March was a month of "many weathers." On the first and third days of the month about 3 inches of snow fell, and the amount of water from the rain and melted snow on these days measured about 22,600 gallons per acre. The total rainfall for the whole of March was nearly 3½ inches, being 1½ inches in excess of the average. The general character of March was cold, sunless, and gloomy.

May and June each gave a deficiency of rain, with a higher than average mean temperature and bright sunshine. The three English usual harvest months of July, August, and September recorded a deficiency of rain, a lower than average temperature and of bright sunshine.

The three months of October, November, and December gave a small quantity of rain, especially November, which recorded the smallest monthly total of the whole year; less than one inch was measured, being 1¾ inch below the average of the previous 55 years. The last three months of the year were warmer than the average, more particularly October, and to a less degree November also. October and November recorded 36 hours of bright sunshine in excess of the average, while December was gloomy, and gave 14 hours of sunshine deficiency.

The yearly data shows that the twelve months recorded a total rainfall of 25¼ inches, against an average for the previous 55 years, 1853-1907, of slightly over 28 inches, being 2¾ inches deficient; it is also 2 inches less than the record of 1907. Calculating these figures up to the acre we find that during the whole year 2,556 tons of water have fallen on each acre of land, which is about 284 tons of water deficient. The total rainfall for the last four months of the year fell short of the average for the same period in the previous 55 years by 3¾ inches, which is equivalent to a loss of 76,197 gallons on each acre in the underground water supply of this district. Last year at the same time there was an excess of 60,859 gallons per acre.

The mean temperature for the whole year was 48.2 degrees, which is very little in excess of the average of the past 30 years, 1878-1907, although the three last months of the year, recorded an aggregate of 7.2 degrees higher than the normal. The bright sunshine for the year amounted to 1,638 hours, being 35 hours in excess of the average; whilst in 1907 the total sunshine was 49 hours deficient.

Under these climatic conditions the experimental hay crop at Rothamsted was under all conditions of manuring less than the average yield, ranging from 5 to 18 cwt. of hay deficient, and considerably below that of 1907. As a set off against the bulky crop of 1907, which was badly harvested, the crop of 1908 was cut and carried with very little trouble.

The produce of the experimental wheat field was somewhat variable—about one-half of the plots under different manures gave above the average yield, while the remaining half produced a slightly lower than average quantity; but the quality, as indicated by the weight per bushel, was considerably above the average record, and ranged from 63lb. to 65lb. per bushel.

The experimental barley crop was, under all conditions of manuring, except that of the farmyard manure plot, below the average in yield, and in some instances very considerably below, while the weight per bushel was higher than the average.

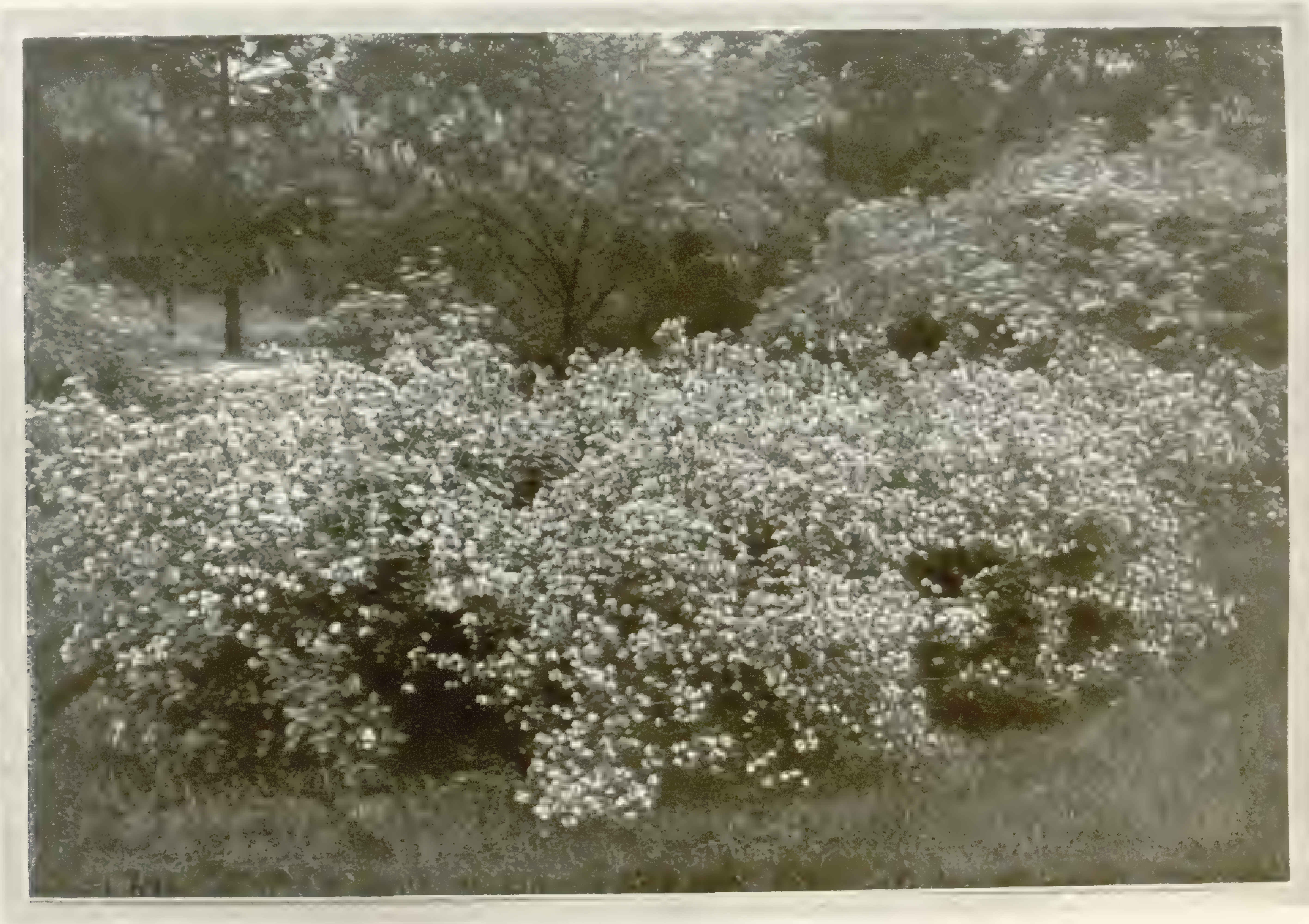
The root crops were variable, there being some good areas of mangolds and swedes, and some very bad. The general character of growth was an excessive amount of leaf, which the lateness of the season failed to ripen in sufficient time for the lifting.

Potatoes, on the whole, were a large crop, but disease set in very badly after the tubers were harvested.

Harpenden. J. J. Willis.

JAMESIA AMERICANA.

Although introduced to cultivation between forty and fifty years ago, this charming deciduous shrub is so seldom seen beyond the boundaries of botanic gardens that it appears desirable planters should have their attention drawn to its merits. Jamesia americana is not showy, and that may, perhaps, have militated against it becoming popular; but, if not showy, it is extremely beautiful, and it strongly appeals to those who appreciate elegance of growth and quiet colouring at their true value. It belongs to a monotypic genus, and is a native of the Rocky Mountains, Colorado, whence it was introduced to cultivation in 1865. The growth is light and elegant, and attains a height of between two and three feet; the leaves are oval, serrated at the edges, bright green on the upper surface, and greyish white on the undersides; the flowers are pure white, about half an inch in diameter, and borne in paniculate clusters at the points of the shoots. The habit of growth and the freedom with which the flowers are produced are so well shown in the illustration as to render other than a brief reference wholly unnecessary. The bed portrayed occupies a position in the Royal Gardens, Kew, at the southern end of the holly walk, and consequently not far distant from the Pagoda, and the photograph was taken in June.



JAMESIA AMERICANA IN THE KEW ARBORETUM.
An elegant hardy American shrub with white flowers.

It is wholly unnecessary to write at length with regard to the cultural requirements of the shrub. It is quite hardy in this country, and will thrive in any soil that is fairly friable and well drained. On cold, wet soils the wood might not become fully matured, and the flower production be less than would be the case under favourable conditions; but no plants have yet come under the notice of the writer that have failed to ripen their growths, or to produce a profusion of flowers. Propagation is readily effected by means of cuttings of well-ripened shoots. The cuttings should be taken early in the autumn, be prepared in accordance with the orthodox practice, and inserted in pots, pans, or boxes filled with sandy soil, and be placed in an unheated frame. It is necessary, as in the case of the cuttings of other shrubs, to keep the frame rather close until they have callused, when the ventilation can be gradually increased. G.

VARIETY IN THE PLANT STOVE.

Even warm greenhouses and plant stoves of great extent are often filled with only the most usual shrubs, climbers, and plants, these repeated monotonously again and again; one genista or hoya is remarkably like another, it should be remembered, and the larger conservatory subjects of this kind do not require to be massed for colour effect, as we may well group quantities of one species of perennial in the herbaceous border. I am sure gardeners, and garden owners, would derive greater satisfaction from cultivating a finer assortment of plants under glass, even if obliged, therefore, to part with numbers of the present occupants of shelves and stages. The most cursory consideration of possible plants will reveal neglected beauties.

Early-flowering blood lilies, or hæmanthus, may be obtained as bulbs, and potted in August or September in a compost of equal parts of peat, old chopped manure, loam, and sand; their vivid red, white, and orange blossoms make a fine display. Stately white pancratiums should not be omitted, their elegant growth and bloom shape, their long-lasting nature, their fragrance, alike entitle them to cultivation. No peat should be used in their compost, and they should be encouraged by bi-weekly applications of different liquid manures.

The white and palest pink paullinas are interesting and uncommon, succeeding best when their tendrils of downy, finely cut, evergreen leaves are trained up wire netting, either around pillars or against side and roof glass. They are suited by a compost of equal parts of loam and leaf-mould, with sand, but require a tempera- any time, so are only fitted for the stove.

The Chilian pitcher flower, sarmienta, may be enjoyed in a greenhouse many degrees cooler, gorgeous and tropical though its appearance is. This is a more vigorous climber, yet it is generally grown in pans or baskets, like an orchid, and allowed to drape downwards. It is easy to cultivate it in a pot on the top shelf of the staging, and persuade it to attach its creeping stems to cords stretched across the angle of the roof glass, thus making a light canopy studded by scarlet blooms. The compost used for orchid potting will suit it, and throughout summer ample watering and daily syringing will be necessary. It belongs to the Gesneraceæ.

Mahernia is worth growing, in equal parts of loam, peat, leaf-mould, and sand, and a moderate temperature, for the red and orange flowers are perfumed, and the plant can be kept in a trim, shrub-like shape.

The shady portions of the stove may be beautified by ixoras, in scarlet, orange, salmon, and white, evergreen shrubs which flourish in pots with a compost of two parts peat to one of loam, and one of coarse silver sand. After the blossoms are over, which will be by the end of October, the ixoras should be placed into a sunny position of the house.

The orange combretum is a gay stove climber, preferable to the red, or even the white variety, a rapid grower, willing to cover part of a roof, and possessed of evergreen foliage. M. H.

POPULAR WINTER-FLOWERING HEATHS.

About the middle of September a few species of greenhouse heaths are disposed of by thousands at the different trade sales that take place around London at that time. These heaths are, for the greater part, grown by those who make a speciality of their culture, and cultivate them in very large quantities. The reason of this is that heaths require special treatment, it is only those that devote their undivided attention to them that can turn out the model plants that some of our nurserymen do; and yet at so cheap a rate are they disposed of that one frequently meets with charming little specimens full of bloom exposed for sale on the costermongers' barrows in the streets of London.

These are nearly always in the regulation 48 or 5in. pots, but within the last few years quite an industry has sprung up of growing little flowering plants of some of these heaths in thumb pots. Of course, only small-growing kinds are suited for this purpose, one of the best being Erica gracilis, while Erica persoluta alba is also a favourite for this mode of culture.

Erica gracilis has been for a long time in flower, and is now past its best. It is a well-known and popular kind, and when laden with its myriads of tiny rose-purple or purplish-red blossoms, it is decidedly pretty. Some years ago a variety, alba, was distributed, but the flowers were in colour a long way removed from white, and it never became popular. More recently the variety nivalis was put into commerce, and the first year the blossoms appeared whiter than I have seen them since. Though decidedly flushed with pink the flowers of this afford a pleasing variety from those of the normal form. Of what is regarded as the typical kind there is a considerable amount of variation in the colour of the flowers, some cultivators turning out plants whose blossoms are of a richer tint than others. In some cases this has been attributed to the superiority of the particular form or variety, but it is in many instances due to the treatment the plants have received. Exposure to air and sunshine naturally deepens the colour of the flowers, hence, to ensure the whitest flowers of the variety nivalis, they are allowed to develop in a partially shaded position.

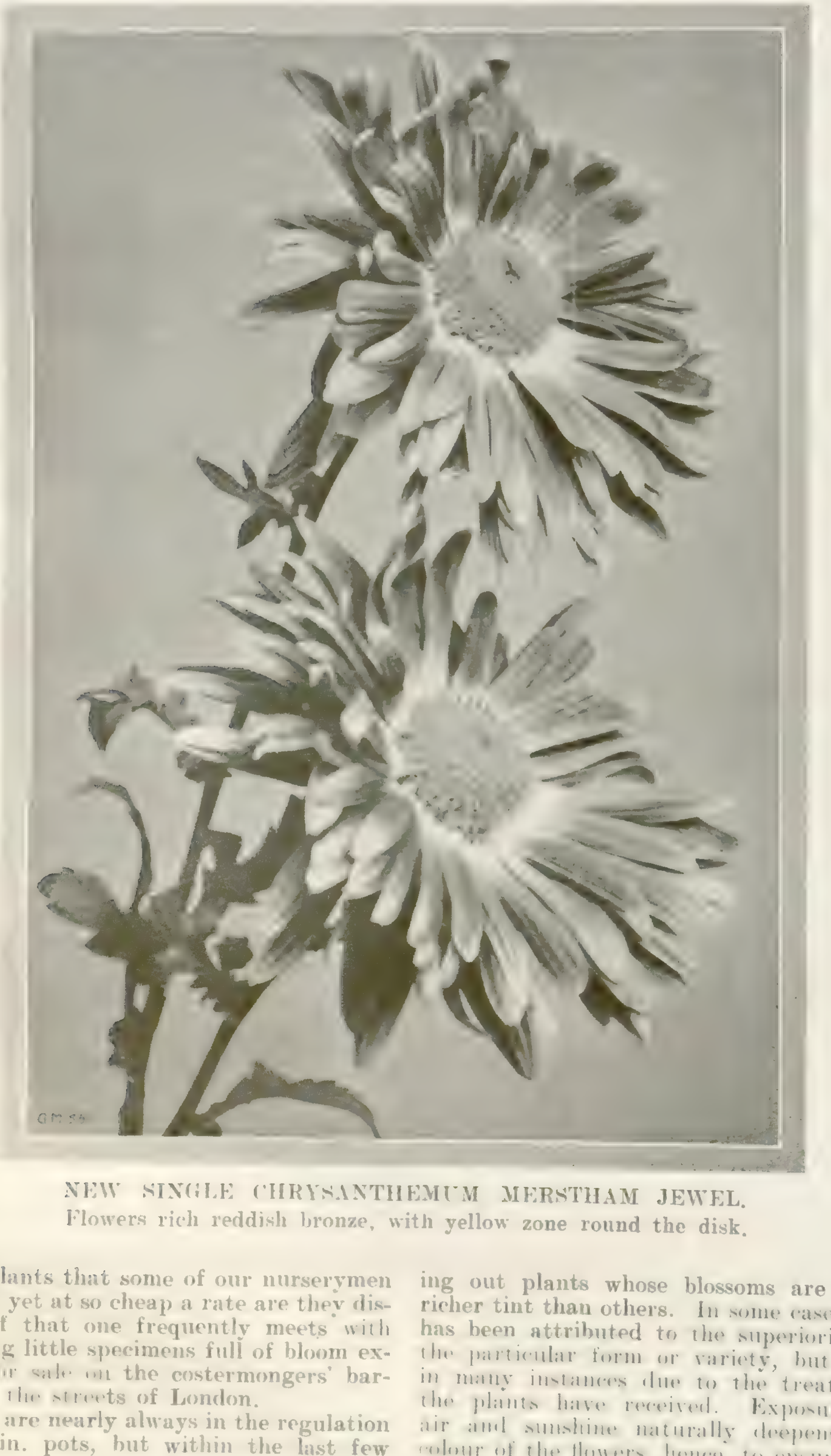
A good companion plant to Erica gracilis, but of a somewhat lower and rather more spreading habit of growth is Erica caffra, which, like the species previously mentioned, was introduced from South Africa over a century ago. It is not so much grown as it was, but being of comparatively easy culture, very floriferous, and blooming during the dull autumnal period it is especially welcome.

Erica hyemalis stands out as one of the most popular of all greenhouse heaths, and deservedly so, for when at its best it is remarkably showy, and good examples always sell well. The fact of its being at its best during the winter months is a great point in its favour, and immense numbers of flowering plants are disposed of during the Christmas season. As with Erica gracilis some cultivators obtain flowers of a richer colour than others. This has led to the plants being at times regarded as distinct varieties, but this variation is now generally looked upon as caused by details of culture. There is one well-marked variety with pure white blossoms which afford a very pleasing change from those of the normal form. It is equally vigorous in growth and flowering examples can be purchased at about the same rate as the other. Strange as it may appear in the case of so popular a member of the heath family, there is, I believe, no record of the early history of Erica hyemalis, though it has been largely grown for the last fifty years or more. It is generally considered to be of garden origin, and the South African Erica Linnæana is by some looked upon as a probable parent. The white variety, alba, has also been grown for years, as it was given a first class certificate by the Royal Horticultural Society as long ago as January 10, 1882.

Another good heath is Erica melanthera, in which the blossoms are pinkish mauve, an uncommon tint. The specific name is derived from the blackish-coloured anthers which stand out very conspicuously against the lighter tinted background. It is of comparatively easy culture, and well-flowered examples are very pretty. A notable feature of this heath is the somewhat faint yet pleasing perfume of the blossoms.

While the above constitute what may be regarded as winter-flowering heaths, yet with the advent of the new year other kinds come in, and one of the most popular of these is Erica Wilmoreana, which, like E. hyemalis, is of garden origin.

W. T.



NEW SINGLE CHRYSANTHEMUM MERSTHAM JEWEL.
Flowers rich reddish bronze, with yellow zone round the disk.

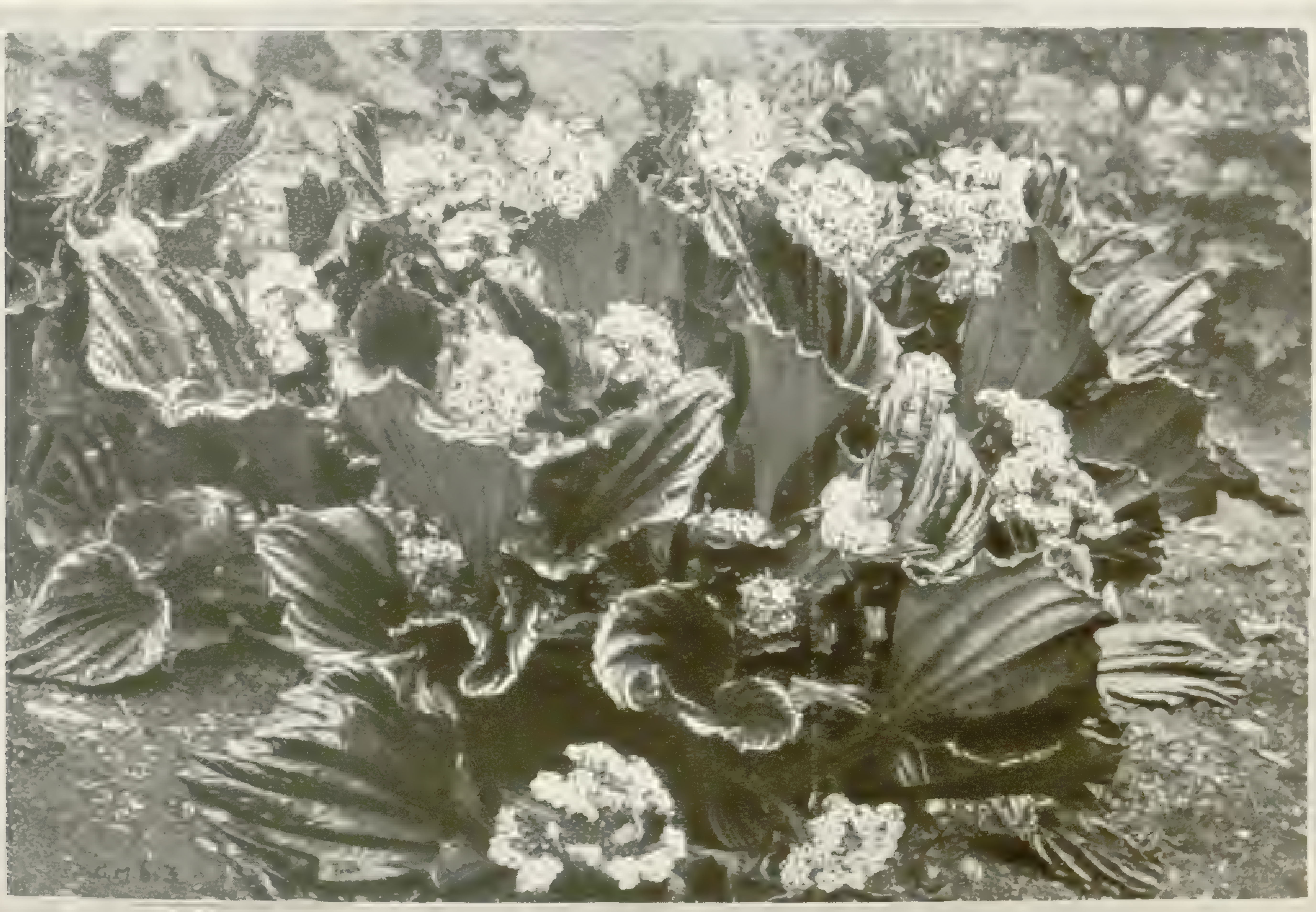
SINGLE CHRYSANTHEMUM MERSTHAM JEWEL.

Numerous new single chrysanthemums were placed before the flower-loving public during the autumn of 1908, and a considerable number secured recognition at the hands of the leading societies. Even among these latter there were several that did not meet with general approval, for, after all, so much depends upon the point of view. One variety, however, that did seem to please the great majority of chrysanthemum enthusiasts was the handsome Merstham Jewel, figured in the present issue. When disbudded this has very fine flowers, and when undisbudded the blooms are produced in beautiful sprays. Merstham Jewel continues to bloom over a long period, commencing in October and continuing well into December. Its colouring, rich reddish-bronze, with yellow zone round the disk, renders the flowers very effective. There is not the slightest doubt as to the popularity this variety will enjoy when it is distributed, for it is one of the best of many fine single varieties raised and sent out by Messrs. W. Wells and Co., Merstham. The variety has received the First Class Certificate of the National Chrysanthemum Society, and the Award of Merit of the Royal Horticultural Society.

MYOSOTIDIUM NOBILE.

The New Zealand forget-me-not, as it is called, is a native of Chatham Island. It was introduced in 1858, and was first described in the "Botanical Magazine" in 1859, but for many years was treated solely as a greenhouse plant, and the earlier illustrations of it were evidently prepared from poor specimens which had been grown under glass.

Mr. John D. Enys, of Enys, in Cornwall, whose charming garden has been well illustrated in these pages, was the first to bring seeds of the myosotidium from the Antipodes to that county, and to start its culture as an open-air plant. He distributed seed among his neighbours, and there are but few gardens in Cornwall at the present day where the plant is not grown. There is certainly no comparison between the relatively weak growth exhibited by pot plants and the robust vigour manifested by well-grown specimens in the open garden; these plants sometimes attain a height of three feet, and carry great glossy-green leaves suggestive of rhubarb. Leaves have been known to grow to a length of two feet and a breadth of eighteen inches. These splendid Cornish examples throw up numbers of branching bloom sprays, the flower heads measuring six inches or more in diameter, while the individual blossoms are about half an inch across. In the colour of the flowers there is considerable variation. In the best form they are of a uniform deep blue, but in others they are rich blue in the centre, fading to almost white at the edge of the flower. At Enys a pure white variety is also grown.



A FINELY-FLOWERED SPECIMEN OF MYOSOTIDIUM NOBILE IN A SOUTH DEVON GARDEN.

The leaves are bright glossy green, and the flowers light blue.

In its native island the myosotidium grows on the sea beach just above high-water mark, in the sand of the shore, where it must often be sprinkled with the wind-borne spray. There is at Enys a painting of the myosotidium growing in its native habitat, and fringing the beach at Chatham Island with a long line of deep blue. Unfortunately, according to Mr. Enys, the plant is now being rapidly exterminated by cattle and other agencies. The fact that in its home the plant grows in sea sand has led to the employment of this in a greater or lesser degree in preparing the ground for its reception. In some cases only a heavy mulch of sea sand is given over a compost of porous soil, but at Menabilly, where a large number of plants of myosotidium are present, that are unusually fine, they are grown entirely in sea sand. Large holes are dug out, a cart is sent down to the beach and filled with sand, and this is emptied into the holes, and the seedlings planted in it. At Menabilly the plants are grown immediately in front of high walls with varying exposures, but are not found to do so well where the wall faces due south as in sites not so exposed to the sun.

Mr. Enys used formerly to grow his plants under a wall facing south-west, but he has now made a plantation under a north wall, which has shown good growth, and flowered well last season. In 1907 Mr. Enys, at considerable trouble and expense, sent three large plants in full bloom, in tubs, to the Temple Show, where they created widespread interest among the visitors, who had never seen the plant before. The myosotidium seeds freely, and in some gardens the self-sown seedlings may be seen springing up in large numbers around the parent. Plants flower in three years from seed sowing, but deteriorate after a few years' flowering, and, when loss of vigour is apparent, they are removed, and seedlings planted in their place.

When in full growth the myosotidium is partial to an abundant water supply. The plants are generally in the zenith of their beauty in the month of May, when a large colony, carrying hundreds of great deep blue flower heads, is a wondrous sight. It is, unfortunately, only in the south-west that this plant can be treated as an open-air subject.

The accompanying illustration shows a plant growing in a South Devon garden close to the mouth of the river Dart. It is planted in a depth of three feet of sand obtained from the tidal portion of that river, which is, therefore, practically, sea sand. It was two feet six inches in height, and about three feet in breadth, while it carried over twenty flower heads, some of which were eight inches across.

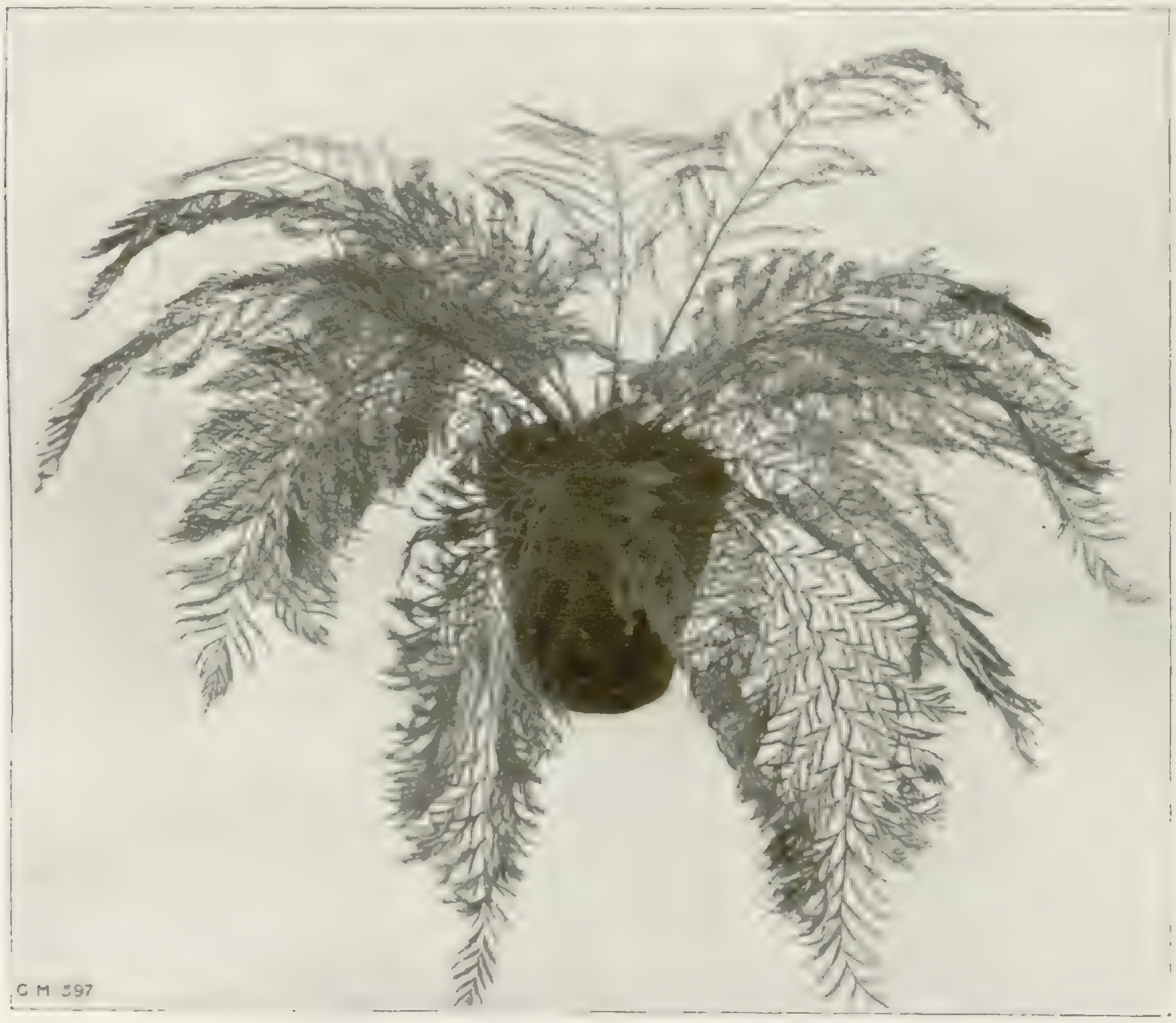
S. W. Fitzherbert.

PEARS IN WINTER.

Admitting everything which can be advanced in praise of apples, there is no gainsaying the fact that pears, and especially when of full average flavour, have a great value in winter time when the range of dessert fruit is so limited. Unfortunately, when the new year has extended but a short length, the supply of pears becomes extremely small; indeed, unless special precaution is taken in their gathering, and there is suitable storing convenience, there is sometimes a dearth, even on New Year's Day. There are a few varieties that are credited with a season extending from January to March or April, but our experience of March pears is by no means assuring. Much, however, depends on the soil in which trees are grown, and the convenience of the fruit room. Here these tend towards an early closing season.

With us the latest to supply the dessert and the most regular in bearing is Ne Plus Meuris. It cannot claim high merit in the matter of flavour, but the palate is scarcely so critical in January as it is in November, when there are so many good pears available. Bergamotte d'Esperen belongs to the higher flavoured section, and the fruit continues sound and of good quality into February. Grown in cordon form, and well attended to at the roots, this esteemed winter variety will attain to a good size and maintain a sound skin and flesh. In the open, except in favourable districts, such late varieties are not always a success. They require the influence of a sheltering wall to do them justice, and well they deserve it. Another variety which presumably has a useful future before it for late use is the Blickling, certificated in mid-January by the Fruit Committee of the R.H.S. Easter Beurre generally belies its name, for we have not as yet obtained edible fruit so late as Easter, and even if we had succeeded there is, in our opinion, such an insipid thinness of flesh and flavour that our estimate of the pear is a decidedly low one. Josephine de Malines is a much better pear. This again is credited with a long season not often realised. It is useful whenever it may ripen, the only fault we have to find is that it crops lightly, at least we find it so on walls, espaliers and as a bush in the open. President Barabe is a good thick-skinned late keeping pear, that should have every encouragement. Le Lectier, again, under skilful treatment, rewards its owner with luscious and handsome fruit for the winter season. This, like Josephine de Malines, gives us a light crop, but as yet trees of this new variety are not fully established, so that we hope it may be more productive in later years. Glou Morceau has a delicate constitution and needs careful nursing in order to obtain full-grown specimens and heavy crops. It may do better on some land, certainly our light soil does not seem its ideal. Nouvelle Fulvie has come into much favour, for, though it has no external beauty, it keeps late, and has a finely-grained sweet flesh. Beurre Perran and Beurre Dubuisson are others which are destined to good service in the new year. Beurre Rance and Chaumontel need a passing mention, but are not wholly dependable. Marie Benoist on a wall grows to a large size, and keeps late. W. Strugnell.

Rood Ashton Gardens.



POLYSTICHUM ACULEATUM PULCHERRIMUM DRUERYI.

SEA LAVENDERS.

There are among the Statices, or Sea Lavenders, many very good plants from almost every point of view, such as beauty of habit and of flower, hardiness, and ease of cultivation. All are not alike in these respects, however, and not only is it desirable to discuss their relative hardiness, but also to remark upon their variations in beauty. We do not find in the species which are hardy in our climate any with the magnificent beauty of some of the tender Sea Lavenders, nor even the variety afforded by the annuals; but we do find among them flowers of great beauty, indeed, and flowers which are not only ornamental for the garden, but useful to dry for winter decorations. Of those in commerce there are nine or ten which deserve our attention and should have some consideration, and these are so different in their sizes and aspects that a few notes of description will be of service to those who think of growing some of these pretty statices, either in the border or in the rock garden. Taking them in alphabetical order we first come to Statice bellidifolia, a very neat and pleasing little plant, the appearance of whose foliage is well described by the specific name of bellidifolia or daisy-leaved. It is of much the same form as that of the daisy, but is smoother and rather larger than that of our little wilding. The flowers, which are on a small raceme, are, like those of the statices as a whole, individually small, but the effect of the number of little blue blossoms developed together makes this a pleasing little plant for the rockery or the front of the border. As it is only about six inches high, the former is the best place for its accommodation. Following this we may refer to

Statice caspica, a new species not as yet well proved in gardens, but which will likely be hardy except in places where the winters are wet. It, also, is only about six inches high, and its blue flowers, raised on little slender stems above the rather spathulate leaves, make it a pretty rock garden plant.

Statice eximea has not proved so hardy with me as I should desire, but in warm districts it should be grown either on the rockery or near the front of the border in warm, dry soils. It is about nine inches high, and has flowers which may be described as of a warm pink.

Statice Gmelini.—This may be classed as among the few hardy species which are good border plants, although not nearly so plentiful as its rival in this respect, S. latifolia. It is about the same height, reaching to some two-and-a-half feet, and giving numbers of blue flowers, lighter than those of S. latifolia, in good racemes. It is a little brittle, and in exposed places it is well to tie the stems to sticks lest they be broken off by the wind.

Statice incana.—"Pretty" may be the term applied to S. incana, as, although it is so, there are others with more pretensions to beauty. It grows fully nine inches high, and has heads made up of many flowers which are pink and white. An easy one to grow in light soils, S. incana, like others of the race, dislikes much moisture at the roots or above.

Statice latifolia is always, and justly, considered one of our best border plants, while its value for cutting is generally recognised. It often figures in show stands, and is therefore of some account when well grown. Its nominal height is two feet and a-half, but it varies a little according to soil. With large, broad leaves, and fine racemes of deep blue flowers, it is one of the most ornamental border flowers we can have. It can stand a stronger soil than the majority, and is in such correspondingly vigorous.

Statice Limonium.—This, the common Sea Lavender, is not so plentiful in a wild state in these islands as to deserve exclusion from the garden. It has rather dense heads of bluish-purple flowers. There is also a white variety, but I do not recollect having met with this in cultivation. A good species, it grows about a foot and a-half high.

Statice minuta either varies or is wrongly described or misnamed in gardens. It is said to be pale red, but, as I know it, S. minuta has bluish flowers. I have know it for a good many years, and have had it in cultivation in my garden, and I have never come across any variety with red flowers. It is a dainty little rockwork plant, only three or four inches high, and a pretty little thing indeed.

Statice speciosa.—This is said by some to be hardy, but my short experience of the plant goes to confirm the statements of the works of reference—that it is half-hardy only. As it will, however, live in certain favoured parts of England and Ireland, may be mentioned, especially as it is commerce, and as its pretty, close hea of white flowers are distinct in their from most of the other flowers of the given by outdoor perennials.

Statice tartarica.—The last I shall name at present is one whose pink flowers render it acceptable to the grower. It is also of moderate growth, and does not always attain to the height of a foot and a-half, that given in the books. There are species with finer individual flowers, but it is one which is good enough for any border or large rockery.

Cultivation.—These Sea Lavenders like, as a rule, rather good, but light soil, and in the moister parts of the country they require a lighter soil than in drier places. They are propagated by seeds or division, the former being an excellent way of raising a stock, although the number of infertile seeds is large. S. Arnott

REMARKABLE SHIELD FERNS

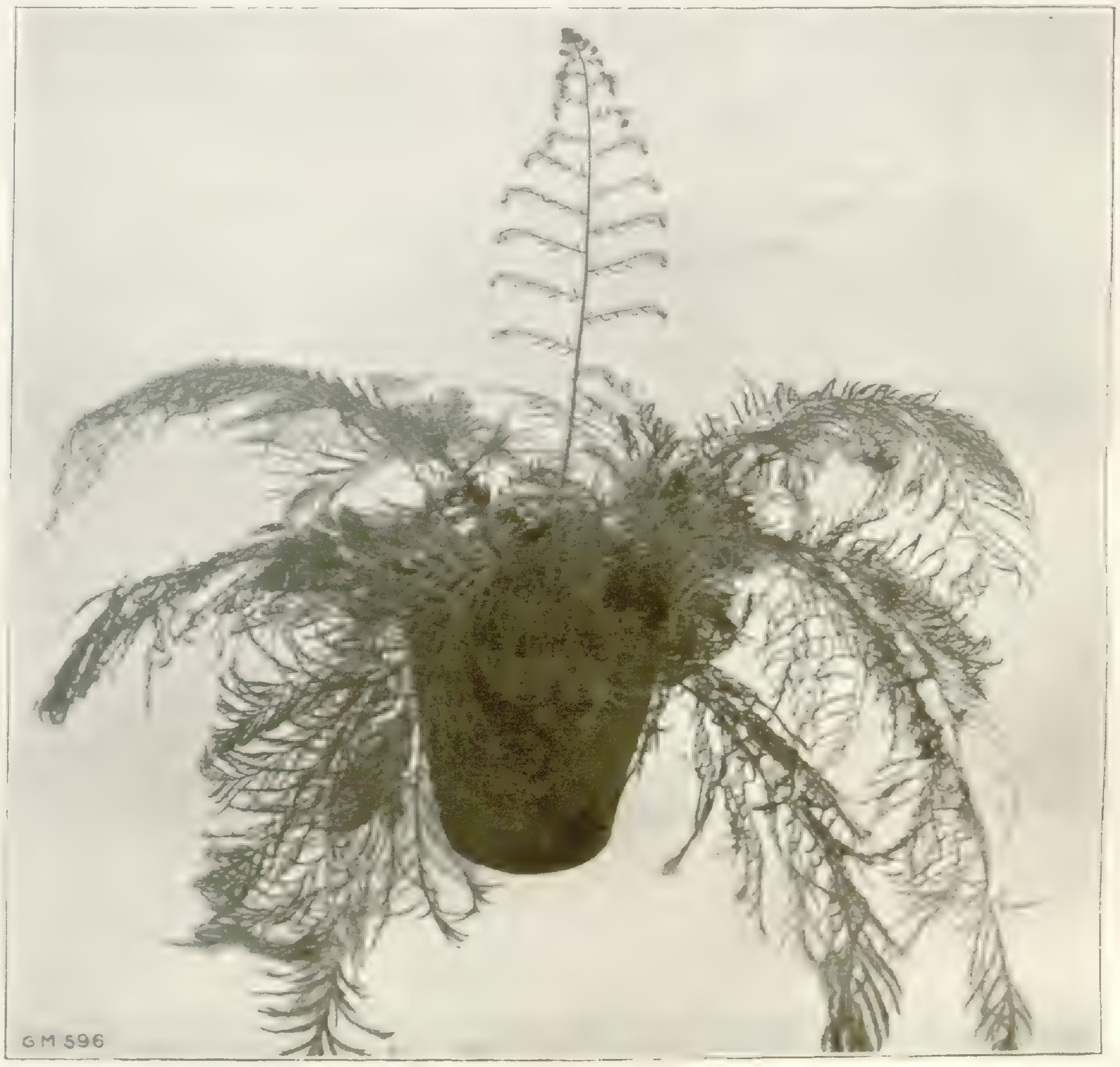
The Shield ferns, or Polystichums, of which there are three species indigenous to Great Britain, have yielded a very large number of wild sports, some of great beauty and others simply curious. By selective cultivation through the spores the typical forms of variation have, in some cases, been greatly enhanced, especially the decomposite or extra-divided section, the result being a number of most charmingly dense and mossy fronded ferns, which rival even Todea superba, the New Zealand Ostrich fern, in delicate dissection and exuberant growth. It is a curious fact that some of the best of these arose from spores of a merely tripinnate find of no marked promise, and thus gave the raisers, Colonel Jones and Dr. Fox, a very great and pleasant surprise, a batch of plumy gems arising from the first sowing.

A similarly unexpected and gratifying instance of very marked advance in fern seedlings it is the object of this note to chronicle, especially as, in some respects, the case is unique. The accompanying illustrations represent two sister plants; that is, two plants arising from the same sowing and from the same parent. One is named Polystichum aculeatum plucherrimum Drueryi, and is distinguished by a most extraordinary attenuation and lengthening of the sub-divisions, which, in many cases, are six times as long as those of the parental form, imparting a peculiarly graceful aspect and habit to the fern. This plant, it will be seen, completes its growth by further sub-division near the tips, giving a fringe-like appearance. This fern was recently awarded a first class certificate by the Royal Horticultural Society. Subsequently, another seedling of the same batch went a decided step further as regards fineness of cutting, and this is seen in P. ac. gracillimum Drueryi, while several others of the same batch of seedlings are on very similar lines.

One peculiarity in this case is that the parent plant had been reputedly barren for nearly forty years, since it was first discovered in Dorset. It is a beautifully made variety, particularly characterised by an inward overlapping of the side divisions near the slender, tapering frond tip, which gives a faint indication of the gracile character developed so largely in some of its offspring. Although of robust habit, it appeared incapable of producing spores, but being liberal in lateral offsets, it had become widely distributed in collections worthy of the name. The writer was given an offset many years ago by Mr. S. B. Wollaston, of Chiselhurst, one of our pioneers in the British fern cult, and some years since gave in his turn an offset to his neighbour, Mr. C. B. Green, who treated it so well that it grew to an immense size, and four or five years ago yielded a few spores, distributed in isolated capsules, and only distinguishable as such by a lens. These, however, were sufficient to yield in Mr. Green's hands and the writer's something like a hundred plants, which, in their infant stage, were hailed with satisfaction as forming a stock of the still rare variety. As these developed, however, in both batches, extra slender fronds began to appear, and these being separated, the result was at least a score of new varieties of the charming type figured, the beauty of which increases more and more as the plants increase in size.

The rest of the batch were mostly exact replicas of the parent form, but amongst these were two or three almost identical, not with P. aculeatum at all, but with normal P. angulare, the soft Shield fern, a distinct, but closely allied species. The advent of these beautiful varieties starts a new section, but whether it will permit of further development by bearing spores in its turn is a little doubtful, as fronds of this attenuate type are generally barren.

Chas. T. Druery, V.M.H., F.L.S.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POLYSTICHUM ACULEATUM GRACILLIMUM DRUERYI.

WINTER-FLOWERING CARNATIONS.

A great fillip has been given to these plants during late years, since a special society has been formed to further extend their dominion, enhance their beauty, and thereby augment their utility. And well, indeed, do they deserve this attention, for a plant that will flower from September to May is by no means to be despised, and especially when they are of such brilliance, beauty, and (ofttimes) fragrance.

It is often assumed that there is some deep mystery in successful carnation culture. This is altogether erroneous. By constant attention and due observation, the culture of the carnation becomes quite as easy as the majority of plants. Cuttings of the tree carnations, which include the American varieties, should be taken as early in the year as possible. Choose clean side growths a few inches in length, and insert them singly in two-inch pots. If this cannot conveniently be done, a few round the sides of a three-inch pot will root as quickly, but suffer a check when potted into single pots. The soil for the cuttings may be composed of good yellow loam, leaf-soil, cocoanut-fibre refuse, and coarse sand. All these should be passed through a quarter-inch sieve, the proportion being two parts of loam, two parts of leaf soil, and one each of cocoanut-fibre refuse and sand.

A fairly strong bottom heat is desirable, coupled with the close, moist atmosphere of a propagating frame. After inserting the cuttings, water them well, and leave them to drain. This being done, plunge them pot deep in cocoanut-fibre refuse, which is for such a purpose the best plunging material we have. Cover the frame with sheets of glass, which should be removed and wiped three times a day, or turned as many times. In a fortnight or three weeks' time rooting may be expected to have taken place, and some of those showing greater promise may be carefully turned out. In the case of those dibbled singly into small pots, as soon as a rootlet is visible, the young plant may be removed from the case and put into a similar one situated on the staging of the house, but void of direct bottom heat. Wait until the roots of those inserted round the side of a pot are nearly an inch long before removal. After a few days' stay in this cool frame the young plants may safely be set on the open staging, and sprayed with clear soft water twice a day. Some varieties take a considerable time to root, but much depends on the vigour of the cutting, the uniformity of the heat, and the humidity of the atmosphere.

When the small pots are nicely filled with roots the first shift may be contemplated. This will be into a three-inch pot. Let both pots and crocks be quite clean. The following compost will be found suitable: good yellow loam four parts, sifted leaf-soil two parts, brickdust one part, coarse sand one part, some charcoal and the merest dusting of artificial manure. Turn it well over four to six times. To be in an ideal condition it should, when squeezed in the hand, be just sufficiently moist to hang together.

If the desire is to give carnations special treatment soil should be bought specially for them. This may be procured from many parts, but chiefly from Surrey. Almost any nurseryman will supply it. It may be dear at first cost, but it renders the culture of these beautiful plants less precarious. Leaf-soil made solely from oak leaves would improve the compost.

Careful watering and frequent overhead syringings will now form the chief item of culture. The temperature now needed will be of an intermediate character—about 55 degrees, which after a few weeks may be lowered to 50 degrees. In due course the soil will have become permeated with roots and a further shift will be contemplated. This will be into six-inch pots, unless the flowering size is to be eight inches, in which case the shift should now be into five-inch pots. At this potting the soil should be somewhat stronger. Good yellow loam should again form the base, six parts being used to three parts of leaf-soil, two parts mushroom manure, one part of mortar rubble, brick-dust and sand in equal proportions, and a sprinkling each of crushed oyster shell, bone meal, and charcoal, with one three-inch potful of artificial manure to every two bushels of soil. When thoroughly blended this should form an ideal compost.

At this stage the plants may be transferred to a cold frame and be carefully ventilated for some time. The syringing should still be carried on in fine weather, and the plants carefully watered. As the summer approaches, the ventilation may be increased, and eventually the plants may be stood on a moist bed of ashes or gravel outside, shelter from heavy rains being provided by a light frame-work for supporting lights or tarpaulin. This covering should only be put on as necessity arises.

Stakes about three feet long may be inserted, and the shoots duly tied to them. One central stake should be sufficient if the growths are attended to in good time.

With the increase of fine weather the syringe should be kept at full work. To add further to the moisture let the surrounding ground be well sprinkled morning and afternoon. Liquid manure water also will be needed, and should be given for two consecutive days. Then allow three days to elapse and feed for two days with soot water, followed by three more days of clear water. In this way every plant will receive a share of the stimulant, which would not be the case if the feeding were done only on alternate days. A fortnightly top-dressing with some good carnation manure will also produce beneficial results if only about a teaspoonful be given at a time.

About the beginning of September the plants should be housed in a temperature hovering about 50 degrees by night. Syringing will now be abandoned and careful watch will be needed for earwigs, which eat the blooms and bring about their speedy decay. No hard and fast rule can be laid down for stopping tree carnations because the varieties differ greatly, but it is usually a safe plan to top them when approaching six inches in height and again towards June. After the middle of June no further stopping should be done.

Excellent varieties are Enchantress, and its rose-pink form, Mrs. Lawson, Mrs. H. Burnett, White Perfection, Crusader, Winsor, Octoroon, Britannia, Alice Roosevelt, President, Lord C. Beresford, Mikado, Robert Craig, Miranda, Prosperity, Aristocrat, and Marmion.

William F. Rowles.

Bury St. Edmunds.

ATTRACTIVE SHRUBS WITH COLOURED STEMS.

During the winter months we can fully appreciate anything that adds an air of brightness to the garden, a period when the prevailing hue is somewhat sombre. At other periods of the year, when showy flowers and foliage attract in every nook and corner, many things are apt to be overlooked, but in winter anything that adds a touch of colour seldom fails to attract attention. At this season those trees and shrubs which possess bright-coloured bark are specially noticeable, and a note should be made of the most suitable subjects for future planting.

Shrubs with brightly-coloured stems are very effective planted in groups, with a groundwork of some spring-flowering plant such as winter aconite, snowdrop, chionodoxa, or scilla. All these things are very appropriate for carpeting, as the leaves die early, and have disappeared before the shrubs are in leaf. Associated with water, the bright-coloured stems of willow or cornus are peculiarly attractive, the colour on bright days being reflected in the water. As groups in shrubberies they serve to add a note of brightness and warmth, whilst the same may be said of them when used for specimen beds. The majority are free growing, and the colour is usually best when growth is young and vigorous; in fact, it pays to cut some shrubs down to the ground each year to obtain good, free-grown shoots. The colours most noticeable amongst shrubs are red, brown, yellow, and white.

The willows and dogwoods produce the brightest reds. Of the former the red-barked variety of Salix alba vitellina, and a form of S. purpurea, are the best. They should be planted near water, and be cut hard back annually, about the middle of March. Amongst the dogwoods Cornus alba and its varieties, and C. stolonifera are conspicuous. In the case of the former the best to plant are C. alba sibirica variegata and Spathi, as the former has silver variegated leaves and the latter foliage with golden variegation, which makes them beautiful alike in summer when in leaf, and in winter when bare. Other red-barked shrubs are Rubus cratægifolius, Rosa alpina, and Berberis virescens.

Browns are conspicuous in the genus Philadelphus, the dwarf P. Lemoinei being very rich in colour. All are, however, bright. The spiræas are rich in browns, as also are the neillias, stephanandras, Berberis vulgaris, Ribes sanguineum, Rubus spectabilis, Forsythia suspensa, and the various sorts of corylus.

Salix alba vitellina is the best yellow, the bark being richly coloured; a yellow-barked form of S. babylonica also exists, whilst various other willows have bark of a yellowish hue. Amongst cornuses there is a variety of C. stolonifera, called flaviramea, whose chief peculiarity lies in its golden branches.

Amongst white-coloured stems various species of rubus are very conspicuous. By far the most ornamental is R. biflorus. This is strong growing, attaining a height of eight or nine feet. The bark is quite white, and it has been given the name of White-Washed Bramble. The most satisfactory results are obtained by planting it in rich soil, and removing the old growths each year as soon as young ones are a foot or so high. Other brambles with whitish stems are R. lasiostylus, R. neglectus, and R. leucodermis. Bright greens also may be included amongst ornamental stemmed shrubs. The brooms are the most important plants, but Leycesteria formosa, cut down annually, forms strong shoots of a bright green hue.

Some trees are, of course, conspicuous, the birches being the most ornamental. The common Silver Birch, Betula alba, forms a striking object amongst other trees, whilst several other species are attractive.

W. D.

GOOSEBERRIES.

Of all our hardy small fruits none is so useful as the gooseberry, for from early in the season until the leaves are falling in the autumn fruit from these is procurable either in a green state or ripe. When we have a mild spring fruit of some of the earliest kinds is ready for use by the middle of May, and from then onward to October it may be had in good condition. The varieties are too numerous to enumerate. Some nurserymen catalogue as many as one hundred and fifty, but there is a great sameness in many of them, so that the number might be considerably cut down to advantage. No private place requires so many. If a selection of a few of the best of each colour were made, the rest could be dispensed with, taking care to have some both early and late of each.

Gooseberries are grown very well in some districts, every care being taken with them, so that very fine fruit is produced. Especially is this so where amateurs take up their cultivation, as they spare neither trouble nor expense to bring the fruit to the highest state of perfection. When visiting some of their shows the size of the fruit has astonished one, also the colour and quality. It has been no easy task to select the best with three or four dozen dishes, all of the finest quality. It is not, however, as an exhibition fruit that I wish to draw the attention of your readers to the gooseberry, for though some employers take a great interest in their gardens, and find a pleasure in allowing their gardeners to exhibit, there are others who do not care for them to do so, simply keeping their gardens for their own use. As the majority of places are conducted on these lines, it should be the gardener's aim to grow everything to the best of his ability. In the gooseberry we have not only something to supply the kitchen at a time of the year when there is a great scarcity of fresh fruits, but for two or three months some of the varieties provide excellent fruit for the dessert. The green fruit may be bottled, and so preserved for use during winter, as if fresh gathered when ripe it can be made into jam, or otherwise preserved. This being the case, an ample supply should be grown in all gardens where there is likely to be a demand for such fruits.

It is, however, the cultivation, and not the preservation of the fruit that gardeners have to study. Though gooseberries have been grown in our gardens from a very early date, there has been many improved varieties introduced of late years, so that at the present time we have varieties of most excellent flavour when well grown and fully ripe. In order to prolong the season of usefulness those intended to carry fruit till late in the season should be planted against the north side of a wall, and if these are trained in the cordon fashion a greater variety can be grown. The shoots should be taken up diagonally, that the fruit, when ripe, may hang clear of the wood, and may the more readily dry after a shower.

Gooseberries, as everyone knows, are readily propagated by cuttings, so that there is no difficulty in keeping up a supply of young trees of the desired kinds, and when they are required for planting against walls they can be trained for that purpose when young, and so taken up to fill a vacant space should a tree die. As the finest fruit is produced from young trees a good supply of these should always be in reserve, that a piece may be planted each year so as to maintain a good supply of the finest quality. Gooseberries do well as espaliers; the wires should be about six inches apart, and

BEST PLANTS FOR GREENHOUSE.—Nearly 300 pages are devoted to the description, propagation, and culture of the best flowers and plants for the greenhouse in The Amateur's Greenhouse, by T. W. Sanders, price 5s. net, or by post 5s. 6d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

shoots trained horizontally that the fruit may hang clear. The trees can easily be covered with netting to preserve the fruit from the birds, which, in some places, are far too numerous. When grown in this manner the fruit is much finer than that from old bushes, as ample light and air is admitted. There being but little foliage to shade the fruit a better flavour is obtained, and with more liberal treatment it attains a much larger size.

If exhibition specimens are required all the smaller fruits may be removed early in the season; these will be useful for cooking, so that no waste need be made. Gooseberries, though suitable to any soil, will give far finer results if liberally treated, and very fine fruit indeed may be produced by removing the young shoots, that is, shortening them in the same way as is the case with pears, etc., on walls; and when grown specially for dessert, this plan should be adopted, as the fruits attain a larger size, and, being more exposed to the light, are better flavoured. This is particularly so with those that are required to hang until late in the season. H. C. Prinsep.

Buxted Park Gardens.

CYPRIPEDIUM ANTINOUS.

To the making of new cypripediums there seems to be no end. The merest tyro in orchid culture nowadays raises seedling cypripediums, and, unless the results are absolutely bad, he exhibits the seedlings under various names. All this proves the usefulness and popularity of cypripediums, and also speaks well for their easy culture. But all too often these seedlings are neither really distinct nor any advance upon those already well known, consequently the new name goes to extend the already bulky list, and helps to create confusion. It is another case of believing one's geese to be swans. One thing necessary seems to be the early compilation of lists of too-much-alike varieties. There is, however, always room for a really first class plant, especially in the fast-extending group of winter-flowering cypripediums. One excellent addition is C. Antinous, herewith figured, recently shown by Mr. H. G. Alexander, orchid grower to Lieut.-Colonel G. L. Holford, Westonbirt, Gloucester. This secured a First Class Certificate from the Orchid Committee of the Royal Horticultural Society on December 22 last.

The parents of C. Antinous are Cypripedium J. Howe (or Howes), and C. Actæus. The first-named is itself the result of crossing C. Sallieri with C. villosum aureum, and C. Sallieri is derived from C. insigne and C. villosum. On the other hand, C. Actæus was raised by crossing C. insigne Sanderæ with C. Leeanum superbum, and the latter again was the result of crossing C. insigne Maulei with C. Spicerianum. Here is the parentage set out:

		Sallieri	insigne
		×	×
Antinous	J.Howe	villosum aureum	villosum
	×		
	Actæus	insigne Sanderæ	
		×	insigne Maulei
		Leeanum superbum	×
			Spicerianum

The dorsal sepal of C. Antinous is white, with a green base, and purple spots over the lower half. Both lip and petals are bright greenish yellow, and the whole flower is very attractive and bold.

C.

Everyone interested in a garden should obtain a copy of the Alphabet of Gardening, by T. W. Sanders. Thoroughly practical information is given as [illegible] seed sowing, planting, potting, budding, grafting, forcing, hybridising, etc., with explanatory diagrams. Price 1s. 6d. net, by post 1s. 9d.; cloth, 2s., by post 2s. 3d., from W. H. & L. Collingridge, 148 and 149, Aldersgate Street,

WORK FOR THE WEEK.

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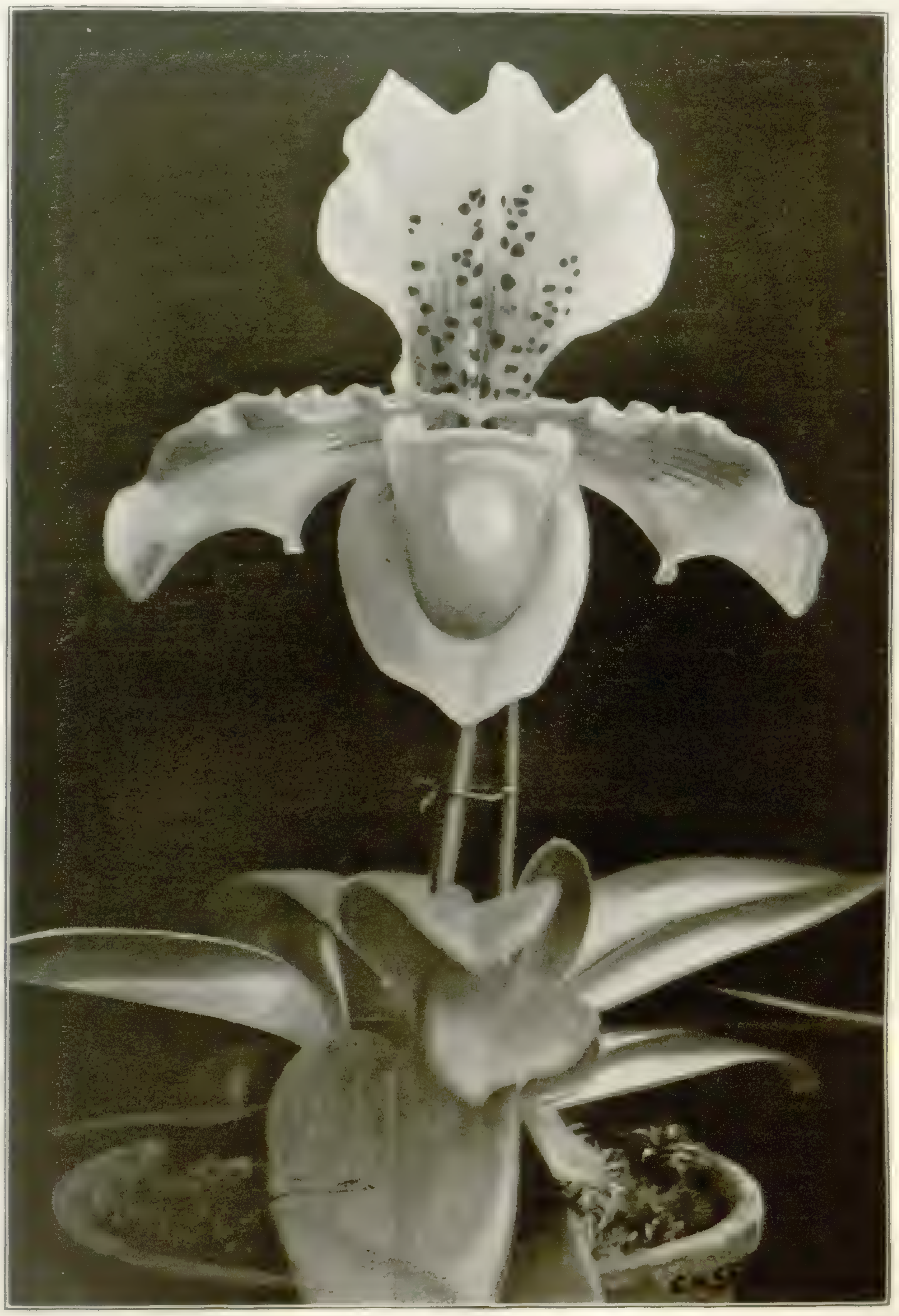
THE ORCHID HOUSES.

GENERAL REMARKS.—The exceedingly changeable weather during the past three or four weeks has, more or less, limited the general work in the orchid houses. Opportunity should now be taken to attend to any cleaning that may be necessary. With the strong gales that have been accompanying the cold weather in the North, a more than ordinary amount of artificial heat has been required, even to maintain the minimum temperature in each division, and this, with the drier atmosphere created, has a tendency to promote red spider. Close observation is therefore necessary, and when the pest is found steps must at once be taken to check it. There is no better method of preventing the spread of red spider than carefully spraying the leaves. Small yellow thrips are perhaps the worst pests the orchid-grower has to contend with, especially those which attack cypripediums. I never hesitate to dip the plants at any season of the year when thrips have been observed. Where plants have to be dealt with that have become so infested that the foliage is disfigured, the best method is to dip at intervals of a week for about a month, and then fortnightly until one is satisfied the plants are free from the pests. Prevention is better than cure, and we find it advisable to spray the plants once or twice a month in all the warm divisions, choosing a day when the outside conditions are favourable for the purpose.

PREPARATORY WORK. — During the delay caused by the unfavourable outside conditions, preparations should be made to facilitate the various operations that will soon have to be performed. A supply of sphagnum moss should be secured, carefully picked, washed, and put ready for use. If stored in a cool, damp place and turned over once or twice a week, it keeps in good condition for a long time. Peat should also be pulled to pieces. We usually have sufficient pulled now to last through the potting season. The bracken roots taken from the peat should be preserved, for there is nothing more serviceable for drainage purposes for practically all kinds of orchids. Care must be taken to have these roots properly dried. If there is the least trace of green, woody, or sappy substance remaining in them when used for drainage, fungoid growth appears, which quickly spreads to the potting compost and produces undesirable conditions. Loam, which is desirable for many of the terrestrial species of orchids, should also be selected and made ready; good fibrous turfy loam, with the fine soil removed, is the best for the purpose, and this should be stored in a place where it may become warmed and ready for use. Care must be observed to see that the loam, after being picked, does not become too dry.—H. J. Chapman, Oakwood Gardens.



CYPRIPEDIUM ANTINOUS.
Flowers white and purple and greenish yellow.

CONSERVATORY AND GREENHOUSE.

CONSERVATORY.—Continue to keep the conservatory bright by bringing in the forced plants as they come into bloom, and even if it is not necessary each week to turn everything out and put fresh plants in, it must be borne in mind that a good picking over does a deal of good, and if at the same time the plants are given a turn round it will tend to keep them in good shape, and where the glass is only on one side this turning operation will bring the best side of the plant forward.

MALMAISON CARNATIONS. — Where these have not been shifted into their flowering pots the work should be done at once, though preferably they ought to be potted before Christmas, but it not delayed later than the first or second week in February they will still have time to make good roots before commencing to grow freely. They should be potted in an open compost of loam, leaf-soil, and sand, with a good quality of lime rubble added, and a little bonemeal will be beneficial. Where the soil is very heavy, or is likely to contain many wireworms or other injurious insects, it is as well to sterilise it some time before use. If the plants are attacked by rust they ought to be well picked over, removing all badly infested parts and burning them, then dipping the plants in a solution of sulphide of potassium or some other approved fungicide. The potting should be done firmly, keeping the collar of the plant fairly well out of the soil, because in some localities Malmaisons are troubled with stem rot. They should then be placed in a house where they can have all the light and air possible, and be watered with the greatest care.

WINTER-BLOOMING CARNATIONS will now be growing somewhat freely, and if good flowers are wanted right through the spring a general overhauling will be advisable, cutting back all flower stems to where a growth is pushing forward, and at the same time tying in all young shoots, afterwards giving all the plants a slight top-dressing of soil with a little approved carnation manure added.

BEGONIAS AND GLOXINIAS.—Where an early batch of these is required they should be started at once. All old soil should be shaken from the tubers. I prefer to place them in boxes, an inch or two apart, with barely sufficient leaf-soil or some other light compost to cover them, placing the boxes in a warm house until growth commences. As soon as root action is fairly free they should be lifted from the boxes with as much of the soil adhering to them as possible, and be potted at once into their flowering pots, using a compost somewhat lighter than would be used for later batches. Where greenhouse room is somewhat limited I have found a shelf in a warm vinery a very good place for forwarding them, but they should not stop there too long, as a somewhat drier atmosphere is necessary, particularly in the case of the begonias.

AMARYLLIS.—Batches of these showy and easily-grown bulbous plants may now be introduced into heat as required, and where possible they should be plunged to the rim in a mild hotbed of leaves, after they have been top-dressed with loam, sand, and bonemeal. They will require a thorough soaking of water either just before or just after plunging, and then very little will be needed for some time, a morning and afternoon syringing providing the necessary moisture.—THOMAS STEVENSON, Woburn Place Gardens.

THE FLOWER GARDEN.

HERBACEOUS BORDERS. — No garden of any importance is considered to be complete in these days unless it devotes some considerable space to the cultivation of herbaceous plants, and unquestionably when these are effectively planted they are not only extremely beautiful through the spring, summer, autumn, and a good part of the winter, but they also supply a wealth of material that is far better for cutting than that of many of the more tender plants. The mistake very many people make, and especially where room is of little consideration, is that they do not allow sufficient space when setting out the permanent borders, the result being a crowded and entangled mass, without any pleasing effect. In arranging for new borders one should take fully into consideration the height and sizes of the various subjects which one intends to employ, and the larger the masses or groups within reason of each kind or variety the better. Every care should be taken to arrange the colours of the various subjects so that they harmonise, and at the same time endeavour to spread over the borders as far as possible plants that will flower at various seasons of the year. As many of the stronger-growing plants are very deep-rooting, the ground should be thoroughly trenched and manured as the work proceeds.

RENOVATING BORDERS.—To keep old borders in good order they must be given attention annually at this season of the year, and frequently extreme measures have to be taken, by dividing and checking the growth of many of the more robust kinds, or the result would be that many of the more choice and delicate subjects would soon become overgrown and crowded out. Fork over the border with a small fork, and give a good top-dressing of well-decayed old hot-bed material. It is most important that the plants be kept correctly labelled, no small trouble where large collections are grown, but it is almost impossible, however well versed one may be in this large and rapidly-increasing department, to be able to ensure their correct nomenclature without labels. There are very many kinds of labels now in use, and, though in my opinion there is plenty of room for improvement, I have found none more effective and cheap than those made of zinc. The chief difficulty is that the writing only remains legible for twelve months. I have been trying, with a certain amount of success, white paint on these, and then applying a coat of varnish, which so far seems to answer well.

ROCK PLANTS.—These should be carefully looked over, and the same thing applies here as to herbaceous plants in relation to keeping within bounds the stronger-growing kind, while every encouragement should be given to those of weaker constitution by affording them the best possible sites and a good top-dressing. — E. BECKETT, Aldenham House Gardens.

FRUITS UNDER GLASS.

EARLY VINES.—Where these are breaking, and are seen to be breaking regularly, they should be at once tied up into position. The temperature may be raised to 60 degrees at this stage, allowing it to run up to 70 degrees by sunheat. See that the border does not lack water, and have it syringed twice daily. All vines at rest should be kept absolutely cool, and heat should not be turned on during house washing, as a day or two of heat may cause the sap to rise and so start bleeding. All houses should be thoroughly cleaned, as previously advised.

FRUIT TREES IN POTS.—These should be kept outside until wanted for forcing, but in the case of plums a sharp look-out for birds will be necessary, unless there is wire protection. When the trees are required they should be thoroughly cleansed, have the pots washed, labels rewritten, the surface soil removed to the roots, and given a good top-dressing of rich maiden loam which has been stacked a year; this, mixed with some bonemeal, will satisfy the trees for the time being. If any tree is thought to be very dry it should be placed in a tub of water. Pot trees require great care in watering, especially in the early stages of growth; therefore, perfect drainage is absolutely necessary. Pot trees have been in great demand during recent years, as they can be grown in a house or houses for a few months, and be then turned outside to finish their crop, and the house devoted to other purposes

FIGS IN POTS AND PERMANENT BORDERS should now receive the pruning necessary, which means cutting out all gross or unripened or unfruitful wood. If the border is too rich this will cause unfruitful growth, and this can only be remedied by curtailing the food supply. Clean the house and trees, and have the ventilating gear and valves oiled and cleaned. Proceed then and tie in the growths with small string, keeping them straight, quite six inches apart. When the trees are finished give the floors a final clean, and you have the house ready for starting.

STRAWBERRIES.—Keep the fruiting plants near the glass, especially those showing the flower stems, and do not force overmuch; a temperature of 55 degrees will be quite high enough to bring them along with success. Another batch may now be put under cover. Remove away all loose soil and decayed leaves, and give a top-dressing if necessary. Only bring in as many as can be readily dealt with. Royal Sovereign and Laxton's Noble are two good varieties for early use. A temperature of 45 to 50 degrees will be enough for the first fortnight. Stored plants should have the lights removed on all mild days, where these have been the means of protection.

PEACH HOUSES.—In the early house proceed carefully with artificial heat at this stage, keeping the temperature as near 50 degrees as possible. The trees will perhaps be longer in flower, but they gather strength thus, which means a good set, and they can be forced harder after this stage. Admit a little air to the house on all fine days, and close with a general spraying down of the floors, etc. The late houses must be cleansed and the trees pruned and dealt with as already recommended for the early house. Retain as much small fruiting wood as possible, and cut out the old and useless. do not tie the branches closely together, but allow for proper development of the foliage. —W. A. COOK, Leonardslee Gardens.

URCEOLINA PENDULA.

This is called the Urn Flower, because of the shape of the blooms, that are of a bright yellow colour, and hang around the top of the flower stems like the lustre ornaments which used to be considered indispensable in many households. Urceolina pendula is a bulbous stove plant, and deciduous when at rest. With good treatment it is strong growing, and makes very large bulbs, and the great art in making the plant attractive is to cultivate as many bulbs as possible in one pot.

Sometimes the urceolina is spoken of disparagingly because, we will say, there is only one spike of flower in a six or seven-inch pot; but to see this subject in all its glory it must be cultivated in large pots, twelve or fourteen inches, with as many bulbs in as possible. The result is twelve or eighteen spikes of flowers, which cheer us in October, November, or December.

The bulbs should be separated in March or April, the compost suiting them being a rich mixture of good yellow loam, leaf-mould, and very rotten stable manure, with plenty of silver sand. After flowering, the pots should be turned on their side on a shelf in a warm position in the stove or similar place, and the soil be kept quite dry until the bulbs show sign of growth from the apex. When growth is half an inch long the plants should be dealt with according to requirements, either separated or left for another season in the same pot.

They are soon in active growth, and require a good light position, with plenty of warmth and moisture, until, towards autumn, the foliage shows signs of dying down, when a very small quantity of water will suffice. A few weeks after the foliage has died away the flower spikes begin to appear, and then a very careful watch must be kept for snails, as these marauders will level the spikes as fast as they appear from the bulbs if allowed a free run.

Cheshire. W. M

RED OR GRIZZLY GRAPES.

To my astonishment, Mr. Editor, no one, thus far, has had the temerity to dispute the autocratic reply from Mr. Molyneux to Mr. C. H. Curtis's well-timed and practical article under this heading (see "G. M.," October 24, 1908, p. 796). Worth growing? Of course they are, and well worthy of it too, is the answer of one who has had practical proof of their value. Mr. Curtis was quite right, Mr. Molyneux, when he penned his article on "Red or Grizzly Grapes." Why, in the name of common sense, is it so imperative that grapes should be either black or white? There are no black or white grapes that can surpass, and very few to equal, the Grizzly Frontignan, the Duchess of Buccleuch, or the Muscat Champion for rich, piquant flavour. True, they may not be what are termed "exhibition" grapes, neither do they appeal to the public who are not conversant with actual quality, as against size and appearance. With the rage for the big chrysanthemum, the big onion, the big pear, and the big apple has come the rage for big grapes, as represented by big and sometimes unwieldy bunches, and by big berries too.

Is Mr. Molyneux aware of the fact that big bunches are wasteful from the point of utility? Or, again, of the fact that many connoisseurs of fruits, grapes, of course, included, do not care for big examples of any kind? Or that big-berried grapes, such as Gros Colmar and Gros Maroc, are passed by for the smaller and more luscious grapes, such as Grizzly Frontignan and the others already named? From the point of mere colour alone, where should we be if we relied upon such worthless apples as Worcester Pearmain for the dessert? All it has to recommend it is its colour and its cropping qualities sometimes, hence it is what may be termed a market apple, and a market apple only. This is only quoted to illustrate that appearance and cropping qualities must not be placed before quality for the dessert.

Since I read Mr. Molyneux's reply on this subject, and that, too, given in such an emphatic manner, I have turned up "Thompson's Book on the Vine" (the author wrote from the gardener's standpoint, and placed quality in the front rank, knowing from practical experience, covering many years, that it was the correct thing to do), than which there is not a more practical or condensed work extant. In it the author, in giving selections of twelve varieties for forcing purposes, includes two of Duchess of Buccleuch and one Grizzly Frontignan (both of these coming under the severe condemnation of Mr. Molyneux). Three out of twelve is not a bad percentage (25 per cent.), is it, Mr. Editor?

As regards flavour, I remember some years ago that the Duchess of Buccleuch won the first prize at the Royal Caledonian Fruit Show. If I were going to compete again, and flavour was imperative, I should show the Duchess or the Grizzly Frontignan, and have no fear of the result against such varieties as Mr. Molyneux would have us grow. Small-berried grapes are, as a rule, better from the point of flavour than the large-berried ones. As an instance, we know which berries to select for flavour in a bunch of Muscats where there are some of the small high-coloured berries present. I recently had a note from a well-known nurseryman, who remarked that "the present rage for big grapes was one of the most foolish which has ever existed; it arises from the fact that half the British public has little or no palate, and one fruit is about as good as another to it."

The late Mr. A. Barron, who also wrote, and with authority too, upon the vine, demonstrated in the trials at Chiswick that the red and grizzly grapes came out well up in the list, if not at the actual top. In conclusion, let me add that for home use neither large bunches nor large berries count with the connoisseur. Growing for exhibition or for market mere size and appearance tell, as we know.

GRIZZLY FRONTIGNAN.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

◆

Royal Horticultural Society.

The exhibition held on January 26 was not a large one, but it was interesting and well attended.

FLORAL COMMITTEE.

Messrs. Sutton and Sons, Reading, submitted a large group of cyclamen, than which there are few more useful flowers at this season of the year. The Reading firm has worked long and successfully in the improvement of habit, form, and colour of these plants, and on this occasion they set up batches of such excellent varieties as Salmon Pink, Giant White, Giant Crimson, Giant Mixed, Vulcan, and the interesting White Butterfly. The plants were finely grown and splendidly flowered, and the bold masses of large, superbly-formed flowers, produced a rich display of colour. Messrs. H. B. May and Sons, Edmonton, contributed a large group of davallias, and these, showing a wonderful diversity of character, were greatly admired. Some of the specimens of D. dissecta elegans, D. polyantha, D. Mooreana, D. fijiensis were of considerable size, and were especially attractive.

A beautiful exhibit and a large one was admirably set up by Mr. W. H. Page, Tangley Nursery, Hampton. It consisted of big sheaves of fine flowers of Lilium longiflorum, L. speciosum rubrum, L. s. album, a splendid lot of vases of popular perpetual carnations, and a beautiful lot of flowers of the golden daffodil Golden Spur, in fine condition. Altogether a delightful exhibit. A brilliant display of carnations was made by Messrs. W. Cutbush and Son, Highgate, and particularly fine were the large vases of Mrs. Burnett, Mrs. T. W. Lawson, White Perfection, Victory, Enchantress, Jessica, and Robert Craig. The same firm showed a group of forced magnolias, Prunus triloba, etc., and some charming early irises.

Mr. H. Burnett, Guernsey, exhibited beautiful carnations, notably Marmion, Mrs. H. Burnett, the yellow Fortuna, Mikado, Aurora, Britannia, and Robert Craig. Mr. H. Chapman, Guldeford Lodge, showed a charming lot of freesia flowers, including F. Chapmani, F. Chapmani Improved, the Rajioneri hybrids, and several very interesting seedlings of his own raising, all delightfully fragrant.

Messrs. Barr and Sons, Covent Garden, showed a number of interesting early flowers, such as snowdrops, crocuses, iris, narcissi, and freesias. Mr. Bain, gardener to Sir Trevor Lawrence, Bart., Dorking, staged two vases of wonderfully bold and beautiful anthuriums of the Andreanum type, the colours being scarlet, crimson, pink, and white.

Carnations in great variety were exhibited by Messrs. Hugh Low and Co., Bush Hill Park, Enfield, and they showed Rose Pink Enchantress, Aristocrat, and the more popular varieties. Mr. G. Reuthe, Keston, submitted some very pretty crocuses, hellebores, saxifrages, etc. Winter-flowering plants were well shown by Messrs. James Veitch and Sons, Chelsea, these including batches of the blue Coleus thyrsoideus, begonias, camellias, Primula Kewensis, and Aphelandra aurantiaca Roezli. Alpine flowers and shrubs were displayed by Messrs. J. Cheal and Sons, Crawley.

A group of splendidly grown and beautifully flowered plants of the graceful and brilliant Euphorbia jacquiniæflora was arranged by Mr. Prime, gardener to the Marquis of Salisbury, Hatfield House, Hatfield, and the same exhibitor set up a group of finely-grown specimens of the beautiful Begonia Gloire de Sceaux. Mr. Russell, Richmond, sent Jasminum primulinum.

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GOLD MEDAL
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We grow many acres of Sweet Peas and supply seed to all the large wholesale houses.

The following list contains the best Novelties in Cultivation.

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American Novelties for 1909.

Apple Blossom Spencer, deep rosy pink, a distinct variety (20), 6d.
Asta Ohn, lavender tinted mauve, beautifully waved (10), 6d.
Dainty Spencer, pale primrose, changing to white, with pink edge, very large flowers (20), 6d.
King Edward Spencer, bright crimson, enormous flower, beautifully waved (10), 6d.
Mrs. Chamberlain Spencer, white, marked bright rose (20), 6d.
Mrs. Routzahn, deep cream ground, with decided rose edge, large flower of perfect form (10), 6d.
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Audrey Crier, pale salmon pink, beautifully waved (10), 1s.
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Clara Curtis, creamy yellow, beautifully waved (12), 6d.
Dudley Lees, rich dark maroon, fine large flower (25), 6d.
Elsie Herbert, blush white, with deeper edge (10), 6d.
Etta Dyke, the largest waved pure white (12), 6d.
Evelyn Hemus, creamy yellow, edged pink (10), 6d.
Florence Morse Spencer, pale rosy pink, a grand flower (50), 6d.
H. J. R. Digges, deep claret, a very large flower (12), 6d.
Hannah Dale, deep rich maroon, very large flower (12), 6d.
Horace Skipper, deep rosy pink, large flower, beautifully waved (12), 6d.
James Grieve, sulphur yellow self, extra fine (20), 6d.
Lady Althorp, white edged pale fawn, fading to pure white, waved (20), 6d.
Maggie Stark, brilliant cerise and madder lake (12), 1s.
Marjorie Willis, deep rose, waved (12), 6d.
May Perrett, clear flesh, tinted buff, a lovely shade (12), 6d.
Menie Christie, purplish carmine, waved (12), 6d.
Mima Johnston, bright rosy carmine, slightly shaded salmon (12), 6d.
Miss E. F. Drayson, rich scarlet, large waved flower (12), 6d.
Nell Gwynne, deep cream, suffused bright pink, a lovely variety (10), 6d.
Olive Ruffell, deep cream ground, heavily suffused bright red, a lovely variety (10), 6d.
Paradise Red Flake, white, marked bright red (20), 6d.
Prince Olaf, white, marked bright blue, very distinct (20), 6d.
Prince of Asturias, deep chocolate, beautifully waved (12), 6d.
Purity, extra large pure white, waved, a flower of great refinement (20), 6d.
Regina, deep maroon, almost black (25), 6d.
Rosie Adams, rosy mauve, large flower, beautifully waved (10), 6d.
Sutton's Queen, primrose, edged pink, very beautiful flower (12), 6d.
St. George, brilliant cherry red, a fine waved flower (15), 1s.
The Marquis, deep mauve, beautifully waved (12), 6d.
Zero, a fine waved white, very pure, blooms a fortnight before other varieties (50), 6d.

Any ten 6d. packets for 4s., post paid.

One packet of each of the above 44 varieties for 16s. 6d. post paid.

R. H. BATH, Ltd. (Dept. H),
The Floral Farms, **WISBECH.**

A useful late-flowering chrysanthemum of medium size, reflexed Japanese, substantial and of rich golden colour, was shown by Messrs. Robinson and Headey, Dunstable; it is named Golden Sunset (A.M.)

ORCHID COMMITTEE.

Mr. Alexander, orchid grower to Lieut.-Colonel Holford, Westonbirt, Tetbury, Gloucester, showed the pretty Sophro-lælio-cattleya Danæ Holfordiana, Cypripedium Earl of Tankerville (A.M.), C. Alabaster, and the beautiful Golden Lælio-cattleya Golden Oriole var., with large bright yellow flowers. Mr. A. W. Jensen, Lindfield, Haywards Heath, set up a charming group of white and blush forms of Odontoglossum crispum. From Mr. M. W. Thompson, Stone, Staffs, came the handsome Cypripedium Our Queen, a cross between a dark form of C. Leeanum and C. Stevensi (A.M.) A beautiful form of Cattleya Trianæ named The Premier, with lovely broad rosy petals, was shown by Mr. Hopkins, gardener to Francis Wellesley, Esq., Woking.

Messrs. Charlesworth and Co., Haywards Heath, exhibited Sophro-lælio-cattleya Marathon Vesuvius (F.C.C.), a bright flower derived from S. l. Psyche and C. Empress Frederick; Lælio-cattleya Felicia (F.C.C.), a magnificent purple-lipped cross between L.-c. Haroldiana and C. Trianæ; Cymbidium Woodhamsianum, Brasso-cattleya Cliftoni, and the chaste Odontoglossum Armainvillierense album. Mr. J. Collier, gardener to Sir J. Colman, Bart., Gatton Park, Reigate, showed a few interesting botanical orchids, Cœlogyne Colmani, Phaio-calanthe Colmani, and Spathoglottis Colmani. Mr. Forster Alcock, Northchurch, sent Cypripedium Beryl, and C. Hera, Euryades New Hall Hey var. (A.M.), the latter a bright and bold var.

Mr. F. J. McBean, Plumpton, showed a few good cattleyas and odontoglossums. Messrs. Cypher and Son, Cheltenham, contributed a very handsome group of cypripediums and odontoglossums, the former being very fine, and including C. Mrs. W. Mostyn, C. Lathamianum Rex., C. aureum Virginale, C. Master-exul, and the pretty C. Dowlingianum. Messrs. Hugh Low and Co., Bush Hill Park, Enfield, had a small collection of cypripediums associated with Platyclinis glumaceum, Brasso-cattleya Madame Charles Maron, and Cattleya Trianæ.

FRUIT AND VEGETABLE COMMITTEE.

A large collection of well-preserved apples, all plump and bright, was well staged by Messrs. J. Cheal and Sons, Crawley. There were excellent baskets of the new long-keeping Encore, Lane's Prince Albert, Crawley Reinette, Newton Wonder, Lord Derby, Annie Elizabeth, and Bramley's Seedling. Mr. C. Foster, University College Gardens, Reading, showed seakale cuttings ready for planting, and some very fine crowns, one year old, from similar cuttings. He also showed some forced Linnæus rhubarb, and forced chicory with part of root attached.

Mr. Gentle, gardener to Mrs. Dennison, Little Gaddesdon, Berkhamsted, showed some perfect Intermediate and other carrots, Maltese parsnips, and beet, as well as a fine collection of Cocoanut, Record, and Ailsa Craig onions, and some two dozen dishes of very excellent potatoes that included fine specimens of Factor, King Edward VII., Duchess of Cornwall, Satisfaction, etc.

In the competitive classes Mr. H. Juniper, gardener to Mrs. Trotter, Dyrham Park, Barnet, won first prize for both seakale and forced rhubarb. Mr. E. Beckett, gardener to the Hon. Vicary Gibbs, was awarded first prize for four varieties of home-grown salads, showing Batavian endive, Blood Red beet, Christmas Salad chicory, and mustard and cress.

CERTIFICATES AND AWARDS.

First Class Certificate.—To Sophro-cattleya Marathon var. Vesuvius, from Messrs. Charlesworth and Co., Haywards Heath. To Lælio-cattleya Felicia, from Messrs. Charlesworth and Co., Haywards Heath.

Award of Merit. — To Chrysanthemum Golden Sunset, from Messrs. Robinson and Headey, Dunstable. To Cypripedium Our Queen, from Mr. W. Thompson, Walton Grange, Stone, Staffs. To Cypripedium Earl of Tankerville from Lieut.-Colonel G. Holford, Westonbirt, Tetbury, Gloucester (grower, Mr. H. Alexander). To Cypripedium Hera Euryades, New Hall Hey var., from Mr. Forster Alcock, Northchurch.

MEDALS.

Silver-gilt Flora.—Mr. W. H. Page, Hampton, carnations and lilies; Messrs. H. B. May and Son, Edmonton, davallias; Mr. Prime, gardener to the Marquis of Salisbury, Hatfield, begonias and euphorbias.

Silver-gilt Banksian. — Mr. Gentle, gardener to Mrs. Dennison, Little Gaddesdon onions and potatoes.

Silver Flora.—Messrs. W. Cutbush and Son, Highgate, carnations and plants; Mr. H. Burnett, Guernsey, carnations; Messrs. Sutton and Sons, Reading, cyclamens; Messrs. James Veitch and Sons, Chelsea, winter-flowering plants; Messrs. Charlesworth and Co., Haywards Heath, orchids.

Silver Knightian.—Messrs. J. Cheal and Sons, Crawley, apples.

Silver Banksian.—Messrs. Hugh Low and Co., Bush Hill Park, Enfield, one for orchids and one for carnations; Mr. L. R. Russell, Richmond, shrubs; Messrs. J. Peed and Son, Streatham, alpines; Mr. H. Maude, R.H.S. Gardens, Wisley, lantern slides, representing flowers, by colour photography; Messrs. J. Cypher and Sons, Cheltenham, orchids; Mr. Jansen, Lindfield, orchids; Mrs. C. Foster, Horticultural Department, University College, Reading, forced vegetables.

French Horticultural Society of London.

Under the presidency of Sir Albert K. Rollit, the above society held its annual dinner at the Café Royal, Regent Street, on Saturday, January 23. There was a good attendance, and by far the larger number of the persons present were Britishers, representing the seed and nursery trades, public and private gardening, and the horticultural Press.

After an excellent dinner the toasts of "The President of the Republic" and "The King" were duly honoured, and then Sir Albert Rollit proposed "Success to the French Horticultural Society of London." In an excellent and humorous speech he compared the horticulture and the characteristics of France and England, and pointed out that each could learn from the other, and that the present friendliness existing between the two nations was a great factor for the preservation of peace in Europe. The usefulness of the society, and its progress from 12 to 700 members was referred to, and Mr. G. Schneider, the president was complimented upon the success attained. Mr. Schneider responded, and said that M. Phillipe de Vilmorin had consented to hold the office of honorary president.

The only mistake in connection with a very pleasant function was the inordinate length of the programme, many items of which had to be omitted. Mr. Schneider proposed, "English Horticulture," to which Mr. D. Ingamells responded, and then proposed "Past Chairmen," to which Mr. T. Bevan responded. Mr. C. Harman Payne gave "The Officers of the Society," and M. Ripard responded.

During the evening, the members of the society presented Mr. Schneider with a handsome silver rose bowl as a token of their regard.

Wyken Pippin Apple.—The remarks upon this apple, on page 46, prompt me to write that there is an old standard tree growing in these gardens which has cropped heavily for many years. This last season we stored about four bushels of the best fruits, which are keeping well, and average seven and a-half inches in circumference. Contrary to the experience of your correspondent, our fruits are very juicy, and of good flavour, and much appreciated here. In my opinion, this variety is far too good to be discarded. I may add the soil here is a heavy loam, resting on very stiff clay.—J. BOXALL, Russ Hill Gardens, Charlwood.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

HISTORY OF THE SWEET PEA.—E. P. L., Carlisle:—We are glad to learn the Carlisle Society has affiliated with the National Sweet Pea Society. With regard to the history of your favourite flower, you will find the best account yet published in the new and enlarged edition of "Sweet Peas and their Cultivation," a work written by the Hon. Secretary of the N.S.P.S., and one that also contains very practical information relative to the culture of sweet peas, as well as their exhibition, raising new varieties, etc. Cloth-bound the book is 1s. 8d., post free, from Messrs. W. H. and L. Collingridge, 148, 149, Aldersgate Street, E.C.

APPLE BLOSSOM WEEVIL.—F. E. S., Cheltenham.—One very curious thing about the apple blossom weevil is that in the case of adjoining orchards one may be infested and the other free; even in the one orchard a certain area may be infested and the rest free. Other points are that the apple blossom weevil does the most damage when the apple blossoms open slowly, and that the early and the very late flowering apples suffer the least. The weevils winter under fallen leaves, earth clods, bark, etc., and in early spring they come forth and fly to or ascend the trunks of the apple trees. Very soon the females commence to lay their eggs; this is done by boring a hole in the flower bud and pushing through it an egg, right into the centre of the flower. The maggots hatch out in eight or ten days, and feed upon

ECKFORD'S
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the essential organs of the flower, causing so much damage that as soon as the petals open growth ceases, and the flower withers and dies, and, of course, no fruit is formed. Clean cultivation and winter spraying will do much to reduce or prevent infestation, while sharply jarring the trees before the larval and pupal stages are over will rid the trees of the pest. A white cloth must be laid under the tree to catch the weevils and dead blossoms, all of which should be burned at once. It may be necessary to execute this operation a second time, allowing a day or less to elapse before the second attempt.

SOWING SWEET PEAS IN POTS.—J. B., Amersham.—We have pointed out previously that there is a great danger in sowing sweet peas in pots at a too early date. Any time from now until the middle of February the seeds may be sown, but if very mild weather prevails then there is a probability that the early-sown batch will become drawn, and possibly starved also, unless you have ample frame accommodation in addition to the greenhouse, and treat the plants with great care during early April. If very severe weather in April compels one to defer planting, then the trouble arises in the case of the very early-sown plants. We strongly believe in sowing the seeds in pots, in a cool greenhouse, from the 10th to the 15th of February; this is not early enough to cause trouble by semi-starvation, nor is it too late for the production of strong, well-rooted plants by mid-April.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—In our report of the annual meeting of this institution we have not room to give the numbers of votes recorded, but, as we invariably receive requests for full particulars, we give them in this column: Emma J. Whitehurst, 4,746; John E. Anstey, 3,038; Matilda Ings, 2,946; Henry Heims, 2,908; Thomas Jones, 2,903; John Burton, 2,883; Henry Cooper, 2,855; Wm. Gardiner, 2,825; Jane Noble, 2,800; Harriett Helman, 2,681; Wm. Cope, 2,618; Henry Gage, 2,569; Thos. C. Cushion, 2,494; Edward Tibbles, 2,449; George Lawrence, 2,429; Joseph Throp, 2,359; Joseph Talmage, 2,350; Wm. Reynolds, 2,303; Edwin Ratlin, 2,292; Thos. Chapman, 2,222; Henry Sawyer, 2,215; Wm. Bush, 2,175; Henry Newman, 2,143; Maria Mackay, 2,099; Cornelia James, 2,092; Henry West, 2,083; Wm. Rapley, 2,075; Henry Huggins, 2,014; John Ball, 1,984; G. Woodham, 1,889; Alice Latimer, 1,839; Chas. Brown, 1,793; Susannah Butters, 1,732; George Clark, 1,722; John Fairlie, 1,632; G. Boothroyd, 1,621; Rebecca Watson, 1,592; Jessie Nash, 1,581; W. Chapman, 1,538; Jas. Barnard, 1,530; G. Gedge, 1,470; Jas. Young, 1,454; Jas. Brown, 1,408; Daniel Reed, 1,357; T. C. Gidley, 1,345; Wm. Baker, 1,336; D. W. Baker, 1,329; Julia Lansdown, 1,303; R. W. Todd, 1,234; R. P. Sutton, 1,202; Elizabeth Turner, 1,195; Eliza Hobby, 1,171; Nancy Wright, 1,151; Henry Payne, 1,142; Wm. Dyer, 1,141; W. J. Williams, 1,123; J. E. Ellis, 1,118; D. Galloway, 1,096; Martha Batten, 1,085; Ed. Donelly, 1,074; A. H. Hunking, 1,048; W. Pugh, 1,017; J. Purnell, 1,017; R. Arnold, 963; Annie Hawkins, 828; Mary Garratt, 792; Mary Hopgood, 530; Wm. Brydone, 505; W. Rainbird, 285; E. W. Fraser, 98; Fanny Bury, 93; T. Steward, 37; W. Carpenter, 34.

HELLEBORE WASH.—J. P. P.: Tewkesbury: We very much appreciate your remark that one should look ahead in the matter of preventives and remedies, quite as much as in the matter of ground work and crop rotation: Not seldom we receive a query from someone whose plants are suffering from a bad infestation of some pest, the pest was not noticed, or if noticed was disregarded until the infestation assumed alarming proportions, and then, post haste, a request for information is sent to us, probably imploring us to send per return of post the needful recipe for a mixture that will annihilate the pest. In most cases when the need is as desperate as this the writer forgets to send his address, and the note arrives on a Wednesday evening, too late to be dealt with in the current issue. It is far better to look ahead, and also to seek information that may be of service in the future. It is also advisable to keep reference works on a handy bookshelf: for instance, the "Gardening Year Book" gives descriptions and illustrations of and remedies for a large number of fungoid and insect pests, besides a large amount of other horticultural information. It will be sent, post free, for 1s. 3d., from the GARDENERS' MAGAZINE Office, 148, 149, Aldersgate Street, E.C. The hellebore wash is made by mixing one ounce of freshly-ground hellebore and two ounces of flour with a little water, and when the whole is worked into a perfect paste, then add three gallons of water. Keep stirred, and apply in the form of a fine spray for sawflies, slugworms, and other leaf-eating pests.

DESTRUCTION OF VERMIN. — Most gardens are pestered with Rats and Mice. Every effort should be made at this time of the year to exterminate them before seeds are sown. Danysz Virus is first rate stuff for killing these vermin. Single tube, 2s.; three tubes, 5s. Post free from DANYSZ VIRUS LTD., 52, Leadenhall Street, Garden Dept., London, E.C.—[Advt.]

NAMES OF PLANTS.

M. M., Bristol.—Cypripedium Spicerianum.

T. S. B., Warwick.— 1, Odontoglossum gloriosum; 2, Cypripedium Lathamianum; 3, Lælia anceps.

O. W., Northampton.—1, Eupatorium ianthinum; 2, Veronica Traversi; 3, Cupressus macrocarpa.

D. E. J., Loughborough.—1, Selaginella Kraussiana; 2, Ophiopogon Jaburan; 3, Dracæna congesta; 4, Sparmannia africana; 5, Adiantum caudatum.

The Ten-petalled Sunflower (Helianthus decapetalus) — Although it has some decided drawbacks or defects, the ten-petalled sunflower, known, by the way, in its native homes as the thin-leaved or wild sunflower, is yet a plant of some degree of merit. For those who can give it a place in the wild garden or some spare corner in the garden where it will not encroach upon other flowers, it will be found most useful, and to them will be a plant of considerable value, inasmuch as it will give plenty of flowers, and will require the minimum of attention. It is a capital plant for those who have a bit of dry and poor soil in a very sunny place, as there it will flourish, although it will not grow so rampant as in moister places, and will yield a greater number of its clear yellow flowers. I am recommending for it a dry place, although in its native habitats it seeks moist woods and the sides of streams, but with us it blooms more profusely in the dry positions. It is said to grow from a foot to three feet high in the United States, but with us it is taller, and from three to five feet is what it generally attains. A useful little perennial sunflower is this, and but for its fault of spreading too quickly at the roots would be still more acceptable.—S. ARNOTT.

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METEOROLOGICAL OBSERVATIONS.

TAKEN BY THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1909. JANUARY 17 TO JANUARY 23.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Jan. 17—Sunday	3 20	39	37	50	35
„ 18—Monday	2 0	46	43	48	39
„ 19—Tuesday ...	0 55	40	39	44	40
„ 20—Wednesday.	6 25	29	29	41	29
„ 21—Thursday ...	—	32	32	37	29
„ 22—Friday	—	35	34	35	32
„ 23—Saturday ...	—	32	30	32	32
Means	1 50	36	35	41	31

DATE. 1909. JANUARY 17 TO JANUARY 23.	RAIN.	TEMPERATURE OF THE SOIL. AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
Jan. 17—Sunday	—	38	42	44	30
„ 18—Monday	0·06	41	42	44	36
„ 19—Tuesday ...	—	42	43	44	39
„ 20—Wednesday.	0·01	39	42	44	24
„ 21—Thursday ...	—	38	41	44	23
„ 22—Friday	—	38	41	44	30
„ 23—Saturday ...	—	38	41	43	29
Means ...	(total) 0·07	39	42	44	30

Saxifraga sarmentosa tricolor.—A plant of great merit, and in many ways suitable for indoor decoration, is the beautiful "tricolor" form of the old Saxifraga sarmentosa. It is easy to increase by reason of the number of small plants borne upon the extremities of the thread-like runners. These, when pegged upon the surface of small pots filled with prepared soil, will soon form roots, and in this way no difficulty can ever be experienced in securing a good stock. It is not advisable to keep plants of more than a year old unless for raising fresh stock, or for filling baskets, as the leaf-colouring reaches its highest development in young plants, and if these are grown in pots of 2½ inches in diameter, they will be found of greater service than those in larger pots. Suspended plants of this saxifraga are objects of interest and beauty during winter. They should be in rustic pans or wire baskets early in August, transferring them to the greenhouse at once, and selecting a position where the baby plants produced upon the runners will be safe from being broken or in any way damaged by accident.—THOMAS SMITH.

Selections of Fruits. — In the event of having to plant new peach trees to replace worn-out ones, or for new houses, select those varieties that will come on successively, such as Hale's Early, Gross Mignonne, Dymond, and Royal George for an early house. Violette Hâtive and Noblesse and Barrington are fine peaches of good flavour. A selection of nectarines would be Early Rivers, Cardinal, Lord Napier, Violette Hâtive, Humboldt, Pine Apple, and Spencer. These ripen in the order named. Good figs for pot culture are Bourjassotte Grise, Brown Turkey, Negro Largo, Pingo de Mel, and Violette de Bordeaux. Good plums for pots, or for orchard houses are Angelina Burdett, Bryanston Green Gage, Denniston's Superb, Golden Transparent Gage, Jefferson, Reine Claude de Bavay, Reine Claude Violette, Kirke's, and Green Gage. These do very well under glass, and much better than most people think, and the grower is always certain of a crop, as he has not the spring frosts to contend with. Grand crops of these, together with pears and cherries, can be grown in cool houses, say, with one pipe running round to guard against frost.—W. A. COOK, Leonardslee Gardens.

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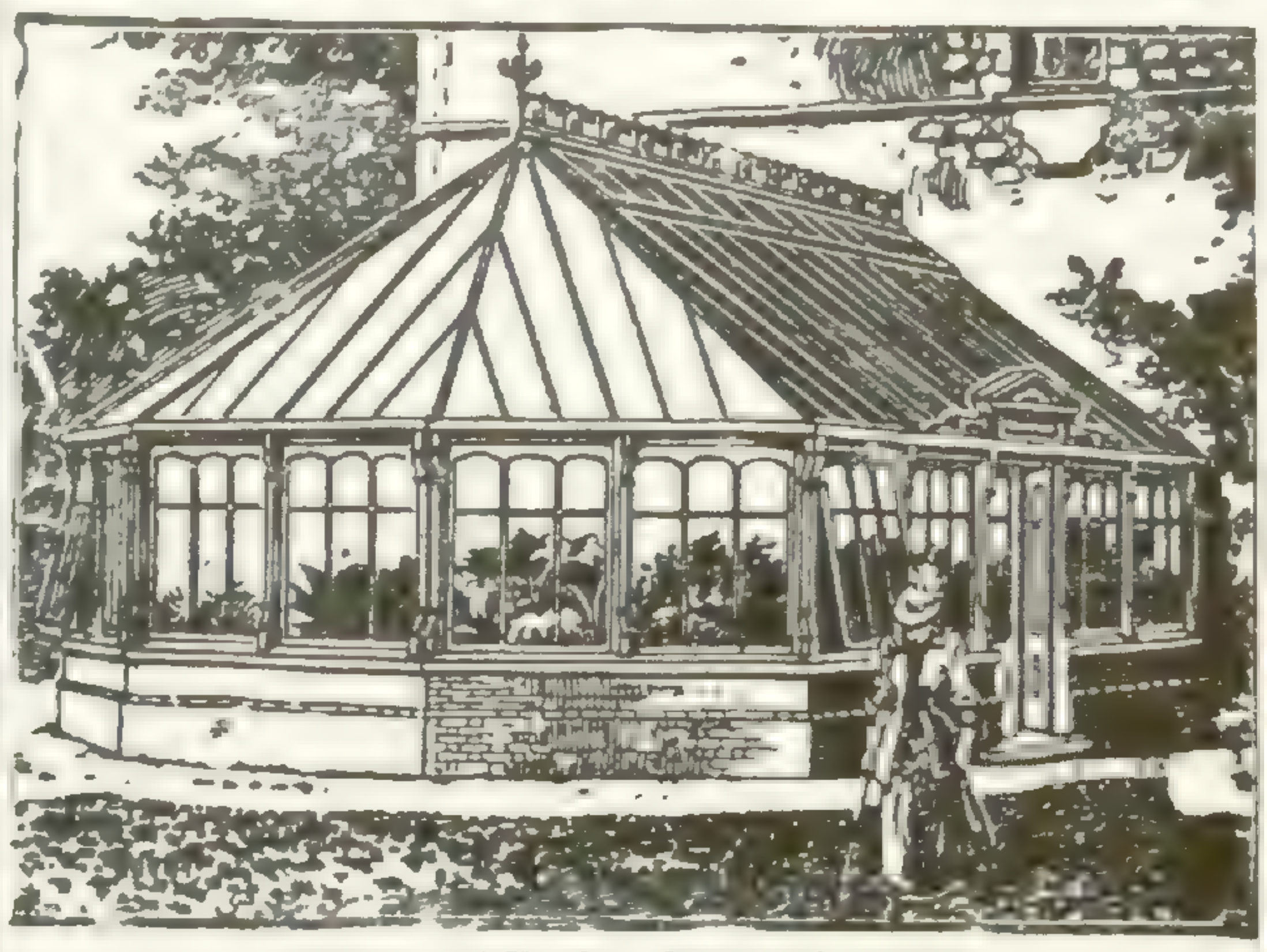

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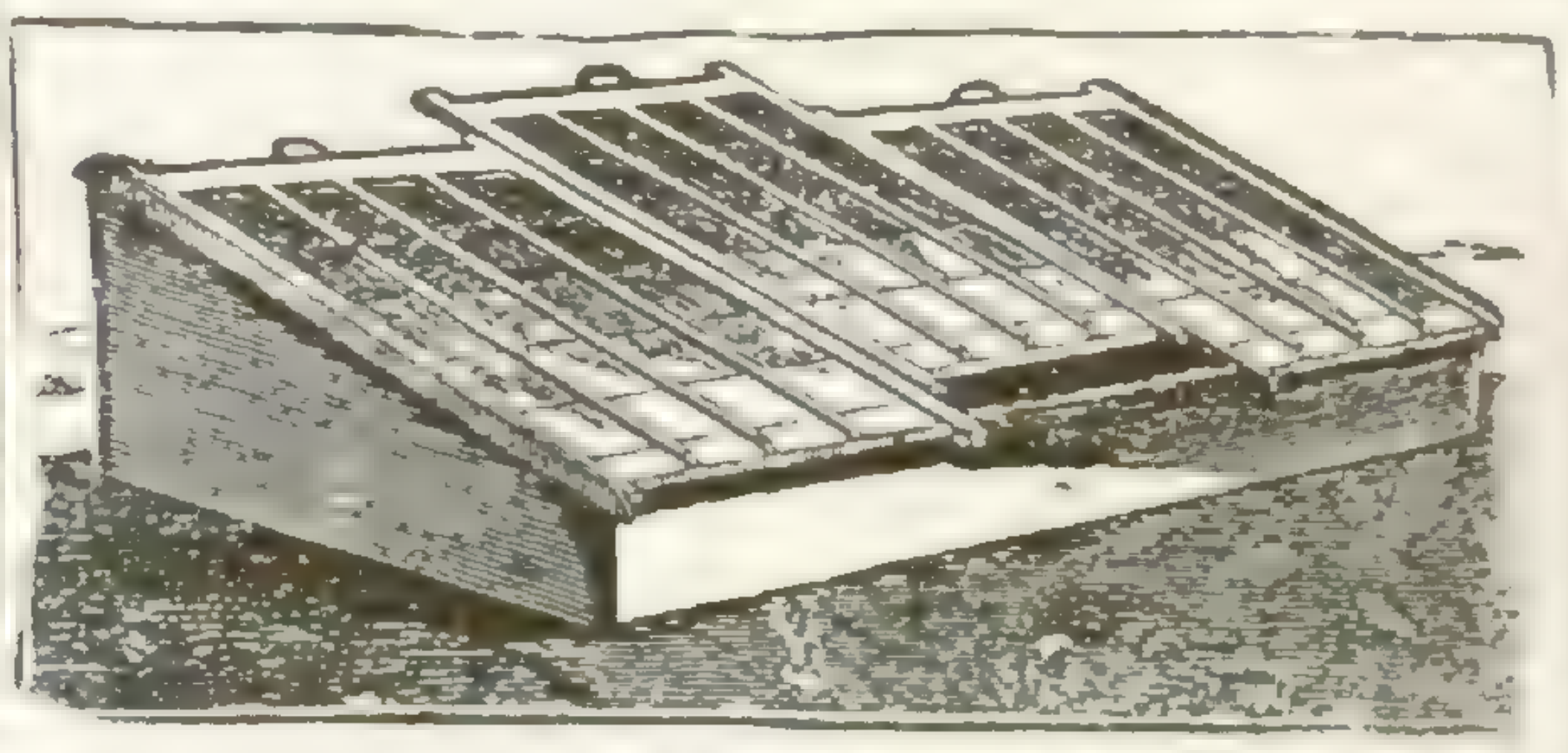

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16 ft. by 6 ft. ... 4 15 0

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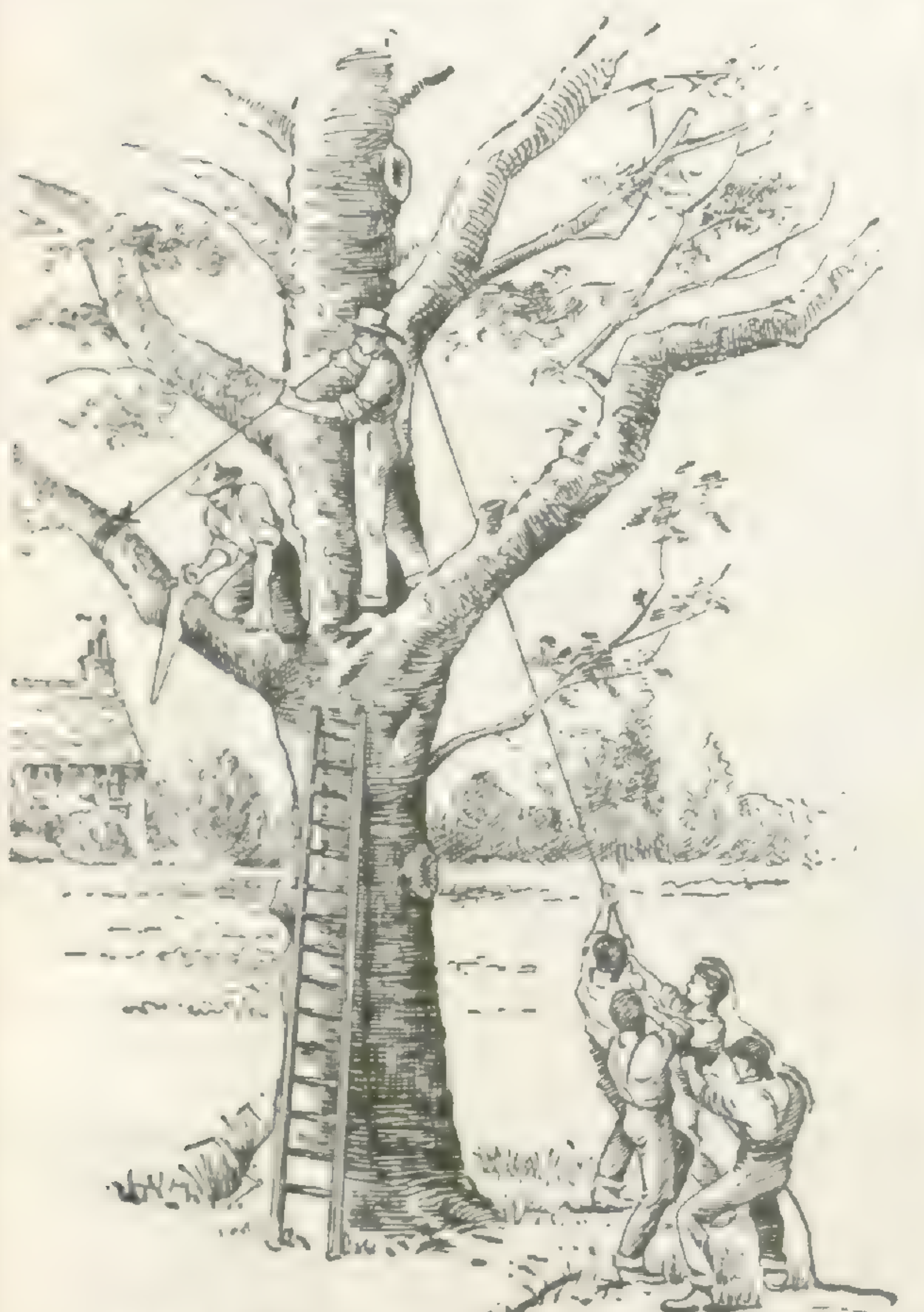

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There is a fair demand and prices are very firm.

		s. d.		s. d.
Acacia	per doz. bun.	8 6	to	12 0
Adiantum cuneatum	per doz. bun.	5 0		9 0
Arums	per doz.	3 0		4 0
Asparagus	per doz. bun.	1 6		6 0
Azaleas	per doz. bun.	4 0		6 0
Bouvardias	per doz. bun.	6 0		8 0
Camellias	per doz.	1 6		2 0
Carnations	per doz. blms.	1 6		3 6
,,	per doz. bun.	9 0		12 0
Cattleyas	per doz.	8 0		10 6
Chrysanthemums	per doz. bun.	7 0		20 0
,,	per doz. blms.	2 0		4 0
Croton leaves	per bun.	1 0		1 6
Cypripediums	per doz. blms.	2 0		3 6
Daffodils	per bun.	1 0		1 3
Eucharis	per doz.	2 6		4 6
French fern	per doz. bun.	1 0		3 0
Freesias	per doz. bun.	2 6		3 0
Gardenias	per doz.	3 0		5 0
Hyacinths, Roman	per doz. bun.	7 6		12 0
Lapagerias	per doz.	1 6		2 0
Lilac (French)	per bun.	3 0		4 0
Lilium auratum	per bun.	2 0		4 0
,, speciosum	per bun.	1 6		3 0
,, longiflorum	per bun.	3 0		5 0
Lily of the Valley	per doz.	6 0		12 0
Marguerites, white	per doz. bun.	2 0		3 0
,, yellow	per doz. bun.	2 0		3 0
Mignonette	per doz. bun.	2 0		3 0
Narcissus, Paper White	per doz. bun.	2 0		2 6
,, Soleil d'Or	per doz. bun.	3 0		4 0
Odontoglossums	per doz. blms.	2 6		4 6
Pelargoniums	per doz. bun.	5 0		6 0
Roses	per doz.	2 0		8 0
Spiraeas	per doz. bun.	5 0		7 6
Stocks	per doz. bun.	4 0		6 0
Tulips	per doz. bun.	6 0		18 0
Tuberoses	per doz. blms.	0 3		0 6
Violets	per doz. bun.	1 6		3 0
,, Parmas	per bun.	4 0		5 6

Fruits.

Apples continue good and there is a better demand again for oranges.

		s. d.		s. d.
Apples, cooking	per bush.	3 6	to	7 6
,, dessert	per ½-sieve	2 0		6 0
,, American	per barrel	23 0		26 0
,, Nova Scotian	per barrel	21 0		23 0
,, Californian	per case	8 0		10 6
Bananas	per bun.	3 0		12 0
Chestnuts	per bag	7 0		10 6
Cranberries	per case	8 0		12 0
Figs	per box	0 10		1 6
Grapes, English	per lb.	1 0		8 0
,, Almeria	per bar.	12 6		22 0
Lemons	per case	9 0		25 0
Medlars	per case	4 0		5 6
Nuts, Cob	per 12lb.	12 0		15 0
Oranges, Jamaica	per case	6 0		10 0
,, Jaffa	per case	9 0		10 6
,, Murcia	per case	6 0		15 0
,, Tangerines	per box	0 9		1 6
Pears, Californian	per case	8 0		20 0
,, Catillac	per crate	8 0		12 0
Pineapples	each	2 6		4 6

Vegetables.

The variable weather has done so much damage among greenstuffs that the supply is short and prices rather high.

		s. d.		s. d.
Artichokes, Globe	per doz.	3 0	to	4 0
Asparagus	per bundle	4 6		5 0
,, Sprue	per bun.	0 8		1 0
Beet	per bush.	1 3		2 0
Beans Guernsey	per lb.	1 0		2 6
Brussels Sprouts	per ½-bush.	2 0		3 6
Cabbage	per tally	4 0		8 0
Carrots	per doz. bun.	0 9		1 4
Cauliflowers	per doz.	2 6		5 0
Celery	per doz. rolls	4 0		10 0
Celeriac	per doz.	2 6		3 6
Chicory	per lb.	0 4		0 6
Cucumbers	per doz.	6 0		18 0
Endive	per doz.	1 6		2 0
Horseradish	per doz. bun.	8 0		12 0
Leeks	per doz. bun.	1 0		1 6
Lettuce	per doz.	2 0		2 6
Mint	per doz. bun.	3 0		6 0
Mushrooms	per doz. lb.	8 0		12 0
Onions, Pickling	per bush.	3 6		4 6
,, Valencia	per case	10 0		12 0
Parsley	per doz. bun.	3 0		3 6
Parsnips	per bag	2 0		2 6
Rhubarb	per doz. bun.	1 0		1 6
Spinach	per basket	2 6		3 6
Tomatoes	per doz. lbs.	4 0		6 0
,, Canary	per pack.	8 0		14 6
Turnips	per doz. bun.	1 0		2 6

LONDON POTATO MARKETS.

Business shows a little improvement, due to the colder weather.

		s. d.		s. d.
British Queen	per ton	50 0	to	55 0
Epicure	per ton	45 0		50 0
Evergood	per ton	45 0		50 0
Sharpe's Express	per ton	60 0		65 0
Maincrop	per ton	60 0		70 0
Royal Kidney	per ton	50 0		55 0
Up-to-Date	per ton	50 0		60 0
,, Blacklands	per ton	45 0		50 0

FORTHCOMING ENGAGEMENTS.

MONDAY, February 1.—Annual meeting of the National Chrysanthemum Society, Essex Hall, Strand, at 7 o'clock.

TUESDAY, February 9.—Royal Horticultural Society; Fruit, Floral, and Orchid Committees meet at 12 o'clock; annual general meeting at 3 p.m.; Scientific Committee at 4 o'clock.

Horticultural Club, annual meeting at 5.30; annual dinner at 6 p.m.

WEDNESDAY, February 10.—Perpetual-Flowering Carnation Society, annual meeting at the Hotel Windsor, Westminster, at 4 p.m.

CATALOGUES RECEIVED.

MESSRS. GEORGE BUNYARD AND CO., MAIDSTONE.—Catalogue of vegetable and flower seeds. An excellent list containing all the best of the vegetables and flowering plants. and is of special interest for the numerous fine types that have been introduced by the firm. The catalogue is freely illustrated, and the illustrations will be found excellent aids in making selections.

GILBERT AND SON, DYKE, BOURNE.—A neat list of seeds, in which sweet peas are specialised.

COOPER, TABER, AND CO., LIM., 90-92, SOUTHWARK STREET, S.E.—An excellent wholesale catalogue of flower and vegetable seeds, illustrated with portraits of novelties and views of the firm's seed farms at Witham.

FISHER, SON, AND SIBRAY, LIM., HANDSWORTH, SHEFFIELD.—This large catalogue of seeds contains a good list of vegetable and flower novelties. Also a useful catalogue of trees and shrubs.

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J. M. THORBURN AND CO., BARCLAY STREET, NEW YORK, U.S.A.—A handy little catalogue of American seeds, issued for the European wholesale trade only.

PENNICK AND CO., DELGANY NURSERIES, CO. WICKLOW.—A very comprehensive catalogue of hardy trees and shrubs, fruit trees, and herbaceous plants; illustrated.

LITTLE AND BALLANTYNE, CARLISLE.—A catalogue of flower and vegetable seeds, including novelties for the year.

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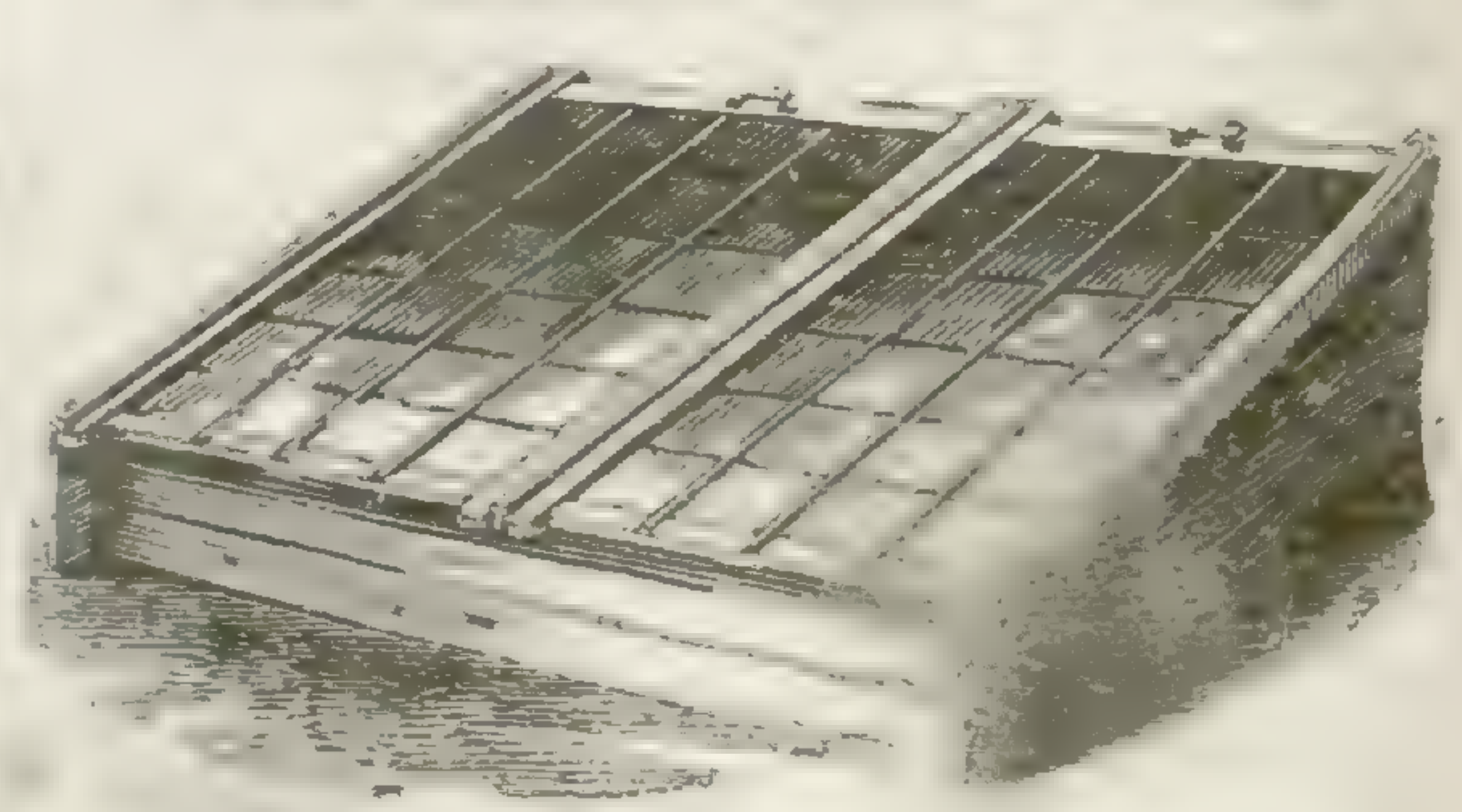

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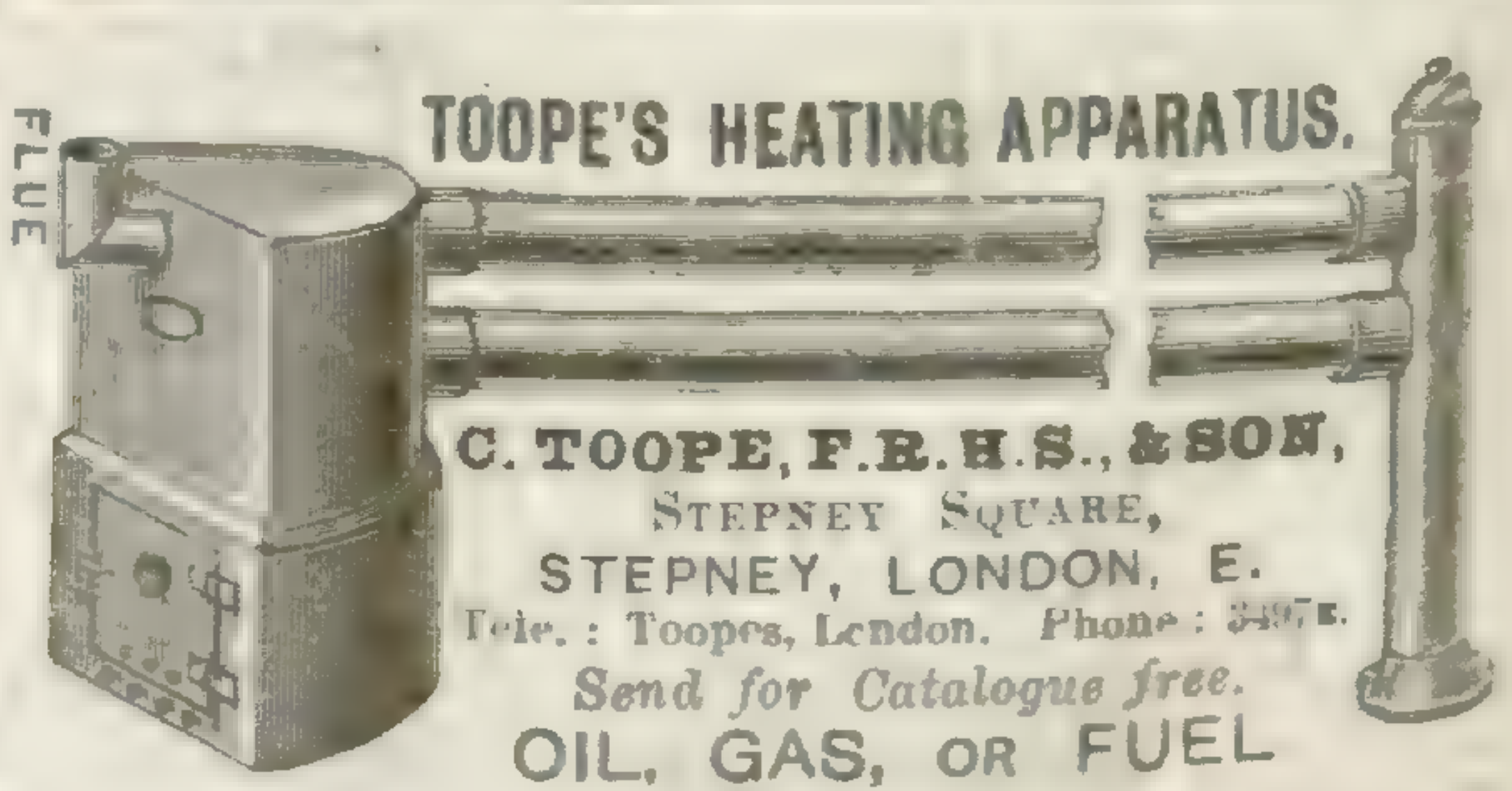

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THE GARDENERS' MAGAZINE.

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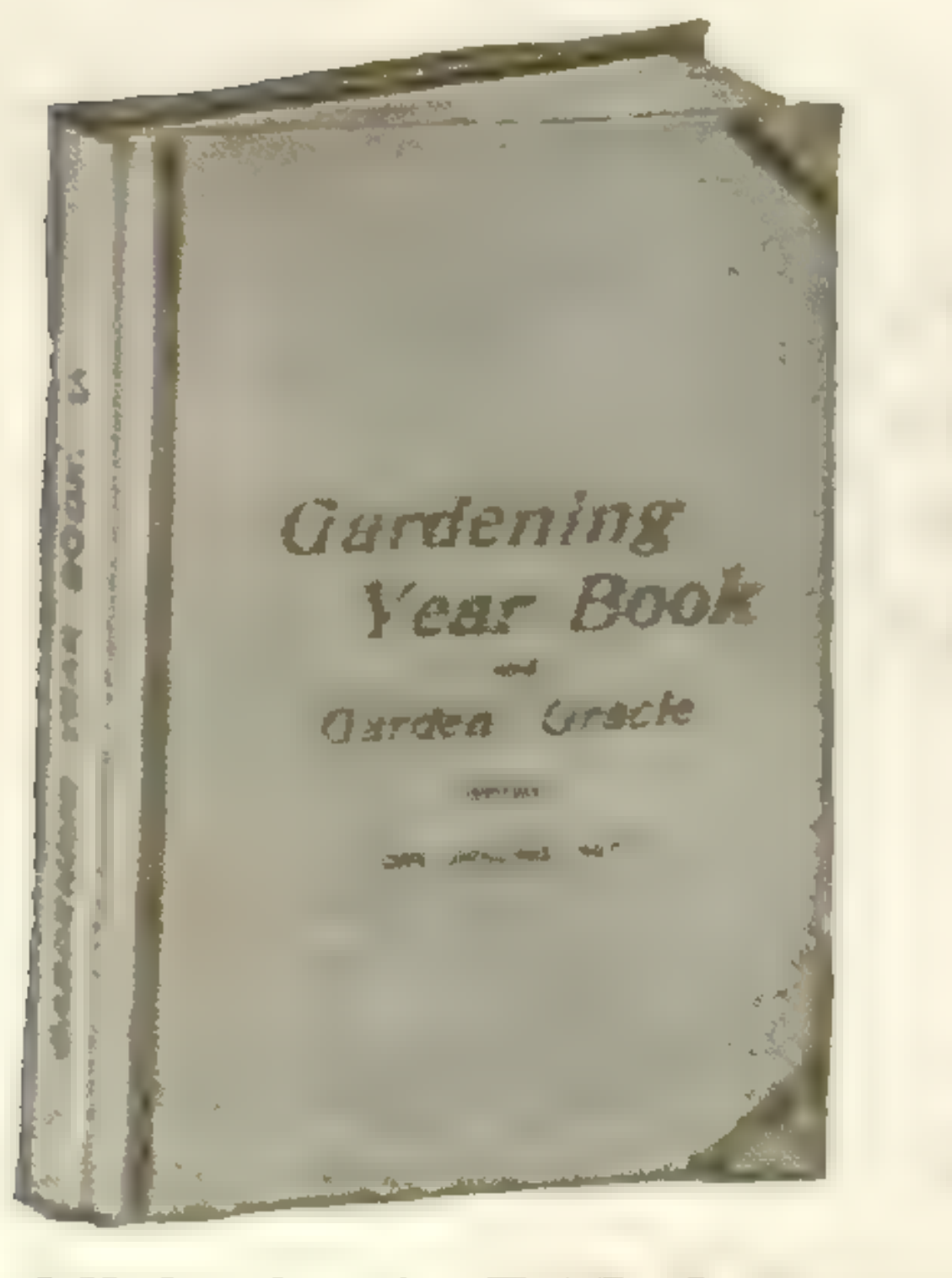

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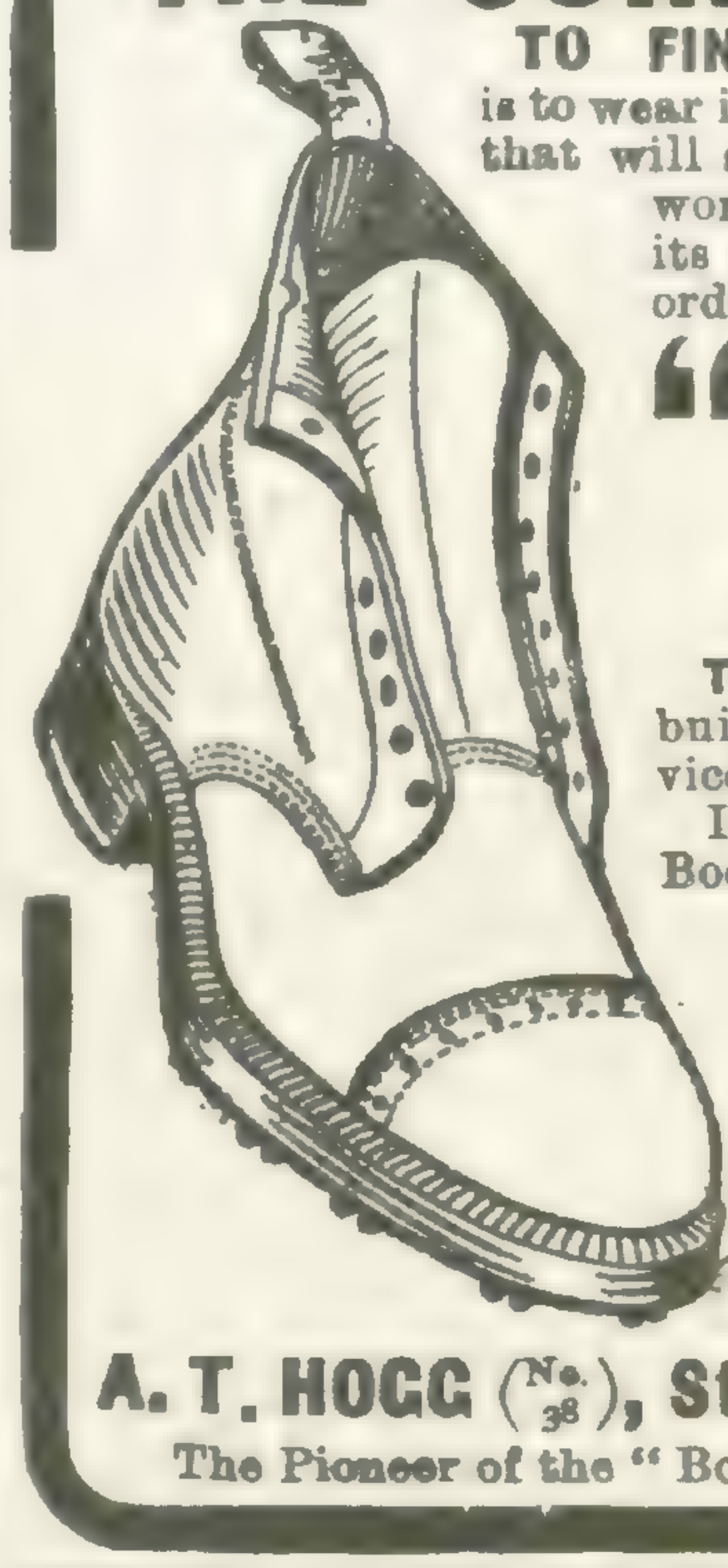

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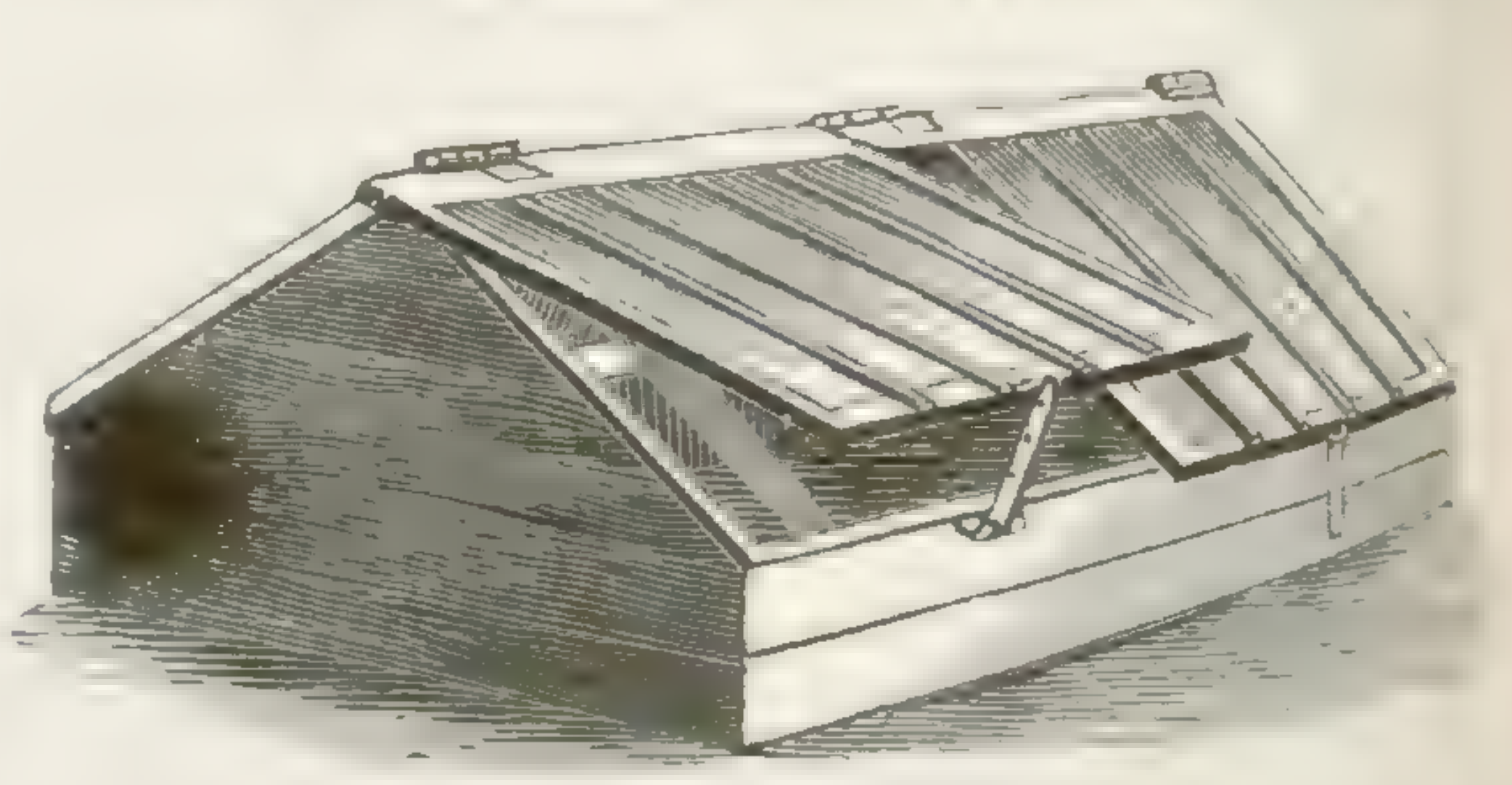

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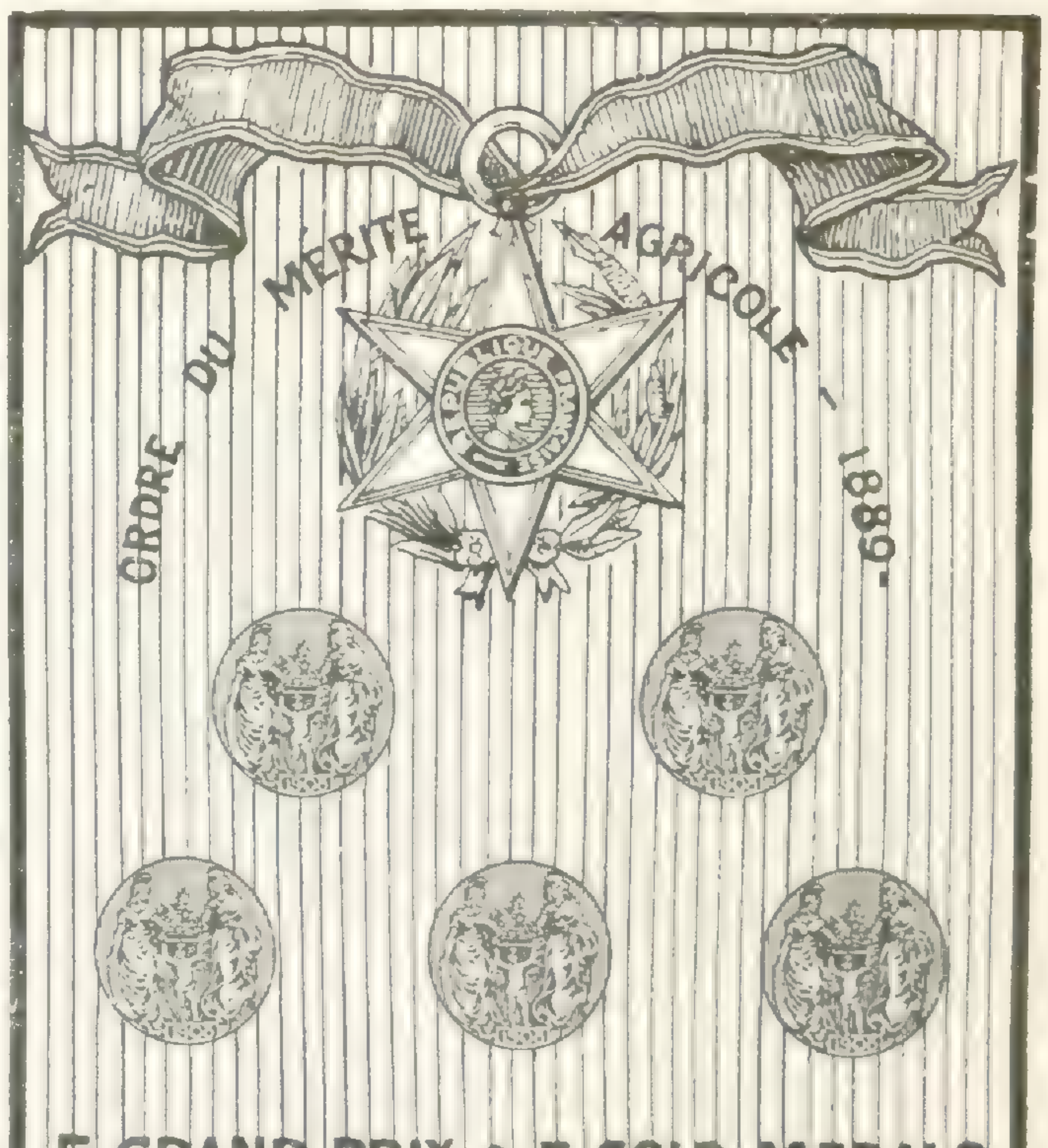

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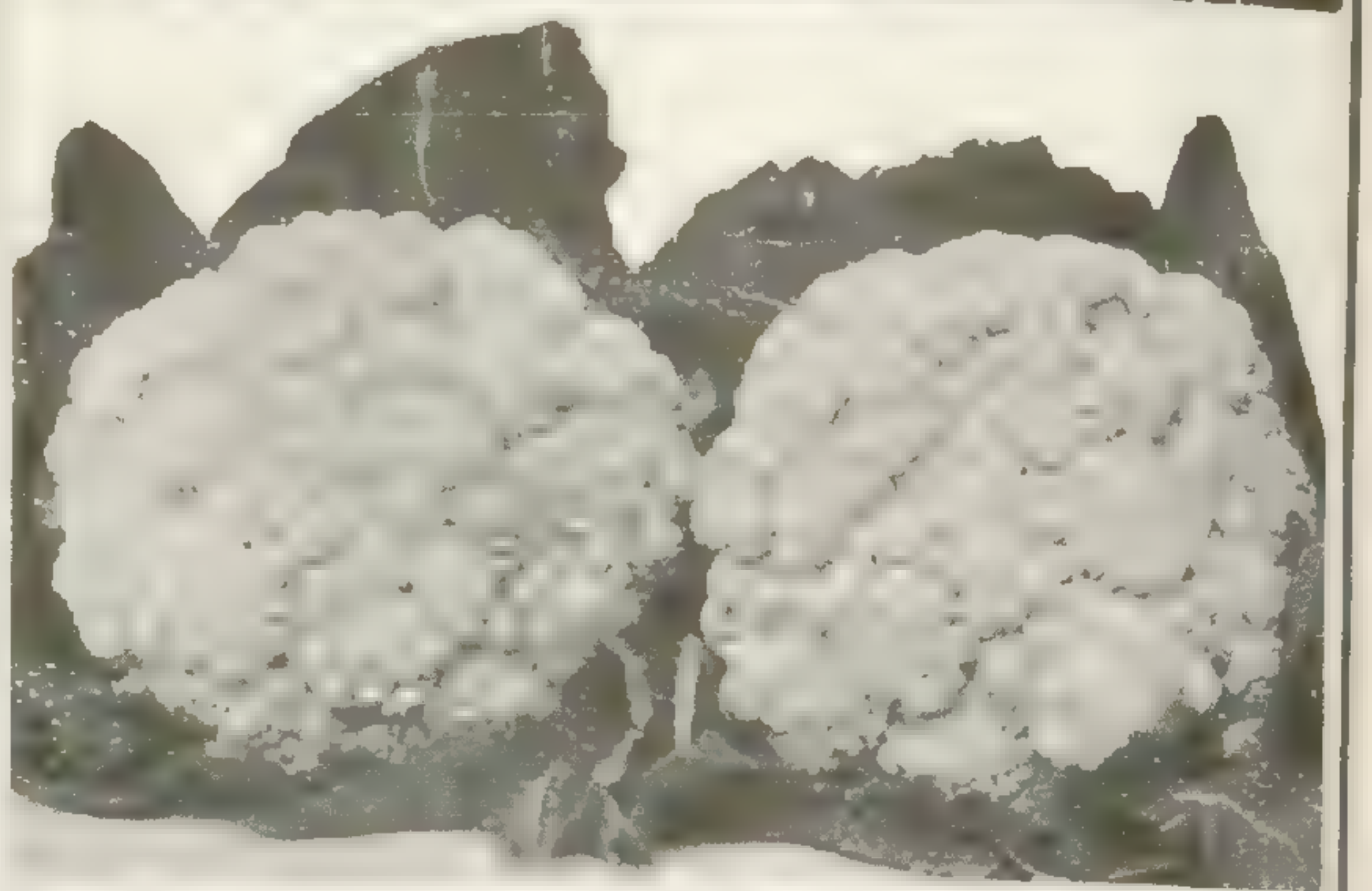

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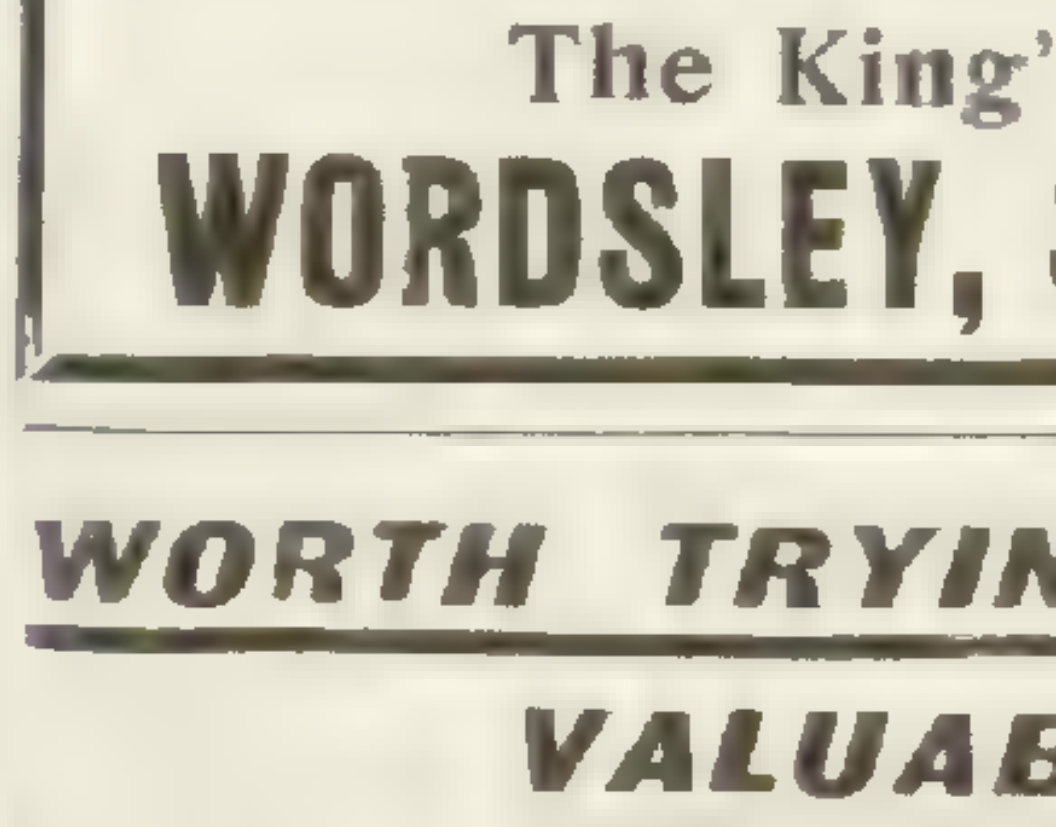

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VOL. LII.—No. 2,884. SATURDAY, FEBRUARY 6, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Fog.

Fog, roughly speaking, may be defined as a volume of watery vapour resting either upon the surface of the sea or that of the land, and determined by a difference of temperature between the earth or the water and that of the air adjacent thereto. Thus, a cold stratum of air resting on a warmer sea, or a warm stratum resting on colder water or similar land conditions, is, under calm conditions, almost inevitably bound to breed a fog or mist of greater or less density owing to the condensation of otherwise invisible aqueous vapour in the air due to the chill involved. Aerial clouds are precisely akin in their nature, as is easily seen in hilly parts of the country in the early morning, masses of mist or fog then resting on the ground with precisely the same billowy outlines as the clouds floating high above, the difference being solely one of position. Fogs of this class, which may literally be termed fogs pure and simple, are in no way deleterious, vegetation is, indeed, benefited by their presence, since the water deposited from them is pure, and they act as a sort of blanket by reducing radiation, and, as a consequence, modifying the effects of frost. In the vicinity of large towns or cities, and especially manufacturing ones, where considerable smoke and other deleterious vapours are thrown into the air from a myriad chimneys and shafts, very different conditions prevail. The aqueous particles, rendered visible by condensation for the reasons above given, are here associated with both poisonous gases and poisonous substances. These, in any case, the gases especially, are, even under dry conditions, detrimental to plant life, but under wet ones, such as condensed mist provides, they become ten times more so, since the water in which they are partly dissolved adheres to the foliage and consequently penetrates the tissues at the same time that it causes the undissolved impurities, soot, etc., to adhere and clog the stomata, or what may be termed the breathing pores of the plants, so that they are not merely poisoned, but suffocated. That this is the case is easily seen, say in a London garden after a typical November fog, when any soft green foliage will be found to be not merely blackened and destroyed by the poisonous action of absorbed gases, but fouled with adherent dirt deposited from the air. Apart, too, from the merely condensing action of cold upon suspended watery vapour, it has been demonstrated that the suspended particles of soot, dust, etc., present in smoky air, themselves induce condensation, forming a sort of nucleus and often creating a dry fog, and it is this class of fog which is so apt to accumulate in a dead calm in and around large towns, and owing to this association, creates those dense, "pea-soup" fogs which we never behold in truly rural districts where the inducing factor of dirt is absent. Undoubtedly the most poisonous element in urban fogs is the sulphurous acid gas given off by coal during its combustion. To plant life this is most deadly, and the destruction which we see in our gardens, and even in our conservatories, after an attack of dingy brown fog is mainly due to this poison, introduced either in solution or absorbed in the gaseous state through the pores of the leaves. Remedy there is practically none, since under such circumstances the air is pervaded with the deleterious matter. Fortunately, the worst of these aerial inflictions occur late in the autumn or in the winter when vegetation is largely at rest, but there is little doubt that many evergreen plants, alpines especially, suffer terribly, and are often killed outright from the effects of such visitations. Happily, too, much is being done in these days, both by legal regulations and the application of new inventions to the thorough combustion of fuel to reduce these evils, but much still remains to be done before the "London particular," of which, by the way, London by no means has a monopoly, since every big city is its rival to some extent, is transformed into harmless cloud of the snowy rural type.

MR. GEORGE WOODGATE.

Mr. George Woodgate, whose portrait is given herewith, has long held a foremost position amongst the leading gardeners of the United Kingdom, and is held in the highest estimation by his many friends engaged in garden management. Commencing his career under his father, who was gardener at Stanstead House, Godstone, Mr. Woodgate served in some of the best establishments in this country, and in passing through them laid the foundation of his thorough acquaintance with the art of gardening, which has contributed so materially to his success in after life. Mr. Woodgate's first charge was at Heathfield, Sydenham Hill, where he remained until his appointment as head gardener at Warren House, Kingston Hill, where he specially distinguished himself in the management of the fine gardens associated with that residence. Mr. Woodgate continued in charge of the Warren House gardens until 1894, when, on the death of Lady Wolverton, the property was sold, and he received his present appointment as head gardener at Roileston Hall, Burton-on-Trent, the residence of Sir Oswald Mosley, Bart. While busily engaged in bringing his remarkable administrative ability and skill to bear upon the management of the gardens under his charge, and closely studying the wishes and requirements of his employers, Mr. Woodgate has not overlooked his responsibilities as a citizen. We have evidence of this in the fact that from 1885 to 1894 he was honorary secretary of the Kingston Chrysanthemum Society, which was then one of the leading organisations associated with the cult of the chrysanthemum, and here he achieved much success. During the past three years he has filled the office of churchwarden at his parish church; from 1885 he has been a subscriber to the Gardeners' Royal Benevolent Institution, and he has subscribed to the Royal Gardeners' Orphan Fund from the foundation of that charity. We might add that Mr. Woodgate has achieved considerable success as an exhibitor, and in this direction has shown that he is essentially what is commonly known as an "all round" cultivator.

Veitch Memorial Prizes.—At a recent meeting of the Veitch Memorial Trustees it was decided to offer gold medals to the Rev. W. Wilks, secretary of the Royal Horticultural Society, and Mr. W. Marshall, V.M.H., chairman of the Floral Committee, in recognition of the valuable services they have rendered to horticulture. The following prizes of a medal and £5 each were also offered: To the R.H.S., at their Temple Show, for the best group of orchids, not exceeding 75 feet, staged by an amateur who has never taken a medal at either the Temple or Holland House Flower Shows; to the Cardiff and County Horticultural Society, for the best amateur exhibit of twelve distinct varieties of hardy flowering shrubs (cut): and to the National Rose Society for competition at their exhibition in July next. At the same meeting Mr. J. Douglas, of Great Bookham, was elected a trustee, in the place of the late Mr. G. Nicholson.

R.H.S. Report.—The report of the Council of the Royal Horticultural Society that will be submitted to the Fellows assembled in annual meeting on Tuesday next is, as usual, of a highly satisfactory character, affording, as it does, evidence of the continued growth of the society in popularity and usefulness. The Council describe the past year as one "of quiet, steady progress," and in this description they certainly do not overstate the case. The Wisley Gardens, we learn, continue to increase in favour with Fellows, and all branches of work that is being carried on therein are showing good results. The new laboratory is proving of great assistance to the educational work, and the result of the first year's work of the students has been highly satisfactory. In the general examination in horticulture the scholarship of £25 a year for two years, offered by the Gardeners' Company, was won by Mr. Perry, one of the Wisley students. The number of visitors to the gardens admitted by Fellows' tickets during 1908 amounted to nearly 11,000, or an increase of over 2,000, as compared with 1907. Last year deputations from the society attended Truro, York, and Newcastle, and invitations have been accepted to send this year deputations to Birmingham and Cardiff. The exhibitions held in the gardens of the Inner Temple and Holland House were, as our readers have been informed, eminently successful, and arrangements have been made for again holding these gatherings this year. The Colonial fruit show in November last was also successful. Reference is made in the report to the omission of the autumn fruit from this year's programme and to the offering of prizes for fruits and vegetables at the fortnightly meetings. With reference to the society's "Journal," it is mentioned that Mr. G. S. Saunders, F.L.S., had to retire from the post of editor owing to ill-health, and that Mr. F. J. Chittenden had been appointed his successor; it is further stated that in future it will be issued quarterly. With a view to the proper recognition of skilful scientific work amongst plants a new certificate has been created and this will be known as "The Certificate of Appreciation." There was a substantial increase in the number of Fellows during the year. The loss by death was 130, representing an income of £171 3s., and the loss by resignation 646 of Fellows, Associates, and affiliated societies, representing an income of £782 5s. The total loss in numbers was 646, and in income £953. The number of Fellows, etc., elected was 1,283, representing an income of £1,961 8s. Therefore the numerical increase was 507, and the net increase in income £1,008.

Kew Gardens.—At the next meeting of the London Branch of the British Gardeners' Association, to be held at Carr's Restaurant, Strand, W.C., at 7.30 p.m., on Thursday, February 11, Mr. Chas. H. Curtis will give a lecture on "Kew Gardens; Their History and Attractions," and the lecture will be fully illustrated by a large number of lantern slides. Professional gardeners, whether members of the association or not, are invited to attend.

Potato Exports to America.—English-grown potatoes are highly appreciated on the other side of the Atlantic, and as the result of this appreciation they are annually shipped to the United States in considerable quantities. This season the exports are larger than usual, owing probably to the low prices ruling, and of these the larger proportion is being sent from Holbeach, the centre of one of the most important of the potato-growing districts in Lincolnshire. From this centre about 1,000 tons are despatched weekly to America. The price paid to the farmers is about £1 15s. per ton, and in addition to the cost of transit the potatoes have to bear a duty of £1 17s. 6d. per ton.

Flowers at Olympia.—On the occasion of the International Horse Show at Olympia in June next, the principal feature of the decorations will be the floral display. In connection with the floral decorations we are informed that "a floral artist" has visited Bruges and Ghent for the purpose of selecting choice trees and shrubs and various flowering plants. Why visit Belgium, or other Continental country, to purchase such things, when they can be obtained in abundance, and of the highest quality, in British nurseries?

Seeds.—At the annual meeting of the Royal Microscopical Society, held the other evening, Lord Avebury, the retiring president, gave an address on "Seeds," with special reference to British plants. In his opening remarks Lord Avebury said that annually there were enormous losses of seeds of plants growing under natural conditions. Large proportions of them were eaten by animals or failed to secure a suitable site for germination. Of those which did germinate many were crowded out. The greater the chance against maturity the larger the number of seeds must the plant produce, and, as a rule, the smaller they would be in size. On the other hand, the greater the chance of arriving at maturity the smaller was the number of seeds necessary, and in such cases it was an advantage that the individual seeds should be large. Parasitic plants generally produced a large number of very small seeds. There were seeds or fruits with wings, which were carried by the wind; those with feathery appendages, which were carried by wind, and sometimes floated by water; those in capsules, which opened at the top and allowed the seeds to be jerked out; those with hooks, which were carried by animals; those which were eaten and thus carried by animals; and those which were thrown considerable distances by the plants. Some seeds mimicked small insects, and were no doubt picked up and carried a distance by the birds before the mistake was discovered. The protection of seeds was of the utmost importance to the plant, all the more so as their nutritious properties rendered them specially tempting to animals and to vegetable parasites. Seeds and fruits which were often protected by hardness or bitterness when immature became sugary, well-flavoured, and sweet-scented when ripe, and when their dispersal was to be effected by animals. In other cases protection was afforded by thick, hard envelopes which did not open until the seeds were ripe.

R.H.S. Finances.—The income of the Royal Horticultural Society in 1908 was £21,915 2s. 7d., and the expenditure £14,048 2s. 7d., those figures representing a profit on the year's work of £7,867. The investments of the society now amount to £33,986 7s. 8d., of the approximate value of £31,623 16s.

Bulb Show at Hillegom.—We are informed that in April next an exhibition of Dutch bulbous flowers will be held at Hillegom, one of the centres of bulb culture in Holland. The exhibition will include a permanent display in the open, so arranged as to afford object lessons in the use of bulbs in the flower garden, and temporary shows in tents. The opening of the exhibition has been fixed for April 8, and will continue until the end of the first week in May.

Famous Cornish Gardens.—The second part of the illustrated account of some of the more noteworthy Cornish gardens will be given in our next issue.

Bermuda Lilies.—The cultivation of lilies for the production of bulbs for export forms an industry of some importance in Bermuda, but for several years past the culture has been under a cloud. This cloud, we learn on good authority, is rapidly passing away, and there is now a good prospect of the industry resuming its once flourishing conditions. One of the greatest hindrances to the full recovery of the industry is, according to the report of the Bermuda Board of Agriculture, the unrestricted export of bulbs not true to type. This is stated to hamper the sale of selected stock, and to keep prices low. The superintendent of the Bermuda public gardens states that the practice which has obtained of exporting as Lilium Harrisi bulbs that are not of that lily has reduced the value of the lily bulb industry by 80 per cent. Several of the larger of the growers have during the past two or three years carefully weeded out during the season of growth plants of L. longiflorum and hybrids, and have thereby obtained true stocks of L. Harrisi. Last year 6,399 cases of bulbs were exported from Bermuda.

CHRYSANTHEMUMS IN SCOTLAND.

This heading may at the first glance cause some perplexity as to what is meant, but I shall soon be able to show to what I refer.

For some years I have observed how well Scotch cultivators succeed with certain varieties, while in England these same sorts are hardly known, at least not in the handsome manner in which they are presented at the Scottish shows. With a view of assisting especially the young Scotch growers, I will direct attention to a few of the more prominent varieties that were seen at the Edinburgh show in November last. Mrs. A. G. Pirie, a sport from Mdme. Cadbury, is a particularly pleasing yellow-flowered variety, unique, perhaps, in the way that two shades of yellow are made so distinct. The surface of the broad florets is a rich golden yellow, with a pale yellow reverse. The blooms are not so large as some, but in quality they are good.

Victoria and Albert is seldom named in English catalogues, and but rarely seen at shows; in fact, I do not remember seeing a single bloom at any English show this season, but at Edinburgh it was staged in the three great classes and in such condition as to obtain 10 points out of a possible 12. In colour the blooms are a deep rich yellow, especially admirably built, and well-filled in the centre.

W. Ring.—In England I saw but one good bloom during the season, but in Scotland it was well shown. The golden buff florets were loosely incurving, making a bold, handsome blossom.

Marquise V. Venosta.—The blooms of this variety were exceptionally well built, white and very fresh in appearance.

Lady Conyers.—In England this variety is seldom seen, being one of the worn-out varieties. Here it is a favourite and is staged in such condition as to ensure the blooms obtaining as many as nine points.

Mrs. G. Mileham was at Edinburgh very rich in colour, the wide, flat, naturally reflexing florets exposing the rich surface fully.

Miss R. Stoop is another white-flowered variety almost a stranger in England. In the North it is usually well shown.

Splendour was shown at Edinburgh so well as to give one the impression that as a Scotch variety it will last a considerable time.

Elsie Fulton has long been a favourite, the florets are usually so massive and so pure in colour.

President Viger displays fully its deep rosy-purple tint as to render it a conspicuous bloom in the majority of stands.

Mrs. Eric Crossley, light golden yellow, is another favourite with Scotch growers, and with good reason, the blooms are full and shapely.

Mons. L. Thorne reminds one of a loosely formed flower of Bessie Godfrey with longer petals.

Florence Penford succeeds remarkably well in the North. The blooms are deeply built, measure as much as 9 inches in diameter, and finish well. The chrome-yellow colour was richly flushed with fawn.

Algernon Davis nowhere carries the rich bronze tint on the extra broad florets that we see in Scotland. The cooler conditions apparently develop more deeply the colour tints. As many as 10½ points were awarded this variety. The florets measured slightly over half an inch in width.

Of the ordinary varieties Reginald Vallis, Mrs. F. W. Vallis, F. S. Vallis, J. H. Silsbury, Lady Talbot, Mrs. A. T. Miller, Bessie Godfrey, Edith Jameson, Mrs. C. Penford, Melchet Beauty, Mdme. P. Radaelli, and its yellow sport Mdme. G. Rivol well retain their popularity in the North.

A Southerner.

ALPINE PHLOXES, OR MOSS PINKS.

The name of phlox is so intimately associated in our minds with the brightly-coloured border plants which flower during summer and autumn that there is some fear of our ignoring the merits of an equally beautiful section of this important genus, namely, those species and varieties which, for the most part, flower in spring. These dwarf, creeping, or as we may for the present regard them, alpine phloxes, share with aubrietias an equal freedom in growth, floriferousness, and ease in propagation, and they adapt themselves to various positions and uses. Nor do they readily deteriorate or exact but a minimum of labour and attention throughout the year.

Their beauty lies in the delicate colours and texture of the petals, accentuated by the fine pencilling which constitutes what we term the "eye." They are best employed in masses from a foot to a yard across, preferably on some sloping bank, or in a position where they can be allowed to drape the surface of a rock. They are such good amateur's plants that it is difficult to conceive of them being ever employed to ill-effect, for, being evergreen, their foliage in winter clothes the ground with life, and in spring and early summer they transform the dullest surroundings in the garden into pictures of greatest beauty.

A species which has given a great number of varieties of the highest excellence is Phlox subulata. It is an evergreen, having long trailing stems densely clothed with close-set, pointed leaves, characters which are constant in all its offspring. It prefers a well-drained soil, and the best results are obtained in that which is moderately rich in plant food. The type has purple flowers. The best varieties of P. subulata include Nelsoni, white, blue eye; Lilacina, pale lavender, similar to G. F. Wilson; Atro-lilacina, deep lavender; Brightness, deep rose, scarlet eye; Daisy Hill, deep rose, crimson zone; Sprite, rose-pink, carmine eye; all flower in May and June.

Of other alpine species, Phlox reptans is worthy of a place; it differs from P. subu-

LÆLIO-CATTLEYA FELICIA.

Flowers blush and crimson-purple. F.C.C., R.H.S., January 26. Messrs. Charlesworth and Co., Haywards Heath.

lata in having obovate, spathulate leaves, and the stems root at every joint; the flowers are violet-purple. I find it succeeds admirably in quite indifferent soil, and it is one that is reliable in flowering. Phlox verna has creeping stems, like P. subulata, broad leaves like P. reptans, and flowers of a very bright shade of pink; it is especially desirable for the rock garden.

Phlox divaricata is larger and coarser in growth than P. subulata, which it resembles in a general way; it is equally desirable as a garden plant, and is even less fastidious as to soil. The flowers are pale lilac, emerging into full lavender in the variety canadense. Neither of these forms can approach in beauty the variety named Laphami (Perry's variety), than which there is no finer subject in the garden during May and June, as it flowers with prodigal freedom. The individual blooms are very large, and are borne in big heads upon wiry stems some 15 inches in height, while the colour is a lovely shade of lavender. During the summer of 1907 I employed it as the dominant colour in a garden scheme where the flowers were restricted to lavender and blue, and it produced a novel effect, lasting quite four months in flower. The growth is never too dense, and thus it admits of being interplanted with other subjects which carry on the flowering season till autumn.

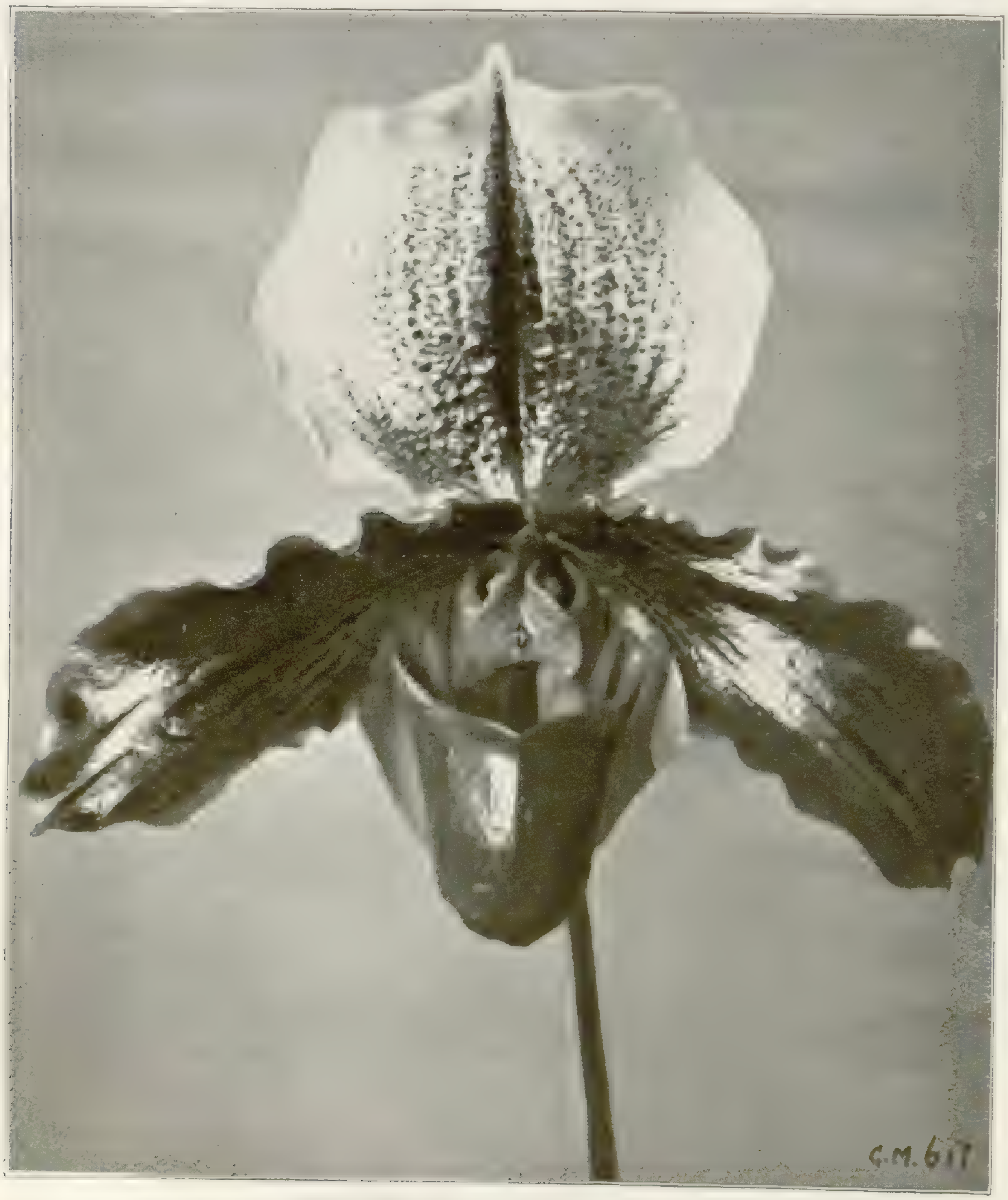
Propagation of all these phloxes is comparatively easy, the stems of the mossy section, if pressed into the soil and covered, will soon produce roots, or cuttings taken during July and inserted in small pots containing sandy soil will yield the same result. P. Laphami will strike from cuttings at any season if treated in like manner, and it is a good subject to grow in pots to bloom in the greenhouse during early spring. **Thomas Smith.**

Walmsgate Gardens.

NEW PLANTS, ETC.

CYPRIPEDIUM OUR QUEEN.

This very bold and finely coloured cypripedium is derived from a dark form of C. Leeanum, crossed with C. Stevensi. The dorsal sepal has a white ground heavily marked with bright purple, the spottings being confluent down the centre. The broad, wavy petals are yellow-green, brightly shaded with purple. The pale green lip serves to heighten the colouring of the other organs. A.M., R.H.S., January 26. Mr. W. Stevens, gardener to W. Thompson, Esq., Walton Grange, Stone, Staffs.



CYPRIPEDIUM OUR QUEEN.
Flowers white, purple, and green. A.M., R. H.S., January 26. Mr. W. Thompson, Walton Grange, Stone, Staffs.

CYPRIPEDIUM EARL OF TANKERVILLE.

This is a very roundly formed cypripedium: indeed it is almost too formal, and a little extension of the broad, rounded, white dorsal sepal would have been an improvement. The dorsal sepal has numerous dark purple spots that are paler towards the apex. The petals and lip are yellowish green, shaded with bright brown. The parents of this fine variety are C. exul and C. nitens Sanders' var.

A.M., R.H.S., January 26. Mr. H. Alexander, orchid grower to Lieut.-Colonel Holford, Westonbirt, Gloucester.

SOPHRO-LÆLIO-CATTLEYA MARATHON VAR. VESUVIUS.

This very brilliant hybrid is the result of crossing Sophro-lælia Psyche with Cattleya Empress Frederick. The flowers are of moderate size and the labellum is very prettily waved. The sepals and petals are rich rose-red, flushed with crimson, and with a yellow shading down the centre. The lip is rose-red, heavily shaded with ruby-crimson, and has a yellow base. A striking novelty. F.C.C., R.H.S., January 26. Messrs. Charlesworth and Co., Haywards Heath.

LÆLIO-CATTLEYA FELICIA.

A fine bold hybrid, reminding one of L.-c. callistoglossa. The parents are L.-c. Haroldiana and C. Trianæ. The sepals and petals are blush coloured, and the very large, broad lip is of a brilliant and deep shade of crimson-purple. F.C.C., R.H.S., January 26. Messrs. Charlesworth and Co., Haywards Heath.

CHRYSANTHEMUM GOLDEN SUNSET.

A remarkably useful and effective late decorative chrysanthemum, said to be a sport from Princess Victoria. The flowers are of medium size, rich golden-yellow, with reflexing florets, and carried on good stems. A.M., R.H.S., January 26. Messrs. Robinson and Headey, Dunstable.

CYPRIPEDIUM EURYADES NEW HALL HEY VAR.

A handsome hybrid resulting from C. Leeanum superbum, crossed with C. Boxalli, but, as shown, it was rather too narrow at the base of the dorsal sepal. The latter is white, marked with purple, and the petals and lip are yellow-green, shaded with brown and purple. A.M., R.H.S., January 26. Mr. J. Forster Alcock, Exhims, Northchurch.

CLERODENDRON UGANDENSE.

A strikingly handsome plant, growing from 2ft. to 3ft. high, and bearing loose racemes of beautiful blue flowers. The anterior lobe of the corolla is bright violet-blue, and the other segments pale blue, while the filaments are purplish blue. This species flowers in autumn, it grows freely in an intermediate house, is easily propagated from cuttings of young shoots, and so promises to become an extremely useful decorative plant for warm conservatories. Bot. Mag., t. 8,235.

ANGADENIA NITIDA.

Though not likely to oust old favourites, there seems to be room in tropical houses for this South American climber. It grows freely in a stove, and in July bears racemes of yellow dipladenia-like blooms. Bot. Mag., t. 8,233.

LONICERA GIRALDI.

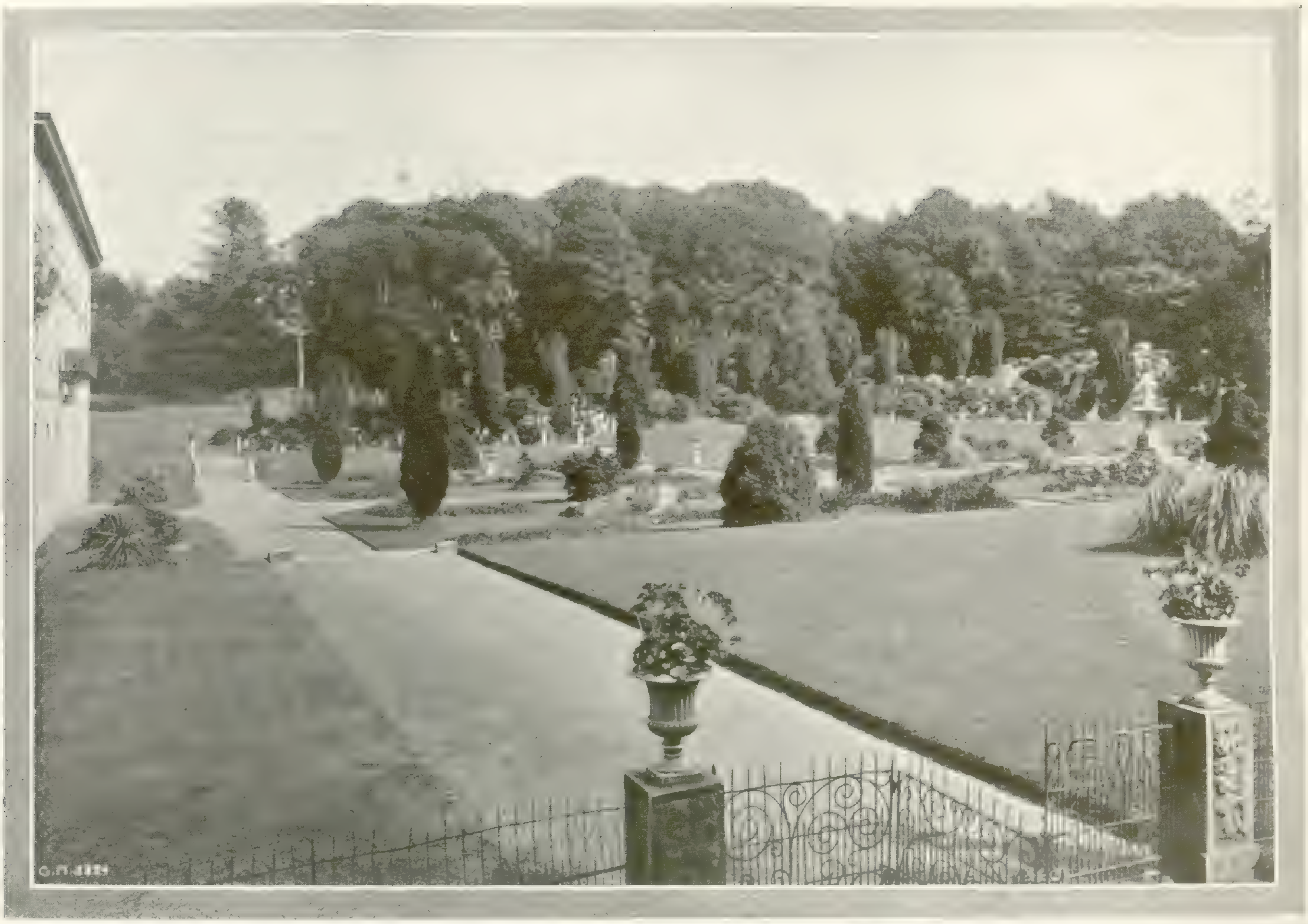
A new honeysuckle from China. It is of shrubby habit and bears hirsute, lanceolate leaves, and short terminal panicles of red flowers that are rendered the more effective by the exserted yellow stamens. The species was introduced by Mons. Maurice L. de Vilmorin, who obtained seeds from Szechuan in 1899, and flowered plants at Verrieres in 19 Bot. Mag., t. 8,236.

ENCEPHALARTOS BARTERI.

An interesting cycad from West Tropical Africa, where it is known as the Ghost Palm. It appears to be not very plentiful, and under cultivation it is by no means a success, plants rarely surviving long even under the most careful treatment at Kew. The species is short-stemmed, and its bright green leaves, 3½ft. to 5½ft. long, bear about 80 pairs of sharply pointed, serrated leaflets. Bot. Mag., t. 8,232.

CYTISUS DECUMBENS.

A small-growing species having a trailing habit, and producing a profusion of bright yellow flowers in May. It is well adapted for trailing over broad ledges in the rock garden, and for carpeting beds occupied by [illegible] growing plants. This charming broom is a native of Southern Europe. Bot. Mag., t. 8230.



[Photo: W. Rochard.

PENCARROW: GARDEN FRONT AND FLOWER GARDEN.

SOME MORE CORNISH GARDENS—I.

So many kind things were said and written about the descriptions of Cornish gardens that have already appeared in these pages that the task of reviewing another set becomes a pleasant one. On a former occasion the Isles of Scilly formed one text, and, later, Falmouth was the centre of operations. The present set covers a wider range, and shows that while Cornwall is very mild and moist throughout, there is a considerable difference between what is possible at Pencarrow and Prideaux Place, in the north, and Bosahan and Trewidden in the south.

Pencarrow.

When, in the small hours of the morning, I changed at Liskeard for Bodmin, the rain was falling heavily, and the prospects of a fine day for visiting Pencarrow were extremely small. At Bodmin the prospects were still dismal, and but for the company of Mr. A. C. Bartlett, an old Kewite, who met me, the three and a-half miles drive, northward, to Pencarrow, would have sufficed to damp one's ardour considerably.

Pencarrow is a large estate belonging to Mrs. Ford, who has a very great affection for her garden and woodlands, and for the fine trees that abound. The trees are the outstanding feature of the Pencarrow estate, and conifers are especially fine and abundant. The estate has belonged to the Molesworth family ever since the time of Queen Elizabeth, and the late Sir William Molesworth, Bart., one-time Colonial Secretary, lived here for a long number of years, and did a great deal of planting. The long white, comfortable-looking house occupies rather low ground, and is admirably sheltered by the higher ground around and by the belts of fine trees found at almost every point. The flower garden is a sunken one and surrounded by a light ornamental iron fence, and each gateway has stone pillars surmounted by large flower-filled vases. The general design is a formal one, but, as the illustration shows, the planting is not of a strictly formal character. Irish yews and retinosporas are noticeable, and the former are numerous on the far side where the rock garden commences. Yuccas, cordylines, Trachycarpus excelsa, and pampas grass are subjects largely used in this garden, but there are roses as well, and in the summer time begonias and pelargoniums fill the beds around the central fountain. Hard by are several eucalypti, notably E. Gunni and E. globulus. The last-named has flowered at Pencarrow; it sometimes suffers from wind, but scarcely ever from frost.

The rockery is distinctly not a rock garden. It is 120 yards long and was made by Sir William Molesworth, and was a great hobby of his. He was a kindly man and so well liked in the district that when the neighbouring farmers came to know of his hobby they carted the huge stones from nine or ten miles away right to the spot, and, though they did it freely for love of the squire, it is said the flower garden and rockery cost him £20,000. The rockery is more interesting than beautiful. It affords a home for a large collection of dwarf shrubs and for the hardier kinds of alpines; it also provides a cool and quiet retreat, for, passing between two huge boulders, one finds a tiny path that leads to a rocky summer-house, where, sheltered by the trees behind, and screened by the piled-up plant-clothed rockwork in front, one could pass many a summer afternoon in quiet comfort.

How can one describe the grounds and woods of Pencarrow? The long drives are magnificent and mostly of greensward in place of road-metal. One such drive or avenue, composed partly of Araucaria imbricata, is one and one-third miles in length. The woodland valley that gradually opens out before you as you pass away southwards from the flower garden is beautiful as Nature made it, and Nature has been assisted by the various holders of the estate, and later by Mr. A. C. Bartlett, Mrs. Ford's young and enthusiastic head gardener. The little stream runs very irregularly between the sharply sloping banks, amid ferns and under fine trees. Magnolias and rhododendrons, camellias and azaleas are grouped boldly here and there along the banks, and at various convenient positions rare conifers have been planted, so that the reputation of Pencarrow may be maintained for long years to come. As an example, I may notice that Widdringtonia Whytei, the Mèlanje Cedar, has been planted in several places. In one part of this valley is an opening at the end of a walk, and here are eucalypti, camellias—the latter in full flower—and hydrangeas that tell of grand effects produced in summer.

Where the banks recede somewhat opportunity has been taken to form a semi-wild and bog garden. Gunnera manicata is a great success and spreads its noble leaves around in summer time. G. scabra is also good, but it suffered a good deal in

1906-7. There is also here an unnamed gunnera sent from Chili by Mr. Elwes; it seems intermediate between G. scabra and G. manicata, it starts early into growth, lasts well, and is very hardy. Irises, arundos, bamboos in great variety, and many other moisture-loving plants are utilised here in this sheltered spot, and uncommonly well do they thrive.

Farther along is the ruin of an old fowl-house, once used for the acclimatisation of rare aquatic birds, but it is now almost hidden by two very big specimens of Trachycarpus excelsa, carrying large heads of fine leaves, and behind them is a fine Dracæna indivisa, while under all is a carpeting of the pretty Mother of Thousands (Saxifraga sarmentosa). Choice conifers, of various sizes, in the neighbourhood of this bog and wild garden, are Podocarpus excelsa, P. Totara, P. nubigena, and P. chilinus, Prumnopitys elegans, and Saxegothaea conspicua, both about 4ft. high. Here also is a tall Eucalyptus urnigera and E. coccifera; the latter, with its blue stems and three distinct forms of leaves, was coming into bloom when I saw it.

A little higher up the valley is a pond, formed by holding back the stream. It is surrounded by a wealth of rhododendrons, and in it are large groups of arum lilies. We pass a strong young Davidia involucrata, a plant everyone wants to see producing its brilliant bracts. Cephalotaxus drupacea, and a fine sugar maple, arrest attention, and from here we can see the splendid specimen of Pinus insignis that stands below; it rises 90ft. high, and is supposed to be the finest in the country. There is another specimen taller, but not finer, and this, which measured 101ft. high four years ago, Mrs. Ford helped to plant when a girl seven years of age. She is now over ninety.

[Photo: W. Rochard.

A MUSA, AND PART OF THE ROCKERY AT PENCARROW.

In spite of the rain I saw a good deal of Pencarrow, and I made far more notes than can possibly be used now. With Mr. Bartlett I walked through miles of woodlands and looked out from the northern edge of the estate upon the Cornish hills Roughtor and Brown Willy, away to the northward. We also visited the old circular encampment that occupies the highest point in the park. Here are the three ramparts and ditches, with the sides of the entrenchments crowded with old and curiously stunted oaks, and it is said that Jan Ridd, well known as the hero of Blackmore's "Lorna Doone," met and overcame the famous Cornish champion wrestler in this enclosed space.

I must conclude with the measurements of a few of the finest of the conifers at Pencarrow, and with the advice that, though it is right off the beaten track, indeed, a rather out-of-the-way place, Pencarrow, Washaway, S.O., Cornwall, should be visited by all who are keenly interested in arboriculture. The following are the heights and girths, as measured in April, 1907, and kindly supplied by Mr. Bartlett: Abies firma, 49ft. by 6ft. 5in.; A. Veitchi, 40ft. by 3ft. 10in.; A. cephalonica, 70ft. by 11ft.; Picea polita, 34ft. by 3ft. 4in.; P. Alcockiana, 25ft. by 2ft. 3in.; P. Morinda, 60ft. by 6ft.; Pinus Russelliana, 49ft. by 5ft. 9in.; P. Montezumæ, 53ft. by 9ft.; P. Banksiana, 35ft. by 3ft. 1in.; P. insignis, 91ft. by 14ft. 9in.; Cupressus torulosa, 42ft. by 5ft.; C. t. majestica, 32ft.; C. obtusa, 24ft.; C. nootkatensis, 38ft.; Cryptomeria japonica, 65ft. by 7ft. 10in.; C. elegans, 36ft.; Cunninghamia sinensis, 48ft. by 4ft. 9in.; Fitzroya patagonica, 25ft.; Juniperus recurva, 30ft.; Taxodium distichum pendulum, 35ft. by 3ft. 3in.; Larix europæa pendula, 30ft. across; Fagus betuloides, 40ft. by 4ft. 7in.; Castanopsis chrysophylla, 15ft.; Ilex dipyrena, 26ft.; a Lucombe oak, 82ft. by 10ft.; and a Tulip tree 76ft. by 8ft.

Prideaux Place.

Padstow, on the far north-western side of Cornwall, overlooking the little harbour of the same name, is a small town of ancient date, about a mile from the sea, and set on the side of the broad estuary of the River Camel. In the time of Edward III. Padstow supplied two ships for the siege of Calais, but its usefulness as a port of call is materially reduced by the huge sand bank, the Doombar, that silts up at the mouth of the harbour. There is a local tradition that St. Patrick landed at Padstow, and also one to the effect that the sand bar that almost blocks the harbour is due to the dying curse of a mermaid who was shot in Padstow Bay. I am not prepared to agree with Leland that Padstow is a "good, quick fischar toun, but onclenly kepte," because I saw it at the close of about twenty-four hours' rain.

My objective was Prideaux Place, the ancient seat of the Prideaux family, and now the home of Colonel Prideaux-Brune. This imposing house stands on high ground overlooking the town and occupies a very commanding position. It is in castellated style, and was begun in 1588 on the site of a monastery supposed to have been founded by St. Petroc, and one that was destroyed by the Danes in 981.

The conformation of the gardens at Prideaux Place is extraordinary. There are really eight gardens; that is to say, the gardens form a sort of crescent, or rather a horseshoe, and are divided by roads or rights-of-way into no fewer than eight portions. The pretty church is practically within one of these portions, and it is now, and always has been, well cared for by the Prideaux family. The font of Cataclews stone was once famous because in the days when hanging was one of the commonest forms of punishment, it was believed that anyone baptised in it would be preserved from the gallows. It lost its virtue, however, when one who had been christened in it turned highwayman, and suffered the extreme penalty.

The character of the house, and some idea of its spacious terrace walks and spreading lawns may be gathered from the accompanying illustration, but the picture cannot show the fine dracænas along the terrace front, nor can it clearly indicate the wonderful plants that clothe its walls. Those familiar only with Ficus stipulata (F. repens) as a pot plant, or even covering the wall of a warm house, would be surprised to find it a thick-stemmed creeper here, rising fully 32ft. high and filling a broad space. Enormous Banksian roses adorn the south front, and they are the largest I have ever seen. At the end of the house, near the stables, is a splendid old tree of Benthamia fragifera, and close by is a huge fig tree, while Solanum jasminoides flourishes against the stable walls. At the eastern end is a fine Magnolia grandiflora. Right in front of the house, lower than the terrace, is a small deer park, and the garden runs almost round it, providing some delightful walks among the trees, one of which, showing the free use that is made of Miss Jekyll's strain of polyanthuses, and the great breadths of all kinds of daffodils, is herewith depicted. Hartstongue ferns are so abundant in the woods as to provide another interesting feature.

[Photo: W. Thoroughgood.

SUB-TROPICAL PLANTS AT PENCARROW.

Behind the house there is an interesting little flower garden in front of a very pretty conservatory. The illustration shows that this part of the grounds is terraced, indeed, terraces and sharp slopes and steep climbs are the order all over this estate, so curiously perched on the crest of the hills. Were it not for the fine trees that abound, beech especially, the position would sometimes be an unpleasant one. Cannas are a feature of this flower garden, and though those in the beds are lifted annually to make room for spring bulbs, those in the border are only lifted when new stock is needed, and they have been left out unprotected for ten consecutive years, and remained unharmed. Close to the conservatory wall the Belladonna lilies are a great success. The little fountain basin is the home of Aponogeton distachyon, that is rarely out of bloom, and close by this is a very large plant of Griselinia littoralis.

Another pretty garden is the one devoted to herbaceous plants and roses. Of phloxes there is a fine collection, and these are splendidly grown in large variety. The scarlet-flowered Lobelia Queen Victoria (cardinalis type) is not lifted each autumn, and housed carefully as with us in the London district, but is left out all the winter, and then, about the middle of May, when strong growths begin to push, the plants are lifted, parted, and replanted. It will thus be seen that even in this part of Cornwall the climate is much more kindly to the gardener than it is at, say Kew.

It is a quite easy matter to pass out of any of these more closely and trimly kept parts of the garden into the surrounding woodland walks, but nowhere is gardening neglected. In the springtime the ground beneath the trees is ablaze with daffodils, and, later, aglow with bluebells, while primroses and polyanthuses, from blue to maroon, are in bloom in all but the hottest part of the year. There are many surprises at Prideaux Place, and not the least is the Quarry Garden, that shows how an otherwise unsightly part may be made beautiful. Right through the natural rock that carries a roadway, a big tunnel has been blasted, and through this the bottom of the old quarry is reached. All sorts of climbing and drooping plants drape the stone sides, and the pool below is the home of many kinds of nymphæas. The planting all around is of a most informal character, and in some cases it has been hard work to provide a sufficient depth of soil for the plants. Choisya ternata is splendid here, and so, not far away, is Gunnera manicata. Phormiums grow like weeds, and acanthuses are very much at home. The various forms of the Japanese Rosa rugosa provide another fine feature, and all around these there are big patches of anemones. Anemone appenina is particularly fine, but Mr. Brown, who is deeply in love with the garden he has charge of, says they would be much finer were it not that the pheasants have a great liking for the roots of this species, and annually levy tribute from the Quarry Garden. In this sheltered spot bamboos never look rusty, while Cyrtomium falcatum flourishes quite unprotected, and Eryngium pandanifolium, a noble plant with huge glaucous leaves, is also quite at home, and has flowered here.

But I must conclude with a mere mention of the fine eucalypti, and dracænas, of the laburnum and lilac walk, of the well-kept kitchen garden, of the chrysanthemums, the freesias, and excellent Malmaison carnations, and the quaint old grass walk, where still remain the old guns forming the battery set up by Henry VIII. to defend Padstow Harbour.

Trevarrick.

A little way down the hill from St. Austell Station there is a fine old house set in a well-wooded and charming old-world garden. You look over the fence and at once the thought comes that here there must have lived some who had a great love for their garden, and spared no pains to make it a distinct and unique one. This is Trevarrick, the old home of the Shilson family, and the cradle, so to speak, of the cult of the Himalayan rhododendrons. It is now, and has long been, the residence of Mrs. Hitchins, and her eldest son, Mr. Martin F. Hitchins, both garden lovers, and the latter a keen florist, and as well known as an expert among sweet peas as

[Photo: J. E. Oatey.

A FINE SPECIMEN OF THE COMPACT FORM OF PINUS INSIGNIS AT PENCARROW.

among all that pertains to the production of China clay, for which St. Austell is famous.

The rhododendrons at Trevarrick are very fine, and they include some of the finest arboreums that can be found. There is a magnificent specimen right in front of the house, and another of R. barbatum, 20ft. high, in full view of the dining-room window. At every turn, during a walk through the garden, the wonder of these splendid plants grows. Of course, arboreum varieties are the most in evidence, but there are also splendid specimens of R. niveum, R. cinnamomum, R. argenteum, R. Maddeni, R. Hodgsoni, and the pretty pink R. Thomsoni, as well as a whole host of thriving seedlings.

Glorious must be the many fine specimens of Embothrium coccinea, when ablaze with its scarlet flowers, and charming, too, must be Benthamia fragifera, when adorned with its multitude of white blossoms. Other arboreal treasures are a giant Pinus insignis, a Sciadopitys verticillata, 25ft. high; a very fine pair of Cupressus macrocarpa; a magnificent tulip tree, much larger than the fine specimen in the gardens of University College, Reading; a grand old English oak, and a splendid hickory, with great spreading branches, that is probably one of the biggest in the country.

Daffodils, pansies, and carnations abound, and there are fine collections of these, but they are under the special care of Mr. Herbert Hitchins, while the sweet peas are Mr. Martin Hitchins' special hobby, and right grandly are they grown. Mr. Hitchins believes in thin planting, in single rows, and the rows very wide apart, and the results justify his belief. He grows a goodly number of varieties each year, and his knowledge of these popular flowers led to his election upon the Floral Committee of the National Sweet Pea Society.

It is interesting to observe the love of flowers that runs through the family. Every one of Mrs. Hitchins' sons is a keen amateur gardener, and one can imagine their love of flowers and plants is due as much to the influences of the Trevarrick garden as to any inborn love they started with. Two other brothers resident in St. Austell make roses and orchids respectively their hobby.

CHAS. H. CURTIS.

PRIDEAUX PLACE, PADSTOW.

WICHURAIANA ROSES.

The title of Wichuraiana is now applied to a large number of varieties, as well as to the type introduced from Japan about 1887, and distributed here by Dawson in 1893. This latter has single, small pure white flowers in large clusters, with prominent yellow stamens. It flowers very freely throughout summer and autumn. From this we have obtained many beautiful hybrids, so that the original kind is generally alluded to in the rose trade as "Wichuraiana, The Type."

It was in 1900 that Messrs. Barbier Brothers, of Orleans, sent out their first hybrids, and now many of our best weeping and rambling roses belong to this class. Mr. W. A. Manda, and Messrs. Conard and Jones sent out three really good varieties the year previous; Evergreen Gem, a cross between the type and Madame Hoste, is a pale buff-white, a little more than semi-double, of extraordinary strong growth, that has sweet briar fragrance; Jersey Beauty, a cross with Perle des Jardins, is single, large, and showy, and being so very hardy is a capital substitute for the tender Sinica and Macartney roses.

In 1900 we had Alberic Barbier, a fairly deep yellow when in bud, and opening to a creamy-white. This is one of the earliest to bloom here. René André is a cross with L'Ideal, and gives us much the same comminglings of colour, and, what is of equal value, we have the delicious perfume of this beautiful, but somewhat tender Noisette. Gardenia, in the bud, is deep yellow, and three of the buds, backed by their own shiny foliage, make an ideal coat bouquet. It grows paler with age, but is one of the best, and was probably named because of its perfume, which closely resembles that of the stove shrub. Eliza Robichon, a very pretty semi-double rose, shaded with pale yellow, is one of the best in this class, being exceedingly free flowering, and a little neater in habit than most.

The varieties named above are remarkable for their creeping habit, and are never seen to greater advantage than when upon tall standards, as weepers, or planted high up on ruins and allowed to droop down. I have only mentioned a few of the best known, but these are being added to annually. They are extremely hardy, profuse of blossom (some of them almost perpetual), and decidedly the most evergreen of any rose—all points in their favour; nor have they been attacked by mildew and red rust with us.

A cross between R. Wichuraiana and the multiflora or polyantha section has given us the beautiful group of which Dorothy Perkins, Hiawatha, etc., may be taken as examples. Here we seem to retain the vigour and hardiness of both parents. Lady Gay appears a little stronger with us than Dorothy Perkins, while Minnehaha and The Farquhar Rose are stronger still. I am only writing of them as they grow in quantity side by side here. They are certainly distinct, both in growth, colour, and form of truss. The Farquhar rose is a cross between R. Wichuraiana and Crimson Rambler, and conforms to one's idea of what that might produce. Strange to say, Minnehaha, very much like it, is a reputed cross with Paul Neyron; a parent so out of character with its offspring that one almost doubts if Mr. Walsh (the raiser) can be correct in its pedigree.

I have several of the newer varieties, and look forward to very pleasing results if the pedigree is given correctly. For example, Wichuraiana x Souvenir de C. Guillot; this is from three distinct raisers. Also crosses with Eugène Resal, Madame Charles, and Laurette Messimy, but more of these next year, after a fuller trial.

I much prefer these roses upon their own roots, and they are so full of vitality that the aid of a foster stock is not needed. This ensures that all shoots from the base are rose, and not stock suckers, and it is just from here that the most serviceable growths spring. I would like to give a warning word in planting these. They commence growing very early, and must be afforded a little extra care, especially when treading the soil about them firm.

Uckfield. A. PIPER.

BERBERIS AQUIFOLIUM.

It is impossible to overestimate the value of this evergreen species for garden decoration, or for undergrowth in woods and plantations, for it thrives in both good and poor ground, and succeeds on dry banks and beneath the shade of trees, where few things will grow. Either planted alone, or intermixed with Rhododendron ponticum or aucubas, it is equally desirable, and can be kept to almost any height between one and four feet by pruning. The foliage, of course, is ornamental during the whole of the year, but it is doubly so in winter, for at that period the leaves take on a bronze or purplish, or sometimes red hue, which makes them of value both for the garden and for cutting, to use in companionship with flowers for house decoration. The flowers also have something to recommend them, for they open in early spring, are yellow in colour, and are borne in good-sized terminal inflorescences.

The type is the most valuable plant for general use, but there are several well-marked varieties which are worth inclusion for special positions. Of these the following are specially noteworthy: B. a. fascicularis and B. a. Murrayana are two strong-growing varieties, which grow much taller than the type, and are of somewhat looser habit. B. a. latifolia and B. a. macrophylla are remarkable for their large leaves, B. a. rotundifolia for its large rounded leaflets, and B. a. undulata nana for its dwarf habit.

W. D.

Kew.

BRITISH FERN CULTURE.

It seems a very bold thing to assert that amid all the various branches of horticulture to which we owe the brilliancy and beauty of our present shows, that of our native ferns, in their varietal character, is far and away the most interesting to anyone who takes the trouble to investigate the subject. There is, for instance, not one among the rest which can claim to be purely and entirely British, and the outcome of natural sports found exclusively within the British Isles. We may take any one that may be cited in contradiction, and we shall invariably find either that the plant concerned is an exotic to begin with, or that the varieties exhibited are partly imported, having been originated by foreign cultivators. Furthermore, we shall discover that the bulk of the varieties are due to long-continued selection of small points, or to hybridisation, coupled with subsequent selection, and rare indeed will be the case where the exhibitor can assert either that he found the plant growing wild or that the specimen shown is the more or less immediate outcome of such a discovery.

POLYANTHUSES ALONG THE WOODLAND WALK AT PRIDEAUX PLACE.

Again, when we confine our argument to ferns we find that, varied as the exotic ferns are, their diversity is mainly specific, and not varietal, and that despite the great number of species now existing in our collections, the proportion of improved varietal forms to which they have given rise is incomparably less than in the case of our native ferns, which, roughly speaking, have yielded 2,000 wild varieties from only a score of species, the remaining score being ignored as having produced but few. The British fern hobby, or cult, is also the only one which is associated with a sympathetic coterie of hunters as well as raisers. Unhappily, the old coterie of pioneers, Wollaston, Ure Jones, Dr. Fox, Lowe, Fraser, Moly, Padler, Carbonell, and others, have mainly passed away, but a few remain to leaven a succession now that renewed interest is being shown in these peculiarly wonderful natural productions. Nobody who has not experienced it can imagine the delight engendered by the discovery of a thoroughbred and beautiful new variety, full grown, and in its prime, in a hedge, a dyke, a bit of woodland, or in a picturesque glen, or even on the open moor, anywhere, in short, where ferns are at home. There it stands amid its common fellows, and undoubted progenitors, from which it may differ in a hundred varied ways, tasselled or frilled, or fringed or condensed, crimped or curled, and yet, search as we may, we shall find no approach to such characters in any of the plants around. Its origin is a mystery. Nature, in some occult way, has inspired a spore or a bud, and instead of the old form arising a new one has appeared for the hunter's delectation. Carefully removed and cultivated it retains its character indefinitely, and its spores, moreover, will reproduce it, generally truly, but often on varied lines which permit of improvement by selection, while now and again its offspring will make a bound, as it were, and give altogether unexpectedly transcendent results.

We are not exaggerating here; this has occurred several times in our own experience, and been ratified by R.H.S. first class certificates of merit. On the other hand, the hunter often comes across small plants, either as seedlings or growing on old walls, under stunted conditions which preclude full development. In these his sharp eye detects something unusual, and he takes them home for trial. Sometimes, under congenial conditions of growth, their normality asserts itself, but not infrequently very good varieties are found in this way, and again we say that no outsider can gauge the pleasure experienced by the finder when he notes the greater and greater development of possibly new and unforeseen characters as the youngster or dwarfed specimen assumes the adult form.

Such research, too, carries us into the most beautiful parts of the country, since it is always in the verdant lanes of our western counties, the fern-clad banks, old walls, and stone dykes of the high roads there, in the heart of the woodlands, by the umbrageous banks of the mountain stream, or on the very flanks of the hills themselves, that the hunter finds his gems, inspired always by the knowledge that wherever there is a fern there is a chance of a find. This fact is peculiarly difficult to bring home to outsiders. Over and over again we have been informed by friends, after a country outing, that there were "plenty of ferns, but only common ones," they being apparently unable to grip the idea that it is precisely among these "common" or normal ones that the varieties originate, and that no place exists where the varieties would constitute the ferns of the locality by themselves.

The fern hunter in search of new localities is often misled by reports of abundance, only to find, perhaps, after a long journey, a bracken-covered country, with no other ferns to speak of. Even the bracken (Pteris aquilina) is, however, a by no means uninteresting fern, from the varietal point of view, since it varies con-

CONSERVATORY AND FLOWER GARDEN AT PRIDEAUX PLACE.

siderably, and congested, tasselled, curiously twisted, and revolved or tubular forms have been found, in this case in quantity, some acres of a prettily tasselled variety existing at Faygate, Sussex.

British fern culture, apart from its unique character in the respects indicated, possesses also the advantage that as all the plants are native, they are quite hardy, so that no expensive heating apparatus is required either for their maintenance or propagation. The sowing of spores of thoroughbred varieties is of absorbing interest, by virtue of the fact that new and improved forms are very apt to result, as already indicated, and, as a matter of fact, no one who has once caught the fern "fever" by a fortunate "find," or a successful raising, ever loses the taste for the cult, but becomes a lifelong student, and, as a rule, the happy possessor of a collection of individual as well as general interest. The writer has such a collection of several hundred varieties of the élite, a good percentage of which are his own personal finds, or those of his intimate friends inspired by his example, plus a number of unique gems obtained by selection. Can as much be said for any other branch of purely indigenous and amateur horticulture? We doubt it extremely.

Chas. T. Druery, V.M.H., F.L.S.

DESIRABLE INCURVED CHRYSANTHEMUMS.

Although the varieties to which I wish to call the attention of cultivators are not all new, they are not what might be termed common. As this type is so little appreciated at the present time, and as desirable new varieties are very scarce, cultivators who have not had much experience are glad to know the names of desirable sorts. Clara Wells is the best new variety for some years. It was raised by Mr. Pockett in Australia, and is so easy of cultivation that the bloom develops well from any reasonable bud. In form it much resembles C. H. Curtis, but is broader across the top and therefore more globe-shaped. The florets are of medium width and thoroughly incurving. In colour it is a rich cream flushed at times with rose.

Daisy Southam, rich yellow, with a bronze suffusion, shapely and good in every way.

Mrs. J. Wynn is best described as a white Curtis; at times it has a slight flush of lilac.

Godfrey's Eclipse was shown remarkably well last season. The soft yellow blooms, with their neatly incurving florets have found many admirers.

Margaret Brown reminds one much of Princess Teck in its form; the colour is purple lilac.

Boccacio is a neat flower of a rich yellow hue, quite an acquisition.

E. Molyneux.

Tomatoes.—Early-sown seed will have produced plants that require to be pricked off and potted according to the system of cultivation they are intended for. If they are to be fruited in 7in. pots, put each plant in a thumb pot, but if it is the intention to fruit two plants in a 10in. or 12in. pot place two plants, one at each side, in a 60-sized pot. Use a potting material consisting of loam lightened with some spent mushroom-bed manure and sand. Place the plants in the lightest position near the roof glass, in a temperature of about 60 deg. Apply water very carefully until the young roots have become active.—C. Flack.

FEBRUARY.

"His island voice then shall you hear,
Nor ever after separate
From such a twilight of the year,
Advancing to the vernal gate."
Meredith—"The Thrush in February."

It is a truism that the temporary deprivation of our blessings enhances our appreciation of them, and it is perhaps partly owing to that fact that we enjoy the first bright spring days of February after being more or less shut off from our gardens during December and January, either through the weather or from want of daylight. It has been said that to thoroughly appreciate the country one must go and live in a big town, and certain it is that one takes a renewed interest in the garden at this season, after, as it were, the vacation. The old saying about "February fill-dyke, black or white," has only been true exceptionally of late years. It is a month when we often get some magnificent weather, as well as some of the reverse, and it reminds one of the rhyme about the little girl:

"And when she was good she was very good indeed,
And when she was naughty she was horrid."

It is the month when the thrush sings its best in the morning twilight, or when, rather, we hear it at its best owing to the fewness of other songsters at that season.

"Summer is coming, summer is coming,
I know it, I know it, I know it.
Light again, leaf again, life again, love again."

. . . . .

"Love again, song again, rest again, young again,
Never a prophet so crazy!
And hardly a daisy as yet, little friend,
See, there is hardly a daisy."

So sang Tennyson, and we have all enjoyed it at this season, though we have not such powers to express our delight as the poet had. The blackbird, too, is often then at his best, and though both he and the thrush afterwards become, through County Council protection, such a pest in many districts during the summer, yet it must be admitted they do give us something in return. Many of us will agree with the late W. E. Henley's sentiment:

"The nightingale has a lyre of gold,
The lark has a clarion call,
And the blackbird plays but a boxwood flute,
But I love him best of all."

But not less than our delight at the young enthusiasm of bird life at this season—our natives before the arrival of the foreigners—is the delight of the garden enthusiast at the sight of things pushing through the soil, and the fruit buds swelling on the trees. We can now say with certainty what blossom there is going to be on all but some of the less definite apples, and it is a time when hope reigns supreme and we are apt, if not to forget, at least not to dwell upon, the bad times which are doubtless in store. Our earliest flowers are beyond the coming out stage, and we have the Lenten roses in full beauty at the end of the month, as well as snowdrops and crocuses, which draw out the first bees of the season and make us fancy it is really spring, as it is, indeed, for the time being.

"And winter sped,
Whirled before the crocus, the year's new gold."

There is more sentiment gathered round the snowdrop than most flowers, and it inspires very different thoughts in people of different temperaments. Wordsworth addresses it as "pensive monitor of fleeting years," and says:

. . . "Once more I see thee bend
Thy forehead as if fearful to offend,
Like an unbidden guest."

While Tennyson hails it:

"Coming in the cold time,
Prophet of the gay time,
Prophet of the May time,
Prophet of the roses.
Many, many welcomes,
February, fair maid."

That is the spirit in which we should contemplate it, but there is so much of interest at this season that it is not really a time favourable to contemplation in the garden, like November or July in their different ways. Though we have the earliest bulbs in flower, many others are daily coming up, and remind us of Coventry Patmore's lines:

"The buried bulb doth know
The signals of the year,
And hails far summer with his lifted spear."

But while enjoying the early bulbs, the heralds of the progress of spring, and the promise of fruit on our trees, it is a busy time when the weather is favourable. We need to have all our plans made, to know what we are going to do with every yard of ground, so that we may be able to "seize the day" when it arrives, for if it is not seized we may have to wait weeks for another. It is the month for sowing seeds under glass, and even out of doors at the end of the month in a favourable season, remembering that many of our hardy annuals never do so well as when sown at the end of February, notably the Shirley poppies, while the sweet peas should be well up in pots, so that we may get that early start which is so essential to enable them to hold their own in dry weather.

It is in February that we want to get forward, so that when the rush comes in March we may not have to use precious time in doing anything which might have been done before, such as the making of preparations for protecting wall fruit blossom, removing the mulch from newly-planted trees to let the sun warm the soil, winter washing the fruit trees, loosening the surface soil amongst the bulbs, and so on. The great secret of being able to cope with the work in busy seasons is to have everything fully ready for grappling with it, even down to the writing of the labels for seeds—trifling details, but the foresight which has attended to them is one of the principal causes of men being ahead of their neighbours year after year.

Alger Petts.

Magnolia stellata.—It is always interesting to notice such plants as seem specially designed to flourish in small and large gardens alike. Magnolia stellata is now represented in some gardens by old specimens which, in large gardens, often take the form of groups full of historic interest. In the open garden it is one of those delightful harbingers which practically usher in the spring, and, when carefully planted and well grown, its beauty and interest increase with the years. Planted in a warm, sunny spot, and well sheltered from winds, which cause the branches to chafe and bruise the flowers, and given a cool loam or peaty soil free from lime, it soon grows into a large bush, and unfolds a wonderful picture in its snowy purity. The flowers come in advance of the leaves, and it is often advisable to protect the shrub by a light covering of tiffany, in the event of frost coming to spoil the flowers. Magnolia stellata is one of the best subjects for flowering in pots for the decoration of the conservatory in spring. Under these conditions one can enjoy the chaste beauty of the flowers to the best advantage.—Thomas Smith, Walmsgate Gardens.

ECKFORD'S PEAS.

Some sharp-eyed reader will probably imagine the writer or the printer is guilty of omission in the title to these few notes, so I hasten to point out that the title is a perfectly good and correct one. So correct, in fact, that if the firm of Henry Eckford, Wem, Salop, had not achieved the world-wide popularity it now enjoys for sweet peas, it would be quite famous for culinary peas. I have drawn attention on several occasions in these pages to the great work the Eckfords have accomplished in the improvement of culinary peas, and it is rather aggravating to find now and again someone acknowledging utter ignorance of their very important work in connection with this useful and much appreciated class of vegetables.

SWEET PEAS FOR THE GARDEN, IN MR. J. S. ECKFORD'S HOME GARDEN AT TILLEY, WEM.

One can hardly talk of sweet peas for two minutes without reference being made to the Eckfords, father and son, and as long as sweet peas are garden favourites—and that will be just as long as flowers are grown—the splendid pioneer work of Henry Eckford will not be forgotten. But in these days of keen business, and while sweet peas are immensely popular, the memory of a clever man, even though he created the industry, will not keep a business going. There must be continuous progress in the matter of new varieties, a clever anticipation of the public demand, and standard varieties must be kept true. But Mr. John S. Eckford was his father's right hand man for so many years that he fully understands the signs of the times. One has but to visit Wem year by year, as I have done for many years past, to see how wonderfully the business progresses. Last summer the office accommodation and the packing and despatching departments were considerably enlarged, and yet only two years before the premises were enlarged and brought quite up to date for the purpose of coping with the increasing demand for Eckford's seeds.

Sweet Peas.

Not many years ago the home farm at Wem sufficed to provide the bulk of the sweet pea seed needed; then a large piece of ground was taken a few miles away, and large blocks of standard varieties of sweet and culinary peas were grown under special arrangements in Essex. But all these would not provide sufficient stock, and so a farm was taken in Essex for seed production, where last summer about sixty acres of sweet peas were grown, and the rows, if put end to end, would have measured nearly 200 miles. There must be some good foundation for such an increase of business as this indicates, and this foundation is purity and fixity of stocks, the very careful output of new varieties, and judicious advertisement. Wherever they have been tested, the Eckfordian sweet peas—I mean those obtained from Wem—have always been remarkably true to name. Even the beautiful Countess Spencer sweet pea, so fickle when first distributed, has always been a true stock at Wem. It is my firm belief that the Eckfords' success is just now due more to "fixity" than even to novelties, because so many people have been sadly disappointed with the results obtained from high-priced novelties sent out long before they were fixed.

Eckfords led the way in regard to novelties, and they are now in the forefront in the matter of fixity. It must not be thought that Mr. John Eckford despises novelties. By no means. I saw many fine things at Wem last summer among the waved section of sweet peas, but the reply to a very obvious question put was, "No; we are not quite satisfied with the fixity of the stock," or "That is quite fixed, but our stock is not yet large enough for distribution, and we do not care to offer a variety and then have to disappoint half our customers." This season, in addition to a few of the finest novelties from other sources, Mr. Eckford is sending out three varieties unobtainable elsewhere. These are Dodwell F. Browne, a fine waved variety that, to my way of thinking, has more scarlet in it than has The King, a variety with which it may be compared. Mrs. Charles Masters, a charming bicolor, with rosy-salmon standard and creamy wings, a variety that will find great favour for garden and home decoration; and Annie B. Gilroy, a beautiful, bold, cerise self, that is especially effective under artificial light. These are the three special novelties for 1909, and there has already been a keen demand for them, as also has there for James Grieve, one of the yellowest of sweet peas; this is not waved, but it gives a deeper note of colour than any other variety in its class, and won a high position in the National Sweet Pea Society's trials at Reading in 1908. This is not the place to give a selection of sweet peas, but it may be noted that Eckford's catalogue is so well arranged that it should be in the hands of every sweet pea lover.

It is at Wem that one has an opportunity of seeing new sweet peas in the making, and a walk among the long rows of seedlings, all from carefully cross-fertilised seed, in company with Mr. John Eckford, is one of the most pleasant and instructive that could be desired. The ideal yellow, blue, and maroon sweet peas are yet to seek. In the case of the latter colour the great difficulty is that of eliminating the purple from the wings and keel, but this difficulty is being overcome by Mr. Eckford, who, fortunately, has no intention of distributing the intermediate varieties obtained in the process of evolution. Mr. Eckford has set his face against excessive frilling or waving, and will have none of those flowers that are without form, and that look more like a few limp, crumpled petals than a dainty and beautiful sweet pea. Over-Spencerised flowers are my pet aversion, and I was especially glad to find such a high authority as Mr. J. Eckford in agreement with myself on this point.

Other Flowers.

Sweet peas are the great feature at Wem and in Essex, and many a visitor has eyes for nothing else. But when one has time to look round it soon becomes evident the same care that has brought the sweet pea to such a high position is being expended upon other popular flowers. We are in danger of forgetting that Mr. Henry Eckford had obtained fame as a verbena raiser before he took up sweet peas seriously, but at Wem one finds splendid seedlings, showing that the strain has been perpetuated and the colours increased. It is worth noticing that verbenas are becoming popular again, treated as annuals, for summer gardening. Marigolds and pansies attract attention, and the latter are especially good, particularly the strain in which the bronze colouring has been so well developed. The keen dahlia grower naturally depends upon named varieties for his display, but those who are not so keen, and who have no wish to compete at a dahlia exhibition are coming to find that dahlias can be quite easily raised from seed, and that if a carefully selected strain is obtained excellent displays of bloom result. A few firms make a speciality of these garden dahlias, from seed, and among them Eckfords take a leading position, because they have been selecting and re-selecting their seed stocks for many years. Begonias, primulas, stocks, antirrhinums, and tropaeolums are a few other flowers specialised at Wem. One can hardly say anyone specialises in the ornamental grasses that are so suitable for association with cut flowers, but the Eckfords have always kept these pretty and graceful plants before their customers, and grown them largely at Wem, consequently they know the best kinds to grow for certain purposes.

Before passing from the flowers it is worthy of note that Mr. J. Eckford's own garden at Tilley, Wem, is a perfect picture in summer time by reason of the profusion of blossoms that encircle it and surround the little lawn. The air is redolent with the perfume of sweet peas, mignonette, and stocks, and the sweet peas are grown on wire netting strained round four upright posts, kept in position by means of cross-pieces nailed over the top after the stakes have been driven well into the soil. The plan has proved so successful, as I know from personal observation, that Mr. J. Eckford is now offering suitable prepared stakes for the convenience of those who desire to grow sweet peas in this manner for garden decoration

SWEET PEAS FOR SEED AT ECKFORD'S SEED FARM IN ESSEX.

Culinary Peas.

The Eckfordian culinary peas are notable for their robust habit, purity of strain, and free-cropping capacity. I shall not soon forget the rows of The Prior I saw in a Malpas garden several years ago, where it was being tested privately before being sent out. It is a grand variety, either for home or exhibition, and it fills out its long pods with large, finely-flavoured peas, while in the matter of crop I have not seen a variety to beat it. I am particularly fond of Critic and Censor, two good midseason peas, the former having peas that retain their beautiful green colour all through the cooking process, and come to table in a very attractive and appetising manner. Censor has very large peas, and these are of exquisite flavour. Centenary, a fine maincrop pea; Record, a grand second early variety; The Bruce, finely flavoured; and Shropshire Hero, a very productive second early pea, are a few that can be confidently recommended among those raised at Wem. There are many others suitable for various seasons and purposes, and all are heavy croppers. It will thus be seen that the Eckfords have not confined their attention to the decorative side of gardening, but have entered heartily and successfully into the work of improving vegetables—a work that is being prosecuted with greater vigour than ever now that a larger acreage has been secured for experiments and for raising good sound English seeds.

C. H. C.

NEW CONTINENTAL CHRYSANTHEMUMS.

It would appear that M. Calvat is well ahead of any of his countrymen in the raising of new chrysanthemums, but he has found a serious rival in Pockett, and probably one or two of our home growers. At Tours and at Paris he was eminently successful last year. At the former place an "objet d'art" was given to him, while at Paris a "grand prix d'honneur" was awarded him for his collection.

Some of his novelties were quite up to the old standard, and but for the immense competition with which he has now to deal they would be certain to occupy a high place on our showboards, as many others of his have done. I took notes of them all for the purposes of future identification, and the best from an English point of view I specially marked. The information may be useful to some of our growers, and hence I am tempted to give a short list of these most promising novelties.

Ferdinand de Bièvre. — A monster Japanese, with rather broad florets, a very closely built, solid, and compact flower of great size and substance; colour, pale yellow shaded chestnut-red.

Rachel L'Abbé.—A huge Japanese, having rather narrow, twisted, and intermingling florets, curly at the tips; a massive deeply-built flower; colour white, slightly tinted green in the centre.

Mme. E. Bonnefond.—Another massive bloom, very full and double; a gracefully reflexing flower, with florets of medium width; colour, rich golden-apricot, passing to golden-yellow in the centre.

General Sauret.—Also a huge Japanese with a very full centre; medium-sized grooved florets; pure golden-yellow, curly at the tips; extra fine.

Souvenir de Mme. Gagnairè.—A large Japanese of fine form. It has very long drooping florets of medium width, and makes a bold imposing flower; colour bright pinkish rose, with silvery reverse.

Belle Esterelle.—A grand novelty in the Japanese section with long, spreading florets, which are of medium width; colour pure golden-yellow.

Calvat, 1908.—At Paris the name was altered to Blanche Delcloque; Japanese, very broad florets; tips slightly incurved; a very full flower of a fine shade of bright rosy amaranth, with silvery reverse.

Paul Delaroche.—Also a huge, massive Japanese of great solidity; the florets are of medium width, twisted and intermingling, forming a spreading flower; clear pearly blush shaded lilac-mauve.

Reine Fiammette.—A finely built Japanese, very full and double. The florets are of medium width and reflexed; bright rosy amaranth or purple.

Miarka is a solid, compact incurved of a high order of merit; the florets are grooved and of medium width. Colour pure white, slightly tinted.

Mme. Travouillon.—Japanese; very close and compact in form; a long petalled flower of great size; a pretty shade of rosy lilac-mauve.

Belle Tronchoisè.—A very long petalled Japanese, and a big flower; the colour is rich reddish salmon-rose, with golden reverse.

Rev. W. G. Sharpin.—Japanese; one of the biggest; the florets are grooved and very broad; colour on the inside dull old rose, with golden reverse.

There were many others shown, but the above named in the form exhibited are those most likely to please English growers, and most of them were certificated by the Paris Floral Committee. Others that received this distinction, but which I have not specially marked in my notes, were Melisandre, Mme. Max Chabuel, Mme. Jules Maggi, Chrysanthemiste Durand, Peintre Bienvetu, Cecilia Monteil, Achille Fenin and Mme. Julien Ray.

C. Harman Payne.

Sir Michael Foster's Snowdrop (Galanthus Fosteri). — A pretty snowdrop, when seen in its best forms, is that called by the revered name of the late Sir Michael Foster, and known to the botanist as Galanthus Fosteri. The species is a handsome one when seen in the best varieties, but this is expressly mentioned, as, like many other snowdrops, it is extremely variable in its size and other qualities. The first bulb I secured was a very disappointing form, and some cut flowers the late Professor Sir M. Foster sent me soon after made me despise the plant I had bought. Since then, however, I have secured a better variety, but with me it has never come up to the high standard of Sir Michael's flowers, which were produced by the bulbs originally sent him from Amasia, or by their direct progeny. The handsome leaves, and equally handsome and most charming flowers, make this snowdrop, when a good type, of the highest beauty. It is as good a grower as any of the other snowdrops from the South, and I find it hardy well North of the Tweed. It should be borne in mind in autumn, and some bulbs secured, planting them from three to even six inches deep.—S. Arnott.

VARIETIES OF SCAB IN POTATOES.

Owing to the destructive effects of the fungus causing the wart disease of potatoes, it has become a matter of much importance that growers should become sufficiently acquainted with the several forms of scab by which the potato crop is infected, as to be at once able to distinguish them. Hence the fully-illustrated article on the varieties of potato scab which appears in the current issue of the "Journal of the Board of Agriculture" is of much value, and we reproduce the following:

Scab Due to Mechanical Injury.

This type of scab is recognised by the very superficial nature of the scars, which often cover the greater portion of the surface of the tuber, and are entirely due to mechanical irritation of the skin of the potato during the early stage of growth. The most general cause of irritation is the presence of ashes in the soil, consequently it is very prevalent in the neighbourhood of towns, where night soil is used as a manure. In an experiment conducted at Kew, for the purpose of proving the correctness of the above statement, twelve potatoes free from scab of any kind were planted in soil mixed with ashes. A second row, parallel with the first, planted in soil containing no ashes, acted as a control. When the crop was lifted, all the potatoes grown in the land containing ashes were badly scabbed, whereas those grown in the land not containing ashes were free from scab. This experiment has been repeated on several occasions with similar results.

In addition to ashes, certain climatic conditions favour the formation of the scab under consideration. During a dry period the surface of the quickly-growing tubers presses against the comparatively unyielding soil, with the result that the skin is injured. As such injured tubers continue to increase in size, the original minute scars are stretched wider and wider, and become bounded by a somewhat raised border of wound-cork, the result being scab. This type of scab is often very prevalent on potatoes grown in sharp sandy soil during a dry season.

Unless complications follow, the injury caused is slight, as the wounds are only "skin deep," and such scabbed potatoes may be used for "sets." In many instances, however, mechanical injuries to the skin enable eelworms, bacteria, fungi, etc., to gain an entrance into the tuber, which may result in its complete destruction.

Wart Disease or Black Scab of Potatoes.

This disease is recognised by the presence of one or more irregularly shaped, corrugated masses, or warts, projecting from the surface of the tuber. These warts are pale when young, but gradually assume a blackish colour with age, due to the presence of myriads of dark-coloured spores belonging to the fungus causing the disease.

The young "sprouts" only are attacked by the fungus, the substance of the tuber at first remaining free from injury. When a sprout is attacked, the irritation set up by the fungus causes an excess of food material to enter the infected area, which rapidly increases in size and spreads over the surface of the tuber. In cases where several sprouts are attacked, the entire surface of the tuber often becomes covered with an irregular, cauliflower-like mass.

In some instances, when the haulm is lying on the ground, the young leaves are attacked and distorted by the fungus; very young tissue, in fact, of any portion of a potato plant appears to be liable to infection.

When the fungus spores are mature the warts commence to break up and decompose, thus liberating the spores, which pass into the soil. At this stage various kinds of fungi and bacteria gain an entrance into the tuber and complete its destruction.

After years of failure, the spores of the fungus causing black scab have at last been induced to germinate. This advance enables the systematic position of the fungus to be determined with certainty, and will also aid in formulating preventive measures now that its life-history is known.

Scab Caused by Millipedes.

Among the various kinds of millipedes, popularly known as "false wireworms," Julus pulchellus, L., is the greatest enemy to growing potatoes. It varies from half to three-quarters of an inch in length, and is not much thicker than an ordinary pin, pinkish-white in colour, with two rows of small purple spots running its entire length. Although not generally a primary cause of injury, julus readily takes advantage of any minute wound, which it quickly enlarges by feeding on the sound portion of the tuber. In some instances numerous shallow cavities are formed in the flesh of the potato, and as each wound becomes surrounded by a raised border of wound-cork, a scabbed appearance results. In other instances small holes roughly circular and of varying depth are produced, whereas in some cases, as when following on an attack of Spongospora scabies, Mass., very large cavities are formed, or the tuber may be completely hollowed out. In such cavities hundreds of millipedes are often present. Millipedes are often introduced to the land in leaf-mould or decaying vegetable matter. Lime is the best corrective.

Oospora Scab of Potatoes.

The scab produced by the fungus called Oospora scabies, Thaxter, superficially resembles that due to mechanical injury, but is distinguished by the presence of the parasite, which appears on the wounded portions as a delicate greyish bloom. The entire surface of the tuber is frequently broken up, or scabbed; in other examples the injured portions are more or less circular in outline, and scattered over the surface of the tuber.

Beet, swedes, turnips, and carrots are susceptible to this disease, and should not follow a crop of diseased potatoes, as the fungus remains alive in the soil for some years.

Nitrate of potash, at the rate of two cwt. per acre, has proved beneficial.

Spongospora Scab of Potatoes.

This form of scab, due to the Myxogaster called Spongospora scabies, Mass., was described in detail in the "Journal," November, 1908, p. 592. The certain proof that spongospora is the cause of injury is the presence of the very characteristic spores, which form a snuff-coloured mass on the surface of the wound.

Judging from the very large amount of material received at Kew for examination, spongospora scab is much more prevalent in Scotland than in England.

Pæonia tenuifolia.—One of the plants which is not nearly so plentiful in gardens as it was some years ago is the pretty Pæonia tenuifolia, a most elegant plant in every way, and with a refinement which is not generally associated with the name of the gorgeous, though very beautiful pæonia of gardens. This fine-leaved pæonia is prized as much for its foliage as for its flowers, pleasing though these are. The leaves are divided into a great number of narrow leaflets, all divided again, and giving a specimen a remarkably light and elegant appearance. The deep red flowers nestle prettily among the upper leaves, and both in the single and double forms are much admired. The single variety is less cultivated than the double one, but it appeals more to many than the latter, which, however, retains its flowers rather longer. Pæonia tenuifolia likes a good rich soil, and is a capital plant for the border or a shrubbery border. Its height is from a foot to about a foot and a-half, and its flowering time is in the beginning of summer. Increase is effected by division, but large plants are more ornamental than the smaller.—S. ARNOTT.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

WINTER-FLOWERING CYPRIPEDIUMS.—The bulk of the late autumn and winter-flowering section of cypripediums will now be passing out of flower, and any potting should be attended to. I have never been an advocate of disturbing plants of this section more frequently than is absolutely necessary, therefore, when repotting, liberal pot room should be afforded, such as will not necessitate the repotting of large specimens for at least a couple of seasons. Small plants that require more space, with increased growth, are more suitably treated by annual repotting. Plants with very few roots are best placed in small pots, and, if satisfactory progress is made, more root room may be allowed late in the season by giving the plants a larger pot without disturbing the potting compost into which they have rooted. See that the drainage is clean and ample. These plants require liberal root moisture practically all the year, and therefore every precaution is necessary to prevent stagnation.

THE POTTING COMPOST we find suitable for such species as C. Fairieanum, C. Charlesworthi, C. Spicerianum, and the many varieties of C. insigne, as well as for the hybrids, such as C. Leeanum, C. Actæus, C. nitens, and the numberless allied kinds, is a mixture of about equal parts of turfy loam and fibrous peat, with a small portion of chopped sphagnum moss and sufficient finely-broken crocks and sand added to render the compost porous. The grade of the compost should be varied, but it is advisable not to break it up too finely when specimens of any size are repotted, the reason being that it is desirable to have the compost of a lasting nature for plants that are to remain for a lengthened period in the same pots.

DIVISIONS AND NEW STOCK. — No orchids lend themselves to division more readily than the cypripediums. It is always advisable to examine over large specimens a few weeks before they are potted, and to sever the rhizomes between the growths. It will often happen that large plants of such species as C. insigne will have a number of back growths, and these, unless the rhizome is divided, would probably never produce further growths; but by simply dividing them it is surprising how quickly the dormant eyes of these burst into active growth. Even where plants do not require repotting, it is desirable to look to them annually and make discreet divisions, as every new growth obtained is an advantage to the specimen. If there is a desire to increase the stock, these divisions may be removed at the time of potting, and if placed in well-drained shallow pots, they usually give satisfactory results. Rarer specimens should always be allowed a break and growth, and, if possible, should be divided when root action commences. Take away the leading part without disturbing the back growths if possible.—H. J. CHAPMAN, Oakwood Gardens.

STOVE PLANTS.

SEED SOWING.—Some necessary flower seeds should now be sown, such as Aphelandra Roezli, or A. nitens, asparagus in variety, Acacia lophantha, Clerodendron fallax, gloxinias, gesneras, Grevillea robusta, streptocarpuses, smilax, panicum, cyperus, vincas, coleus in variety, and many others, to provide plants in daily use for decoration. Use clean pots and crocks, and give abundance of drainage. Sow fine seeds thinly upon a damp, firm, and even surface, and cover with a sheet of glass. To destroy insects and warm the soil before using place several old fire bars in the furnace, and when well heated insert these in the soil. When the seedlings appear give air and light to strengthen the plants. It has often struck me that between success and failure in the sowing of seeds and the cultivation of plants the step is but a short one, but that with close observation and well considered plans, reflections upon failures would be but few.

AMARYLLIS.—A portion of the earlier stock cf these bulbs may now be started, and the others brought on at intervals of three weeks, so as to have a succession of flowers over a long period. Before potting the bulbs should be cleared of all decayed matter, and, if insects are suspected, be washed with some approved insecticide. The pots to be used will depend upon the size of the bulbs, but generally a six-inch or seven-inch pot will be found large enough for an ordinary bulb. A suitable compost is two parts rich fibrous loam, one of leaf-soil, and sufficient sharp sand to keep the whole porous. When potting place a small quantity of sand under each bulb to encourage new roots, and leave about one-third of the bulb above ground. Pot fairly firm, and if the pots are plunged in a warm bed the heat may range from 70 degrees to 80 degrees. Give no water, except with the syringe, until the roots have taken good hold of the soil.

CALADIUMS.—The corms of these fine foliage plants should now be given attention, and to ensure the plants in each specimen being uniform, carefully arrange them in three sizes, large, medium, and small. The practice of starting the corms previous to potting is seldom satisfactory. The compost should consist of good turfy loam and fibrous peat in equal parts, with some not over-decayed leaves pressed through a sieve, and a little spent mushroom bed manure, adding a good proportion of coarse sand. For good specimens use pots large enough to contain sufficient corms, which, when well started, can be shifted into larger pots. Occasional damping with the syringe is all that is necessary for some time. A slight bottom heat is favourable to free development.—W. **Fyfe**, Lockinge Gardens.

FRUITS UNDER GLASS.

EARLY PEACHES AND NECTARINES.—Give plenty of air and keep the house cool until the flowers have set. On a fine day, about half-past eleven, give the trees a sharp rap in order to distribute the pollen. See that the borders do not lack water, and give the house a fumigation as soon as the flowers have set. This should always be done, as sometimes an attack of aphis proves troublesome to eradicate in the early stages, and a gentle or mild fumigation will check an attack. Successional houses may now be closed at nightfall, but give air in the day according to the weather. With increased sunshine the flowers will begin to push, and a second house may be started as close to the first as may be necessary.

EARLY VINES.—Tie up the rods when the shoots are seen to be coming away strongly, and if there are several shoots to one spur thin out the weakest, and give encouragement to those that are left. Tie the rods up with tarred string. In the event of mealy bug having been present last season, there may be a few left in crevices, and these will now, on sunny days, be leaving their hiding place, and should be diligently sought after. This is one of the best times for thorough eradication of the pest, and the vines should be looked over every day, as a man or lad with a small brush and some paraffin can kill a lot in an hour. See that roots near the pipes are not dry. Syringe twice daily and damp the floors, especially in the evening, about seven o'clock.

MUSCAT HOUSE.—The vines, if they have had the cleaning recommended, may now be got ready for starting. The Muscats require a long season of growth to secure the best possible results. If the borders have been cleaned and dressed the house may now be closed and kept at a temperature of 50 deg. Do not allow the temperature to run up high in bright weather or the rods will break quickly and weakly. Muscat of Alexandria requires, perhaps, lighter soil than many grapes, and this should be afforded where new borders are being made.

PROPAGATING GRAPE VINES.—Eyes may be put in now if vines are required. By eyes one means the buds of ripened wood of last season's growth. Cut the eye to about an inch and a-half in length, and place in shallow boxes or pans, or in small pots. I prefer small pots. Use good sweet soil, and place in a propagating frame; keep moist, but not wet. Nothing is so bad for the vine as sour soil in any stages of growth.

MELONS.—These will now be ready for shifting into 5in. pots, from which they should be planted out; use good loam with just a little fine manure. Pot firmly, and place in a light position, as near the glass as possible, and give bottom heat. A second sowing should be made. Blenheim Orange is a fine secarlet-fleshed variety, the fruit being of good size, and it ripens early. A1 is also a fine scarlet-fleshed melon, and Best of All is a good green-fleshed variety, while the old Hero of Lockinge (white flesh) still holds its own. Sow in small pots and place in a temperature of 70 deg.

CUCUMBERS.—Plant out as soon as ready those sown last month. Have the soil in the house several days before being required, so that it will be thoroughly warmed. If no bottom heat exists makes up a small hotbed of manure and leaves, as this will prove of much value in pushing the plants on to the fruiting stage. Keep the house moist by syringing and damping, as dry heat is very fatal to cucumber growing. Continue to clean houses and pits as they become vacant, so that these are ready to receive new and clean occupants. — W. A. **Cook**, Leonardslee Gardens.

THE KITCHEN GARDEN.

CUCUMBERS. — The early plants, if nursed along with attention to potting as required, will be large enough to plant out in the forcing house on hot-beds in hillocks of soil. No better rooting medium for large crops can be had than good heavy loam with a fair quantity of lime rubble and a little soot added to it. Keep a moist atmosphere throughout by damping down the house frequently, and syringe the plants on fine days. Maintain a night temperature of 60 to 65 deg. with 5 deg. higher during the day.

MUSHROOMS.—If the mushroom house is of the usual size, from 25ft. to 30ft. long, a bed will require to be made up at least once a month to ensure a full and continual supply. Collect manure from it into a heap to ferment, and turn it on alternate days until its rankness has thoroughly escaped, after which it will be in a condition to make up into a bed. Should manure be scarce, or insufficient to fill the desired space, a third part of oak leaves may be added to give the needed quantity without in any way reducing the value of the manure. Our best bed this season was so treated. A fruitful cause of failure is spawning the beds at too high a temperature, therefore allow the heat of the bed to decline to 85 deg. before inserting the spawn. Afterwards apply a dressing of about an inch of rather adhesive loam.

ONIONS.—Where large bulbs of onions are desired for special purposes of the Ailsa Craig type, a sowing should be made at once in boxes in a rich open soil. Place them under glass in a temperature of 50 deg., and germination will quickly take place. Keep the young plants near the light, and when large enough, prick them out into other boxes at about three inches apart in good soil; when firmly established gradually harden them off to a light cool frame, admitting air according to the outside conditions until they are large and hardy enough to be planted out towards the end of March or beginning of April.

ASPARAGUS.—This vegetable is always appreciated whenever it can be obtained. Where convenience is at hand it well repays the trouble it entails. In introducing the crowns to the forcing pit, carefully lift them with as many roots as possible, and without exposing them to drying winds during the process. Keep up a temperature of about 55 deg.; water rather liberally with warm water, and syringe the pit often to encourage a moist atmosphere.

GENERAL REMARKS. — This and next month all plants that are under protection in frames will be very liable to damp, therefore take advantage of every fine day to ventilate freely. Endive and lettuce will be specially liable to lose their centres. Remove batches of these to the blanching house according to the call for them. Sow mustard and cress at intervals, and do everything possible to carry over this, the worst season of the year. Tarragon in many places is in request most of the time; lift some roots from the open, and either place them in boxes, or in large pots of soil in a newly-started peach house or vinery. — C. **Flack**, Cholomondely Castle Gardens.

PROPAGATION OF SHRUBS BY LAYERING.

When dealing with species of trees and shrubs that cannot be readily increased by means of cuttings, layering is resorted to, and results in the production of good bushy plants in a comparatively short period. If the work is carefully carried out it is effected without inflicting the slightest injury upon the parent plants. The method may be also recommended with regard to species of slow growth generally, in spite of the fact that these may be readily propagated from cuttings.

The operation is simplicity itself, and can be carried out at almost any time of the year, and, speaking generally, eighteen months to two years must be allowed to elapse before the layers are removed from the parent plants. All the preparation that is necessary, as far as the branches are concerned, is the removal of the side growths and leaves at the most convenient point for bringing a length of clean stem six or more inches below the surface. After it has been decided which growths will be treated,the ground immediately underneath must be deeply dug, a liberal quantity of sandy soil, such as that found underneath the potting bench, being added to each site, when it only remains to bring the branch down and secure it in position in the cavity prepared for it, and ram the soil as firmly as possible over the whole site.

Experience goes to show that where a branch has been partly broken during the process of pegging down, it has formed a much larger body of roots than others that have remained entire, and we gather from this that it is advisable, and a distinct advantage, to slightly split or lacerate the branches, much in the same way as when layering carnations. The labour involved in maintaining the sites in a moist condition during times of drought will be well repaid,and it must be remembered that in many instances rains are carried outside their area. Common sense will also suggest that the rooted layers be removed at a season most suitable for their re-establishment, and there is also much to recommend in the practice of disconnecting them from the parent plants some weeks prior to removal.

The following may be successfully treated in this way: The various pyruses, ceanothuses, magnolias, wistarias, rhododendrons, hollies, the hardy heaths, andromedas, dahpnes, myricas, zenobias, halesias, chimonanthuses, calycanthuses, leucothoes, phillyreas, styrax, etc.

Walter H. Aggett.

Index to the "Gardeners' Magazine," 1908.—Those readers who have preserved the 52 numbers of the Gardeners' Magazine for 1908 with a view to having them bound for future reference, can obtain Handsome Cloth Binding Cases from the publishers, 148 and 149, Aldersgate Street, London, price 2s., post free. The index, with title page, is now ready—price 2d., or by post 2½d. The volume bound complete will also be ready in a few days, price 12s. 6d., by post, 13s. 4d.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

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Royal Horticultural Society.

SCIENTIFIC COMMITTEE, JANUARY 26.

Present: Mr. E. A. Bowles, M.A., F.L.S. (in the chair), Dr. A. Voelcker, Messrs. S. Pickering, A. Worsley, E. M. Holmes, G. Gordon, W. Hales, J. W. Odell, and F. J. Chittenden (secretary).

DISEASED CARNATIONS.—Mr. Saunders and Mr. Douglas reported upon the diseased carnations shown at the last meeting that in all probability they had died through attacks of stem eelworm. The soil used for potting was too light, and the plants were too old to obtain the best results from. Plants of two years of age were sometimes liable to sudden collapse, and those of a greater age even more so.

GREASE BANDS.—Mr. Voss reported that no moths had been caught upon grease bands on fruit trees at Enfield since November.

ALGÆ, ETC., ON SEWAGE SLUDGE.—Dr. Voelcker remarked that mosses, hepatics, and algæ had developed upon certain samples of sewage sludge which had been kept at Woburn, but not upon others which were kept under precisely the same conditions. The samples which contained the greatest amount of lime bore the largest amount and greatest diversity of growth, and it was thought that possibly the difference was as much due to the physical condition of the sludge as to its chemical constitution.

SCILLA, ETC.—Mr. Worsley showed an inflorescence of Scilla hæmorrhodalis, a plant with rather inconspicuous flowers, followed by larger fleshy fruits. He also remarked upon the inconstancy of the arrangement of the spines in certain of the cacti in various stages and at different ages, and stated that in his opinion the arrangement of the spines constituted an insecure basis for the classification of this family.

FASCIATION.—From Sir Trevor Lawrence, Bart., came a fasciated specimen of anthurium bearing two spathes and spadices. Mr. E. H. Jenkins sent a fasciated specimen of Daphne japonicum.

ODONTOGLOSSUM MALFORMED. — A flower of an odontoglossum having three stamens and a much-reduced perianth was received from Mr. Gurney Wilson, and referred to Mr. Saunders for further examination.

VARIATION IN FOLIAGE OF CYCLAMEN.—Mr. Bowles showed a large number of leaves of Cyclamen hederæfolium from his garden exhibiting great and wide variation in the arrangement of the markings upon the foliage, especially in the extent of the whitish margin and median blotch which is usually present. He found the variations to be characteristic of and retained by the individual plants.

National Chrysanthemum Society.

There was a fairly good attendance at Essex Hall, Strand, W.C., on Monday evening, February 1, on the occasion of the annual meeting of the National Chrysanthemum Society, when Sir Albert K. Rollit, president of the Society, presided. The business was put through with despatch, and as no controversial matters were brought forward the meeting concluded within the hour.

After the usual formal business the annual report and financial statement, copies of which had been sent to all members, were taken as read. We append these in abridged form

REPORT OF THE COMMITTEE FOR 1908.

It gives your committee great satisfaction to be able to report that Sir Albert Rollit, D.C.L., LL.D., was, at the annual general meeting of members held in February last, elected president on the retirement from that office of Charles E. Shea, Esq. At the same meeting Mr. Shea's name was added to the roll of the society's vice-presidents.

The grand autumn show, which was opened at the Crystal Palace on November 4, marked a distinct improvement on previous years in its general effect, chiefly by reason of the fact that the whole of the North and South Naves, together with part of the Central Transept, were available for the society's purposes for the first time since our shows have been held at Sydenham. The increased accommodation thus afforded gave opportunities of a much more effective display, and public and Press were alike of opinion that those opportunities had been utilised to the fullest extent.

The dates of the shows for the current year have been provisionally fixed for October 6 and 7, November 3, 4, and 5, and December 1 and 2.

The meetings of the Floral Committee have again been an important feature of the society's work during the past season. The committee met on seven occasions to consider new varieties, three times at the Crystal Palace on the opening days of the shows, and four times at Essex Hall; 250 entries were recorded during the year, as against 215 in the previous season, and awards were made as follows: 47 First Class Certificates, and 2 Commendations. In the case of every variety submitted the colour is carefully determined and recorded. and several difficult cases of classification were settled by the committee during the season. Mr. D. B. Crane again undertook the duties of chairman of this committee.

Arrangements have already been made for the 1909 outing, to be held on August 9 next, when a visit will be paid to the world-renowed gardens of Sir Frank Crisp, at Friar Park, Henley-on-Thames.

Seventy-two new members were added to the society's register during the year, namely, ten Fellows subscribing £1 1s. per annum, fourteen ordinary members subscribing 10s. 6d. per annum, and forty-eight ordinary members subscribing 5s. per annum. The increase is mainly due to the personal efforts of the President of the society. Six societies applied for affiliation during the twelve months, and were added to the society's roll.

The dates for the meetings during 1909 have been fixed as follows: Executive Committee, September 20, October 25, November 15, and December 13; Floral Committee, September 20, October 6, October 25, November 3, November 15, December 1, and December 13.

STATEMENT OF ACCOUNTS.

RECEIPTS.

To Balance at Bank brought forward	£21	11	11
Subscriptions	171	11	2
Donations and Special Prizes	51	6	0
Crystal Palace Company—December Show, 1907	25	0	0
Entry Fees, 1908	15	2	6
Affiliation Fees	53	0	6
Medals, etc.	81	9	9
Catalogues Sold	0	17	11
Advertisements in Schedule	21	15	6
Rent of Space	30	0	6
Sale of Dinner Tickets	24	5	0
Balance of Outing Account	16	3	0
	£512	3	9

PAYMENTS.

By Special Prizes, November, 1908	£22	16	6
Printing and Stationery	115	16	7
Medals and Engraving	84	3	1
Dinner Account	27	0	3
Hire of Rooms	5	6	0
Premium on Secretary's Guarantee Bond	1	10	0
Advertising	4	15	0
Secretary's Salary	100	0	0
Postage, Telegrams, and Carriage	25	7	11
Sundries	5	2	0
Bank Charges and Cheque Books	1	2	3
Insurance of Trophies	1	1	3
Crystal Palace Co. (Proportion of Space Charges, 1907)	4	8	2
Balance of Petty Cash	2	10	1
Balance at Bank	111	4	8
	£512	3	9

Liabilities amount to £306 16s. 3d. and assets to £409 15s., leaving a surplus of £102 18s. 9d.

Sir Albert Rollit moved the adoption of the report and accounts, and referred to the brilliance of the society's exhibitions, the international associations of the society, the work of the various officers, the special value of the Floral Committee's proceedings, the economy effected throughout the year, and the increase of membership. He also pointed out that all special prizes had been paid, and he hoped that in a few days the balance due from the Crystal Palace Company would be paid in, so that the rest of the prize money could be at once paid. The motion was seconded by Mr. Thomas Bevan, and carried without comment.

The auditors were thanked for their service, and, amid loud applause, Sir Albert Rollit, on the motion of Messrs. Simpson and Witty, was re-elected president. Messrs. Moorman and Hemsley proposed the re-election of Mr. John Green as treasurer, and this was heartily carried. Mr. Thomas Bevan and Mr. E. F. Hawes were re-elected chairman and vice-chairman respectively, and Mr. C. Harman Payne was re-elected hon. foreign corresponding secretary for the twenty-first successive year. On the motion of the President, seconded by Mr. Moorman, Mr. Richard Witty was unanimously re-elected secretary. Messrs. J. Lake and W. H. M. Dean were appointed auditors for the ensuing year, and Messrs. Riding, Cragg, and Prickett were elected scrutineers of the ballot for the election of twelve members of committee, but their services were not required, as nine members eligible for re-election, and only three others were proposed, so that a ballot was not necessary. The members elected were Messrs. J. Emberson, R. F. Felton, A. Hemsley, D. Ingamells, E. Jones, F. S. Oliver, R. E. Reeve, G. Springthorpe, W. Wells, J. B. Riding, H. Runciman, and C. Noyce.

On the motion of Messrs. C. H. Curtis and D. B. Crane, a hearty vote of thanks was accorded Sir Albert Rollit for presiding, and the proceedings then closed.

Reading Gardeners' Association.

The first meeting of the present session was held in the Abbey Hall, on Monday, the 25th inst., and Mr. A. F. Bailey, the recently-elected chairman, who presided, was welcomed by a large gathering of members.

The lecturer for the evening was Mr. J. W. Odell, The Gardens, The Grove, Stanmore, and his subject "British Wild Flowers in the Garden." Mr. Odell illustrated his paper with a comprehensive and beautiful series of photographic slides, and the appearance of these pictures on the screen provoked frequent and hearty applause, for it must be confessed that to many professional gardeners (to say nothing of amateurs), it was a revelation that the wild flora of the British Isles contained so many charming subjects, the lecturer remarking with reference to some of his particular favourites, that if they had to be imported from The Himalayas or Japan, they would not be allowed to "blush unseen."

Many beautiful illustrations of hard-wooded plants, in bloom, were first shown on the screen, including the wild cherry, lovely in spring as well as in late autumn, crab, plum, dog rose, etc. These were followed by equally lovely pictures of British aquatic and bog plants, rock, woodland, and climbing subjects, and finally the lecturer dealt with the small but fascinating family of British orchids.

It was pointed out by Mr. Odell that failure in the wild garden was frequently the result of scanty knowledge of the subject, and he showed how important it was that if wild flowers were cultivated it should be under conditions as nearly as possible like those in which the collector found his specimens. For the common harebell, it was perhaps difficult to find an uncongenial situation, but for the Orchis family the natural habitat of the plant must be carefully studied.

In conclusion, the lecturer deplored the robbing of our streams, hedgerows, and woods by unscrupulous vendors, which was likely to be the means of killing many lovely subjects, and he urged his hearers to discourage such ruthless destruction by refusing to purchase from itinerant hawkers of ferns, etc.

Only a short time remained for the discussion, but to the questions put by Messrs. Tunbridge, Stanton, Exler, Loader, Dore, etc., the lecturer readily responded. A hearty vote of thanks to Mr. Odell for his excellent lecture was proposed by Mr. Alderman Parfitt (president of the association), and carried with acclamation. Several new members were elected.

Bristol Gardeners' Association.

Mr. S. Shaddick presided over a large attendance, on Thursday, January 29, at St. John's Parish Rooms, when the representative of the Bath Gardeners' Debating Society, in the person of Mr. Stokes, of Trowbridge, gave a very able and comprehensive paper upon "Rock and Alpine Plants." The lecturer said there was no place in the garden so gladdening or refreshing as the rockery. The plants are natives of such extreme climates as the tropics and the Alps, and this fact must be taken into consideration when building a rockery, and provision made for all. Where possible build ledges, nooks, dells, and caves, and if water is obtainable a channel can be made for the water to trickle down between the stones, so that moisture-loving plants may luxuriate in as natural conditions as possible. A hearty vote of thanks was accorded to the lecturer at the close. For a dish of culinary apples Mr. J. Scott was first, and Mr. Attwell was second.

Liverpool Horticultural Association.

The thirtieth annual general meeting of this association was held on the 31st ult., Mr. Thomas Foster presiding. The report and statement of accounts were read, and approved. Owing to the depleted exchequer it was arranged that only one—the autumn—show should be held last year, with the result that the balance of £52 17s. 8d. at the commencement of the year has increased to £170 15s. 3d. The chief items of income were the subscriptions, £254 5s. 6d.; admissions to show, £110 1s.; special prizes and entrance fees, £19 13s. Payments: Prize money, £114 11s.; hire of hall, £37 16s.; printing and stationery, £39 8s. 3d.

In considering the current year's programme, some discussion took place with regard to a spring show, but it was decided that it should not be held this year, but that the committee would consider the desirability of holding a limited summer show, in which sweet peas and roses would be the prominent features. Mr. G. Blackmore, treasurer, and Mr. Harold Sadler, secretary, 31, North John Street, Liverpool, were reelected.

Professional Gardeners' Lodge

(BRANCH 6,776 OF THE GRAND UNITED ORDER OF ODD-FELLOWS).

The following report has been sent us, but we do not gather when the annual meeting was held:

In submitting to you the forty-second annual report and statement of accounts, your committee congratulate you upon the progress made during the past year. The sickness experience has again been favourable, and although the claims have been somewhat heavier than they have been during the past few years, still, they are considerably below the expectation. Sixteen members have received sickness benefits during the year, the total amount paid to them being £71 0s. 10d. £20 has been paid in funeral allowances, making the total amount paid out of the benefit fund £91 0s. 10d. This fund now amounts to £1,564 13s. 11d., an increase during the year of £82 2s.

The management fund still remains at £50, all sums above this amount being transferred to the benefit fund, as per Rule 21. The sum of £6 15s. 2d. has been so transferred this year, this is due to the substantial support so generously given by the honorary members, and to the economical management of the lodge. The amount of the distress fund is £3 3s. 4d., an increase of £1 6s. 2d., making a total increase in the whole of the funds or total saving for the year of £83 8s. 2d. The trustees have withdrawn £200 from the bank and invested it with the Leeds Corporation at 3¾ per cent. Fifteen new members have been made, two have died, and three left, the present number being 147, an increase of 10. The committee are sorry to have to report the death of two honorary members, viz., Mr. E. J. Batchelor and Mr. C. Brotherton, their influence and kind interest in the lodge will be much missed.

At the annual dinner on February 12 Bro. George Bumby (the present Grand Master), on behalf of the members, presented to Bro. James Inman, N.G., a framed Emblem of the Order, as a token of their appreciation of the long and valuable services he has rendered to the lodge. These services have been very much missed during the past few months owing to Bro. Inman's serious and protracted illness. The committee, on behalf of the members, desire to express their sympathy with him, his wife, and family, and trust he will soon be restored to his usual health.

ARTHUR EDEN, V.G.
G. CARVER, Secretary.

December 31, 1908.

CASH ACCOUNT.
RECEIPTS.

Cash in Treasurer's hands, Jan. 1st, 1908	£27 9 10
Contributions of Members	126 18 0
Hon. Members' Subscriptions	13 12 0
Interest Leeds Corporation and Returned Income Tax	52 3 4
Interest from Savings Bank	1 5 7
Goods Sold	0 16 0
Entrance Fees	1 8 6
Fines 6d., Nominations 1s. 6d.	0 2 0
Contributions to Medical Fund	4 8 0
Donations to Distress Fund	1 8 0
Bank Withdrawals	200 0 0
	£429 11 3

PAYMENTS.

To Sick Benefits Paid	£71 0 0
Funeral Allowances	20 0 0
Management Expenses	23 2 7
Payments to Medical Officers	4 6 10
Payments from Distress Fund	0 3 0
Leeds Corporation Loan on Mortgage at 3¾ per cent.	200 0 0
Bank Deposits	76 5 7
Treasurer's Balance	34 12 5
	£429 11 3

BALANCE-SHEET.
LIABILITIES

Amount of Sick and Funeral Fund	£1,564 13 11
,, ,, Management Fund	50 0 0
,, ,, Distress Fund	3 3 4
	£1,617 17 3

ASSETS.

Investments in Leeds Skyrack and Morley Savings Bank at 2½ per cent.	£53 4 10
Investments in Leeds Skyrack and Morley Savings Bank at 3 per cent.	30 0 0
Investments in Leeds Corporation Stock at 3½ per cent.	800 0 0
Investments in Leeds Corporation Mortgage at 3½ per cent.	500 0 0
Investments in Leeds Corporation Mortgage at 3¾ per cent.	200 0 0
Cash in Treasurer's hands	34 12 5
	£1,617 17 3

We, the undersigned, having had access to all the books and accounts of the branch, and having examined the foregoing general statement, and verified the same with the accounts and vouchers relating thereto, now sign the same as found to be correct, duly vouched and in accordance with law. January 4, 1909.

J. R. GROUNDWELL, }
HARRY ALLINSON, } Auditors.
JOHN DONOGHUE, }

Oxford Chrysanthemum and Fruit Society.

The forty-sixth annual general meeting of members was held on January 25, at the New Inn Hotel. Mr. T. E. Jefferies, presided, and there were also present nearly thirty subscribers. In the annual report (a copy of which, with the accounts, had been sent to every member) reference was made to the peculiar season of 1908, which caused a smaller entry of blooms through damping off; still, at the show held on November 10, a fairly high quality was manifest in the bulk of the exhibits. Regret was expressed at the falling off in the attendance during the evening hours—a consequence of unemployment of the wage earners, who usually crowd the November exhibitions. The accounts showed that the payments (including £58 as prizes) had exceeded the income by £11 13s. 8d., the society's reserve standing at £13.

Harvey du Cros, Esq., Howbery Park, Wallingford, was re-elected president; Montague Wootten, Esq., treasurer; W. F. Cross, Esq., hon. secretary; Mr. W. Greenaway, acting secretary (forty-first year); Messrs. W. Balmforth, J. S. Chidlow, F. Harris, J. Johnson, S. Mold, W. R. H. Powell, W. E. Reynolds, H. Smart, and J. C. Tayler to compose the Committee of Management.

It was arranged that owing to the Municipal Buildings being occupied during the first half of November, the next show should be held on October 28.

Cardiff Gardeners' Association.

At the recent fortnightly meeting of the above association, Mr. H. R. Farmer presiding, a lecture was given by Mr. F. Woods, head gardener at Llanfrechfa Grange, Newport, on the "Madresfield Court Grape." The lecturer, in his opening remarks, stated that, in his opinion, this variety can be as successfully grown as the Black Hamburgh or any other ordinary kind, and he failed to understand why it was not more generally cultivated, as it was considered one of the finest flavoured grapes in cultivation. He had successfully grown this grape for many years, and had escaped the berry splitting which is a general complaint respecting this grape. This, Mr. Woods explained, was due to the treatment he adopted. The formation of vine borders, their depth, composition of soils, ventilation, pruning and mulching were clearly explained, and the members listened with keen interest to the lecturer.

Mr. Julian opened the discussion, and remarked on the able manner with which the lecturer had dealt with his subject. Other members took part in the discussion, in the course of which there were many reminiscences of grape growing in bygone years in South Wales. Mr. Malpass proposed, and Mr. Mayne seconded, a hearty vote of thanks to Mr. Woods, who suitably acknowledged, thanking the members for their appreciation.

Birmingham Gardeners' Association.

At the initial meeting of the spring session, held on January 25, there was a good assemblage of the members to hear the chairman of the society, Mr. Thomas Humphreys, curator, Botanical Gardens, Edgbaston, who was scheduled for an essay on "Roses for Suburban Gardens," illustrated with lantern slides. The vice-chairman, Mr. C. H. Herbert presided, and remarked that it was needless for him to introduce Mr. Humphreys as an expert who would not fail to ably demonstrate the subject in question.

After expatiating upon the history and illimitable beauty of our national flower, the essayist gave a graphic and practical demonstration on the cultural requirements of several kinds of roses, according to their nature and suitability for certain sites and purposes, but chiefly in regard to those kinds and varieties adaptable for smoky localities similar to that of Birmingham and its immediate environs. The attention of the audience was also rivetted on the display of lantern slides illustrative of cut blooms, vases of roses, weeping roses as standards, pergolas, arches, etc.

At the conclusion of the address, owing to the lack of time, only a brief discussion ensued, in which Messrs. Herbert, A. R. Brown, and Wm. Gardiner took part, the latter adverting to a few old-time roses known by him sixty years ago, such as, for instance, Devoniensis, the old moss rose, the Austrian Briar, the Scotch Rose, the York and Lancaster rose—all of which were old favourites—and Fortune's Yellow. On the proposition of Mr. C. R. Brown, seconded by Mr. G[illegible] Giles, a hearty vote of thanks was accorded Mr. Humphreys.

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No soil insect pest that preys upon plants can withstand the deadly fumes given off by

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"KILOGRUB" is sudden death to all pests of the soil. All you have to do is to distribute it well over the ground and work it into the soil, only two or three ounces being necessary for a square yard.

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7 lbs.	**2s. 0d.**
¼ cwt.	**5s. 0d.**
½ cwt.	**7s. 0d.**
1 cwt.	**11s. 6d.**
Sample Tin	**9d.**

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NEURALGIA, TOOTHACHE, GOUT, RHEUMATISM.

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Best New and Old Varieties of CARNATIONS

Also Lilium longiflorum giganteum, Lilium speciosum album, Lilium speciosum rubrum, highest quality obtainable. Also Queen Alexandra and Peach Blossom Spiræa, for flowering in any month of the year.

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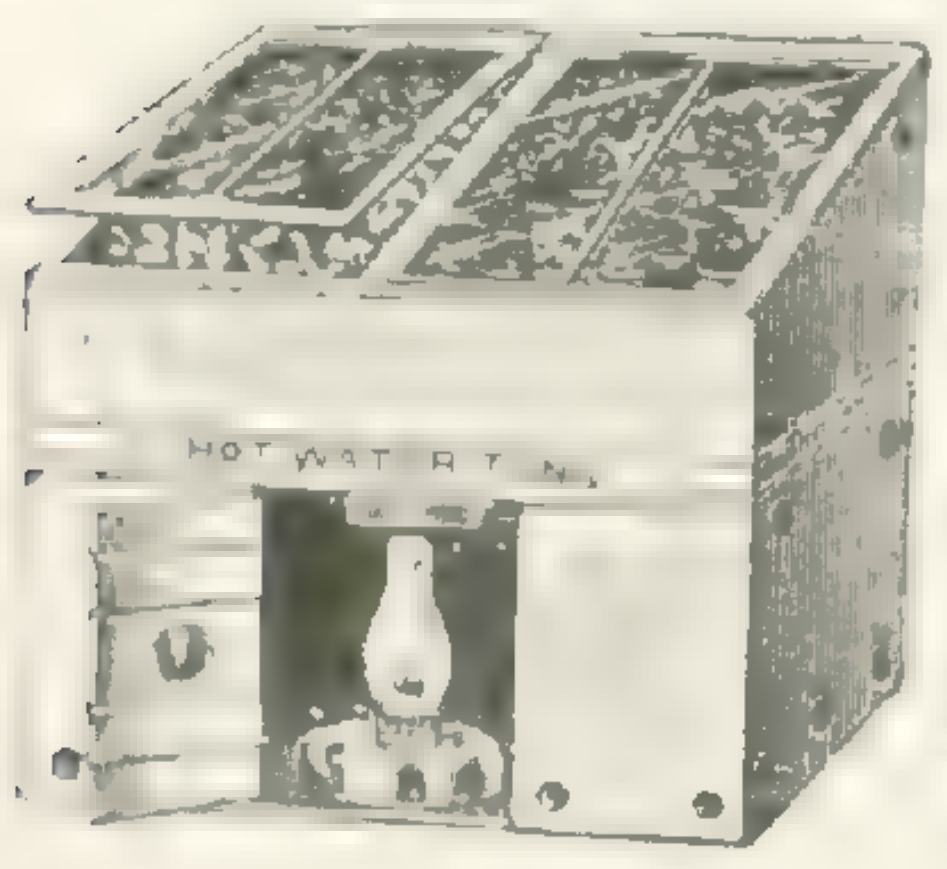

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REMOVES all decayed Bark, Lichens, Moss & Slime. DESTROYS the Eggs of Winter Moth & all Insects.

PRICES:
5 tins, **7/-**; 10 tins, **11/-**; 20 tins, **20/-**; 40 tins, **37/6.**
Carriage paid to any Station in Great Britain.

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RECORD VALUE IN PAINT

We offer you any shade, ready mixed, **18/-** per cwt.; better quality, **22/-**; finest, **25/-**. Splendid Varnish, **4/-** per gallon, dries like glass. *Price List sent Free.*

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The most recent improvements in Ventilation, Heating and Internal Fittings are introduced.

Plans and Estimates will be sent free on receipt of particulars.
WRITE FOR ILLUSTRATED CATALOGUE, POST FREE.

Recent Contracts include the following:—

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His Grace the Duke of Buccleuch.
The Rt. Hon. the Earl of Craven, Coombe Abbey, Coventry.
The Rt. Hon. the Earl of Stamford and Warrington, Dunham Massey Hall, Altrincham.
The Rt. Hon. the Earl of Dysart, Buckminster Park, Grantham.
The Rt. Hon. the Earl of Portsmouth, Hurstbourne Priors.
The Rt. Hon. the Earl of Lathom, Lathom, Ormskirk.
The Rt. Hon. the Earl of Wimborne, Merly House, Wimborne.
The Rt. Hon. Earl Fortescue, Castle Hill, Devonshire.
The Rt. Hon. Lord Hillingdon, Hillingdon Court.
The Rt. Hon. Lord Aldenham, [illegible], Aldenham.
The Rt. Hon. Lord Dunboyne, Knoppogue Castle, co. Clare.
The Rt. Hon. Lord Hatherton, Teddesley, Penkridge, Stafford.
Sir J. B. Robinson, Park Lane, W. (Conservatory at Cape Town).
Sir Robt. Peel, Drayton Manor, Tamworth.
Sir Philip Chetwode, Oakley Hall, Market Drayton.
Count Gurowski, Woolhampton House, Reading.
C. G. Cunard, Esq., Notgrove Manor, Cheltenham.
Mrs. Geoffrey Lubbock, Broad Oaks, Byfleet, Surrey.
H.M. Board of Works, Glasshouses in Hyde Park.
W. Waldorf Astor, Esq., Hever Castle, Kent.
A. E. Bowen, Esq., Colworth, Sharnbrook.
J. J. Sainsbury, Esq., Broadlands, Haverhill.
Libert Oury, Esq., Holwood House, Walton-on-Thames.
W. Pendle, Esq., White Rose Lane, Woking.
Dr. G. W. Drabble, The Grange, Walton-on-Thames.
Morgan Jones, Esq., Llanmiloe Mansion, Carmarthen.
F. A. Darwin, Esq., Bolton Lodge, Bolton Percy.
R. K. Fenton, Esq., Dutton Manor, Longridge, Preston.
Jas. D. Crosbie, Esq., D.L., Ballyheigue Castle, co. Kerry, Ireland.
H. K. Rutherford, Esq., [illegible] Court, Banstead.
A. T. Cook, Esq., Sennowe Hall, Great Ryburgh, Fakenham.
Col. Le Roy Lewis, D.S.O., Westbury House, Petersfield.
Sir C. Swinfen Eady, Oatlands Lodge, Weybridge (Queen Boilers).
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Headington Horticultural.

The twenty-eighth annual meeting of cultivators was held in the large room at the British Workman Institute, on January 29. James H. Morrell, Esq., presided over a large attendance. The report referred to the well-kept allotments in the parish, the president's premier award going to Thomas Cross (mason), whose plot reached the standard of 100 points; and also the front garden of Alfred Morris (labourer), who secured another champion award. The reference to the show held on August 3 last included a meed of praise to the dual display of roses on 50 feet space by the brothers J. R. and W. T. Mattock, who set up very fine collections, which in each case secured a gold medal award. The accounts showed a gain of £6 17s. on the year. The chairman, commenting on the allotments, observed that horticulture should be encouraged, and referred to the fact that near Reading they had an experimental garden on the French system, where three crops per year were raised, the result of thorough feeding and minute detail. He hoped to be able to visit Headington allotments during the coming season. Mr. Morrell was re-elected president; Mr. R. H. Dockray, treasurer; and Mr. W. Greenaway, secretary (twenty-ninth year). August 2 was fixed as the date of the next show.

Aberdeen Chrysanthemum Society.

The annual general meeting of this society was held in the hall of the Young Men's Christian Association, Aberdeen, on Saturday evening, January 30. Mr. Andrew Davidson, chairman of the society, presided. Mr. M. H. Sinclair, secretary, read the report for 1908, in which the annual exhibition of the society, held on November 27 and 28 last, was characterised as a good one. The aggregate entries showed a decrease on the previous year, but this was largely confined to the vegetable section. The cut chrysanthemums were very fine, the displays of decorative and single varieties being by far the finest ever seen in Aberdeen. The pot plant section was excellent, and superior to anything shown for years.

The financial statement was not so favourable as could have been desired, but the weather on the second day of the show was exceedingly wet and boisterous, and told disastrously on the gate money. The loss on the year was £29 5s. 10d., but, given more favourable weather, the hope was expressed that this will be more than made good this year. The total income of the society was £300 5s. 6d., and the expenditure was £204 2s. 10d., leaving a balance in favour of the society of £96 2s. 8d.

The report was unanimously adopted. Office-bearers were then elected, the majority of the posts being filled by the old holders, including that of secretary, which is again held by Mr. M. H. Sinclair, F.R.H.S., whose devotion to the interests of the society has contributed in no small degree to its past success.

CATALOGUES RECEIVED.

DICKSONS, CHESTER.—An excellent catalogue of vegetable and flower seeds from the long-established Chester firm. Garden tools and sundries are freely illustrated in it.

HARRISON AND SONS, LEICESTER.—This useful wholesale catalogue of flower and vegetable seeds is freely illustrated, and contains useful tables for planters, etc.

H. N. ELLISON, BULL STREET, WEST BROMWICH.—An admirably-arranged catalogue, in which the finest types of flowering plants usually raised from seed, and vegetables have a place.

DICKSON, BROWN, AND TAIT, CORPORATION STREET, MANCHESTER.—Though not over large, this catalogue of garden seeds is one of the most attractive we have seen: the illustrations are very beautiful.

JAS. BACKHOUSE AND SON, LIM., YORK AND LEEDS.—A good list of garden seeds, including several novelties in flowers and vegetables. Freely illustrated.

JOSEPH BENTLEY, LIM., BARROW-ON-HUMBER.—This is a useful garden diary for 1909 rather than a trade catalogue, though [illegible] the firm's specialities in insecticides, weed killers, etc., are listed and priced. The book is well bound.

THOS. S. WARE, LIM., FELTHAM.—A catalogue of all the most useful vegetables and beautiful flowers, and also a separate catalogue of the splendid tuberous begonias that are the firm's great speciality.

NEW BOOKS.

◆

AN ARTIST'S GARDEN.

By Anna Lea Merritt. (George Allen and Sons, 156, Charing Cross Road, London). Price 21s. net.

The author of this charming book is well-known to the art-loving people in England and America as the painter of the justly famous picture "Love Locked Out," purchased for the nation under the Chantrey Bequest. Mrs. Merritt, while engaged in work that has placed her name high among contemporary artists, has devoted a considerable share of her attention to her garden, which, as the result of her loving care, has become one of the most beautiful of its kind in the country. She has not only made and tended this delightful pleasaunce herself, but she has painted a considerable number of the chief features, and of these sixteen have been reproduced in colours and utilised in the illustration of her book. These illustrations present a striking contrast to many that have come under our notice within a quite recent period. They are not mere splashes of colour, but pictures representative of artistic skill of a high order, with sufficient detail to enable those who know anything of flowers to at once recognise the plants depicted, without being unduly burdened with detail.

The book contains much that is useful as well as beautiful, and amateurs will have no difficulty in obtaining much information of value, more especially in the creation of distinct effects. More especially would we commend to their notice the list of plants in various colours, and for different situations, as from this they will be able to obtain useful advice on the pictorial possibilities in the arrangement of a garden. As a book for the drawing-room it has but few equals, for while unsurpassed for the extreme beauty and interest of its illustrations, the reader will be able to obtain many suggestions for the artistic arrangement of the plants that usually have a place in the flower garden.

FRUIT TREES AND THEIR ENEMIES.

By Spencer Pickering, M.A., F.R.S., and F. A. Theobald, M.A. (Simpkin, Marshall, Hamilton, Kent, and Co., London). Price 1s. 6d. net.

The enemies of fruit trees are many, and so destructive when allowed to commit their ravages unchecked that it is not less necessary cultivators should be acquainted with their habits, and the best methods of keeping the trees free from them, than it is they should be acquainted with soil preparation, pruning, and other details of successful culture. The book now before us is a valuable aid to the acquisition of a knowledge of the enemies of fruit trees, and the best methods of preventing attacks, and of annihilating such pests that may have been able to become established. It is, therefore, especially welcome, and the authors have rendered a service that could not well be overestimated in placing their store of information at the disposal of fruit growers in so concise and otherwise admirable a form.

REPORT ON THE WOBURN EXPERIMENTAL FRUIT FARM.

By the Duke of Bedford, K.G., F.R.S., and Spencer U. Pickering, M.A., F.R.S. (The Amalgamated Press, Carmelite Street, E.C.). Price, 2s. 6d.

This, the ninth of the series of reports on the work that has been carried on at the Woburn Experimental Fruit Farm, contains much that should have the instant attention of those who are engaged in the cultivation of hardy fruits. This issue is wholly devoted to a report on the results of the series of experiments in planting which included ramming the soil in planting operations, plastering roots, planting in sand, deep planting, trenching the ground, influence of the date of planting, behaviour of trees after planting, and the arrangement of trees in planting. In a recent issue we directed prominent attention to the results obtained in ramming the soil, and we would here add that the results obtained in the other planting experiments are not less remarkable and interesting. In the appendix to the report there are two important papers by Mr. Pickering; one is devoted to "Studies on Germination and Plant Growth," and the other to "The Action of Heat and Antiseptics on Soils."

THE SWEET PEA ANNUAL.

Edited by C. H. Curtis and H. J. Wright. (C. H. Curtis, Adelaide Road, Brentford.) Price, 2s. to non-members.

The high character of the official organ of the National Sweet Pea Society is fully maintained in the issue for the current year. The contents include "Mendelism as Applied to Sweet Peas," by Mr. W. Cuthbertson, who for several years past has been engaged in the practical study of Mendelism in the garden with the aid of sweet peas; "Sweet Peas in Pots," by Mr. Edward Teschemacher; "Winter-flowering and Early Sweet Peas," by Mr. Charles Foster; and a "Colour Chart for Sweet Peas." There are numerous other articles, and also audits of the London and Dublin shows, reports on the visits made to the trial grounds at Reading, Kelveden, and Mark's Tey, and articles. The annual is freely illustrated, and the illustrations include a goodly number of portraits

METEOROLOGICAL OBSERVATIONS.

TAKEN BY THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1909. January 24 to January 30.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	Temperature of the Air. At 9 a.m. Wet Bulb.	Temperature of the Air. Day Highest.	Temperature of the Air. Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Jan. 24—Sunday	0 10	29	27	34	30
„ 25—Monday	—	26	26	31	26
„ 26—Tuesday ...	—	31	31	33	24
„ 27—Wednesday.	—	29	29	30	24
„ 28—Thursday ...	—	25	25	29	25
„ 29—Friday	0 30	25	25	44	19
„ 30—Saturday ...	4 0	37	34	38	25
Means	0 40	29	28	34	25

Date. 1909. January 24 to January 30.	Rain.	Temperature of the Soil. At 9 a.m. At 1 ft. deep.	Temperature of the Soil. At 9 a.m. At 2 ft. deep.	Temperature of the Soil. At 9 a.m. At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
Jan. 24—Sunday	—	37	40	43	28
„ 25—Monday	—	36	40	43	21
„ 26—Tuesday ...	—	36	39	43	20
„ 27—Wednesday.	—	35	39	43	21
„ 28—Thursday ..	—	35	38	42	26
„ 29—Friday	0·02	35	38	42	18
„ 30—Saturday ...	—	35	38	42	29
Means ...	(total) 0·02	36	39	43	23

Apricots.—The spurs soon become elongated and crowded, unless we remove some of the oldest and shorten a few of the others each season, endeavouring to keep the remaining spurs as close to the wall as possible. It is advisable to reserve a few well-placed young growths each season to take the place of those branches which, from no apparent cause, suddenly die off, or for those which become worn out. Very few insect pests are in a usual way found to infest the apricot; the most troublesome which we have had to deal with is the caterpillar of the Apricot Moth (Tortrix angustiorama), which feeds on the young leaves. Their presence may be easily detected by the curling of the leaves. A few minutes each day is well spent in examining the trees as the foliage develops, destroying any pests that may be found by pressing the curled-up leaf between the finger and thumb.—G. Woodgate.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

SEED TESTING. — G. E., Spalding: Do you mean a place where the germinating power of seeds could be tested, or where the plants could be grown from seeds and flowered to show their purity of strain and fixity of character?

DOUBLE-SPATHED ARUM.—G. F., High Wycombe: We have specimens of double-spathed arums sent us several times each year, and sometimes greater curiosities than these, for the arum, under high cultivation, appears inclined to go beyond the limit of its usual method of producing an inflorescence. It must be remembered that a spathe approximates closely to a leaf, and that leaves show considerable variation one from another, even on the same branch of a tree. It is generally believed that the production of one or more small spathes in addition to the normal one is the result of unusual vigour on the part of the plant, produced, probably, by high cultivation. It is interesting to learn that the same plant has produced a double-spathed inflorescence two years in succession; if the variation proves to be so fixed that plants propagated from it also give twin-spathed heads, it will be the more interesting.

CYCLAMEN BUDS FAILING TO EXPAND.—A. S., Guildford: Some grub or weevil has evidently taken a liking for the roots of the young cyclamens and eaten off a considerable number, so that when the developing flower buds made a strong demand upon the roots for nourishment, the demand could not be met. What actually caused the damage we have no means of knowing, as all soil was shaken from the plant sent. Carefully examine the soil in the pot containing a similarly affected plant, and you will probably find some grubs of the vine weevil.

MANURING EVERGREEN SHRUBS.—M. C. D., Surbiton: It is very rarely that we are asked to advise with reference to manuring evergreen shrubs. There is no doubt whatever that many fine evergreens, notably conifers, have been lost, or spoiled, for lack of feeding, and a manurial dressing occasionally would have saved them. If the shrubs do not make good growth, then by all means give the border a dressing of manure, forking it in lightly. The dressing may be given at any time now when weather permits. Aucubas and laurels grow so freely, as a rule, that the difficulty is to keep them from overcrowding and spoiling other and better subjects. What else have you in the border? If you will tell us we may help you to improve it.

CARNATIONS WITH BURST CALYCES.—J. W. L., Liverpool: Winter-flowering carnations vary a good deal in the matter of split calyces. Some varieties produce very few blooms that come to perfection with an entire calyx, while other varieties rarely have a split calyx. So far as we can gather your method of cultivation is correct, but the possibility of damage done by a sudden and severe change of temperature must not be overlooked. We have seen a good deal of harm done in a few hours, when, in anticipation of a severe frost, heat has been turned on considerably, and then a sudden change in the outside temperature has occurred. You do not say what varieties of carnations you grow, or whether all varieties show the same failing. Small rubber rings would reduce the failure if the majority of the blooms reached a more advanced stage than those sent before bursting.

TIMING CHRYSANTHEMUMS.—H. J. J., Norbiton: We have frequently dealt with the subject of "timing" and "bud-taking" in these columns, but, until you are familiar with the procedure it will be worth while having a handy reference book on the subject at hand, such as "Chrysanthemums and How to Grow Them for Exhibition"—1s. 2d., or 1s. 8d. (cloth bound), from the GARDENERS' MAGAZINE Office, 148, 149, Aldersgate Street, E.C. With this at hand, and a regular perusal of our calendar notes and special articles dealing with chrysanthemums, you will have no difficulty in producing good blooms.

PERGOLA FOR A SMALL GARDEN. — G. S. E., Ryhall: In the construction of a pergola in a moderate-sized garden, the width from post to post should be about eight feet, and on either side a space of about ten feet should be allowed between the uprights. When these have been secured, fixed in position, they should be tied together with cross pieces rather less in thickness than the uprights, and if of the same kind of wood, it will be preferable. The larch and oak uprights should be about five inches in diameter, and those of deal be about four inches square, and the cross pieces of the latter be four by three inches. To preserve the wood used as uprights for as long a period as possible, about three feet of the lower portion should be creosoted or treated with some preservative. The path beneath the pergola may be of gravel or thin flagstones, but the latter are preferable. If the latter are used allow a space of two or three inches between them, and in the spaces thus formed mossy saxifragas, sedums, and other plants of lowly growth that will not suffer materially from being trodden upon, may be planted.

PRUNING CRIMSON RAMBLER ROSE.—M. M. B., Exeter: Some of the old growths that had finished flowering should have been cut out last season to afford more room and light for the new growths then being produced. In March, shorten the long growths made last year, cutting some of them back considerably, so as to furnish the base of the pillar. Many of these growths will have lateral growths, but these latter should not be pruned at all.

ERADICATION OF COLTSFOOT. — L. N. D., Woking: Quite recently the Board of Agriculture carefully investigated the whole subject of the prevention of and cure for a coltsfoot invasion. The weed is a quite common one, but very frequently no attempt is made to get rid of the pest until its conspicuous broad leaves become an eyesore. It is, however, essential to check seeding, and the plant should be spudded or hoed out while in flower (February and March). This prevents the mischief due to the distribution of ripe seed, and if properly done many of the leaf buds on the root-stock just below the surface of the soil are damaged, weakened, or destroyed at the same time. Repeated spudding or hoeing of the leaves must be practised early in the season, and also later in the year. The practice is especially necessary where the plant is established on arable fields. Wherever possible the ground should be dried by well-placed drains. The plant does not succeed except where the soil is stiff and retentive of moisture. Coltsfoot grows best, and is especially adapted to thrive, in situations where the leaves have free, unrestricted exposure to sunlight. Hence it succeeds on poor soils where other plants are checked, the absence of competition favouring its access to light. On arable land kept free from other weeds it luxuriates especially. In pastures and meadows it can be gradually destroyed by the application of manures of a nitrogenous character—farmyard manure, nitrate of soda, and similar materials—which encourage grass and other tall-growing herbage. Deep ploughing in the hotter periods of summer does much to destroy it.

DESTRUCTION OF VERMIN. — Most gardens are pestered with Rats and Mice. Every effort should be made at this time of the year to exterminate them before seeds are sown. Danysz Virus is first rate stuff for killing these vermin. Single tube, 2s.; three tubes, 5s. Post free from DANYSZ VIRUS LTD., 52, Leadenhall Street, Garden Dept., London, E.C.-
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14 ft. × 8 ft.	... 16 10 0	14 ft. × 6 ft.	... 12 10 0

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Anemones	per doz. bun.	1	0		2	6
Arums	per doz.	2	0		4	0
Asparagus	per doz. bun.	1	6		6	0
Azaleas	per doz. bun.	4	0		6	0
Bouvardias	per doz. bun.	6	0		8	0
Camellias	per doz.	1	6		2	0
Carnations	per doz. blms.	1	6		3	6
,,	per doz. bun.	9	0		12	0
Cattleyas	per doz.	8	0		15	0
Chrysanthemums	per doz. bun.	10	0		20	0
,,	per doz. blms.	2	0		4	0
Croton leaves	per bun.	1	0		1	6
Cypripediums	per doz. blms.	1	6		3	0
Daffodils	per bun.	0	9		1	3
Eucharis	per doz.	2	6		4	0
French fern	per doz. bun.	1	0		3	0
Freesias	per doz. bun.	2	6		3	0
Gardenias	**per doz.**	**3**	**0**		**5**	**0**
Hyacinths, Roman	**per doz. bun.**	**7**	**6**		**12**	**0**
Lapagerias	per doz.	1	6		2	0
Lilac	**per bun.**	**3**	**0**		**7**	**0**
Lilium auratum	**per bun.**	**2**	**0**		**4**	**0**
,, speciosum	**per bun.**	**2**	**0**		**3**	**0**
,, longiflorum	**per bun.**	**3**	**0**		**5**	**0**
Lily of the Valley	per doz.	6	0		13	0
Marguerites, white	**per doz. bun.**	**2**	**0**		**3**	**0**
,, yellow	**per doz. bun.**	**2**	**0**		**3**	**0**
Mignonette	**per doz. bun.**	**2**	**0**		**3**	**0**
Narcissus, Paper White	**per doz. bun.**	**2**	**0**		**3**	**0**
,, Soleil d'Or	**per doz. bun.**	**2**	**0**		**3**	**0**
Odontoglossums	**per doz. blms.**	**2**	**0**		**4**	**0**
Pelargoniums	**per doz. bun.**	**5**	**0**		**10**	**0**
Roses	**per doz.**	**2**	**0**		**8**	**0**
Spiraeas	per doz. bun.	5	0		7	6
Stocks	per doz. bun.	3	0		5	0
Tulips	per doz. bun.	6	0		18	0
Tuberoses	per doz. blms.	0	3		0	6
Violets	**per doz. bun.**	**1**	**6**		**3**	**0**
,, Parmas	**per bun.**	**4**	**0**		**5**	**6**

Fruits.

There is practically no supply of British apples, but American supplies are good. Cape fruits are welcome, and oranges are excellent.

		s.	d.		s.	d.
Apples, American	per barrel	23	0	to	26	0
,, Nova Scotian	per barrel	18	0		23	0
,, Californian	per case	8	0		10	6
Apricots, Cape	per case	2	0		6	0
Bananas	per bun.	5	0		12	0
Chestnuts	per bag	7	0		16	0
Cranberries	per case	8	0		12	0
Figs	per box	0	10		1	6
Grapes, English	per lb.	1	0		8	0
,, Almeria	per bar.	12	6		22	0
,, Guernsey	**per lb.**	**0**	**8**		**1**	**0**
Lemons	per case	10	0		24	0
Medlars	per case	4	0		5	6
Oranges, Jamaica	per case	6	0		10	0
,, Jaffa	per case	8	0		10	6
,, California	per case	12	6		15	0
,, Tangerines	per box	0	9		1	6
Peaches, Cape	per case	5	0		8	0
Pears, Californian	per case	8	0		10	0
,, Catillac	per crate	8	0		9	6
Pineapples	each	2	6		4	6
Plums, Cape	per case	4	0		8	0

Vegetables.

Good greenstuffs are in great demand. Leeks and rhubarb sell well.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	2	6	to	4	0
Asparagus	per bundle	3	6		5	0
,, Sprue	per bun.	0	8		1	0
Beet	per bush.	1	0		2	0
Beans (French)	per lb.	1	0		2	6
Brussels Sprouts	per ½-bush.	2	0		3	6
Cabbage	per tally	3	0		8	0
Carrots	per doz. bun.	1	0		3	0
Cauliflowers	**per doz.**	**2**	**6**		**5**	**0**
Celery	**per doz. rolls**	**6**	**0**		**12**	**0**
Celeriac	**per doz.**	**2**	**0**		**3**	**6**
Chicory	per lb.	0	4		0	6
Cucumbers	per doz.	8	0		18	0
Endive	**per doz.**	**1**	**6**		**2**	**0**
Horseradish	**per doz. bun.**	**8**	**0**		**12**	**0**
Leeks	per doz. bun.	1	0		1	6
Lettuce	per doz.	2	0		2	6
Mint	**per doz. bun.**	**3**	**0**		**6**	**0**
Mushrooms	per doz. lb.	6	0		12	0
Onions, Pickling	per bush.	3	6		4	6
,, Valencia	per case	10	0		12	0
Parsley	per doz. bun.	2	0		2	6
Parsnips	per bag	2	0		2	6
Radishes	per doz. bun.	1	3		1	6
Rhubarb	per doz. bun.	1	0		1	6
Savoys	per tally	7	0		8	0
Seakale	per doz. pun.	9	6		12	0
Spinach	per basket	2	6		3	6
Tomatoes	per doz. lbs.	4	0		6	0
,, Canary	per pack	8	0		14	0

LONDON POTATO MARKETS.

Trade is very dull, owing to moderate demand and large supplies.

		s.	d.		s.	d.
British Queen	per ton	50	0	to	55	0
Epicure	**per ton**	**45**	**0**		**50**	**0**
Evergood	per ton	45	0		50	0
Sharpe's Express	per ton	60	0		65	0
Maincrop	per ton	60	0		70	0
Royal Kidney	per ton	50	0		55	0
Up-to-Date	per ton	50	0		60	0
,, Blacklands	per ton	45	0		50	0

FORTHCOMING ENGAGEMENTS.

MONDAY, February 8.—United Horticultural Benefit and Provident Society, Committee Meeting.

TUESDAY, February 9.—Royal Horticultural Society: Fruit, Floral, and Orchid Committees meet at 12 o'clock; Annual Meeting at 3 o'clock; Scientific Committee at 4 o'clock.

Horticultural Club, annual meeting at 5.30; annual dinner at 6 p.m.

WEDNESDAY, February 10.—Perpetual Flowering Carnation Society, annual meeting at the Hotel Windsor, Westminster, at 4 p.m.

THURSDAY, February 11.—British Gardeners' Association London Branch: Lecture on "Kew Gardens," by Mr. C. H. Curtis.

FRIDAY, February 12.—Annual General Meeting of the Gardeners' Orphan Fund, and Election of Orphans, at Simpson's, 100, Strand, W.C.; chair to be taken at 3 o'clock.

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YOUNG MAN (21), seeks SITUATION as Second or Second of three; seven years' experience Inside and Out. S. WALKER, 8, [illegible]ey Road, Reading.

YOUNG MAN requires SITUATION as Second in a small place, or as good Single-handed Gardener with good experience gained in good places; age 28; well recommended. 4257, Office of this Paper.

YOUNG MAN (25) seeks SITUATION in Market Nursery; 7 years' experience in Cucumbers and Tomatoes; quick hand Tying and [illegible]; good references. W. WOOD, Mortimer Road, [illegible]leigh, Essex.

YOUNG MAN, age 28, seeks SITUATION. Used to Cucumbers, Tomatoes, Chrysanthemums, and General Nursery work; 11 years' experience; good reference. Apply, W. HARPER, The Hill, Acle, Norfolk.

YOUNG MAN seeks SITUATION in the Kitchen Garden, or Inside and Out; age [illegible]; good reference. Bothy preferred. Apply, A. C. SLEET, The Gardens, Hatchford Park, Cobham, Surrey.

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GARDENER (Head), age 38, married; life experience, thorough knowledge of vines, melons, peaches, stove and greenhouse plants, early forcings, kitchen and flower gardening; five years in last situation; can be highly recommended as to character and abilities.—DUNKLEY, Manor House, Whalton, Morpeth.

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GARDENER (Head Working), where more are kept; 25 years' practical experience all branches, Inside and Out, early and late Forcing, Vines, Cucumbers, Melons, Stove, and Greenhouse Plants, Herbaceous Borders; thoroughly reliable; highly recommended; married, without encumbrance. WOODHOUSE, Eastwood Road, Bramley, Surrey.

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GARDENER (Head Working), age 47; good practical experience in all branches, Inside and Out; many years as Head; can have good references. H. TURNER, Fineshade, Stamford.

GARDENER (Head working, where three or four are kept); life experience; age 28; married, two children; abstainer; excellent references. HOLDEN, Shottesbrooke, Maidenhead.

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For FEBRUARY 13, 1909.

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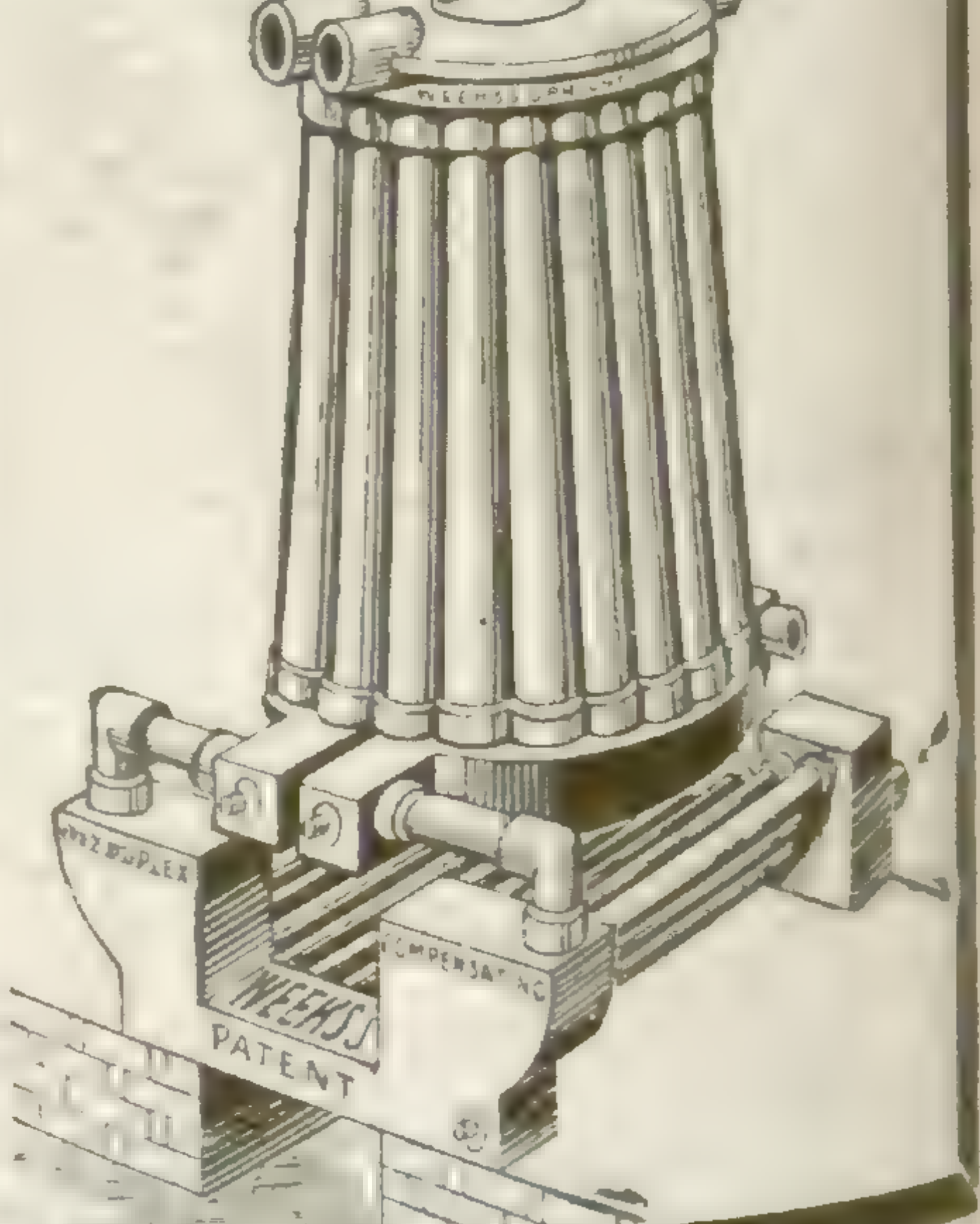

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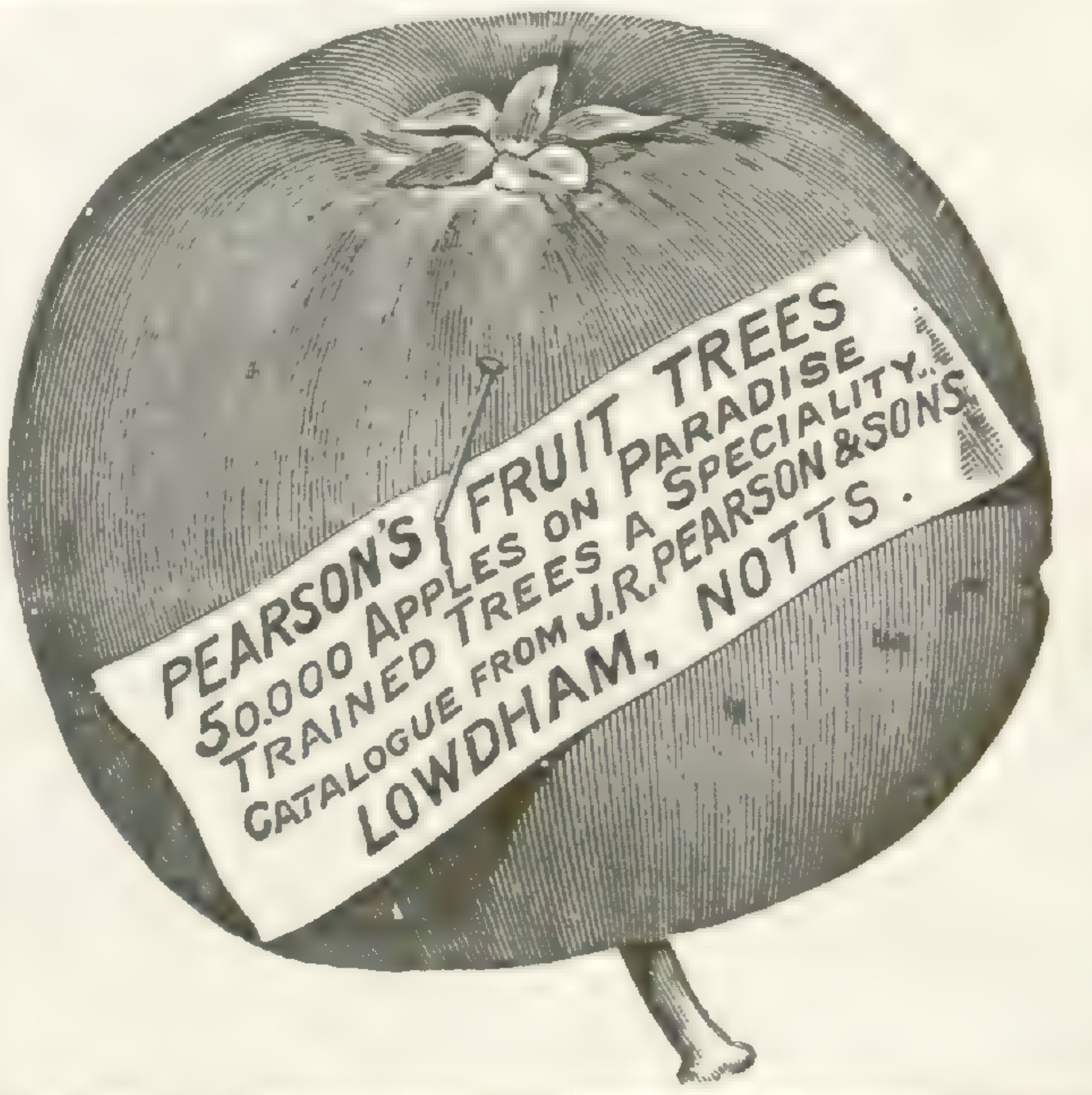
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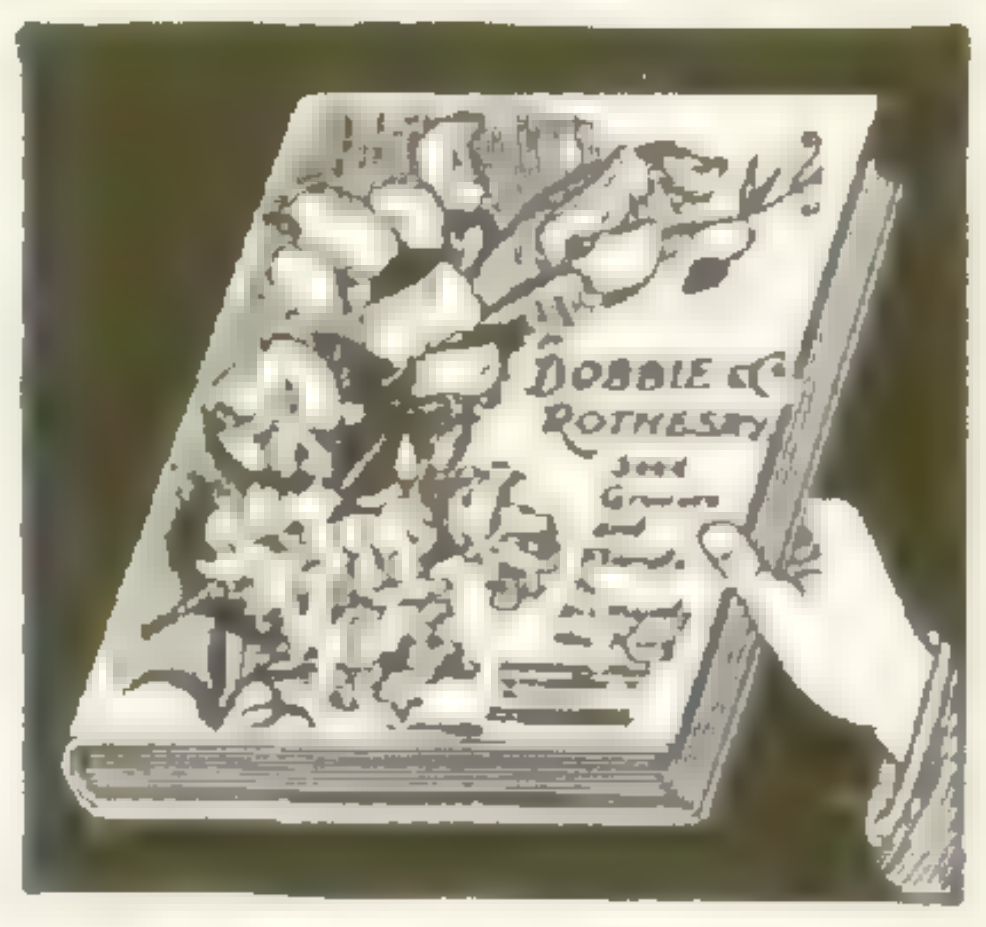

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VOL. LII.—No. 2,885. SATURDAY, FEBRUARY 13, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Vegetable Avalanches.

The recent bog-slides in Ireland, accompanied as they were by loss of life and the destruction of property by the burial of both dwellings and associated cultivated land under many feet of mire, constitute curious examples of sudden natural catastrophes due to the gradual accumulation of material on insecure foundations. The avalanches common to alpine regions owe their occurrence to the accumulation of snow on more or less accentuated slopes, with the result that the weight eventually leads to the detachment of the mass from the rock beneath; the bog slide, on the other hand, is due to a very different cause. Here we have possibly a very gentle slope, covered by a mossy peaty coat of considerable depth. Here and there hollows occur, in which water accumulates, and in this water, year after year, and it may be decade after decade, aquatic or subaquatic vegetation flourishes, consisting mainly of sphagnum and other mosses with associated bog plants, most of which has a continuous surface growth, while beneath the old foliage and the roots decay and build up the dark brown mass known as peat. The result is that in the hollows what are practically enormous sponges are formed, invading constantly more and more the retaining banks, themselves nothing more than somewhat solider peat. Obviously, this cannot be continued indefinitely, and sooner or later an extra wet season comes, the sponge is saturated to the utmost, the retaining banks themselves become waterlogged and softened, and finally, at some weak point, an outlet is formed, and the great bulk of the imprisoned mass spreads by the mere force of gravity over the lower levels carrying devastation, and probably death, in its wake. A more insidious invasion than a bog slide can hardly be conceived; unlike the alpine avalanche, with its thunderous reverberations, it may be perfectly noiseless. Not a sound is heard but the pattering of the raindrops which have determined the culmination of gravitational force which has brought down the silent flood of oozy black mud and spongy debris, the presence of which at the very doors of the invaded cottages is only known when they are opened and the flood rushes in precluding all escape. There is, however, still another difference between the two catastrophes, the one is preventable, the other not. Year after year these calamitous bog slides occur; the localities subject to them are, or ought to be, well known; that their genesis is due simply and solely to a lack of drainage is equally well recognised, and yet they are permitted to occur. A still more important fact, and one which at this moment should not be lost sight of, is that all this peaty land was once forest land, and could be restored once more to forestal conditions. The unstable conditions of a peat bog are due to the absence of any such binding factors as the roots of larger vegetation afford. The very accumulation of the water is partly attributable to absence of arboreal roots capable of absorbing it and utilising it, and of arboreal foliage which would transpire it, and by its formation of valuable timber transform, at the same time, these poverty-stricken districts into areas of profitable industrial employment. That in a country like Ireland immense areas are practically waste, so that emigration is considered the only way of keeping alive in many parts of the country, is nothing less than a national disgrace, which such attendant calamities as we are treating of emphasise. Abroad there exists abundant evidence how the question of afforestation can be dealt with; the climate is in its favour now, as it must have been in the old forestal days of the pre-bog period. The recent report of the Commission appointed to study this question is all in its favour, but the main obstacle appears to be in the lack of the spirit of farseeing enterprise necessary for national work involving present outlay and only future returns. One point in the report, viz., that there can be no returns for forty years, clashes considerably with foreign data, since timber of far less age has its commercial value, and, with proper organisation, on the French or German lines, would provide an income in half that time. Let us therefore hope that the Galway catastrophe may at least have a good effect in emphasising the absurdity of its occurrence, and inculcating the need for a salutary preventive system.

MR. JAMES GUTTERIDGE,

Superintendent of Public Parks and Gardens, Liverpool.

Mr. James Gutteridge, whose portrait we have the pleasure of giving in this issue, occupies the important position of Park Superintendent at Liverpool, and is one of the best known and most highly esteemed of the horticulturists occupying public positions in Lancashire, and his popularity is fully justified by his courtesy and commanding ability. Mr. Gutteridge, who is a native of Surrey, commenced his gardening career in the gardens of Burwood House, Cobham, and having gained experience in several other private establishments, he entered on a three years' term of service in the Royal Gardens, Kew. Mr. Gutteridge soon became sub-foreman of the Tropical Propagating Department at Kew, and was so assiduous in his studies that while there he obtained certificates for economic, geographical, and systematic botany, and also for chemistry and physics. He was also successful in obtaining botanical certificates from the Science and Art Department, South Kensington. Leaving Kew, Mr. Gutteridge obtained an appointment in the Glasgow Botanic Gardens, and, after six years' service there, he was appointed curator of the Botanic Gardens and deputy superintendent of the public parks and gardens at Liverpool. During the nine years Mr. Gutteridge filled the dual position at Liverpool he rendered such admirable service that, on the death of Mr. Herbert, the superintendent of the Liverpool public parks and gardens, some three years ago, he was appointed his successor, without the usual formality of inviting candidates.

The "Gardeners' Magazine" Spring Number will be published on the 27th inst.,and as it will be almost wholly devoted to matters that are associated with the season of spring, it will be of special interest to the general body of horticulturists. The contents will include sweet peas and new perpetual carnations; herbaceous phloxes, and pæonies; French beans, and the newer potatoes; amaryllis and gardenias; annuals for the flower garden and conservatory plants from seed; selecting and planting gladioli; the edelweiss; the finest melons and their culture and the future of French gardening. The issue will be profusely illustrated; and, as a large additional circulation is anticipated, we strongly advise those of our readers who require additional copies to give their orders well in advance.

National Horticultural College.—The most important part of the scheme which has been prepared by the Charity Commission under the will of the late Mr. John Innes, of Merton, relates to the institution of a national horticultural college at Merton. This institution will be managed by a council consisting of the three trustees—Mr. C. C. C. Scott, barrister; Mr. F. G. Courthorpe, of Southover, Lewes; and Mr. W. E. R. Innes, of Rossey Park, Horsham—and representatives of Oxford, Cambridge, and London Universities, and other bodies interested in horticulture and agriculture. The institution is established to afford practical and scientific training in horticulture. The grounds attached to Manor Park, Merton, with the exception of two acres used for the horticultural college, are to be appropriated as recreation grounds for the inhabitants of Merton and Malden.

Sir Daniel Morris, K.C.M.G., late Imperial Commissioner of Agriculture for the West Indies, whose portrait we recently had the pleasure of giving in these pages, has been selected for the newly-created office of Scientific Adviser to the Secretary of State for the Colonies on matters relating to tropical agriculture.

R.H.S. Parks Examination.—The report of the Royal Horticultural Society's examination of the employees in public parks, which was held on January 11, has been issued. There were 119 candidates, and of these 25 secured places in the first class, 40 in the second, and 37 in the third, leaving 17 candidates who failed to obtain the minimum marks required. Of those in the first class, about 50 per cent. were in the lower classes last year. The examiners state that the answers to the questions indicated a very fair acquaintance with the practical work of draining, trenching, manuring, soil preparation for planting, and the general cultivation of the soil. In their answers involving thoughtful study, observation, and resource, many candidates showed much weakness. With reference to the classification and naming of trees and shrubs, the examiners report that the majority of the candidates were familiar with the common name of many, but were unable to give their generic or specific names. Their native countries also were but weakly known, and as to those which are distinctly "British," a general haziness of mind existed, the majority of candidates including N. American, Japanese, and New Zealand trees and shrubs as British. The scientific names and the natural habitat of the trees and shrubs of our public gardens would repay a closer study, for nothing interests the public more than to find these points well and correctly set out. An immense improvement is noticed in the understanding of the cultivation of flowering shrubs as compared with two years ago.

Metropolitan Public Gardens.—At the monthly meeting of the Metropolitan Public Gardens Association an intimation was received from the London County Council that West Square enclosure, Southwark, which the association have undertaken to lay out as a public garden, might be enlarged, and it was agreed to incur the additional cost of dealing with the larger area. It was reported that about £250 had so far been received in response to an appeal recently made by Lord Meath, as chairman, for £3,000 from voluntary sources towards the acquisition of Whitton Park, Hounslow, for £11,250. It was decided to prosecute the appeal in various directions. It was reported that the trees granted by the association for Maida Hill West and for Wanstead Flats had been planted. It was decided, subject to estimate, to lay out the churchyard of St. Ann's, Wandsworth, if its maintenance were secured; to protest against the cutting down of trees in St. Martin's-in-the-Fields Churchyard, which had been planted by the association many years ago. It was decided again to organise outside window garden prize competitions in the summer.

Naming of Multigeneric Orchid Hybrids.—The circular letter relating to this importnant question, which we are able to publish in this issue, should have the most careful consideration of all who take an active interest in orchids and orchid culture. Few things could be of greater importance to the orchid cult than the avoidance of long and cumbrous names such as would be formulated by the combination of three or more genera, should the practice in the naming of orchid hybrids continue. We have a strong objection to the practice which has come into vogue within the past few years of coining so-called popular names, but we regard simplicity in the naming of orchids, as of other plants, of primary importance. The adoption of a commemorative name such as that which the sub-committee proposes to submit to the council has much to recommend it. It would be well were those who are interested in the cult of British ferns to meet for the purpose of considering the question of effecting a reform in the nomenclature of the varieties of British species. Possibly it would be better were the council of the Royal Horticultural Society to take the matter in hand.

New Park for Hull.—The Hull City Council has accepted the offer of 30 acres of land for a park and lodges made by Mr. Christopher Pickering. The park is situated in the west of Hull, where the fishing folk live. It was decided that the park should be called Pickering Park.

Experiments with Seed Potatoes. During the past four years several experiments have been carried out, under the auspices of the Education Committee of the Lancashire County Council, for the purpose of obtaining satisfactory information relative between source of seed and weight of crop; and the advantage arriving from the early purchase and sprouting of the seed tubers. The experiments were conducted by Mr. Edward Potter, B.Sc., F.A.C., and R. C. Gaut, B.Sc., and their report, which has just been issued, is at once interesting and instructive. Full details of the experiments and the results are given, and from these the following conclusions have been drawn: Seed potatoes brought from a northern to a southern latitude give a much larger crop than do those brought from a southern to a northern latitude. The yield from Irish-grown seed sprouted, though highly satisfactory, is, on the average, below that from the Scottish grown seed sprouted. Seed potatoes obtained from localities within the county fail on the average to produce crops as large as those obtained from Scottish or Irish grown seed. Seed potatoes obtained early in the year and sprouted before being planted give a larger yield than if obtained late and planted direct (i.e., unsprouted) from bags. The increased yield from seed bought early in the year will repay the extra labour incurred, and at the same time allow of a substantial profit, as, on the average, the crop is increased by more than two tons of large tubers per statute acre by the use of sprouted seed.

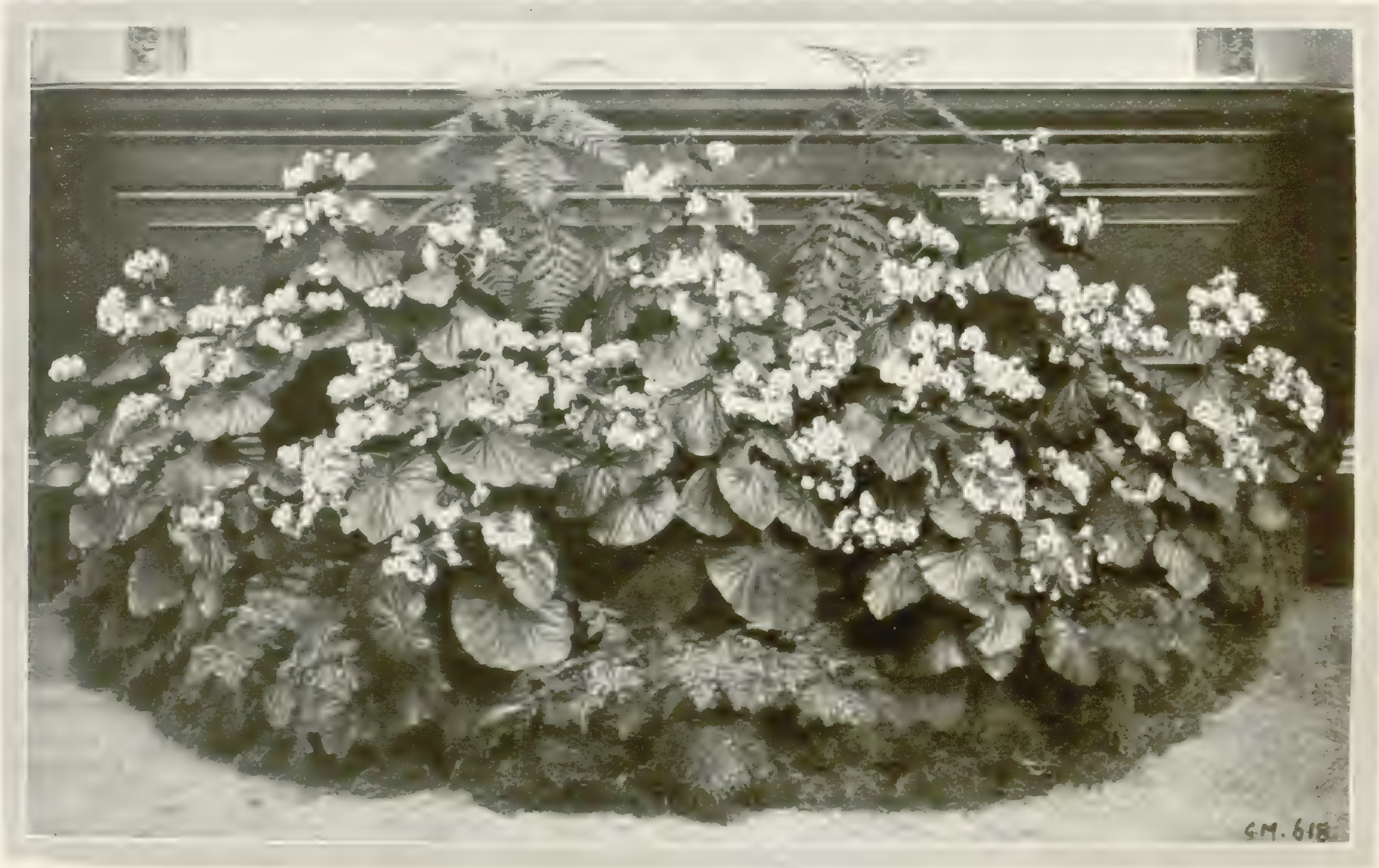
Wisley Trials.—The Council of the Royal Horticultural Society state in their annual report that, in order to protect the members of the various standing committees from the possibility of reproach, and to secure absolute freedom from bias, they have arranged that in future, when trials are being made at the gardens, the growing plants, flowers, or fruits, shall be inspected by a sub-committee composed of five members of the committee interested and that everything so grown for trial shall be kept under a number only, and that the names, both of the varieties and of their senders shall not be disclosed until a decision has been arrived at, and samples are submitted to the whole committee at Vincent Square, together with the report and recommendations of the sub-committee. Thus, the judgments of all sub-committees at Wisley will be given under number only. Specimens of the produce for which a sub-committee shall have recommended any award, will be brought to Vincent Square at the next ensuing meeting, and the whole committee will then have an opportunity of considering the report and recommendations made by the sub-committee at Wisley. The committee having inspected the samples brought up, and adopted (or otherwise) the recommendations of their sub-committee, will send them up to the Council for its approval in the usual way.

Blumea balsamifera is the subject of an interesting contribution to the first volume of the "Indian Forest Record," from Mr. P. Singh. This shrub is of interest as the source of a variety of camphor manufactured by the Chinese, also known as "ngai." While not a competitor with the ordinary camphor of commerce, "ngai" is of considerable value; it is used by the Chinese as a medicine in the preparation of the finer qualities of Chinese ink, and for ritualistic purposes.

BEGONIA GLOIRE DE SCEAUX

To many of those who had an opportunity of visiting the second of the two meetings held by the Royal Horticultural Society during January last, the contributions made by Mr. Prime, the Marquis of Salisbury's skilful gardener, were of special interest. One of these was a bold group of splendidly-grown plants of Euphorbia jacquiniæflora, which, although introduced to cultivation seventy-four years ago, has no equal in its way for decorative purposes during the winter months. Grown with the vigour characteristic of the examples exhibited by Mr. Prime, the plants produce a bright effect in the stove and warm conservatory, and yield sprays of flowers of much value for decorative purposes in a cut state. The other group was of special interest as evidence of the great value of Begonia Gloire de Sceaux for decorative purposes early in the year, when, as in this case, the plants bear the impress of skilful cultivation. The illustration herewith of Mr. Prime's group sufficiently indicates the amplitude of foliage and abundant flower production for which the plants were remarkable, and it will not be difficult to see that such examples of successful cultivation could not fail to be of much value for the embellishment of the conservatory at the present season. It would perhaps be well in some gardens to reduce the cultivation of Begonia Gloire de Lorraine and its several varieties to some extent, and to give increased attention to the variety herewith illustrated, and some of the brilliantly coloured winter-flowering begonias that have been obtained by the intercrossing of Begonia socotrana with the tuberous varieties. Gloire de Sceaux should certainly be more generally grown where the glass space is considerable. This begonia was raised by Messrs. Thibaut and Ketehler, of Sceaux, near Paris, and introduced to cultivation about twenty years ago. The plants have, when allowed sufficient room for their development, a bold pyramidal habit; the leaves are large, and of a rich bronze hue, and the comparatively large bright pink flowers are borne freely, and produce a pleasing contrast to the dark foliage.

G.



A GROUP OF FINELY GROWN PLANTS OF BEGONIA GLOIRE DE SCEAUX.
Exhibited by Mr. Prime, gardener to the Marquess of Salisbury, Hatfield House, at a recent R.H.S. Meeting.

EUPHORBIA JACQUINIÆFLORA.

It is just at this season of the year that we expect to find the most brilliant display of this handsome spurge, and there are few more striking sights than a pillar in a warm house clothed with the rich green of its leaves, from which marvels of colouring the flowering sprays stand out in graceful curves. On walls, when not too closely trained, it often succeeds admirably, but, plenty of light being indispensable, it seldom flowers satisfactorily in such positions should the sun rays be intercepted by climbers on the roof. Although the stove is best suited to its requirements, one often sees it doing well and flowering freely when planted out against the back wall of a light conservatory which is kept moderately warm throughout the winter.

For indoor decoration it would be difficult to speak too highly of the scarlet spurge, which lends itself readily to ornamental grouping. White flowers make the best foil to the intense hue of its blooms, the contrast of colours being pleasing and artistic. A tall vase of paper-white narcissus, with which are interspersed long racemes of the euphorbia, forms one of the most charming floral arrangements imaginable.

The propagation of this euphorbia is best effected by taking off with a heel the young shoots formed by well-ripened plants after the flowering period is over when about four inches in length. Insert them singly in small pots in a compost of peat and rough sand, and place them under bell-glasses. As they are impatient of an excess of moisture, success is rarely attained by an endeavour to strike the cuttings in the propagating frame, where the majority of stove plants are raised. When well rooted their subsequent culture is comparatively simple, as the plants have only to be shifted on when they require it. Good fibrous loam should be added to the potting materials mentioned above, and they should be kept in the lightest position possible. Thus treated they should bloom well during the ensuing winter, and when in flower are useful for conservatory decoration. Some growers plant out in pits, which method induces vigorous growth and a plentiful supply of sprays for cutting; but, naturally, such treatment fails to display the beauty of the growing plant to the best advantage. On no account should the soil in the pots or beds be allowed to become saturated with water, such conditions being fatal to health. When the pots or beds are well filled with roots, liquid manure should be supplied to maintain the fertility of the soil.

T. B. Field.

Ashwellthorpe Gardens.

Strawberries in Flower should be allowed a good circulation of warm air, as a close atmosphere is not at all conducive to a good set. In the middle of the day, when the pollen is quite ripe and dry, it should be scattered by means of a fan or brush. Take great care the plants do not become too wet at this stage. As soon as it is seen that a crop has set the fruits should be thinned, for at this early season heavy cropping would mean failure. Top dress the soil with some approved manure.—W. A. Cook.

SOME NEW ROSES OF 1907—I.

◆

FIRST IMPRESSIONS.

The following notes on new roses of 1907 are just first impressions; nothing more. You could not expect more from an amateur than first impressions, could you? From a desire to increase the stock of plants many new roses are over-propagated; the plants are weak to start with, and they will probably take a year or two to recover themselves. But because a certain novelty is degenerate the first year of its introduction, that is no reason why it will remain so. Time after time there have been instances of a new rose which at first was apparently weak and almost worthless, becoming, as time went on, a first-rate variety. Some of these first impressions are more decided than others, since the roses criticised in the subjoined list fall under three heads. Division (1), those that the writer has himself grown and tested; (2) those seen growing elsewhere, and (3) those seen only at exhibitions, and it is obvious that he is in a slightly better position to judge of the roses in Division 1 than of those in Divisions 2 and 3.

SWEET PEA MRS. HENRY BELL.
Flowers large, colour cream, richly suffused with bright rose-pink.

Division I.

Ami Martin, H.P. (Chedane).—Colour vermilion red, deep petals, but so far lacking in form and substance.

Avoca, H.T. (Alex. Dickson and Sons).—Colour dark crimson flushed with scarlet. On maiden plants the flowers are produced at the tips of very long medium-sized wood. Of good form and deep petalled, but lacking in fullness. A late flowering variety. At present the colour and lateness in flowering are its only recommendation. It may be better as a cut-back.

Barbarossa, H.P. (Welter).—Colour carmine-red, vigorous and free flowering. A large flower, but at present too thin and irregular in outline to be useful. The raiser terms it a red Frau Karl Druschki! It may be so on the Continent, but up to the present I cannot endorse this description.

Birdie Blye, Hybrid multiflora (Conard and Jones).—Colour carmine-pink, but the pink lacks yellow, whereby it loses in brilliancy. Flowers small, produced in clusters blooming at the terminals. Vigorous branching habit. Will make a good bush, but is not a pillar rose. Perpetual, good autumnal. The weakness of this variety lies in the deadness of the colour.

Colonel S. R. Williamson, H.T. (Alex. Dickson and Sons).—Colour white, with blush centre, deep petalled, pointed, full. Very free flowering, useful for decoration, and giving good exhibition blooms early in the season.

Dorothy Page Roberts, H.T. (Alex. Dickson and Sons).—A semi-single rose, pink suffused yellow. Flowers of long, stout petals, produced singly, pairs or triplets, but not more. It was awarded the gold medal of the N.R.S., but from personal acquaintance of maiden plants the award seems hardly justified. It may be better as a cut-back; its habit, however, is not sufficiently branching for garden effect.

Elizabeth Barnes, H.T. (Alex. Dickson and Sons).—In colour this rose resembles Madame Abel Chatenay. It is irregular in form and wanting in size, substance, and depth of petal.

Harry Kirk, Tea (Alex. Dickson and Sons).—Colour, buds apricot yellow, shading paler in the more advanced flowers. Robust, branching habit, deep green foliage, apparently not liable to mildew. Producing abundance of flowers on thick upright stems, flowering continuously well into the autumn. Blooms of sufficient size and quality as an exhibition tea. An excellent garden variety. One of the best. Gold medal, N.R.S.

Lady Helen Vincent, H.T., (Alex. Dickson and Sons).—Colour shell-pink. Commended by the raisers as giving blooms large, full, pointed, of good form, and fragrant. It was awarded the gold medal of the N.R.S. It has not, however, at present reached one's expectation.

Mrs. Harold Brocklebank, H.T. (Alex. Dickson and Sons).—Colour cream-white, base of petals buff-yellow. Of good form, but too thin and lacking in size for exhibition purposes. As a garden decorative variety it may possibly be found more or less useful.

Marichu Zayas, H.T. (Soupert et Notting).—Colour rose-pink. Flowers large, deep petalled. Vigorous upright growth. But so far, it has been deficient in form and substance.

Mrs. J. W. Budde, H.T., (Soupert et Notting). — Colour bright carmine. Flowers of good size, but wanting in fulness. Before expressing a decided opinion on this and the last-named variety one must test them another season. At present I do not care for either.

Queen of Spain, H.T. (Bide and Son).—Colour pale flesh. Grand flowers have been staged by the raisers, very full and of good form. My experience of it is on cut-backs only, when the growth was weak and the flowers worthless. Possibly a result of over-propagation. Perhaps on maidens it will give better flowers, but I should think it is solely an exhibitor's rose. Awarded the gold medal of the N.R.S.

W. E. Lippiatt, H.T. (Alex. Dickson and Sons).—Colour velvety crimson, shaded maroon, very strongly perfumed. Flowers large, good form, pointed, and very full. Petals stiff and leathery. In the blossoms of this rose there is a suggestion of Earl Dufferin in its best form, but the growth is stronger and more upright. The foliage is very handsome. Here we have a most promising rose and one that will probably be extremely useful to exhibitors, especially in a hot season. It is a welcome contrast to the many flimsy varieties of recent introduction.

Joseph H. Pemberton.

Small Holdings.—We understand that a short amending Act will be introduced next Session dealing with the interpretation of the word "holding," and defining it to be the amount of land farmed, and not the particular size of any piece of land. As the Act stands at present, only members of the labouring population can secure allotments, but it is felt that it should be made permissible for allotment authorities to provide allotments up to five acres to all suitable persons.

THE BEST SWEET PEAS.

Those who would achieve success in the cultivation of sweet peas during the coming season must, within a comparatively short period, if they have not already done so, be on the alert, and take the preliminary steps essential to the production of an abundant and beautiful display of flowers. In other words, they must select the varieties they intend growing, purchase the seeds, and proceed with sowing them under glass, or in the open, as may appear the most desirable. The first step is to make a selection of varieties, and to those who have not had an opportunity of becoming acquainted with the newer introductions this is not wholly free from difficulty. This, however, is much less difficult than it might have been, for the National Sweet Pea Society has, by means of its trials, been able to thoroughly test novelties, classify varieties that are too much alike, and to eliminate those of inferior merit. The growers and raisers have heartily co-operated with the society in its excellent work, and, as the result, a selection might be made from any good catalogue without the risk of including a variety that is decidedly inferior. There are, of course, different degrees of merit, and because of this the following selection has been prepared for the guidance of those who require a comparatively small number of varieties.

In the making of a selection of sweet peas there is no occasion to place a severe limit upon the number of varieties, as in the case of many ornamental plants and useful crops. The amateur may, if he so chooses, have as many distinct varieties as he has clumps, for the varieties differ but little in growth, and there is no danger of any two colours being so wanting in harmony as to produce a really unsatisfactory effect. Sometimes the question of cost arises when the purchase of a comprehensive collection is contemplated, but the seeds of sweet peas are so inexpensive that those who require a medium-sized collection have no occasion to consider the cost. The cultivator has only to turn to the advertisement pages of the **Gardeners' Magazine** to find that he can obtain a collection of twenty varieties or so of great excellence for five shillings, which is not a large sum for the production in the garden of a display of flowers equally remarkable for their attractiveness and fragrance. In gardens where large quantities of flowers are required for decorative purposes in a cut state it will be necessary to reduce the number of varieties somewhat, and increase the area for those bearing flowers of the colours for which there is the greatest preference.

Where there is room for a representative collection, three of the four varieties that obtained distinction from the National Sweet Pea Society last year should be included. All the varieties are of much merit, but the brilliant crimson George Stark will not be distributed until next year, and cultivators must therefore possess themselves in patience. The others are Mrs. A. Ireland, of which an excellent illustration was given in last year's volume of the **Gardeners' Magazine**, an attractive variety, similar in colouring to Jeannie Gordon, but with larger blooms, and a finely waved standard. Mrs. Henry Bell is exquisitely beautiful; the flowers are large, of great substance, and exquisitely coloured, the ground being rich cream suffused at the margin of the petals with rose-pink. Constance Oliver, a charming variety, has flowers large in size, with finely waved standard, the colour deep pink suffused with cream at the base of the petals. Paradise Ivory has large, finely formed flowers, with stout waved petals, and of a pleasing ivory colour.

SWEET PEA, EVELYN HEMUS.
Flowers large, colour rich cream, suffused with rose-red at the margin of the petals.

In passing on to other varieties, of which the majority have been some time in cultivation, one finds so many deserving attention as to experience some difficulty in certain sections in determining which to leave unnoticed. In the group of white varieties there are three of outstanding merit, and these are Etta Dyke, Dorothy Eckford, and Nora Unwin. The first and third belong to the waved section, and the second has plain standards, and where two only are required the first and second should be selected.

The various shades of pink are sufficiently numerous to afford a considerable range for selection. Mrs. Hardcastle Sykes may be mentioned as one of the finest of the varieties with blush-coloured flowers, and as deserving of the most widely extended culture. There are several others so closely akin to Mrs. Hardcastle Sykes that they have been bracketed by the National Sweet Pea Society as being "too much alike," a fact of which growers for exhibition should make note. Countess Spencer still remains at the head of the deep pink varieties, and, with Constance Oliver, of which mention has already been made, will be sufficient. Of the rose and carmine shades, John Ingman should be selected; the flowers are large, and the standard elegantly waved, and the colour is brilliant carmine-rose.

There are several excellent varieties with flowers of various shades of yellow, and of these James Grieve, a variety with large, stout sulphur-yellow flowers, can be specially recommended. One does not like to leave Mrs. Collier unnoticed, but James Grieve and Paradise Ivory will be enough yellow forms for a collection of considerable extent.

The scarlet and crimson sweet peas have been considerably strengthened within the past few years, and the finest of these are of special value both for the production of colour effects in the flower garden and the supply of cut flowers for indoor decorations. It is highly satisfactory that the two varieties of exceptional excellence should have received names in every way worthy of their merit, by having been dedicated to King Edward VII. and Queen Alexandra. They have both a strong constitution, are free in flowering, and the blooms are of the largest size and good substance. The flowers of King Edward VII. are glowing crimson, and those of Queen Alexandra rich scarlet. Chrissie Unwin is a beautiful variety, bearing large flowers with waved standards, and of a lovely cerise shade. Helen Lewis and St. George are two highly effective varieties belonging to the orange-coloured section, and should have attention.

Varieties with flowers of various shades of blue and mauve form an important group, several of quite exceptional excellence having been introduced to cultivation within the past few years. Of the deep blue shades Lord Nelson, similar in hue to Navy Blue, but brighter in colour, and in other respects superior to it, and A. J. Cook, a large flower with waved standard, and of a pleasing shade of purple-blue, should have the preference. Lady Grisel Hamilton is still the finest of the lavender-coloured sweet peas, and with it should be associated Frank Dolby, a charming pale blue variety, with waved standards. Rosie Adams has purple-mauve flowers, finely waved, and is of much merit, and Mrs. W. Wright and The Marquis are mauve-coloured varieties of much merit, the last-named having waved standards. Menie Christie and George Gordon are the finest of the magenta coloured varieties, and are very beautiful when seen at their best, but in dry seasons and on shallow soils the flowers lose somewhat of their lustrous colouring. The first has waved standards, while of the second the standard is plain. Still darker in colour are Black Knight and Hannah Dale, which have deep maroon flowers, with plain standards.

Very beautiful is Evelyn Hemus, a distinct variety, with large flowers, having waved standards, the ground colour rich cream, with a well-defined rose-pink margin to the petals. Sybil Eckford is a distinct fancy flower, exquisitely coloured lemon, apricot, and blush-pink. Jeannie Gordon, although introduced eight or nine years ago, is still the best of the bicolors, and of much value both for exhibition and garden decoration. The flaked varieties include several that should be grown where the space can be afforded for a comparatively large selection. Prince Olaf is the best of these with blue markings, and Jessie Cuthbertson and Paradise Red-flake are the finest of those in which the colouring is rose and red. Helen Pierce continues the best of the marbled section. Marbled flowers are useful for exhibition because of the distinctive colouring they afford, but as compared with the selfs they are somewhat wanting in effectiveness in the garden.

The varieties enumerated include the finest in the respective shades of colour, and are essential to a representative collection. Should, however, the number be in excess of the requirements of those who refer to the selection, the varieties representing colours that are not specially appreciated should be omitted, and one only of each of the other shades of colours be selected, preference being given to the first mentioned of each shade. S.

The Potato Supply.—Last autumn we were congratulating ourselves on the excellence of potato crops, and, according to official returns, the crop was about one ton to the acre more than in 1907. Perhaps the absence of disease in the tops during the summer, and the fact that the tubers grew unchecked, were responsible for the heavy crops, but now we are hearing the other side of the story—people cannot sell their potatoes. One is inclined to wonder, after all, whether big crops are really a blessing, for the indispensable tuber is now going begging, and the average price is little more than half what it was a year ago. Whether the trade will improve later on remains to be seen, but at the moment farmers are freely using potatoes as food for cattle, not for choice, but because they consider this to be a more economical way of disposing of them than selling at the prices offered. The slump in the potato trade will probably result in a less area being planted next season, as growers will fear running a second risk of over supply.—H.

Fuchsias that have been stored away in a dry shed or some other such place should now be brought out and put in a house where a temperature of about 50 deg. is maintained. A few days subsequently they should be pruned hard back, and in most cases close to the old stem, as they break much better from really old, hard wood than from that which may not be fully matured. Syringe them daily, and when the young shoots have attained the length of one inch they should be repotted, removing a good portion of the old soil, also shortening in the stronger of the roots. Young plants struck in the autumn and now in three-inch pots should be ready for a shift into others one size larger, using a nice light compost. It is advisable to pot fairly firm, which will tend to keep the growth sturdy. If bushy plants are needed to bloom in small pots, once pinching of the main shoot will suffice, but if good pyramidal specimens are needed to bloom later on in the season the main shoot must be encouraged, and as the side shoots develop they must be pinched at the second pair of leaves.—Thomas Stevenson.

NOTES FROM KEW.

When a greenhouse has to be kept gay with flowering plants throughout the year, many of our hardy shrubs brought on under glass so that they anticipate their usual season of blooming are exceedingly valuable for the purpose. This is at the present time well exemplified in No. 4 greenhouse at Kew, which is very instructive and delightfully attractive at all seasons, but owes a good deal of its beauty just now to the numerous examples of forced shrubs which are plentifully scattered throughout the structure.

Rosaceous plants are, as one might expect, strongly represented, there being among others a tall specimen of the purple leaved variety of the cherry plum, well known in gardens as Prunus Pissardi, but whose true name, according to the Kew authorities, is Prunus cerasifera atropurpurea. In its flowering stage the leaves are not developed, but the pretty white blossoms, slightly tinged in the centre, when borne in such profusion as in the Kew specimen, are most attractive.

Other species of prunus in which genus are now included the cherries, almonds, and peaches, as well as the plums, are Prunus pseudo cerasus, a beautiful semi-double Japanese cherry, the flowering season of which is, in its native land, made the occasion of an annual fête; Prunus sinensis, a neat-growing little shrub, whose comparatively long slender shoots are thickly clothed with pretty double blossoms, pure white in one variety, and slightly tinged with pink in the other; Prunus triloba, with semi-double flowers of a pleasing shade of deep pink. Apart from its value for forcing, this prunus, which, by the way, is sometimes known as Amygdalopsis Lindleyi, is a delightful wall shrub. Grown in this way the flowers are much richer in colour than they are under glass. The last of the prunus to mention is that richly coloured member of the peach family known as Prunus persica magnifica. The deep reddish rose coloured blossoms of this afford a pleasing variety to the lighter tints of the others.

Spiræa arguta, represented by some large bushes thickly studded with their clusters of tiny white flowers, is as attractive in the greenhouse as it will be later on out of doors. Spiræa prunifolia flore-plena, remarkable among spiræas for its double blossoms, lends itself to forcing as readily as the preceding. The dark coloured bark of the branches serves to intensify the spotless purity of the little rosette-like blossoms. The June Berry of North America, Amelanchier canadensis, is seldom forced, but its white flowers are freely borne when treated in this way.

Finally, among rosaceous plants there is Pyrus floribunda, whose spreading branches are thickly wreathed with pinkish blossoms. When forced, these are much paler in colour than when they develop out of doors under the influence of spring sunshine. Azalea sinensis, more generally known as A. mollis, is represented by various forms, differing principally in their shades of colour. They are, however, all of a yellowish or terra-cotta tint. From the readiness with which it can be forced, this azalea is largely grown for the purpose.

Rhododendron præcox, that valuable hybrid between the Himalayan R. ciliatum and the little purple-flowered R. dahuricum, is very attractive when in full flower. A second variety, Rosa Mundi, with light-coloured blossoms, is a compact grower of the caucasicum type, and, as seen at Kew, is particularly adapted for flowering in pots early in the year.

Lilacs in the shape of good sized bushes are full of flower, while especially noticeable is a group of the pure white variety, Marie Legraye, grown in quite small pots, yet each is carrying several clusters of blossoms.

There is also a group of dwarf plants of the guelder rose, Viburnum opulus sterile, and some good examples of Staphylea colchica, whose fragrant flowers are much more attractive in the greenhouse than they are out of doors. The last to mention is Jasminum primulinum, which in the open ground is not always the success that was at first anticipated, but under glass early in the year it is delightful, the long, arching shoots being wreathed for a considerable distance with golden blossoms. K.

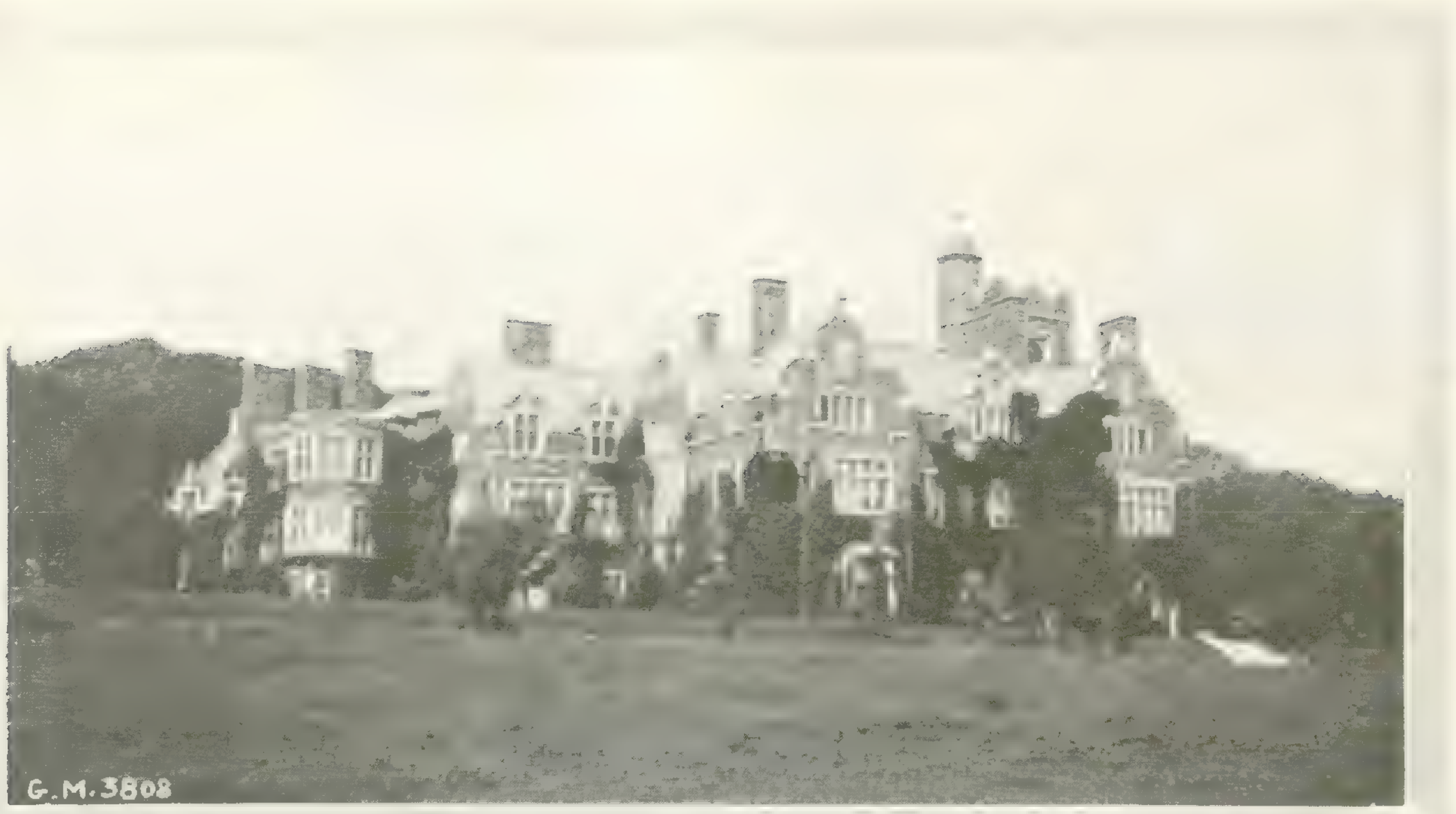
RED OR GRIZZLY GRAPES.

A mere glance at the article on this subject (p. 93) is sufficient to prove to me that "Grizzly Frontignan" is much behind the times in his ideas, or he would know that the rage for big grapes has long since passed away, whereas he would have us believe the rage for such examples is but coming! I am not an advocate of big bunches by any means, but I endeavour to produce good-sized bunches, with large berries for the variety, and decidedly good colour, and, what is of more importance, extra good flavour. In such specimens as these we have all the attributes of a perfect grape, and, therefore, it is not necessary for any gardener to grow red or grizzly coloured sorts, except it is that he wishes to hide his inability to colour perfectly such like Muscat of Alexandria or Madresfield Court, which are admittedly two of the finest grapes in existence. When we have varieties like these, that will give heavier crops, of much better flavour, and lasting over a much longer season than any red or grizzly variety that can be named by any correspondent, I would ask where is the sense of growing such sorts as advocated by Mr. Curtis or "Grizzly Frontignan."

I have had so much to do with the supply of a private table that I know extra-large bunches are not economical, apparently. ["Grizzly Frontignan" has supplied a larger table, and over a much longer period, than Mr. Molyneux.—Ed. G.M.] "Grizzly Frontignan" has not (quite likely not) had such experience. Your correspondent should know that Worcester Pearmain is the most popular apple in September, from any point of view, therefore his reference to it is of little value in his effort to push these grizzly grapes, of which he cannot point to a living example in one hundred cases where grapes are grown at all, and this is the best test of the value of anything, for if any subject is difficult to find (outside of a botanical garden) then there is precious little strength in the argument for its use. I respect "Thompson's Book on the Vine," but what happened in the day when this was written does not apply to present-day practice or requirement.

It is many years ago since Duchess of Buccleuch won the premier award for flavour in Edinburgh. Madresfield Court has won the prize many more times since. How many vineries can "Grizzly Frontignan" point to where Duchess of Buccleuch is grown at all, and how many Grizzly Frontignans can he refer to as now existing? Can he point to a vinery which does not contain a Madresfield Court or Muscat of Alexandria? It is not news to learn that the small, highly-coloured Muscat berries referred to are of high flavour, but what grape grower aims at getting these small, stoneless berries purely because they are of high flavour? It is too absurd. E. Molyneux.

GRAPES AND HOW TO GROW THEM.—An illustrated guide to propagation, culture, and management in vineries, greenhouses, and in the open air. By J. Landell, F.R.H.S. Price 1s. net, by post 1s. cloth, 1s. 6d., by post 1s. 8d., from W. H. and Collingridge, 148 and 149, Aldersgate Street, London.



BOSAHAN: THE GARDEN FRONT.

SOME MORE CORNISH GARDENS—II.

Bosahan.

Bosahan the beautiful, on the south bank of the broad and delightful estuary of the Helford River, lies quite away from the route of the pedestrian tourist, and as it is about seven miles from the nearest railway station, it is not frequently visited by horticultural scribes. The estate is a large one, and as it runs along the bank of the Helford for a considerable distance, some wonderfully fine views both up the river, out towards the sea, and of the wooded cliffs across the way, are to be obtained from it.

The road to Bosahan runs almost due south from Falmouth to the Helford Passage, where one has to take the ferry. As Mr. J. Rundle was expecting me I was able to land at the private landing place and walk up through the well-wooded grounds to the fine mansion that is the home of Colonel Sir Arthur Vivian, K.C.B. It has been my good fortune to visit a very large number of private gardens throughout Great Britain and Ireland, but I do not remember one so exceptionally distinct from all others as this one of Bosahan. There is a certain type of garden to which a great number of Cornish gardens conform more or less, and, broadly speaking, it consists of setting the house at the head of a valley that gradually opens out towards the sea or river. The planting consists of wonderful rhododendrons, rare conifers, acacias, etc., and water and bog gardening are conducted as a matter of course in connection with the water that runs through this valley. It is all very beautiful, and also very wonderful, especially to those unacquainted with the climate of Cornwall, but there is, after all, something of monotony in the ever recurring Himalayan rhododendrons.

Bosahan is the most Cornish of all Cornish gardens, and yet it is very distinct and striking. It has its complement of choice rhododendrons, azaleas, etc., but its fame will, I think, rest upon its palm and tree fern groves than upon anything else. The garden has been carried out little by little into a long sheltered woodland valley that presently ends at a low cliff overlooking one of the Helford creeks. Little walks run right through this Valley of Palms, winding amid the trees, and round the rhododendrons, passing great breadths of hardy ferns, including Osmunda regalis, and coming now and again upon small clearings, where groves of Dicksonia antarctica or Trachycarpus excelsa have been planted. All along the valley one notices the trachycarpus is planted wherever there is a suitable opening, so that in years to come they will be the dominant feature of the valley. There are well over two thousand of these palms at Bosahan, and not one of them receive protection in winter. The work of planting has been steadily carried on for about twenty-five years, and I should like to visit Bosahan twenty-five years hence, by which time a large number of the plants will have reached a fair size.

Wherever the valley gives a sudden dip the tree ferns have been planted, so that now and again you come suddenly to the end of a rising path, and look out over a group that may contain from fifteen to fifty tree ferns, and that suggests Australia or New Zealand, and you instinctively peer under the spreading dicksonia fronds for a kangaroo or an emu, or you rub your eyes and wonder whether you really are still in England. But the millions of daffodils in the valley and the acres of bluebells and primroses are more homely and not less beautiful, though less striking than the ferns and palms.

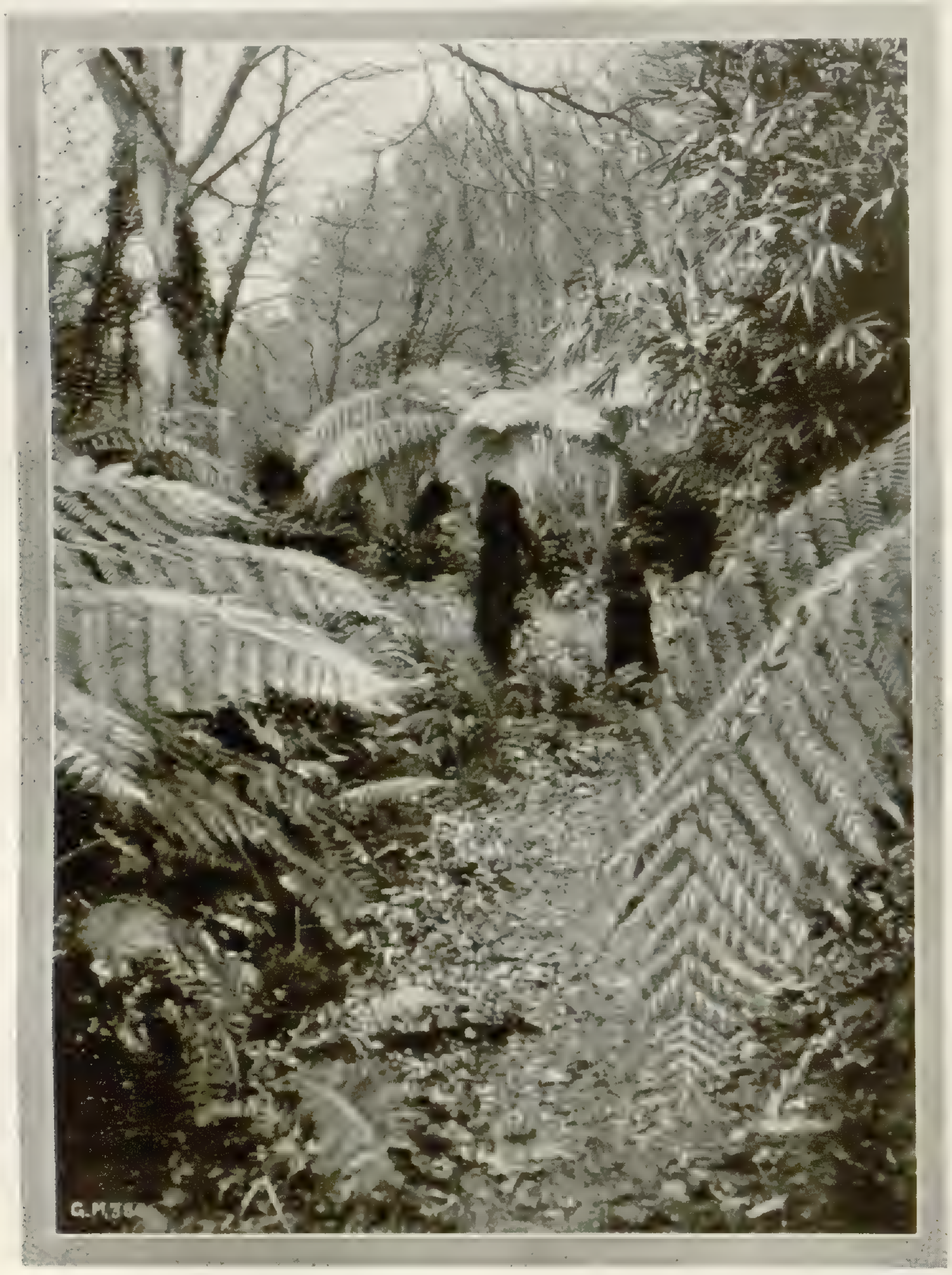
If I have wandered into the valley before referring to the garden proper, it is because it possessed the greatest attraction to me. Bosahan House is a fine one, and the plants that drape its walls are reminiscent of the Temperate House at Kew. One of the largest of climbers is Stauntonia hexaphylla, but the collection includes various escallonias, Bignonia capensis præcox, Tacsonia eximia, Rhodochiton volubile, Eccremocarpus scaber, Bignonia australis—very fine—Tetranthera californica, the blue-flowered Australian Sollya heterophylla, the crimson-flowered Mexican Cestrum (Habrothamnus) fascicularis, and Citrus trifoliata. The terrace along the garden front has its flower beds, but more conspicuous are the big yuccas, palms, and dracænas. Round the front entrance, where there is ample room for carriages to come and go, there is a huge hedge of fuchsias (Fuchsia Riccartoni), a gorgeous mass of brilliant colouring in late spring and summer, rising six or eight feet high.

Leaving the house front we proceed to examine the very choice collection of trees and shrubs that Sir Arthur Vivian has brought together. Any and every subject I have mentioned in previous Cornish notes is to be found here, and usually rather finer than elsewhere, although huge rhododendrons are not so prominent as usual. Eucalyptus globulus is 75ft. high. Colletia cruciata is a small tree, while Choisya ternata is represented by huge bushes, and Benthamia fragifera is a common tree. Acacia melanoxylon and A. Drummondi are very fine among many others of their family. The climbing Brachysema lanceolata yields its red flowers all the winter through, and the correas seem never out of bloom. Sutherlandia frutescens thrives unprotected, and so does Metrosideros floribunda, while Indian azaleas are as common as laurels in some gardens. Clethra arborea grows with great vigour, and blooms profusely; the specimen herewith illustrated being twelve feet high, and nearly as much in diameter.

I do not remember whether Sir Arthur Vivian has a catalogue of the plants that are hardy at Bosahan, but if he has it must be a very large one, for my own notes, made during an afternoon visit, could easily be extended to several pages, but it must suffice now for me to mention that Buddleia variabilis is evergreen at Bosahan; Magnolia Campbelli is a fine plant, but has not yet flowered; Pittosporum Mayi, Berberis Knighti, Photinia serrulata, Acacia cultriformis, Hakea saligna, Olea europæa (the Olive), Ceanothus rigidus, Myosporum serratum, P. nigricans, Crinodendron Hookeri, Melaleuca hypericifolia, Drimys Winteri, the curious Plagianthus betulinus, and the Japanese Loquat, most of which we usually regard as greenhouse plants, are finely represented out of doors at Bosahan. Nor must I omit the Lapageria Walk that extends 68 yards along the north side of a high wall, where red and white lapagerias are rampant—no other word suffices, and where on the rustic arches Clematis indivisa lobata is wonderfully fine.

My final reference must be to the dell where bamboos grow with almost tropical luxuriance, and where you feel rather disappointed at not finding a well-tanned Britisher waiting with ready gun for tiger, crocodile, or other fearsome beast. We pass more palms, including a fine pair of Chamærops humilis, an old Trachycarpus excelsa in fruit—the mother plant of many that are planted in the valley; Jubæa spectabilis of good size, and Phœnix canariensis that withstood 10 degrees of frost on one severe visitation. The little pond and stream is completely surrounded by grand clumps of all the now well-known kinds, and within these are splendid masses of Osmunda regalis, giant acanthuses, and huge spreading gunneras. Water lilies, aponogeton and arums flourish in the water, and Sarracenia purpurea flourishes in the boggy ground near by. The bridge over the stream is made of bamboo, so that altogether this is another very un-English scene.

The reader will, I assume, imagine it was not easy to leave beautiful Bosahan, its hospitable and garden-loving owner, Sir A. Vivian, or his very keen gardener, Mr. Rundle, but it had to be, though not before I had signed Sir Arthur's "Garden Book," wherein he secures the signatures of his visitors and a comment from them upon the gardens of Bosahan.


A GLIMPSE OF TREE FERNS AND PALMS AT BOSAHAN.

Tregye.

One of the jolliest little gardens that I saw in Cornwall is Tregye, the home of the Hon. John and Lady Margaret Boscawen. It is a comparatively small garden, designed and made by its owner, and reflecting a great deal of his jollity and breezy manner. Tregye is a short distance from Perranwell, to the south-west of Truro, and there are some hills to climb before you reach it. The house is on high ground, and so situated that when a south-westerly gale is blowing with full force it seems to shiver. But strong as some of these gales are, there is ample evidence at Tregye of the general mildness of the district.

Rarely does one find a house so well clothed with beautiful climbers. Along one side the red and white lapagerias luxuriate and intermingle, reaching right up to the eaves and forming a covering dense enough for birds to nest in. Near by is a fine plant of Camellia reticulata, with scores of its large and gorgeous blooms. The new Jasminum primulinum, close by the front door, was beautifully in flower at the time of my visit, but the great Cassia corymbosa that almost covers one side of the house only suggested the cascade of golden flowers it presents every summer time.

Agapanthuses are a fine feature at Tregye, and crinums are given a warm border, but these latter were badly hit by the severe weather of the winter of 1906-7. Both Mr. and Lady Boscawen are great lovers of daffodils, and they have done very much to create and encourage that enthusiasm for early spring flowers now found throughout the Duchy of Cornwall, and finding notable expression in the fine shows held at Truro and elsewhere.

The daffodils at Tregye are well grown, and they are usually very successful at the leading Southern shows. They are grown in groups and also in rows, and, as is the case with almost every other daffodil enthusiast, there are numerous batches of seedlings. One semi-circular bank full of poeticus seedlings presented a charming picture in the sunshine of a spring afternoon. From these one turned to the batches of such fine kinds as King Alfred, Lady M. Boscawen, Lulworth, Lucifer, White Queen, White Wings, Weardale Perfection, Glory of Leiden, Grandee, Stanley, Maximus, Mrs. Langtry, and many another of equal beauty. Primroses also attract attention at Tregye in the springtime, for they, and polyanthuses, are freely planted. That very fine primrose named Evelyn Arkwright, does well here, and a good row of it, bordering a large group of choice hard-wooded shrubs, carried an abundance of large, beautiful flowers. Another fine primrose, a double one, named Warley Yellow, was, in its way, equally fine.

The group of plants surrounded by the primroses is worthy of more attention than can here be given. It is near the garden front of the house, close to where a little path leads down through a rockery bank from the carriage drive. It is sheltered by a few large trees, and consists of a selection of acacias, several choice rhododendrons, and a collection of boronias and correas. In the ordinary course of things these do well, and flower finely in due season, but now and again there comes a severe winter that may do a great deal of damage among these natives of warmer climes. But Cornish garden lovers willingly take these risks, with the result that their gardens present a totally distinct appearance from those found farther north.

Very short was my visit to Tregye, but it was very pleasant to meet Mr. Boscawen at his home, and to feel some of his enthusiasm for the plants and flowers he has planted, and which he so greatly loves. It was quite different to meeting him "on duty" at the sittings of the Royal Horticltural Society's Daffodil Committee in far away Westminster. Two or three other matters must be noted, however. One is that Fourcroya longæva is a success at Tregye; I do not remember whether it has flowered there, though I know it has done so in the Scilly Isles. Lomaria magellanica is represented by the finest specimen or group I have seen outside the Scillies, and it is a splendid fern when growing freely as in so many Cornish gardens. My last note is of the hardy cyclamens. These are beautiful at Tregye, occupying, in the case of C. Coum, a large area under rather low trees, on either side at the top of a little flight of steps that lead up from the rose beds to the drive. Here, moist and warm during winter and spring, but hot and baked in the bright summer and autumn sunshine, they thrive, flower, and multiply amazingly. Cyclamen hederaceum occupies a somewhat similar position, farther away round a big old tree.

Trewidden.

It was a great disappointment that limitation imposed by steamboat and railway companies gave me but little time to spend at Trewidden. I was persuaded, at Penzance, that Trewidden was "about" a mile along the southern road towards Land's End; it must have been an Irishman who informed me, for I never remember so long a mile as this one. Trewidden is an unusually interesting garden, belonging to T. B. Bolitho, Esq., a gentleman well versed in hardy—or ought I to say half-hardy?—plants, and one who has always a welcome for anyone keenly interested in horticulture. Mr. Bolitho is fortunate in his garden, and also in his gardener, Mr. Maddern, who knows every plant in the garden and discusses names and synonyms in a manner that would do credit to a member of the Herbarium Staff at Kew.

In my Cornish tours I have always been very much interested in the climbing plants used for the walls and to drape the dwelling house. At Trewidden the most notable features in this connection were Rhynchospermum jasminoides, Raphiolepis ovata, Camellia reticulata, Berberidopsis corallina, Cestrum elegans, Acacia cultriformis

Lonicera Hildebrandti, that has flowered out of doors, Jasminum primulinum, Cantua dependens, and the beautiful violet-blue Lasiandra macrantha.

The Trewidden gardens are very smartly kept, and their attractions are many.

A HANDSOME CHAMÆROPS HUMILIS AT BOSAHAN.

Rockwork edgings to the pathways have been made a feature, and there is a charming little rock garden, with pools of water. Erythroniums were finely in flower at the time of my visit, notably E. Howelli, E. Johnsoni, E. Watsoni, E. Hendersoni, E. Dens-canis, E. giganteum. This garden is surrounded by fine rhododendrons, and by the sides of the stream that lead to it a fine lot of phormiums flourish. It is said that tin was first found at Trewidden; the old tin streams and the hills and dells produced in working for tin have been used charmingly for garden purposes, and they provide some delightful peeps and several tree-fern hollows.

Trewidden has its avenue of dracænas, and it also has some splendid embothriums. It is famous for its collection of rare and choice trees and shrubs, all carefully planted and tended, and given ample room to develop. The Chilian Guevina Avellana is over 14ft. high, it has white flowers that are succeeded by edible coral-red berries, and it is a fine plant. Chorozema Lowi is a big bush, and flowers profusely. Magnolia hypoleuca is represented by a very large specimen. Styrax obassia, S. japonica, and Stuartia pseudo-camellia are very fine, and two grand specimens of Skimmia japonica almost fill the garden with fragrance when in bloom in springtime. Escallonias are a feature, and they form a fine protection for other subjects against keen winds. There are several good plants of Crinodendron Hookeri, and of Abutilon vitifolium album. Of the broad-leaved Dracæna indivisa vera there is a plant rather over 10ft. high. Even the rare Feijoa Sellowiana, a Myrtaceous shrub from Brazil, is an outdoor plant of considerable size, and a cocos which I have noted as C. campestris (a name I cannot find) has remained out of doors unprotected for several winters. The Japanese Cæsalpinia japonica produces its yellow flowers regularly every year at Trewidden, and the lovely Eucryphia pinnatifida, rising 20ft. high, must be a beautiful picture when in full bloom.

All these references show how genial is the climate of Penzance and its neighbourhood, and indicate the keen gardening instinct that leads to the formation of a collection of plants that will thrive in such a favourable locality. It may be instanced that Cycas revoluta is never protected at Trewidden, and that for years the lovely Leschenaultia biloba major grew here out of doors, but was killed in the winter of 1906-7, a winter that severely tried many of the choice plants in all Cornish gardens, but did not cause the owners of these gardens to lose faith in the genial climate of the duchy.

Chas. H. Curtis.

TRANSPLANTING ONIONS.

I am well aware that at the moment of writing there are in numerous gardens onion plants already up in the seed boxes and developing into sturdy little specimens, but these are the plants that are intended to give exhibition bulbs, and unless seeds are sown very early in the year it is impossible to produce them of size sufficient to stand much chance on the show table. I cannot say that I have much sympathy with the monster exhibition onion. I will admit that it is a triumph of horticultural skill to grow a bulb which turns the scale at two or three pounds, and if I thought I had a chance of winning a £100 prize with a single bulb, which was the good fortune of a competitor in an onion show at Leamington last year, I might be tempted to try my hand at monster onions, but apart from an exhibition point of view there is little to be said in favour of large bulbs. Commercially and economically they are of little value, and do not pay for the time and trouble spent over them, but then there is an infatuation about size which appeals to gardening human nature, and the man who succeeds in producing the biggest onions in the show takes all the credit unto himself, and not infrequently is envied by his fellows.

Having laid myself open to reproach for daring to criticise the monster show onion, let me hasten to say that the system which produces it, modified to a certain degree, is a good one to adopt in order to grow a heavy crop of bulbs that are useful and commercially valuable. In the first place, in order to grow big onions the cultivation of the ground must be deep and the manuring liberal. Just so, and does this not also apply to ordinary utility crops? It is impossible to grow good onions by merely scratching over the surface soil and wheeling a dung barrow across the beds; but if the ground is double dug, preferably in the autumn, manured at the time and left rough on the surface during the winter, the

A FINE SPECIMEN OF CLETHRA ARBOREA AT BOSAHAN.

top soil crumbles under the influence of drying winds in the early spring and a good tilth is obtained.

Some people change their onion ground every year, but I have proved, and others have done the same, that if the bed is treated annually on the lines suggested above, onions may be grown in the same place successfully for an indefinite period, and the land is brought into a better state of cultivation than if a fresh piece is taken in hand each season. So far as the preparation of the ground is concerned then the treatment for big and medium-sized onions is practically identical, and the next point is sowing.

Considering that in most establishments it is part of the duty of the gardener to grow a good supply of onions, sowing is an item of some importance. Prior to the advent of the big show bulb, all the seed was sown in the open ground, and gardeners who seized the first opportunity for getting in the seed when soil was dry and weather favourable acted wisely, but here again I would suggest copying the exhibitor by transplanting the onions. Mind you we have not two-pounders in view, but useful onions, and the middle of February is early enough to sow the seed thinly in propagating boxes. A saving is effected at the beginning in the smaller quantity of seed required. Moderate heat to germinate the seed and then a position near the glass in a cool house or frame is the treatment required, and by the end of April or early in May the plants are ready to go out. No pricking off is required as the plants can be transferred from the seed boxes to the open ground, this being a way in which the exhibition method is modified. On a favourable day, when the soil is dry, the bed should be raked over and trodden down firmly, and the onions should be shaken from the soil in the seed boxes and planted with a trowel six inches apart in rows a foot asunder. They should be watered in as the work proceeds, and the chief item of cultivation after that is hoeing. I find that when planting it is well to shorten the tops a little or they fall on the ground and are dragged under the surface by worms.

By adopting this method of onion culture the first advantage is economy in seed; secondly, the tedious operation of thinning is avoided; thirdly, a heavier crop of even, medium-sized bulbs is obtained; and fourthly, there is generally less trouble with maggot than when the seed is sown in the open. In a good many gardens the transplanting of onions has completely taken the place of outdoor sowing, and the method commends itself to all and sundry who have the necessary accommodation for raising the plants, which consists of a heated greenhouse or a frame where a little bottom heat is provided to assist the germination of the seed. Boxes deep enough to hold three or four inches of soil should be employed, because in very shallow receptacles there is not much space for the roots, and the onions often assume a yellow and sickly appearance before the time for transplanting.

In the way of varieties, if one's object is exhibition bulbs, an onion of the Ailsa Craig type must be grown, but for utility purposes I prefer one that keeps better. Sutton's A1 is an onion that I have grown for a number of years, and I question if there is a better one for all-round purposes. It is a flattish type, grows to a good, useful size, is mild in flavour, and a splendid keeper. Indeed for autumn as well as spring sowing this variety can be highly recommended.

G. H. H.

GUNNERAS AND WATER LILIES AT BOSAHAN.

ROYAL OR FLOWERING FERNS.

The term "flowering fern" is applied to the osmundas on account of the similarity which exists between their fertile fronds and partially developed flower spikes. The well-known Osmunda regalis, attains to magnificent dimensions in my native county of Devon, often towering up to ten feet in height in very moist and shaded positions. It is essentially a water lover, and thrives in luxuriant fashion by water courses and in swamps that are created by the overflow of lily ponds and water gardens generally. It is, however, necessary to keep the crowns well above the water level in planting, but as regards soil the plant is by no means fastidious, doing equally well in loam, peat, or leaf-soil.

As seen growing in an ordinary hardy fernery, with no special attention paid to it in the way of artificial watering, it rarely exceeds four feet in height, but even here its handsome and very distinct frondage renders it a conspicuous object. When employed in this way I would advise that sites be prepared for the plants, a thick layer of clay being placed a couple of feet deep, followed by retentive loam and short stable manure or leaf-soil; planting should be in a deep cavity in order to facilitate the inundation of the quarters from time to time during their season of growth.

It is interesting to note that the royal ferns, or osmundas, are very widely distributed geographically, being found in the Himalayas, North America, Europe, Brazil, Japan, China, South Africa, etc., and, with the exception of O. r. palustris, they are all deciduous. This variety hails from Brazil, and forms a capital pot plant. The young fronds assume a bright red tint, but later give way to a delicate pale green. O. r. gracilis is of elegant growth and habit and well worth attention, and, on the other hand, we have density in the crested form known as O. regalis cristata. In a species from North America—O. Claytoniana—the central portion of the fronds only are fertile, the upper part being barren, and, as a consequence, it is often found catalogued as O. interrupta.

Japan supplies us with O. r. corymbifera, of small growth, but in spite of this it is strikingly effective, more especially grown in pots, and the same remark applies to O. r. japonica from the same country. O. cinnamomea is a very interesting species, the very narrow fertile fronds being arranged en masse in the centre of the plant, and the spore cases are cinnamon coloured. O. r. purpurescens and O. r. undulata extend the list, the last-named having handsome wavy frondage. O. javanica must not be lost sight of, being of a rich dark green shade.

All the osmundas are distinctly handsome and ornamental, which cannot be said of any other section, either hardy, greenhouse, or exotic, and every amateur should possess a fully representative collection.

Walter H. Agget

Everyone interested in a garden should obtain a copy of the Alphabet of Gardening, by T. W. Sanders. Thoroughly practical information is given as to soils, manures, seed sowing, planting, potting, budding, pruning, grafting, forcing, hybridising, etc., with explanatory diagrams. Price 1s. 6d. net, by post 1s. 9d.; cloth, 2s., by post 2s. 3d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

POTASH.

This is one of the four indispensable plant foods, i.e., nitrogen, phosphoric acid, potash, and lime. Though we do not hear so much about it as about the other three, mainly because there are good supplies in most soils under cultivation, yet it is none the less important, especially in fruit culture. The ash of the wood of fruit trees itself contains a good deal of potash, while of the ash of the fruit it may be said to constitute 50 per cent., taking one fruit with another. Upon the supply of potash in the soil depends the production of sugar in beet, grapes, apples, and other fruits. The colour and flavour of fruit, as well as to a great extent, the depth of green of plants and vegetables and the scent of flowers, are also dependent upon it.

Many soils are naturally rich in potash, and, in the absence of a detailed analysis of a given soil, it may be said that, if in the neighbourhood clover grows luxuriantly, that soil is fairly rich in potash. Dark-coloured garden soil that is under spade cultivation and receiving liberal supplies of stable manure every year or alternate years, seldom needs potash, as such manure contains about as large a proportion of potash as of nitrogen, namely, some ten or twelve pounds to the ton. Clay soils, too, are generally rich in potash to start with, as they are mainly derived from the disintegration of the felspars, one kind of which, orthoclase, contains as much as 16 per cent. of potash. Mica is another potash rock, containing from 5 to 10 per cent. of it. Rocks which contain much of these minerals in their composition—as, for instance, granite, which often contains 5 or 6 per cent. of potash—will, by their disintegration, produce soils rich in potash.

On poor, sandy, or gravelly soils, there is almost invariably a lack of potash, as well as on soils where there has been continuous cropping with little regular animal manuring. There is little or no reserve store of potash in very porous soils, because the constant admission of air to the soil results in the oxidation of the humus which is such a storehouse of this mineral. The following percentages of potash in the top nine inches of typical soils are taken from Mr. A. D. Hall's excellent book on "The Soil," and may be of interest to some in this connection, and a guide to the needs of different classes of soils: Heavy London clay, 1.13; heavy gault clay, .96; clay loam, .33 (subsoil, .67); calcareous loam, .46; light loam (Millstone grit), .2; light loam (Hythe beds), .64; sandy loam (Red Sandstone), .29; and sandy loam (Thanet beds), .35. It will be seen from these analyses that the origin of a soil has a deal to do with its content of potash as well as with its texture. These analyses were all of arable land or pasture, and garden soil on any of these formations which had been long dunged would probably contain higher percentages of potash.

The question that arises is: To what extent is potash necessary in the garden? Obviously, if the above statements are accepted, it is not so generally necessary as nitrogen or phosphoric acid. As regards ground under spade cultivation and regularly manured, there is little likelihood of there being much need for the application of potash, unless the soil is very sandy or gravelly, or otherwise naturally poor in this essential food. The great need of potash is where soil is under continuous and perennial cropping, as, for instance, fruit trees, asparagus, herbaceous borders, etc. It is in such cases that potash is almost invariably necessary. On soils, too, which are frequently and heavily cropped with plants which are great users of potash, such as potatoes and strawberries, this manure often supplies a great need.

Potash may be supplied to growing crops in two ways. First by unlocking the stores of potash already existing in many soils. The addition of lime in any form has a wonderful effect in liberating potash from its compounds. Basic slag on heavy soils has the same effect, while the action of gypsum in liberating potash is greater than either. Good cultivation of the soil and exposure to frost aerates the soil and aids the decomposition of the humus, the resulting acids of which also help to unlock the potash. But for fruit trees, where no proper digging in of animal manure has been possible for years, where the long occupation of the ground by the roots has exhausted the soil of potash, and where, moreover, the application of sufficient dung to afford the necessary supplies of potash might give the trees more nitrogen than was good for them, in such cases the direct application of potash in some form is not only helpful, but necessary for the best results, not only in quantity of fruit but in quality.

The most general form in which potash is applied is that of kainit, which is a natural crude product of the German mines at Stassfurt. It contains from 12 to 12½ per cent. of actual potash, or about 23 per cent. of sulphate of potash, mixed with a good deal of common and magnesium salts. It should be applied during the autumn or winter, so that the chlorides of sodium and magnesium, which are apt to be injurious to the tender rootlets of plants, may be washed from the soil before the spring arrives. For raspberry plantations 2 to 4lb. may be applied to 40 square yards, and for gooseberries and currants 2oz. to the bush. For dwarf apples, pears, plums and cherries, no uniform rate can be prescribed, for if the trees are growing strongly they are best without any, while if getting exhausted, they will be the better for three or four pounds to the forty square yards. Only a light hoeing-in is necessary. Standard trees will generally be the better for it, though one has to spread it over a large area of ground to give them the full benefit of it. Where they have the run of vegetable quarters which are liberally treated they will doubtless help themselves sufficiently, but in a grass orchard kainit should be applied when the trees have been in bearing for some years, at the rate of 2 or 3lb. to 40 square yards. Asparagus may be given with advantage as much as 10lb. to 40 square yards, and the lawn 3lb. Where potash is regarded as necessary for ground under spade culture, 2 to 3lb. to 40 square yards is sufficient for most crops.

Kainit is injurious to strawberries, and yet this fruit benefits considerably by the addition of potash. There are two principal ways of supplying their needs in this matter. One is to supply sulphate of potash in the winter at the rate of 1lb. to 40 square yards. The other way is the liberal application of dung, to which wood ashes have been added. It is said that while 1,000lb. of old poplar wood will only contain ¾lb. of potash, the same weight of bean stalks will contain 20lb., and that of grape vine twigs 40lb. Hence wood ashes are very variable in quality, containing from 5 to 30 per cent. of potash according to their source. To the perennial flower border it would be safer to apply the potash necessary in the same way as to strawberries, kainit possibly damaging the bulbs, which are making their underground growth in the winter.

Another alternative potash manure is muriate of potash, but it might be as well for cultivators inexperienced in the use of artificial manures to leave it alone, as damage is so easily done by it. Like other potash manures it should be applied in the early winter. It is especially injurious to strawberries, and some say it produces weakness in potatoes, though others recommend it.

Like lime, potash has other than manurial uses. One is in regard to the pear midge, a pest which seems to be spreading. The Board of Agriculture, in their leaflet, recommend the application of kainit at the rate of 20lb. to 40 square yards in June just before or immediately after rain, this having the same effect upon the bodies of the larvæ as lime upon slugs. If grass is under the trees, it is recommended to cut it very short before applying the kainit.

Kainit is very cheap, 50s. to 55s. per ton, while sulphate of potash may be as high as £10 to £11 per ton for the highest grades, the percentage of potash ranging from 20 to nearly 50 per cent. of actual potash. Muriate of potash contains from 50 to 55 per cent. of potash, and the price is about £10 per ton. Local dealers will generally supply it in 2cwt. bags at per ton rates if they keep it in stock, or if they can get it down by rail with some other consignment.

Alger Petts.

THE USEFUL LEEK.

I have no intention of writing an article on the cultivation of leeks, as everybody is acquainted with the method, and no vegetable crop is more easily managed. My object rather is to persuade people to grow more leeks which, at the present moment—the beginning of February—is proving its value. Both in markets and gardens greenstuff is scarce, the dry summer of 1908 was not favourable for its development, and the moist and mild autumn caused sappy growth, so that although the winter has not been severe, members of the cabbage tribe have not stood it well. Many people are getting towards the end of their onions, and the price asked for this commodity proves that the supply is limited. With the supply of vegetable stuff more or less short, leeks step into the breach, and in this crop we have a hardy and useful vegetable to fall back upon, and what many would have done without leeks this year it is hard to say. The fact that the plant is so accommodating perhaps accounts for it not receiving the treatment it deserves, and the bunches of wiry, thin specimens that are offered in the market and command ready sale are mere apologies for good, well-blanched leeks.

While we are enjoying this wholesome vegetable now, and wishing, in many cases, that better specimens could be obtained, the moment is opportune for thinking about this time next year, and sowing a pinch of seed in a box under glass to provide a few early plants. To get good stems a long season of growth is required, and in addition to this plenty of manure. The general way of growing leeks is to plant them in shallow, well-manured trenches, adding earth as required to bleach the stems: but good leeks are also grown by making holes in well-manured ground with a thick, blunt dibber, dropping the little plants in the holes with only the upper leaves protruding above the surface, and pouring a drop of water into the holes as planting proceeds to wash the soil round the roots.

So much for methods, and in conclusion I would emphasise the advice given at the beginning to grow more leeks, the extreme usefulness of which more than one has proved this year.

H.

BURMESE LILIES.

The announcement in the advertising pages of the Gardeners' Magazine of a large consignment of Lilium sulphureum (which has proved to be the most accommodating of the Burmese lilies), carries one's mind back nearly twenty years, for on June 25, 1889, this species was given a First Class Certificate by the Royal Horticultural Society. Great was the interest at that time centred in this lily, the appetite of lovers of this beautiful class of plants having been whetted a year previously by the distinct and charming L. nepalense from the same region.

Lilium sulphureum was first exhibited and distributed under the name of L. Wallichianum superbum, this last name having been given it by Mr. Baker, of Kew. Subsequently the same authority saw fit to reconsider his decision, and assigned it specific rank as L. sulphureum. It is in every way a grand lily, the dark-coloured bulbs being compactly built, and the stem pushed up therefrom is stout and very thickly clothed with narrow leaves. As with many other lilies the leaves increase in width toward the upper part of the stem. This latter will reach a height of six feet, and often considerably more. A notable feature is the presence of bulbils in the axils of the leaves, such as are to be found in Lilium tigrinum.

The flowers are of a deep cream tint heavily tinged with yellow in the interior, while the outside is sometimes flushed with red. The petals are of a thick wax-like texture, and the flowers are sweetly scented. As a rule, this flowers towards the end of the summer, and in autumn. For this reason it is, unless in the southern part of the country, more adapted for the embellishment of the conservatory than the open ground. Fine examples were last autumn to be seen in No. 4 greenhouse at Kew, some in pots and others planted out in a bed with camellias, etc., these last being very finely developed.

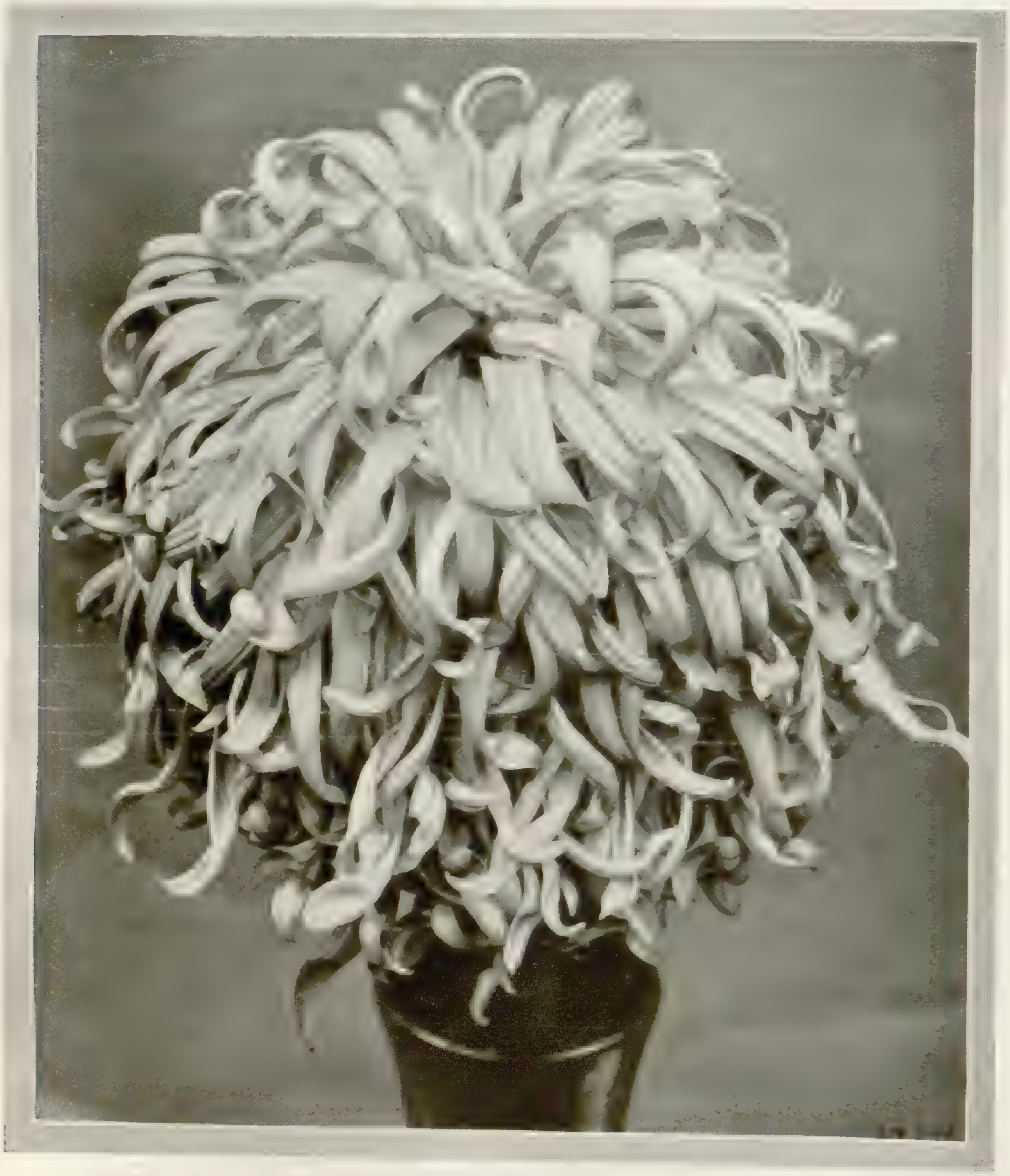
Lilium nepalense occurs in Upper Burmah, being found sometimes associated with L. sulphureum. It does not, however, succeed so well under cultivation in this country. The introduction, or perhaps reintroduction, for it is said to have been previously grown in this country, occurred in 1888, and I question if any species since L. auratum came over has attracted so much attention as did L. nepalense on September 11, 1888, when it was first shown in flower by Messrs. Low and Co., and a First Class Certificate was awarded it. The colour of the flowers is yellow, or greenish-yellow, with a chocolate-purple centre. There is, however, a good deal of individual variation in this lily when grown in quantity.

Lilium Bakerianum (syn. L. Lowi), the third of the Burmese lilies to mention, is quite distinct from the two preceding. It is more delicate in constitution, and pushes up a slender stem to a height of two to four feet, or sometimes a little more. This stem is rather sparingly furnished with narrow leaves. The flowers, which vary somewhat in shape and colouring, are bell-shaped, with the segments more or less reflexed. They are white, shaded with green on the outside, and in the interior spotted with crimson. This spotting varies considerably in the density and size of the spots; in some individuals the colouring is run together into fair-sized blotches. This lily was introduced somewhat later than the two species previously mentioned.

Lilium primulinum, another of the Messrs. Low's introductions, was first shown under the name of L. claptonense This was in the autumn of 1891, and I fear that since then this pretty lily has been lost to cultivation. It is (or was) in general appearance a good deal like L. nepalense, but the flowers are of a clear unspotted yellow tint.

While on the subject of these lilies a word may well be spared for the Neilgherry Lily (L. neilgherrense), which, 20 to 25 years ago, was sent to this country in considerable numbers, but of late years it is rarely seen. Though imported bulbs flower freely the first year, they quickly deteriorate, so that in order to keep up the supply constant importations are necessary.

W. T.



NEW JAPANESE CHRYSANTHEMUM HON. MRS. LOPES.
Raised by Mr. M. Silsbury, Shanklin. Flowers very large, but much reduced in illustration: colour bright yellow.

CHRYSANTHEMUM HON MRS. LOPES.

Prominent amongst the more noteworthy of the new chrysanthemums introduced to public notice in November last was the Hon. Mrs. Lopes, of which a characteristic illustration is herewith given. The variety, as will be seen from the illustration, belongs to the Japanese section, and was raised by Mr. Martin Silsbury, Shanklin, Isle of Wight, who, as so well known to chrysanthemum growers, has been successful in raising a considerable number of Japanese varieties of great excellence. The blooms are of the largest size and of great depth, and they are remarkable for their elegance and bright yellow colouring. While a valuable addition to the varieties suitable for exhibition, it should prove most useful for conservatory decoration and the supply of cut flowers. It may be added that a First Class Certificate was conferred on the Hon. Mrs. Lopes by the National Chrysanthemum Society at its November exhibition, and that an Award of Merit was made in its favour by the Floral Committee at the meeting of the Royal Horticultural Society, held November 10, 1908,

Scabiosa alpina.—Nowadays the perennial scabiouses are best known in gardens because of the really fine Scabiosa caucasica, although it also is not so popular as it was for some years after its general introduction to British gardens. The scabious which I desire to notice at the present time is, however, one quite different from that which hails from the Caucasus, and is a neat little alpine flower, with but little resemblance, save in the form of the flowers, to S. caucasica. It is a dainty little flower, however, having greyish leaves and heads of pretty blue flowers, with all the characteristic form which makes these scabiouses so distinct from almost all other hardy flowers. It only grows some six inches high, and blooms from June to September, so that it is a plant not unworthy of the favour of those who appreciate rock plants, and who are desirous of extending the time when their rockeries look attractive because of their flowers. At such seasons as June, July, and August there is a decided falling off in the number of rock plants in flower, and this scabious will then be found valuable.—S. Arnott.

MENDELISM AS APPLIED TO SWEET PEAS.

The following admirable article, by Mr. William Cuthbertson, J.P., is reproduced from the pages of the "Sweet Pea Annual," by the courtesy of the National Sweet Pea Society:

Prior to the advent of Countess Spencer sweet pea it was universally recognised that the stocks of new sweet peas put on the market by Mr. H. Eckford and others were fixed absolutely. How was this achieved? Many will be prepared to say at once it was on account of the Eckford type being much easier to fix than the new waved or Spencer type. This is only part of the truth. Mr. H. Eckford took infinite pains, and grew his novelties many years before offering them. The same care would have purified and fixed many of the recent Spencer introductions. Mr. J. S. Eckford once informed me that Dorothy Tennant required nine years' work before he and his father considered it fit to offer.

By the way, there is an unwritten chapter in connection with Countess Spencer which I hope Mr. J. S. Eckford will one day write, as it has a bearing on this question of fixity. The year following the introduction of Cole's Countess Spencer Mr. Eckford put on the market a stock of Countess Spencer raised at Wem, which was practically fixed—over 90 per cent. of it came true and remained true. It could not have been Cole's Countess. What was it? What was its pedigree?

In a recent issue of his catalogue Mr. Unwin says: "The Spencer type, which is so much abused for its sportiveness, is every bit as easy to fix as the old plain type, but it requires time." Ay, there's the rub. It requires time. It requires more. It requires knowledge. Mr. Unwin breathes the atmosphere of Cambridge, the British home of Mendelism, and I imagine he applies the laws of Mendel to his work, and hence his success in securing fixity. Those of us who have studied Mendelism and applied the principles to practice have, like Mr. Unwin, become convinced that the fixing of new varieties can be done effectively and within the compass of four or five generations. Working up sufficient stock to enable one to place a new variety on the market is quite another matter. I am asked by the hon. secretary to explain briefly, as a practical grower, the application of Mendel's laws to the raising of new sweet peas. I quite appreciate that some members of the National Sweet Pea Society understand these laws as well as I do, possibly better, but I also recognise that among the 800 members of our society there must be many hundreds who have not had the time or opportunity to study Mendelism.

Gregor Johann Mendel was born in Austrian Silesia in 1822, and died at Brunn in 1884. In 1843 he entered an Augustinian foundation, four years later he was ordained, and ultimately rose to be Abbot of Brunn. When a young man he studied natural science for some years at Vienna, doubtless because the bent of his mind lay in that direction. After returning to his life's work at Brunn he carried out in the gardens of the Cloister the experiments and observations which have made his name famous. It was in a lecture to the Natural History Society of Brunn that he first gave an account of his work. A report of the lecture was published in the "Transactions" of that society in 1864, and received no further attention until it was discovered, or rather rediscovered, in 1900 by some eminent scientists. Very shortly thereafter a translation of it was published in the "Journal" of the Royal Horticultural Society, with an introductory note by Mr. W. Bateson, M.A., F.R.S., of Cambridge, who is the leading British exponent of Mendelism. It is a remarkable fact that a lecture so far reaching in its importance should have been so long overlooked, and it is a sad thought that its value was only appreciated after Mendel had been in his grave for sixteen years.

To illustrate the underlying principles I cannot do better than re-state briefly one of Mendel's now classical experiments with garden peas. He discovered that there are several characters in culinary peas which are distinct and separable, e.g., tallness and dwarfness, yellow seeds and green seeds, round seeds and wrinkled seeds. If we take the first pair as an illustration we find that a pea six feet tall fertilised with pollen from a true dwarf, one foot high, gives in the first generation nothing but tall plants. If the cross is reversed—a dwarf fertilised with pollen from a tall—the result is the same. It is well known that peas fertilise themselves, and are not liable to interference from insects. The plants of the first generation being, therefore, allowed to ripen seed, and that seed being sown the following year gives results as follows: 75 per cent. tall plants, 25 per cent. dwarf plants. It is only necessary here to say that the dwarfs remain true and fixed in future generations, while a proportion only of the tall ones do. To find out which of the tall ones are true talls they must be grown on, and those plants which do not give dwarfs in the next generation are fixed talls. Let me try to explain this clearly as follows:

TALL x DWARF.

Result, one pod containing six seeds.

First Generation.—Six plants, all tall, producing in all, say, 600 seeds.

Second Generation.—Six hundred plants, about 150 of which will be dwarf, and about 450 will be tall. Save the seed of the individual plants separately. Sow next season in short rows.

Third Generation.—Six hundred rows, 150 of which will be the produce of the 150 dwarf plants, as above, and all of which will be true, i.e., giving dwarfs only. Then 150 rows will give nothing but pure tall plants, but to make certain of their purity they ought to be saved separately, and grown again in the fourth generation.

The remaining 300 rows will break up, giving results similar to those obtained in the second generation.

This illustrates the law underlying crossing, discovered by Mendel, as it applies when one pair only of characters is concerned. It becomes much more complex, of course, when several characters are embodied in the cross. How valuable it is to the raiser of sweet pea novelties is quickly becoming understood. It is important to realise at the very outset that results on Mendelian lines can only be expected when pure varieties are operated with, though there is always a liability even with apparently pure types to obtain unexpected combinations or variations.

As to colour, white x cream gives white in the first generation. Red x white gives red in the first generation. Blue or purple x red, or any other colour, gives blue or purple in the first generation. These crosses reversed give the same result in F 1 (i.e., the first generation). In Mendelian language the colour which suppresses the other one and appears in the first generation is dominant. Just as the tall pea is dominant over the dwarf one. The colour which is lost is said to be recessive. The plants of the first generation being allowed to seed, the seeds are saved, the produce of individual plants being kept quite separate and distinct. Sown out the following year the produce appears in almost true Mendelian ratio, thus: Crimson x white gives 75 per cent. crimson, and 25 per cent. white. The marvel, of course, is that the white character of type is carried through the first generation in a latent form to appear in absolute purity in the second, or F 2, generation,* and the same rule applies as in the culinary peas, the recessives, i.e., the whites in this case, breed true, whereas the reds only do so in a proportion of 25 per cent. This is again an experiment in mono-hybridism as only a single pair of characters are in question, namely, the two colours, red and white.

(To be continued.)

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* To make this clear. The cross is made and, say, one pod containing six seeds is the result. Those seeds are sown the following year and the plants produced are the first or F 1 generation, next year's plants being F 2, and so on in the direct line of descent.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

SEEDLING ORCHIDS.—The principal aim of all who are interested in the raising of seedling orchids is to encourage the young plants to grow as rapidly as possible from the seed bed onwards, so that they may be strong enough to bloom within a reasonable period. It is not many years since when from eight to ten years was considered a reasonable time for seedling orchids to reach their flowering stage. Now we proceed at a more rapid pace, and I am afraid that some of the prominent orchid hybridists would hardly be satisfied if they could not secure three generations of plants within the period above mentioned. Methods and experiences have all assisted the orchid hybridist in the development of this work, and the result is evident on every side in the popularity and more general cultivation of seedlings. The subject of seedling orchids must, of necessity, be included amongst the notes on the general work of the orchid house. Every encouragement should be given to enable the plants to make rapid growth. If young seedlings of any other class of plants become starved or neglected it is generally considered that they are more or less seriously affected, and unsatisfactory results are anticipated. It is just the same with the seedling orchids. I have not the least hesitation in saying that the long period that elapsed between seed sowing and flowering a few years ago was the result of the endeavour to exactly imitate Nature, and give the seedlings a growing and a resting period. The seedling orchids, under artificial conditions, must be treated in a similar manner to bulbous plants raised from seed, and maintained in an active growing state until they reach the flowering stage. One who has charge of quantities of seedling orchids of the different genera needs to be constantly on the alert, not only to provide the necessary conditions of temperature, etc., but also to see to the necessary and constant repottings. Plants taken from the seed bed in the autumn and late summer months should have made such growth progress by the present time as to require more pot room. With the lengthening days and the more favourable conditions prevailing outside this work should be attended to without delay. Plants in a more advanced state of growth may also have any necessary repotting requirements attended to. This will afford full opportunity for the plants to derive every benefit from the summer season as it advances. In the case of all epiphytal kinds I consider a loose, light compost the most suitable. There can be no doubt that a compost of two parts broken oak leaves and the remaining part of peat and chopped sphagnum, with sufficient sand added to render the compost free and porous, is in every way suitable for the cattleya family in the early stages of growth, giving a more solid potting material as they reach the flowering stage. Cypripediums in the earlier stages do best in a compost of about equal parts of peat and chopped sphagnum, with a little loam added after the first three or four leaves have developed.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

CONSERVATORY AND GREENHOUSE.—Where permanent creepers are planted in beds of soil in the conservatory, the present is a very suitable time for giving them attention. In many cases they may be cut hard back, this applying to such plants as fuchsias, bougainvilleas, tacsonias, passifloras, and cobæas. If the plants have been infested with insect pests, such as mealy bug, red spider, or thrips, stringent measures must be adopted for the purpose of eradicating them. A thorough cleansing with one or other of the approved insecticides will be beneficial, and, where the roof has been partially covered, it will be well to give it a thorough cleansing about this time. If painting has to be done, this will be quite the most convenient time of the whole year. The climbers will, of course, be first pruned. Where part of the conservatory is utilised as a cool fernery, a thorough overhauling will be necessary. All dead and decaying fronds should be cleared away, and where some of the stronger-growing kinds, such as Pteris tremula, and some of the varieties of nephrolepis have outgrown their allotted space, they should be cleared out, and replaced with younger plants. Give the rest of the plants a general top-dressing of prepared soil, to which a little manure has been added.

PALMS AND LARGE FERNS that require re-potting or re-tubbing should be undertaken at once, and, in the case of palms, do not stint the ramming process, as, if potted lightly, the roots are very apt to raise the balls out of the pots.

PELARGONIUMS.—The present is a very suitable time to put in a batch of cuttings of zonal pelargoniums for autumn and winter flowering, and these will be found to root freely if put singly in thumbs in any house where a medium temperature of about 50 deg. is maintained, giving them a spraying overhead occasionally. Young plants, rooted in the autumn and intended for summer blooming, should now be shifted into the pots in which they are to flower. This advice applies also to the scented-leaved, ivies, and also to the show, fancy, and regal varieties. The latter I find especially useful, the colour generally being so soft and pleasing that they are much liked as cut flowers for the table.

POT ROSES.—The latest batch of these should now be brought inside, and may be pruned practically at once. If hybrid perpetuals, they should be pruned hard back, but the teas and hybrid teas should be less severely pruned. Roses that were introduced into heat early in December will be showing their buds, and should receive every encouragement towards the perfecting of their blooms, which are so highly appreciated early in the year. With the longer days the temperature may be raised a little, and the plants may receive one or two dressings of artificial manure. There is nothing I like better than Peruvian guano for them, giving it rather weakly in the water. Beware of cold draughts, as the young foliage is very susceptible to mildew.

FORCED PLANTS.—Continue to bring the forced plants and bulbs forward as they are required, bearing in mind that narcissi, tulips, etc., will not require so long to come into bloom now as was the case a few weeks since, and it may be found advisable to put a batch of stuff into a frame somewhere out of the sun, in case a late batch is required. In this way the bulb season may be somewhat prolonged, and it is better to keep them back now than to try and keep them when well in bloom.—THOMAS STEVENSON, Woburn Place Gardens.

THE FLOWER GARDEN.

PENTSTEMONS. — The improvement which has been effected in the pentstemons during the past few years, both as regards larger and improved shaped flowers and the great increase in the variation in the rich colours, have combined to make them immensely popular at the present day. By making a good selection, and treating them liberally, they produce a wealth of blossom throughout the summer, and, indeed, until late in the autumn. Consequently they are most suitable for growing in borders either wholly devoted to them or mixed with other plants, and they are extremely effective when arranged in beds consisting of one colour in the flower garden. Pentstemons can be successfully raised either from cuttings, which should be taken during the autumn, or from seed sown early in the year. By sowing the seed at once in a light sandy soil and placing it in heat germination will soon take place. When the strain is a good one flowers high in quality and effective in colour will be obtained, and very frequently some fine novelties will result. Cuttings which were rooted during the autumn of last year in unheated frames ought now to be potted up singly into three-inch pots, and be returned to the frame. These will be much improved if the points of the growth are pinched out after new root action has commenced. There are many beautiful named varieties which should be included in all collections where they are grown in considerable quantities. The beds and borders to be devoted to them should be deeply dug, or, better still, trenched, working in a good quantity of half-decayed farmyard manure, and it is well to point out here that pentstemons ought not to be grown on the same site two years in succession.

PERENNIAL PHLOXES.—These, like the pentstemons, have, during the past few years, come much into favour. The old mauve colour, which at one time predominated, has now been superseded by such charming varieties as Miss Pemberton, Coquelicot, Tapis Blanc, Aurora, Solon, and Tom Welch. Their charming colours and the delightful fragrance render them most welcome in any garden. The most successful way to treat the herbaceous phloxes is to pull them into quite small pieces at this season, and either plant them in batches where it is intended they should flower, or put them in three-inch pots, and bed out later on. Potting them is the best where slugs abound and the varieties are scarce. Plant them out the end of next month, but to ensure success it is most imperative that the soil be deeply worked and heavily manured.

DELPHINIUMS.—These are among the most stately blue flowers we have, and, in my opinion, are not sufficiently made use of in grouping them in various parts of the garden. They lend themselves equally as well to arrangement in groups in the shrubberies. Delphiniums may now also be propagated by taking off side shoots and potting them up. The best named varieties should be grown in preference to chance seedlings where only a limited number can be cultivated. Old stools which are intended to remain should receive a good surface dressing of half-decayed cow manure.

SWEET PEAS.—These should now be sown four or five in a three-inch pot, and started in a very gentle heat. Sow also tuberous and fibrous-rooted begonias, Pyrethrum Golden Feather, verbenas, wigandias, foliage solanums of sorts, and dahlias, etc. —E. BECKETT, Aldenham House Gardens.

HARDY FRUITS.

PEACHES AND NECTARINES.—If these were treated during the past season as regards disbudding, etc., as advised in last year's calendar, very little pruning should now be necessary. Remove the trees from the walls, and if not previously done, cut away all the old fruiting wood and refasten the trees in their positions, keeping the young growths from four to six inches apart. Be careful to allow plenty of room for the natural enlargement of the branches during the coming season. If it is found necessary to shorten any of the young fruiting wood, either because of weakness or to prevent overlapping, always endeavour to prune to a triple bud, as the centre one, being a wood bud, will ensure a supply of sap to the young fruits which may set on the shoots so shortened. Red-spider is one of the worst pests that infests the foliage of the peach and nectarines, and we find nothing better for keeping this in check than occasional spraying during the summer months with an emulsion made by dissolving one oz. of liver of sulphur in a little hot water, and boiling 1lb. of soft soap, which, when ready, we pour into a vessel containing ten gallons of soft water; then add the liver of sulphur, give a good stirring, and the whole is ready for use. Spray the trees after the sun has ceased to shine on them.

MANURING AND TOP-DRESSING.—As soon as pruning and training are completed and all rubbish cleared away and burnt, remove any light material, such as the old mulching, from fruit borders, and give the surface a dressing of some approved fertiliser, afterwards lightly pointing it in with a garden fork. If extra soil is required to cover the roots, mix up the following, and place a thin layer over the borders where the roots are found too near the surface, viz., four parts good turfy loam, one part horse-droppings or good rotten manure, and one part wood ashes. For stone fruits, add one part finely broken-up lime rubble. A good manure for such fruits as apples, pears, plums, currants, and gooseberries, on soils which are deficient in lime, is a dressing during the winter of basic slag and kainit sprinkled evenly over the surface as far as the roots extend, at the rate of four ounces of the former and two ounces of the latter to each square yard.

MULCHING. — As the season advances, fruit trees on walls require a large amount of attention, which necessitates a good deal of treading on the borders. A dressing of light strawy manure spread over the surface will add much to the convenience and cleanliness of the work of fixing the necessary protection, etc. The usual mulching with good rotten manure I prefer to leave until after the fruits have set.

RASPBERRIES.—If not already done, let the surface soil in the alleys be very lightly pricked over with the fork, gathering up at the same time all weeds and other rubbish, give the quarter a good sprinkling of fresh lime, following this with a liberal dressing of some well-decomposed farm-yard manure.

BLACKBERRIES AND LOGANBERRIES. —Cut out last year's fruiting canes, and tie up to the supports sufficient young ones for this season's fruiting. Both these fruits are gross feeders, and a good mulching of manure placed on the surface as far as the roots extend, will prove of great benefit to the plants later on.—GEO. WOODGATE, Rolleston Hall Gardens.

PARROTIA PERSICA.

Parrotia is a genus of Hamamelideæ closely allied to hamamelis, a shrubby genus recognised by its bright golden spidery-looking blossoms, which are borne during late autumn or winter. Two species only are known, the second one being P. Jacquemontiana. They are quite distinct plants, possessing few points of resemblance, except, of course, botanically. P. persica is of Persian origin, and is known under the common name of iron tree, a name given on account of its exceedingly hard wood. The flowers are small, but borne in great profusion during January and February. Their attractive feature is their bright red conspicuous stamens, which, on a sunny day, light the whole plant up with a ruddy glow. Another period of beauty occurs in autumn, for at that season the ovate or oblong leaves take on a brilliant orange, orange-scarlet, or red hue. Under normal conditions it assumes the proportions of a small tree, but is also met with in bush form. It is not fastidious with regard to soil, and thrives in comparatively poor ground. Although it has been known in English gardens for upwards of half a century, it cannot be called common, and is rarely met with outside scientific collections.

W. D.

Kew.

Index to the "Gardeners' Magazine," 1908.—Those readers who have preserved the 52 numbers of the GARDENERS' MAGAZINE for 1908 with a view of having them bound for future reference, can obtain Handsome Cloth Binding Cases from the publishers, 148 and 149, Aldersgate Street, London, price 2s., post free. The index, with title page, is now ready—price 2d., or by post 2½d. The volume bound complete may also be had, price 12s. 6d., by post 13s. 4d.

THE ROYAL COMMISSION ON AFFORESTATION.

Considerable interest is being evinced in Scottish forestry circles in that section of this Commission's report which relates to afforestation. With the knowledge that this Commission was appointed with a view to the discovery of means of relief for the present distress in schemes of shore reclamation and forestry works, the chief feature which strikes the practical Scotsman is the fact that the bulk of the unemployed are in England. and the bulk of the land suitable for tree-planting is in Scotland. One can hardly help remarking that the Commission's report simply tells us what we were all perfectly aware of before. It is simply a re-statement of the case for afforestation, which has for a good many years past been pressed upon the public attention by those having an intelligent knowledge of and interest in the matter. Where, in the opinion of Scottish experts, the report fails, is in the treatment of the question of how the scheme or schemes of afforestation it recommends are to be conducted.

Apparently it is contemplated that the whole business is to be taken in hand by the State, and certainly it is impossible to see that anything like what is required can be accomplished apart from State action of some sort on a very extensive scale. Among the recommendations or conditions they specify there is one in which the Commissioners say that "any scheme of national afforestation should be on an economic basis." That is all right enough, but then what are we to make of what follows, which is that the taxpayers of the country are to be made to pay the interest on the capital expenditure to be incurred in the afforestation of nine millions of acres which it is proposed to deal with? One cannot help saying that there does not seem to be much of an "economic basis" in a scheme which requires to be financed in this fashion. We are also told that the forests will be more than self-supporting after the fortieth year. Does that mean that the charge upon the taxpayers of the country will then cease?

But there is another and a greater obstacle to the institution of schemes of afforestation in Scotland on any extensive scale, and that is the passion for sport which so largely determines in these days the manner in which much of the land suitable for tree-growing in Scotland is used. In the Highlands of Scotland there are huge areas suitable for that purpose which are meantime reserved for sporting purposes, and so long as the owners of such lands can obtain large ready-money rents for them without having to spend anything in planting or other estate outlays, it is hopeless to think of anything considerable being done in the way of their afforestation until the matter is taken up by the State. A beginning was made in this direction a year or two ago by the purchase of the Inverliever estate in Argyllshire by the Government for forestry purposes of an experimental and educational character, and as public opinion is ripening, it may not be long before we see further action towards the establishment of a system of State forestry in the Highlands of Scotland and elsewhere.

But as to how far the passion for sport and the devotion of great areas of possible timber land to its gratification are to be checked by anything short of the entire expropriation by the State it is not easy to see. Even regarding the existing woods of the country, we all know how many landowners sacrifice their own woods for the sake of the game. That the management of existing woods might be improved enormously all who take an intelligent view of the question are quite well aware. At present these woods are handed over to what the forester thinks the most injurious thing in the country—the gamekeeper. The fox is kept down, but the great enemy to British woods, the rabbit, is allowed to increase.

As a contribution to the public discussion of the question of afforestation the report of the Commission will be useful, if not in the views expressed in it, yet as helping to centre attention on the question of State action in the matter of afforestation. But it does not imply much guidance on the question of the unemployed. All that can be said on that head is that, while the Commissioners rightly insist on the importance, which is already widely recognised, of afforestation as a means of extending employment in the rural parts of the country, and so helping to stay the migration of the people to the towns or to the colonies, it offers no suggestion of practical value as to how the present unemployment in the towns is to be remedied, or how the recurrence of such unemployment is to be prevented.

Aberdeen. W. Kelly.

NAMING OF MULTIGENERIC ORCHID HYBRIDS.

In view of the fact that the raising of hybrids connecting many genera of orchids is now probable (one hybrid connecting four genera is already in existence, and there is no apparent reason why others should not be raised combining all the genera in the respective groups—see list appended), the Orchid Committee of the Royal Horticultural Society of Great Britain believes that the time has come when some definite system of nomenclature, which shall be at once simple, euphonious, and distinctive, should be adopted, internationally if possible.

A sub-committee, consisting of the following gentlemen was therefore appointed by the council to consider the question:

Mr. J. Gurney Fowler (chairman of the Orchid Committee), Messrs. N. C. Cookson, de Barri Crawshay, J. O'Brien, V.M.H., and H. J. Veitch, F.L.S., V.M.H. (members of the Orchid Committee), with Dr. A. B. Rendle, M.A., F.L.S., Messrs. E. A. Bowles, M.A., F.L.S., F.E.S., W. Fawcett, F.L.S., C. C. Hurst, F.L.S., A. Rolfe, A.L.S., and F. J. Chittenden, F.L.S. (secretary), (members of the Scientific Committee).

The conclusions that have been arrived at are not at present put forward for universal adoption, but are stated with the request that you will be so good as to give them your careful consideration, and make any comment upon them.

The following methods have been suggested for the formation of the generic name of multigeneric orchid hybrids:

1. That the name consist of parts of the names of the genera which enter into the composition of the hybrid—the system at present in use (see list appended).

   This method will lead to the formation of such unwieldy names as Dialaeliocattphronitis and Brassolaeliocattleysophroschomboepid i aleptotes.

2. That a consonant be chosen to represent each of the genera used in producing the hybrid as B for lælia, C for cattleya, D for sophronitis, and that these be followed by the vowel "a" when the genus is used once, "e" when it is used twice, and so on, as dabaca for sophronitis × læliocattleya, and Dabeca for sophrolælia × læliocattleya.

   It is thought that the names thus formed would not be euphonious or sufficiently distinct.

3. That one letter, preferably the initial letter, should be chosen to represent each genus used in hybridising: thus L for lælia, C for cattleya, S for sophronitis, and that these letters should be used to form the names of the resulting hybrids. Connecting vowels when necessary should be taken from the initial vowels, and the letter "y" should be used as a vowel sound between the components denoting the two sets of parents. Thus "lysoc" would denote the product of lælia × sophrocattleya.

   The names thus formed would seldom be euphonious, and the method of formation would not always prove sufficiently simple to grasp.

4. That the name of one of the genera entering into the composition of the hybrid be retained for it, as is the practice in naming natural hybrids in other groups of plants, e.g. in the Gramineae (see Rules of Nomenclature, Vienna Congress, 1905, Art. 32).

   The name would then lack distinctiveness.

5. That the name be a commemorative one with a conventional ending, such as "ara" or "orch," as Lawrenceara or Lawrenceorch.

   The former ending is considered the more euphonious.

6. That the name be a commemorative one with the syllable "hyb" prefixed to indicate the hybrid origin, as Hyblawrencea.

   While distinctive, the constant repetition of the syllable "hyb" would be likely to lead to confusion, and would be the reverse of euphonious.

The Sub-Committee consider that the suggestion No. 5 best fits the case, and are prepared to recommend the council that it be adopted as the method of coining names for multigeneric orchid hybrids, unless some more desirable method can be suggested.

The commemorative name chosen should be that of someone eminent as a student or as a grower of orchids, and the conventional termination "ara" should be used.

It is not proposed that this suggestion should interfere with the use of names already in existence or with the coining of names by combining parts of the names of the parent genera when two genera only are crossed.

The Sub-Committee further think it desirable that the combinations such as epidendrum × sophronitis already in existence should be written without a hyphen, as epiphronitis (see list).

They further suggest that if the specific name attached to a hybrid were of the Latin form, varietal names would be easier of addition, so that such forms as Læliocattleya "Phœbe" illustrissima might in the future be avoided.

Hoping to be favoured with your views at as early a date as convenient.

F. J. Chittenden,
Secretary of the Sub-Committee.
R.H.S., Vincent Square, S.W.

LIST OF INTERGENERIC HYBRIDS AT PRESENT IN EXISTENCE.

Group.	Parent Genera.	Hybrid
1.	Anguloa—Lycaste	Angulocaste
2.	Anaectochilus—Haemaria	Anaectomaria
	Dossinia—Haemaria	Dossinimaria
	Macodes—Haemaria	Macomaria
3.	Chondrorhyncha—Zygopetalum	Chrondropetalum
	Batemannia—Zygopetalum	Zygobatemannia
	Colax—Zygopetalum	Zygocolax
	Aganisia—Zygopetalum	Zygonisia
4.	Cochlioda—Odontoglossum	Odontioda
	Miltonia—Odontoglossum	Odontonia
5.	Calanthe—Phaius	Phaiocalanthe
	Cymbidium—Phaius	Phaiocymbidium
6.	Brassavola—Cattleya	Brassocattleya
	Brassavola—Epidendrum	Brassoepidendrum
	Brassavola—Lælia	Brassolælia
	Diacrium—Cattleya	Diacattleya
	Diacrium—Lælia	Dialaelia
	Cattleya—Epidendrum	Epicattleya
	Diacrium—Epidendrum	Epidiacrium
	Lælia—Epidendrum	Epilaelia
	Sophronitis—Epidendrum	Epiphronitis
	Lælia—Cattleya	Laeliocattleya
	Lælia—Leptotes	Leptolaelia
	Schomburgkia—Cattleya	Schombocattleya
	Sophronitis—Cattleya	Sophrocattleya
	Sophronitis—Lælia	Sophrolaelia
	Tri-generic Hybrids.	
5.	Brassavola—Cattleya—Lælia	Brassocattlaelia
	Sophronitis—Cattleya—Lælia	Sophrolaeliocattleya
	Quadri-generic Hybrids.	
6.	Sophronitis—Brassavola—Cattleya—lælia	Not yet bloomed or named.

It is confidently expected that the whole of the genera in any one of the groups mentioned above will in the near future be combined together by hybridising—hence the need for a definite system of nomenclature for these hybrids.

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EXHIBITIONS AND MEETINGS.

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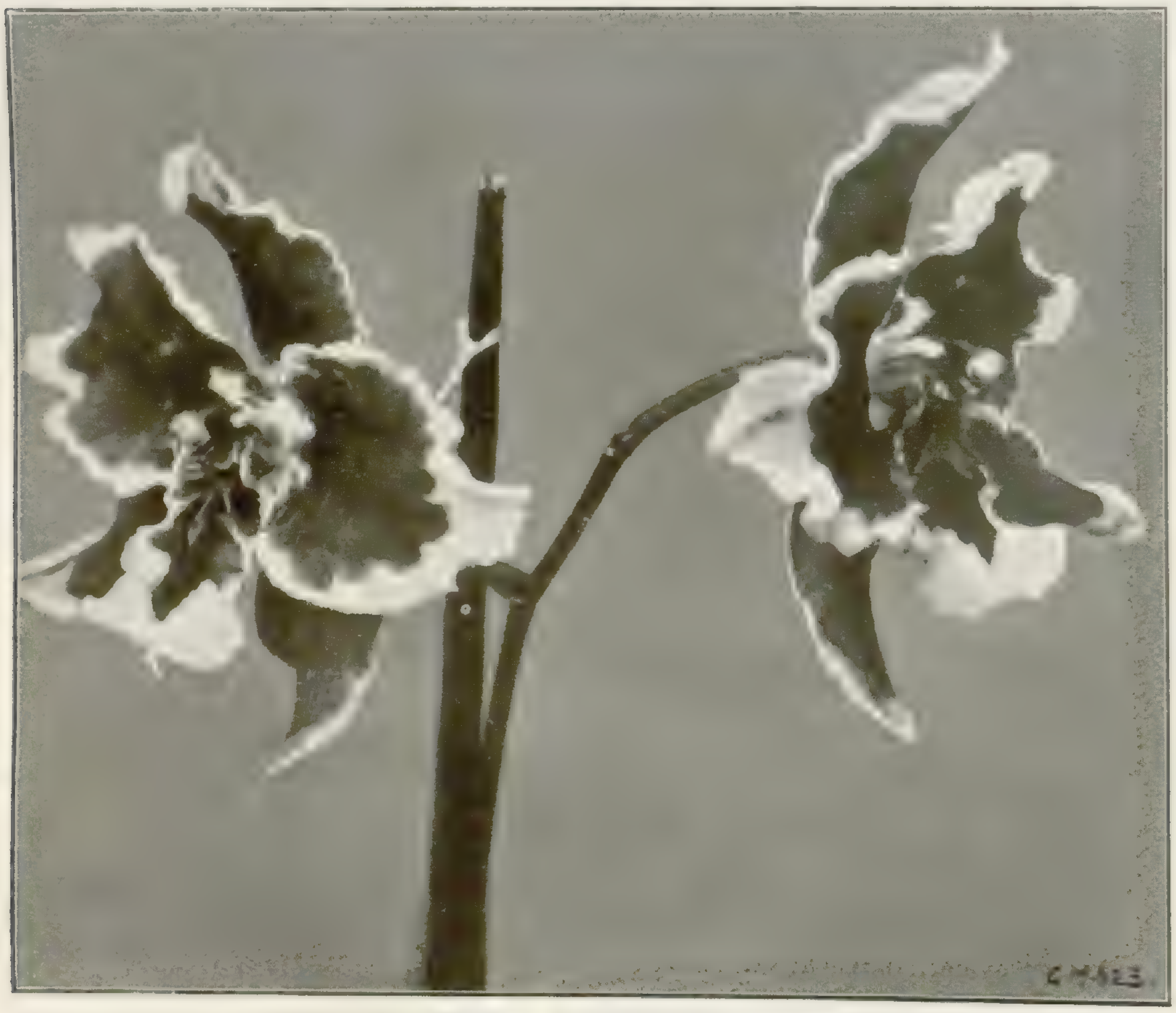
Royal Horticultural Society.

As February 9 was the date of the annual meeting, exhibitors took full advantage of the opportunity of displaying their goods before the larger attendance this meeting always causes. There was a fine exhibition, and orchids, primulas, apples, and forced shrubs were the leading features.



ODONTOGLOSSUM ARDENTISSIMUM PHŒBE.

A beautiful variety, exhibited by Mr. Norman C. Cookson at the R.H.S. Meeting on the 9th inst., when a first-class certificate was conferred upon it. The colour is bright rose with white margin.

FLORAL COMMITTEE.

A beautiful exhibit was made right along the end of the hall by Mr. W. H. Page, Tangley Nurseries, Hampton. This was a grand display for the time of the year, and was altogether a magnificent effort. There were grand stands of Lilium speciosum rubrum, L. speciosum, and L. longiflorum, as well as groups of flowering plants of these fine lilies. Beautiful perpetual carnations, batches of the pink Queen Alexandra spiræas, and Golden Spur daffodils completed this very attractive contribution. Messrs. James Veitch and Sons, Chelsea, contributed a bright and interesting display of flowers, showing batches of Azalea amœna Hexe, lily of the valley, Kalanchoe Dyeri, Eupatorium vernale, and various Indian azaleas.

Messrs. Sutton and Sons' primulas were a great attraction, their neat habit and finely-formed flowers showing the results of long-continued, careful cross-fertilisation and selection. The whole display represented the firm's Giant Mixed strain. Early flowers were prettily shown by Messrs. Barr and Sons, Covent Garden, who had among other things, batches of snowdrops, lachenalias, yellow freesias, daffodils, crocuses, Iris reticulata, St. Brigid anemones, and Hamamelis arborea.

Messrs. Joseph Cheal and Sons, Crawley, sent alpine shrubs, hardy primulas, irises, daphnes, etc. Mr. W. A. Cook, gardener to Sir Edmund Loder, Bart., Leonardslee, Horsham, showed several fine examples of Sarracenia purpurea, lifted from the open ground. Perpetual carnations in great variety were exhibited by Messrs. Hugh Low and Co., who had Rival, Defiance, Britannia, Mrs. H. Burnett, and Black Chief in fine condition. Some fine Chinese primulas, representing an excellent large-flowered strain, were exhibited by Messrs. H. Cannell and Sons, Swanley. Mrs. Jean Ward—a very beautiful and distinct new rosy pink double variety, Mr. John Ward, Mrs. C. F. Raphael, Mr. J. A. Gardiner, and Moonlight—a pure white, were extra fine. Messrs. R. Wallace and Co., Colchester, showed the pretty little Cyclamen Coum in variety, a charming lot of crocuses, and irises and snowdrops. Mr. Herbert Chapman, Rye, again showed Freesia Chapmani and numerous freesia seedlings.

A large-flowered strain of Primula obconica, shown largely by Messrs. T. S. Ware, Lim., Feltham, made a fine show, with P. floribunda and P. Isabellina. Messrs. G. and A. Clarke, Dover, arranged a rock garden, and filled it with primulas, alpine shrubs, daffodils, and succulents, etc., and they had Veltheimia capensis, the latter a fine form of V. viridiflora. A splendid strain of cyclamens, staged by Mr. W. Seward, The Beeches, Hanwell, was greatly admired; the flowers were of fine size, and great purity of colour, and the plants finely flowered. Mr. George Mount, Canterbury, made a small but exceedingly beautiful exhibit of Mrs. W. J. Grant, Richmond, and Joseph Lowe roses—delightful blooms. Messrs. Robert Sydenham, Lim., Birmingham, showed good lily of the valley, grown in fibre. Mr. L. R. Russell, Richmond, made a pretty exhibit of Hamamelis arborea.

Exquisitely beautiful was the fine display of forced flowering shrubs, beautifully arranged by Messrs. R. and G. Cuthbert, Southgate, Middlesex. Prunus triloba, standards and bushes of Azalea mollis, in great variety of colours, Staphylea colchica, Lilac Marie Legraye, Forsythia suspensa, Magnolia conspicua, and M. Soulangeana, Pyrus atrosanguinea, and wistarias, were the subjects chiefly employed, with, of course, an ample setting of palms, ferns, etc.

Messrs. Wm. Cutbush and Son, Highgate, contributed a charming bank of forced flowering shrubs and early hardy flowers, and a beautiful exhibit of perpetual carnations, including numerous novelties. Mr. G. Reuthe, Keston, Kent, showed camellias, snowflakes, hardy heaths, saxifragas, crocuses, and other interesting subjects. Mr. H. Burnett was well represented by a very fine group of beautiful blooms of perpetual carnations. Messrs. H. B. May and Sons, Edmonton, contributed ferns in variety, and batches of cyclamen, Primula obconica, etc. Polypodium crassinervum was a conspicuous plant in the group.

ORCHID COMMITTEE.

A wonderful, brilliant, and extensive exhibit of orchids was charmingly arranged by Messrs. Charlesworth and Co., Haywards Heath, Sussex. This firm has set up many fine displays of orchids, but we doubt whether any previous effort has been quite as beautiful as this. One side of a long table was filled with these interesting and beautiful plants, all flowered delightfully. The centre was filled with a magnificent lot of Phalænopsis Schilleriana, in rude health, and carrying splendid spikes of exquisite blooms; altogether there were about a hundred plants of P. Schilleriana, some carrying two spikes. P. Stuartiana was also represented, and there was a rare plant of P. Schilleriana alba. At either end were groups of other orchids, odontoglossums forming the chief feature of one group, and cattleyas and lælio-cattleyas the other group. Among the odontoglossums there were very fine examples of O. Lambeaeanum, O. Armain villiersense, O. Harryano-crispum, O. Rolfæ, and O. crispum in variety.

Messrs. Cypher and Sons, Cheltenham, contributed a very pretty display of orchids, and as usual, they staged a very interesting lot of cypripediums, that included C. Hitchense, C. aureum Hyeanum, C. Swinburnei magnificum, and C. Mrs. W. Mostyn. They also had Phaio-cymbidium Chardwarense, Angræcum eburneum, and several very pretty odontoglossums. In Messrs. Hugh Low and Co.'s display of orchids the special features were Cymbidium Wiganianum with five spikes, Lælio-cattleya Charlesworthi, Dendrobium nobile virginale, Dendrochilum glumaceum and a useful selection of cypripediums.

Messrs. Moore, Lim., Rawdon, Leeds, brought up a little group of orchids, in which Cypripedium Rothschildeanum Dulcote var. with a three-flowered spike, was conspicuously good. There were also C. Chapmani, C. Mrs. Francis Wellesley, C. aureum Hyeanum, C. Maudiæ, and several odontoglossums and dendrobiums.

Mr. Mertens, Mont St. Amand, Belgium, brought over several delightful odontoglossums, notably O. laudatum, O. Wilcheanum, O. eximium, O. Vuylstekei, and several hybrids. A collection of hybrid cypripediums was shown by Messrs. James Veitch and Sons to show the great variation from one cross, the cross in this case being C. villosum and C. Euryades; some of the seedlings were very good, and some very poor, while the variation in colouring was remarkable. The same firm showed odontoglossums, Lycaste Skinneri and Lælia Nemesis, the latter a cross between L. anceps and L. superbiens.

The elegant Lælia anceps was finely shown by Messrs. J. and A. A. McBean, Cooksbridge, Sussex, who exhibited white varieties exclusively, and in fine style. Mr. H. Alexander, orchid grower to Lieut.-Colonel Holford, Westonbirt, Gloucester, brought up several beautiful orchids, and the chief of these were Lælio-cattleya Goldfinch superba (A.M.), Cymbidium Holfordianum, Cypripedium Helen II. Holford's var. He also had a magnificent specimen of Odontoglossum crispo-Harryanum, carrying 125 flowers on [illegible] spikes, one spike having 65 flowers; a Lindley medal was unanimously awarded for this example of cultural skill.

Mr. H. J. Chapman, gardener to Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne, [illegible] up a group of very choice orchids. [illegible] were Cypripedium Chapmani, C. Mrs. [illegible] Drewitt's var., C. Orion bellum, C. [illegible] C. Wm. Lloyd superbum, C. triumphans [illegible] perbum, Odontoglossum crispum [illegible] O. Lindeni, O. ardentissimum Phœbe [illegible]

Mr. Collier, gardener to Sir Jeremiah Colman, Bart., Gatton Park, Reigate, showed a little group of botanical orchids, such as Restrepia striata, Dendrobium æmulum, Masdevallia cuculata, M. Chimæra, Dendrobium Veitchi, and Phaio-calanthe Colmani. Mr. Thwaites, Chessington, Streatham, exhibited Odontioda Bradshawæ Chessington var. Mr. J. Forster Alcock, Exhims, showed Cypripedium Leander Exhim's var. (A.M.), a very neat flower.

FRUIT AND VEGETABLE COMMITTEE.

Very fine were the apples so effectively displayed by Messrs. G. Bunyard and Co., Maidstone. The firm had large dishes and baskets of fruit, representing one hundred and sixty varieties. Red Winter Reinette, King of Tomkin's County, Rosemary Russet, Newton Wonder, Alfriston, Lane's Prince Albert, Lord Derby, Malster, and Lady Henniker were apples particularly well represented by the Maidstone firm.

A handsome display of well-grown potatoes was made by Messrs. James Carter and Co., High Holborn. The tubers, all beautifully clean, and of fine form, were pleasingly arranged, and we may note Longkeeper, Record, Snowball, Early Favourite, Superlative, Leinster Prolific, First Crop, Goodfellow, Lilywhite, Canon, and Gold Mine, as being especially good among one hundred and seventy-five varieties. Mr. C. Foster, Horticultural Department, University College, Reading, exhibited forced Linnæus rhubarb, asparagus roots, from one to five years of age from seed, Witloof chicory, forced seakale, Sutton's Early Paris frame lettuce, and Sutton's Eclipse tomatoes.

Mr. Waghorn, Maidstone, showed the "Very Quick" potato planter, a tool something like a double trowel with long handles; a hole is made with it, and the seed set dropped into the hole while the tool is in position, and then the planter is withdrawn, allowing the soil to fall loosely over the potato.

CERTIFICATES AND AWARDS.

First-Class Certificate. — For Odontoglossum ardentissimum Phœbe, from N. C. Cookson, Esq. (gardener, Mr. H. J. Chapman), Oakwood, Wylam-on-Tyne.

Award of Merit.—To Cypripedium Leander, Exhim's var., for Mr. J. Forster Alcock, Exhims. To Lælio-cattleya Goldfinch superba, from Lieut.-Colonel Holford (orchid grower, Mr. H. G. Alexander), Westonbirt, Gloucester.

MEDALS.

Gold.—Mr. W. H. Page, Tangley Nursery, Hampton, for liliums and carnations. Messrs. G. Bunyard and Co., Maidstone, for apples. Messrs. Charlesworth and Co., Haywards Heath, for orchids.

Silver-Gilt Flora.—Messrs. R. and G. Cuthbert, Southgate, for forced shrubs. Mr. Norman C. Cookson, Oakwood, Wylam-on-Tyne, for orchids.

Silver-Gilt Banksian.—Messrs. W. Cutbush and Son, Highgate, for carnations and forced shrubs. Mr. W. Seward, Hanwell, for cyclamens. Messrs. James Veitch and Sons, Chelsea, for flowering plants.

Silver Flora.—Messrs. J. and A. McBean, Cooksbridge, for orchids. Messrs. Hugh Low and Co., Bush Hill Park, Enfield, for orchids. Messrs. Moore, Lim., Rawdon, Leeds, for orchids. Mr. H. Burnett, Guernsey, for carnations. Messrs. Henry Cannell and Sons, Swanley, for primulas. Messrs. Sutton and Sons, Reading, for primulas.

Silver Banksian.—Messrs. G. and A. Clarke, Dover, for rockwork exhibit. Messrs. Hugh Low and Co., Enfield, for carnations, etc. Messrs. H. B. May and Sons, Edmonton, for ferns and flowering plants. Mr. George Mount, Canterbury, for cut roses. Messrs. J. Peed and Son, West Norwood, for alpines and daffodils. Mr. L. R. Russell, Richmond, for flowering shrubs. Messrs. Thos. S. Ware, Lim., Feltham, for primulas, etc. Messrs. Jas. Veitch and Sons, Chelsea, for orchids. Mr. C. Foster, University College, Reading, for forced seakale, rhubarb, and salads.

Silver Knightian Medal. — Messrs. James Carter and Co., High Holborn, for collection of potatoes.

Silver Lindley Medal.—Mr. H. G. Alexander, orchid grower to Lieut.-Colonel Holford, Westonbirt, Gloucester, for a fine specimen of Odontoglossum crispo-Harryanum.

ANNUAL MEETING.

There was a moderate attendance in the Lecture Hall at three p.m., when Sir Trevor Lawrence, president, opened the annual meeting proceedings. After the usual formalities, the President rose to propose the adoption of the report and balance-sheet. He referred to the chief points in the report, largely as we gave them on p. 100. He expressed the thanks of the council to Mr. F. J. Chittenden for the admirable work done in connection with the laboratory and journal, and eulogised the services of the Rev. W. Wilks and the office staff, and Mr. S. T. Wright, Mr. A. Smith, and the Wisley staff. The President then presented the Rev. W. Wilks and Mr. Wm. Marshall, V.M.H., with the Veitchian medal, and Sir Jeremiah Colman, Bart., and Mr. Charles Ross with the Victoria Medal of Honour in Horticulture. Sir J. Colman and Mr. C. Ross both acknowledged the receipt of this honour, and, in an admirable speech, the Rev. W. Wilks, in responding for Mr. Marshall and himself, showed what manner of man Mr. James Veitch was, and how he had raised the whole horticultural profession. This résumé of the life and character of Mr. James Veitch gave the fellows present some idea of the kind of man in whose memory and honour the Veitchian medal was struck.

Mr. J. Gurney Fowler seconded the adoption of the report and balance-sheet, and entered into a few financial details.

Mr. H. J. Elwes expressed regret that the report contained no reference to the library, and that the financial statement showed only £29 had been spent on the library, and he wished for a definition of the society's relations with the Lindley trustees. He had endeavoured to persuade the council that early volumes of the Gardeners' Magazine should be placed in the library, as they contained valuable information, not obtainable elsewhere, but he was informed that it was not considered necessary to add these volumes. He would like to see more money spent on books, and a committee appointed to make a selection of desirable additions.

The Rev. J. Jacob endorsed Mr. Elwes' remarks, and suggested £1,000 should be at once set aside for the purchase of old books dealing with floricultural matters, and he also thought a committee should be appointed to select the books that were deemed most necessary, and that books purchased by the society should be marked so as to distinguish them from those belonging to the Lindley Trust.

Mr. J. McIndoe asked whether it was right for the society to send out its own paid officers as advisers and landscape gardeners, and thus reduce the opportunities of those Fellows already engaged professionally in such work.

Sir Trevor Lawrence briefly replied to the several questions raised, excepting Mr. McIndoe's, but the answers given were noncommittal and very indecisive. Mr. Elwes observed that up-keep and extension of the library should be considered as essential a part of the society's work as Wisley or the Temple show.

The motion was put, and carried, and the proceedings closed with a vote of thanks to the President.

Horticultural Club.

FEBRUARY 9.

The annual meeting and dinner of the Horticultural Club was held on Tuesday last, under the presidency of Mr. Harry J. Veitch, V.M.H., the chairman and treasurer of the club. A satisfactory report and financial statement was presented to the members assembled in annual meeting, and both were unanimously adopted. These showed that there had been an increase in membership and income, and that there was a substantial balance on the year's work. The lectures given at the monthly conversaziones had, the report stated, been of great excellence, and the attendance had been good. Owing to the multiplicity of functions in London last year the annual excursion had not taken place, but the committee hoped to arrange for one in the coming summer. The whole of the officers and members were re-elected, and Mr. White and Mr. C. E. Pearson were elected members of committee.

The dinner was exceptionally successful. About one hundred members and their friends sat down. The speeches were commendably short, and the musical entertainment, which was generously provided by Sir Frank Crisp, was of exceptional excellence. The usual loyal toasts having been submitted by the Chairman, and duly honoured.

Mr. George Paul, V.M.H., proposed the toast of "The Royal Horticultural Society," and, in doing so, referred to the splendid work that has been, and is being, done by the society. He thought, however, a larger proportion of the income should be spent in the furtherance of horticulture, as £7,000 was a large sum to invest in any one year. The Rev. Joseph Jacob acknowledged the toast in a humorous speech.

Mr. Veitch, in proposing "The Horticultural Club," expressed his regret that, owing to indisposition, Sir John Llewelyn, Bart., was unable to be present. He briefly referred to the usefulness of the club as a rallying point for horticulturists, and the importance of the lectures and discussions at the monthly meetings. Mr. H. Morgan Veitch acknowledged the toast, and in the course of his response referred to the desirability of legislative action with a view to placing nurserymen under similar conditions to market gardeners in the matter of compensation for improvements, notice, etc.

The other toasts were "The Chairman," proposed by Mr. E. White, and received with musical honours. "The Visitors," proposed

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by Mr. George Munro, V.M.H., and acknowledged by Mr. P. Anderson Grahame. In addition to the toasts on the programme, Mr. Bilney proposed the health of Sir Frank Crisp, the toast being accorded musical honours, and the Chairman submitted the health of Mr. E. T. Cook, the hon. secretary, and the toast was heartily received.

Beckenham Horticultural Society.

On Friday, the 29th ult., Mr. E. R. Seadon, of Bromley (bee expert with the late Mr. S. J. Baldwin), lectured before the above society on "Beekeeping and its Advantages," illustrating his remarks by lantern slides. Many of the views were to show the value of the bee from a horticultural point of view, i.e., the fertilisation of flowers. One of the slides showed an apple perfectly fertilised, as against one insufficiently fertilised. Another slide showed sections of the same fruits and of pears. Of course, samples of similar fruit would be forthcoming, apart from the bee. A hearty vote of thanks was accorded Mr. Seadon.

There was also placed on the platform, through the kindness of Mr. Leech, of Wood Hall Gardens, Dulwich, fine flowering branches of Hamamelis (Wych Hazel), in several varieties. These were cut in bud state, and placed in water in a stove for two or three days, and were in full beauty, and much admired.

Cardiff Gardeners' Association.

The fortnightly meeting of the above association took place at St. John's Schools, Mr. H. R. Farmer presiding. A lecture was given by Mr. M. Toy, foreman at Cardiff Castle Gardens, on "Perpetual-flowering Carnations and Malmaisons." Introducing his lecture, Mr. Toy pointed out the advantage of the "perpetual varieties" for all kinds of decorations, more especially in the arrangements of vases, on account of their long stems. In propagating great care should be taken to get the cuttings from clean, healthy plants, and insert them by the first week in January, placing them under hand-lights with a bottom heat of 55 degrees. Mr. Toy explained the necessary culture of these most popular flowers, including soils, early stopping, and watering, diseases, and pests. Much the same treatment was necessary for the Malmaisons, with the exception that Mr. Toy preferred the layers of these to the cuttings.

Mr. Wheeler opened the debate, which led to a heated discussion on Perpetual v. Tree Carnations. Mr. Malpass proposed, and Mr. Howe seconded a hearty vote of thanks to Mr. Toy for his excellent lecture, which was carried enthusiastically.

Chester Paxton Society.

In the course of a lecture given at the Grosvenor Museum, on Saturday, on "The Agriculture and Horticulture of Denmark," Mr. G. P. Miln gave some interesting statistics relating to the immense quantities of agricultural produce that are annually exported from Denmark. Owing largely to the co-operative movement assisting the smaller farmers and peasants of Denmark, the exports of butter, cheese, bacon, and eggs have, during the past twenty-six years, risen from about £3,000,000 sterling to over £16,000,000 sterling, the greater portion of this sum being paid by Great Britain. High-class quality and a uniform standard have been the aim of the Danes, and in this respect they have, by the aid of scientific methods, been highly successful. The lecturer also touched briefly upon other phases of Danish agriculture, including the various breeds of cattle, horses, and sheep, as well as the culture of cereals and other agricultural crops. Reference was also made to the attention which the Danish Government gives to forestry, one of the laws relating to this being that no proprietor is allowed to fell timber unless he plants a similar acreage with young trees.

Under the heading of horticulture, Mr. Miln also dealt with the culture of fruit in Denmark and gardening topics generally. The lecture, which was illustrated by a series of beautiful lantern slides, was greatly enjoyed by the audience, who showed their appreciation by according to the lecturer a very hearty vote of thanks.

OBITUARY.

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MR. GEORGE A. DICKSON, V.M.H.

We greatly regret to learn of the death of Mr. George A. Dickson, V.M.H., head of the firm of Dicksons, Lim., Chester. Death occurred at Springfield, Newton, Chester, on Saturday last. Mr. Dickson, who was seventy-four years of age, occupied such a high position in the world of horticulture that he was selected as one of the first sixty to receive the Victoria Medal of Honour in Horticulture. For a very long number of years, indeed ever since the amalgamation of the two Dickson firms into Dicksons', Lim., he was at the head of the business. He did not often come to London, but he always took a great interest in the work of the two great gardening charities, and on one occasion presided at a dinner following the annual meeting of the Gardeners' Royal Benevolent Institution. He took a great interest in civic matters, was Mayor of Chester in 1886, and received the Honorary Freedom of the City on the occasion of the Diamond Jubilee celebration.

TRADE NOTES.

In view of certain advertisements, it may be stated that the only three horticultural firms who received gold medals or higher awards at the hands of the International Jury (confirmed by the Governing Council) for permanent exhibits at the Franco-British Exhibition were Messrs. Kelway and Son, Langport, Messrs. Sutton and Sons, Reading, and Messrs. James Carter and Co., High Holborn, London, W.C., vide the authorised list issued by the Council of the Franco-British Exhibition, published in the GARDENERS' MAGAZINE.

We are reminded that there is still time to spray fruit trees for the purpose of cleansing them from moss, lichen, and the many insect pests that harbour therein, and that do so much harm to the crops at a later date. The reminder comes in the form of a pamphlet from Messrs. Wm. Cooper and Nephews, Berkhamsted, referring to their V Fluids for spraying fruit trees. From the many testimonials received, it is evident that the V1 Fluid is very useful for present spraying, and that V2 Fluid is admirable for dealing with insect pests that appear in summer and prey upon the foliage, while yet another fluid, distinguished as V2 K, is useful for destroying mildew.

From Messrs. Wm. Artindale and Son, Norfolk Market Hall, Sheffield, we have received a gathering of Primula obconica gigantea. This is a remarkably fine strain, the large richly-coloured flowers being borne in large heads on long stiff stems. We are informed that the plants from which these flowers were gathered have been continuously in bloom since last September. They have not been grown in any special mixture, while a temperature of about 50 deg. has been maintained for them. Unquestionably a fine strain of P. obconica such as this provides one of the most useful of winter-flowering plants.

DESTRUCTION OF VERMIN. — Most gardens are pestered with Rats and Mice. Every effort should be made at this time of the year to exterminate them before seeds are sown. Danysz Virus is first rate stuff for killing these vermin. Single tube, 2s.; three tubes, 5s. Post free from DANYSZ VIRUS LTD., 52, Leadenhall Street, Garden Dept., London, E.C.-[Advt.]

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

MANURING SHRUBBERY BORDER.—M. C. D., Surbiton: The old decrepit shrubs should be at once lifted and burned, and the sites they occupied be deeply dug, adding some old crumbly manure as the work proceeds. Fork in similar manure around the plants that remain, or, better still, remove the soil down to the roots, and in its place put some good new soil. Why not obtain a guelder rose, a philadelphus, a lilac, and a flowering cherry to take the places of the shrubs removed? They would brighten up the borders beautifully. Plant at once, and see that the borders are supplied with water in spring and early summer if the weather is at all dry.

FAILURE WITH TULIPS IN POTS.—J. N., Llandudno: It would have helped us considerably in arriving at a proper conclusion if you had sent us several of the bulbs. Sometimes fairly large bulbs are produced by high feeding, but they lack the firmness and ripeness essential for the production of first-class flowers, and, moreover, these are often young bulbs that are not likely to flower well under any conditions, and are certain to be failures when forced. It sometimes happens that there is a great run on certain varieties, and towards the end of the bulb season second-sized bulbs have to be used to fill orders, whereas if not sold, they would be replanted to produce stronger ones for sale the following year. So far as we can gather from your letter, the methods of cultivation followed should have produced better results had the bulbs been sound and ripe. We recommend you to place your orders early in the autumn, and with a firm of some reputation. It is a mistake to purchase bulbs at retail prices from the Dutch wholesale houses, because this can only be done after the trade has been supplied, and except in the cases of varieties that have become unpopular the bulbs are not of [illegible] flowering size. The best Dutch firms do not sell retail.

INSECTS ON ALPINE PLANTS.—D. C. H., Ledbury: It was not possible to identify the insects as they were mere fragments when received. As they appear to have been very tiny ones, it is difficult to imagine them capable of the mischief you ascribe to them. Lay traps of greased paper, or greased slates around the plants that are attacked, spreading the grease thickly, so that these jumping insects, alighting on it, will be unable to get away. You will soon be able to discover whether the insects are responsible for the damage, and a little patience and perseverance in trapping will soon account for, or at any rate materially reduce, the infestation.

VEGETABLE MARROWS.—S. E. B., Lincoln: To be a real success marrows should be started early, kept growing freely [illegible] planted out, and afterwards be given [illegible] material to grow in, and ample supplies of clear water and liquid manure. [illegible] seeds in early April, in pots, and place [illegible] in a warm frame or house to germinate. [illegible] the seedlings singly in three-inch pots as soon as they show their rough leaves, [illegible] when these pots are well filled with roots [illegible] the plants a shift into six-inch pots, [illegible] them rich substantial soil. Keep them [illegible] frame, and ventilate freely during

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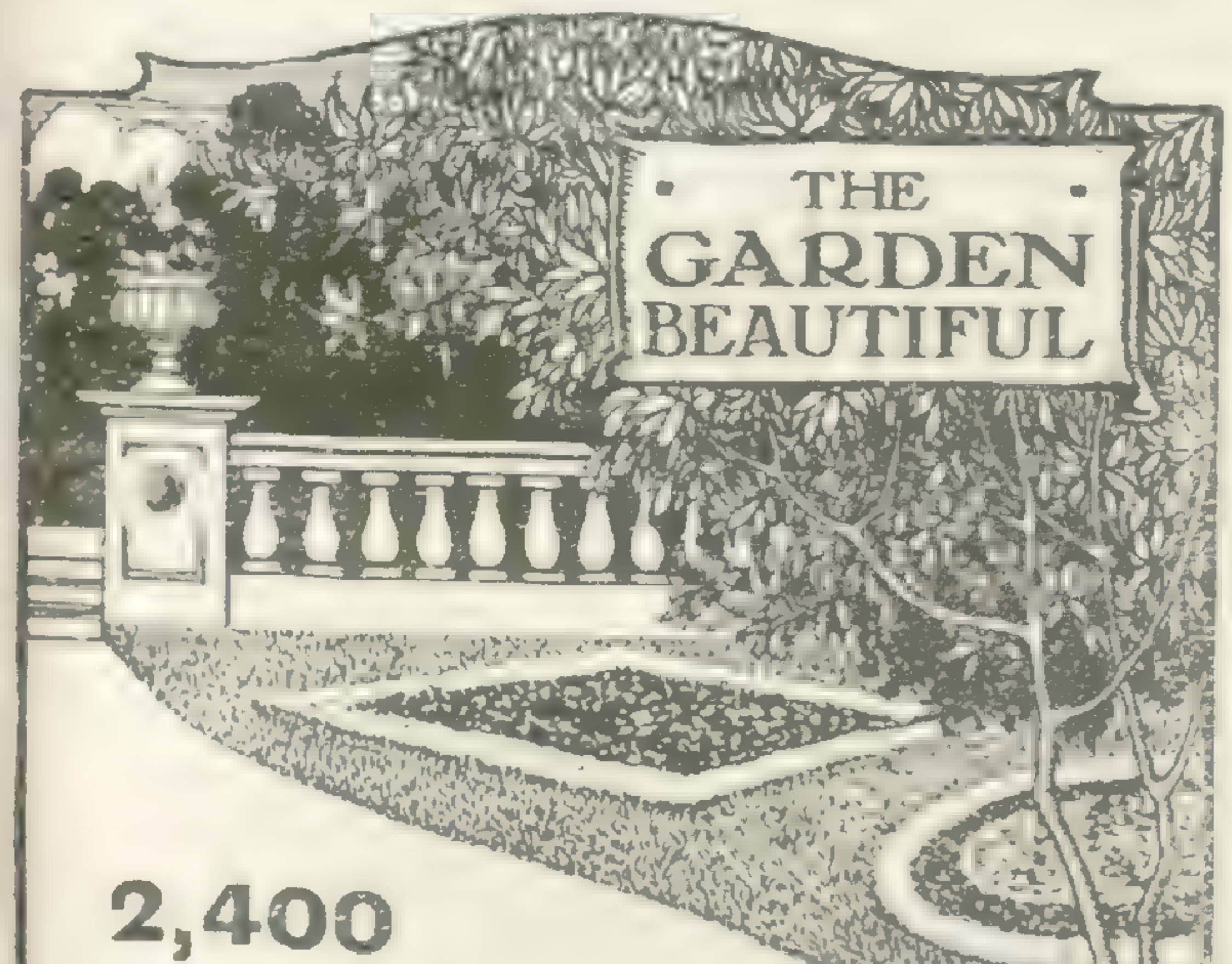

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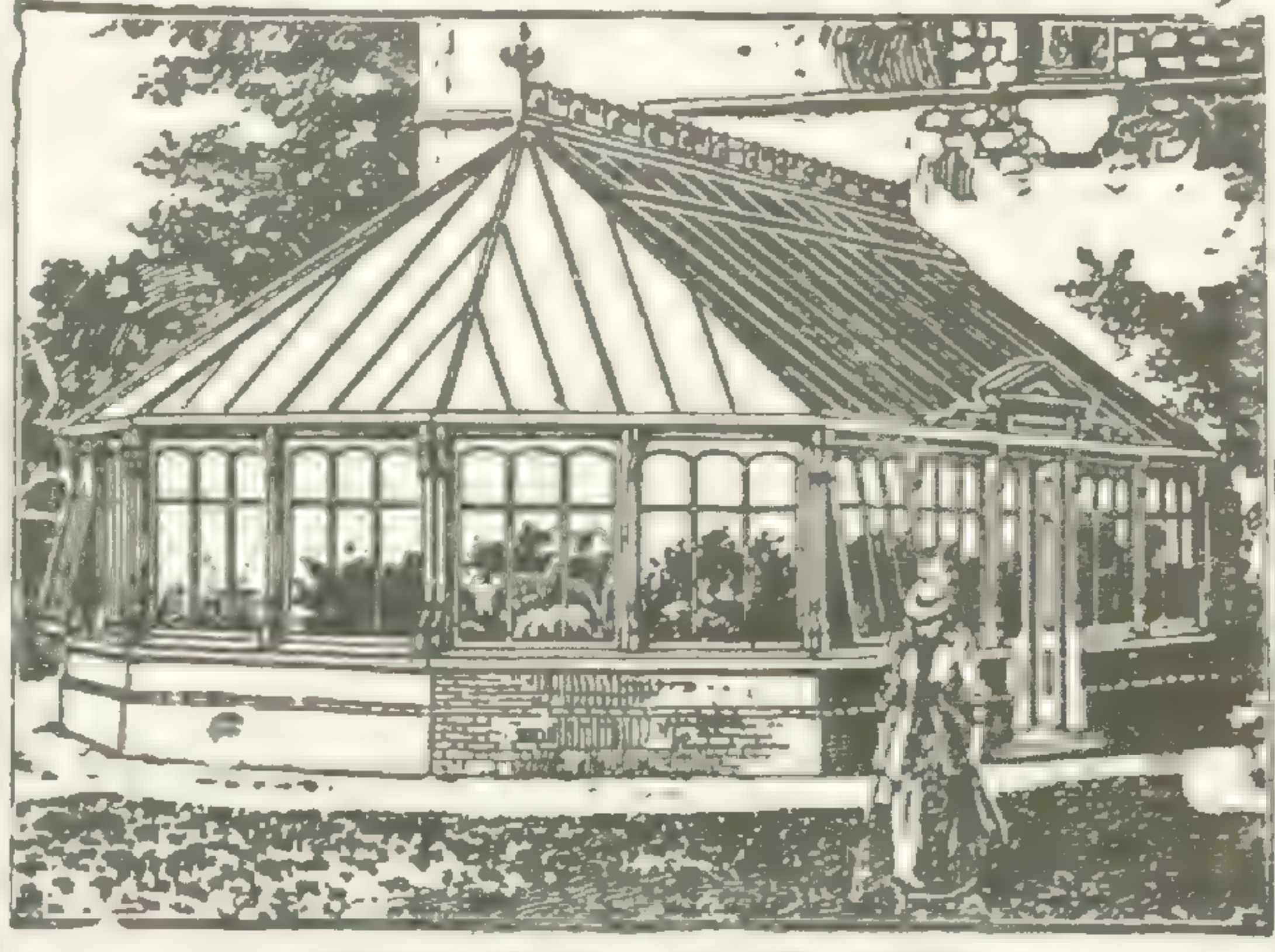

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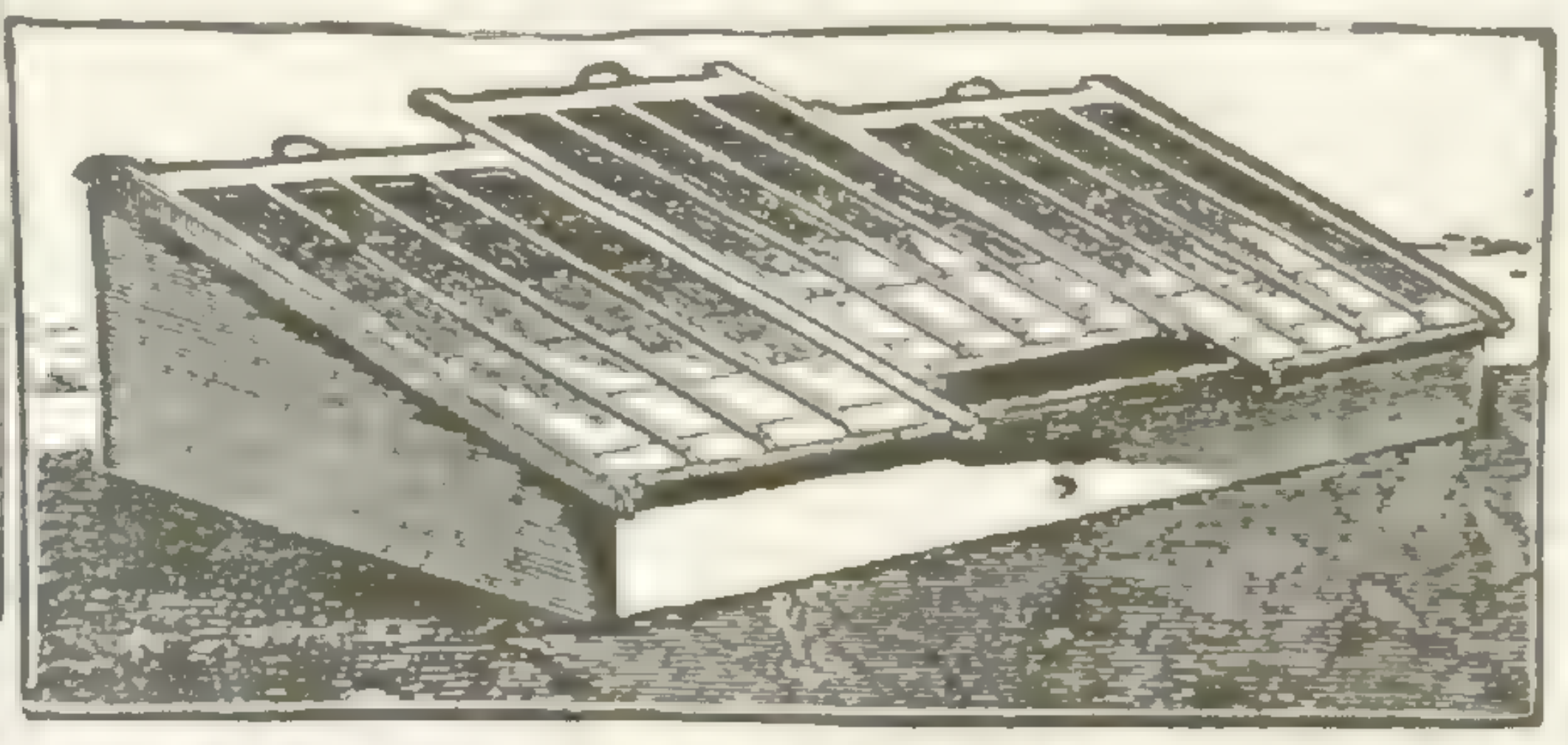

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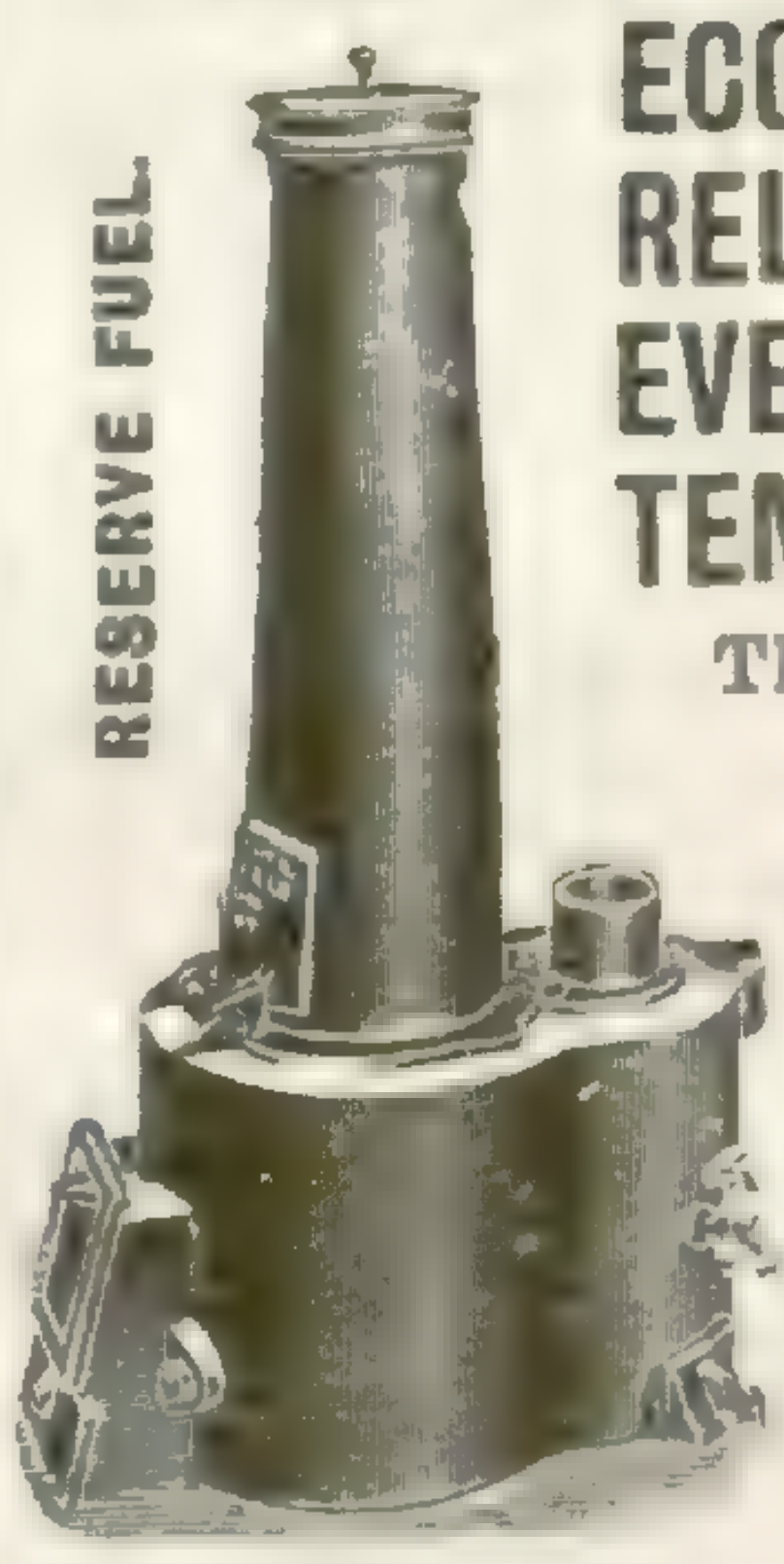
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weather, increasing the ventilation so that by the end of May the marrows will be hardened sufficiently to be planted out where they are to fruit. In many cases marrows are not started early enough, and in other instances lack of success results from starving the plants during the seedling stage. Long Green, Long White, and Pen-y-byd are all fine varieties.

LILIES IN POTS.—L., Dulwich: Turn the bulbs out of the pots, remove all old soil from them, and clear away the decayed roots, flower stems, and damaged scales. Then repot in good loam and sand, and place the bulb so that the apex is little more than halfway up the depth of the pot; just cover the bulb, and thus leave plenty of room above for top-dressing when the stems arise, as these latter produce roots as well as the bulbs themselves. We had an idea we answered a similar question from you not long since.

SPRAYING PUMP AND INSECTICIDES.—G. B., Dublin: The best form of knapsack pump for spraying crops is the Vermorel type. There are now several of these on the market, and you should obtain particulars of each before deciding to purchase. Some seedsmen and sundriesmen keep several varieties in stock, so that they can be examined by intending purchasers. Write to the several makers and insecticide specialists that advertise in our columns for prices and particulars. We do not specially recommend any one nicotine emulsion; indeed we do not recommend specialities in this column, as it would be unjust to advertisers. All the emulsions are useful if used according to instructions. You can use a nicotine spray for bud protection until the bud scales begin to open.

NAMES OF PLANTS.

G. B., Dublin.—Erica carnea; flowering at the right time.

M. G., Chesterfield.—1, Adiantum Weigandi; 2, Helxine Solieroli; 3, Odontoglossum crispum.

T. G. P., Hunstanton. — 1, Sophronitis grandiflora; 2, Carex brunnea; 3, Hamamelis arborea; 4, Asparagus deflexus.

Seeds to Sow.—The work of seed-sowing under glass will now begin in earnest, and the first attention bestowed must be upon those requiring a long growing season; these include begonias, coleus, gloxinias, streptocarpus, etc., and, as all have very small seeds, only the lightest covering, if any, of soil should be given. Hard-coated seeds like those of cannas, many palms, and some acacias, are materially assisted in germination by having the outer seed-coat filed through before sowing. The seed of Musa (bananas), such as M. ensete, M. religosa, etc., which are employed for sub-tropical beds in summer, should be allowed to soak in tepid water 48 hours previous to sowing, and after sowing be placed over a brisk bottom heat. Varieties of solanum grown for their ornamental foliage, may be sown at the present time, to secure good strong plants in June, but it is well to delay sowing seed of the ricinus, hemps, and variegated maize, and similar fast-growing subjects, until March is well in. Antirrhinums may be sown where an early display is required, and carnations of the Margaret type will also call for attention at this date. Iceland poppies and gaillardias are often bad perennials in some gardens, fortunately they can be treated as annuals, from which we may expect a good return. Verbena venosa and tufted pansies may also be so treated, while the dwarf form of Salvia splendens must not be overlooked. Meconopsis seed, held over from autumn, must be sown as early as possible, as the seed of this family rarely retains its germinating power for any length of time. — Thomas Smith, Walmsgate.

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MARKETS.

◆

COVENT GARDEN.

Flowers.

Supplies are improving but prices are still high. Carnations and daffodils are very good.

		s.	d.		s.	d.
Acacia	per doz. bun.	8	6	to	12	0
Adiantum cuneatum	per doz. bun.	5	0		9	0
Anemones	per doz. bun.	1	0		2	6
Arums	per doz.	2	0		4	0
Asparagus	per doz. bun.	1	6		6	0
Azaleas	per doz. bun.	4	0		6	0
Bouvardias	per doz. bun.	6	0		8	0
Camellias	per doz.	1	6		2	0
Carnations	per doz. blms.	1	6		3	6
,,	per doz. bun.	9	0		12	0
Cattleyas	per doz.	8	0		15	0
Chrysanthemums	per doz. bun.	10	0		20	0
,,	per doz. blms.	2	0		4	0
Croton leaves	per bun.	1	0		1	6
Cypripediums	per doz. blms.	1	6		3	0
Daffodils	per bun.	0	6		1	0
Eucharis	per doz.	2	6		4	0
French fern	per doz. bun.	1	0		3	0
Freesias	per doz. bun.	2	6		3	0
Gardenias	per doz.	3	0		5	0
Hyacinths, Roman	per doz. bun.	7	6		12	0
Lapagerias	per doz.	1	6		2	0
Lilac	per bun.	3	0		7	0
Lilium auratum	per bun.	2	0		4	0
,, speciosum	per bun.	2	0		3	0
,, longiflorum	per bun.	3	0		5	0
Lily of the Valley	per doz.	6	0		13	0
Marguerites, white	per doz. bun.	2	0		3	0
,, yellow	per doz. bun.	2	0		3	0
Mignonette	per doz. bun.	2	0		3	0
Narcissus, Paper White	per doz. bun.	2	0		3	0
,, Soleil d'Or	per doz. bun.	2	0		3	0
Odontoglossums	per doz. blms.	2	0		4	0
Pelargoniums	per doz. bun.	5	0		10	0
Roses	per doz.	2	0		8	0
Spiræas	per doz. bun.	5	0		7	6
Stocks	per doz. bun.	3	0		4	0
Tulips	per doz. bun.	6	0		20	0
Tuberoses	per doz. blms.	0	3		0	6
Violets	per doz. bun.	1	6		3	0
,, Parmas	per bun.	4	0		5	6

Fruits.

Apples are selling very well, and so are oranges, but grapes are expensive. A few early strawberries have appeared.

		s.	d.		s.	d.
Apples, American	per barrel	23	0	to	26	0
,, Nova Scotian	per barrel	18	0		23	0
,, Californian	per case	8	0		10	6
Apricots, Cape	per case	2	6		6	0
Bananas	per bun.	5	0		12	0
Chestnuts	per bag	7	0		16	0
Cranberries	per case	8	0		12	0
Figs	per box	0	10		1	6
Grapes, English	per lb.	1	0		8	0
,, Almeria	per bar.	12	6		22	0
,, Guernsey	per lb.	0	8		1	0
Lemons	per case	10	0		24	0
Medlars	per case	4	0		5	6
Oranges, Jamaica	per case	6	0		10	0
,, Jaffa	per case	8	0		10	6
,, California	per case	12	0		15	0
,, Tangerines	per box	0	9		1	6
Peaches, Cape	per case	5	0		8	0
Pears, Californian	per case	8	0		10	0
,, Catillac	per crate	8	0		9	0
Pineapples	each	2	6		4	6
Plums, Cape	per case	4	0		8	0

Vegetables.

The scarcity of greenstuffs has led to a better demand for leeks and roots.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	2	6	to	4	0
Asparagus	per bundle	3	6		5	0
,, Sprue	per bun.	0	8		1	0
Beet	per bush.	1	0		2	0
Beans (French)	per lb.	1	0		2	6
Brussels Sprouts	per ½-bush.	2	0		3	6
Cabbage	per tally	3	0		8	0
Carrots	per doz. bun.	1	0		3	0
Cauliflowers	per doz.	2	6		5	0
Celery	per doz. rolls	6	0		12	0
Celeriac	per doz.	2	0		3	6
Chicory	per lb.	0	4		0	6
Cucumbers	per doz.	8	0		18	0
Endive	per doz.	1	6		2	0
Horseradish	per doz. bun.	8	0		12	0
Leeks	per doz. bun.	1	0		1	6
Lettuce	per doz.	2	0		2	6
Mint	per doz. bun.	3	0		6	0
Mushrooms	per doz. lb.	6	0		12	0
Onions, Pickling	per bush.	3	6		4	6
,, Valencia	per case	10	0		12	0
Parsley	per doz. bun.	2	0		2	6
Parsnips	per bag	2	0		2	6
Radishes	per doz. bun.	1	3		1	6
Rhubarb	per doz. bun.	1	0		1	6
Savoys	per tally	7	0		8	0
Seakale	per doz. pun.	9	0		12	0
Spinach	per basket	2	6		3	6
Tomatoes	per doz. lbs.	4	0		6	0
,, Canary	per pack.	8	0		14	0

LONDON POTATO MARKETS.

There is no real alteration of price or demand to record.

		s.	d.		s.	d.
British Queen	per ton	50	0	to	55	0
Epicure	per ton	45	0		50	0
Evergood	per ton	45	0		50	0
Sharpe's Express	per ton	60	0		65	0
Maincrop	per ton	60	0		70	0
Royal Kidney	per ton	50	0		55	0
Up-to-Date	per ton	50	0		60	0
,, Blacklands	per ton	45	0		50	0

METEOROLOGICAL OBSERVATIONS.

TAKEN BY THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date.	Sunshine.	Temperature of the Air.			
1909. January 31 to February 6.		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Jan. 31—Sunday	—	32	32	41	28
Feb. 1 Monday	0 10	41	39	44	32
,, 2—Tuesday	0 55	34	33	51	31
,, 3 Wednesday	—	51	47	53	34
,, 4—Thursday	1 0	52	49	56	50
,, 5—Friday	5 25	48	43	48	48
,, 6—Saturday	5 25	36	35	45	34
Means	1 50	42	40	48	37

Date.	Rain.	Temperature of the Soil. At 9 a.m.			Lowest Temperature on Grass.
1909. January 31 to February 6.		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
Jan. 31—Sunday	0·08	35	38	41	23
Feb. 1—Monday	—	35	38	41	31
,, 2—Tuesday	—	35	38	41	24
,, 3—Wednesday	—	38	38	41	32
,, 4—Thursday	—	42	40	41	46
,, 5—Friday	—	43	42	41	44
,, 6—Saturday	—	40	42	42	27
Means	(total) 0·08	38	39	41	32

FORTHCOMING ENGAGEMENTS.

WEDNESDAY, February 17.—Royal Meteorological Society Meeting.

THURSDAY, February 18.—Linnean Society Meeting.

TUESDAY, February 23.—Royal Horticultural Society: Fruit, Floral, and Orchid Committees meet at 12 o'clock; Lecture at 3 o'clock on "A Camping Tour through Syria to Petra in Arabia," by Mr. A. W. Sutton, V.M.H.; Scientific Committee at 4 o'clock.

TUESDAY, March 2.—National Amateur Gardeners' Association: Lecture on "Garden Dahlias," by Mr. George Gordon, V.M.H., 7.30 p.m.

THURSDAY, March 4.—Linnean Society Meeting.

SATURDAY, March 6.—French Horticultural Society of London.

MONDAY, March 8.—Annual Meeting of the United Horticultural Benefit and Provident Society, at the Royal Horticultural Hall, Westminster.

TUESDAY, March 9.—Royal Horticultural Society: Fruit, Floral, Orchid, and Narcissus Committees meet at 12 o'clock; Lecture at 3 o'clock on "Bulb Growing in Holland," by Mr. W. S. Murray; Scientific Committee at 4 o'clock.

CATALOGUES RECEIVED.

BARR AND SONS, KING STREET, COVENT GARDEN.—As everything is arranged in alphabetical order in this very useful catalogue, it is an easy matter to find what one wants. The list is a comprehensive one, as may be gathered from its sub-title of "Seeds for all Seasons and Climates."

PAUL AND SON, WORMWOOD STREET, E.C. The Roses and Shrubs produced by the Cheshunt firm have rather over-shadowed the seed business carried on in the City. The catalogue also contains lists of hardy flowers, dahlias, and chrysanthemums.

ROBERT VEITCH AND SON, EXETER.—Vegetable novelties figure largely in this seed list, but the most prominent feature is the new Golden Glory calceolaria.

R. H. BATH, LIM., WISBECH.—Flower and vegetable seeds.

HOGG AND ROBERTSON, MARY STREET, DUBLIN.—This firm's seed catalogue is as useful, interesting and complete as its bulb catalogue, and we need say no more.

DANIELS BROTHERS, LIM., NORWICH.—Flower and vegetable seeds.

W. ATLEE BURPEE, AND CO., PHILADELPHIA, U.S.A.—A most interesting catalogue [illegible] it is so different in style and arrangement [illegible] tish lists. It is crowded with illustrations [illegible] colours, and deals with a very wide range [illegible] fruits, and vegetables.

GEO. COOLING, AND SONS, BATH.—An excellent seed catalogue.

VILMORIN-ANDRIEUX AND CO., QUAI DE LA MEGISSERIE, PARIS.—A very comprehensive and business-like seed list.

HERD BROTHERS, PENRITH.—Flower and vegetable seeds.

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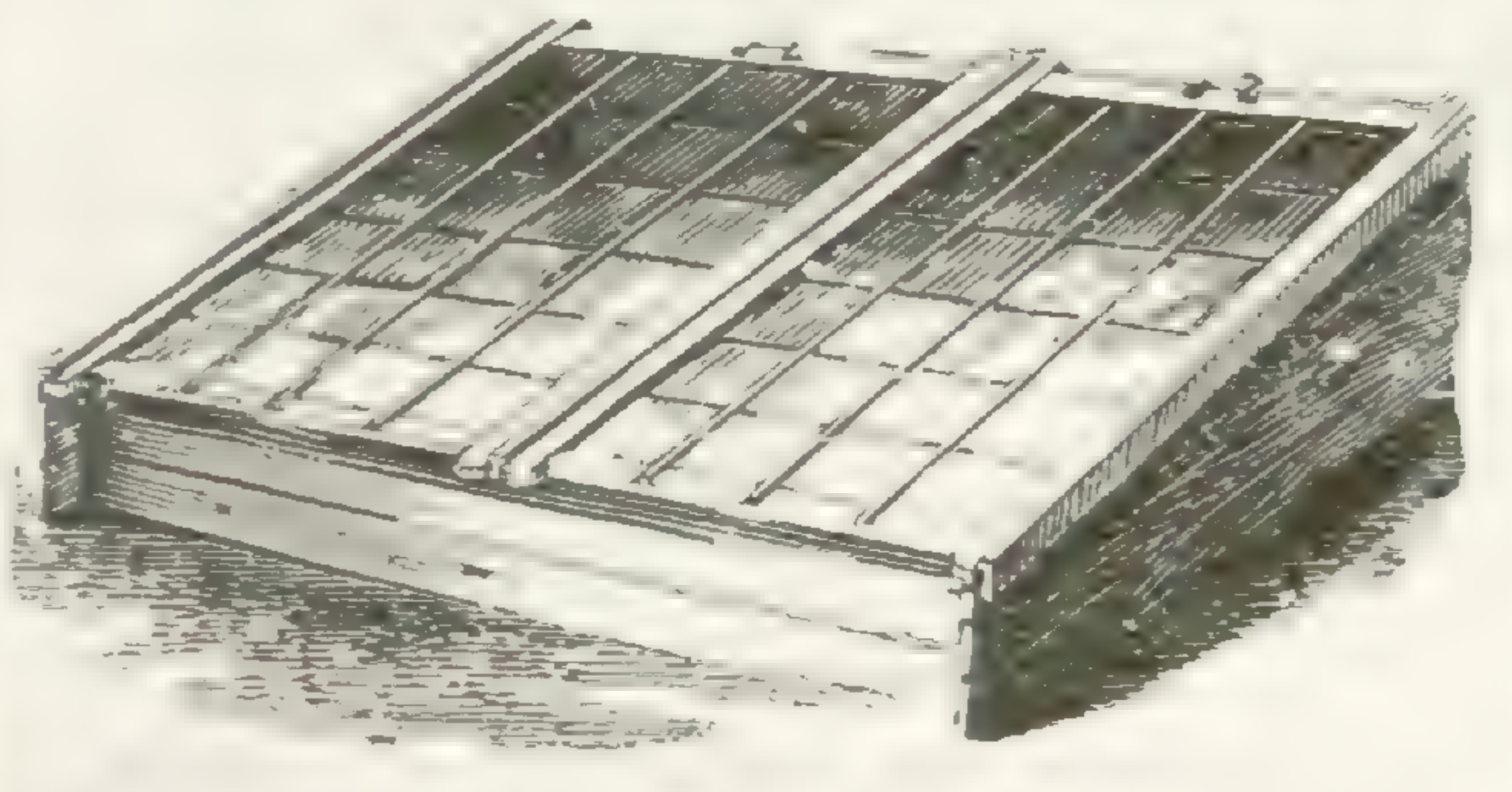

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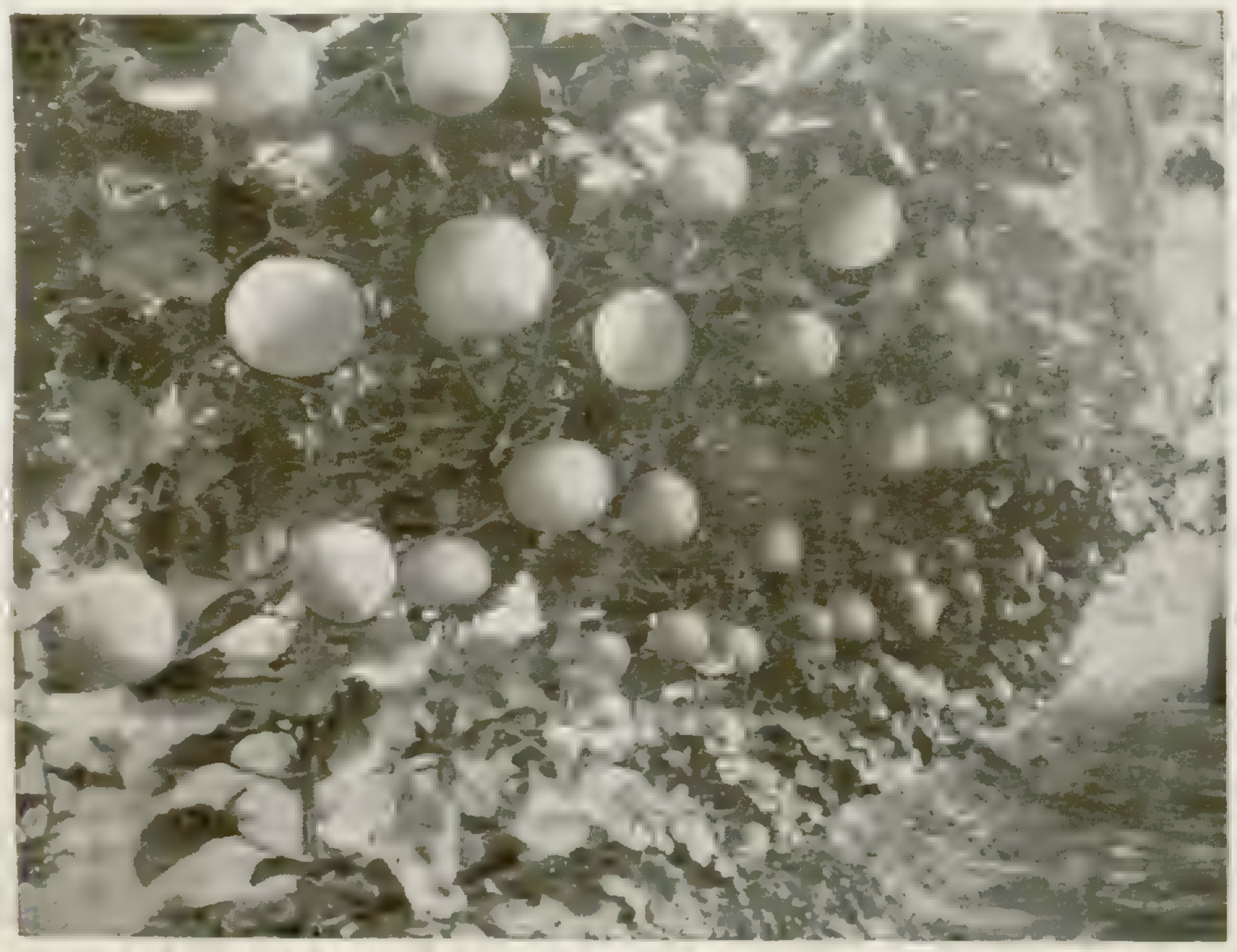

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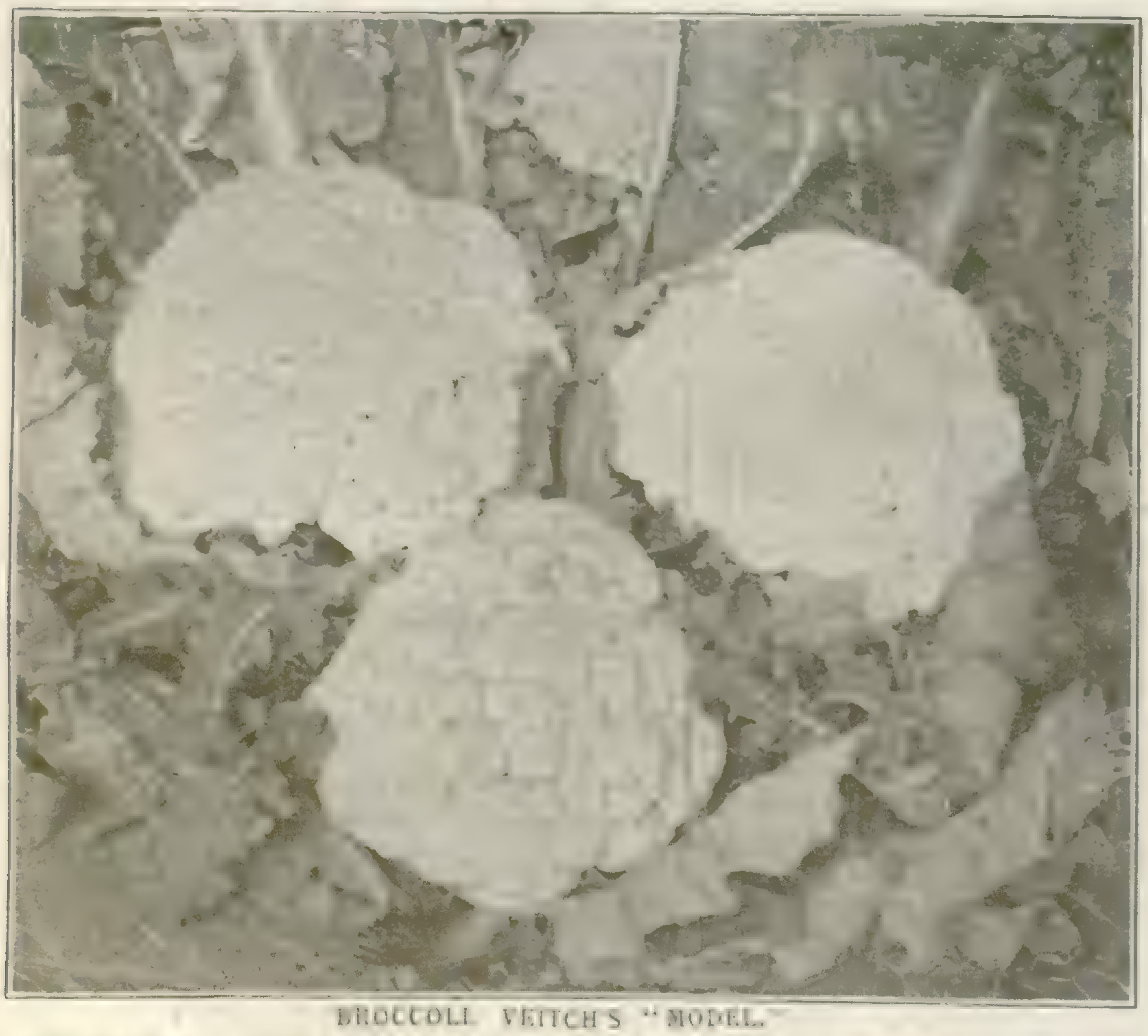

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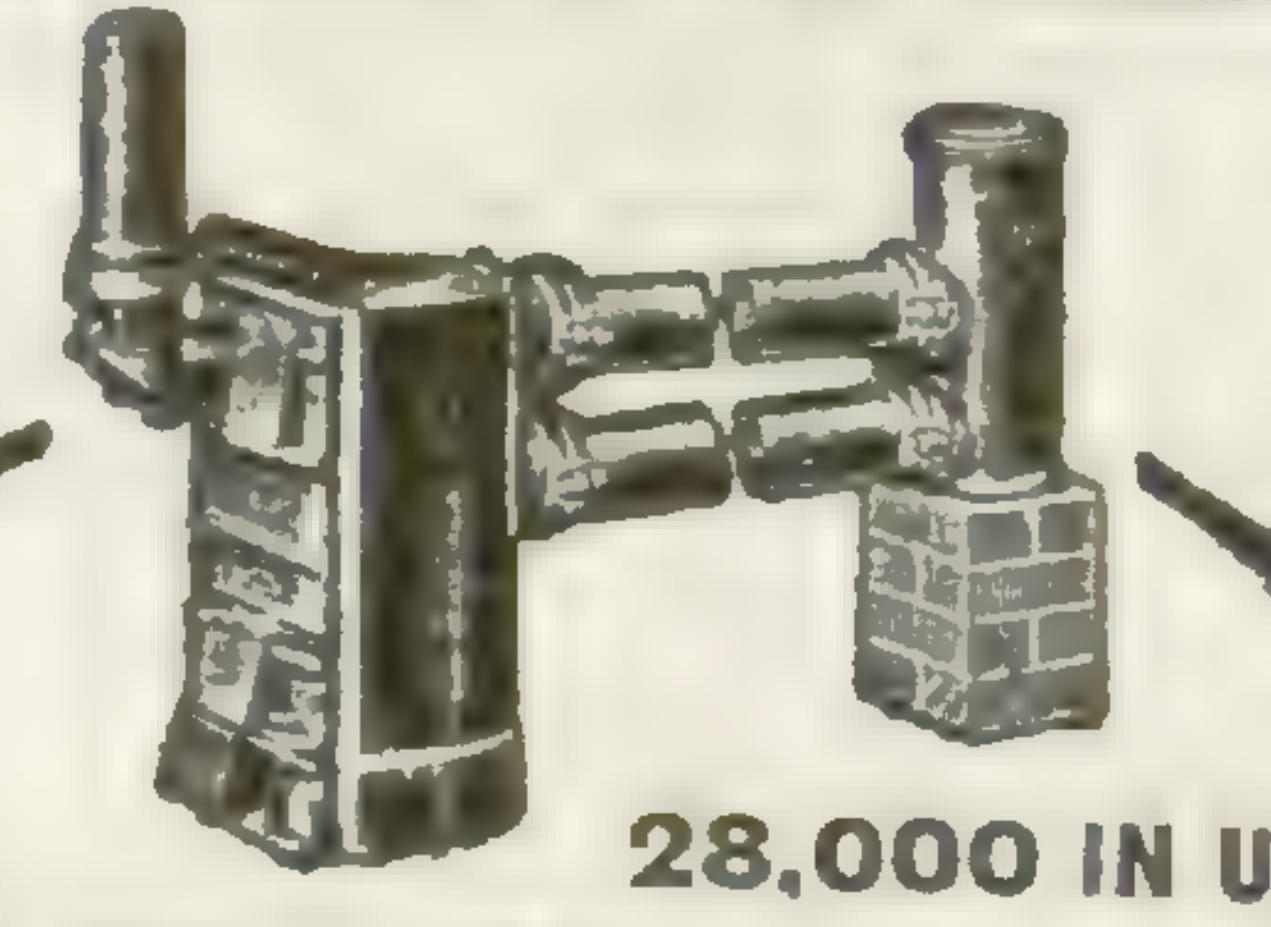

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The charge for an Advertisement INCLUDES A FREE ENTRY ON THE REGISTER. Immediate Notice must be given when an engagement is secured.

A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

GARDENER (Head).—Mr. MACDONALD, Head Gardener to G. H. Kenrick, Esq., can highly recommend H. LETTS as above; life experience Inside and Out; five years present situation; age 29; married when suited. H. LETTS, The Gardens, Whetstone, Edgbaston, Birmingham.

GARDENER (Head, where three or four are kept); life experience in all branches, both Inside and Out; highly recommended; excellent character. J. DENTON, The Gardens, Harrold Hall, Beds.

GARDENER (Head).—T. BENNETT desires RE-ENGAGEMENT with any Lady or Gentleman requiring a first-class man who is well up in all branches of Horticulture, including Fruit under Glass, Stove and Greenhouse Plants for Cut Flowers and House Decorations, Roses, and Alpine Plants, Herbaceous and Water Gardening; can undertake Landscape Work upon any scale; good manager of men; highest references from large establishments. T. BENNETT, 27, Cyril Street, Northampton.

GARDENER (Head, where two or more are kept); thorough knowledge of gardening, both Inside and Out; life experience; 5 years and 8 months in last situation; married, age 45, three in family, youngest 19. Address, J. CROCKFORD, 5, Stanley Road, Morden, Surrey.

GARDENER (Head Working or otherwise); 20 years' practical experience Inside and Out, married (age 35), two boys, 13 and 11; excellent references. HOWARD, Totteridge, High Wycombe.

GARDENER (Head Working), age 40, son 16, require SITUATIONS together or separate); 25 years' practical all-round experience, including glass; excellent references; disengaged when suited; some experience in the care of poultry, bees, etc. H. W., 32, Alexandra Road, Chislehurst, Kent.

GARDENER (Head Working); age 33; practical experience in all branches, Inside and Out, early and late forcing of vines, melons, cucumbers, stove and greenhouse plants, flower and kitchen garden. F. G. H., 1, Waterford Villas, Salisbury Road, New Malden, Surrey.

GARDENER (Head Working), thoroughly experienced in all branches, desires SITUATION; certified R.H.S.; formerly with Mr. E. Beckett, V.M.H.; married, no family; first-class testimonials. J. TAYLOR, 11, Cleaveland Road, Surbiton, Surrey.

GARDENER (Head Working, where several are kept); life experience in all branches; especially Grapes, Melons, Peaches, Cucumbers, and Stove and Greenhouse Plants; also Flower and Kitchen Garden; 21 years in last place, having left through death of employer; good references. C. T. M., 18, Pentland Street, Wandsworth, S.W.

GARDENER (Head Working, of four or five). —Mr. SMITH, Colston Bassett Gardens, Notts, can with confidence recommend his FOREMAN (H. ASBURY) as a steady, reliable man; well up in all branches; life experience; age 30; married when suited. Address as above.

GARDENER (Head Working, or good Single-handed, with help); experienced in all branches; age 37; abstainer; married; two children; good references ELLIS, c/o J. Tufnail, Stationer, Newbury.

GARDENER (Head Working), where more are kept; 25 years' practical experience all branches, Inside and Out, early and late Forcing, Vines, Cucumbers, Melons, Stove, and Greenhouse Plants, Herbaceous Borders; thoroughly reliable; highly recommended; married, without encumbrance. WOODHOUSE, Eastwood Road, Bramley, Surrey.

GARDENER (Head Working), age 47; good practical experience in all branches, Inside and Out; many years as Head; can have good references. H. TURNER, Fineshade, Stamford.

GARDENER (Head Working), age 32, married; life experience in good establishments, including Syon House, Mereworth Castle, and Old Warden Park; highest references. F. FRENCH, Covent Garden, Barming, Kent.

GARDENER (Head Working or good Single-handed); age 38; married, 2 children; thoroughly experienced in all branches, Inside and Out; understands cows; good references. Disengaged. A. GOODFELLOW, 94, Sherrard Road, Forest Gate, Essex.

GARDENER (Head working where 3 or more are kept); first-class experience, both under Glass and Outside; excellent character from present and previous employers; married, no children. J. LIDDICOAT, The Gardens, Ganwic, Barnet.

PROFESSOR WILLIAM ROSE highly recommends his HEAD WORKING GARDENER, who has been with him for the last five years. He is well versed in all branches of Horticulture, and has had large experience in Laying Out, Designing, and Renovating; age 46; married, no family. Apply T. SANDERS, Ashwells, Penn, High Wycombe.

GARDENER (Head Working) seeks SITUATION; life experience Fruit, Flowers, Vegetables, Lawns, etc.; highly recommended by past and present employers; leaving for no fault; age 32; married when suited. DOWN, Elmsett Hall Gardens, Wedmore, Somerset.

GARDENER (Head Working); life experience in all branches, Inside and Out; married; good references; disengaged when suited. W. CANE, Sparrows Green, Wadhurst, Sussex.

GARDENER (Head Working); age 35; married, desires RE-ENGAGEMENT where several men are kept; thorough practical knowledge of the requirements of a good establishment; can be personally recommended if required. W. GUNSTON, c/o Mrs. Knowlton, Brook, Lyndhurst, Hants.

GARDENER (Head Working). Mr. HEMMING, Alexandra Palace, Wood Green, N., confidently recommends S. WELLS; thorough experience, Fruit and Plants, Kitchen Garden, and Pleasure Grounds; highest testimonials as to character and ability; age 29. WELLS, 1, Buckingham Road, Wood Green N.

GARDENER (Head working); thoroughly experienced Inside and Out; highly recommended; married; age 36; 14 years present place; leaving through death. J. HACK, Bramshott Grange, Liphook, Hants.

GARDENER (Head of two or three or thorough Single-handed); married; age 40; life experience in Fruit, Flowers, and Vegetables; Inside and Out; good character. J. S., 5, White Cottages, Clay Hill, Enfield.

GARDENER (Head Working, where three or four are kept); life experience; age 28; married, two children; abstainer; excellent references. HOLDEN Shottesbrooke, Maidenhead.

A GENTLEMAN highly recommends his late HEAD WORKING GARDENER; reliable, trustworthy Man; thorough practical experience in all branches, Inside and Out; over 7 years last situation; age 39; disengaged. Apply, GARDENER, Athlone, Florence Road, Southall

GARDENER seeks SITUATION, single-handed, or where help is given; age 28; single; life experience in all branches; good references. H. ATTWATER, Ivy Cottage, Horsmonden, Kent.

H. BAKER, Mount Ballan Gardens, Chepstow, highly recommends his Foreman, W. BROADWAY, as HEAD GARDENER, where on or tw more are kept; age 29; nearly 5 years present sit tion; excellent references. Address as above.

GARDENER (Head or Single-handed, age 31; married, no family; good all-round man, highly recommended; 6 years in present place; leaving through gentleman giving up garden. Apply, J. MANNING, The Lodge, Leicester Road, New Barn

GARDENER (Head or good Single-handed 16 years' experience, Inside and Out; marr age 31; over 4 years in last situation; good refer ences; disengaged. GOLDSON, St. James Str Southover, Lewes.

GARDENER (Head, or good Single-handed —Col. CAMPION will be pleased to recomm E. BURGESS as above; age 29; life experience; go references. Married when suited. E. BURGES Danny Gardens, Hassocks, Sussex.

GARDENER (Second or Single-handed, wi help); 12 years' experience Inside and Out, year and 8 months present situation; good refer ences; disengaged; age 27; abstainer; married wh suited. A. BULLOCK, care of Mrs. Weekes, Br den Cottage, Whiligh, Wadhurst, Sussex.

GARDENER seeks SITUATION, Second o Single-handed, with or without help; all-rou Inside and Out; married and disengaged when suite age 27; good references; 3 years present situati second of seven; well recommended. ODDY, Ave House Gardens, Finchley, N. No circulars.

GARDENER (Single-handed or with hel well up vines, stove, etc.; breaking up est lishment; married; age 38; good references. H. The Grange Gardens, Acton Lane, Harlesden, N.W

GARDENER (Single-handed or Kitchen); ex perienced with Jersey Cows, etc.; 5 years wi the late Sir George Livesey; leaving through bre ing up establishment; good references; marri child. W. WORSDELL, Shagbrook Gardens, Reig

GARDENER (Single-handed or Secon Young Man requires Situation as above; years' experience; well recommended; age 23. W. TULLETT, 16, Riddlesdown Road, Purley, Su

GARDENER seeks SITUATION (Sin handed or with help); 15 years' experience all branches; Early and Late Forcing, Vines, Cu bers, Melons, Herbaceous Borders, Chrysanthem Stove and Greenhouse Plants, and Vegetables Fruits; highly recommended; age 28; married w suited. J. RANDELL, 3, Railway Cottages, Durns Road, Wimbledon.

GARDENER (Single-handed, or where he is given); good experience Inside and Ou married; no family; age 36; excellent refere J. SAUNDERS, Grangehyrst, Grange Hill, Norwood Hill, S.E.

GARDENER (Single-handed or Second; 24; married; highly recommended by Mr. Head Gardener to Rural Dean, Watlington; gaged when suited. W. GREEN, Brook Street lington, Oxon.

GARDENER (Single-handed, or with he Vines, Stove, Greenhouse Plants; experi Inside and Out; good character by me; age 35; ried (boy 5 years); willing to be useful. State C. H. SMITH, 44, Ravenbourne Road, Catford. Disengaged when suited.

GARDENER (Under) seeks SITUATI age 30; married, one child; 3 years pr situation; good character; 12 years' experience. JEAL, New Cottages, Bradfield, Berks.

SITUATION COUPON

To the Advertisement Manager of "THE GARDENERS' MAGAZINE,"
148 & 149, Aldersgate Street, London, E.C.

For FEBRUARY 27, 1909.

Please Repeat my Advertisement.

Name..

Address..

....

Date..............................

THIS COUPON, duly filled up, should be forwarded not later than Tuesday for the next issue.

Situations Wanted—*continued.*

GARDENER (native Swiss), age 24 years; Fellow Royal Hort. School Germany; speaking English, French, German; 12 years' experience in the culture of vegetables, stove and greenhouse plants, landscape gardening, designing of plans, and commercial correspondence. Formerly employed in high-class Swiss and German private gardens; latterly acting as Croton Grower. Seeks SITUATION in private garden or office. Good references. Apply, PAUL SMITH, 11a, Creswell Road, South Norwood, S.E.

FOREMAN (Working); life experience in General Market Nurseries; Grapes, Tomatoes, Cucumbers, Chrysanthemums, and Bedding Stuff; Budding, Grafting, and Raising Roses, Clematis, etc.; good Maker-up; age 36. G. H., 10, All Saints' Street, Stamford.

FOREMAN (Inside or General); age 27; 10 years' experience; good knowledge of Vines, Melons, Cucumbers, Stove and Greenhouse Plants, House and Table Decorations; excellent references. J. OLIVER, Garth Cottage, Aberhafesp, Newtown, N. Wales.

FOREMAN (Inside) or JOURNEYMAN (First); age 28; good experience in Fruit and Plant Houses; good references; Bothy preferred. J. REEVE, 50, Palmerston Road, Northampton.

MR. J. SPILLER, Head Gardener, Highlands, Putney Heath, S.W., will be pleased to recommend H. BELFIELD as FIRST JOURNEYMAN Inside or Inside and Out; 8½ years' experience.

JOURNEYMAN (First), age 25; 11 years' experience Fruit, Plants, House and Table Decoration; excellent references; 3 years Peckforton Castle; 5 years here. CONNAH, Hawarden Castle, Chester.

JOURNEYMAN (First); age 23; eight years' experience gained in first-class establishments, including Chatsworth; good references; North preferred. E. MUNT, Ponsbourne Park, Hertford, Herts.

JOURNEYMAN (age 21) seeks SITUATION, Outside or Inside; 7 years' experience, including herbaceous and alpines; excellent references; abstainer. C. MORRIS, Wern Gardens, Portmadoc, N. Wales.

CARPENTER (25), married, no family, seeks Permanency on Estate; 8 years' experience on same; willing to be useful; good references.—S. ROBEY, Junction Road, Cowley, Oxford.

HANDY MAN wants SITUATION to assist Gardener; understands Bees (Certificated Expert). Can make the appliances, etc.; total abstainer. J. SHORT, 6, Freshwell Street, Saffron Walden, Essex.

MARRIED MAN seeks EMPLOYMENT as Garden Labourer; used to pleasure ground, kitchen garden work; understands cows; willing and obliging; good references. L. MARTIN, The Gardens, Hawley Hill, Blackwater, Hants.

MR. J. ELWORTHY, The Gardens, Sparrows Herne Hall, Bushey, Herts, wishes to place his Son (age 18½) in a good establishment; Inside preferred, and also Bothy; 3½ years in the above Gardens.

YOUNG MAN seeks SITUATION as UNDER GARDENER in a Lady's or Gentleman's garden; age 19; good character. Gardener for the late Rector of Snodland. W. Elcombe, Ryarsh, near West Malling, Kent.

YOUNG MAN seeks SITUATION as under Gardener; age 19; Inside and Out; strong and willing. G. LUFF, 18, Prospect Place, Maidstone, Kent.

YOUNG MAN seeks SITUATION in garden; take charge of cows if required; married when suited. F. MITCHELL, Spring Cottage, Horney Common, Uckfield.

YOUNG MAN (21), seeks SITUATION as Second, or Second of three; seven years' experience Inside and Out. S. WALKER, 86, Hatherley Road, Reading.

YOUNG MAN seeks SITUATION as Florist; 7 years' experience; good maker up and salesman. N. KEEN, Hill Cottage, Crescent Road, Cowley, Oxford.

YOUTH seeks SITUATION in the Garden; 2 years' experience with his Father; age 16 years; good character. CRUMP, Ullesthorpe, near Rugby.

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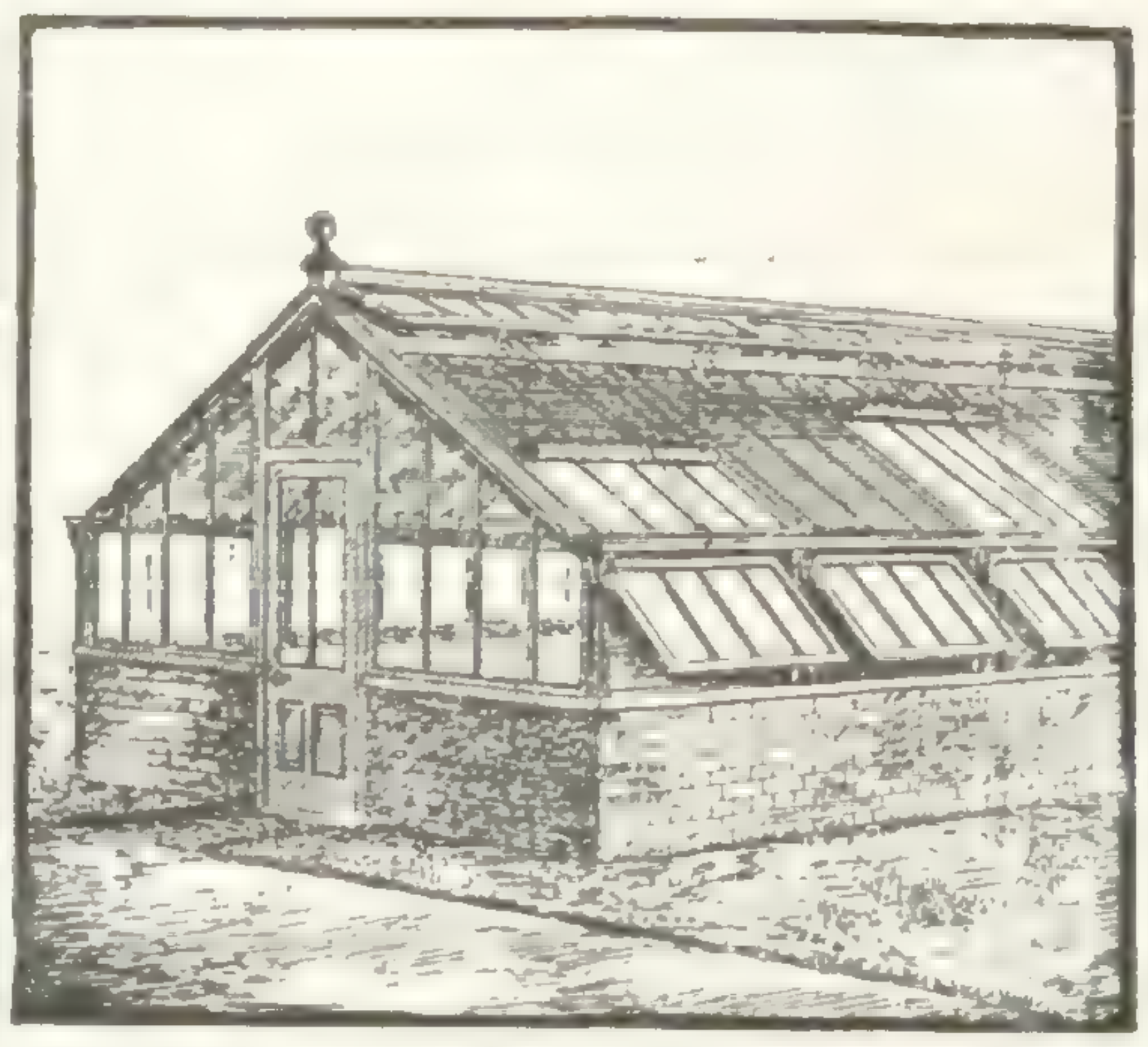

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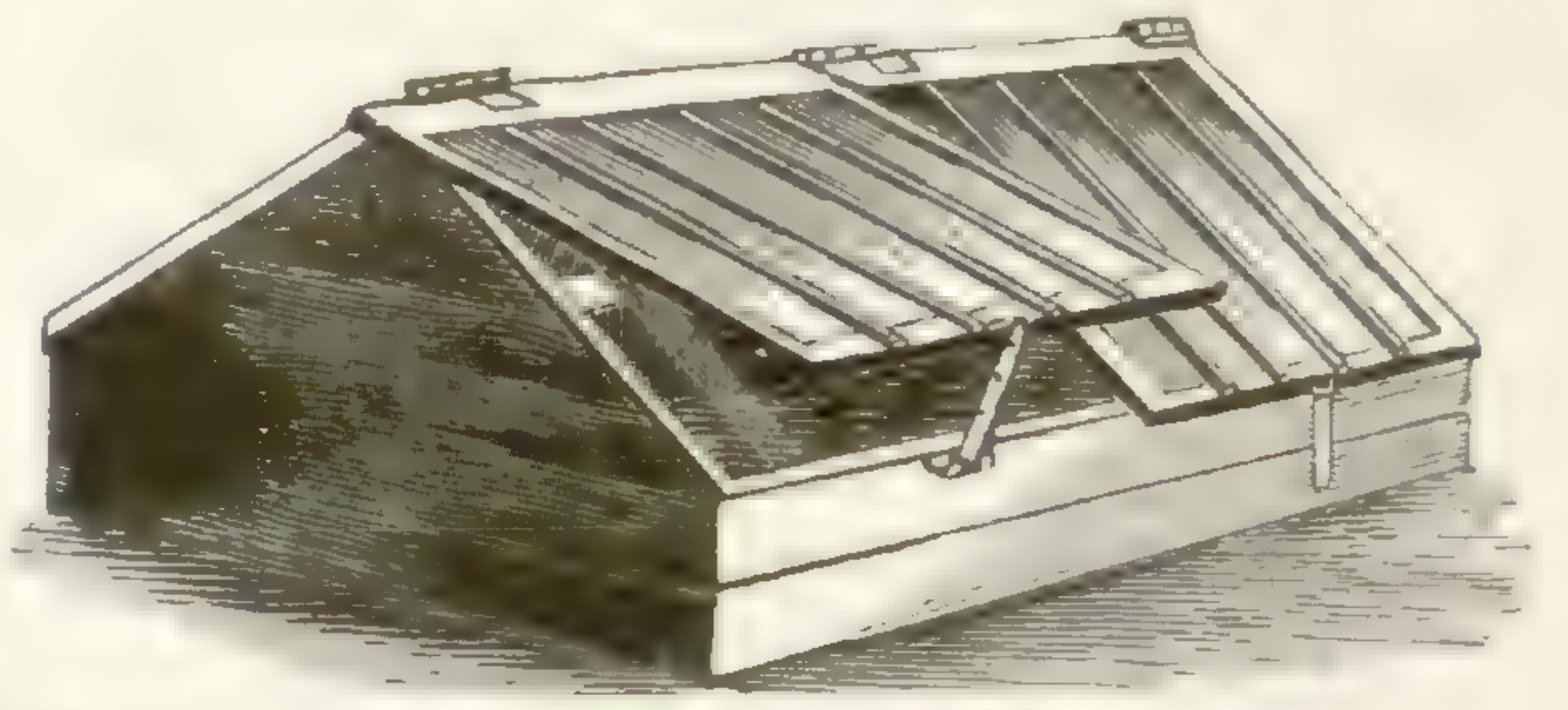

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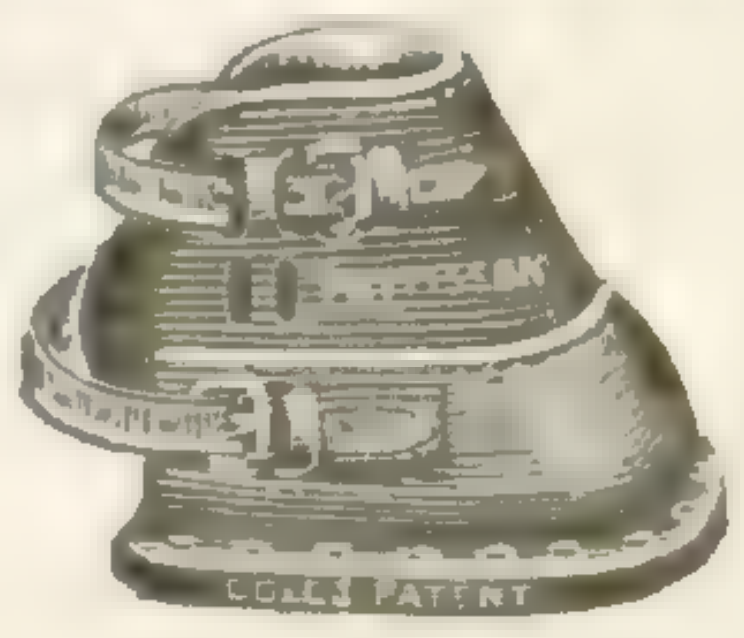

Fig. 2.

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VOL. LII.—No. 2,886. SATURDAY, FEBRUARY 20, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Combating the Woolly Aphis.

By the issue on the earliest possible date of the tenth report of the Woburn Experimental Fruit Farm, the editors, the Duke of Bedford and Mr. Spencer U. Pickering, have rendered a service of great practical value to the general body of fruit growers, and one that will not fail to be fully appreciated. This report is devoted to the observations made during 1908 on the treatment of fruit trees for insect pests, and as a consequence of the increasing importance which is now being attached to the spraying of fruit trees, it was considered advisable to publish the results at once instead of waiting till the subject matter for a more extensive report on the combating of insect pests had been accumulated. Of special interest are the results of the experiments in the eradication of the woolly aphis, one of the most troublesome of the pests that infest fruit trees: the treatment for psylla, which also does much damage when allowed to sap the vitality of the trees unchecked; and the treatment for caterpillars of various kinds that prey upon the leafage of the different species of fruit-bearing trees; but there is not a line undeserving of the most careful perusal by those engaged in fruit production. As so well known to the general body of fruit growers the infestation of apple stocks with the woolly aphis or American blight is a common occurrence, involving much trouble and some loss to both trade and private growers, owing to the difficulty in eradicating the pest by means of the methods hitherto adopted. This difficulty has been greatly accentuated by the fact that the insect exists in the active adult form on the roots both in winter and summer, and that the root form migrates to the branches during the summer months. Hence the cause of the failure to rid the trees of the pest when treatment is confined to those parts only above ground. It is suggested in the report that nursery stock, especially that obtained from abroad, should always be treated for woolly aphis before being planted, and that it is advisable to treat worked trees in the same way. Usually the treatment adopted is fumigation with hydrocyanic acid; but as this is dangerous to the operator, and not always satisfactory, experiments were made at Woburn with the object of obtaining some simpler and more efficacious method of treatment. Directions are given for fumigating the trees with hydrocyanic acid, and those growers who have a preference for the method, or may be desirous of trying it, are thereby placed in possession of the details of the best course of procedure. In the eradication of these and some other of the enemies of fruit trees, it is essential that the eggs as well as the insects should be destroyed, and at Woburn hydrocyanic acid has failed to accomplish their destruction. Not only has this been the case in the experiments with the woolly aphis, but it has been equally ineffective in the case of the black currant mite and mussel scale. With the last-named insect a double dose of the gas was ineffectual, but Professor Theobald, who originally reported similar failures in the case of the woolly aphis, has recently obtained satisfactory results by doubling the proportions of cyanide hitherto recommended. Whether similar success would in all cases be obtained in the case of the pest under consideration by double strength is doubtful, and the discovery of a more simple and less dangerous method of procedure is a matter of much importance. With reference to the manner in which the experiments were conducted, the report states that about three thousand crab and paradise stocks which had been worked in 1906 had proved to be badly infested with woolly aphis; these had been treated throughout 1907, so far as the parts above ground were concerned, by repeated painting with methylated spirits without any permanent effect. They were in consequence taken up in January of last year, and the greater proportion of them fumigated in a greenhouse. Only a portion of the stocks that had been worked with Cox's Orange Pippin were fumigated, the rest being treated in various other ways. All the treated trees were planted side by side and kept under close observation. Each batch of Cox's Orange Pippin consisted of forty trees. One batch was fumigated, and of these 20 per cent. were infested with the woolly aphis on June 14 and July 2, and 63 per cent. on September 22. Three batches were treated with different forms of paraffin, by immersion for five minutes, and left on the ground thirty minutes before planting. The trees immersed in the comparatively non-volatile oil, Woburn Solar Distallate, were all killed; and of those treated 67 per cent. of the scions and 12.5 per cent. of the trees were killed. White Rose oil gave similar results. In the treatment with No. 4, Pratt's Motor Spirit, the woolly aphis was completely eradicated, and 10 per cent. of the scions and 5 per cent. of the trees died. Therefore, "a very light oil, such as petrol is the only form of paraffin that can be used in this way." Two batches were treated

MR. T. B. FIELD.

with the Woburn wash, the trees of one being wholly immersed, while those forming the other had the branches only treated. Of the first batch 5 per cent. showed infestation on June 14, but were quite free July 2 and September 22, and 10 per cent. of the scions and 2.5 per cent. of the trees died. In the second batch the pest was present on 17.5 per cent. of the trees on June 14, but on July 2 and September 22 the trees were quite free from it. and the deaths were 5 per cent. of the scions and 7.5 per cent. of the trees. The experiments in the use of hot water in the eradication of the woolly aphis are to us of special interest, for more than thirty years ago we strongly recommended in these pages the use of hot water as an insecticide. Two batches were treated with hot water, one being immersed five minutes in water at a temperature of 125 degrees and the other ten minutes in water at 115 degrees, the temperature being maintained throughout the immersion by the addition of hot water as required. The first set of trees were wholly free from the woolly aphis on June 14 and July 2, but 15 per cent. were infested on September 22; 7.5 per cent. of the scions, and 7.5 of the trees died. The trees in the second of the two batches were quite free from insects throughout the season, and 5 per cent. of the scions and 25 per cent. of the trees died. From this brief summary it will be seen that the most effectual of the remedies were petrol, and hot water at 115 degrees, and it is stated that their superiority was even more manifest in November. Woolly aphis is described as having multiplied to a remarkable extent late in the season, and by the end of the month mentioned 98 per cent. of the cyanided trees were infested by insects. Of those treated with petrol only four had slight traces of them, and of those immersed in hot water at 115 degrees only one was affected. They also made the most healthy growth; but the trees immersed in water at a temperature of 125 degrees made but poor progress. The bath of ten minutes at a temperature of 115 degrees is recommended as the best treatment of nursery stock before planting. No doubt hot water treatment would be an effectual way of clearing established trees of the insects and their eggs, but it is extremely doubtful whether the practical difficulties attending the process can be overcome.

Mr. T. B. Field, whose portrait we give in this issue, is one of the best known of English gardeners, and at the present time occupies a prominent position among the practical horticulturists in the great gardening district of which Norwich is the centre. After serving an apprenticeship, and occupying positions in several of the leading gardening establishments, Mr. Field went to Spy Park, Wilts, as foreman. Here he remained until three and a-half years later he was appointed head gardener to Sir Henry Tyrwhitt, Bart., at Ashwellthorpe, where, as well known to our readers, he now is. Within a short time subsequent to the engagement Sir Henry removed to his Shropshire seat, Stanley Hall, Bridgenorth, and Mr. Field accompanied him. While in charge of the gardens of this interesting and grand old seat he engaged largely in the cultivation of orchids, roses, and herbaceous plants, and did some amount of exhibiting, and achieved a full measure of success. When at Stanley Hall Mr. Field was elected a member of the first committee of the Shrewsbury Flower Show. Taking an active part in horticultural work in the Bridgenorth district, Mr. Field was in acknowledgment thereof presented with a gold watch and other tokens of respect on his leaving Stanley Hall. On the death of Sir Henry Tyrwhitt in the year 1894, his widow, the Baroness Berners, returned to her own seat, Ashwellthorpe, and Mr. Field resumed the charge of the gardens there. Joining the East Anglian Horticultural Club, one of the most influential of the societies of its class in England, he soon attained to the position of acting vice-president, and this position he still occupies. In connection with this society there was a strong botanical section, of which Mr. Field was president, but this has since been merged into the work of the Norwich Castle Museum Society, on the committee of which Mr. Field has a place. School gardening occupies a prominent position in the educational work of the City of Norwich, and in this Mr. Field takes a keen interest, and at the annual exhibitions he may be seen addressing the scholars and their parents on garden management. Mr. Field has accomplished much splendid work, both in the gardens under his charge and in the performance of his duties, and he regards his success as being largely due to the kindness and consideration of his employers during the thirty-eight years he has been at Stanley Hall and Ashwellthorpe.

Fruit Imports in January last were remarkable for the number of decreases in the quantities, but the values were so well maintained that the total increase in value closely approached £200,000. The imports of apples amounted to 325,663 cwt., of the value of £215,681, these figures representing a decrease in quantity of 10,549 cwt., and an increase in value of £25,219, as compared with the corresponding month of last year. Apricots and peaches aggregated 273 cwt., of the value of £1,813, against 3,608 cwt. of the value of £9,776 in January, 1908. Bananas show an increase in number of 23,028 bunches, and a decrease in value of £5,728, the totals having been 341,804 bunches and £83,025 respectively. Grape imports dropped from 1,622 cwt., of the value of £4,475, in January, 1908, to 948 cwt., of the value of £4,414 last month; these figures being of interest, for with a drop of 674 cwt., the decrease in value was only £61. In the imports of pears, there was a decrease in quantity of 2,438 cwt., and in value of £3,497, the totals having been 433 cwt., of the value of £614. Plums also show a considerable decrease, the quantities having been 87 cwt., and the values £329, against 362 cwt., of the value of £847 last year. In the imports of unenumerated fruits there was an increase in quantity of 3,803 cwt., and in value of £6,374, the totals having been 5,339 cwt., and £9,012 respectively. The aggregate value of the January fruit imports was £836,028, or an increase of £197,545.

National Chrysanthemum Society.—At a committee meeting held at Carr's Restaurant on the evening of Monday last, the president, Sir Albert Rollit, being present, it was decided that the prizes awarded at the society's shows last year should at once be paid at the rate of ten shillings in the pound. This will absorb the reserve fund and all other money in hand, with the exception of about £20. The society has a rule providing for the pro rata payment of prizes according to the funds in hand: but this is the first time the rule has been put into operation. Had the Crystal Palace Company paid the amount due according to the agreement under which the shows were held, the society would have been able to pay its prizes in full, and have had an excellent balance on the right side. There is abundant and excellent work for the N.C.S. to perform, and we trust that those intimately associated with its management will not be unduly depressed, but will proceed forthwith to effect such changes as are necessary to again place the society in a satisfactory position. Should the executive be successful in formulating a policy adapted to the changed circumstances, we hope all who are interested in chrysanthemums and chrysanthemum culture will rally round the society, and give it the most substantial financial and moral support.

Myosotidium nobile.—Mr. S. W. Fitzherbert writes: With reference to the illustration of a fine specimen of the New Zealand forget-me-not that appeared on page 87, I may mention that I have lately discovered that numbers of self-sown seedlings are springing up around the old plant.

A Camping Tour through Syria.—At the next meeting of the Royal Horticultural Society, to be held on February 23, Mr. Arthur W. Sutton, V.M.H., F.L.S., will give a lecture at 3 p.m., entitled "A Camping Tour through Syria to Petra in Arabia." The lecture will be freely illustrated with beautiful lantern slides. Having already heard the lecture and seen the slides, we confidently assure our readers of the great pleasure, interest, and instruction they will derive from attendance on Tuesday next. Unless we are very much mistaken, it will be necessary to arrive early at the lecture room to ensure a seat.

Garden Roses.—A lecture on "Garden Roses," fully illustrated with lantern slides, will be given by Mr. George Gordon on Saturday evening (February 20) before the Haslemere branch of the British Gardeners' Association. The meeting will be held at the Co-operative Hall, Haslemere, and the chair will be taken at 7.30 p.m.

Sawbridgeworth Oranges and Lemons.—As so well-known to our readers, Messrs. T. Rivers and Son have for many years devoted special attention to the cultivation of oranges, lemons, and closely allied fruits, and have achieved so much success as to prove to demonstration the practicability of successfully growing these fruits for dessert in this country. At the meeting of the Royal Horticultural Society at Vincent Square on Tuesday next, the 23rd inst., the firm will exhibit a group of oranges, lemons, and lime trees in pots and also fruit-laden branches cut from other trees. These branches will be cut from eighteen trees planted out in a span-roofed house 60 feet long, and now bearing upwards of 800 fine fruits.

The "Botanical Magazine" for February contains a double-page illustration of Alpinia bracteata, a showy relative of the Ginger; and page illustrations of Oligobotrya Henryi; the beautiful violet-blue Eranthemum Watti, figured in these pages in 1901; Pinus Bungeana, a conifer that appears to be a success near towns; and Sorbus Vilmorini, a new Chinese shrub.

CANDYTUFTS FOR THE ROCK GARDEN.

The perennial candytufts form an extremely useful group of plants for the rock garden, as with abundant flower production they combine evergreen foliage and a free yet compact habit of growth. Some of the stronger growing species, such as Iberis semperflorens, are of much value for massing in the garden with other spring flowers, and the formation of bold groups along the front of the mixed border, and in many gardens they are largely grown for one or both of these purposes. It is, however, for their use in the rock garden that reference is now being made to them; and, at the outset, it may be stated that with but few exceptions they have such constitutional vigour as to be especially adapted to the requirements of those who are not experienced in the cultivation of the more delicate alpines. While growing freely under conditions not particularly favourable to plants from Alpine regions, they are wholly free from coarseness, and they are sufficiently attractive at all times to justify their association with the choicest of the denizens of the Alps.

CANDYTUFTS IN THE ROCK GARDEN AT MYDDLETON HALL.

Of the several species belonging to the group, the best known is I. sempervirens, which has a comparatively vigorous habit, and is especially adapted for bold ledges and clothing the face of the rocks with verdure. It can be readily raised from cuttings of the new growth when the stems have become moderately firm, which is usually the case in July, or from seeds. The second is the simplest of the two methods of propagation, but it is not the one that can be the most strongly recommended when a few plants are required for the rock garden. Seedlings differ considerably, both in habit and in the size of their flowers, and therefore a good type should be selected, and the plants be raised from cuttings. When the growth can be allowed to extend freely without the risk of an invasion of the quarters of small growing kinds, it should be allowed to do so, especially when the position is such that the shoots drape the face of the rocks with greenery. Otherwise, it should be kept well within bounds, and this is best done when the plants are going out of bloom. If a little shortening of the more vigorous shoots is done each year at the period suggested, the plants can be kept well within bounds without their showing signs of having been cut back, and they will annually produce a profusion of their snow-white flowers, as will indeed those which are allowed to extend freely.

Highly meritorious also are I. correæfolia, I. gibraltarica, I. saxatilis, I. semperflorens, and I. tenoreana, all of which thrive under much the same conditions as I. sempervirens. I. correæfolia is a garden hybrid, growing to a height of about twelve inches, and producing a profusion of large white flowers in flat heads. As it does not reproduce itself true from seeds the stock should be increased by means of cuttings. I. gibraltarica is stronger in growth than the last-named, and it is rather straggling in habit. The flowers are white, frequently suffused with pink, and produced in large corymbose heads. Being rather tender the plants should have a warm, somewhat sheltered position. I. saxatilis has a height of five or six inches, is compact in habit, and bears a profusion of its neat heads of white flowers. I. tenoreana is of value for the distinct shade of colour it affords, the flowers being white, changing with age to rose-purple. It should have a warm, dry position.

The illustration accompanying these notes represents a warm slope in the beautiful rock garden of E. A. Bowles, Esq., F.L.S., Myddleton Hall, Waltham Cross, on which are several fine masses of the most noteworthy of the perennial candytufts.

SEASONABLE WORK IN THE GARDEN.

Although there is at all times plenty of work requiring attention in gardens of any pretensions, there is usually a greater strain on the staff during the spring months than at any other season, and should there be any extra unforeseen work crop up, causing delay just at a time when all hands are needed to prepare the ground for sowing and planting, the crops suffer accordingly. When the soil cannot be worked to advantage it is well to leave sowing and planting alone for a few days; the ground, however, should always be prepared in readiness to receive the crop, so that when a favourable opportunity does present itself, the work may be accomplished with as little delay as possible. When the weather is unfavourable for working on the land, other things should be pushed forward. Fruit trees, both on walls and in the open, will at this time of the year need attention, and where pruning and nailing have not been completed this work should be pushed forward without further delay, for when left until the spring it is often hurried over and not done in a satisfactory manner. Those who are anxious to produce fine samples would do well to take this into consideration. Spraying is one of those operations that may be done with advantage now, and there is such a variety of spraying machines on the market that there should be no difficulty in selecting one to suit all purposes, and there is no lack of insecticides and alkali preparations for washing the trees with during the winter. The only care necessary with any of these alkali preparations is to see that none of it gets on the hands or clothes, as they are of a very burning nature. To prevent this a pair of gloves and an old mackintosh are all that is necessary for the operators to use to prevent any unpleasantness afterwards.

Those who do not possess a spraying machine may have the garden engine fitted up for that purpose. If the nozzle of the engine be taken off and a piece of stout hose pipe attached, so as to reach up the wall or round the trees, and this has attached to it a spraying nozzle with a length of brass or iron tubing, there is no difficulty in spraying trees of fair dimensions. Of course it would take two men to use a sprayer of this description, whereas with a knapsack sprayer one man can do the work with ease. There can be no two opinions about trees that are well looked after producing the finest fruit, and as a stronger insecticide can be applied in winter when the trees are dormant much labour may be saved by doing the work then than by waiting until the foliage and fruit are infested. It is not the greatest quantity of the preparation used that does the most good, as a lot of it may be wasted by a careless operator. So long as every portion of the tree and wall is moistened that is sufficient. If it is found that one dressing is not effective, give another, but spraying with these strong alkali solutions should not be deferred until the sap is rising in spring.

In the South, and on dry gravelly soils, trees against walls are apt to suffer from the effects of red spider in hot seasons, a spraying at this time of the year will cleanse not only the wood but the brickwork likewise, and thus save endless trouble when the trees are in fruit. All such work can be done more thoroughly at this time of the year than later on, when the pressure of work is so much greater. Some have an idea that peach growing in this country is a lost art unless the trees are protected with glass, but such is not the case, for where there is due attention paid at all seasons of the year, more especially in the winter and spring, as fine fruit as of old may still be produced, but pressure of work in other departments prevents many gardeners devoting so much attention to them as they would like to do, hence the reason of so many failures. In many places periodical lifting is absolutely necessary to prevent the roots from going down into the cold uncongenial soil beneath, and this entails considerable labour if such work is to be done thoroughly. The blossom must also be protected from frost in spring. It is useless to half do the work, and whatever is worth doing at all is certainly worth doing thoroughly. It is not altogether the climate that is to blame, for in many instances it is failure to pay due attention to the trees' requirements at the proper time. We hear much about black currant mite, but if the trees are kept healthy this need not trouble the grower very much. It is when worn out and neglected that we find the bushes most affected, and it is on such that this pest obtains the upper hand. The present is a good time to examine the trees and remove all large, swollen buds, which should be destroyed at once, for later on in the majority of places time will not permit of such work being done. When all the swollen buds have been removed give the bushes a spraying.

Trees growing against walls are more subject to pests of all kinds than those growing in the open, as there is a much greater harbour for them, more especially where the mortar is loose. All old walls should be pointed whenever the trees can be liberated from them.

At this time of the year replanting of box edging should be taken in hand, for nothing adds more to the appearance of a kitchen garden than neat, well-kept box edging. Choose mild weather for the work as a man can do more under favourable conditions than when cold east winds are blowing, or biting frosts are benumbing his fingers. If all such work is well in hand at the present time, the workmen will be at liberty later on to pay more attention to the general routine of gardening operations. Spring time in the garden, though it brings much extra work, is accompanied by many pleasures, for then everything seems to put forth new life, and when one is able to look round complaisantly and watch things growing without feeling that there has been something neglected that ought to have been done weeks back, there is a satisfaction in knowing one is abreast of the times. But when one is confronted at every turn with something that needs immediate attention all the pleasure departs. There is far more satisfaction in a garden that is well kept though it be of small dimensions, than in one of considerable extent that is ill-cared for.

Gardening when conducted for pleasure, not profit, is, or should be, done in the most approved manner. When carried out on these lines, whether large or small, everything should be of the finest quality possible, whether it be flowers, fruit, or vegetables, and the aim should be to do all things in the right season, and have everything in its proper place, and unless this is strictly carried out, it is next to impossible to give satisfaction. There can be no pleasure to the employer in seeing plants half starved, trees badly trained, walks covered with weeds, and lawns untidy, which is too often the case where there is not sufficient interest taken to attain these ends.

H. C. Prinsep.

Buxted Park Gardens.

FINE EXAMPLES OF TAP-ROOTED VEGETABLES.
Shown by Mr. A. Gentle at a recent R.H.S. Meeting.

FINE TAP-ROOTED VEGETABLES.

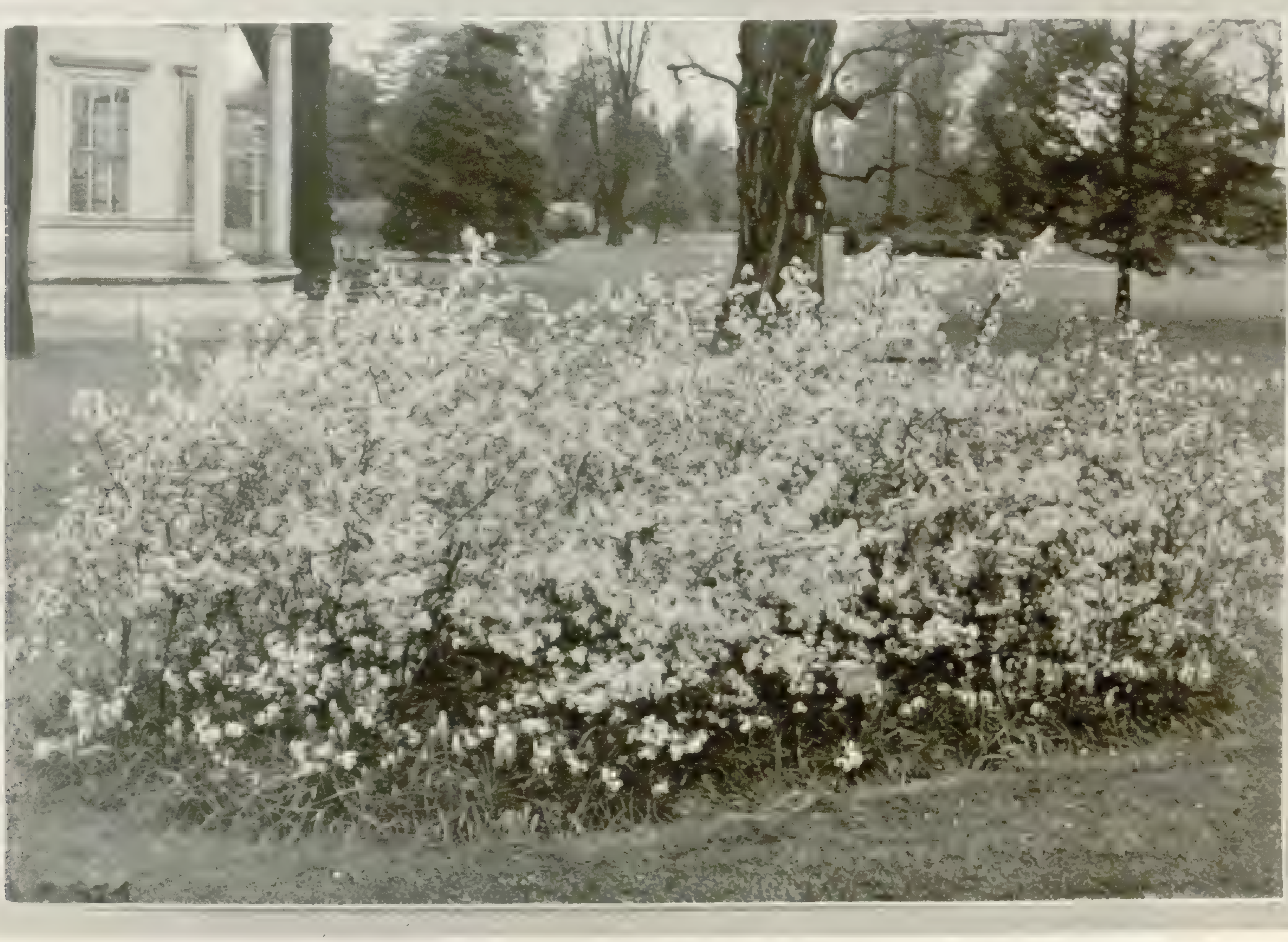
The great secret of success in the production of garden root crops of the highest class lies in deep cultivation and a thorough pulverisation of the soil. There is no royal road to success, although in some gardens and on some kinds of soil success is easier to attain than on others. In very heavy, wet soils and in very shallow, dry ones, the difficulties in the way are considerable, more particularly in the latter case. But enthusiastic growers will find a way of producing good crops, no matter how unpromising the conditions. Trenching and heavy manuring, followed by the cultivation of some strong feeding crop, such as celery, cauliflowers, beans, and the like, will do much to bring soil into a fine tilth for the production of clean, shapely roots. Old potting soil, road sweepings, leaf-mould, burnt refuse, and other materials will ameliorate a heavy soil, and also deepen a shallow one, but, after all, deep cultivation is the great thing, and it is surprising how a shallow soil may be improved by frequent working and breaking up the subsoil, together with the usual manurial dressings. That famous grower, Mr. E. Beckett, is a great advocate of trenching, and he has many imitators and followers in these days. One who has been specially successful with tap-rooted vegetables is Mr. Gentle, gardener to Mrs. Denison, Little Gaddesden, Berkhamsted, and the beet, carrots, and parsnips he exhibited in London recently were regarded by competent authorities as being as near perfection as possible. Of course, one must not minimise the importance of fine strains of roots or other crops, for, unless the strain is a good one, a great deal of time and labour are wasted. The vegetables shown by Mr. Gentle were all fine types and from Messrs. J. Carter and Co.'s selections.

Index to the "Gardeners' Magazine," 1908.—Those readers who have preserved the 52 numbers of the Gardeners' Magazine for 1908 with a view to having them bound for future reference, can obtain Handsome Cloth Binding Cases from the publishers, 148 and 149, Aldersgate Street, London, price 2s., post free. The index, with title page, is now ready—price 2d., or by post 2½d. The volume bound complete may also be had, price 12s. 6d., by post 13s. 4d.

THE DWARF JUNE BERRY.

The swelling buds of the almonds remind us of the charms of trees and shrubs remarkable for the beauty of their flowers, and of the many delightful colour effects that may be enjoyed during the next few months in gardens in which they are adequately represented. Already may be seen in conservatory and greenhouse displays of lilacs, magnolias, forsythias, viburnums, and similar subjects; and before the flowers of the last of the forced plants have lost their beauty, and other subjects utilised in beautifying these structures, several kinds will be yielding of their wealth of floral beauty in the garden. The June Berry (Amelanchier canadensis) and its varieties, do not occupy a place among the earliest of the flowering trees and shrubs; but they are quite early in blossoming, and so free in the yield of their floral beauty, and, moreover so elegant in aspect, as to possess much value in the adornment of the garden. Not only are they specially attractive during the spring months, but in the autumn the leaves are a bright orange hue, and, whether in groups or occupying isolated positions, the trees present an attractive appearance, more particularly when seen under the soft rays of the sun in the rapidly declining days of the year.

The June Berry is the best known of the several species in cultivation, and without doubt it is the finest of them. There are several well-marked varieties of this elegant tree, and one of the best is the Dwarf June Berry (A. canadensis alnifolia), which, in some of the books, has specific rank. This was introduced from the North West of America about twenty years ago, is dwarf in growth, and produces in great profusion its racemes of pure white flowers. The comparatively dwarf habit renders it of much value for cultivation in beds, as so well demonstrated in the Royal Gardens, Kew, by the fine example herewith illustrated. In private gardens, where the beds occupying a prominent position should yield a continuous display of flowers over the longest possible period, it will be well to select a site for a lawn group in a somewhat remote position. Beds of this and other shrubs may have their attractions greatly enhanced, by carpeting their surface with muscari or some other bulbous plant of dwarf growth that blooms early in the spring. The muscari used in carpeting the bed at Kew is the variety of M. conicum known as Heavenly Blue.



THE DWARF JUNE BERRY, AMELANCHIER CANADENSIS ALNIFOLIA, AS GROWN AT KEW.

ESPALIER PEAR TREES.

The espalier mode of training the pear is specially suitable for gardens in which space is inconveniently limited, and where it is particularly valued, for trees of this description occupy but little space as compared even with pyramids, and they may be advantageously planted at the back of flower borders that margin walks, to screen from view crops of vegetables, or other less elegant objects. Other advantages to be gained by growing this form of tree are that the blossoms can be protected from frosts, and the fruit from birds, by simple means and little trouble. Sheets of tiffany will answer in one case, and closely meshed wire netting in the other, and by careful treatment each of these appliances will last for years. Five feet is a convenient height for this kind of tree, and the branches may be trained horizontally, vertically, or obliquely, as desired. The best kind of support is a strong iron fence, with bars placed at distances apart suitable for the branches being fastened to them. For preference, the fence should run north and south, so that each side of the trees, together with the whole of their fruit, can derive an equal share of benefit from the sun. In securing trees for planting, it is advisable to have those of the usual planting size worked on the quince stock, for although no great amount of skill is required in raising them from maidens, more is lost than gained in doing so in private gardens.

Probably no kind of fruit tree in private gardens is so generally neglected as is the espalier; in some cases the only cultural attention that it receives is pruning and training. The surface roots are either mutilated by the spade, from the ground being more or less deeply dug up to near its stem, or they are robbed of nourishment by flowering plants, vegetable crops, or other similar subjects. Further, the roots are rarely lifted out of injurious subsoils, carefully pruned, or specially supplied with manure.

Though some varieties, owing to their habit of growth, form neater trees than do others, most pears do well as espaliers in localities suitable to the fruit. The exceptions are kinds that require warm positions upon walls to bring them to perfection, such as Winter Nelis, Bergamotte d'Esperen, Glou Morceau, Beurre de Jonghe, General Todleben, Nouvelle Fulvie, Marie Benoist, Beurre Rance, Thompson's and similar varieties. T. Coomber.

The Hendre Gardens.

Nymphæa pygmæa Helvola.

One of the most delightful of all the smaller water lilies is Nymphæa pygmæa Helvola, a dainty little flower, which appeals to all lovers of the beautiful as they see it floating on a little pool or tank, its prettily shaped leaves and bright little soft yellow flowers fascinating all who see it for the first time, except, it may be, those who are devotees of size in flowers. Only an inch or two across, those of Helvola are almost fairylike among flowers of its class. This bright little water lily is absolutely hardy, and can be grown in water of a depth of from a foot to eighteen inches. A little good loam at the bottom will suit it, and planting may be effected from March until May.—S. Arnott.

BUDS.

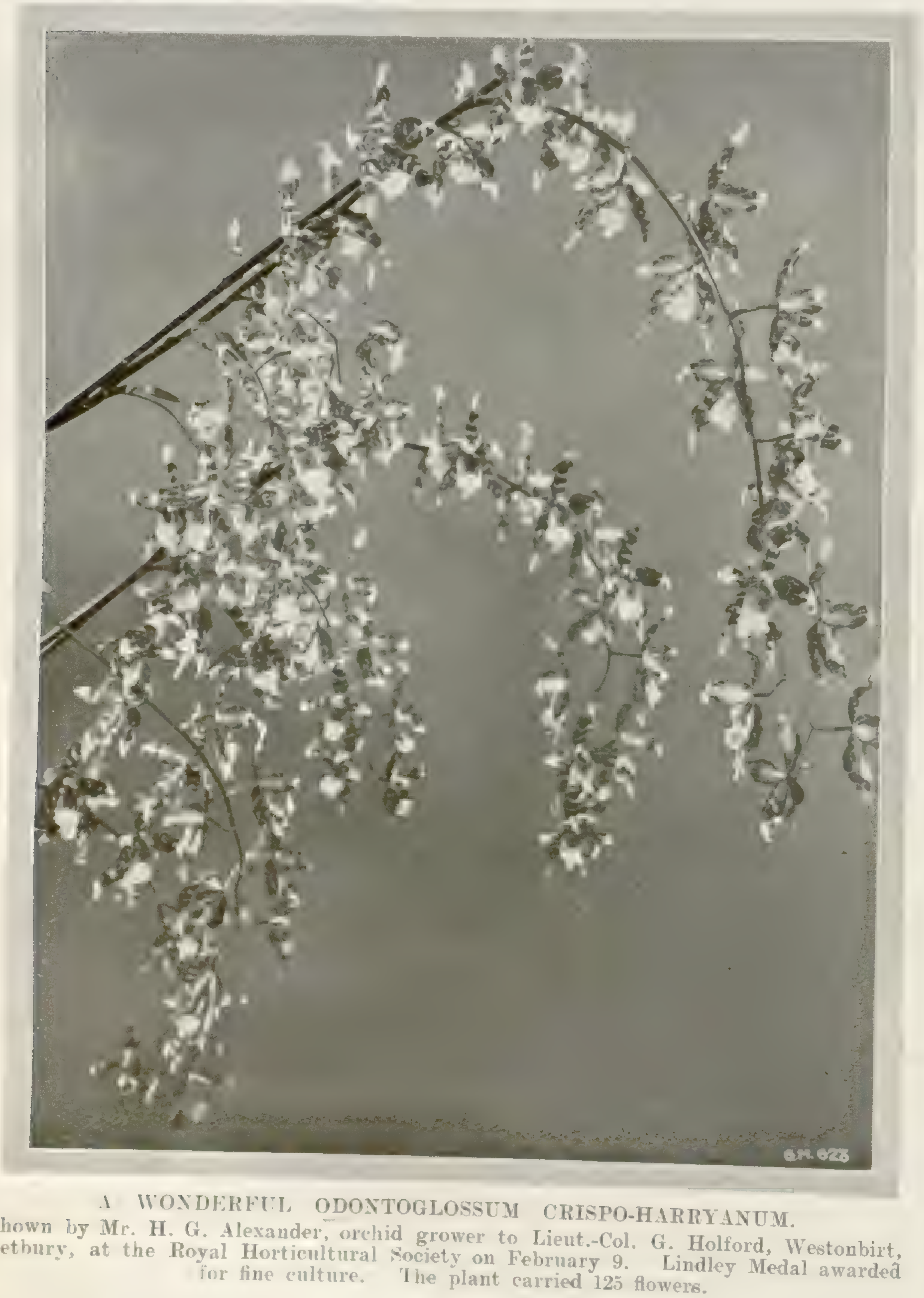
Buds may be roughly divided into two classes, successional and adventitious. It is to the former class of bud that we owe the annual renewal of arboreal foliage and the extension of tree growth generally. At the base of every leaf, at the point of its attachment to the twig, a bud is developed prior to its fall in the autumn, and it is this bud which in the spring bursts, and, according to its nature, either forms a leaf-bearing branchlet or fruit-forming flowers. This kind of bud may therefore be regarded as purely normal. Adventitious buds on the other hand generally involve transformations of cellular energy and are to that extent abnormal.

Thus with some fleshy leaves such as those of begonias, a severance of the network of veins causing a wound, will result in the formation of buds at the edges of the wound which in the ordinary course would not have been formed, and prior to the wound were not even existent in an embryo state. The leaf cells were pursuing their normal course of absorbing carbonic acid from the air and sap from the soil, and working this up by the stimulus of light into nutriment for the flowers and seed and the strengthening of the plant structure generally. The veins being severed this transference ceases, and the cells at the point of rupture being surcharged find a vent by becoming reproductive and building up a series of buds or individual plantlets with incipient roots, which only require careful treatment to become independent ones.

Such buds as these constitute a wonderful provision of Nature to secure the existence of her plant creations under adverse circumstances. To this end although in the development of a plant the cells adopt all sorts of different functions and assume, these functions fulfilled, all sorts of different forms, Nature has provided that in the initial stages of their development, or even later, the primary normal power of reproduction of the individual shall not be lost but can be reassumed in case of need. Thus in the case of all plants propagated by cuttings, although the foliage is usually eventually developed from what we have termed successional buds left to that end, the cells at the base have the faculty of budding out, not into leaves, since underground they would be useless, but into roots well fitted to supply the needful sap to the leaf buds above. It would be natural to assume that the cells at the point of severance of the cutting, far away it may be from the root system, and whose original function had been the formation of a woody stalk, would have lost the faculty of building up a root system; but it is clear that all faculties are retained in a latent form, since as we know the converse case exists in root cuttings where pieces of root, subjected to the light, proceed at once to build up a leaf system commencing as adventitious buds of the second class described.

Adventitious buds, we therefore see, are frequently generated owing to some interruption in the normal course of plant development, and a consequent deviation of energy into a fresh channel, the outlet for which is a new plant. In some cases, however, they appear as a normal character, as in viviparous species of ferns, where young plants are generated from buds on the surface of the fronds, and this peculiarity is by no means infrequent in varietal forms of species which normally bear no such buds. There is, however, a class of buds which are really buds proper, though not popularly so considered. We allude to bulbs of the tulip, which are really true successional buds, despite their size. They are developed at the base of the foliage of the preceding season, precisely on the lines of a successional bud on a flowering tree, the only differences being development on larger lines, and a consequent capacity for an independent start when the growing season begins. It is indeed justifiable to regard the very seed itself as a detached bud gifted with the power of producing both leaves and roots, and thus, like other buds of the other categories, capable of becoming a new and independent individual, if not too heavily handicapped in the struggle for existence.

C. T. Druery, F.L.S., V.M.H.



A WONDERFUL ODONTOGLOSSUM CRISPO-HARRYANUM.
Shown by Mr. H. G. Alexander, orchid grower to Lieut.-Col. G. Holford, Westonbirt, Tetbury, at the Royal Horticultural Society on February 9. Lindley Medal awarded for fine culture. The plant carried 125 flowers.

ODONTOGLOSSUM CRISPO-HARRYANUM.

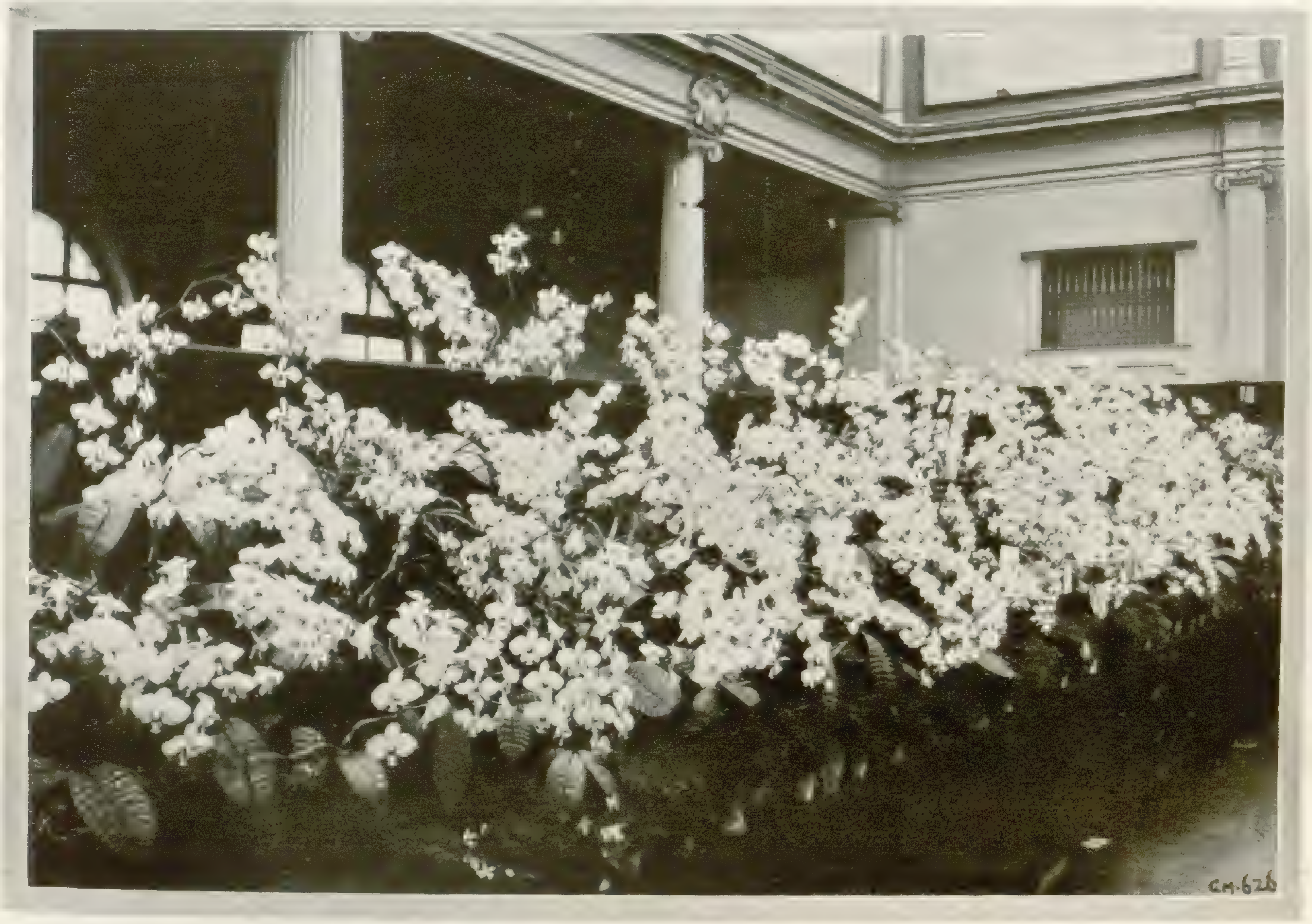
There are very many varieties of th attractive hybrid obtained by crossing th beautiful Odontoglossum crispum and th very distinct O. Harryanum, and this is not to be wondered at considering the great variableness of the first-named species, but as a rule, the plants grown and exhibited are of small size, carrying one modest spike. At Westonbirt, in Lieut.-Colonel G. Holford's wonderful collection of orchids, the plants are not cut up into the smallest pieces, but an endeavour is made to grow really fine specimens of orchids, such as Mr. William Marshall, Mr. Robert Warne Mr. Charles Webb, Mr. John Day, and Mr. Lee, used to delight the public with in years gone by. Very many of these fine specimens from Westonbirt have been figured in these columns, and we now illustrate another, of O. crispo-Harryanum, carrying four spikes and a total of 125 flowers, the largest spike bearing 65 blooms. Mr. H. G. Alexander, Lieut.-Colonel Holford's clever orchid grower, has received four or five Lindley medals, and one of these highly coveted awards was granted for this odontoglossum on February 9, by the Royal Horticultural Society. Our readers are aware, doubtless, that the Lindley medal is given for examples of unusually skilful cultivation.

BEST PLANTS FOR GREENHOUSE.—Nearly [illegible] pages are devoted to the description, propagation [illegible] culture of the best flowers and plants for the [illegible] house in The Amateur's Greenhouse, by T. W. Sanders, price 5s. net, or by post 5s. 6d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

PHALÆNOPSIS SCHILLERIANA.

It is now a little over half a century ago since Consul Schiller, of Hamburgh, introduced Phalænopsis Schilleriana from Manila, and it was in the spring of 1860 that the Consul first flowered the species in his collection at Ovelgonne, on the Elbe. The first to flower the species in this country was Mr. Robert Warner, of Broomfield, Colchester, the event occurring in February, 1862, and the plant that flowered was one of many sent home by Mons. Porte, and distributed by Mr. B. S. Williams, of Holloway. This beautiful orchid has rose-coloured flowers, but the shade of colour varies from fairly deep rose-purple to pale rose-pink, while there is also a white and an unspotted variety.

Unfortunately phalænopsis are not so extensively grown now as formerly, simply because there has been a turn of fashion, and odontoglossums and cypripediums have become popular, while it must also be remembered that hybrid orchids, notably the lælio-cattleyas, have come into being and attracted much attention. Allowing for all this, however, there is still a good deal to be said for phalænopsis, as there are few more exquisitely beautiful and graceful plants cultivated. Nowadays, given a clear atmosphere, away from towns and factories, and the necessary heat and moisture required for an East Indian orchid, P. Schilleriana offers no special cultural difficulties. Very finely grown were the beautiful plants exhibited in large numbers at the annual meeting of the Royal Horticultural Society on Tuesday, February 9, by Messrs. Charlesworth and Co., Haywards Heath. One must admire the pluck, as well as the skill of a firm that will bring a hundred fine specimens to town in such cold weather as we have been experiencing of late. The exhibit was enhanced by the presence in it of the pure white variety, P. Schilleriana vestalis. It may be safely stated that on no previous occasion has such a glorious exhibit of phalænopsis been placed before the public, and it was but fitting that the highest award, a gold medal, was granted.



A FINE DISPLAY OF PHALÆNOPSIS SCHILLERIANA.
Made before the Royal Horticultural Society on February 9, by Messrs. Charlesworth and Co., Haywards Heath.

SPRING IMPROVEMENTS IN THE GARDEN.

With the early months of a year come hosts of new ambitions and resolutions, which must be made productive of work ere long unless they are to prove useless. Few are the gardens, perhaps none, that stand in need of no improvement, while sometimes a simple introduction—pillar roses in a trio on the lawn, the opening out and carpeting of a shrubbery glade, the massing of vivid cerise phloxes against a laurel hedge, the crowning of a bank with Oriental poppies, the encircling of a pool with iris, the covering of a wall by a rose—will prove sufficient to perfect the beauty of a scene.

In a few weeks the gardener's opportunity will, in a degree, be past, for though bedding out has great possibilities, these are not to be compared in importance with the planting of roses, shrubs, and perennials.

A rapid way of turning a somewhat monotonous herbaceous border into a noteworthy one is to remove plants so as to leave a clear space of a yard, at six-yard intervals, and introduce into those openings a variety of delphiniums. There are few colours that cannot be suited by some of these stately plants. Is there a stretch of scarlet in the border? Then either pale azure blue or black-purple will tone well with it, as they will just as readily with carmine, rose-pink, lemon, white, or salmon. Royal blue delphiniums may appear against yellow, scarlet, orange, carmine, rose, or salmon, while in the dwarf Delphinium grandiflorum album we may have a white variety fit for any position, less exquisite than the tall gold-eyed white, but costing a few pence instead of shillings. If a shrubbery has become overcrowded by evergreens or shrubs which, after a short blossom season, are dull in appearance, a wonderful embellishment is the introduction here and there of pillar roses or clematises. The exact period of colourlessness should be taken into consideration, and the variety of climber selected to remedy this, as well as to tone satisfactorily with the surrounding subjects. For an example, the Crimson Rambler is probably one of the best and gayest of all roses, capable of giving marvellous loveliness in a shrubbery, but its time of blossoming is so restricted that there would be little sense in placing it where a cheering late summer and autumn effect is demanded. One of the Waltham Climbers would be a wiser choice. Clematises can be mingled up a substantial pillar, so as to obtain a succession of bloom; a variety of Jackmanni may be used with one of the patens family, or a lanuginosa with a florida.

Banks and rockeries are often lacking in attractiveness during the early summer, when spring alpines and bulbous flowers are over and the true summer ones have not begun. Groups of violas will create valuable colour patches, plants of hybrid pyrethrums can be located in places, while various achilleas prove of utmost service, thriving equally well among rocks or on exposed summits. Few are the gardens in which these cultivated yarrows are sufficiently represented; the dwarfs include the white blooming and silver leaved Achilleas ageratifolia, Kellereri, and umbellata, and the white-leaved, yellow blooming, A. sericea. Taller kinds, in white, are the popular A. ptarmica The Pearl, and the narrow foliaged Achillea mongolica; the latter is seen to perfection when allowed to trail downwards over a bank or rockery. Taller yellow kinds include Achillea filipendulina, which gives its blossom in dense heads, and reaches a height of four feet; also the effective silver-leaved Achillea clypeolata.

Rose arches across a walk quickly change a low, level garden into one of varied aspects, besides creating valuable sun and shadow effects, and helping to screen off portions of the land. Four arches of substantial make and fair width, placed where four walks join, make an arbour of great usefulness for setting chairs in during summer heat; some of the lavish leaf-making rambler roses should be chosen, with some of the perpetual blooming climbers to cover these, and the first season's canopy can be added to by the presence of plenty of annual convolvuluses and canary creeper.

Before bedding-out time the shapes of the beds should be attentively studied; in many cases alterations of outline, or increase or diminution of size, will either introduce new attractiveness or remedy old defects; in other instances, where the original schemes left nothing to be desired, it will be found that outlines have become blunted, or overaccentuated, and, therefore, the patterns are no longer mathematically correct.

Lawns that are bare need speedy planting with groups of shrubs, pillar, or standard roses, specimen trees, or clumps of grasses and herbaceous subjects; other methods of dealing with them are the erection of trellises, espaliers, arches, shelters, etc.; even mounds, tree stumps, rockeries, and urns and raised beds are to be recommended for various positions, but too free a use of ornaments must, of course, be avoided, lest the remedy prove worse than the evil.

Lastly, walls, fences, and trellises, pergolas, and arches in need of additions should be at once provided with climbers, high or low; especially where old roses, etc., have become unsightly about the roots and stems do lighter-growing companions effect remarkable improvements.

M. H.

SUPPORTS FOR ROSES.

Now that the rosery is being cleaned up ready for the approaching season, a few hints respecting suitable supports may be welcome. So far as the ordinary standards are concerned I have found no better support than a good stake, preferably of larch, oak, or chestnut, in the order named. If one can procure pitch pine sawn out in lengths, and about 2½ inches square, these are better still. They are more durable, and do not warp or sag. Iron spikes, some of them with three prongs similar to an eel spear, were much used in old rose gardens. But metal of all kinds, being so much more susceptible to atmospheric changes than wood, does not recommend itself to me when good timber can be had. Leather bands placed between the metal and rose reduces the effect of sudden change in temperature, and is also needed in any case to stay the chafing from wind swaying, which is frequently the forerunner of canker.

Hollow pipes, such as are used for gas, etc., make a capital and sound stake where cost is not so much an object, and if painted, have a neater and more stem-like appearance than a large stake.

Recently we have had a new use for standard roses in the weeping forms adopted with the strong-growing Wichuraianas and their numerous hybrids. The effect of these is greatly enhanced when the head of the plant is trained to flow over a much wider space than would be the case if allowed to droop naturally. They are being used, in short, much the same as the weeping ash and willow, carried over so that a small seat can be accommodated underneath, and they form a charming feature, with their cascades of blossom flowing almost to the ground. As this class is almost evergreen and remarkably free from rose pests and diseases, they are pleasing throughout the season. I have seen several styles of spreading out these roses, but none more effective and simple than that invented by Mr. Pinches, of Camberwell. This is a strong galvanised frame in the form of an umbrella. The shoots of the rose are drawn through this and allowed to flow over at will. It is made in complete form for young, fresh-planted trees, and in two pieces to allow of better fixing in the case of older and established plants. The great advantage is having something to secure growths to that will retain its shape and last for years. I have already had to fix several and found no difficulty. Wooden frames, if made sufficiently light in appearance, do not stand the strain long enough.

In forming a pergola for roses do not fear to make it sound, even if some of its supports are rather coarse in appearance. This adds rather than detracts from its beauty when the roses begin to grow freely, and unless we have some extra strong supports the whole structure is liable to collapse just when it is at its best, should we get strong winds. It is the same with pillars. A stout larch pole that has had its branches left on nine to twelve inches long is a good stake. Unfortunately these rot in the ground rather quickly, and it is better if they can be tarred, or "dipped" similarly to hop poles. The stumps of fruit trees make a capital support, and when set in with the bole of roots to steady them they stand exceptionally well. Where a Thuja Lobbi or similar tree has died a very pretty effect is secured by cutting off its branches fairly close to the stem and planting such roses as Dorothy Perkins, Crimson Rambler, or Felicité Perpetue against it. Here we have the best support possible.

On walls and fences we have found nothing to equal galvanised spikes with eyelet holes; fix these about three or four inches from the wall and thread strands of wire through the holes. The support is always there, and the growth much easier to secure or remove, besides avoiding the inevitable destruction caused by nailing

Uckfield. A. Piper

GALANTHUS IKARIÆ.
A very fine snowdrop, exhibited by Messrs. Barr and Sons, at R.H.S. Meeting, on the 9th inst.

GALANTHUS IKARIÆ.

This bold snowdrop is one of the best, as it is also one of the most distinct. It comes from Nikaria, and is notable for its broad glossy green recurving leaves. The plant grows about nine inches high and blooms in February, producing large snowy-white blossoms that have their inner segments heavily tipped with green, this green colouring often extending half way up the segment. This is one of the newer introductions, and is a lovely species, and, as it can now be readily obtained at a moderate price per hundred, it should soon be more frequently found in gardens. In a very pretty display of choice snowdrops made by Messrs. Barr and Sons, Covent Garden, at the Royal Horticultural Hall, Westminster, on February 9, Galanthus Ikariæ was conspicuous, and attracted a large amount of attention.

Cabbage.—The severe winds and frosts of last month have, in many cases, damaged this crop by severely checking growth. Choose a fine day, and make good any vacancies, and at the same time run the hoe between the plants, thoroughly disturbing the surface of the soil. If there is a shortage of plants sow seeds in boxes or in frames.—C. Flack.

PRIMULAS AT READING.

To those who take an active interest in horticultural pursuits it is a matter of common knowledge that for a long series of years Messrs. Sutton and Sons have devoted special attention to the development of the Chinese primula, and that in this work they have achieved so high a degree of success that their accomplishments might well be described as veritable triumphs in the art of cross-fertilisation and selective culture. General as this knowledge undoubtedly is, few who have not had an opportunity of visiting the firm's trial grounds when, as now, the Chinese primulas are in perfection, can fully realise what has been accomplished in the creation of new forms, and in the improvement of types that have been in cultivation for several years. The advances made by the firm in connection with these flowers are such as to enormously increase their usefulness for decorative purposes during the winter season, and the unique display they are now producing affords an object lesson of immense value in relation to plant development generally.

The visit made to Reading the other day was additionally interesting, from the fact that amid the thousands of plants, representing the types of the highest degree of excellence, is a plant of the wilding from China from which the present race of primulas has descended. The difference in growth, in truss, in flower, and in colour of this modest-looking plant, as compared with the most recent creations, is little short of marvellous, and it must be difficult for those who have not some knowledge of cross-fertilisation to accept without hesitation the statement that it is the progenitor of the magnificent types that are now at the command of the cultivator. In instituting a comparison between the wild type, which is here so well represented, and the finest of recent varieties, one might be excused for regarding the Chinese primulas as extremely plastic in their composition, and then be filled with admiration of the splendid work that has been accomplished at Reading; but to regard the species and its descendants as possessing more than the ordinary degree of plasticity would be to underestimate what has been accomplished. Whatever may be the degree of mobility, there is, on the one hand, a low-growing plant, with diminutive leaves and small blush-coloured flowers, with corolla lobes so narrow as to suggest the sails of a windmill. And, on the other, the modern forms, which comprise plants of robust habit, with large leaves, variable in shape and colour, and bearing in large trusses flowers of superb form, and ranging from pure white to royal purple, in one direction, and to deep crimson in the other.

With the present state of the knowledge of plant development it is not difficult to understand how the small, slightly-lobed leaves of the species have been amplified, deeply cut, and, in some cases, so elongated and finely divided as to obtain for them the designation of fern-leaved. But when the attention is turned to the colouration, well might it be asked whence have been derived these shades of pink, rose, salmon purple, crimson, lavender, deep blue, and scarlet? There has been no intervention of other species in their production, for up to the present time the species and its descendants have refused to consort with other members of the primrose family. These remarkable results in colour development have been obtained by cross-fertilisation and selective culture, and if impossible to say by what process the rearrangement of the colouring matter contained in the sap has been effected, it can be said that in the process of improvement the several breaks in colour have been taken full advantage of in the development of new hues.

We have from time to time made reference to the experimental side of primula culture at Reading, and, in our reference thereto have described how long a period usually elapses between obtaining a new break in colour or form, and raising it to the high standard essential before distribution. We have also pointed out that sometimes, when the desired form and colour have been obtained, it has not been found possible to so fix the type as to admit of it being sold separately. Two of the houses are being utilised in the demonstration of the Mendelian laws in their relation to these flowers, and they contain so much of interest that it is with considerable regret we are unable to do more than make this brief reference.

Five distinct types of the Chinese primula are grown by Messrs. Sutton and Sons, and these are the single-flowered, the single-flowered fern-leaved, the giant single-flowered, the double, and the stellatas, and in each type a wide range of colours is represented. Prominent in the first of the sections is The Duchess, remarkable for its broad zone of bright rose-carmine surrounding the yellow eye, and one of the most distinct and beautiful primulas in the section. Brilliant King, a highly effective variety in the way of Crimson King, but the rich crimson flowers are larger and more finely fringed. Lord Roberts resembles the last-named in habit, but the flowers are rich salmon-pink, and borne in bold trusses above the dark leaves, to which they present a pleasing contrast. Coral Pink has flowers of a lighter hue than those of Lord Roberts, the colour being aptly described as coral-pink, and very pleasing. Reading Pink and Brilliant Rose are two excellent varieties, with finely-formed flowers of the colours indicated by their names; Pearl, a white form of great excellence, introduced by the firm about thirty years ago, still occupies a prominent position amongst the white varieties, and enjoys a high degree of popularity for conservatory decoration by reason of its robust habit, easy culture, and effectiveness. Royal White is a robust variety of the highest quality, and the large bouquets of pure white flowers, set in bronzy-green foliage, are singularly effective; it is indeed so distinct and attractive as to merit widely-extended culture. Reading Blue and The Czar are two exceptionally fine blue varieties, the flowers of the first-named being bright blue, and those of the second are dark blue, differing but little from the colour of the violet of the same name.

CHINESE PRIMULA IMPROVED DOUBLE SCARLET.
Raised by Messrs. Sutton and Sons.

The fern-leaved varieties have been brought to a high degree of perfection within recent years, and of these the following made a strong appeal to us, namely, Purity, a remarkably fine pure white variety, bearing flowers of the largest size and superb form, and having bronzy foliage. Improved White, a superb form, with bright deep green leaves; Rose Pink, a lovely pink variety; Blue Fern-leaved, a charming variety with large, finely-formed flowers, similar in colour to Reading Blue; Lavender has lavender-blue flowers, and presents a pleasing appearance, whether associated with other classes of plants or arranged in bold blocks, as at Reading. Double-flowered primulas have much to recommend them to the notice of cultivators, for while of quite exceptional value for decorative purposes, their flowers can be successfully utilised in a cut state. Of outstanding merit in this section is the Improved Double Scarlet, to the development of which Messrs. Sutton and Sons have devoted much attention for many years past. In its present form it as nearly approaches the ideal as one can hope to see; the habit is perfect, and the bold trusses of brilliant crimson-scarlet flowers, rising above the leaves, are very effective. The Duchess in its double form is of interest, as evidence of the value of persistent endeavour conducted along well-devised lines, and it is immensely attractive. Pink Beauty is a charming variety, with finely formed flowers, exquisitely coloured pink. Double Salmon Pink, Double Blue, and Double White are three beautiful forms that are quite indispensable, and Carnation-flaked, which has pearly-white flowers splashed with crimson, and Double Alba magnifica, remarkable for its moss-curled leaves, are also desirable, by reason of their distinctness.

The giant section which Messrs. Sutton and Sons have been successful in developing constitutes a notable and highly attractive feature in the magnificent display of primulas now at its zenith at Reading, and the noble proportions of the plants, the large size, and superb form and finish of the flowers, and the glorious colouring, would more than suffice to justify a long journey for the purpose of enjoying their distinctive charms. As here extensively grown for seed production the great array of plants impress one by their effectiveness, and it is not difficult to imagine the attractions of large specimens grown for conservatory decorations. Giant Royal White and Giant White are two fine forms, differing in the colour of the leaves, which are bronze-green and bright green respectively. Giant Pink is simply invaluable for decorations, the bold trusses of large carmine-pink flowers being exceptionally effective. Very fine also are Improved Giant Crimson, its colour indicated by its name, and Giant Salmon Pink, a beautiful variety, with flowers of the colour known as terra-cotta.

As in the case of the other sections, an immense amount of excellent work has been accomplished in the improvement of the stellate, or star primulas, which have of late years attained to a high degree of popularity. To particularise is not now possible, but it must be mentioned that the collection includes twelve or more varieties of a high order of merit.

MENDELISM AS APPLIED TO SWEET PEAS.

(Concluded from page 132.)

Let me give a few illustrations copied from my own notes of work actually done:

King Edward x Dorothy Eckford.—First generation, rose-coloured flowers. Second generation, three-quarters good reds, one quarter good whites.

Dorothy Eckford x King Edward.—Gives the same result as above.

Jessie Cuthbertson x Lady G. Hamilton.—First generation, rather poor, pale blue flowers. Second generation, three-fourths or more lavender and blue shades, remainder resembling Jessie Cuthbertson, Jeannie Gordon, and a few blue striped flowers resembling Princess of Wales. In the first generation seed was round, in the second generation it was mixed round and wrinkled, as was to be expected with Lady Grizel Hamilton as one of the parents.

Scarlet Gem x King Edward.—First generation, red. Second generation, all red—quite true red, mostly Scarlet Gem type.

Dorothy Eckford x Jessie Cuthbertson.—First generation, unfixed-looking flowers. Second generation, half light-striped flowers, half white.

Mrs. Collier (white seed) x Dora Breadmore (black seed).—First generation, cream-coloured flowers, black seed. Second generation, cream flowers and flowers resembling Dora Breadmore, and a few pinks, seed black and white. Third generation, similar to second.

Mrs. Collier (white seed) x Miss Philbrick (mottled seed).—First generation, flowers like Romolo Piazzani in colour, seed mostly wrinkled. Second generation, primrose white, blue and mauve flowers, seeds black, white, and wrinkled.

These observations are made from long rows of plants, some of them 300 feet long, and the proportions are carefully studied, but not counted. When I say that we frequently get several ounces of seed from a single plant in F 1 generation it will be understood that we cannot afford the time to count up and tabulate the individual plants.

To speak of another single pair of characters which "Mendelize," I may mention Spencer and plain standards. If Countess Spencer is crossed with King Edward, or any fixed hooded or plain standard variety, the Spencer form is lost in the first generation, but it recurs in the second in the proportion already referred to. To give an illustration of di-hybridism, where two pairs of characters are concerned, let me refer to the working out of the cross just referred to, Countess Spencer x King Edward. This cross was made with the object of obtaining a crimson Spencer-shaped flower, and it was successful. In F 1, as already stated, the plants gave plain standards and were of a rather poor red colour. In F 2 were found plain reds, plain pinks, true Countess Spencer and waved crimson, the two latter in very small proportion. I cannot give figures for the reason already stated, and it must be remembered that when sowing large batches outside, a number of plants always perish from various causes. It is of importance to say that the true waved reds bred true. Another cross made in 1906 was Countess Spencer x Mrs. Collier. In 1907 the plants yielded flowers with plain standards only and of a pink colour. In 1908 the result was a large proportion of plain pinks and plain creams with a very small percentage of true Countess Spencer and true Primrose Spencer. In 1909, I have no doubt the latter will breed absolutely true.

Some years ago, when visiting the University Experimental Farm at Cambridge, I had pointed out to me the remarkable discovery which had been made by Mr. Bateson and his collaborators. Emily Henderson sweet pea was found to produce two kinds of plants, differing in the shape or structure of their pollen. Some plants produced only round pollen grains, others produced elongated pollen grains. Being self fertilised, like all other sweet peas, these plants bred true to these characteristics, but on being crossed, the round-pollen plants with the long-pollen plants, a wonderful, and I am sure a quite unexpected, result was found. In the first generation the plants had purple coloured flowers with long pollen, which was supposed to be a reversion to a former ancestral type. These plants were self pollinated, and in F 2 generation Purple Invincible, Picotee-edged, Painted Lady, tinged white, and white flowers were found. Whence arose all these colours, or varieties as seedsmen would call them? Latent determinating factors must have been present, or absent, in one or both kinds of Emily Henderson, and until they met in the way they did colour could not be developed. Emily Henderson, therefore, as we all knew it was only pure for whiteness, and only so for as long as the two kinds (differentiated only microscopically by the shape of their pollen grains) were continuously selfed.

Space will not permit my describing at length the deeply interesting process by which the characters are carried through the different generations in absolute purity. According to Mendelism there is rarely fusion or blending—there is re-arrangement, which means novelties to the seedsman. Let me quote a few lines from Lock's work on "Variation, Heredity, and Evolution." "Both a pair of structural characters and a pair of colour characters can Mendelize, that is to say the germinal representatives of such pairs of characters remain perfectly distinct in the hybrid plant, and separate completely at the formation of its gametes (germ cells) in such a way that an equal number of gametes arises containing either character. When a pair of gametes fuse together in the process of fertilisation the resulting cell is known as a zygote." From the zygote the adult plant is developed, and it of course follows if the gametes which formed the zygote were both pure, the plant will be pure—a homozygote. If they were different, i.e., if each gamete carried a different character the plant will not be pure, but a heterozygote.

In concluding this brief paper I can only refer to one other of Mendel's experiments, but as it proves so much I wish to state it fully. It was undertaken to prove that among the progeny of the crosses, constant forms appear in all combinations of the associated characters. Quoting from Mendel's paper in the "Royal Horticultural Society's Journal":—"In the following trial the characters of floral colour and length of stem were experimented upon, and selections so made that in the third trial year each character ought to appear in half of all the plants if the above theory were correct. A, B, a, b serve as indicating the various characters.

A.—Violet-red flowers. a.—White flowers.
B.—Axis, long. b.—Axis, short.

The form Ab was fertilised with ab, which produced the hybrid Aab. Furthermore aB was also fertilised with ab, whence the hybrid aBb. In the second year, for further fertilisation, the hybrid Aab was used as seed parent, and hybrid aBb as pollen parent."

$$\overbrace{\text{Violet flower}}^{A}\text{ with }\overbrace{\text{short axis}}^{b}$$

crossed with

$$\overbrace{\text{White flower}}^{a}\text{ with }\overbrace{\text{short axis}}^{b}$$

resulting hybrid contained
Violet, white, short axis
=A a b
This Mendel made the female parent, the possible egg cells of same being represented by
A b a b

$$\overbrace{\text{White flower}}^{a}\text{ with }\overbrace{\text{long axis}}^{B}$$

crossed with

$$\overbrace{\text{White flower}}^{a}\text{ with }\overbrace{\text{short axis}}^{b}$$

resulting hybrid contained
White, long axis, short axis
= a B b
This Mendel made the pollen parent, the possible pollen cells being represented by
a B a b

From the fertilisation between the possible egg and pollen cells four combinations should result:—

(1) AaBb. (2) aBb. (3) Aab. (4) ab."

Mendel argued that if his theory was correct, in the third year, out of all the plants:—

*The half should have violet flowers (Aa), Classes 1, 3.

The half should have white flowers (a), Classes 2, 4.

The half should have a long axis (Bb), Classes 1, 2.

The half should have a short axis (b), Classes 3, 4.

From forty-five fertilisations of the second year 187 seeds resulted, of which only 166 reached the flowering stage in the third year. Among these the separate classes appeared in the numbers following:—

Class.	Colour of Flower.	Stem.	
1.	Violet	long	47 times.
2.	White	long	40 times.
3.	Violet	short	38 times.
4.	White	short	41 times.

There consequently appeared:—
The violet flower colour (Aa) in 85 plants.
The white flower colour (a) in 81 plants.
The long stem (Bb) in 87 plants
The short stem (b) in 79 plants.

Mendel confirmed the theory adduced not by means of this experiment alone, but by others on similar lines dealing with different characters. In the words of Lock, "the first great debt that Science owes to Mendel is the demonstration that there exist definite and separate unit characters." That these characters can be separated and built up again in new combinations opens up a bright vista of interesting work to the careful seed-grower and florist. He can create, under definite laws, fresh forms of beauty to delight the eye and satisfy the mind of his patrons. If I may give a word of advice it would be this—keep a record of work done. Such is always interesting and may some day prove very valuable.

Arabis serrata.—One of the rarer arabises which will probably be seen in flower in this country this spring is Arabis serrata. This is a little-known Japanese species, of very close-growing habit, and having small leaves in dense rosettes. The flowers are snow white, and, if equal to the descriptions given, it will be a plant which will be an acquisition to rockeries. It comes from the mountains of Japan, and should be quite hardy with us.—S. Arnott.

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* To make this quite clear I may remind [illegible] that violet is always dominant over white, and [illegible] could only be produced when ovules or eggs [illegible] the white factor met pollen cells carrying [illegible] factor.

THE ASPENS.

Two species of populus are usually spoken of under the name of aspen, one, the "Common Aspen," being scientifically known as P. tremula, and the other, P. tremuloides, being know under the common name of "American Aspen." The principal peculiarity of both trees is centred in the long, delicate, curiously flattened leaf-stalks, which, from their formation cause the leaves to be continually on the move even on the calmest day. They have, however, further recommendations to commend them for general attention, for, in addition to forming handsome trees, the male inflorescences are of imposing appearance, and are produced with such freedom as to almost hide the branches. Like other poplars, both trees succeed best in moist ground, and are specially adapted for the banks of lakes or streams or for planting in wet and marshy places. Like most other members of the family they may be increased by means of cuttings of ripened wood a foot or so long inserted out-of-doors during winter. They may also be propagated by means of suckers, whilst the varieties may be grafted on stocks of the respective types. The well-marked varieties are few in number, and the most prominent are mentioned below.

The Common Aspen.

P. tremula is widely distributed through the cooler parts of Asia, Africa, and Europe, and is found wild in the British Isles. Under suitable conditions, it attains a height of 70 or 80 feet, with a considerable girth, but it is frequently met with in a much smaller state. The bark is grey, and the leaves cordate or rounded, with evenly serrate or toothed margins. The inflorescences are borne during March or sometimes in early April, and they are in the form of catkins, the male ones being specially noticeable, as they are 3 to 4 inches in length, of a greyish or light brown colour, and silky appearance. The principal varieties are:

P. t. pendula, the "Weeping Aspen," an ornamental tree, with weeping branches, suitable for planting on a lawn where the conditions are favourable, or for placing on the margin of a lake. It is usually increased by grafting on to tall stocks of the type.

P. t. purpurea.—This differs from the type on account of the leaves being of a purplish colour.

P. t. villosa is distinguished by the woolly character of the leaf surface.

As with many other common trees, a great many legends and superstitions centre round the aspen. The peculiar sensitiveness of the leaves has given rise to most of these legends, and the majority of them purport to supply the reason for the almost constant motion of the foliage. The aspen also shares the questionable honour of having supplied the wood which formed the cross on which Christ was crucified, and for this reason, one legend states, the leaves have never, since that date, been still until they have fallen from the tree. Another legend avers that at the time of the crucifixion all trees were horror-stricken, and made public lamentation with the exception of the aspen, which held itself upright, cold and arrogant, refusing to lament. For a punishment it was suddenly struck with a trembling fit, and from that day forth it was condemned to tremble in all its limbs even when there was no wind and other trees were at rest.

In striking contrast to the pride of the aspen, some other trees are said to have voluntarily given themselves up to mourning for the remainder of their lives. The yew is credited with saying, "I will be the guardian of graveyards. No bee shall rob my poisoned flowers with impunity. No bird shall rest on my branches; for my exhalations shall give forth death." The cypress said, "I will be the guest of tombs and the testimony of grief." Not to be outdone by the others, the pine said, "As a sign of mourning, from this day forth my foliage will remain sombre, and I will dwell in solitary places."

Another legend attributes the shaking of the leaves to a rebuke for the arrogance of the aspen on another occasion. This was when the Holy Family was fleeing into Egypt. At one period they are stated to have entered a forest, and all the trees bowed to the earth in adoration with the exception of the aspen, which stood proud and erect. As a punishment it was condemned to perpetual unrest. The following lines, taken from "Plant Lore," allude to the last-mentioned legend:

"Once our Saviour walked with men below,
His path of mercy through a forest lay;
And mark how all the drooping branches show,
What homage but a single tree may pay!
Only the aspen stands erect and free,
Scorning to join the voiceless worship pure;
But, see! He casts one look upon the tree,
Struck to the heart she trembles evermore."

It is probably on account of these legends that the aspen has been accepted in some countries as the "Tree of Liberty." It chose to stand alone, and for that reason revolutionists have accepted it as their badge. A legend which is rather unchivalrous and uncomplimentary to the fair sex, states that the aspen was made from women's tongues, and it is therefore impossible for the leaves to keep still.

The American Aspen.

P. tremuloides forms a somewhat smaller tree than P. tremula, though there are many points of resemblance between the two trees. The leaves are cordate and very similar in shape, except that they are often somewhat pointed. It is widely distributed in N. America, and occupies a similar position there to what the common aspen does in Europe. Like the common aspen it possesses a pendulous variety, which is of considerable decorative value.

W. Dallimore.

CHICORY.

Although a native plant, the chicory is not cultivated nearly as much as it deserves to be in this country. I am here referring to it both as a vegetable for cooking purposes, and when grown and blanched for use during the winter, for salad. It is one of the easiest possible plants to cultivate, as it will grow successfully in any soil, and on any site. It is perfectly hardy, and it can be brought forward for use for the salad bowl in a very short time during six months out of the twelve.

Chicory is imported in very large quantities from France and other countries, and good prices are realised, but I must confess it arrives in not nearly such good condition as that in which it can be grown at our very doors, and brought to perfection by any cottager. The very best varieties only should be grown, as these are vast improvements on the old forms. I have for some years grown a variety sent out by Messrs. Sutton and Sons, called Christmas Salad, a splendid type and always true to character. Two or three sowings should be made during April and May on well trenched ground.

Sow in rows one foot apart and thin the seedlings to nine inches apart when large enough, then, except for hoeing to keep down weeds, and to promote growth, no other attention will be required until the time of lifting. A few plants may be lifted as required and placed in the darkest corner of the mushroom house or in a cellar, trimming off the old leaves to within two inches of the crown. During the autumn, before it has died down, and during mid-winter, or when frost is likely to occur, sufficient roots should be lifted and stored in sand or ashes for use as desired. When salads have to be provided the winter through, and lettuce and endive are none too plentiful, chicory will be found of great service.

E. Beckett.

Aldenham House Gardens.

A FINE TYPE OF WITLOOF CHICORY.
As grown by Mr. E. Beckett, V.M.H.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

ONCIDIUM MARSHALLIANUM.—This is one of the most useful of oncidiums, but, unfortunately, it is not one of the easiest to keep vigorous for many years after it has been imported. There can be no doubt that to the free-flowering characteristics of the plants may be attributed their rapid deterioration. When first imported the plants are easily induced to produce growths equally as large as those found on the imported plants. The flower spikes often carry from 50 to 100 flowers, and these, making such an attractive display, are exceedingly useful for exhibition and decorative purposes. One is naturally inclined to permit the flower scapes to remain on the plants some time, with the result that the strain thus imposed results in the shrivelling of the pseudo-bulbs, and consequently future growth of the plants is affected.

IMPORTED PLANTS usually reach this country about the present season of the year, and the earlier importations should be secured for preference. Not being so much sought after as many of the more fashionable orchids, they are procurable at a reasonable outlay. When imported plants are secured they should be carefully cleaned of all dead and decaying matter about the pseudo-bulbs and rhizomes, and especial care should be taken to see that they are not infested with undesirable insect pests. I have seen imported plants literally smothered with mealy bug that has secreted itself among the decaying matter and axils of the leaves, etc. Should infested plants be found they should either be destroyed or isolated, and kept under close observation. Plants with large pseudo-bulbs, like O. Marshallianum, are by no means the easiest to deal with when potting. It is not a bad plan to fix two or three pieces of teak wood in a pot or basket, and then fix the plant on to the wood in the same manner as if fixing them on a raft, and after giving ample drainage, fill in the surface, and as far up as practical, immediately behind the rhizome, with a potting compost of about equal portions of fibrous peat and chopped sphagnum moss. A few broken oak or beech leaves may be added to the compost if desired. These oncidiums are best grown in a warm intermediate temperature, where they may have all the available light and a humid atmosphere during the season of active growth. When growth is completed, and the plants have entered their dormant stage, it will be to their advantage to be transferred to the odontoglossum house until they show signs of renewed vitality, when they should be again transferred to the warmer house. I would advocate the plants being grown suspended from the roof in all cases, so that they may derive all the benefits afforded by this position. During the growing season the plants may be freely syringed overhead once or twice a day, and every care should be observed to see that they do not remain for a prolonged period in a dry state about the roots.—H. J. Chapman, Oakwood Gardens.

FRUITS UNDER GLASS.

THE EARLY VINES will now be making good progress, and it will be seen now which bunches should be left, therefore the process of disbudding may be proceeded with. The best-placed shoots should have some advantage, as there is always some difficulty at this season in getting a badly-placed shoot down; at the same time, if the rods and wires are far enough away from the glass, the weight of the bunch will gradually bring the lateral into position. Do not leave more than two growths to one spur, and do not leave more than one bunch to a shoot. Do not try to bring the shoots into position all at once or they will break. If any mealy bug was present last season (no matter how well the vines have been cleansed), look out for the pest two or three times a week, as it is only by extreme diligence and perseverance that it can be got rid of. Keep the floors, staging, and walls well syringed twice daily, or more often if necessary, and increase the temperature to 65 degrees. If any plants are being forced in the house endeavour to take them out as soon as possible so that the vines can have every attention.

PEACHES AND NECTARINES.—If the flowers have all set give the borders a thorough watering and raise the temperature from 55 to 60 degrees, admitting a little air on all fine days, but if the flowers have not all set continue to deal with them as advised in the last calendar. A second house should now be closed, taking care that it is scrupulously clean. If the borders are at all dry give a thorough soaking, bearing in mind that when Nature opens the flowers on the peach wall outside the borders are moist. If the house be kept closed with a little warmth in the pipes when the outside temperature is near freezing point, the buds will soon start. Syringe the trees twice daily in fine weather.

MELONS.—These will now be sufficiently advanced to be planted out, and a slight hotbed should be prepared for them in the forcing house, where a genial bottom heat of about 80 to 85 degrees can be maintained, with a top heat of 65 to 70 degrees. Some prefer to fruit the early crop in pots, but I like a narrow border, in which the plants can be placed. Soil is of some importance, and this should be of the best, more especially for the early crop. Planting needs special care. If put in too deeply the stems are apt to decay at the collar. Make the soil quite firm. A depth of six inches is quite sufficient soil to grow melons in. A sowing for a succession should now be made, placing one seed in the centre of a small pot, and affording bottom heat. A small frame inside a forcing house is a capital place to raise melons and cucumbers in.

CUCUMBERS will now be ready to be put out similarly to melons, but the soil will require to be somewhat richer. As these are gross feeders mix some bonemeal with the soil, and a little soot and spent mushroom manure also. Put a small stake to each plant to train it to the trellis, and plant out two feet apart. Sutton's Everyday comes into bearing very quickly. Old plants becoming exhausted may have a topdressing of manure to help them over the next month, when they can be rooted out.

TOMATOES.—Those still fruiting must receive every encouragement, and be afforded liquid manure at every other watering. Young plants should be shifted into 48-sized pots, and be grown on in a position near the glass, where they will soon make sturdy specimens. Another small sowing of Sunrise should be made, this variety being quick in bearing, and the fruits of a nice size and good flavour. Prick out when the seedlings are large enough to conveniently handle. A temperature of about 60 degrees suits tomatoes very well; hotter than this causes them to draw, and become weak.—W. A. Cook, Leonardslee Gardens, Horsham, Sussex.

THE KITCHEN GARDEN.

CELERY.—To provide the earliest plants of this vegetable make a sowing of seed in boxes in fine rich soil, and place it in an intermediate temperature. Germination will be aided by placing a slate or board over the box to exclude light and dry air. When the young plants show themselves remove the covering by degrees to inure them to exposure in a light and cooler position. Early plants are very subject to bolt to seed, and it is best to defer the main sowing to a later date.

BRUSSELS SPROUTS.—Where these are in early demand a sowing of seed may be made in boxes, or in a frame. Grow the young plants with as little artificial heat as possible by admitting air to the frame as liberally as the weather will permit without giving check to growth, thus avoiding a thin and weakly foliage. When the plants are large enough prick them out at from five to six inches apart in other frames, in turfy loam mixed with rough leaf-mould. From this they will lift with a satisfactory amount of roots when transferred to their outside quarters.

PARSNIPS.—As soon as the ground is in a sufficiently dry condition to form a suitable seed bed the main crop of seed may be sown. Select a calm, dry day, and lightly fork over the surface of the bed early, and allow it to remain for a time exposed to the air, afterwards working it with iron rakes to the desired fineness. The rows should be from 15 to 18 inches apart, and the drills drawn out to receive the seed should be about two inches deep.

JERUSALEM ARTICHOKES.—The first opportunity should be taken to plant the tubers of this crop. Years ago these were often placed in out of the way corners and lifted as required, but each season there appears to be a greater call for this vegetable, which consequently needs higher cultivation. No crop pays better for a deep rich soil than the artichoke, and it ought to be planted in an open and favourable site in thoroughly prepared land, with room for the development of its growth, which means from 2 feet 6 inches to 3 feet apart.

ESCHALOTS.—The main crop of these should be planted now at about 12 inches apart from row to row, and 10 inches apart in the row. It is not so necessary, in most cases, to obtain large specimens of these, as it is to have ripeness. Select a high and warm position to secure this, but care will be needed in a time of extreme drought that the crop does not mature prematurely. Give the plants assistance by providing water, and a dressing of manure if they seem to show distress.

PARSLEY.—Make a sowing of this herb in the warmest position that can be found, such as a narrow border under a south wall. Invariably I find transplanted plants do better than those allowed to remain where sown, especially in soils troubled with wireworm. In this case charge the land with soot, and transplant as soon as the plants are large enough to prick out. Should the winter have very severely damaged the old crop, and caused a scarcity, make sowings in boxes, and place them in slight heat under glass. After the young plants are well up prick them out and give the protection of a rough frame until the weather is genial enough for them to be exposed.

GENERAL REMARKS.—The stock of pea sticks will soon have to be obtained, and will find employment for the outside hands, should the weather be bad, in preparing them for use, and selecting them into lengths for the different varieties. Take every advantage of time in securing labels, stakes and other sundries in readiness for the rapidly advancing season of planting and sowing.—Charles Flack, Cholmondeley Castle Gardens.

Iris fœtidissima.—This is a native British plant, being fairly common in the West and South-west of England. It is one of the most evil-smelling plants often met with, if bruised, but a well-grown clump has some beauty of its own, though its dull purple flowers are insignificant. It is for the open pods of coral-red berries, which last all the winter, that it is appreciated, and for the sake of these it is well worth growing where one has any semi-wild place in the garden to fill. These pods should be picked just when they are beginning to burst at the point, and should be hung with the stalk upwards until they are dry, when the three sections of the pod will open widely and display the berries within. A recommendation of the plant is that it will grow in any wet and shady place, and may be left for years without being disturbed, during which it will form dense clumps three feet through, though it will not produce so many pods, proportionately, as in smaller clumps.—Alger Petts.

There is no better guide to the kitchen garden than Vegetables and Their Cultivation, by T. W. Sanders. It is a complete treatise on the general management of the garden, and the successful culture of vegetables, saladings, and herbs for home use. Price 5s. net, by post, in box, 5s. 6d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

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EXHIBITIONS AND MEETINGS.

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Perpetual Flowering Carnation Society.

The annual meeting of this useful society was held at four o'clock on Wednesday, February 10, at the Hotel Winsdor. Mr. J. S. Brunton occupied the chair, and there were about twenty-five members present.

The minutes of the previous annual meeting, together with other formal matters, were proceeded with, and then the report, of which we give an abstract, and balance-sheet were taken as read.

At the annual general meeting in 1908 the title of the society was altered from "The Winter-flowering Carnation Society" to "The Perpetual Flowering Carnation Society."

A scheme for the registration of the names of new varieties has been adopted. It was considered advisable to follow this course for the purpose of protecting both members and raisers from fraud and confusion. Nine new varieties have been registered during the year. The scale of points for judging and for awarding certificates and awards of merit to new varieties has also been altered, and the new scale is reproduced for general information A variety must gain at least 85 points to entitle it to a first class certificate, and 75 points to entitle it to an award of merit. Colour, 20 points; size, 20; fragrance, 10; substance, 10; calyx, 5; habit of plant, 20; and form, 15; total, 100.

As a means of helping amateurs, an expert grower was appointed to give an address on "The Cultivation of the Perpetual Flowering Carnation" in the Lecture Room of the R.H.S. hall, on the afternoon of the April show, and the thanks of the society are due to Mr. P. Smith, of Medstead, for the very practical manner in which he fulfilled this duty. On the occasion of the December show a question box was placed in the hall, and a number of visitors availed themselves of the opportunity of writing questions and placing them therein. These questions, and a number of oral questions, were answered in the lecture hall by Mr. P. Smith and Mr. M. C. Allwood, and the thanks of the society are due to these gentlemen for the able manner in which they replied, their advice being warmly appreciated by the audience.

Your committee considered it desirable that the society should be in a position to award medals of its own, and, after much deliberation, a drawing was approved, and a die cut. It was hoped that the medals would have been on view and ready for the December show, but the designers were unable to complete the medals in time. A fund was opened to procure the die, but very few members subscribed, and of the total amount received two-thirds was subscribed by members of committee.

Your committee has great pleasure in announcing that two cups have been presented to the society, one by Lord Howard de Walden, and the other by the American Carnation Society. It has been decided that these two cups shall be held as challenge cups in perpetuity.

Your honorary secretary is in touch with Mr. Albert M. Herr, the secretary of the American Carnation Society, on the subject of the compilation of a complete list of perpetual flowering carnations, with a view to the framing of a list of too-much-alike varieties. When the necessary information, which has been promised this society by Mr. Herr is forthcoming, the work will be taken in hand by your Floral Committee.

The society has lost seven members by resignation, 27 struck off for non-payment of subscriptions, and one by death, viz., Martin R. Smith, Esq., one of the vice-presidents of the society. His loss is one that will be deeply felt, not only by the members of this society, but also by every true lover of the carnation. Fifty-one new members have joined during the year, and the total membership of the society at December 31, 1908, was 179.

The balance-sheet showed that, including £4 1s. 7d. brought forward, the income was £172 18s. 4d., and the expenditure £147 15s. 1d., leaving a balance of £25 3s. 3d.

The Chairman moved the adoption of the report and balance-sheet, and referred briefly and lucidly to their main features. He regretted the small attendance and the poor gate at the December show, and urged that if the society's usefulness was to increase a large accession of members would be necessary. Mr. Cook seconded the motion, which was carried.

A hearty vote of thanks was accorded Mr. Brunton for his services as chairman, on the motion of Messrs. Mason and Mathias. The adoption of the balance-sheet, taken as a separate item, was moved by Messrs. Curtis and Waters, and carried.

A slight alteration of rules, having the effect of pointing out that 5s. was the minimum annual subscription, was made, and then Lord Howard de Walden, who is offering a splendid new silver cup for competition this year, was re-elected president. Messrs. Baker, Raphael, Turnbull, Byass, Johnstone, and Brunton, and the Rev. J. Jacob were elected vice-presidents.

Mr. Brunton was re-elected chairman, and Mr. S. Mortimer as vice-chairman. Mr. Hayward Mathias was re-elected hon. secretary, but, in deference to his wishes, the treasurership was separated from the secretarial work, and Mr. L. J. Cook was elected treasurer.

The chairman then presented the medals won to their respective winners, and the election of committee was then proceeded with. There were six vacancies to fill, and those elected were Messrs. W. H. Page, H. F. Mason, W. A. Sherwood, W. E. Wallace. M. C. Allwood, C. F. Waters, and the Rev. J. Jacob.

Messrs. C. H. Curtis and R. Pinches were re-elected auditors. Some discussion ensued relative to the holding of one exhibition in the provinces, and the committee was instructed to consider the subject. The proceedings closed with a vote of thanks to the chairman.

Royal Gardeners' Orphan Fund.

There was a small attendance at Simpson's, 100, Strand, on February 12, when the annual meeting of the above-named excellent and extremely useful charity was held, under the presidency of Mr. H. B. May, the chairman of committee. There were sixteen persons present when the proceedings opened; evidently the subscribers have every confidence in the committee, but their absence is not very encouraging to the workers.

The usual formalities were proceeded with, including the reading of the minutes of the previous annual meeting.

REPORT OF COMMITTEE.

It is with great gratification and a deep sense of thankfulness that at the close of the twenty-first year of the existence of the fund the committee is enabled to present a report which they believe will afford the liveliest satisfaction. The receipts from all sources in 1908 amounted to no less a sum than £2,694 1s. 9d. More than half of this amount was obtained by the appeal made at, and in connection with, the Coming-of-Age Festival held in May, which will be long remembered as an interesting event in the history of the fund. The committee acknowledges with deep gratitude their indebtedness to their noble president, the Duke of Bedford, for presiding on that occasion, for his Grace's sympathetic appreciation of the beneficent work which is being carried on, his eloquent commendation of the claims of the fund to the generosity of all interested in gardeners and gardening, and for his munificent contribution of £250 to the festival dinner list. To Mr. N. N. Sherwood and his sons, Mr. William and Mr. Edward Sherwood, whose practical sympathy with the objects of the fund, from the day of its foundation, has helped materially in placing the charity in its present position, grateful thanks are accorded for their generous presentation of £391 Metropolitan Railway 3½ per cent. preference stock to endow the "Maybud Campbell Grant" of £13 per annum to an orphan girl selected to receive same under the rules of the fund. The appeal made on the initiative of Mr. H. J. Clayton, for a special coming-of-age gift to the fund, to be raised by means of a shilling collection, resulted in the receipt of the handsome sum of £250, and the committee tender their grateful thanks to all who assisted in bringing about such an appreciable addition to the fund's exchequer.

The net result of the year's work is an increase in income over that of the previous year, amounting to £747 11s. 7d. This sum has enabled the committee to increase the allowances and grants in aid made to the poor children by the sum of £109 17s. 6d.; to add £596 7s. 7d. to the reserve fund, £85 to the deposit account, and to increase the balance carried forward by £77 9s. 2d.

At the commencement of 1908 there were 106 children receiving the full benefits of the fund. Seventeen more were added to the roll at the annual meeting, held in February. At the close of December the number on the elected list was 104, while 21 of the candidates awaiting election, greatly being in need of assistance, were receiving compassionate allowances. The total sum distributed among the beneficiares during the year was £1,621 7s. 6d., the highest total yet reached. The number of children elected to receive the benefits of the fund since its foundation is 253, and the total expenditure in weekly allowances and grants in aid during the same period is £19,506.

The next festival takes place on Thursday, May 6, at the Hotel Cecil, when his Grace the Duke of Rutland has most kindly consented to preside. The committee make this announcement with extreme pleasure.

For some years past the fund has greatly benefited by the exertions made on its behalf by the committees of the Chesterfield and District Chrysanthemum Society, the Altrincham and District Gardeners' Mutual Improvement Society, the Chislehurst Gardeners' Mutual Improvement Society, the Bradford Chrysanthemum Society, and similar institutions. The committee are glad to record the fact that during the year several additional societies of this character have caused their names to be enrolled among the regular contributors. To one and all who have helped the fund in this way most cordial thanks are tendered. The committee also again most gratefully acknowledges the valuable support accorded to the fund by the owners of private gardens, who kindly open their establishments to the public from time to time in aid of this and other charities. In this connection special thanks are due to Mary, Countess of Ilchester, Sir Frank Crisp, and Major John W. Dent, for valued contributions.

The committee has again, unhappily, to deplore the loss the fund has sustained by the hand of death. As former colleagues, the valued services of Mr. George Nicholson and Mr. C. E. Osman are gratefully remembered, as also are the active services rendered in the early days of the fund by Mr. W. J. Brewer and Mr. Henry Hawkins; whilst in recent years Mr. W. Neild, Mr. R. Lye, and Mr. Joseph Lee, were all devoted adherents to the children's cause. The late Mr. J. Cawthra, of Bradford, and Mr. Benjamin Greaves, of Horsham, were annual contributors, and legacies of £150, less duty, from the former gentleman, and £50 from Mr. Greaves, are thankfully acknowledged.

The members of the committee who retire by rotation are Mr. W. Bates, Mr. G. L. Caselton, Mr. C. Dixon, Mr. H. B. May, Mr. J. W. Moorman, Mr. Whitpaine Nutting, Mr. G. Reynolds, and Mr. J. H. Witty. These members, being eligible, offer themselves for re-election.

To the auditors, Mr. M. Rowan and Mr. P. Rudolph Barr, the committee again tender their sincere thanks for the valuable services they render the fund from year to year by their exhaustive examination of the accounts. The retiring auditor is Mr. Barr, and with great pleasure the committee recommends his re-election.

In concluding this report the committee again appeal with confidence to the liberality of all those who recognise the legitimate claims of necessitous orphans. In the ranks of gardeners, as in those of most other callings, there are many distressing cases of premature death. The breadwinner is suddenly removed from the scene of his labours, whilst still young, and, therefore, before he has had time and opportunity to provide for those dependent upon his industry. The widow, being often left with several children of tender years, she is unable to use her capacity for earning a living, because her presence and care are needed at home. Surely, the cry of the children is one that we have no right or desire to disregard!

The amount of good that follows the disbursement of small sums to children, is out of all proportion to the sums contributed, and not only is this the case, but in helping the children by ensuring to them the necessities of life, the heavy lot that oppresses the young widow is materially lightened.

The committee, therefore, believe that, in the future, as in the past, the Royal Gardeners' Orphan Fund will receive such a measure of support as will enable it to continue the work it has faithfully discharged in the past twenty-one years.

CASH STATEMENT FOR 1908.

RECEIPTS.

	£	s.	d.
To Subscriptions	£333	15	5
Donations	213	3	0
Subscription List at Annual Dinner ...	931	8	1
1887-1908: Special Fund (raised by Shilling Subscriptions)	250	0	0
"Maybud Campbell Grant" (presented by Mr. N. N. Sherwood and his sons)	391	0	0
Legacies: Mr. James Cawthra and Mr. Benjamin Greaves	185	0	0
Advertisements in List of Subscribers...	25	0	6
Dividends on Stock and Interest on Deposit	359	6	7
Income Tax returned	5	8	2
Balance last Account	808	17	4
	£3,502	19	1

EXPENDITURE.

	£	s.	d.
By Allowances to Orphans	£1,486	5	0
Grants in Aid	122	2	6
"Emma Sherwood Memorial"	13	0	0
Secretary's Salary	135	0	0
Printing and Posting List of Subscribers	40	14	1
Rent, Insurance, Printing, etc.	140	12	7
Purchase of £242 19s. 8d. 2½ per cent. Consols	205	7	7
Metropolitan Railway 3½ per cent. Pref. Stock	391	0	0
Balances: Cash at Bank	582	10	6
Cash in hand	1	6	10
Cash on Deposit	385	0	0
	£3,502	19	1

Note.—Investments.

	£	s.	d.
3 per cent. London and County Consolidated Stock	£7,240	15	10
3 per cent. Canada Stock	2,000	0	0
L. and N.W. Railway 4 per cent. Preference Stock	340	0	0
Great Indian Peninsula Railway Guarantee 3 per cent. Stock	514	0	0
2½ per cent. Consols	1,000	0	0
"Thomson Memorial Trust"—			
East Indian Railway B. Annuity of £14, cost	430	11	0
"Emma Sherwood Memorial"—			
Metropolitan Water (B) 3 per cent. Stock	516	15	11
"Maybud Campbell Grant"—			
Metropolitan Railway 3½ per cent. Preference Stock	391	0	0

In proposing the adoption of the report and balance-sheet the Chairman pointed out that the receipts for the year were distinctly in advance of previous years, this being due chiefly to the beneficences of the Duke of Bedford, Mr. N. N. Sherwood, Mr. E. and Mr. W. Sherwood, and the result of the Clayton Shilling Fund. He briefly reviewed the chief points raised by the report, especially thanking those who had opened their gardens for the benefit of the charity, and assisted it in other ways. He also referred feelingly to the loss sustained by the death of Messrs. G. Nicholson and Osman, and expressed his regret that so few subscribers had come to the meeting. Mr. William Marshall formally seconded the chairman's proposal, and the motion was carried.

Mr. R. H. Pearson proposed hearty thanks to the president, the Duke of Bedford, for presiding on the occasion of the twenty-first festival dinner last year, and he pointed out that the great success of the festival was due largely to his Grace's presence and generosity. Mr. W. Cutbush seconded the motion, and it was carried. Mr. W. Roupell proposed, and Mr. George Gordon seconded, the re-election of Mr. E. Sherwood as treasurer, and this was unanimously agreed to. Mr. P. R. Barr was thanked and re-elected as auditor, on the motion of Messrs. W. Poupart and Alderson.

The re-election of Messrs. Bates, Caselton, Dickson, May, Moorman, Nutting, Reynolds, and Witty as members of committee was proposed by Mr. Alex. Dean, in a very able speech. He pointed out that Messrs. Bates, Roupell, and Wynne were the only persons present who belonged to the original committee. He pointed out that vast sums of money were often spent by charities on buildings and on a big staff of officials, the cost of management often amounting to 8d. in every shilling received by the charity. In the Orphan Fund they had avoided that great mistake, consequently by far the greater part of the monies received went directly to maintain the orphan children. He congratulated the subscribers on having such a hard-working and cheerful committee, and the committee on having the management of such an excellent institution. Mr. Alderson seconded the motion, which was carried.

The Chairman proposed the re-election of Mr. Bryan Wynne as secretary, at a salary of £200 per annum. In doing so he pointed out that offices had been taken in Milton House, Surrey Street, at a cost of £25 a year, and Mr. Wynne would now devote the whole of his time to the interests of the fund, and further clerical assistance would not now be necessary. Mr. W. Bates seconded the motion, which was carried unanimously.

On the motion of Mr. Campbell Messrs. Bates, Ingamells, Lyne, Moorman, and Poupart were appointed scrutineers of the ballot, and the meeting was then adjourned until the declaration of the poll.

There was a modest increase in the attendance when the result of the election was announced. The votes recorded, and the names of the twenty successful candidates were given,and then Mr. Harry J. Veitch appealed to the committee to place the five unsuccessful candidates on the funds, and, receiving a favourable reply from the chairman, he moved that this be done. Mr. George Gordon seconded the proposal, Mr. A. Dean supported it, and the committee concurred, and so there was an unanimous and favourable vote.

Votes of thanks to the scrutineers and chairman concluded the proceedings.

Reading Gardeners' Association.

One of the most interesting lectures delivered in connection with the above association was that given in the Abbey Hall, on Monday evening, by Mr. W. Shipway, one of Messrs. Sutton and Sons' experts on grasses, the subject being "Lawns and Lawn Grasses." Mr. Alderman F. B. Parfitt, president of the society, occupied the chair.

To the ordinary individual a lecture on this subject would probably appear a somewhat dry and uninteresting matter, but to those who have the management and upkeep of a lawn, or series of lawns, it proved a highly instructive and enjoyable evening.

Seventy lantern slides were used by the lecturer to illustrate his remarks, many of these being beautiful pictures of lawns, tennis grounds, bowling greens, etc., produced in different parts of the country; others depicted the method of preparing the soil, draining, levelling, seed sowing, etc. Two of the slides, one showing a plot of grass infested with nearly all the weeds to which a lawn can be heir, the other a picture of the same plot after treatment by Sutton's lawn sand, created astonishment among the audience.

From the following syllabus it will be readily understood that the paper was indeed most exhaustive and comprehensive. Syllabus: Situation and aspect, drainage, soil, imported soil, digging and enriching soil, levelling ground, cleaning the ground, surface preparation, turfing and seeding, differences of lawns, lawn grass seeds, mixing seeds, quantity of seed required, sowing seeds, lawn grasses, clover in lawns, treatment of a new lawn, mowing and rolling, manures (natural and artificial), thin turf, weedy turf, mossy turf, earthworms, and implements.

When, having spoken for nearly an hour and a-half, Mr. Shipway resumed his seat, he was much applauded. In the discussion which followed the lecturer was able to largely amplify his remarks in answering the many questions put to him, and inquiries relating to such important matters as suitable grasses for sowing on a lawn shaded by trees, the eradication of moss, application of natural and artificial manures, the best artificials, and the destruction of earthworms by the application of worm destroyer, were fully answered by Mr. Shipway. The debate was sustained by the President, Messrs. Hinton, Exler, Sale, Wicks, Herridge, T[illegible]bridge, Carter, Loader, and others.

Mr. F. Townsend, head gardener to the vice-president, exhibited a fine group of primulas, embracing The Duchess, The Czar, Reading Blue, White Queen Star, and Lord Roberts Star. Four new members were elected. A vote of thanks to the lecturer, which was carried with acclamation, concluded the meeting.

Birmingham Gardeners' Association.

At the recent fortnightly meeting Mr. A. Coombes, St. Mary's Nursery, Hagley, near Stourbridge, gave an address on "Peach and Nectarine Culture." Mr. Thomas Humphreys (the chairman) presided over an appreciative assembly of the members. Mr. Coombes, who has been a most successful cultivator of fruits, especially of those forming the subject of his address, gave a ver[illegible] discourse both as to the outdoor and under-glass treatment in a very lucid and practical manner. Commencing with the selection of the maiden trees, composition of the soil, and the mechanical construction of the borders, he also adverted to that phenomenon "bud dropping," which, so far, is an unsolved problem, a fertile source, however, being imperfectly ripened wood, extreme dryness at the roots during the "resting season," and followed by an excessive application of water at the commencement of the forcing season. Another remarkable fact is that certain varieties of peaches and nectarines are naturally prone to drop their buds, which is accelerated by the mode of treatment when grown under glass. Mr. Coombes also expressed his regret at the decline of the cultivation of the peach and nectarine in the open, a circumstance arising not from any appreciable change in the climatal conditions from the normal conditions of half a century ago, but probably due to the attention of the cultivator being drawn away by the numerous exigences of [illegible] in the wonderful degree of popularity accorded to floral decorations. At the conclusion of the address only a short time was available for the animated discussion, and Mr. Coombes was accorded a hearty vote of thanks.

United Horticultural Benefit and Provident Society.

The monthly committee meeting of this Society was held at the Royal Horticultural Hall, Vincent Square, Westminster, on Monday evening, February 8, Mr. Charles Curtis in the chair. Eleven new members were elected. Two members were allowed to transfer from the lower to the higher scale.

The annual meeting will be held at the Royal Horticultural Hall on Monday, March 8 next, at 8 p.m., when Mr. Charles H. Curtis, chairman of committee, will preside.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, February 9. Present: Mr. E. A. Bowles, M.A., F.L.S., F.E.S. (in the chair); Messrs. C. T. Druery, H. T. Güssow, G. S. Saunders, A. Worsley, J. T. Bennett-Poë, W. Hales, F. J. Chittenden (hon. secretary), and Gurney Wilson (visitor).

BEETLE IN STEM OF VANDA. — Mr. Saunders reported that the beetle in the stem of Vanda teres was in too immature a condition to determine.

MALFORMED ORCHID.—Mr. Saunders also reported that the flower of Cattleya Trianæ referred to him from the last meeting showed three perfect stamens surrounding the pistil, three very short and regular petals, and three sepals shorter still. Mr. Saunders showed drawings illustrating these points.

ALBINISM IN ORCHIDS. — Mr. Gurney Wilson exhibited specimens in illustration of the inheritance of albinism in dendrobiums. He found that Dendrobium Murrinianum crossed with D. Ballianum, the former not a pure albino, though pale, the latter nearly white, gave seedlings almost exactly like typical D. nobile. D. nobile alba (virginale) which, when selfed, gives quite white seedlings, when crossed with D. Findleyanum gives D. "Cybele," all the seedlings being alike, and no light forms among them. Similarly Dendrobium Wardianum album crossed with D. nobile alba gives all coloured flowers. These "reversions" to coloured forms confirm the results that have been obtained in crossing sweet peas and stocks.

DOUBLE CYCLAMEN.—Mr. L. Lawrence, gardener to R. Gregory, Esq., of Shoreham, exhibited a plant of cyclamen bearing double flowers. The seed was from Low's Cyclamen Salmon Queen, and this was the only plant which had produced such flowers. All the flowers on the plant were alike, and every one had five perfect flowers arising from within the calyx, probably axillary to the sepals, though apparently alternating with them, and surrounding the central corolla, etc.

HIPPEASTRUM PARDINUM. — Mr. A. Worsley exhibited flowers of a form which he regarded as belonging to this species. He considered the species to be a variable one, and the form figured in the "Bot. Mag.," 5, tab. 5,645, not to be the one most commonly met with.

NOTONIA GRANTI. — This interesting composite with bright red heads of flowers and Kalanchoe-like in habit, about 3ft. in height, a native of Uganda, was exhibited by Messrs. J. Veitch and Sons. It was recommended that a botanical certificate be awarded to it. It was figured in the "Botanical Magazine," tab. 7,691.

British Gardeners' Association.

The monthly meeting of the London Branch of the association was held on February 11 at Carr's Restaurant, Strand, when Mr. E. F. Hawes presided. There was an excellent attendance, those present including: Mr. F. G. Cole, superintendent at the Garden City, Letchworth; Mr. Cresswell, gardener to the Earl Lytton; and Mr. C. B. Usher, newly home from Central Africa.

A brisk discussion upon the "Elm Bark Beetle" followed the formal business, but no satisfactory remedy for the pest seemed to be forthcoming.

After the discussion of this, and a few other points, a very interesting lecture upon "Kew Gardens: Their History and Attractions" was given by Mr. Charles H. Curtis, of the Gardeners' Magazine staff. Mr. Curtis briefly reviewed the history of the gardens at Kew from the time of Wm. Turner down to the present, and he showed how since they became public property the gardens had increased in size, beauty, and usefulness. He pointed out that, in addition to their great beauty and value from a purely gardening point of view, the gardens exerted a wonderful influence in two other directions. They were the centre of botanical science, and included a magnificent herbarium and botanical library; and they were of the utmost importance to the Empire in its work of colonisation, and the improvement of the agri-horticultural conditions in the dependencies.

Dealing with the attractions of the gardens, Mr. Curtis described the leading features of this great national institution, and, by means of nearly eighty fine lantern slides, vividly illustrated his remarks. The views of the Palm House, Rock Garden, interiors of the North Gallery, Timber Museum, Pagoda, Temperate House, Lake, and Rhododendron Dell, drew forth rounds of applause. Following the lecture, Mr. Curtis, in answer to questions, outlined the advantages to be derived by young gardeners from a couple of years' employment at Kew.

A cordial vote of thanks to Mr. Curtis, and a similar vote to the chairman, who also kindly acted as lanternist, brought an interesting, pleasant, and instructive meeting to a close.

Bristol Gardeners' Association.

"Hardy Ferns" was the topic at the meeting held on Thursday, February 11, at St. John's Parish Rooms. Dr. Shingleton Smith presided over a large attendance. Mr. Tunbridge, representative of the Reading Association, delivered a most interesting lecture upon the subject noted, full of poetry and humour, as well as cultural details and historical facts. The lecturer said some of the British ferns were used for food and medicinal purposes, and they were a survival of ancient times. Many of these ferns are beautiful. Speaking of the mystery of germination, Mr. Tunbridge said there were three stages, spore, prothallus, and the plant. Considerable care is required in raising ferns from spores, it being essential in all stages that they should have warmth, moisture, and shade.

Mr. Tunbridge had on view a splendid collection of fronds, consisting of over one hundred varieties, with names attached, which proved to be highly educational to the members. The lecturer said each name was of some significance, and described some special feature.

The chairman opened the discussion, adding some items of interest, and mentioned that the extract of male fern was used as a remedy for the tape worm, and also that we are indebted to the monster tree ferns of ages ago for our present supply of coal. Messrs. Candy, House, Holt, Binfield, Woodward, Scott, and Thoday also took part in the discussion, after which hearty votes of thanks were passed to lecturer and chairman.

For two table plants Mr. Grieve was first and Mr. Curtis second. A special certificate went to Mr. Tunbridge for his collection of ferns, and an ordinary one to Mr. Woodward for Cycnoches chlorochilum (Swan Orchid).

The East Anglian Horticultural Club.

The February meeting of this club witnessed a bright and interesting exhibition of flowers, fruits, and vegetables, contributed by its members. The educational side was well maintained by a lecture given by Mr. C. H. Shipston, of Ipswich, upon chemical manures. There was not much in the way of phosphatic, potash, or nitrogenous fertilisers that Mr. Shipston did not know about, and remark upon their fertilising properties. His proportions to use of the several well-known chemicals for various crops was carefully noted. A good discussion followed, and Mr. Shipston received the warm thanks of a large assembly for his lecture.

DESTRUCTION OF VERMIN. — Most gardens are pestered with Rats and Mice. Every effort should be made at this time of the year to exterminate them before seeds are sown. Danysz Virus is first rate stuff for killing these vermin. Single tube, 2s.; three tubes, 5s. Post free from DANYSZ VIRUS LTD., 52, Leadenhall Street, Garden Dept., London, E.C.—[Advt.]

RED OR GRIZZLY GRAPES.

Mr. Molyneux seems to argue (page 124) as if the fact that Grizzly Frontignan grape is very little grown were absolute proof that it is not worth growing. Such logic will scarcely hold water, as a similar statement might have been made only a few years ago about Cox's Orange Pippin apple, the time being well within my recollection when we burned hundreds of fine trees because the public would not have them at any price, preferring King of the Pippins.

Disputes on matters of taste are proverbially futile, but my own opinion is that Grizzly Frontignan is the most delicious grape in cultivation, even surpassing the Muscats in flavour, and without the "cloying" quality which some palates object to in the Muscats.

Pot vines being a speciality of our nurseries, I have had pretty full opportunities of hearing buyers' opinions on grapes, and may say that the neglect of "grizzly" sorts is owing to two causes. Firstly, the employer usually prefers fruit that will make a show on the table, and not one in fifty would have the moral courage to put a bunch of Frontignans before a guest, for fear that he should be suspected of palming off inferior fruit upon him.

Secondly, red grapes, to most gardeners, are as a flag of the same colour to a bull, and the warmth of Mr. Molyneux's denunciation would seem to indicate that he shares the feeling. Red or grizzly grapes are generally looked upon as a glaring proclamation of incompetence on the part of the grower, and it is consequently not to be wondered at that most gardeners absolutely refuse to have anything to do with growing fruit which might create a wrong impression in the minds of the ignorant visitor.

Perhaps when the Wisley exhibits, and the efforts of those who prefer flavour to show, have made the public more familiar with grizzly grapes, the Grizzly Frontignan will "come into its own," and, I may add one other little point, viz., that it will finish in an orchard house or other unheated structure, thus making it an amateur's fruit, which the much-lauded Muscat of Alexandria is not. Chas. E. Pearson.

Lowdham Nurseries.

"Chrysanthemums for Garden and Greenhouse."—This book, written by Mr. D. B. Crane, has now passed into a second edition. The work has undergone thorough revision, and has been much improved and brought up-to-date. All the new varieties are described, and in many cases illustrated; also new illustrations have been added of the chief insect friends and foes. Culture for cut flower production and garden decoration is the theme of this treatise; it includes the early-flowering section, decorative Japanese, pompons, singles, etc. The book is nicely bound in cloth, and is offered for 2s. 6d. net, or by post 2s. 10d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

Oxalis floribunda.—This common oxalis, with its bright display of rose-coloured flowers, most of the summer, is a useful plant for certain purposes. Though it will grow in almost any soil, it does best on one inclining to lightness. Its flowers open in the sun, and close towards evening, so that a sunny situation is necessary to show it off to advantage. It is very showy on the margin of a mixed border, though it should not be planted too close to the edge, as its leaves and flowering stems come forward as the plant develops during the summer. It is also good between taller plants, when it is not too much sheltered from the sun by them. On the rockery, too, it is valuable, a good patch of it growing downwards at an angle of 45 degrees in full sunshine being very effective. It has a tuberous root, and is easy to propagate by division, though on some favourable soils it needs repression rather than propagation.—Alger Petts.

NEW PLANTS, ETC.

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ODONTOGLOSSUM ARDENTISSIMUM PHŒBE.

This beautiful variety has very fine form and particularly rich colouring to recommend it. Reference to our illustration on page 134 will show that the rich red-purple colouring occupies the larger part of each sepal and petal, this vivid colouring being set off by the white margin. The lip is large, and has a white apex, and a bright red-purple area, extending over the base and down the centre. F.C.C., R.H.S., February 9. Mr. Norman C. Cookson (gardener, Mr. H. J. Chapman), Oakwood, Wylam-on-Tyne.

CYPRIPEDIUM LEANDER, EXHIMS VAR.

This shapely hybrid is derived from C. villosum and C. Leeanum var. The rounded dorsal sepal is white, with rosy-purple markings, while the broad petals are light yellowish-green, with shadings of dull purple, and the lip is similarly coloured. A.M., R.H.S., February 9. Mr. J. Forster Alcock, Exhims, Northchurch.

LÆLIO-CATTLEYA GOLDFINCH SUPERBA.

A charming hybrid, obtained from L.-c. Warnhamensis and C. Dowiana aurea. This cross has given progeny showing considerable variation, but the above variety is very striking, because of the deep rich purple colouring of the lip, this being finely displayed by the bright yellow of the sepals and petals and the golden lines at the base of the lip. A.M., R.H.S., February 9. Lieut.-Colonel G. Holford (grower, Mr. H. G. Alexander), Westonbirt, Tetbury, Gloucester.

ALPINIA BRACTEATA.

A strong growing, moisture loving plant from the Eastern Himalaya, and one that thrives under cultivation in a tropical house, planted in rich soil. It grows from 3ft. to 7ft. high, produces bold leaves, often 2ft. long and 6in. broad, and bears fairly large bright flowers on a terminal raceme. The flowers are white, tinged with pink, and have a large lip that is red-purple, with rosy margins and a yellow tip. Bot. Mag., t. 8,237.

OLIGOBOTRYA HENRYI.

A very curious Chinese liliaceous plant growing about 3ft. high, with slender purple-marked stems and rounded green leaves. The flowers may be yellow or violet, but they are small, and produced in a terminal spike. The plant is hardy, and succeeds with hardy cypripediums. Bot. Mag., t. 8,238.

ERANTHEMUM WATTI.

This is a handsome and useful garden plant, and one that was introduced by Colonel R. H. Beddome, from Northern India. It was first figured in the GARDENERS' MAGAZINE of 1901, p. 645, and there described under the name of Dædalacanthus Watti, the title given it at first by Colonel Beddome. The species was discovered by Sir George Watt, whose name it bears. E. Watti is easily grown in a warm house from spring-struck cuttings, and it will then flower freely in July and August, yielding an abundance of violet-blue flowers on neat, much-branched plants. Bot. Mag., t. 8,239.

PINUS BUNGEANA.

A tall-growing pine from Northern China, and one that succeeds well at Kew, where there is a specimen 25ft. high. It is an attractive tree, with vivid green leaves, and smooth bark, that peels off after the manner of the common plane. The leaves are in bundles of three, and the cones are from one to two inches long. Bot. Mag., t. 8,240.

SORBUS VILMORINI.

A very distinct new species found in South-western China. Specimens were sent to Kew in 1887, but it was not until 1905 that a living plant was received, through the kindness of Mr. M. L. de Vilmorin, in whose fine collection of trees and shrubs at Les Barres, the species has grown to a height of 10ft. The plant is hardy, flowers freely in June, bearing terminal corymbs of white flowers, which are followed by red, rounded fruits that are attractive in September and October. Bot. Mag., t. 8,241.

OBITUARY.

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MR. W. Y. GIBSON.

In his eightieth year, Mr. W. Y. Gibson, a well-known Aberdeen resident, died a few days ago, after a long life spent in the seed and nursery trade. He was best known for his long connection with the firm of Messrs. Benjamin Reid and Co., of Aberdeen, and was intimately associated with the seed and florists' departments of that firm. He retired from business only a short time ago.

SIR GEORGE KING.

We regret to record the death of Sir George King, K.C.I.E., which occurred on the 13th inst. at the Hotel des Anglais, San Remo, in his sixty-ninth year. Sir George King entered the Bengal Medical service in 1865, and was for some years house surgeon of the hospital attached to the Medical College in Calcutta. Here his interest in botany was recognised, and in 1871 he was appointed to the botanical chair of the college, and also to the post of director of the Calcutta Botanic Gardens, where he accomplished much useful work. Sir George King devoted much attention to the investigation of the alkaloids of cinchona bark, and was appointed superintendent of the cinchona plantations in British Sikkim. In 1891 he was appointed an additional director of the Botanical Survey of India, retaining his charge of the gardens. Chief among the several works from the pen of Sir George King may be mentioned, "Manual of Cinchona Cultivation in India." "Orchids of the Sikkim Himalayas," and "Species of Ficus of India and China."

TRADE NOTES.

Chief among the difficulties with which cultivators of peaches and nectarines against open walls have to contend is the prevention of the disease commonly known as leaf-curl and peach blister, which, in districts not particularly favourable to the growth of these fruits, annually does much damage to the trees, unless preventive measures are adopted. By past generations of growers the blistering and curling of the leaves was regarded as the result of the disorganisation of the cells by the cold easterly winds, usually prevalent at the time when the tender foliage is unfolding; but scientific research has established the fact that the disease is caused by a fungus known as Exoascus deformans, which is most rife in seasons when the growth is checked at an early stage by a sharp fall in the temperature. Good culture is of much value in warding off attacks, but it is not all-sufficient, and it is therefore a point of much importance that cultivators should have at their command a cheap, effectual, and easily-applied remedy, such as that which Messrs. George Bunyard and Co., of the Royal Nurseries, Maidstone, have introduced under the name of Medela. This is a liquid preparation, and, in being prepared for use, is mixed with soft water at the rate of half a pint of the specific to half a gallon of water. It is then applied with a hand sprayer, or a syringe, to which a fine rose has been affixed, care being taken to thoroughly saturate the whole of the shoots. It is advised that the first spraying be at the middle of February, or as soon after as practicable, and that the trees be again sprayed early in March. Should there be evidence of the presence of the disease later on, the trees should be sprayed with a solution of one-half the strength of that advised for the earlier sprayings.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

BAIT FOR MOLES.—C. F. A., Kidderminster: We have never seen a mole trap baited, and cannot, therefore, offer you any advice as to the kind of bait that would attract moles to the trap. If any of our readers know of a good bait for moles we shall be glad if they will tell us what it is.

RED LEAD FOR SWEET PEAS.—C. F. A., Kidderminster: Dry red lead does not in any way injure the seeds of either culinary or sweet peas if applied properly. The method is simplicity itself, and consists of placing the seeds in a tin or iron or earthenware vessel, preferably a moderately shallow one. Pour a little water upon the seeds, and then, with a circular motion, ensure that every seed is wetted. Drain off all the surplus water, and then dust the seeds with dry red lead. Repeat the circular motion until every seed has its thin coating of red lead, then set the seeds aside to dry, and, as soon as they are dry, sow them. Put on an old pair of gloves when doing the work, and take care not to inhale the red lead, as it is very poisonous. However, with reasonable precautions there is no danger to the operators, but the leaded seeds are fatal to birds and vermin, and they come quickly to know this, and give the seed a wide berth.

BEGONIA WORTHIANA.—F. M., Ewell: Your best method will be to start the tubers in shallow boxes of rich, light soil in a warm, moist house, and, as soon as they are available, make cuttings of the young growths, inserting each one in a small pot, in sandy soil, and placing them in a propagating frame.

COUCH GRASS IN ORCHARD.—F. E. C., Norwich: We entirely agree with you that it will be far better, and much more profitable, to cultivate the ground between the orchard trees. If the couch and other grasses are as bad as your letter suggests you will have to deal with the matter in bold fashion. We suggest you start several good fires going down the centre of the orchard, making them up with wood obtained from the prunings, etc. When the fires are of some size dig up the surface soil containing the grass roots, or pare it off if the roots are not too deep, and burn it on the fires. As the paring process proceeds have the ground deeply dug and left rough. When all the rest of the orchard has been thus cleaned and dug, work down the centre, and distribute the ashes from the fires over the whole area. This is good work for the first thing in the morning and the last thing in the afternoon. Plant potatoes in due course, as the hoeing and earthing up these need give the ground a thorough cleaning.

RAISING SWEET PEAS IN POTS.—D. H., Derby: You will find the whole subject fully and practically dealt with in "Sweet Peas and Their Cultivation," a capital little book, freely illustrated, and containing full information as to varieties, raising, planting, staking, feeding, etc. The book is by Mr. C. H. Curtis, hon. secretary of the National Sweet Pea Society, and can be obtained from the GARDENERS' MAGAZINE Office, 148, 149, Aldersgate Street, E.C., for 1s. 2d. or 1s. 8d. (cloth boards), post free.

BOUVARDIA CULTURE.—G. B., Cirencester: Bouvardia blooms are very useful for buttonhole bouquets, while for supplying quantities of useful and lasting flowers, and for the decoration of the conservatory and greenhouse, bouvardias have much to recommend them. A succession of young plants is essential to the plentiful production of bloom, and they may be readily propagated from the cuttings of young shoots in the spring. To obtain suitable cuttings rest the old plants for a short time after they have flowered, then cut them hard back, and place where they will have the assistance of a brisk temperature. The result will be a crop of new growths that can have their tops taken off and rooted with the greatest ease. Use fibrous loam and peat, three parts each, and leaf-mould and sand one part each. Grow in a pit or frame during the summer, and in the winter in an intermediate house. The finest of the varieties are Alfred Neuner, Candidissima. Dazzler, Humboldti corymbiflora, Mrs. Green, Priory Beauty, Purity, Thomas Meehan, Triomphe de Nancy, President Garfield, and Vulcan.

SOWING TOMATOES.—M. P., Prescot: Some growers sow tomato seeds fairly thickly in pots or pans, and pot off the seedlings as early as possible, and when circumstances are such that potting can be done the moment it is necessary good results follow. Failing these conditions there is great risk in thick seed sowing, because the seedlings may become drawn, weak, and starved before they can be transferred to single pots, and they then take some time to recover, and there is a consequent loss of crop. We prefer to sow the seeds in broad boxes about four inches deep, placing the seeds an inch apart every way, just comfortably covering them with fine soil, and pressing this down firmly. It takes longer to sow in this fashion, but the plants come along sturdily, and there is not the necessity for potting them off so quickly as when the seedlings stand close together, and are competing with each other for the necessities of life.

ASPARAGUS FOR SMALL GARDENS.—C. T. E., Hendon: Asparagus is by no means difficult to cultivate, but it is not usually considered a suitable vegetable for small gardens, because the space necessary for beds sufficiently large to provide a good dish at any one cutting is considerable. However, you must decide for yourself. In forming a new plantation select ground that was trenched in the autumn, and had plenty of manure and some lime rubble added. Grow in beds five feet wide, with two-feet alleys between them, and put three rows in each. The best time for planting is at the end of March or early in April, when the crowns are commencing to make new growth, and the best way of doing this is to make drills six inches wide, place the roots in them twelve inches apart, and cover with fine soil. A dressing of half-rotted manure in the autumn is desirable each year, as also is a dressing of nitrate of soda in the spring, at the rate of half an ounce to the square yard. If manure is not available, top-dress in the autumn with bone superphosphate and kainit at the rate of two ounces each to the square yard. Connover's Colossal, Early Giant French, and Giant Argenteuil are good types.

SCENTED BEGONIAS.—M. E. M., Newport: There are very few begonias with fragrant flowers, and those that have a distinct odour seem to lose it under the influence of hot sunshine or dry atmosphere. It is in early morning that the fragrance is most noticeable. Begonia Baumanni, introduced from Bolivia about 1866, by Dr. Sace, and first raised from seed by Mr. E. N. Bauman, of Bolwiller, was purchased by Mons. Lemoine, of Nancy, and distributed by him in 1892. This produces flowers that are more or less fragrant. This has been used for crossing with the double tuberous varieties, and has resulted in the few varieties that possess a little fragrance. But we appear to be a long way yet from garden varieties of tuberous begonias that are decidedly and continuously fragrant.

NAMES OF PLANTS.

T. R. E., Overton.—1, Galanthus Elwesi; 2, Eranthemum pulchellum.

M. C. A., Darlington.—1, Cochlioda vulcanica; 2, Odontoglossum Harryanum.

F. G. L., Leyton.—1, Begonia fuchsioides; 2, Saintpaulia ionantha; 3, Acacia dealbata.

W. M., Lynn.—1, Woodwardia radicans; 2, Adiantum Birkenheadi; 3, Gymnogramma Alstoni; 4, Pteris cretica; 5, P. scaberula.

C. H. B., Launceston. — 1, Rhododendron arboreum var.; 2, Eucalyptus globulus; 3, Lonicera Standishi.

METEOROLOGICAL OBSERVATIONS.

TAKEN BY THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1909. February 7 to February 13.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Feb. 7—Sunday	4 10	23	23	44	23
„ 8—Monday	4 0	34	32	39	23
„ 9—Tuesday ...	—	37	34	42	29
„ 10—Wednesday.	0 5	33	33	38	33
„ 11—Thursday ...	0 20	36	35	40	33
„ 12—Friday	6 30	31	31	36	31
„ 13—Saturday ...	0 40	32	32	36	30
Means	2 15	32	31	39	29

Date. 1909. February 7 to February 13.	Rain.	Temperature of the Soil. At 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
Feb. 7—Sunday	—	38	41	42	20
„ 8—Monday	—	37	40	42	23
„ 9—Tuesday ...	0·07	36	39	42	23
„ 10—Wednesday.	0·08	37	39	42	29
„ 11—Thursday ...	0·03	37	39	42	28
„ 12—Friday	—	37	39	42	29
„ 13—Saturday ...	—	36	39	41	25
Means ...	(total) 0·18	37	39	42	25

FORTHCOMING ENGAGEMENTS.

TUESDAY, February 23.—Royal Horticultural Society: Fruit, Floral, and Orchid Committees meet at 12 o'clock; Lecture at 3 o'clock on "A Camping Tour through Syria to Petra in Arabia," by Mr. A. W. Sutton, V.M.H.; Scientific Committee at 4 o'clock.

TUESDAY, March 2.—National Amateur Gardeners' Association: Lecture on "Garden Dahlias," by Mr. George Gordon, V.M.H., 7.30 p.m.

THURSDAY, March 4.—Linnean Society Meeting.

SATURDAY, March 6.—French Horticultural Society of London.

MONDAY, March 8.—Annual Meeting of the United Horticultural Benefit and Provident Society, at the Royal Horticultural Hall, Westminster.

Vegetables of Foreign Growth were, on the whole, less plentiful in British markets in January than they have been in the corresponding month for several years past. The most important decrease was in the imports of potatoes, of which the aggregate was only 33,365 cwt., of the value of £7,259, as compared with 572,184 cwt., of the value of £68,052 in January, 1908. In the imports of tomatoes there was a decrease in quantity of 6,387 cwt., and in value of £10,996, the total having been 67,022 cwt., of the value of £49,777. Unenumerated vegetables show an increase in value of £11,695, the aggregate having been £34,111, and in the imports of onions there was a big increase, the aggregate having been 618,980 bushels, of the value of £116,770, against 603,782 bushels, of the value of £67,499, in the corresponding month of last year.

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1 cwt.	11s. 6d.
Sample Tin	9d.

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MARKETS.

◆

COVENT GARDEN.

Flowers.

Business is improving, but good supplies are forthcoming, so that prices are not high for the season.

		s. d.		s. d.
Acacia	per doz. bun.	8 6	to	12 0
Adiantum cuneatum	per doz. bun.	5 0		9 0
Anemones	per doz. bun.	1 6		2 6
Arums	per doz.	3 0		4 0
Asparagus	per doz. bun.	1 6		6 0
Azaleas	per doz. bun.	4 0		6 0
Bouvardias	per doz. bun.	6 0		9 0
Camellias	per doz.	1 6		2 0
Carnations	per doz. blms.	2 0		3 6
,,	per doz. bun.	9 0		12 0
Cattleyas	per doz.	10 0		15 0
Chrysanthemums	per doz. bun.	10 0		20 0
,,	per doz. blms.	2 0		4 0
Croton leaves	per bun.	1 0		1 6
Cypripediums	per doz. blms.	1 6		3 0
Daffodils	per doz. bun.	4 0		8 0
Eucharis	per doz.	2 6		4 0
French fern	per doz. bun.	1 0		3 0
Freesias	per doz. bun.	2 6		3 0
Gardenias	per doz.	3 0		5 0
Hyacinths, Roman	per doz. bun.	7 6		12 0
Lapagerias	per doz.	1 6		2 0
Lilac, white	per bun.	3 0		7 0
,, mauve	per bun.	4 0		5 0
Lilium auratum	per bun.	2 0		3 0
,, speciosum	per bun.	2 0		3 0
,, longiflorum	per bun.	3 0		5 0
Lily of the Valley	per doz.	7 0		15 0
Marguerites, white	per doz. bun.	2 0		3 0
,, yellow	per doz. bun.	2 0		3 0
Mignonette	per doz. bun.	2 0		3 0
Narcissus, Paper White	per doz. bun.	2 0		3 0
,, soleil d'Or	per doz. bun.	2 0		3 0
Odontoglossums	per doz. blms.	2 0		4 0
Pelargoniums	per doz. bun.	5 0		10 0
Roses	per doz.	2 0		8 0
Snowdrops	per doz. bun.	1 0		2 0
Spiræas	per doz. bun.	5 0		7 6
Stocks	per doz. bun.	2 6		4 0
Tulips	per doz. bun.	6 0		20 0
Tuberoses	per doz. blms.	0 3		0 6
Violets	per doz. bun.	1 6		3 0
,, Parmas	per bun.	4 0		5 6

Fruits.

Apples and oranges sell well, and form the bulk of the trade

		s. d.		s. d.
Apples, American	per barrel	13 0	to	26 0
,, Nova Scotian	per barrel	17 0		23 0
,, Californian	per case	8 0		10 0
,, French Russets	per case	9 0		10 6
Apricots, Cape	per case	2 6		6 0
Bananas	per bun.	5 0		12 0
Chestnuts	per bag	7 0		16 0
Cranberries	per case	8 0		16 0
Figs	per box	0 10		1 6
Grapes, English	per lb.	1 0		4 0
,, **Almeria**	per bar.	12 6		20 0
,, Guernsey	per lb.	0 10		1 2
Lemons	per case	10 0		20 0
Medlars	per case	4 0		5 6
Oranges, Jamaica	per case	6 0		10 0
,, Jaffa	per case	8 0		10 6
,, **California**	per case	12 0		15 0
,, **Tangerines**	per box	0 8		1 6
Peaches, Cape	per case	5 0		10 0
Pears, Californian	per case	8 0		11 0
,, Catillac	per crate	8 0		9 0
Pineapples	each	4 0		6 0
Plums, Cape	per case	3 0		6 0

Vegetables.

There is a brisk demand for greenstuffs, and prices are high: rhubarb sells very well

		s. d.		s. d.
Artichokes, Globe	per doz.	2 6	to	4 0
,, Jerusalem	per bush.	1 9		2 0
Asparagus	per bundle	3 6		5 0
,, **Sprue**	per bun.	0 8		1 0
Beet	per bush.	1 0		2 0
Beans (French)	per lb.	1 0		2 6
Brussels Sprouts	per ½-bush.	2 0		3 6
Cabbage	per tally	5 0		8 0
Carrots	per doz. bun.	1 0		3 6
Cauliflowers	per doz.	3 0		5 0
,, **Italian**	per basket	3 0		3 6
Celery	per doz. rolls	8 0		15 0
Celeriac	per doz.	1 6		3 6
Chicory	per lb.	0 3½		0 6
Cucumbers	per doz.	5 0		10 0
Endive	per doz.	1 6		2 0
Horseradish	per doz. bun.	8 0		12 0
Kale	per bush.	3 0		3 6
Leeks	per doz. bun.	1 0		1 6
Lettuce, French	per crate	3 0		6 0
Mint	per doz. bun.	3 0		6 0
Mushrooms	per doz. lb.	6 0		12 0
Onions, Pickling	per bush.	3 6		4 6
,, **Valencia**	per case	10 0		12 0
Parsley	per doz. bun.	2 0		2 6
Parsnips	per bag	2 0		3 0
Radishes	per doz. bun.	1 3		2 6
Rhubarb	per doz. bun.	0 10		1 6
Savoys	per tally	7 0		10 0
Seakale	per doz. pun.	9 0		14 0
Spinach	per basket	2 6		3 6
Tomatoes	per doz. lbs.	4 0		6 0
,, Canary	per pack.	8 0		14 0

LONDON POTATO MARKETS.

There is an average demand to meet large supplies.

		s. d.		s. d.
British Queen	per ton	50 0	to	60 0
Epicure	per ton	45 0		60 0
Evergood	per ton	45 0		50 0
Sharpe's Express	per ton	60 0		65 0
Maincrop	per ton	60 0		70 0
Royal Kidney	per ton	50 0		55 0
Up-to-Date	per ton	50 0		60 0
,, Blacklands	per ton	45 0		50 0

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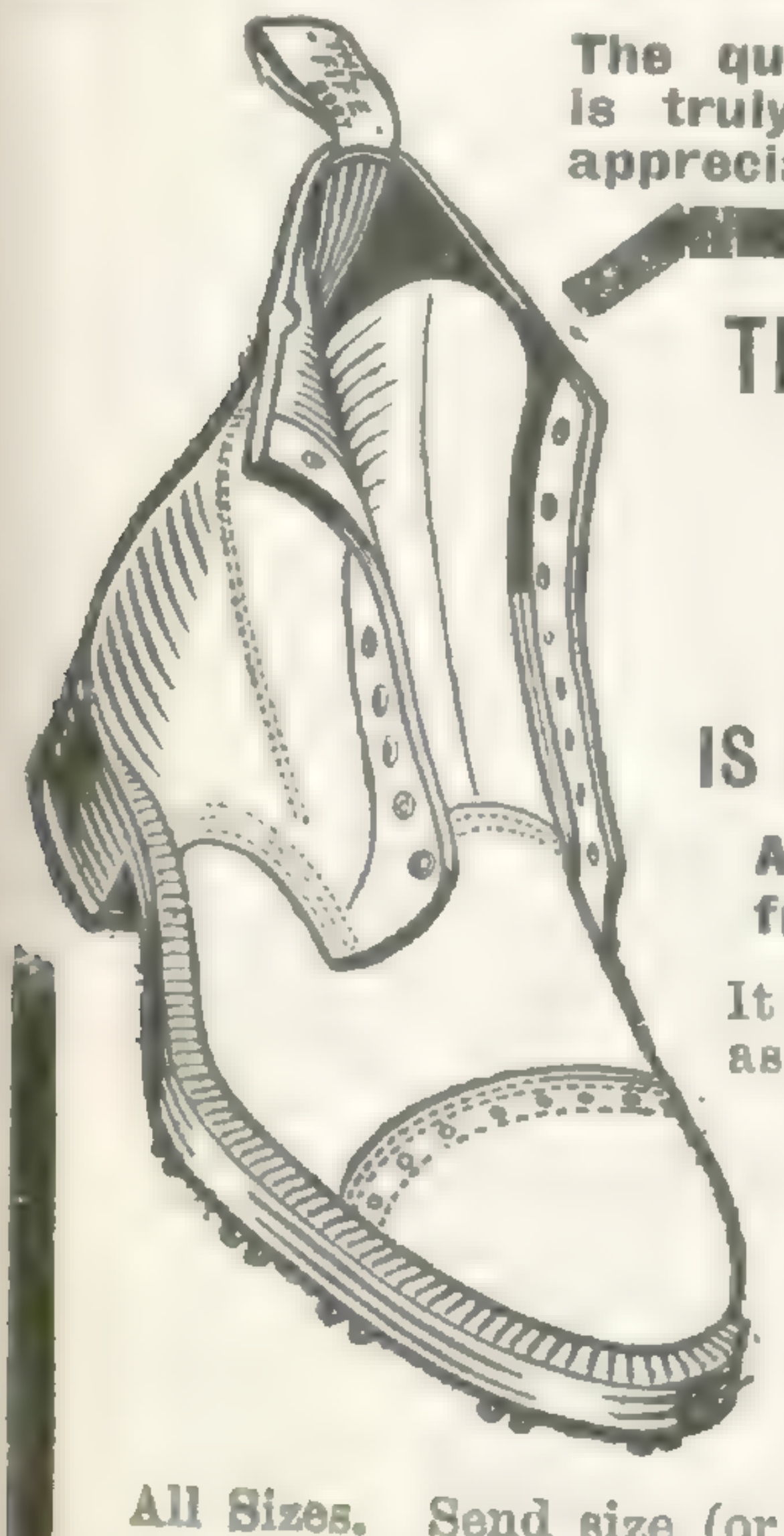

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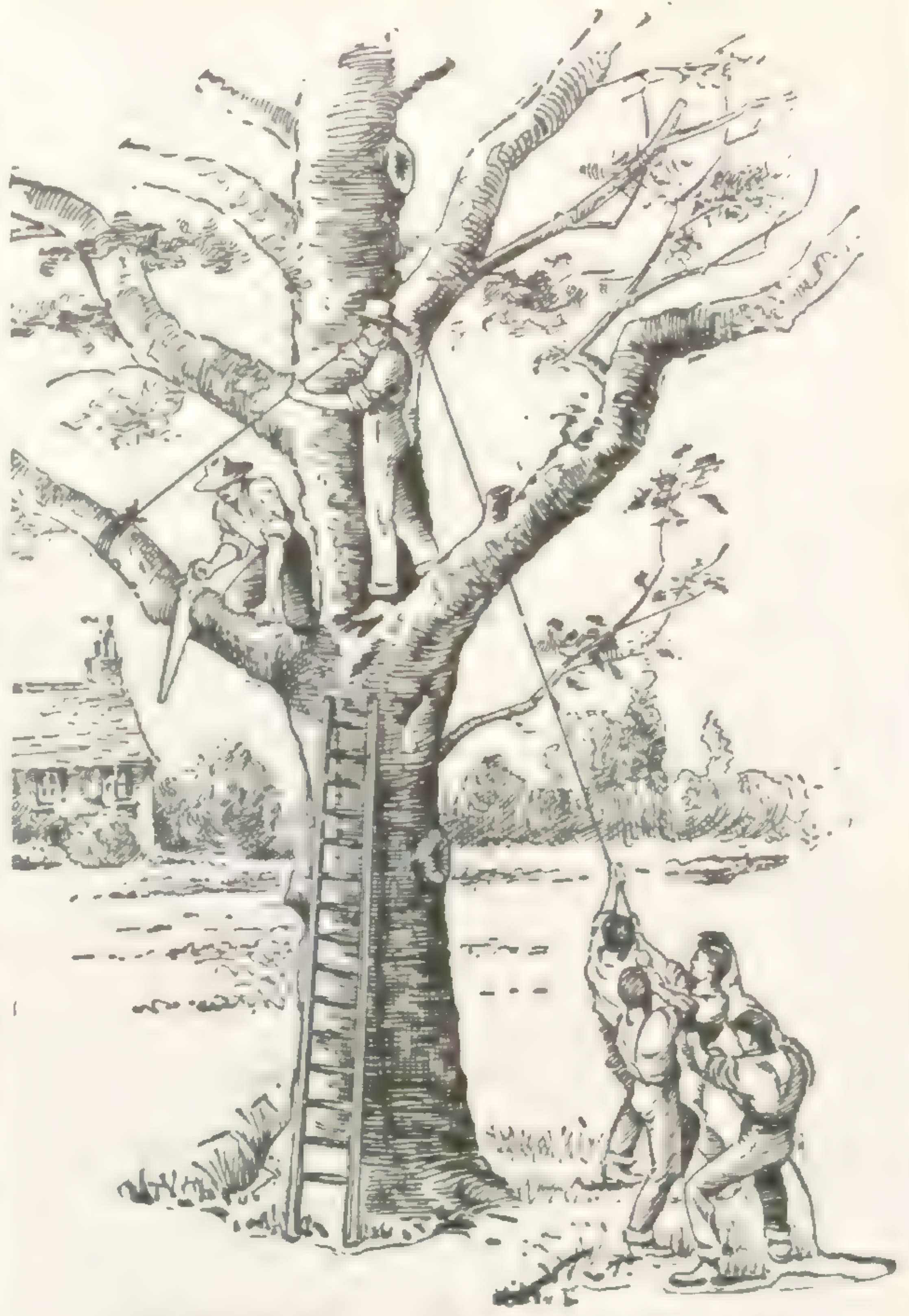

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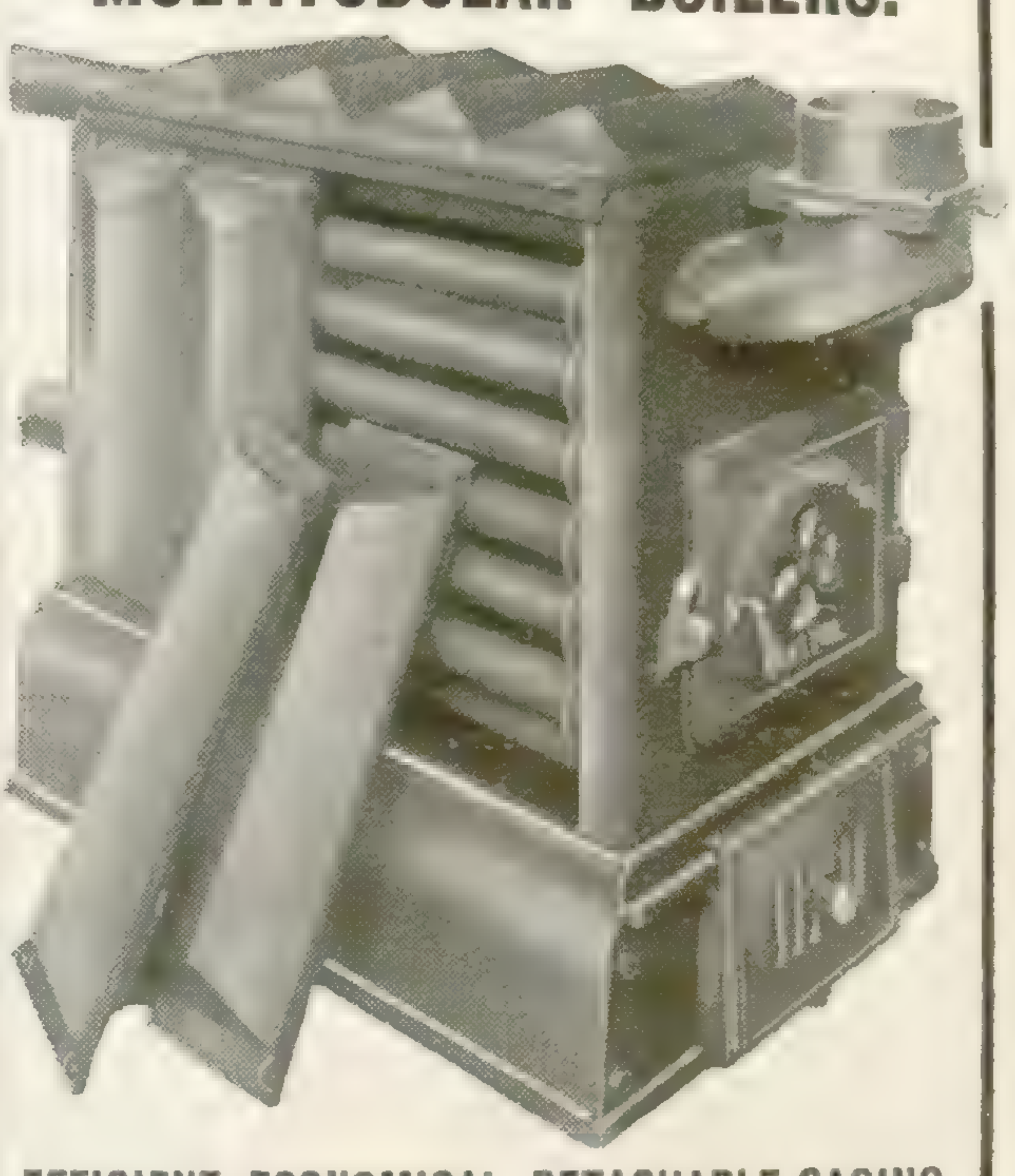

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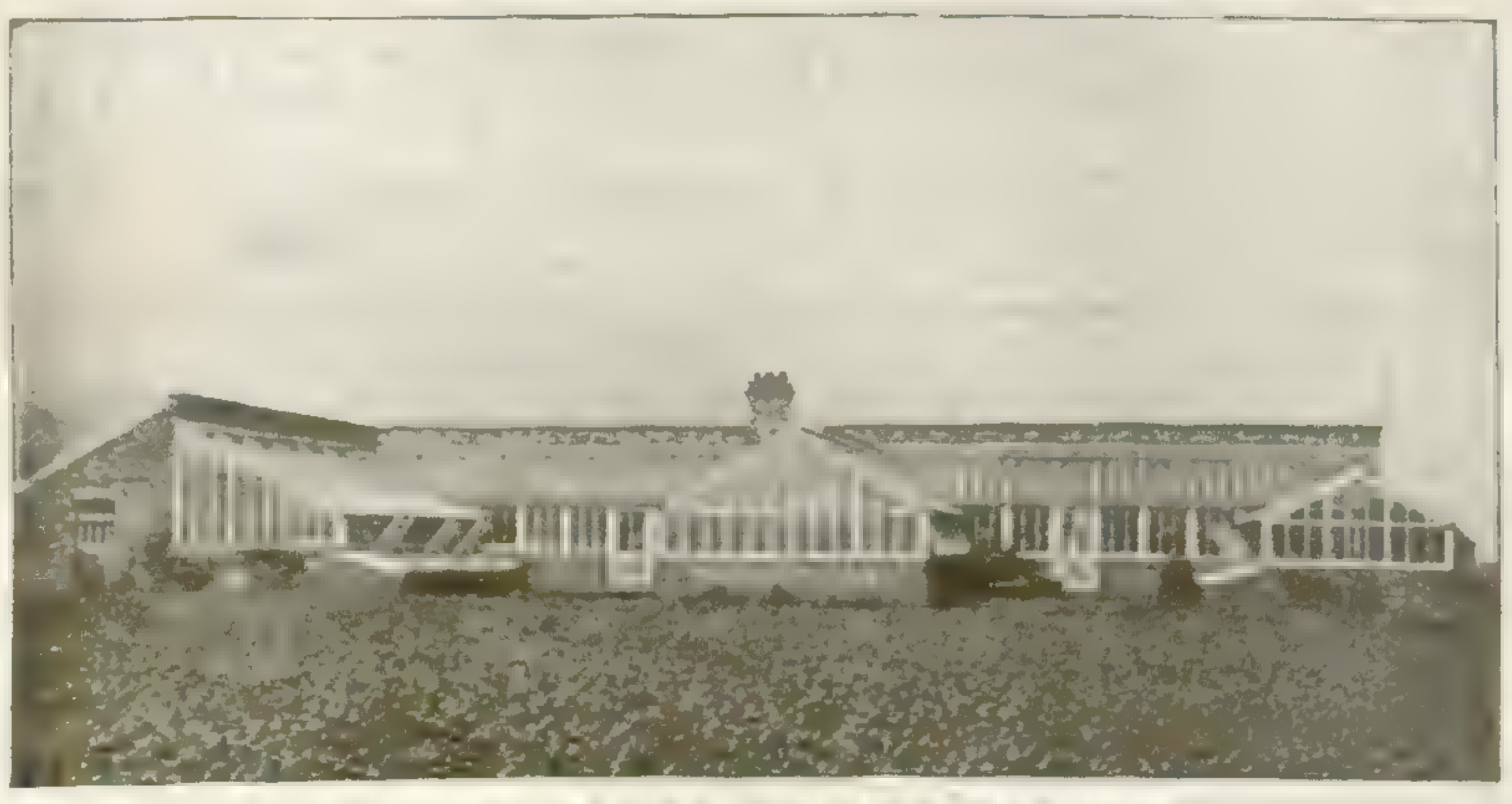

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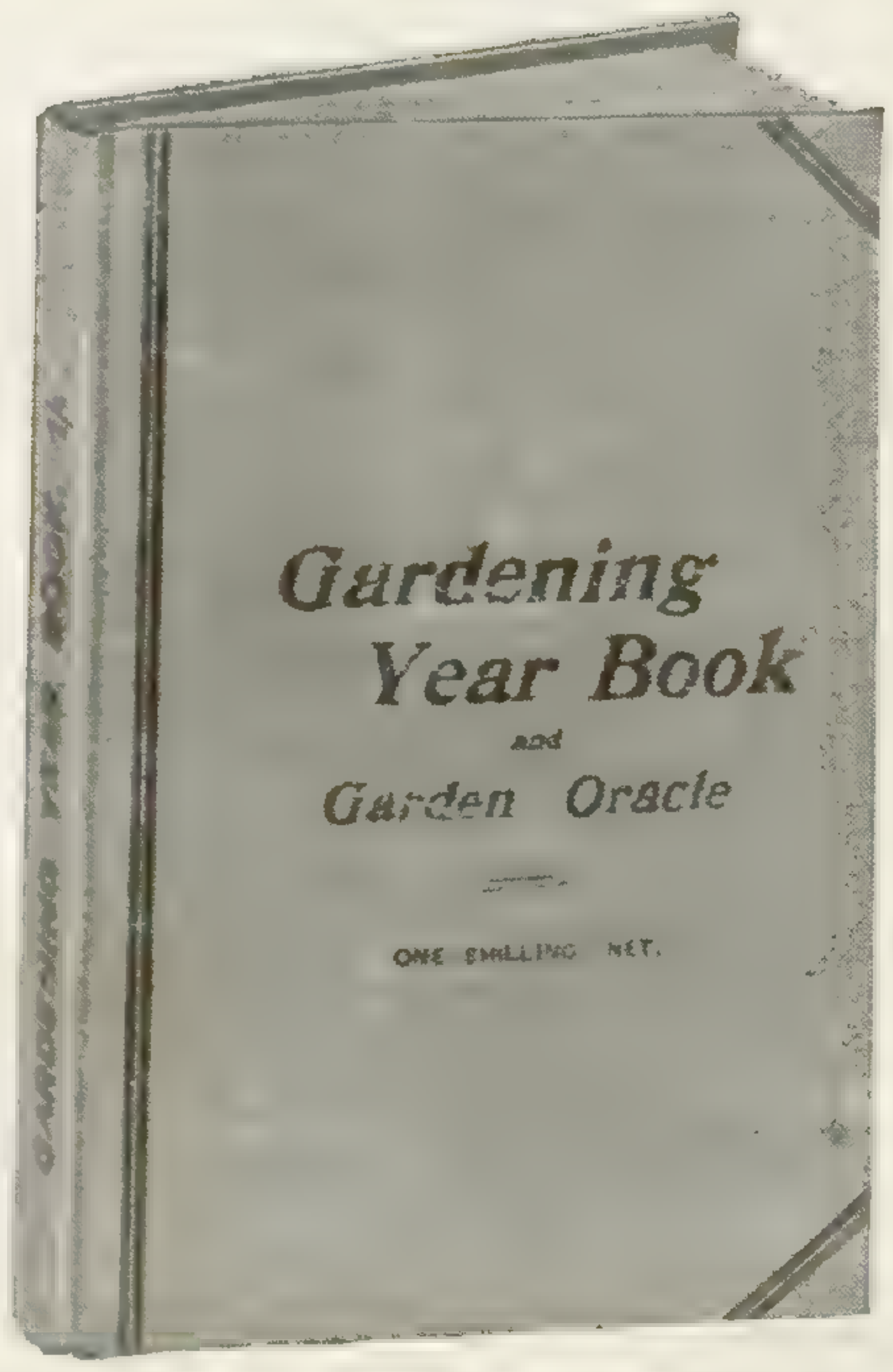

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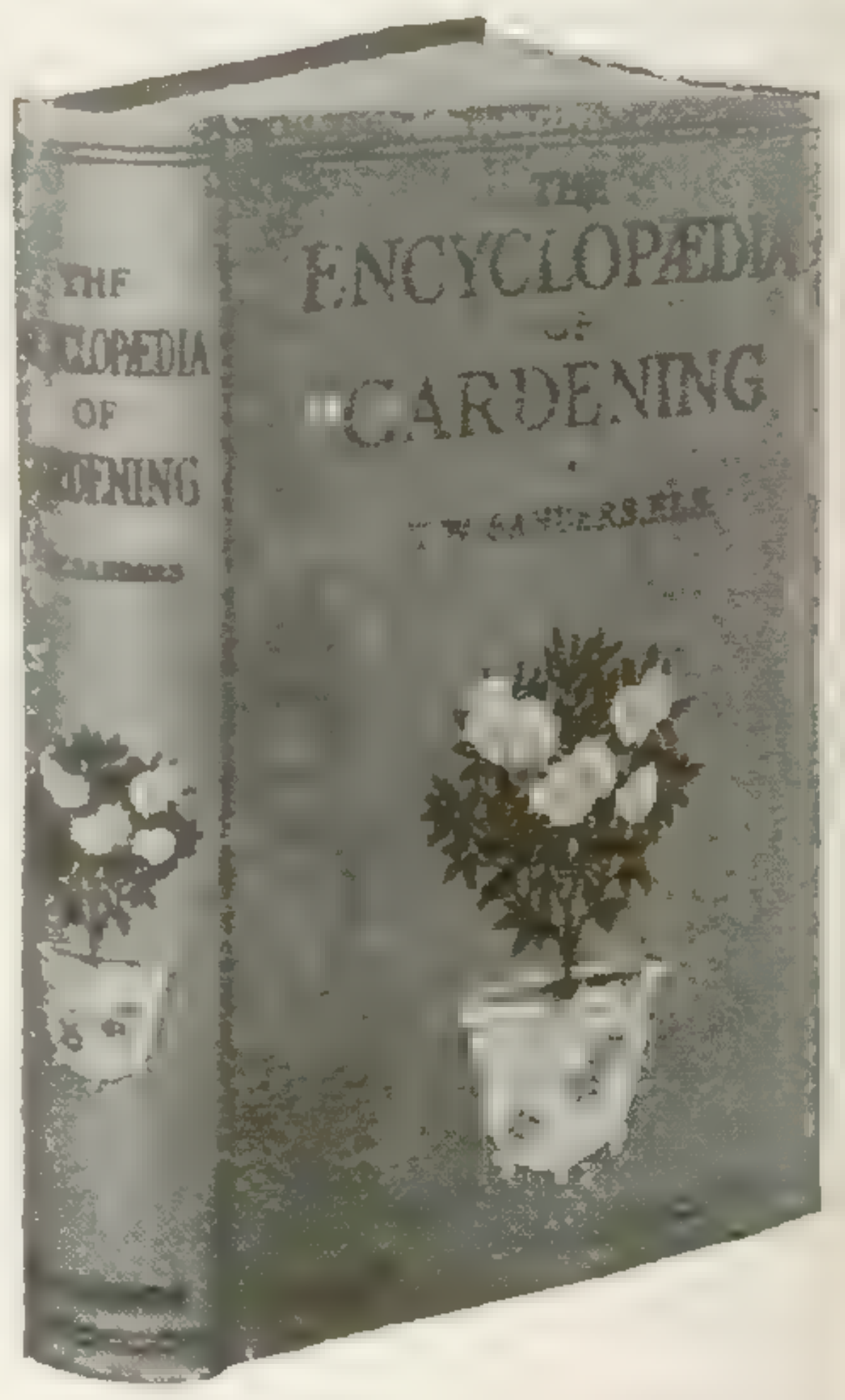

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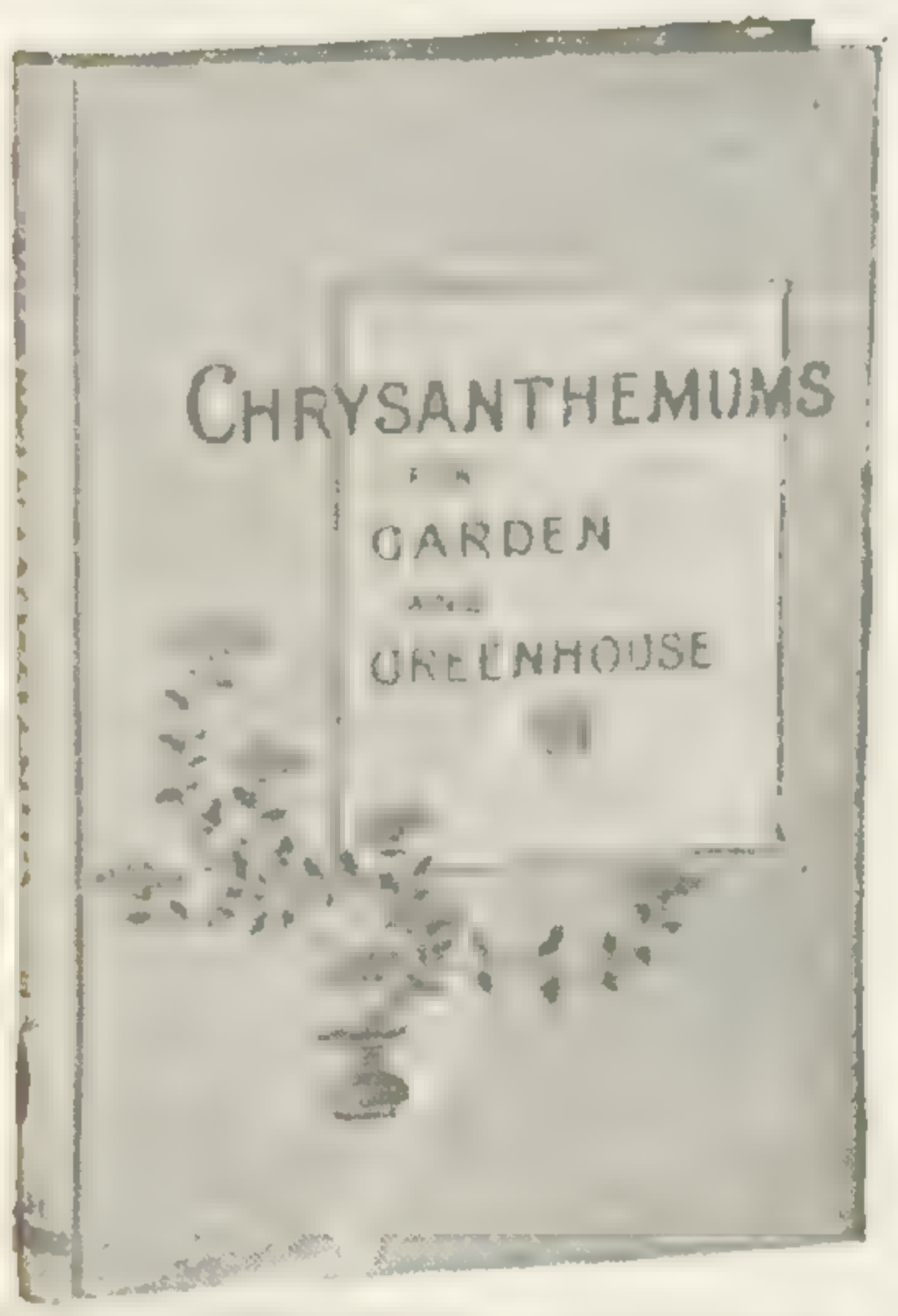

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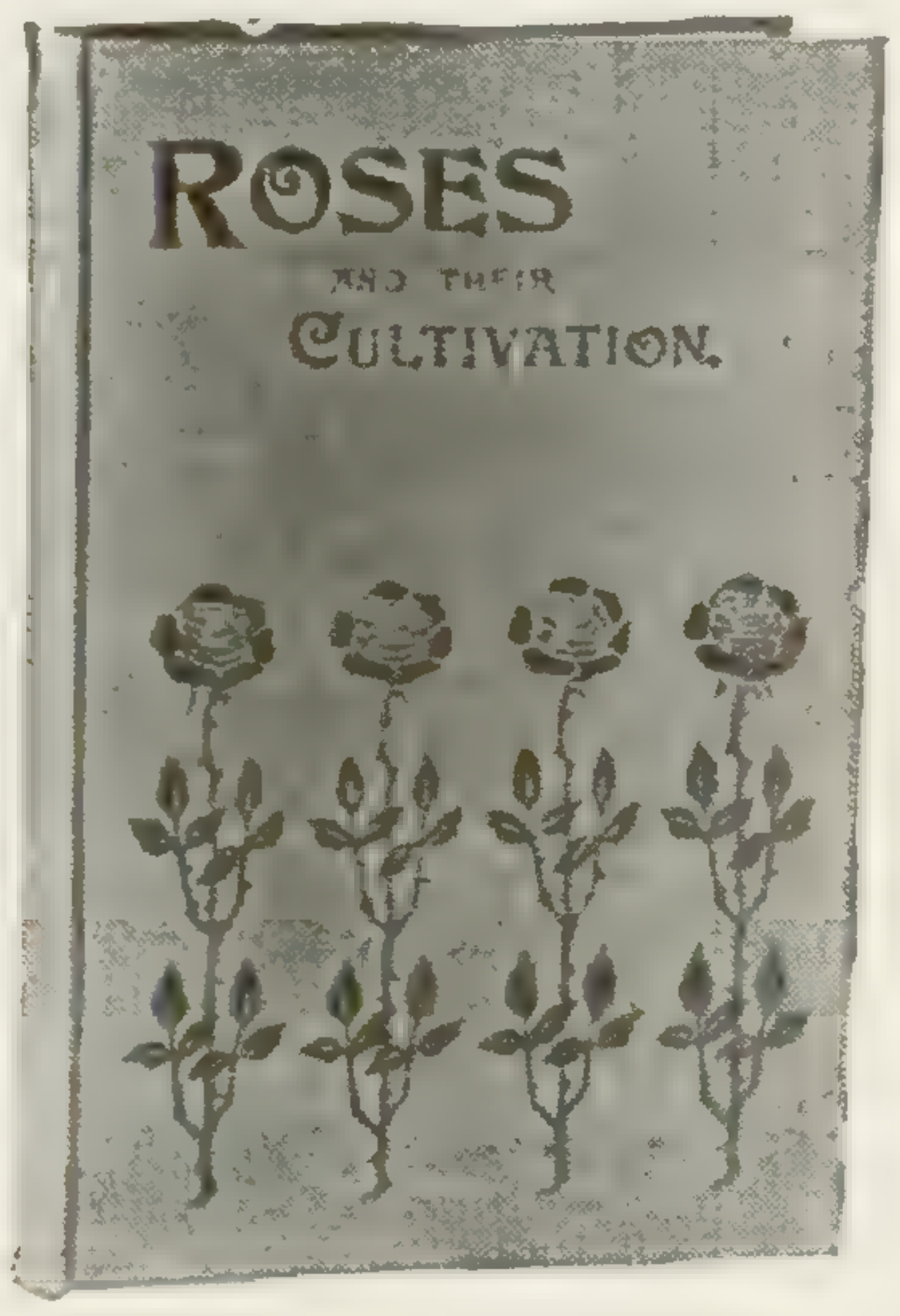

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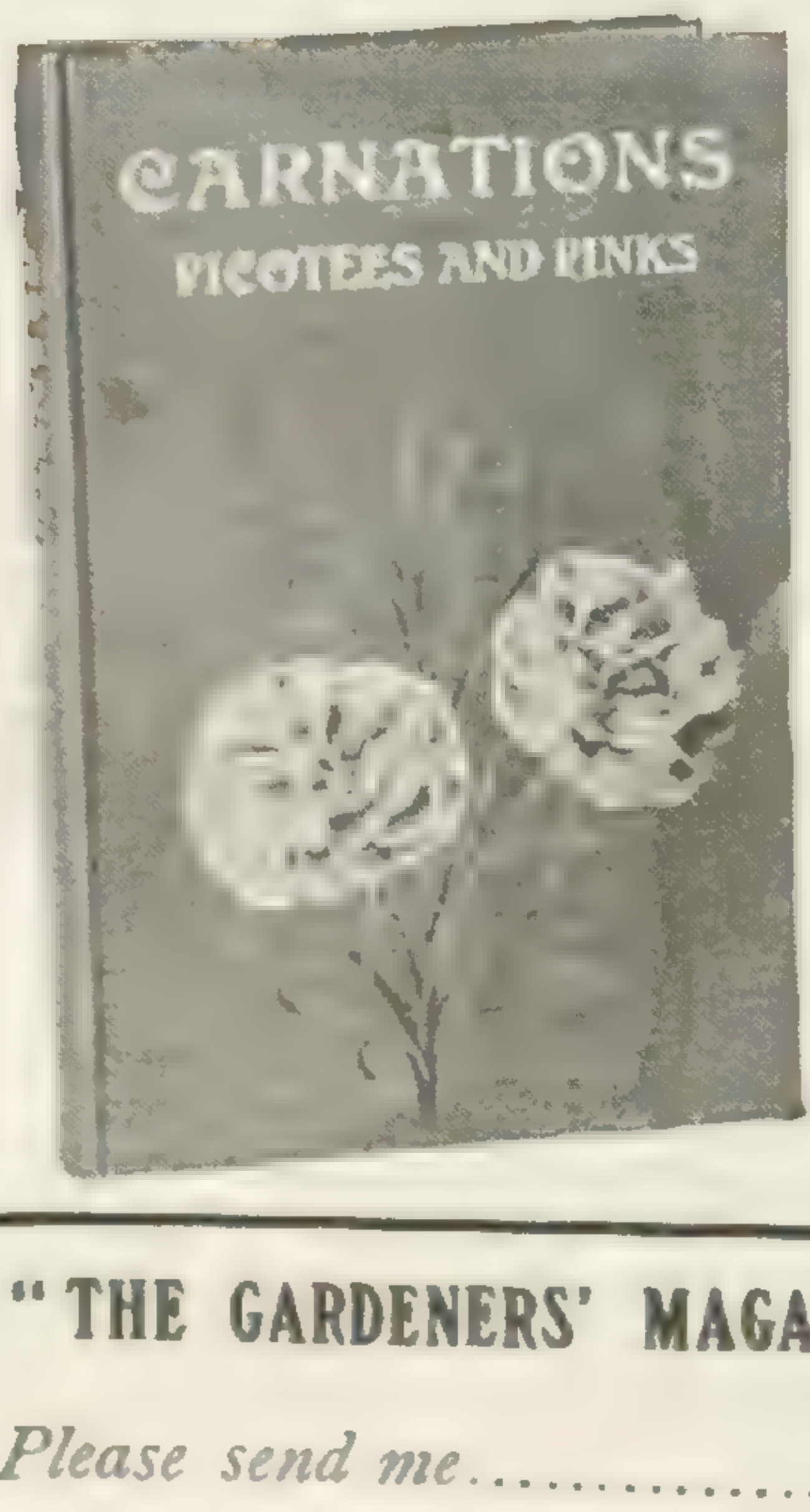

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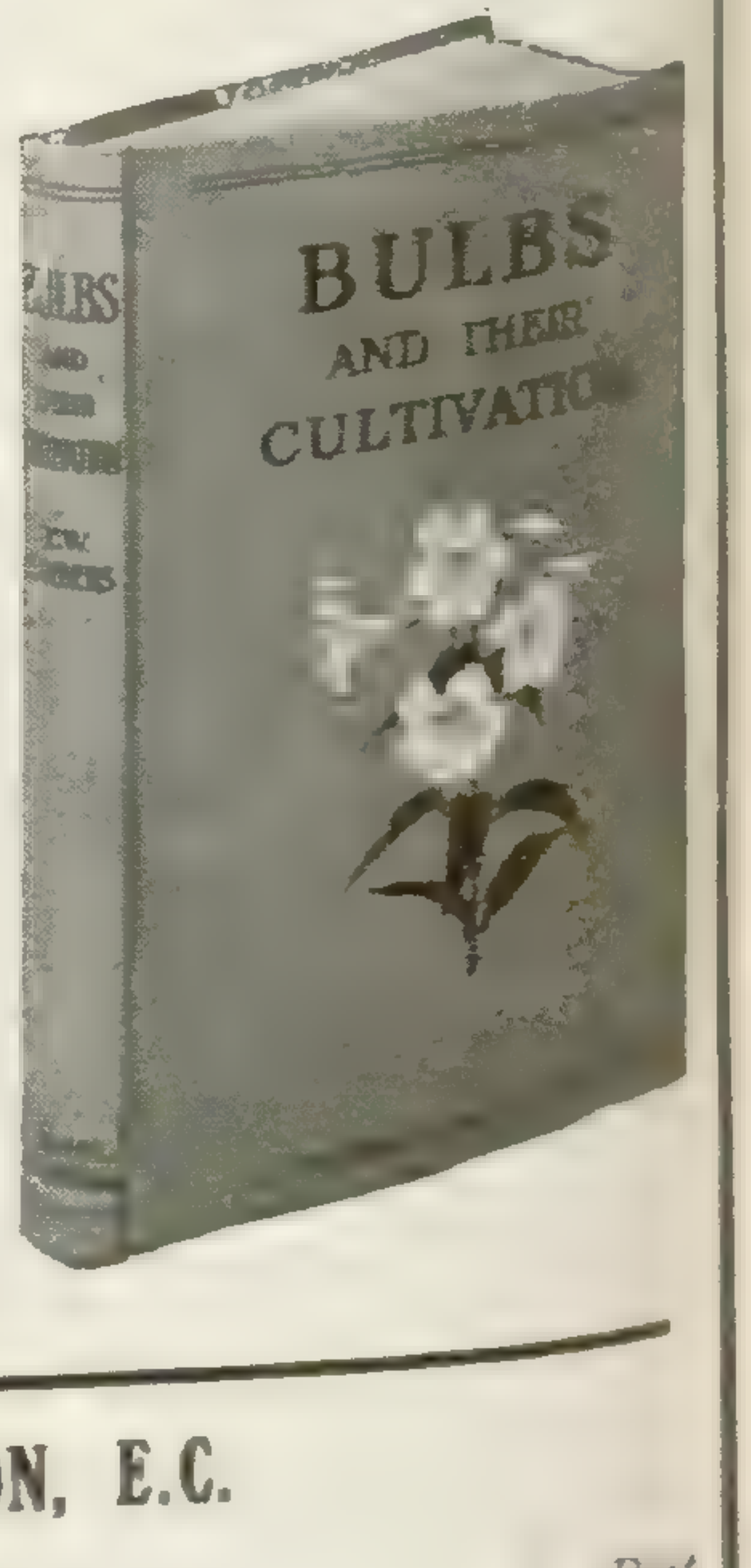

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VOL. LII.—No. 2,887. SATURDAY, FEBRUARY 27, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Forests and Climate.

Since the question of afforestation, which means in most cases re-afforestation of areas which for one reason or another have been denuded of the trees which once covered them, is now coming prominently to the fore as an economical question of vital importance, it is not out of place to consider, as a side issue, the immense value of trees as a protection from rapid denudation of the land, and as a moderating factor of those extremes of temperature and humidity or drought which are apt to prevail in their absence. The enormous drain upon our forestal areas induced by human requirements for wood for constructive and manufacturing purposes, coupled in many parts of the world with an utter absence of any provision for maintaining the supply by replanting, has been found to have a very marked effect upon the climatal conditions of the areas concerned. In the first place, land covered by trees is protected from the direct baking action of the sun, and the consequent rapid evaporation of the rainfall. The rainfall itself is prevented from washing away the soil, since not only is direct impact prevented by the foliage, but the dense network of roots binds it together, the result being that every drop is absorbed. The bulk is utilised by the vegetation, and any surplus subsequently finds outlet by springs, which have only a denuding effect in the channels which they cut, and in the brooks, rivulets, and rivers which they eventually contribute to form. The moisture absorbed by the roots and transmitted as sap to the foliage, is largely returned to the atmosphere by transpiration, and in this way healthy local conditions are maintained, and Nature's operations are conducted on a gentle and gradual scale. Clear away the forest ruthlessly, expose the soil directly to the sun, and the smaller vegetation perishes to a large degree by exposure. The soil, deprived of its tenacity, due to strong interlacing roots, and directly exposed to the impact of the rain drops, is speedily worn into surface channels, so that the great bulk of the rainfall passes off immediately, especially as owing to the changed conditions it is apt to become torrential and spasmodic when it falls at all, the result being sudden floods alternating with periods of drought, induced by the absence of the natural moderating influence of vegetation. This is the case in rather dry and warm climates; in damp cool ones the result of forest denudation may be seen in the wide-extended peat bogs, such as we see in Ireland. These areas undoubtedly were once covered with forests, though why, and how the trees perished is not very clear. The familiar "bog oak," as black as ebony, is evidence that huge trees once existed where now dense masses of peat monopolise the surface. Local conditions, tending to a more or less waterlogged state of the soil, appear to have led up to a monopoly of the surface by spongy growths of mosses and other marsh plants to such an extent that, deprived of aerated soil by lack of drainage, the larger vegetation became ousted in the struggle, while, deprived of their binding root systems, and of the distributing influence of transpiration through arboreal foliage, the sodden, spongy, unstable conditions have increased to such an extent that catastrophic "bog slides" must occur every now and again, in default of any drainage artificially arranged to relieve the ever-increasing strain continuous growth involves. It is a curious fact that even in the hottest, driest, and sandiest deserts, such as those of Egypt and those of Arizona, the petrified remains of huge forest trees are found on the very surface as evidence of different climatal conditions at one time in their history. For the disappearance of such forests and the substitution of arid deserts we cannot account, but there is ample evidence that man himself is capable of effecting similar transformations, and has partly done so in many places, owing to an improvident felling of timber on a wholesale scale without any attempt to replace it by replanting. Fortunately, the results of such improvidence are now generally recognised, and common sense is being used in all civilised nations with a view to checking the evil.

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Of the Herbarium, Kew. The leading authority on Orchid Nomenclature.

Horticultural Exhibitions.

The season of horticultural exhibitions which commences within the next few days and terminates with the closing days of November, does not give promise of proving very eventful, but the programme is a full one, and there is ample justification for the hope that much useful work will be accomplished. One of the first of the competitive exhibitions is the hyacinth show that will be held under the auspices of the Royal Horticultural Society on March 9, and it should prove of much interest. Some years have elapsed since these attractive flowers have been shown in a high state of development in London, and the liberal prizes contributed by the Dutch Bulb Growers' Society should ensure a good competition. Especially interesting should be the contributions to the class for four pans containing ten bulbs of one variety in each, for this method of culture has not as yet been largely practised in this country. In Holland they are so grown extensively, and the large, finely developed specimens that one meets with at the spring shows are singularly effective. The competition for Mr. Robert Sydenham's prizes for hyacinths, tulips, and narcissi grown in moss-fibre or similar material should also prove of special interest, for this method of culture has much to recommend it in the preparation of bulbous plants for indoor decoration. It is simple enough, but the details must have careful attention to ensure a full measure of success. It is impossible to avoid a feeling of regret that the Royal Horticultural Society should have found it necessary to abandon its autumn fruit show, more especially as a change in plan from time to time might have sustained the interest in the displays of British-grown fruit. There does not appear to us any good reason why the show should be "every year practically a repetition of the previous year's show," with so great a wealth of fruit at command for the production of tasteful effect. We are, of course, fully aware that it is no easy task to maintain public interest in horticultural exhibitions. The magnificent exhibitions of the Royal Caledonian Horticultural Society suffered last year from public apathy. From the same cause the exhibitions of one of the principal societies in East Anglia suffered appreciably, and the Brighton Horticultural Society has found it necessary this year to limit its exhibitions to a rose show in July and a chrysanthemum show in November. We give these instances because in each case the exhibitions have been of the highest excellence, and the music provided has been good. At York in June, and at Shrewsbury in August, exhibitions of a high order of merit may be anticipated; that at York may not be quite equal to the jubilee celebration of last year, but it is safe to anticipate an exhibition fully equal to the high average that has obtained for many years past. The preparations that are being made for the celebration of the coming of age of the Cardiff Horticultural Society suggest that the exhibition, which will be held on July 21 and 22, will be in every way worthy of so important an occasion, and those who are acquainted with the work the society is doing will join with us in hoping the anticipations may be fully realised. The programme arranged by the National Chrysanthemum Society will, in the light of recent events, have to be very materially modified, with what results remains to be seen, for to hold the same number of exhibitions as in previous years is out of the question in the present state of its affairs. We have no desire to accentuate the difficulties of the situation that has been largely brought about by the adoption some years ago of a policy better adapted to a local, than a national society, and shall therefore not do more at the present time than express a hope that a means may be found for restoring the society to a sound position.

Mr. R. A. Rolfe, A.L.S., whose portrait we have pleasure in presenting to our readers in this issue, is probably best-known in the world of science and horticulture as the leading authority on orchid nomenclature. Mr. Rolfe entered service at Kew in 1879, and has remained there ever since. He joined the Herbarium staff in 1880, and at that time there was no one specially interested in orchids. He already had some knowledge of the order, and a strong liking for these interesting plants, consequently the herbarium work in connection with them fell increasingly to his share. It was natural he should early become interested in orchid hybrids, and he became convinced that many so-called species were but natural hybrids, and in his papers on "Odontoglossum Hybridisation from the Standpoint of Systematic Botany," and "Hybrid Cattleyas," he did much to clear up the origin of not a few orchids. In later times the hybridists have proved the correctness of Mr. Rolfe's views. Since the death of Reichenbach Mr. Rolfe has been recognised as the great orchid authority, but he has attained and holds that position by means of strenuous work. From its commencement he has edited "The Orchid Review," and he has been responsible for the orchids in the "Flora of Tropical Africa" and "Index Flora Sinensis." He has reviewed the Apostasiæ, a tribe of primitive orchids, and he has monographed the Vanillas. Quite recently—the book has just reached us—he has, in conjunction with Mr. C. C. Hurst, brought out the "Orchid Stud Book," a work of the greatest value to orchid hybridists, and one that represents an enormous amount of patient labour. Some years ago Mr. Rolfe was made an Associate of the Linnean Society, in recognition of his valuable work among orchids; he also has a seat on the Royal Horticultural Society's Scientific Committee.

Darwin Centenary Celebration. The following is the programme of the celebration of the centenary of the birth of Charles Darwin, which will take place at Cambridge, in June next. On Tuesday, June 22, there will be, from 8.30 p.m. to 11 p.m., a reception of delegates and other invited guests by the Chancellor of the University in the Fitzwilliam Museum. On Wednesday, June 23, there will be, at 10.30 a.m., a presentation of addresses by delegates in the Senate House; 4 p.m., garden party given by the Master and Fellows of Christ's College, in the college grounds; 7 p.m., banquet in the new examination hall. On Thursday, June 24, the honorary degrees will be conferred in the Senate House at 11 a.m., and the Rede lecture will be given in the Senate House by Sir Archibald Geikie, at noon. A Darwin exhibition will be held in Christ's College. The syndics of the University Press have agreed to present to each invited guest a copy of the first draft of "The Origin of Species," which is being prepared for press, and edited by Mr. Francis Darwin.

Visitors to Kew, 1908.—The number of persons who visited the Royal Botanic Gardens during the year 1908 was, according to the "Kew Bulletin," 2,710,220. These figures show a decrease of 252,494 visitors over the year 1907, when the number of visitors was the largest yet recorded. During the last ten years (1898-1907) 16,428,084 persons have visited the gardens, giving an average of 1,642,808. The total number on Sundays was 1,321,384 and on week-days 1,388,836. The number of visitors on Sundays is the largest on record, being in excess of that for 1907 by 52,883. The increase is probably very largely due to the great number of French visitors during the summer. The total number on week-days was 1,388,836, the corresponding number for 1907, 1,694,213. The maximum attendance on any one day was 98,388 on August 3. The smallest number on any one day was 68 on January 21. The greatest number on a Sunday was 70,904 on July 26, and is a record number for a Sunday, or an excess of 5,990 visitors over the figures for 1907. The smallest number on a Sunday was 1,032 on December 6.

New Open Space at Rotherhithe. A few days since the Mayor of Bermondsey opened the old churchyard attached to St. Mary's, Rotherhithe, as a recreation ground. The work has been carried out under the supervision of the borough engineer, and has given work for three months to 30 unemployed men. The ground is about half an acre in extent, and has been levelled, and laid out in paths, flower beds, and grass plots. The Metropolitan Gardens Association has presented seats, and, it is hoped, will shortly erect a drinking fountain.

Some Birmingham Gardens.—In continuance of our series of articles on district gardens, we shall give, in our issues of March 13 and March 20, accounts of numerous leading and interesting gardens in and around Birmingham. The accounts will be freely illustrated, and they will describe such well-known establishments as Edgbaston Botanic Gardens, Canon Hill Park, Whetstone, Whyddrington, Southfield, Berrow Court, Harborne Hall, Perry Hall, and Queen's Park.

State versus Private Forests.—With reference to the creation of large forest areas by the State, as compared with areas of moderate size in association with arable and meadow land, the well-known authority, Dr. Schlich writes: "Although the Commissioners appreciated my evidence on the great importance of combining field with forest work, they overlooked the fact that for this very reason afforestation by private proprietors should, as much as possible, be encouraged. The ideal solution of the problem is, not the creation of large extents of forests in one place, which would lead to a separation of field from forest work, but the establishment of fair-sized blocks scattered over the country. As long as each block is large enough to justify the employment of a man in charge of it, economic management is possible just as well, if not better, than on continuous large areas. The same labourers who work in the fields in summer can do the forest work in winter, without leaving their home. In the other case, they have to emigrate to forest colonies or whatever they are called. Moreover, by a proper distribution of the forest areas amongst cultivated areas, a local market for the smaller dimensions of timber and firewood would be created, whereas much of such produce would be of little or no value in concentrated large blocks of forest owing to the cost of haulage."

The National Horticultural Society of France has struck a special plaquette d'honneur in silver co morative of the recent retrospective santhemum show held in Paris. This the first show of the kind ever held, it is expected that it will not be the inasmuch as the co-operation of the bers brought together a remarkably esting collection of literary, histori artistic objects relating to the fa flower from the Far East. M. Rene M méja and Mr. Harman Payne, as the leading exhibitors, were awarded "plaquette commémorative."

Museum of British Forestry at Kew.—Cambridge Cottage, Kew, now, with its gardens, forming part of Kew Gardens, is, we understand, to be used as a Museum of British Forestry. This is good news, as also is it that Mr. William Dallimore, who has for several years been arboretum foreman at Kew, is to take charge of the new project, under Mr. J. Masters Hillier, the curator of the museums. Mr. Dallimore's long association with trees and shrubs began with the Messrs. Dicksons, at Chester, and at Kew he has had opportunities of studying timber from an economic point of view. Mr. Dallimore is a regular contributor to these columns, and we feel sure he will be as successful in his new position as in the one he has hitherto held, and which he relinquishes at the end of the present month. Mr. A. Osborne will be Mr. Dallimore's successor.

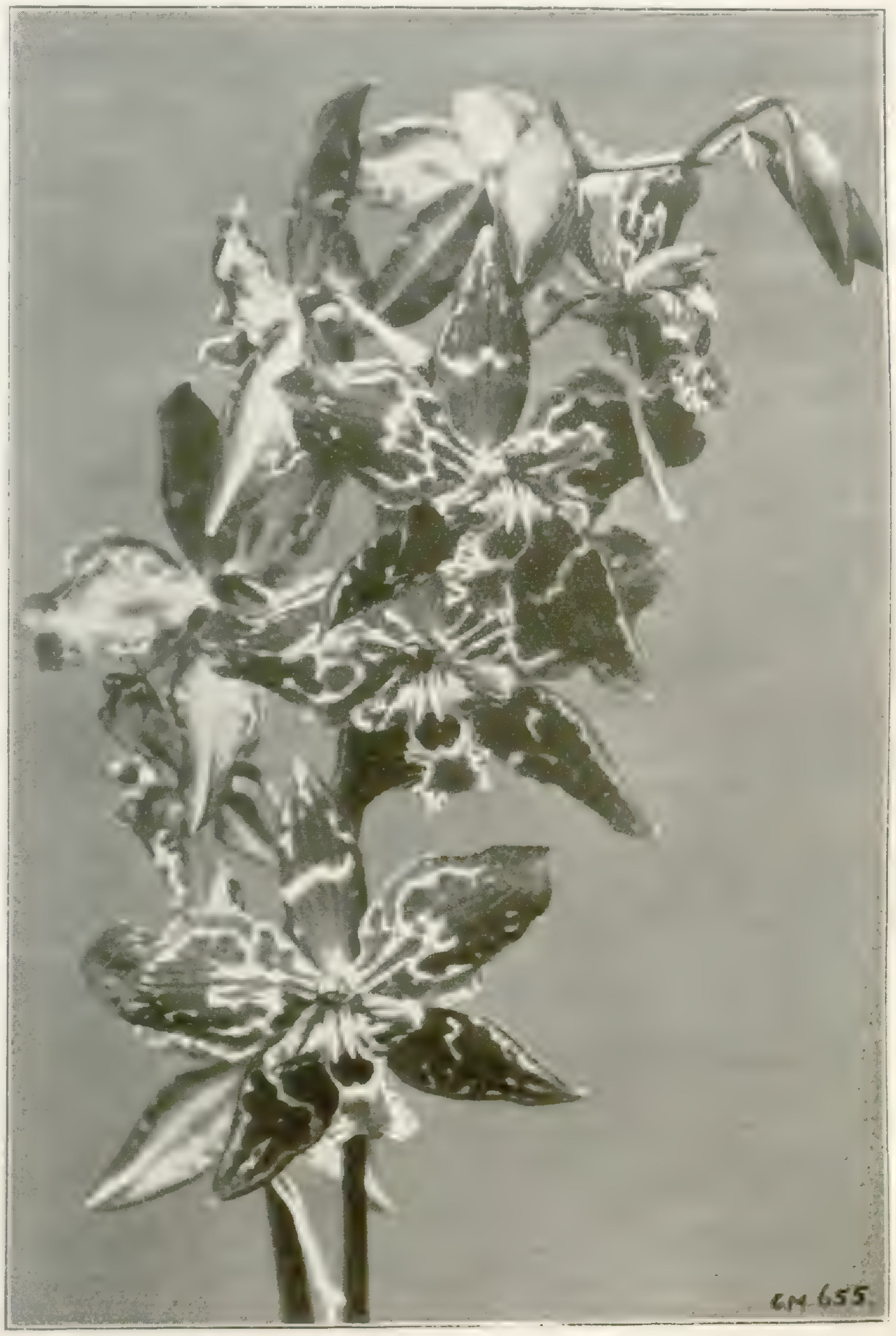
Mr. Charles Foster, so well known as Assistant Director of Horticulture at the University College, Reading, is to retire from that position for the purpose of establishing and directing a model farm at Sutton Place, Guildford, on behalf of Lord Northcliffe. Mr. Foster will not move from Reading until after midsummer, and he will carry out the sweet pea and other trials that are to be conducted in the college gardens.

Need of Observation in Rose Culture.—In a lecture on "Roses," given by the Rev. J. H. Pemberton before the Woodford Horticultural Society, this successful rosarian pointed out that to be a good rose grower one would have to cultivate the power of observation, and he suggested that a great deal might be learned from a close study of the growth and habit of the dog rose in the hedgerows. The lecturer gave excellent advice on pruning, culture, and pests, and he received a very cordial vote of thanks for his lecture.

Haarlem Jubilee Bulb Show.—The eighty-page schedule of the Jubilee Flower Show, to be held in Haarlem in 1910, is now published, and as it is in Dutch it will not prove very interesting to many. Competition is limited entirely to Dutch growers, and thus a fine opportunity of seeing what the various growers can do will be provided. There will be a permanent exhibition from March 23 to May 16, and, in addition to bulbs, it will include azaleas, rhododendrons, conifers, rock gardening, and herbaceous perennials. The first special show, on March 23-31, will be for bulbs, natural and retarded, forced shrubs, stove plants, etc., and the schedule consists of 275 classes. A second special show will be held on April 15-24; it will be of the same general character as the first, and will consist of about 300 classes. The third special show, on May 7-12, will be different to the others, and will probably be devoted chiefly to orchids, stove plants, and floral decorations. Every effort will be made to produce an exhibition that shall be a garden picture, and, judging from past efforts, this will be successfully accomplished. During the progress of the exhibition the Floral Committee of the Dutch Bulb Growers' Society will sit weekly to adjudicate upon new bulbous plants. Whether an international jury is to be invited to judge the exhibits, or whether the Dutch growers will make the awards, we do not know, but we expect the former method will be followed for several reasons, not the least of which is that it would attract a large number of people, and from different countries, and would materially enhance the commercial success of the undertaking. Our Dutch friends have been, and still are, having some practice in the arrangement of large scenically arranged flower shows, therefore we look forward to an unusually complete and striking display at Haarlem next year. At Noordwyk, and at Sassenheim good shows have been held in recent years, not to mention Haarlem itself, and this year there is the exhibition at Hillegom. The Jubilee Show should be a great affair.

Preservation of Leigh Woods, Bristol.—To prevent any misunderstanding that may have arisen in some minds as to what will be done with the Leigh Woods that constitute so great a part of the beauty of the Avon Gorge, at Bristol, Mr. James Baker, F.R.G.S., who has been a hard worker in the cause of preservation, writes: "The sylvan beauty of Leigh Woods and the remarkable example of a prehistoric camp have been rescued by Mr. G. A. Wills's munificent gift from destruction, not for the city of Bristol, but for the nation. The site is not to be presented to the public, nor is it to be used as a recreation ground by the populous quarters of that city, but it is to be handed over to a trust to be formed of nominees of the Gloucester and Somerset Archæological Societies, the Merchant Venturers of Bristol, the Kyrle Society of Bristol, and the Leigh Woods Land Company, to be kept for ever in its present primeval and idyllic state of woodland scenery, and the great camp to be left untouched. Certainly a recreation ground for all who love pastoral and forest scenery, but not for football pitches."

The Richmond Rose is in great favour in the great cut flower markets of Covent Garden, and elsewhere. Its deep red colour, beautiful form, and long stems, have made it a favourite with florists, and hundreds of fine blooms have changed hands for 1s. each. At present the greater part of the supply of this and other forced roses comes from Middlesex, from the Uxbridge and Hampton districts, smaller supplies coming from Hertfordshire and Kent.



ODONTIODA LUTETIA.

A charming new bigeneric hybrid, with a yellowish ground colour, freely marked with scarlet. F.C.C., R.H.S., February 23. Messrs. Charlesworth and Co., Haywards Heath.

L'Entente Cordiale.—At the annual dinner recently held to celebrate the twentieth anniversary of the Société Française d'Horticulture de Londres, when Sir Albert K. Rollit, Officer of the Legion of Honour, occupied the chair, a telegram was sent to M. Fallières, President of the French Republic, offering the respectful salutations of the members present. Sir Albert has recently received in reply a most cordial message from the Palais de l'Elysée, thanking himself, as chairman, M. George Schneider, and Mr. Harman Payne, Officers of the Mérite Agricole, and the rest of the company, for their kind message and salutations.

The Burbidge Memorial Library, instituted to keep in memory the life and work of the late Mr. F. W. Burbidge, now contains a considerable collection of books, but many more will be needed to make the library a first rate one. The librarian is Mr. Gunn, and the library is under the care of the Irish Gardeners' Association, at 7, Lower Sackville Street, Dublin.

Profitable Cropping.—An excellent example of the profitable utilisation of land in the production of vegetable crops is given by Mr. J. R. Dunston, principal of the Wye College, where intensive culture has been carried out with much success. In 1908 six acres of a field that had carried a crop of oats in the year previous was, on April 7, planted with potatoes, and of this area seven-eighths of an acre was devoted to first earlies. May Queen and Epicure were the varieties selected, and the tubers had been sprouted in boxes previous to planting. The land received a dressing of farmyard manure at the rate of 25 tons to the acre in the autumn, and was ploughed to a sufficient depth to bury the manure. In January it was deep ploughed, and three weeks subsequently dressed with a mixture consisting of 3 cwt. of superphosphate of lime, 1½ cwt. sulphate of potash, and 1½ cwt. of sulphate of ammonia. The cost of cultivating and marketing was £16 5s. per acre. The crop, which averaged 9 to 11 tons per acre, was sold at prices from 70s. to 90s. per ton, commencing July 7. The net return was £35 11s. per acre. Directly after digging, the land was ploughed, and cauliflower plants were put in, and well watered, with the result that there was no flagging, and they had a good start. The plants were put in at the rate of 10,000 per acre, at a cost of 4s. per 1,000 for plants. A hundredweight of nitrate of soda was given them, and they were hand-hoed once and horse-hoed twice. Selling began on October 28, when consignments were sent to the Borough Market, Bexhill, and some few were sold locally in Wye and Ashford. In all, 7,770 heads were marketed at an average price of 1.135d. per head, realising per acre £40 11s. 4d. The cost of the crop amounted to £10 per acre, so that there was a net return of over £30 per acre, which, with the return of the early potatoes, makes a total of over £49 per acre from the two crops.

Flower Imports.—The value of the flowers imported during January was £29,664, as compared with £29,180 in the first month of 1908, and £18,545 in the corresponding month of 1907.

Rare British Butterflies.—On Tuesday last Mr. Stevens commenced, at King Street, Covent Garden, the sale of the first portion of the collection of British butterflies formed by the late Mr. T. Maddison. The collection was very rich in rare and extinct species and remarkable varieties. Seventeen specimens of the large copper butterfly, which has long been extinct in Britain, were disposed of at prices ranging from £5 10s. to £1 5s.; but the best prices were made for the more remarkable varieties. A rayed form of Paphia, with the fore wings dark and suffused and the base and margin of underside of hind wings silvery, made £8; a variety of Aglaia, having on the hind wings broad dark bands, from which rays extend to the margin (from the Linnaean collection), £9 10s.; a tawny orange variety of Euphrosyne, £9; an Athalia, obscure, with central band of pale spots on underside of hind wings, £9; Polychloros, with irrorated margin and the costal blotches united, £7 10s.; a very fine dark variety of Iris, £7; a magnificent variety of Tithonus (figured in the "Entomologist" for October, 1907), £8 10s.; and a golden-brown male of Tithonus, £6.

National Rose Society.—The membership of this society continues to increase at a rapid rate, 193 names having been added to the list since the annual meeting in December last.

Employees in Public Parks who intend presenting themselves for examination by the Royal Horticultural Society next year, should carefully consider the views of the examiners at the recent examination, as expressed in their report: "There is still much room for improvement, the higher standard hoped for in last year's report having to be still held in anticipation. A completer knowledge of garden practice and the reasons for it; the values of phosphatic and nitrogenous manures, their comparative cost, and the quantities required; the art of curves and the power to express them neatly on paper; arithmetical calculations for land measures and simple cash computations—such things as these, added to a more intensive knowledge of gardening specialised for public parks, are necessary to raise the employees to the standard of really first-class craftsmen whose skill is to find expression in the gardens which they serve. The higher places gained by most of the old candidates in the lists should be an encouragement to the less successful to persevere diligently with their work, and try again next year." Having duly considered these views, they should at once commence the work of preparation. Especially should they be careful to fully exercise their powers of observation in the course of their ordinary duties, for knowledge so gained will stand them in good stead when in the examining room.

Aerial Roots in Acanthoriza aculeata.—An interesting communication relating to the aerial roots of this palm was made by Miss Bertha Chandler, M.A., B.Sc., to the monthly meeting of the Edinburgh Botanical Society. It was pointed out that these roots differ from normal aerial roots in their life history, for they become metamorphosed from simple roots provided with a root-cap to hard woody thorns without root-cap. The most interesting point to notice about these aerial roots, however, is their function. It is considered that in their early existence they act as pneumathodes or breathing roots, an inference drawn from the presence of much air-tissue. This function persists even in the thorn stage to some extent, but with the loss of aerenchyma, the root-cap, and the hardening of tissues, the function becomes largely that of protection. The fact also that many of these roots do not develop as thorns, but on entering the ground become normal roots, adds a third function to those already mentioned, one similar to that of the prop-roots of the screw pines.

Sandringham Horticultural Society will, by permission of the King, hold its annual exhibition in Sandringham Park on Wednesday, July 21.

Mr. W. B. Hemsley, F.R.S.—As announced in these pages, Mr. Hemsley retired at the close of last year from the position he occupied as Keeper of the Herbarium, Kew. We have now the pleasure of stating that, in certifying that Mr. Hemsley has discharged his official duties with diligence and fidelity and to their entire satisfaction, the Board of Agriculture and Fisheries placed on record "their appreciation of the very valuable services which Mr. Hemsley has rendered to the Royal Botanic Gardens at Kew since he became associated with that institution, now nearly 49 years ago. His constant courtesy and kindness to his colleagues, the ability which he has brought to the discharge of his duties, and his high scientific attainments have all contributed materially to the maintenance and development of the distinguished reputation which Kew enjoys both at home and abroad. The Board greatly regret that Mr. Hemsley's retirement has become necessary, but they trust that he will be spared for many years to come to continue his labours on behalf of that science with which his name is so honourably associated and towards the prosecution of which he has done so much."

Phenological Observations, 1908.—At the recent monthly meeting of the Royal Meteorological Society, Mr. E. Mawley read his "Report on the Phenological Observations for 1908." He said that the most noteworthy features of the weather of the phenological year ended November, 1908, were the severe frosts early in January, the exceptionally heavy fall of snow and remarkably low temperatures in the latter part of April, and the marked periods of unusually wet and dry weather during the summer. In February and March wild plants came into blossom in advance of their usual time, but throughout the rest of the flowering season were more or less behind their average dates. Such early spring migrants as the swallow, cuckoo, and nightingale made their appearance very late. The only deficient farm crop was barley. The yield of wheat, oats, and beans was rather above the average, that of peas and hay very good, while the crops of turnips, mangels, and potatoes taken together were the most abundant for many years. The yield of apples was under the average and that of pears and plums much under the average. On the other hand, the crops of currants, gooseberries, and strawberries were almost everywhere unusually good. As regards the farm crops this was the third good year in succession, although compared with 1906 and 1907, the yields in 1908, except in the case of turnips, mangels, and potatoes, were very inferior to those of either of the years mentioned.

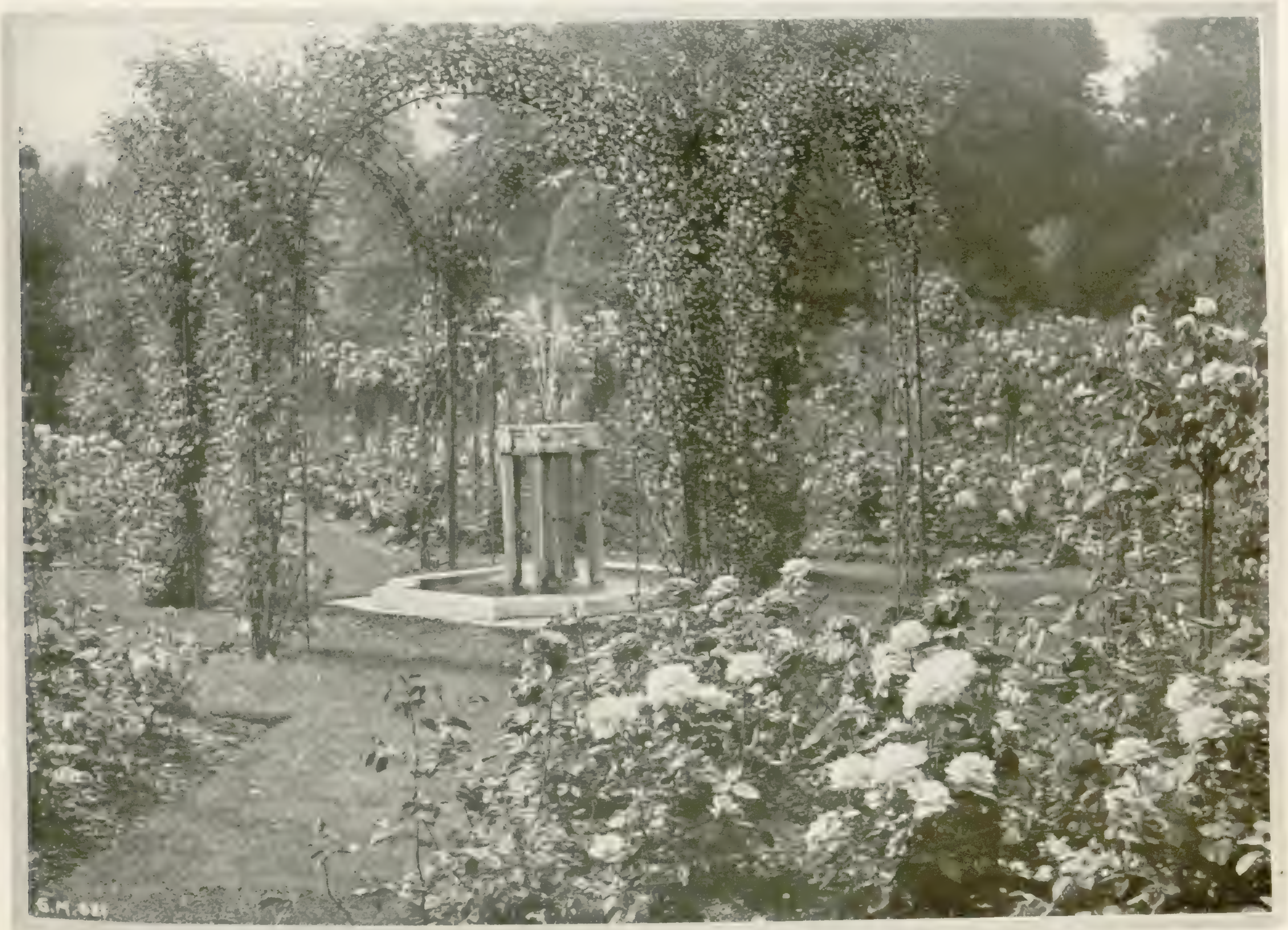
Rose Pavilions are of many kinds, and not always well adapted to the purpose which they are intended to serve. There has been a marked improvement in them of late years, and the heavy and highly ornate structures which at one time enjoyed considerable popularity no longer find favour either with manufacturers or owners of gardens. Lightness and simplicity of treatment are considered essential, and properly so, for the object of the rose pavilion is not the display of the skill of the worker in iron, but to support roses of scandent habit in such manner as to display their charms to the best advantage. The pavilion which contributes so liberally to the attractions of the rose garden at Woburn Place, Addlestone, the residence of E. A. Mocatta, Esq., happily combines elegance with simplicity, and may well serve as an example of what such structures should be. It will be seen that the several sections are of a sufficient height and width to enable anyone to pass through them without the inconvenience and discomfort inseparable from spaces of small size. The illustration is also of interest as evidence of Mr. T. Stevenson's skill in the cultivation of roses.

Interesting Plants.—At the recent meeting of the Linnean Society, at Burlington House, the Rev. E. S. Marshall exhibited some interesting British plants. These were a hybrid saxifrage (Saxifraga nivalis x S. stellaris), found on Cairngorm, quite intermediate in character between the parent species; a new orchis, allied to the male orchis; a hybrid rock rose (Helianthemum chamaecistus x H. polifolium), a good intermediate, and apparently quite fertile form; and two hawkweeds (Hieracium hyparcticum and H. eustales) from Sutherlandshire, a new locality for them. At the same meeting Professor Weiss showed specimens of a tropical fresh water alga from the canal near Stockport, at the part where the water is warmed by the inflow from the cotton mills. Sub-tropical aquatic plants have also been found at the same part of the canal. They are supposed to have been introduced with refuse from the cotton mills.

anxious to make this section a special feature this year, and feel that the realisation of their desire can be best accomplished by the hearty co-operation of Southern confreres English and Scottish.

British Association Meeting. The meeting of the British Association will, as previously announced in these pages, be held at Winnipeg, in August next, under the presidency of Sir J. J. Thomson, F.R.S. Arrangements for the meeting are already being made, and a local Executive Committee, with officers, have been appointed to organise excursions to places of interest and assist visitors generally. Owing to August being the busiest month of the year in the bookings to America and Canada, no reduction in the steamship rates will be made to members, but they may be given superior accommodation on the return voyage at the ordinary minimum rate. The journey to and from Winnipeg and the meeting will occupy about thirty-two days. The estimated personal expenditure of each member attending the meeting is a minimum of £38, and an average of about £65. If the excursion to the Pacific Coast is taken the additional expense will be £25.

Cascara sagrada, the drug so largely used for medicinal purposes, is furnished by the bark of Rhamnus Purshiana and R. californica, natives of Western North America. The drug was introduced into medicine about thirty years ago, and since that time the wild source of supply has been rapidly depleted. Some years ago seeds were obtained for Kew, and plants raised and planted in the Royal Gardens, and from the way in which R. Purshiana has flourished at Kew it seems not unlikely that it may be a suitable subject for introduction to the western coasts of the British Islands, and may also prove to be of value commercially, since the local supply is becoming exhausted, and plantations do not appear to have been started in America. The Kew trees withstood the severe frosts of February, 1895, without protection. In order to test whether the bark of an English-grown tree would yield the drug in the same percentage, and of as good a quality as that of the native samples, one of the Kew trees was cut down for purposes of analysis. Messrs. Burroughs, Wellcome, and Co. very kindly undertook to examine the bark and to report the results of their investigation, and 5¾lb. of dry bark, the produce of the Kew tree, was sent in February last to Dr. H. A. D. Jowett, senior chemist of the Wellcome Research Laboratories, London, for analysis. The bark sent was duly worked up into tabloids—some of which are now in Museum No. 1—and it has been reported that "the present extract is undistinguishable in its action from that made from American bark," and in a further letter from Messrs. Burroughs, Wellcome, and Co., it is stated that "The physician, to whom your special cascara was submitted, reported it to be equal to the average of tabloid products from bark grown in America." An illustration of one of the Kew trees, together with an account of the chemistry of the bark, is given in the current issue of the "Kew Bulletin."



[Photo: T. Stevenson.

THE ROSE PAVILION AT WOBURN PLACE, ADDLESTONE, THE RESIDENCE OF E. A. MOCATTA, ESQ. (See page 160.)

Aberdeen Horticultural Society.—This society has just issued its prize schedule for the annual exhibition, to be held on Thursday, Friday, and Saturday, August 19, 20, and 21, 1909, in the Duthie Public Park, Aberdeen, the exclusive use of which for the three days has again been generously granted by the City Council. There are the usual four divisions—professional gardeners, nurserymen and florists, amateurs, and working men. Among the prizes offered are two magnificent silver challenge cups and sixteen silver medals, while the prizes in money are very liberal indeed. Although a goodly number of exhibitors from the South invariably put in an appearance at the society's shows, it is felt that there is much room for extension in this direction, and especially in the section devoted to pot plants. Several of the directors are

THE NEWER PERPETUAL CARNATIONS.

Especially noteworthy among the newer perpetual-flowering carnations exhibited at the recent exhibition of the Perpetual-flowering Carnation Society, was the lovely Rose Doree, from Mr. Lancashire, of Guernsey, a sterling rosy-hued gem, which I had previously remarked upon. From the same grower came the new white Empress, a beautiful variety, which is lightly marked with pink.

Afterglow, the glorious rosy-cerise American, is a prominent variety, and when it is brought more into general cultivation will certainly have to be reckoned with. Victory maintains its good character, and when under good cultivation few carnations can surpass it for size, vigour, and colouring. That sterling fancy variety Imperial is undoubtedly the best of its section, and should meet with general approval, though fancy varieties are not to be compared to selfs in the race for popularity.

PERPETUAL FLOWERING CARNATION, WINSOR.
A lovely variety with large flowers, the colour bright silvery pink, shown by Messrs. Hugh Low and Co., at the Royal Horticultural Hall.

Winsor, with its clear silvery-pink colour, continues to advance in favour, and will for long hold high rank in its class. It is both vigorous and free flowering, and the blossoms are distinctly fine. Winona is another sterling acquisition from that expert American raiser Mr. F. Dorner. In colour it is a taking salmon-pink, and will prove a strong rival to Mrs. H. Burnett. Winona is a very fragrant variety, and with a good habit and a pleasing formation, it should find a place in many collections.

There are other newer varieties of merit, which, perhaps, do not loom so largely in the public eye, yet one would fain advocate their merits, and press their claims for a fair trial. Among these I would again note Andrew Carnegie, the scarlet Harlowarden, as I describe it. This bright scarlet, with the form, fragrance, and floriferous character of the latter sterling crimson variety, should be in great demand where continuous supplies of scarlet flowers are required. Beacon, with its earliness and freedom, both in growth and blossom, is a first-rate scarlet. The form is good, and a batch of plants should throw more blossoms than most of the older varieties. Defiance is another good clear scarlet, bright in appearance, with strong stems, and faultless blossoms of good size.

Two richly-coloured varieties, which seem to be at their best when utilised for winter flowering, are Red Chief, a rich bright red; and the deep scarlet Red Riding Hood, a long-stemmed robust variety. Of the whites Lady Bountiful and White Perfection keep well to the forefront. One would like to see more of White Enchantress, but there is a good deal of difference between the white sports of Enchantress as they have occurred with different growers, though in its best form it is undoubtedly a good carnation. The new white Sarah A. Hill comes with excellent credentials. It is of the true American type, with fringed petals, and it is of large size, bold, and free. One sees far too little of that good white My Maryland, but when well grown it is certainly a sterling variety, clear in hue, and of good size.

A coming crimson is Harvard, a richly-coloured gem, which has the good qualities of freedom, size, and strong stems. Dorothy Whitney is a useful yellow fancy, lightly edged and marked with pink. Being both early and free, and possessing a good habit, it should be included in collections, for yellow varieties are still scarce.

In spite of a love in some quarters for heliotrope-coloured carnations, there is a scarcity of varieties of this colour. The best, so far, seems to be Mikado, a good variety of a true glistening heliotrope shade. Mauve Queen is lighter in hue, of good size, and very fragrant. The new pink Mabelle should be given a trial; it is undoubtedly a good carnation, and the enquiries for it in the retail trade in the States testify to its pleasing colouring and good form. It is strong in growth, fragrant, and free.

The two lovely sports from Enchantress seem bound to have as good a career as their famous parent. Rose Pink Enchantress is a grand rosy-hued variety, good at all points, while Helen M. Gould is equally fine, and the colouring is a delightful shade of clear pink with carmine markings.

The Lawson sports seem to be dropping in favour, though the type Mrs. T. W. Lawson continues its triumphant progress. White Lawson has been seen less of late, but the newer Melody, a non-fading light pink, with all the good points of its parent, should prove a serviceable variety. The other newer sport Salmon Lawson, which originated as a sport from White Lawson, has hardly received so wide a trial as one would expect, but it may yet come more to the front; but the older sports, Red Lawson, Variegated Lawson, etc., are declining rapidly.

Aristocrat should find many supporters, being a first-rate variety, lighter in colour than Mrs. Lawson, and continuous in flowering. Other carnations that are keeping well to the front are Britannia, Fair Maid, Prosperity, Floriana, Flamingo, Crimson Glow, President, and Nelson Fisher. The pink sport of Imperial has not done quite so well as was expected, but further trial will perhaps give better results.

With the ever-increasing patronage which the perpetual carnations are receiving, their success in the future seems well assured.

P. S. HAYWARD.

American Gooseberry Mildew in Kent.—We are informed that 2,010 acres of gooseberry plantations in the county of Kent have been infected with American gooseberry mildew. Of this number 108 acres have been grubbed by the owners voluntarily and without compensation, and 1,500 acres have been pruned to the satisfaction of the inspectors

MELONS.

During the summer months well-grown and perfectly ripened melons are much appreciated, as they form a cool and refreshing dessert. It is, however, not until the latter end of April or early in May that the sun is sufficiently powerful in this country to give the fruit its finest flavour; for without sun and air, even though the requisite artificial heat be maintained for their growth, there will be lacking that lusciousness that would otherwise be present. The reason many people do not care for melons is, doubtless, because they have had ill-ripened fruits. A melon may, to outward appearance, be all that one could desire, but when one comes to taste it there may be great disappointment, the flavour being little, if anything, better than that of the Spanish water-melons sent in such quantities to this country.

One has often heard the remark passed that there is much difficulty in procuring a finely-flavoured melon from a fruiterers' shop. This, in a measure, is not difficult to understand, for like all other fruits of such a perishable class, they must be cut before being fully ripe, when sent to market. For a melon to attain its full flavour it should be allowed to remain on the plant until the juice begins to ooze out round the stem, as a rule it is then at its best.

For a first crop the seed should be sown about the second week in January. If a slight hotbed can be made in a house where the temperature can be maintained from 60 to 70 degrees, this will be favourable to germination. Prepare some three-inch pots by filling them with turfy loam that has been pulled to pieces and thoroughly examined to see there are no wireworms in it. Place one seed in the centre of each pot, point downwards, and cover with about an inch of soil, then plunge in the hotbed if this is not warmer than 80 degrees. If the temperature of the bed is higher than this, stand the pots on the surface until the heat has abated somewhat. To some this may seem unnecessary trouble, but herein, in a measure, lies the secret of obtaining strong plants to start with. By inserting the seeds thus, the seed leaves are freed from the husk, and the base of the plant is deep enough in the soil to support it in an upright position. If the requisite temperature is maintained the plants will be large enough in about three weeks to be transferred to their permanent quarters; therefore, in order to avoid any check in their growth, preparations should be made accordingly. Though we have hot water pipes running underneath the melon beds, we always make up a hotbed of fermenting material from eighteen inches to two feet in depth. This serves the double purpose of generating a moist heat to give the plants a good start, and providing something for them to feed on during the time the fruit is swelling.

Over the surface of this hotbed a layer of sods is placed with the grassy side downwards. We are not at all particular as to whether they are newly cut or not, for often they are brought in fresh from the park and used straight away. A ridge of the same material, about a foot thick, but chopped to pieces with a spade, is placed over the sods as near to the front of the house as possible. Though our soil is a stiff loam bordering on clay, this is rammed until it is made quite firm. A few pieces of carrots are then inserted in the soil at intervals of about two feet or less. In the course of a few days, owing to the heat of the fermenting material beneath, if there are any wireworms in the soil they will be driven to the surface of the ridge and will commence to feed on the carrots. If these are examined every morning for a week or so the soil may be rid of these troublesome pests. By this time the bed will be in a condition to receive the plants. We plant about two feet apart on the top of the ridge, growing them, as a rule, on the single rod system; but should there be any extra strong growing kinds these are pinched at the third or fourth joint, and two canes taken up on each plant. If the weather is favourable, so as to run up the temperature of the house to 90 or 100 degrees in the day time, the plants will make rapid progress, but, if the weather is dull, then care must be taken both in watering and syringing, otherwise the plants, having but few roots, are apt to damp off.

MELON NEW MASTERPIECE.

A fine scarlet-fleshed variety, raised by Messrs. E. Webb and Sons.

Great care is necessary in syringing, for the spray from the syringe, if of great force, is apt to twist the stems on one side, and should this occur to any serious extent, it causes them to split, which is a sure source of canker. To avoid this, see that not only the leading shoots, but the leaf-stalks also are secured to the wires to prevent them from twisting, until the lateral growths are of sufficient length to be secured in their places. There is a great diversity of opinion about pinching these laterals, but we always pinch at the first joint beyond the fruit blossom as soon as this can be seen, so that by the time the female flowers are developed, the leaf beyond is sufficiently advanced to cause the sap to flow freely. Again, some advocate allowing the growths to advance until so many flowers are available for impregnation at the same time, but in this we differ, for as the flowers open they are fertilised, whether there be one or half a dozen open at the same time, and the crop is regulated by thinning the fruits after they have started to swell. By the time the last flowers are fertilised, those that were set first have fruit half grown. This doubtless is at variance with the practice of some growers, but if those who have not hitherto watched the swelling of the fruit closely will take the trouble to do so, they will soon be able to observe when the seeds are forming, for at that stage swelling ceases for a time, so that if any flowers are fertilised at this period the fruits are sure to swell very rapidly, and if these are situated on the upper portion of the plants they usually grow to the largest specimens.

During the growing season the plants should be liberally supplied with water at the roots, and daily syringed to keep the foliage clean. By the time the fruit has grown to half its size a top dressing will be needed. This should consist of chopped turf and lime rubble, rammed firm. Liquid manure is also beneficial, but this should not be allowed to come in contact with the stems. Beyond this, and keeping the laterals pinched as they appear, very little more attention is needed. To prevent woodlice from eating the stems round their base, put a handful or two of newly slacked lime round them, so that this covers the bine for about two inches up. This will not injure the plants in the least, provided it has been slacked for a couple or three days previously to being used.

It has often been advised that, to have good melons, plants should carry from only four to six fruits each, according to the size of the variety. Much, however, depends on how the plants are treated. Where some growers would only be able to produce four or five good fruits, others would secure from ten to a dozen of first-class quality. The year the variety Windsor Castle was introduced I had one plant that carried ten fruits, averaging 9¼lb. each, and from this one may judge the enormous quantity of plant food required to bring those to a state of perfection. Yet when the fruit was ripe the foliage was as green as when the plants were in active growth. New Masterpiece is a free cropping scarlet fleshed melon, of fine quality, and it is a good grower.

Having grown the majority of varieties that have been introduced during the last 25 years, many of them before they were placed on the market, one may judge that a great number have passed through my hands. The largest fruit I ever grew was 12½lb.; this was one of four on the same plant. It is difficult to advise which are the best varieties to grow, as there are so many really good ones, and new varieties are introduced each season in such numbers that it is a hard matter to keep pace with them. Those who have to keep up a constant supply from early in the season until late in the autumn find it an advantage to grow several varieties, as some will ripen fully a month sooner than others, even when planted at the same time and in the same house.

Melons may be successfully grown in frames, but it is difficult to give them the same attention there as in properly constructed houses, but where it is absolutely necessary to grow them thus, a hotbed should be made up in April for the first batch, and good strong plants should be put out then, and liberally treated as previously recommended for plants in houses, with the exception that it will be necessary to take out the point of the leading shoot when it has attained a length of about six inches, so as to induce as many laterals as possible. These should be so regulated that the growths may fill the frame as quickly as possible. Fertilise the flowers, when dry, in the middle of the day, when the pollen is dry, and during the time the fruit is swelling maintain a temperature from 70 to 80 degrees during the day, and to prevent it from falling too low at nights cover the glass with mats or other protecting material. When the fruits have done swelling, give a little more air, but less water at the roots, which will improve their flavour.

H. C. Prinsep.

Buxted Park Gardens.

[Photo: Miss Dendy Sadler.

EFFECTIVE BORDERS OF HERBACEOUS PHLOXES AT HEMINGFORD GREY, ST. IVES, HUNTS.

ADVANCES IN HERBACEOUS PHLOXES.

Within recent years a considerable number of ornamental plants suitable for beautifying the flower garden have been materially improved as the result of well-directed effort and persistent endeavour; but it is doubtful whether the advance has in any case been more marked than may be seen in the herbaceous phloxes. The high degree of development to which these attractively coloured and delightfully fragrant flowers have attained is all the more remarkable from the fact that of late but little has been heard of the progress that was being made. From twenty to thirty years since, considerable attention was devoted by raisers in this country to the production of new forms, and the success achieved was so great that the most meritorious of the varieties introduced were for the most part of home growth. The raisers in Great Britain were especially successful in the development of the spike and increasing the size, and improving the form of the flowers, but they do not appear to have taken full advantage of their opportunities for extending the range of colours. After a time there was a relaxation in the endeavour that was in this country being made to increase the usefulness of the herbaceous phloxes, owing, among other causes, to the death of two or three of the raisers. Coincident therewith the work was entered into with greater spirit by Continental raisers, and as they appear to have taken the finest of the British raised varieties as their standard for the form and size, a considerable proportion of the more recent of the Continental varieties have possessed much merit. More attention appears to have been devoted on the Continent to the development of new colours than at home, and as the result there are numerous colours at once distinct and beautiful. On the other hand, there is a considerable number with flowers that, with age and also under the influence of bright sunlight, pass to an ineffective slaty hue, which is far from pleasing. Few, indeed, are the home-raised varieties that have this effect, and it is a matter of considerable interest that during the past few years raisers in Great Britain have paid special attention to colour variation without losing sight of the essentials of form and size.

The cultivation of these phloxes is less difficult under the cool, moist conditions that obtain in the midland and northern counties of England, and in Scotland, than in the southern counties of England. But under good cultivation they can be grown to a high degree of perfection in any part of the United Kingdom. This, briefly stated, consists in providing a deep root run and a plentiful supply of plant food. In other words a liberal dressing of moderately well rotted manure from the farmyard or stable should be spread over the surface of the bed or border and the soil be then broken up to a depth of eighteen inches, or two feet, and the manure be well incorporated as the digging or trenching proceeds. A mulch of partly decayed manure or other loose material during the spring and summer months will be highly beneficial in checking evaporation, as also will be several thorough soakings of water during periods of dry weather.

Increase of stock may be effected by means of cuttings or division, and, as the old plants should not remain in beds and borders more than three years, a few young ones should be raised annually. Propagation by means of cuttings is strongly recommended by many successful cultivators, and the method has much to recommend it, especially to those who are desirous of producing spikes suitable for exhibition. Spring is the best season for rooting the cuttings, which are taken when the new growths are four or five inches high. The tops are taken off about three inches below the apex, and cut immediately below a joint. The lower leaves are removed, and the cuttings inserted, singly or two or three together, in small pots filled with light sandy soil. They should be placed in a frame where they can be kept warm, close, and shaded until rooted, and when this stage has been reached they must be gradually hardened off and eventually placed in an unheated frame. Towards the end of May or early in June, they should be transferred to a nursery bed in an open position, and arranged twelve inches apart in rows with eighteen inch spaces between them. In the autumn, when the growths are dying down, they must be lifted and planted where they are intended to bloom.

Division is a very simple matter, and well adapted to the requirements of those who grow these flowers for flower garden decoration. Early in the year when the growths are just appearing above the surface, the plants are lifted and portions consisting of three or four healthy shoots taken off with their roots from the outside. These are replanted at once in a fresh position, and in the ordinary course produce fully-developed spikes at the usual season. If the division and replanting is carefully and smartly done the replanted portions will not feel any appreciable check. No part of the central portion of the old plants should be replanted, and in the second and subsequent years the growths should be thinned to three or four shoots each. If large blocks of one colour are required in mixed borders, three plants of one variety should be planted in the form of a triangle with two feet sides. Phloxes are very effective arranged in this way, and borders wholly devoted to them, as so admirably depicted in the illustration given herewith, are highly attractive and of much interest.

With so large a number of fine varieties to select from, it is not easy to make small selections. The following are all of a high degree of excellence: Ary Scheffer, rich salmon, with crimson-purple eye; Boule de Feu, scarlet; Charles Pfitser, pink, white centre; Coquelicot, orange-scarlet; D. T. Laird, rose-lilac, purple eye; Emile Duclaux, white, large purple centre; Etienne Laury, salmon, deep red eye; Felix Dantee, magenta; Fiancée, pure white; General Van Heutsz, bright salmon, white centre; Glendarnel, rose-pink, light centre; Gruppen Konigin, bright pink, carmine centre; Henry Fouquier, rose, crimson centre; Hermann Ostertag, deep scarlet, crimson centre; John Forbes, rich pink, crimson centre; Lady Nina Balfour, rose-pink, deeper centre; Liberté, salmon, red centre; Louise Abbema, cream-white; Marchioness of Linlithgow, salmon, red centre; Montoguard, deep rose; Paul Bert, lilac, purple centre; Robert Pringle, rose, suffused salmon, rose centre; Tapis Blanc, pure white, dwarf; Thomas Hay, rose-pink, crimson centre; Von Lassberg, pure white; and Violet. The last-named is a new and distinct variety, remarkable for the large size of the spike and flowers and for its lustrous violet hue. It was well shown at the Royal Horticultural Hall last season by Messrs. Gunn and Sons. G. G.

G.M. 496

NEW HERBACEOUS PHLOX VIOLET.

A handsome variety with deep violet coloured flowers, exhibited by Messrs. Gunn and Sons at R.H.S. Meeting, September 1, 1908, and granted an Award of Merit.

THE ALPINE LADY'S MANTLE.

There are some people who despise our native alpines, and who rigorously exclude them from their gardens, but these suffer a deprivation, indeed, when they have not included among their treasures such charming plants as our Alpine Lady's Mantle, Alchemilla alpina. There are, it is true, many plants with more showy flowers—for those of this alchemilla are only greenish, but they are pretty to examine. On the other hand there are few of our exotic alpines which can compare in beauty of foliage when examined with this plant, although even this charm is not obtrusively displayed, but is studiously concealed from the passer-by. The prettily formed leaves are of a pleasing green above, it is true, but they would be passed unobserved save by those who study beauty of foliar development. But, if these leaves are turned up, their high beauty is realised, as they are of the most beautiful silky texture, and are all silver-like as well in appearance. It is not easy to convey in words any indication of this silvery, silky under surface, but it is so beautiful that those who know the Alpine Lady's Mantle can hardly pass it without turning up its leaves to admire their beauty.

Although a native of the mountains, this plant will flourish readily on a rockery in the lowlands, and even there it does not appear to be troublesome in its requirements, as I have cultivated it successfully in both dry and moist rockeries, and in full sun as well as in half shade. It is perfectly hardy, grows freely to a height of about six inches, and is easily increased by means of division or by seeds. Sometimes self-sown seedlings will appear close to old plants, and these may be removed any time during the year. S. ARNOTT.

Everyone interested in a garden should obtain a copy of the ALPHABET OF GARDENING, by T. W. Sanders. Thoroughly practical information is given as to soils, manures, seed sowing, planting, potting, budding, pruning, grafting, forcing, hybridising, etc., with explanatory diagrams. Price 1s. 6d. net, by post 1s. 9d.; cloth, 2s., by post 2s. 3d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

THE GLADIOLUS.

The gladiolus is one of the most noble of our autumnal flowers, and one comparatively neglected by many. There is no flowering plant so well calculated to improve the aspect of the garden in autumn, no matter what its style. One may also safely say the gladiolus is the finest of all flowers for indoor decoration in autumn, its tall and noble spike entirely preventing it from being used to produce the dumpling-like effects given by dahlias and other popular flowers.

But its value in the open air is even greater; nothing in the way of a flowering plant will prove so good for varying and giving a more graceful and bold character to the flower garden. One fact, however, should not be lost sight of, i.e., that in all cases, either a naturally sandy, rich, and deep soil should be given it, or one made so artificially. There are many stiff and sticky soils on which it would be much better to avoid gladiolus culture and turn one's attention to things more tolerant of the soil. But the question of soil once settled, let us take the case of a bed of choice roses in some position near the house. Most probably this bed will present a somewhat disappointing aspect after the roses are past their best, and even if they continue to flower well, the peeping forth of some splendid spikes of gladioli here and there will surely not detract from their beauty! Now, to secure this most desirable end, all we have to do is to insert some bulbs of the various kinds of gladioli in the spaces between the roses in the early part of May, or thereabouts. Plant them singly here and there, and at about three or four inches deep.

A BEAUTIFUL FORM OF GLADIOLUS KELWAYI.
A distinct type, including many fine varieties raised by Messrs. Kelway and Sons.

Need it be noted how tastefully they may be introduced just within the edge of the low, choice shrubbery, or beds of valuable shrubs on the lawn? Groups of them in the centre of flower beds would be splendid, and planted thinly here and there among beds of low-growing plants like say saponaria, mignonette, etc., they would rise above these, and their effect above the surfacing flower would prove very fine indeed. They may be placed in groups or rings around standard roses, they will make most valuable groups in the mixed border, or they make grand beds of themselves, or associated with lilies.

Where gladioli are grown in some quantity, it is, of course, best to give them a position on a border in the kitchen garden, as the formal aspect of anything grown in quantity is not nice for the lawn, pleasure ground, or flower garden. The varieties are legion, and many of the most beautiful varieties are now offered by the trade at very cheap rates.

All lovers of the gladioli are deeply indebted to Messrs. Kelway and Son, of Langport, for the many exquisite varieties introduced by them within the last few years. The following should find a place in every collection: Countess Crewe, a charming variety, white, shaded pink; Leader, a pure yellow with bright orange centre; Marks Barn, rosy crimson, flaked and shaded with maroon; Mrs. H. Cornwallis West, mauve, white spot, very handsome; W. Newcombe, flesh, flaked with light centre; Benjamin Harrison, orange-cerise, very large and useful. T. B. Field.

Ashwellthorpe Gardens.

CLEMATIS CALYCINA.

Although this clematis is less ornamental than many other species, it is sufficiently interesting to warrant its inclusion in gardens where out-of-the-way plants are encouraged. Its chief interest centres in the fact of the flowers being produced in mid-winter, a condition shared by one other hardy species, C. cirrhosa. The two plants are quite distinct, although some confusion has existed through the synonymous name of C. balearica being applied to both plants. C. calycina is a native of the Balearic Islands, and is recognised by its finely-divided evergreen leaves and greenish-white flowers a couple of inches or so across. Grown in an open position on rough stakes it attains a height of 12ft. or 15ft., and blossoms sparingly over a period of three months. Planted against a wall it often blossoms more freely, the wood probably becoming better ripened in such a position. Although a rare species, it is one of the oldest introduced plants of which we have any record, the period of its introduction being fixed over three centuries ago. Like other clematises, C. calycina thrives best in loamy soil which contains a good quantity of lime. W. D.

Kew.

CULTURE OF AMARYLLIS.

Judging from the improved specimens of amaryllis which year by year are to be seen at most of the important shows in this country, cultivators are devoting more time and space to this once neglected family of plants, and are setting aside a house or houses for its special culture. The amaryllis soon falls a victim to mealy bug, thrip, and red spider, if the conditions under which it is grown are poor. It does not require too rich a compost, neither does it thrive in too light a soil. After trying many experiments in the matter of composts, I find the best one to employ is composed of three parts loam to one part of leaf-mould, horse manure, charcoal, and sand, and it is all the better if this is mixed a month or so before potting.

The other essentials to the well-being of the amaryllis are (1) Judicious watering during and after flowering, and when the leaves are pushing. (2) Even temperature. (3) Careful potting.

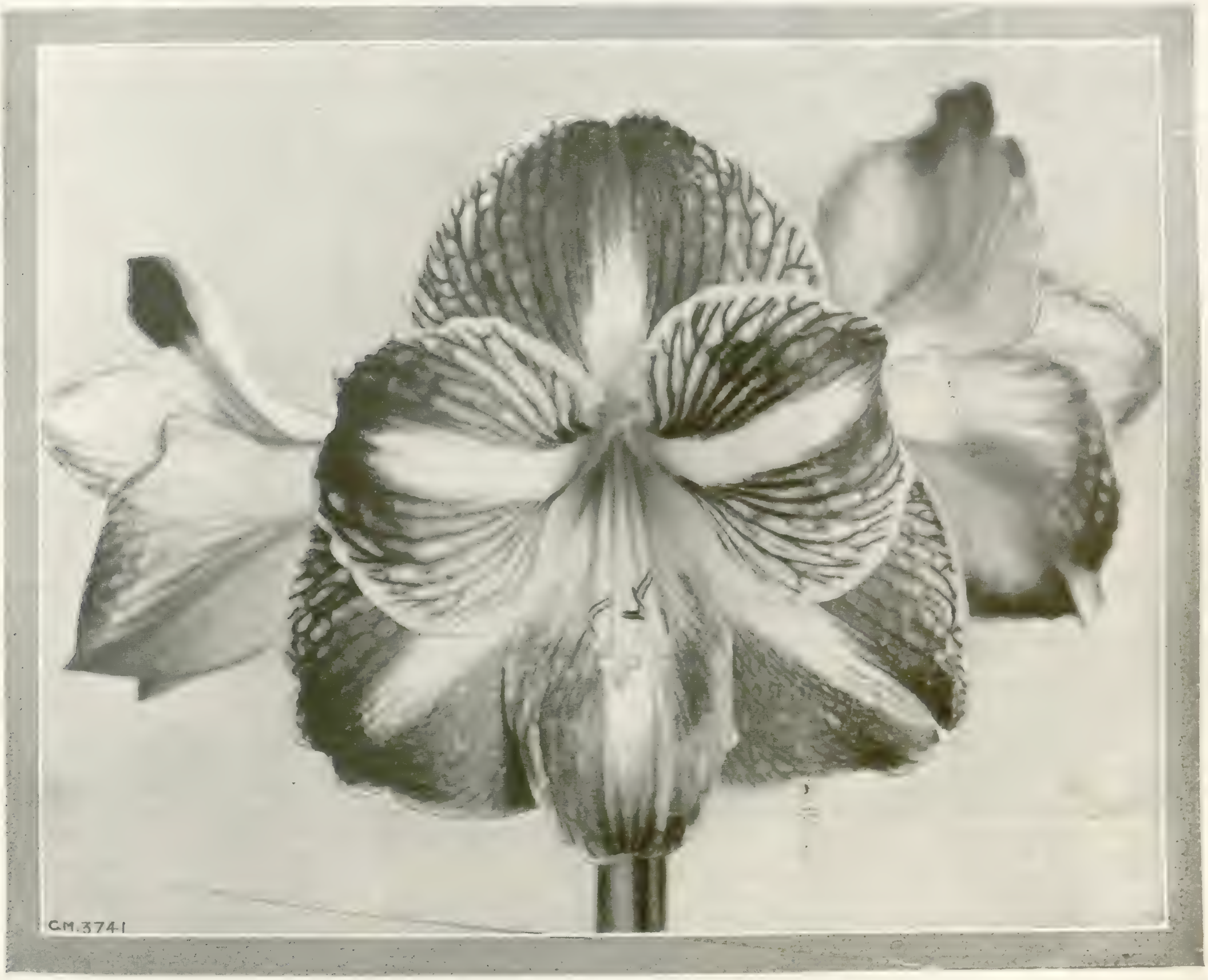
A frequent cause of failure is burying the bulbs too deeply. They should always be three parts out of the soil, and great care should be used to preserve the principal roots. It is not always necessary to repot flowering specimens annually, a little fresh soil, by way of top-dressing, made firm with the hand, is sometimes all that is needed.

Those who are commencing to raise seedlings I would impress with the necessity of thoroughly ripening the seeds, employing a light sandy compost, and just covering them. A brisk moist heat should cause the seeds to germinate in the course of two or three weeks, and in another seven weeks they will be fit to handle, and ready for their first potting. At this stage a temperature of 60 to 70 degrees is necessary to keep them steadily growing on to their flowering stage (a period of three years). A six-inch pot is quite large enough for the final potting, and smaller bulbs may be given a five-inch pot.

The flowering bulbs should be started in a fairly moist atmosphere, syringing only occasionally until signs of growth appear, when more liberal waterings may be given. It is not wise to leave the watering of these plants to the novice, particularly in the matter of the potted offsets, for at the time of removal these have not many roots, and they do not form fresh ones rapidly. It is best to have the pots plunged in a bed of oak leaves or tan, with a bottom heat of 75 degrees, and then they will want little moisture for the first few weeks after removal. During the resting period until the weather makes it impracticable, as much air and sun as possible should be let into the house, and water should be withheld if the pots are plunged, as the roots will derive sufficient moisture from this for quite six or seven weeks after watering ceases. It is not a good sign when the bulbs lose their leaves quickly.

A. Chapman.

Westonbirt Gardens.



AMARYLLIS LADY HOWICK.

A handsome crimson-scarlet and white variety, raised by Mr. A. Chapman, at Westonbirt.

THE BEST ANNUALS FOR THE FLOWER GARDEN.

When we have said all that we can say against annuals—their lateness in coming into flower, the damage they often sustain by bad weather, their short duration, and, not infrequently, their untidiness afterwards—the fact remains that they add so much to the beauty and interest of a garden that in these days we cannot afford to do without them; besides, there are many annuals in which the said drawbacks either do not exist, or, in which, by proper cultivation, these can be more or less completely overcome. The grounds at the Franco-British Exhibition must have been a veritable surprise to many as to the capabilities of this large class of plants, most of the floral display there being produced by plants raised from seed the same season.

A book recently appeared dealing almost entirely with hardy plants, and in this the writer had much to say about the rout of August—the interregnum of summer and autumn-flowering perennials. This is the season when annuals may be had at their best, and in the preparation of plans for beautifying our gardens we need to bear this fact in mind. The uses to which they may be put are various. For the present purpose I include under this heading any plant which may be sown and flowered in the same season. The purchase of seeds and the raising of stocks should be proceeded with at once.

Two annuals which need more care in the rearing than most are the verbena and the petunia, and they pay for it. It is essential to get bushy plants, whether they are to be pegged down or not, and in order to prevent any check to their growth it is worth while rearing them in small pots so that they may be planted out at the end of May with bloom almost in sight. I think few things make a more beautiful bed than either of these does when well-reared plants are put into good soil in a sunny position, the flowering time beginning in June and lasting till Michaelmas, or even later in a favourable season. Verbena seed can be obtained in mixed packets or in single colours, according to taste, the latter coming fairly true, while petunias can be obtained not only in varying colours but in different forms of flower, all of which are beautiful, and the scent not unpleasing on summer evenings.

One of the most commonly-grown annuals is the aster, which certainly makes a splendid display, though not for so long as we could wish. The numberless varieties range from six inches to two feet in height, and they can be used in different ways accordingly. They are late coming into flower, and need the best cultivation for success.

The ubiquitous stock, in its various forms and colours, must be given a place in every garden, as it is useful in beds, borders, and pots. It is on a chalky soil that it does best, and there it is worth growing largely, though plants grow untidy late in the summer. They need not be sown so early as some, for this reason.

One of the most beautiful bedding or border annuals is the salpiglossis, with its large alströmeria-like flowers, veined with the most delicate pencillings. Some of the colours are almost peculiar to this plant. It should be reared like the petunia, and is best not pegged down. It is, however, a most capricious plant in many places, dying off when in full bloom without apparent cause.

The portulaca rivals all plants in the brilliancy of its colouring, and where one has a light dry bed in a hot position no better place could be found for it. When rearing the plants it is worth potting them up, though they do not need to be sown so early as most, late March being soon enough.

One of the most paying of annuals for the border is the annual chrysanthemum, mainly C. coronarium and C. carinatum. They may be sown where they are to flower, as they are quite hardy, but are obtained earlier if sown under glass. They need to be given ample space if the flowering season is to be prolonged. Perhaps the most gorgeous of the annuals suitable for the mixed border is the African marigold. It is tender, and the earlier the plants are raised the better, as it lasts in any case until the frost comes. It pays for good feeding and plenty of space, and both this and the previous one may be used very effectively in concealing the later untidiness of perennials. The sweet scabious and the sweet sultan may be used to less effect in the same way, both being sown in the open as early in March as conditions permit. They are honey-scented flowers which everyone appreciates, and last in flower longer than most annuals, the yellow sweet sultan, however, being a smaller and more delicate plant than the white and the purple. On a very sunny border, where the soil is well cultivated, few things make a more brilliant display than the godetia, which should be sown where it is to flower as early in March as possible and given plenty of space, say eight inches each way. It is a plant for massing, but its season is not a very long one from the bedding point of view.

Our old favourite, the nasturtium, common as it is, must not be left out, as it is worthy of a place in any garden. The most gorgeous effects are produced when the dwarf varieties are grown in a rather poor and dry though well cultivated soil in full sunshine. In a rich soil the leaves hide much of the blossom. The climbing varieties, too, are very valuable, as we have few plants of such intensity of scarlet and crimson. They may be used as climbers or allowed to run about in the mixed border to cover up dying perennials, a few running over shrubs, too, producing a good effect. Some of the plants described as bedding annuals may be used in the mixed border, too, notably stocks and asters, and to these we might add the zinnia, which needs to be reared in the same way. Some of its colours are peculiar to itself, but it is of rather too leggy a habit to be used for the beds on the lawn. Some writer, I think the author of "A Gloucestershire Garden," has indeed said that a bed of double zinnias is the only thing which is as ugly as a bed of double tulips, but this can scarcely be regarded as a dispassionate utterance. Given a deep loamy soil and a warm position they last well into the autumn.

As to sweet peas, what can we say about them in a general article in this day of specialisation? Mention must be made of two other sweet-scented annuals which all should grow—mignonette and night-scented stock.

There are two or three hardy or half-hardy perennials which deserve a notice in any article upon annuals. Excellent perennials for treating as annuals are the Gaillardia grandiflora in its hybrid forms, the antirrhinum, and the pentstemon, which are good for both beds and borders. Seed sown in February, in heat, will produce fine flowering plants by early July, and these will last in flower until the frost comes, though the gaillardias fail in a wet autumn. The annual forms of the latter, too, are good. If a bed is made of antirrhinums it is recommended to confine it to those of one colour, when, given a sunny place in a soil not too rich the effect produced will be very fine. The gaillardias, too, cannot have too much sunshine, but like moisture and good feeding as well, as do the pentstemons also, but the latter, unlike almost any other plants treated as annuals, will do as well in partial shade as in sunshine. These three may be grown on in pots and planted out in the mixed border any time in June to fill blanks.

Mention has already been made of the nasturtium as a climber, as well as the sweet pea, and to these may be added, as a third, Eccremocarpus scaber, one of the most rapidly growing of all climbers, and beautiful alike in flower and foliage. If sown in February and treated as a tender bedding annual it will come into bloom late in June, or early in July, and last until the frost comes, growing ten or fifteen feet high in the meantime.

Everyone will notice omissions in the above list, and this must necessarily be the case in any selection of "the best." Many, however, of our favourites, by reason of their short period of effectiveness and their subsequent untidiness, are more suited to the reserve and cut-flower garden than the beds and borders of the more formal parts of the garden. As good annuals for cutting I might mention, in addition to some of the above, eschscholtzias, cornflowers, love-in-a-mist, larkspurs, Shirley and Iceland poppies, lupins, Cosmea bipinnata, Helianthus cucumerifolius, and coreopsis.

Alger Petts.

HOW TO GROW GARDENIAS SUCCESSFULLY.

These lovely fragrant flowering plants are greatly appreciated, and the beautiful wax-like blooms may be obtained in abundance from about Christmas time to the following May when the plants receive proper treatment. But very often they are unduly coddled, with the result that growers are disappointed. In order to grow gardenias successfully new shoots must be produced every year, duly matured, and buds formed.

Unless the houses in which the gardenias are planted can be practically given up to them I prefer to grow them in flower pots. In the latter case it is possible to move them from one structure to another, as occasion demands, and this is a very important matter. I know persons who can grow good plants, but are unable to procure specimens that will bloom. It is solely a matter of treatment.

After the flowers have faded the foliage should be thoroughly cleaned, all sediment and any insect pests being carefully removed. Mealy bug is the worst enemy, and it should be valiantly fought. Begin the season with clean foliage, and then it will not be a very difficult matter to keep it clean.

Gardenias may be pruned freely; all long, badly placed shoots should be cut back, but the young shoots on shorter branches must be left intact. Every plant that is potbound should be repotted as soon as possible in spring, the best compost being two parts of thinly-cut fibrous loam, one part of peat, and one of leaf-soil and well-rotted manure. Put in sufficient silver sand to make the whole mass porous. Remove the old crocks, carefully crock the new pots, and then pot firmly. When mixing the compost I first spread out the pulled turf and scatter the sand on it, turning the whole twice before adding the other ingredients. This causes the sand to adhere mostly to the turfy loam.

A stove temperature is necessary, and daily syringings with tepid water, and very careful watering and ventilation so long as the plants are growing. Shading is [illegible] advisable. During this period the plants are best grown in a low house, or a brick pit heated by hot-water pipes.

From July to September gardenias should be kept in a cold frame or pit. The new shoots will now have finished growth, and every effort should be made to have them thoroughly matured. I gradually harden the plants, so that they are [illegible] benefited by full exposure day and night except in stormy weather—the glass lights being removed during the warmest part of July and August. As the autumn approaches the flower buds become prominent, and such plants may be forced later on; in this way splendid specimens are produced, with hard wood, and thick, leathery, healthy green leaves.

During the first half of September the glass lights should be put on, and the plants taken to their winter quarters by the end of the month. While they are in the cold frames very careful watering should be the rule, and when you are sure that the pots are well filled with roots, give weak doses of liquid manure, [illegible] after the plants are removed to the warm house. Forcing may commence in November.

Cuttings root readily in a sandy soil under a hand-glass, especially if a little bottom heat can be given.

Geo. Garner.

HERBACEOUS PÆONIES.

Herbaceous pæonies are among the noblest hardy plants in the garden during early summer. They are unsurpassed for variety and for the delicate colours of the flowers, which in many instances are richly perfumed, while the plants are robust and free-flowering to a high degree. An awful poverty marks a garden where the pæony is not represented, while a rich beauty characterises the garden where pæonies are lavishly planted. Pæonies are neither expensive to procure or to maintain. The flowers enter into friendly rivalry with the rose, in texture of petal, delicacy of colour and fragrance, but, fortunately, they offer no invidious comparisons, as each is distinct in character and both have their season and special mission, so that no contradiction of interests can ever force them to be placed in the balance to the discredit of either. The colours range from purest white to full rich crimson.

To command success with herbaceous pæonies is neither difficult nor expensive, yet the necessary conditions should be provided in a thorough manner. The plants have a wonderful hold upon life, for the smallest bud will grow; on the other hand they are very impatient of removal, so that planting should always be regarded as permanent. They luxuriate in deep, rich, loamy soil, and in positions well drained; soil two feet in depth will support good specimens, but quite thirty inches should be secured, and if the depth is in excess of this so much the better. The ground should be well trenched, and have a liberal dressing of rich manure worked into it; on that of a retentive nature drainage must be provided and the staple mixed with wood ashes or soil that has been charred. Where groups are formed among other subjects and the soil is of poor quality, the bulk should be removed, and a compost of richer material added.

This work should be carried out early in autumn, allowing the ground to settle for a fortnight, when it will be in excellent condition for planting. Choose a day when the soil works freely, mark out the positions and plant the crowns about two inches below the soil level, carefully working soil among the fleshy roots and making all firm as planting proceeds. Amateurs frequently err in employing too large clumps, and with home-grown crowns this temptation is naturally great. These specimens should in every case be divided, as six to eight strong growths form a good plant. The distance apart in planting should never be less than four feet when in lines, and eighteen inches apart in groups of three among other hardy plants. Magnificent effects are produced by intergrouping pæonies with narcissus, liliums, and a few of the best and lightest Michaelmas daisies, and this arrangement gives a continuous display throughout the year and requires the minimum of trouble.

Failing planting in autumn, the earliest opportunity should be embraced in spring, but from late planting no display need be looked for the first season. There are endless positions available for planting pæonies in, but they are most effective in great masses in beds or borders, and as they bear a considerable amount of shade their utility is so much the greater. Many of the species and older varieties are beautiful when planted in grass, or in open clearings in woods, but they should never be planted near the roots of forest trees or vigorous shrubs. Aspects should be selected where the plants will follow in succession; a gentle slope or wall-foot open to the sun will favour early flowering, while positions partly shaded will naturally prolong the season.

Subsequent treatment consists in applying a yearly dressing of rich manure around the crowns after the foliage is removed in autumn, followed by a light dusting of some approved fertiliser lightly forked into the soil previous to growth commencing in spring. Mulching with short litter is advantageous in dry summers, and copious supplies of liquid manure will readily stimulate a vigorous growth.

The present race of garden pæonies has really originated from two species, namely P. officinalis, an European plant, and P. albiflora, a native of Siberia, and both these have been known in England for over 300 years. It is chiefly in gardens where rare plants are specialised, in botanical gardens, and in a few nurseries that we find any considerable number of pæony species cultivated, and to the great body of cultivators the pæony is a garden flower inseparably associated with the names of great raisers like Kelway of Langport, Lemoine of Nancy, etc. The greatest interest among species is centered at present in those having deep yellow flowers, of which P. Delavayi is the latest and most valuable addition, and we are not without hope that this species may hybridise and yield a race of true yellow pæonies as vigorous as the older forms.

Varieties of pæonies are beyond number, and they range in price from ninepence to half-a-guinea or more. Fortunately the price is no indication of quality, as in these high-priced varieties it primarily implies that the stock is as yet limited. We have in the variety illustrated one which is representative of a group, moderate in price, yet beautiful to a degree. Mdme. Calot is a typical garden pæony, very double and of good form; the colour is flesh-white, tinted rose on the guard petals, giving it the appearance of blush pink. To complete a dozen of the most distinct and inexpensive varieties I would include Alexander Dumas, rose and cream; Carnea elegans, rose-yellow and rose; Festiva maxima, white, flaked red; Formosa alba, white and cream; Humei, white; lutea plenissima, self primrose; Mdme. Celie, crimson; Magnifica, pink and blush white; Ne Plus Ultra, peach and white; Reine des Françaises, rose and white; and Vanguard, cherry-rose.

Equally distinct and beautiful are the single herbaceous pæonies, the broad, shell-like petals enclosing a great boss of golden stamens, so that the flowers appear like glorified single roses. A superb dozen, all distinct, includes Argus, bright rose;

HERBACEOUS PÆONY MADAME CALOT.
A charming flesh-pink variety with rosy guard petals; finely exhibited by Messrs. G. Bunyard and Co., last summer.

Autumnus, purple; Emily, bright pink; Nellie, blush white; Snowflake, white; Stanley, maroon; The Queen, white and blush; The Lady, rosy lilac; Viscount Cross, cherry rose; decora alba, white; officinalis splendens, crimson; and Wittmanniana, pale yellow.

Walmsgate Gardens. THOMAS SMITH.

DWARF OR FRENCH BEANS.

It is exactly four hundred years since the introduction into this country of the dwarf type of bean, and, as was the case with many other of our favourite vegetables, no very striking improvement seems to have been made until within the last fifty years or so: at least it is safe to say that the best and most popular varieties of the present day have been raised during this last period. For supplying early crops of kidney beans, as well as very late ones, the French bean is invaluable; and, in addition to this, when the pods are picked at the right moment, before there is any suspicion of becoming old and stringy, the quality is certainly much more refined than that of the ordinary scarlet runner bean.

Fortunately, this vegetable is not at all fastidious as to soil; nevertheless, it is important that in all cases the ground should be deeply tilled and well enriched with manure, and the earlier this can be accomplished during the winter months the better, and especially does this apply to heavy soils. Immediately this work is performed, apply a thoroughly good dressing of either soot or wood ashes, and when the soil is destitute of lime apply a fair dressing of this also. Except for producing crops during August and September, the site for preference should be a sheltered one, facing south or south-west.

The French bean is among the most tender of our kitchen garden crops, consequently seeds must not be sown too early in the open. But to ensure very early crops a capital plan is that of sowing early in April, either in pots or boxes, in a cool house or cold frame. The plants should be kept very cool, and not allowed to become drawn; place them at the foot of a south wall or building, where they can easily be protected if necessary, and thoroughly harden off before planting out, and even after this it may be advisable to slightly protect them against late frosts and cold, cutting winds. Small spruce boughs placed on either side of the row make a splendid protection.

Towards the end of April, after pointing over the land, which has been previously trenched or dug, seeds may be sown in the open. Sow the seeds thinly in double lines, about two inches deep, and allow about three feet between the rows. Small sowings should be made at intervals of about a fortnight until the end of July. The chief fault in the successful culture of this vegetable is overcrowding; generally speaking, three or four plants occupy the space which should be alloted to one, and particularly does this apply to the stronger growing varieties, such as Canadian Wonder, Magnum Bonum, and Ne Plus Ultra. The latest sowings will in many districts need protection against early frosts, and where old lights can be brought into use for this purpose it frequently happens that the crop will continue to bear for fully a month or six weeks after the tall growing beans are killed by frost.

During spells of drought it is most essential that the plants be kept well supplied with moisture, both in the form of clear water and liquid manure. Drainings from the farmyard, properly diluted, will suit them admirably. Mulching with long litter from the stableyard on all kinds of land during hot weather is extremely beneficial, and does much to improve the quality of the crops, as well as extend the duration of productiveness.

Fortunately, the dwarf bean has few enemies, and these can be overcome easily. Where slugs abound, and in some seasons these probably give more trouble than anything else, by using liberal supplies of finely-sifted cinder ashes, they can generally be kept at bay. Black aphis and red spider sometimes attack them, but frequent dampings overhead with clear water, and keeping the roots well supplied with moisture, will act as preventives against the latter, and strong soft soap and water is a certain remedy for aphis of all sorts.

Veitch's Progress is a distinct and very quickly maturing variety, well suited for very early supplies. Ne Plus Ultra, Magnum Bonum, and Canadian Wonder are each splendid varieties, the latter being the finest for exhibition purposes.

Aldenham Gardens. E. BECKETT.

CONSERVATORY PLANTS FROM SEEDS.

It is to plants raised from seeds that we look for many of our brightest displays in the conservatory, and as the various batches can be brought on in relays they do not overcrowd the houses and the frames in which they make their growth. Plants that are only flowered once, whether of an annual or a perennial character, are less troublesome to deal with at certain times of the year than are those which have to be kept over from year to year. With a little good management as to time of sowing, etc., surprisingly good results can be had from a very limited amount of glass when plants from seeds are mainly depended on, for the time of sowing and growing varies almost as much as the character of the plants themselves, and from the earliest months of the year up to, say, the end of September, there are always young plants of some kind or other which are in the stages when they require little room, and which can be kept in that condition until some of the rest have done their work and been cleared out.

The spring is, of course, the season when the larger number of these plants are sown, beginning quite early in the year with tuberous begonias, gloxinias, torenias, and continuing with cinerarias, of which batches may be sown from March to May; Lobelia tenuior, a very useful plant for conservatory decoration; Campanula pyramidalis, balsams, and celosias, Chinese and other primulas, such as P. floribunda, P. verticillata, and P. Kewensis. Then in the summer the herbaceous calceolarias must be taken in hand, to be followed soon by cyclamen, streptocarpuses, and those most useful conservatory plants, the schizanthuses. The pretty little Saintpaulia ionantha, too, must not be forgotten, for, though these, like some of the foregoing, may be raised in other ways, they make the better plants when grown from seeds.

When growing plants from seeds, perhaps the most important thing to bear in mind is that, from the start until they have reached their flowering stage, they should never be subjected to anything in the nature of a check. The roots must be always active if good results are to be obtained. Checks may be given in many ways. The seedlings may be either over or under watered, or they may be raised or potted on in unsuitable soil, and either of these things will check or hold back the necessary root action; but perhaps the most common cause of such checks is that the young plants are allowed to become rootbound, either by growing them too closely together or by leaving them too long in the pots between the necessary shifts that have to be given before they reach the size of pot in which they are to flower. Very few seedling plants will take freely to new soil when once the roots have been allowed to coil themselves up into a matted mass, and though it is often difficult to find time to do the necessary potting, yet when the right time comes, it is only by doing the work that we can command good results.

Personally, I think that "boxing off" rather than potting off seedlings from the seed pans is conducive to a good start, and that this should be done early, for no matter what care is expended in the preparation of soil for seedlings, such soil has a tendency to become sour quickly, owing to the paucity of roots that are made in the early stages of a seedling, consequently the earlier they can be moved out of this soil the better. On the other hand, they start away more quickly when transplanted in colonies in other boxes than they do if potted off singly, for plants in small pots have to be too frequently watered, the small quantity of soil contained in each pot becoming quickly dry. Boxing off obviates this, but in almost all cases only shallow boxes, containing a very little depth of soil should be used.

Another thing to make note of is that only seeds of a good "strain" of plant should be used. One often sees batches of what can only be described as rubbish when contrasted with similar plants of a better strain; and when it is remembered that only the same skill is required on the part of the grower to produce these batches, it should be easy to understand the false economy of buying cheap or badly selected seeds. Our best seedsmen take great pains with their stocks, and the care given should be encouraged by the grower only selecting the best. One should also consider in this connection what particular strain is "the best" for one's individual purpose. The strain of cinerarias, for instance, which would please the man with the eye and heart of an old florist, who cares principally for the shape and size of the individual flower, would not please the grower for cut flowers or for the background of conservatory groups, as for these latter purposes the newer stellate forms, with their tall habit of growth, would be most suitable, and the same thing follows with most plants.

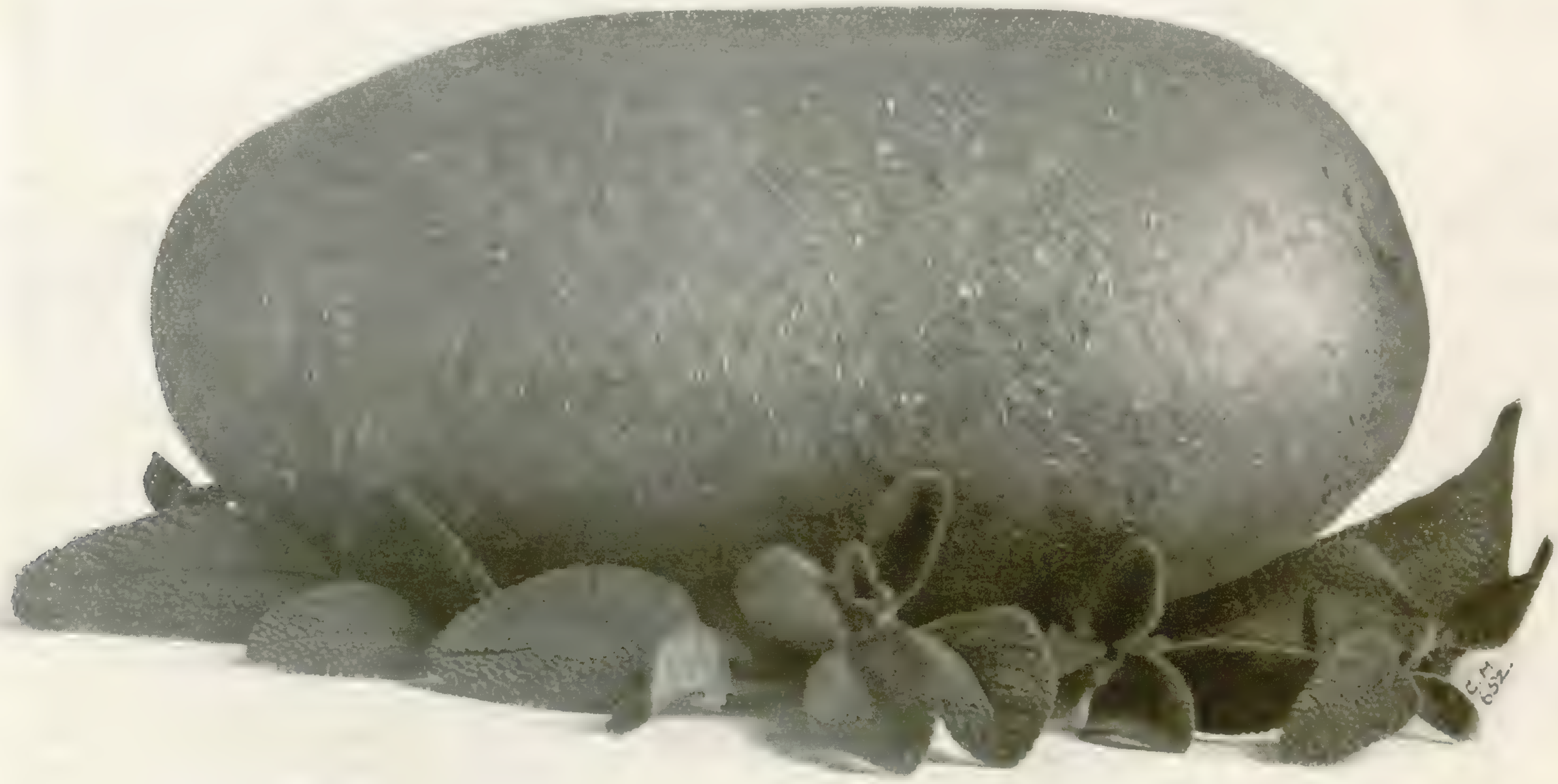
Again, for conservatory decoration the choice of the proper colours should be a main consideration, and here one may say that large batches of a given colour are far more effective than mixtures of various shades and colours. J. C. TALLACK.

Shipley Hall Gardens.

Tunica saxifraga rosea fl.-pl.—In many respects Tunica saxifraga resembles a miniature form of dianthus, with which it shares affinity from its position in the same natural order. This old-established rock plant has sprung into sudden notoriety by reason of its distinguished double-flowered offspring. Tunica saxifraga fl.-pl. is a charming double pink flower, in some ways it resembles a gypsophila, and, provided it maintains the vigour of the type when grown under the same trying conditions in the open it will certainly meet with a most [illegible] welcome from lovers of these dwarf [illegible] subjects. That it is a distinct gain to its class is borne out by the Award of Merit bestowed upon it at the Holland House Show last summer. I believe the variety originated as a sport from the type, on the Continent, about two years ago.—THOMAS S[illegible]

NEWER POTATOES.

In making active preparations for the planting season which will soon be with us, the question arises in one's mind, What does the future hold to startle us with among potatoes? We have, indeed, settled down upon quieter times since the boom of only a few years back, and perhaps it is as well that so quiet a time should follow upon such an upheaval. We sometimes think that, constitutionally, the potato is not so easily spoiled as one might at times imagine. There are, of course, enemies enough, both in our own country and in others, and what with the ordinary potato diseases, scab, black scab, and cultural defects, we do sometimes wonder from whence comes all the fine, clean stocks that are so plentifully and cheaply placed upon the market. One may, however, safely say that there are fewer worn-out stocks in England at the present time than for very many years back. The seed trade knows, and has known for years, what climatic and cultural conditions are best suited to either maintain vigour or reinvigorate any degeneracy in a good type.



KIDNEY POTATO WHITE CITY.
A free cropping new variety, raised by Messrs. Sutton and Sons.

The tendency of late years to grow fewer varieties has also made headway, which is a very desirable thing. Looking into old notebooks of some twenty-six years or more ago, I find we do not now possess so many distinctive potatoes as were then grown; and what a business it was to be sure trying to keep each variety true. Scores of them were useless as human food, and the same may be said of many of the varieties of to-day, more especially some of the coloured ones. I do not complain of the quality of some of our maincrop potatoes of to-day, because, generally speaking, the quality is good, providing the cooking is good also. We have The Factor type, which commenced with Triumph or Up-to-Date, and so good has this type proved to be that it has more synonyms than any other ever placed upon the English market.

During late years we have made rapid strides in the annual seeding of plants that are not really annuals, and this rapid multiplication has resulted in changes and unlooked-for colours in a remarkably short period. I wonder, will it become possible as time goes by, to bring down to a reasonable stage of purity a good type of potato that will yield a serviceable crop of tubers from seed the same year as sown? Perhaps we should more nearly approach the disease-proof stage if that could be done. Seedling potatoes, under the usual conditions, give endless trouble and expense, because so very few ever reach any market value, and, so long as the present system of raising goes on, so long will the extraordinary diversity in form, colour, cropping, and varying stages of strength show in the progeny. The process of working down a good type to a pure stage before recommencing to work upon them would take time, but there would be something more definite to work upon. New life seems to be necessary in potatoes from time to time, and when under the vegetative method of annual reproduction their constitution is impaired beyond a paying stage, it relieves us to know that there are good firms sparing neither trouble nor expense in trying to maintain the present useful standard, and even improve upon it.

New varieties, to meet present day requirements, must possess several qualities. They must be free growers, free croppers, shallow-eyed, of good quality, and good disease resisters, and, preferably, have white skins. It is no mean achievement to secure all these qualities in combination, so that we do not wonder so much at only a very few genuinely distinct varieties appearing. When visiting the White City, towards its closing days, we saw many things that are not likely to fade from our memory, and not the least of these was a new potato given by the raisers, Messrs. Sutton and Sons, the name of White City, which was to be seen in quantity and fine form. Having grown the variety and also seen it growing with others, I have not the least hesitation in saying that it is a distinct break from any other variety now in commerce, and that it possesses all the good qualities that one naturally looks for in a paying maincrop potato. The tubers are longer than round, not too thick, very shallow-eyed, and freely produced, with a distinctive haulm that stands up well, but is succulent enough for the rapid transmission of sap. Everyone should give this (and I predict it will become a standard sort) a trial. Another extraordinary cropping potato is Long Keeper; on light, well-manured land, one is led to wonder how so many tubers could be crowded in the soil; this would make a fine potato for baking purposes. President, or President Kruger (and other names) is a German variety, very heavy cropping, and though too ugly for a refined table, it has its admirers in a few districts. Sir John Llewelyn has had many admirers, and now Lady Llewelyn appears to be making headway in Scotland; my old friend, Mr. James Harris, is responsible for this good second early sort, which in many respects resembles Sir John Llewelyn. The Colleen, although not quite new, is an extraordinary cropping variety, that is not so largely grown as it should be.

Eclipse and Early Favourite ought to be tried as early varieties. The former is thought a good deal of in Northern districts and is very shapely, in some cases nearly round and others more pebble-shaped; a fine cropping variety and of very good quality. Sutton's Gladiator is an early potato that did well in some districts, but until last summer it never in anyway satisfied me as a remunerative cropper. When giving it another trial I was assured that the stock was a vigorous one, and such it proved to be, and I never experienced greater satisfaction with any early variety. The tubers were of excellent all-round quality, superior to Ringleader in crop, and of better quality than May Queen. Of the excellent Duke of York type I saw some fine crops lifted of Midlothian Early, and there is do doubt about it, this potato is the one that the poor man must have; an immense cropper, handsome in appearance, and of very passable table quality; what more is wanted? Dobbie's Favourite is a good second early variety that would be difficult to beat as regards quality, and when we speak of quality we never forget that Windsor Castle has never been surpassed amongst the second early section. Sutton's Red Kidney is another new potato I have grown; its crop and appearance pleased me very much, but upon my light soil the tubers did not reach the size usually wished for. Upon richer and moister soils the tubers are very fine and perfect models of refinement.

Reading. C. Foster.

FRENCH GARDENING IN ENGLAND.

Shall we, in the days that are to come, look out over landscapes dotted with enclosures surrounded by corrugated iron fences, and covered with frames, cloches, handlights, and the rest of the paraphernalia connected with the equipment of a French garden? Will it be a familiar sight in the future to see men (and women) not moving manure about in the old-time barrow, but carrying it on their backs in true Parisian style? Time will tell, but if such a thing does happen, and people come back to the land through the doors of French gardens (mind you, I do not say they will), the credit of starting the movement, and booming it for all, perhaps more than it is worth, will not belong to steadygoing horticultural journals, but to an enterprising daily Press, that also sets out to run a small farm, and undertakes to show the British public how the landless man from the town can be put on the manless land in the country and make it pay.

It is no good saying you are not interested in French gardening, because you cannot help yourself; the daily Press will not let you, and when that much-talked-about individual, the man in the street, reads in his morning paper, over his breakfast table, glowing accounts about golden soil and the money there is to be made out of an acre of land devoted to French gardening, he compares it with the modest salary he toils hard for, sighs that he was not brought up to a horticultural career, and wonders whether, with the aid of a little handbook on the subject, he could invest his little all in frames and cloches and go straight to fortune. With implicit confidence in his newspaper and the golden soil journalists, he asks himself what are the market gardeners doing that they do not give up their old-world methods and take this short cut to independence and riches, instead of slaving week in week out for a mere living? Perhaps he sets down the reason to want of enterprise, characteristic British conservatism, or something else, but in his simplicity he fails to understand it, and chides his brother of the soil for not jumping at the golden opportunity that is placed before him.

It is no good for men engaged in horticulture to excuse themselves from French gardening on the grounds that they do not understand it, because it is all so simple and easy, and a shilling spent on a handbook brings the knowledge in front of one's very nose, with full particulars of expenditure, returns that may be expected, and estimated profits. After reading one of these encouraging little volumes the question naturally suggests itself, why has it been left to the journalists of the twentieth century to discover French gardening? How is it that our market gardeners and commercial horticulturists have gone on all these years trying to compete in the market with the French gardener, and missing all these splendid chances without thinking of copying the methods of the above? The answer does not come so easily as the question, and the reader had better be left to form his own conclusions. But those who have faith in the possibilities of French gardening need not hesitate if there is no difficulty about capital, for the handbook tells how it is done, cloches, frames, and mats are getting to be quite a commodity, and seedsmen advertise and supply seeds suitable for the purpose on the most favourable terms. Why then should anyone pause when such a chance of fortune—£700 an acre—is held out before them?

And, just fancy! Some sceptical-minded people have pictured the old country with French gardens dotted about it, and they have ventured to suggest that if the French system became general the supply of salads and the rest might exceed the demand, prices would come down, and profits be diminished. One has heard this argument put forward, but the boomer of French gardening has got the answer ready in the contention that the supply will create the demand. He illustrates tomatoes, and talks of the day when nobody would eat one, and shows how the taste became acquired and there arose a national demand for the love-apple when the supply was forthcoming. Nor is this all, for he rushes into figures, and tells you the quantity of salading, out-of-season carrots, early turnips, etc., that are eaten in France compared to England, and pictures the difference there would be if French gardens were general. Oh, ye of little faith, the French garden advocate seems to say, why do ye waver, don't you see how easy it all is, how you can create the demand by providing the supply, and educate John Bull up to being as fond of lettuces and radishes out of their natural season as his cousin over the English Channel; and don't you see how you can teach him to eat these things, as you have taught him to eat tomatoes? As a matter of logic, it all seems simple, but there are some who form a different estimate of John Bull's appetite, and have their doubts about making him as big a salad eater as his friend Monsieur Jacques over the water.

It is doubtless encouraging to the promoters of the French gardening boom to know that, to a certain extent, it has caught on. A number of French gardens have been started, and are probably doing well, while preparations are in hand for the establishment of others. Speaking quite seriously, there appears to be no reason why a number of French gardens in suitable places should not do very well, but the fear is too many of them, because, after all, John Bull is not an easy fellow to move where his habits of eating are concerned, and such a thing as over-supply of forced produce is possible, though one may be put down as being a little bit old-fashioned for thinking so.

But wait, ye British-French gardeners, you have another string to your bow, if you only realise it. Listen, while I whisper—take paying pupils in. There, keep it to yourself, but quite recently I saw a glowing advertisement in a leading and influential morning paper, which stated that for the payment of a quite handsome premium, French gardening could be learnt in a properly equipped establishment, and, what is more, there were inducements offered in the way of sport and congenial society. I wonder which would be likely to pay best, the cloches or the pupils; but that is part of another story, and no particulars were given as to whether the pupils would be expected to shoulder the manure baskets. Still one knows that in farming and other occupations premium paying pupils are profitable crops, and the same thing may apply to French gardening.

By the way, French gardening is catching on in the education world, and I read the other day of one Education Committee voting a certain sum of money for carrying out experiments with frames and cloches, while, I am told that the inspectors who supervise industrial and reformatory schools are quite keen about French gardening being part of the curriculum of manual instruction. You see then that even in this class there is a prospect of raising a race of British-French gardeners. I have not as yet heard of French gardens being established in connection with elementary schools, but if the idea should get fixed at the Board of Education offices there is no telling what might happen, and if the long-suffering ratepayer has to contribute to the provision of frames and cloches to grow lettuces and radishes in the school playground.

I spoke at the beginning of the possibility of the landscape being dotted over with French gardens—we shall perhaps view them then from aeroplanes, but if such a thing does come about, I hope some new method of fencing will come into fashion. I urge this because I have seen one French garden which is surrounded by a wall of corrugated iron seven or eight feet high, and never have I beheld anything more unsightly. Indeed, garden it could not be called, and a more correct term would be frame-yard enclosed in a tin case. Perhaps all French gardens are not like this one, and I hope not, particularly if they are to become general; and if it is necessary to provide something for protection, and block out the vision of an inquisitive public, let us pray that something less ugly than corrugated iron fences can be found for the purpose.

A BRITISH GARDENER.

PREVENTIVE MEASURES AND INSECT PESTS.

To destroy insect pests we have remedies in plenty, that are more or less effective, and there are people who will go to the expense of purchasing these things and spend time in applying them who deliberately ignore the simple precaution that may be taken to avoid the risks of attack in the future. Let me put a case, for the statement should be of value at the present season. I am acquainted with a district where the soil is light and [illegible] and the great scourge is the onion maggot.

Last June I visited quite fifty gardens and allotments in the district referred to. The onion beds everywhere looked healthy and promising. I visited them again in August and for the most part the beds were [illegible] wrecks, but what did I behold? The brown withered tops which were evidence of the trouble, but in very few cases had the maggot-infested plants been removed from the ground. In other words, the pests had been allowed to increase tenfold or more just because the people will not go to the trouble to promptly pull up the maggot-ridden plants and burn them. If the onion beds in this district fall a prey to maggot the coming season, as in all probability they will, who is most to blame? Why the growers themselves. It is true that a few take the necessary precaution of removing the affected plants, but their efforts can have little effect while their neighbours round about are breeding the onion fly.

I contend that in this district, if all the persons who grow onions, and most of the people attempt it, would join hands and undertake to burn every maggot-infested plant as soon as it was observed, they would do more to reduce the evil than is possible by the use of insecticides and other remedies. The same thing applies to other pests besides onion maggot, and the general fault is that when a crop fails through some insect attack it is [illegible] left to its fate, and the pests are allowed to increase their kind, with the natural result that the damage is greater the following season.

H.

THE JOHN INNES HORTICULTURAL INSTITUTION.

As briefly announced in a recent issue the late Mr. John Innes, who was a resident of Merton, Surrey, and died in 1904, left a large sum of money for charitable, educational, and other objects, chief among them being an institution in which the practice and science of gardening would be taught, and the investigations of matters associated with horticulture would be carried on. A scheme for the administration of the bequest has been prepared by the Charity Commissioners, and published within the past few weeks. Provision has been made in the scheme for the payment by the trustees of yearly sums out of the income derived from the investments for the maintenance of a park and a boys' club at Merton, for the provision of scholarships tenable at a local school, and certain charitable objects. These sums and certain annuities left by the late Mr. Innes, will amount in the aggregate to an annual sum of about £4,400. The residue of the estate, which is estimated to produce about £5,000 per annum, will be applied to the foundation and maintenance of an institution to be known as the John Innes Horticultural Institution, whose object shall be the promotion of horticultural instruction, experiment, and research. The house formerly known as the Manor Farm, Merton, and a portion, not exceeding two acres, of the grounds, are to be devoted to the purposes of the institution. The trustees are empowered to select the two acres from such portion of the grounds as they may consider the most suitable, and subject to the consent of the Charity Commissioners, they may provide additional land, of which a sufficient area in the neighbourhood is available.

The management of the institution will be entrusted to a council consisting of three trustees, who will be ex-officio members, and nine representative members. Two of the latter will be appointed by the Board of Agriculture, and one each by the following bodies: The Royal Horticultural Society, the Fruiterers' Company, the National Fruit-growers' Federation, the Hebdomadal Council of the University of Oxford, the Council of the Senate of the University of Cambridge, the Senate of the University of London, and the Governing Body of the Imperial College of Science and Technology.

The functions of the Council are defined in the scheme for the administration of the institution, as follows:

(a) To establish and maintain the institution for the purposes of affording practical and scientific training for those engaged, or desiring to be engaged, in the industry or employment of horticulture.

(b) To carry out investigations and research, whether of a practical or scientific nature, into any matters having reference to the growth of trees and plants generally, but especially of fruit trees, shrubs, fruit, vegetables, and flowers, and to investigate and demonstrate the best methods of their cultivation, their habits and leading characteristics, together with the soils and localities in which they may be most inclined to flourish.

(c) To endeavour to improve existing varieties, or to create and introduce new ones.

(d) To impart information, whether of a practical or scientific character, on all matters connected with the above, and generally to endeavour to promote as far as may be in every way the interests of all connected with, or desiring to be connected with, the industry or employment of horticulture.

(e) Generally to pursue any course incidental or conducive to the attainment of the objects referred to in paragraphs (a), (b), (c), and (d) of this clause.

No such munificent bequest has, in the history of gardening in this country, been made for the promotion of horticultural instruction, experiment, and research, and, as the opportunities of the institution for good work will be great, we trust the desire of the testator may be fully realised.

SEASONABLE NOTES ON SWEET PEAS.

The most seasonable advice I can give to those who wish to grow the Spencer type of sweet pea novelties or varieties is to have extra packets of seed ready to hand to fill up gaps. I have noted that good, sound-looking seed of this type is often sterile. The cotyledons rot off in some other cases and the curious thing is that the radical is sound. The plumule, if sound, in these instances, is affected by the cotyledons and the struggle for life soon ends. We seem to have no end to the difficulties among the Spencer type of sweet peas, but, after all, this only makes us more determined to have these desirable flowers.

The best of them, like other things in this world, are often of delicate constitution, and need to be well nursed in infancy. The nursery, therefore, must be of the best. It will be obvious that I lay stress on the radical and plumule (root and growth) getting as quickly as possible from their unhealthy environment. Prepare a light, open compost and have a little sifted charcoal and old lime rubble to lay the seed on (just a mere snuff of it), and immediately under that should be old, sweet leaf-mould. This is an ideal arrangement. Only just cover the seeds with sweet open soil. That, perhaps, is all you can do to "save a life," Further, chip every seed on the back, with a sharp knife, prior to sowing. The creams, whites, and lavenders may not need this care, but it does no harm, and everything must be done to induce rapid germination. Having acted as directed, place the pots or boxes in gentle heat until the plants are an inch high, keeping them near the glass, and then gradually harden off.

It is difficult to account for the peculiarity in the seeds of the type. Too much inbreeding suggests itself as a cause, but that failing should be natural to the old type from whence it sprang.

Variety of colour in an exhibition collection is often forgotten. Pinks, and there are many charming tones of this shade, are usually overdone in collections of six or twelve varieties. I do not like to interfere with individual tastes, as there is too little individuality already, but long tables of multitudes of pink sweet peas look insipid in an exhibition. Just a word therefore on that point in conclusion. I have noticed that sweet peas like Menie Christie and Rosie Adams draw the judge's eye to an exhibit. They are "telling" colours. Few exhibitors used them last year, but some of the novelties are already sold out. In addition to the two mentioned the following are procurable, and would give a rich and varied display: Etta Dyke, pure white; Mrs. A. Malcolm, cream: Constance Oliver, cream ground flushed deep pink; Mrs. Hardcastle Sykes, blush; Helen Lewis, orange and soft rose pink; John Ingman, rosy carmine; Anna Lumley, maroon; Frank Dolby, lavender; Mrs. A. Ireland, bi-colour; Mrs. C. W. Breadmore, cream, picotee-edge pink, and The Marquis, mauve; Menie Christie is magenta, and Rosie Adams gives a peacock-blue effect when bunched.

A. Malcolm.

Town House, Duns.

WORK FOR THE WEEK.

◆

THE ORCHID HOUSES.

EAST INDIAN ORCHIDS.—The various species of ærides which were at one time so prominent in all orchid collections are now but seldom seen. Like many other worthy kinds, they have for a time to suffer a period of neglect. The various species form a most interesting and desirable class of plants, and are suitable for an ordinary plant stove, and, therefore, more suitable for general cultivation than many of the popular orchids of to-day. The allied vandas, of the V. tricolor section, the saccolabiums, and rhynchostylis are also amenable to similar treatment. The noble growth of well-cultivated vandas always commands admiration, even when the plants are not in flower, and where they are grown successfully in any quantity it is rarely indeed that flowers are absent from February until November, as most of the strong plants produce more than one flower scape during this period.

POTTING.—Practically the whole of these orchids are now showing signs of renewed vitality, so that any repotting necessary should be attended to without delay. It is unnecessary that they should be annually repotted, unless, in the case of vandas and ærides, they have become leggy from the loss of their basal leaves. Removal of a portion of the old potting compost, and adding in its place some fresh growing material will usually suffice. In cases where repotting is necessary, it is advisable to thoroughly water the plants before turning them out of their pots. By this means the roots which have attached themselves to the sides of the receptacles are more readily removed. When a plant has been turned out of the pot the stem may be shortened to the desired length, or so much may be removed as the roots will permit. A stick sufficiently strong to support the plant should then be attached. The plant may then be put in the centre of the pot, and, after the roots have been arranged, fill in with plenty of clean crocks and chopped sphagnum moss, finishing off the surface with about an inch deep of chopped sphagnum moss, pressing it firmly. The plants repotted should be watered with rain water, thoroughly wetting the compost through. After repotting, the atmosphere of the house should be kept charged with moisture, and the temperature retained at 70 degrees.

SACCOLABIUMS, the smaller-growing vandas, and rhynchostylis are suitable plants to grow suspended in baskets or pans. The thick-rooted varieties should not be disturbed for repotting more frequently than is absolutely necessary; all dead and decaying matter should be carefully removed, and when this has been done see that the drainage is in order, as the plants require abundance of root moisture when in active growth; stagnation must therefore be guarded against. In place of the material thus removed use chopped sphagnum mixed with sufficient sand to render the compost porous. The whole of this section are benefited by being sprayed whenever the outside conditions permit during the growing season.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

CONSERVATORY.—From now onward for a month or two there will be no lack of material to keep the conservatory gay, in fact, at no other time have we better material to pick from, as the majority of bulbs will be now at their best, or nearly so, as well as lilacs, azaleas (Indian and mollis), and many other plants, making a much better and brighter show now they have not to be forced so hard

FIRING.—Now that the sun begins to exert a little more power during the day it will be wise to keep an eye on the stoking, and see that those in charge of it have the fires banked off early in the morning when there are signs of a bright day. There is nothing more prejudicial to the well-being of plants than an excess of fire heat, particularly when it is not really necessary, and freshly potted plants feel it more than those that are well established. Care must again be exercised in the afternoon, so as to have the pipes nicely warm again before the sun goes down, or else a quick drop in the temperature will have equally as bad results, and with a rapidly falling temperature outside, it then needs much firing to bring the houses up to their proper temperature again. Shut off the fires early, and start them early again.

CHRYSANTHEMUMS.—These, if put in early in January will now require potting on into large 60's or 54-sized pots, using an open compost of loam, leaf-soil, and sand, with a little bonemeal and oyster shell added; pot them fairly firm, and place them in a frame or on the shelf in a cool house, where they can be kept close for a few days; syringe on all fine days, and as they make roots give them a little air, increasing it gradually until, on fine warm days, the lights may be entirely removed. The present is a very good time for inserting cuttings of the decorative and single varieties, and it will be found that they will root very quickly just now by following the instructions given in the calender for January 16.

PROPAGATION.—Continue the propagation of fuchsias, heliotropes, streptosolens, and other greenhouse plants as cuttings can be secured, not forgetting to pot early batches that are already rooted. Various seeds can now be sown, such as those of celosias, torenias, celsias, annual carnations, grevilleas, clarkias (for pots), etc., etc. These latter make fine decorative plants in pots, and may be had in bloom right through the summer. I usually raise a small batch in the autumn, following these up by a sowing now, and another in a month's time, using the varieties Carnation Flaked and Double Rose. It is best to sow in a pot or pan, and pot the seedlings singly into 60's as soon as big enough to handle, transferring them later into either 48's, 32's, or 24's, according to the size of plant required. The real secret of success with these plants is to grow them on very quickly in the young stage, and harden them off just before they come into bloom; in this way they make fine shapely plants, particularly well adapted for the embellishment of the conservatory or greenhouse.—Thomas Stevenson, Woburn Place Gardens.

STOVE PLANTS.

CROTONS.—At this season cuttings will root freely in the propagating pit or under bell-glasses, and well-coloured tops can be successfully taken off by the process known as ringing. By simply making a slight insertion right round the stem with a sharp knife, and covering this with moss, roots will soon be produced, and when the moss is fairly well filled the tops can be taken off below the moss and potted. Good narrow-leaved varieties such good forms as angustifolius; medium forms, such as Sunbeam, and large-leaved and large varieties such as Emperor Alexander. The distinct character of growth and beautiful foliage render them of special value for decorative purposes. They can be successfully cultivated with or without bottom heat, and in a compost consisting of three parts loam, one part peat, and one part leaf-soil, with sand added. They should have a light, warm position near to the glass, be given free and frequent syringing, and when well rooted be watered liberally.

THYRSACANTHUS RUTILANS. — Cuttings of the young shoots at this season, when from three to four inches long, root freely. When well grown, this elegant plant is a distinct and attractive object with its long, drooping racemes of scarlet tubular flowers. When grown upon a single stem it is the most attractive, and will succeed well in equal parts of peat, loam, and sand.

GLORIOSAS.—The tubers, which will have been wintered in sand, may now be potted. Strong ones had better be placed in their flowering pots, which may be from 12 to 15 inches in diameter. A good compost is formed with rich loam two parts, partly decayed leaf-mould one part, a little decayed manure, with sand in sufficient quantity to keep the whole porous. Smaller tubers should have smaller pots, and the plants be repotted as they gain strength. Near to the roof glass of the stove is a favourable place in which to grow them.

ACHIMENES are equally effective in pots, pans, and baskets, and to prolong the flower-season start them in batches at different times, placing the tuberous, scaly roots in a mixture of loam, leaf-soil, peat, and sand, and cover with a thin layer of soil. Start them in a temperature of about from 65 to 70 deg., afford plenty of light by placing them near to the glass, which should be clean. Water carefully until well rooted, and a very moist atmosphere after top growth has been made and much syringing are not favourable to the leaves, which become disfigured with brown patches. — William Fyfe, Lockinge Park Gardens.

HARDY FRUITS.

BUD PROTECTION.—Tits and bullfinches, when at all numerous, are very destructive to the buds of gooseberries, and are especially so in many cases to the fruit buds on young apples and pears during the early months of the year, and more so perhaps at the time when the buds are just beginning to push forth. Preventive measures, to be of any use, must be taken in hand before damage is done. We practice dusting the bushes with soot and lime, mixed in equal proportions, during the early morning when the trees are damp, and the wind more still than at other times, repeating this when necessary until the buds are fairly well developed. This plan has invariably been successful, but the practice advocated by Mr. W. Strugnell, on page 61, of spraying the bushes with a nicotine emulsion has much to recommend it, the object being to make trees themselves obnoxious to the birds.

STRAWBERRIES.—Where it was necessary to make nursery beds of the young plants last season, owing to the fresh quarters not being ready for them, no time should be lost in having the ground whereon it is intended to plant well trenched, two spits deep, placing a good dressing of manure between the two layers. When the surface is dry enough to work on give a dressing of wood ashes, and, where possible, some well-decomposed manure, such as that from an old hotbed, forking it well into the soil. As soon as the weather is fit for planting put the plants out two feet apart each way, or, if preferred, plant them one foot from each other in the rows, and the latter two feet apart, removing alternate plants after the first year. Plant firmly, and keep the crowns as nearly as possible to the level of the soil. Strawberry cultivation varies very much according to the nature of the soil on which they are grown. On our heavy wet soil we have tried them in several different ways, but none has proved so satisfactory as when we have treated them practically as biennials. We force several hundred plants each season, and from these we select about eight hundred of the best and healthiest plants, arranging them two feet apart all ways on a piece of well-prepared land as soon as they have been properly hardened off. These produce a heavy crop of fruits the next season, and are afterwards dug up and destroyed. For producing choice dessert fruits we layer the runners in pots as early in the season as possible, and plant them out as soon as the pots are full of roots on a piece of good land. In the following season these produce extra fine fruits. We leave them for another year, when they are destroyed. Royal Sovereign is the variety we depend upon largely, but The Leader, Mentmore, Givon's Prolific, Reward, Bedfordshire Champion, The Bedford, Progress, Latest of All, and the Latest do well on our stiff soil.—Geo. Woodgate, Rolleston Hall Gardens.

METEOROLOGICAL OBSERVATIONS.

TAKEN BY THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1909. February 14 to February 20.	Sunshine.	Temperature of the Air.			
		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Feb. 14—Sunday ……	3 5	28	28	41	25
„ 15 Monday ……	3 30	41	41	49	[illegible]
„ 16—Tuesday …	4 30	32	31	41	[illegible]
„ 17—Wednesday .	2 35	33	32	44	[illegible]
„ 18—Thursday …	1 0	35	33	44	[illegible]
„ 19—Friday ……	8 0	32	30	47	26
„ 20—Saturday …	9 30	35	33	49	30
Means	5 10	34	33	45	28

Date. 1909. February 14 to February 20.	Rain.	Temperature of the Soil. At 9 a.m.			Lowest Temperature on Grass.
		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
Feb. 14—Sunday ……	—	35	38	41	18
„ 15—Monday ……	—	35	38	41	20
„ 16—Tuesday …	—	36	38	41	22
„ 17—Wednesday.	—	35	38	41	[illegible]
„ 18—Thursday ..	—	36	38	41	21
„ 19—Friday ……	—	36	38	41	16
„ 20—Saturday …	—	35	38	41	23
Means …	(total) —	36	38	41	23

Hampstead Heath Protection Society holds its twelfth annual meeting on March 3, and at the close of the formal business Mr. George Gordon, V.M.H., will deliver a lecture on "Beautiful Flowering Trees and Shrubs," freely illustrated by lantern slides.

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EXHIBITIONS AND MEETINGS.

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Royal Horticultural Society.

There was a very fine exhibition at the Royal Horticultural Hall on Tuesday, February 23, and it was an unusually varied one. Despite the extreme cold of the early morning, and a rather heavy fog during the greater part of the day, the attendance was very good throughout the afternoon. Apples and oranges, primulas and carnations, forced shrubs and early hardy flowers, formed the great attractions, but paintings of flowers, and horticultural sundries also lent beauty and interest to the meeting.

FLORAL COMMITTEE.

Messrs. Jas. Veitch and Sons, Chelsea, were extensive exhibitors on this occasion. In one group they had forced lilacs as a background to handsome, freely flowered specimens of The Countess (white), arboreum Wellsianum (pink), and Handsworth Early Red (rosy-red) rhododendrons. In another display they had the white-flowered Kalanchoe Dyeri, the graceful Crowea angustifolia, Coleus thyrsoideus, and the greenhouse rhododendron Triumphans. Yet another exhibit from Chelsea consisted of choice Chinese primulas, including His Majesty (deep crimson), Fringed White, Crimson King, etc.; and a fine lot of pure white, crimson, rose, lilac, and salmon coloured cyclamens, both plain and fringed forms being displayed to great advantage. Messrs. H. Cannell and Son, Swanley, contributed a very bright exhibit of stellate and Chinese primulas. The former were particularly bright and free-flowered, notably such varieties as Scarlet Gem, Lady Emily, Countess of Radnor—very fine crimson, Scarlet, Unique, Blue Lady, White Spray, Chameleon, and Red Rover. Among the larger flowered varieties one stood out conspicuously by reason of the fine form and substance of its flowers, and their brilliant crimson-scarlet hue, this was Mr. John Ward. Mrs. L. Raphael and Moonlight were other beautiful varieties.

A very beautiful group of Richardia Elliottiana, the golden arum lily, was staged by Mr. W. L. Farmer, gardener to Mrs. Lascelles, Highams, Windlesham, Surrey. There were nearly one hundred of the fine yellow spathes, and in several instances the inflorescences were double spathed, and in some the yellow colouring had entered the leaves also. The group was evidence of great cultural skill, and it was greatly admired. A very beautiful display of forced Azalea mollis, Prunus triloba, lilacs, Staphylea colchica, magnolias, Forsythia suspensa, Pyrus Malus in variety, and spiræas, was arranged with great taste by Messrs. R. and G. Cuthbert, Southgate, Middlesex. The central group of the renowned Anthony Koster azalea was very brilliant, and proved a great attraction.

Messrs. T. S. Ware, Lim., Feltham, showed a collection of encrusted saxifrages, with snowdrops, hardy cyclamens, early irises, adonis, and other pretty early flowers. Messrs. W. Cutbush and Son, Highgate, had a large display of forced flowering shrubs, a group of beautiful early irises, daffodils, hardy primulas, etc., and a charming exhibit of perpetual carnations, all very tastefully disposed. Mr. F. Herbert Chapman, Rye, Sussex, showed a very delightful little lot of seedlings of Cyclamen ibericum, some of them showing evidence of hybridity. With these were some pretty irises of the reticulata group, several seedling freesias, and the yellow Iris Danfordiæ. A very beautiful group of perpetual carnations was staged by Mr. H. Burnett, Guernsey, in which Mrs. H. Burnett, Mikado, Marmion, and Britannia were grandly shown, the colours being very bright and clean.

Mr. G. Reuthe, Keston, Kent, showed rare rhododendrons, pans of snowflakes and snowdrops, and of Iris histrio, I. histrioides, and crocuses in great variety and beauty. He also had daphnes, camellias, hardy cyclamens, encrusted saxifragas, and many other beautiful and interesting little plants. Messrs. Barr and Sons, Covent Garden, had a pretty exhibit of early daffodils, some charming lachenalias, and crocuses, the new Freesia Rose Queen (A.M.), and the winter-flowering Cheiranthus Kewensis. Mr. W. H. Page, Tangley Nursery, Hampton, had another very pretty exhibit of beautiful vases of Lilium longiflorum, L. speciosum rubrum, Victoria daffodils, and Mrs. T. W. Lawson, Winsor, Enchantress, Governor Roosevelt, My Maryland, White Perfection, and Britannia carnations, all very fine in size and colour. Mr. Robt. Sydenham, Tenby Street, Birmingham, contributed lily of the valley grown in moss fibre. Carnations in great variety and beauty, set up in vases of varying size, and also in hanging baskets, formed the greater part of the display made up by Messrs. Hugh Low and Co., Bush Hill Park, Enfield; azaleas, acacias, etc., were also freely shown by this firm.

Delightful flowers of Richmond and Joseph Lowe roses, fine in form, stem, and colour, were shown by Mr. George Mount, Canterbury, and few exhibits attracted so much attention.

ORCHID COMMITTEE.

Messrs. Sander and Sons, St. Albans, were represented on this occasion by a fine exhibit of orchids. Phalænopsis Schilleriana was well shown, and in the group there were excellent examples of Cymbidium insigne Sanderæ, Saccolabium bellinum, Calanthe hololeuca, Odontoglossum Harryano-crispum, O. pulchellum majus, O. Hunnewellianum, Cattleya Trianæ, Cœlogyne cristata alba, and various cypripediums. Messrs. Cypher and Sons, Cheltenham, showed several good dendrobiums and cypripediums, Miltonia Bleueana, and the rare Masdevallia macrura and M. chimæra. Messrs. J. and A. McBean, Cooksbridge, set up some fine forms of Cattleya Trianæ and several choice odontoglossums. Messrs. Hugh Low and Co., Bush Hill Park Enfield, showed Cymbidium Woodhamsianum, Odontoglossum crispum Carmania, etc. Mr. Black, gardener to R. G. Thwaites, Esq., showed several seedling dendrobiums, that included D. atro-Brymerianum (A.M.), an interesting cross between D. atroviolaceum and D. Brymerianum. Mr. Tracey, Twickenham, sent Cycnoches peruviana that gained an A.M.

Some very interesting orchids were exhibited by Mr. Collier, gardener to Sir J. Colman, Bart., Gatton Park, Surrey; these included Bulbophyllum comosum, Cirrhopetalum retusiusculum, C. Mastersianum, and the beautiful Dendrobium Lady Colman (A.M.). Mr. G. F. Moore, Chardwar, Bourton-on-the-Water, brought up several fine cypripediums, C. Curte-manni and C. Bridget magnificum securing each an A.M.; the latter is very fine, the red-purple colouring in the petals being very effective. Læliocattleya Pizarro Westonbirt var. (F.C.C.) and Cattleya Trianæ Mooreana (F.C.C.) were shown by Mr. H. G. Alexander, orchid grower to Lieut.-Colonel Holford, and the last named was a grand flower.

M. Maurice Mertens, Mont St. Amand, Ghent, brought over a wonderful lot of beautiful odontoglossums, including O. amabile, O. ardentissimum, O. laudatum, and numerous hybrids. Mr. De Barri Crawshay, Rosefield, Sevenoaks, sent several odontoglossums, notably O. Zena, a cross between O. sceptrum and O. Harryanum; and O. cariniferum (B.C.). The fine Cymbidium Woodhamsiensis (A.M.) was shown by Messrs. Armstrong and Brown, Tunbridge Wells. In the group of orchids brought up by Messrs. Charlesworth and Co., Haywards Heath, we made special note of the bright Odontioda Keighleyense (A.M.), O. Lutetia (F.C.C.), Lælia-cattleya Myra, Miltonia Bleueana, Brasso-cattleya Cooksoni, and Trichopilia suavis.

FRUIT COMMITTEE.

Messrs. T. S. Rivers and Sons, Sawbridgeworth, put up a wonderful and fine exhibit of home-grown oranges, and the display was a great feature of the show. The pot trees of various sizes, carrying golden, ripe fruits, attracted a great deal of attention, while the picked fruits and the heavily-laden branches were the subjects of a great deal of favourable comment. Achilles, St. Michaels, Jaffa, Brown's Orange, Sustain, and Navel oranges were splendid, while the citrons, shaddocks, and limes were no less wonderful. The exhibit at once demonstrated the desirability of home-grown oranges, and in gardens of some size they will doubtless ere long be as regularly grown as forced strawberries.

Mr. R. Bullock, gardener to O. P. Serocold, Esq., Taplow Hill, Taplow, Bucks, showed good dishes of Baxter's Pearmain, Tower of Glamis, Cox's Orange Pippin, Cox's Pomona, Warner's King, and other good apples.

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Messrs. W. Seabrook and Son, Chelmsford, put up a fine collection of apples, showing splendid fruits of Dutch Mignonne, The Queen, Beauty of Kent, Bismarck, Sturmer Pippin, Dumelow's Seedling, King of the Pippins, etc.

Mr. W. Poupart, Fernleigh Orchards, Twickenham, showed some splendid bottled fruits, putting up several dozen bottles of plums, peaches, nectarines, currants, raspberries, mulberries, cherries, and apricots, all very clear and bright, and in glass-stoppered bottles. Mrs. Miller, Mayleen, Marlow, showed chutney and fruit jellies.

Mr. J. Watkins, Park Farm Orchards, Maplehurst, Horsham, led for one dish of a dessert apple with Claygate Pearmain; and Mr. H. G. Wadlow, Marylands, Dogsthorpe, Peterborough, was second with Cox's Orange Pippin.

Messrs. Jas. Veitch and Sons, Chelsea, secured first prize for six dishes of dessert apples with excellent examples of Sturmer Pippin, Northern Spy, Lord Hindlip, Dutch Mignonne, Reinette du Canada, and King of Tomkins County; Messrs. W. Seabrook and Son, Chelmsford, were awarded second prize. In each case a silver Banksian medal was also awarded.

There were eleven entries in the class for four dishes of dessert apples, and first prize fell to Mr. H. Markham, gardener to Viscount Enfield, Wrotham Park, Barnet, for well-preserved, bright fruits of May Queen, Cox's Orange Pippin, Golden Winter Pearmain, and Baumann's Red Reinette; Mr. J. Whittle, gardener to Colonel Boston, Cheveney Hunton, Kent, second with Christmas Pearmain, Calville Rouge, Barnack Beauty, and Melon Apple.

CERTIFICATES AND AWARDS.

First-class Certificate:—

To Cattleya Trianæ Mooreana, and to L.-c. Pizarro Westonbirt var., from Lieut.-Colonel Holford, Westonbirt, Tetbury, Gloucester.

To Odontioda Lutetia, from Messrs. Charlesworth and Co., Haywards Heath.

To apple Barnack Beauty, from Mr. Poupart, Marsh Farm, Twickenham.

Award of Merit:—

To Cycnoches Peruviana, from Mr. H. A. Tracey, Twickenham.

To Cymbidium Woodhamsiense, from Messrs. Armstrong and Brown, Tunbridge Wells.

To Dendrobium atro-Brymerianum, from Mr. R. G. Thwaites, Chessington, Putney.

To Dendrobium Lady Colman, from Sir J. Colman, Bart., Gatton Park, Reigate.

To Cypripedium Bridgei magnifica and C. Curtemanni, from Mr. G. F. Moore, Chardwar, Bourton-on-the-Water.

To Odontioda Keighleyensis, from Messrs. Charlesworth and Co., Haywards Heath.

To Freesia Rose Queen, from Messrs. Barr and Sons, King Street, Covent Garden.

MEDALS.

Silver-gilt Knightian.—To Messrs. T. S. Rivers and Sons, Sawbridgeworth, for oranges.

Silver-gilt Flora.—To Messrs. Sander and Sons, St. Albans, for orchids; Miss Josephine Gundry, Foots Cray, Kent, for floral studies in water-colours; Messrs. R. and G. Cuthbert, Southgate, for forced shrubs, Messrs. Wm. Cutbush and Son, Highgate, for forced shrubs, etc., Mrs. Lascelles, Windlesham, for Richardia Elliottiana, Messrs. Jas. Veitch and Sons, Chelsea, for primulas, cyclamens, etc.

Silver Flora.—To Messrs. Charlesworth and Co., Haywards Heath, for orchids; Messrs. Hugh Low and Co., Enfield, for carnations, etc., Mr. H. Burnett, Guernsey, for carnations, Mr. W. H. Page, Hampton, for carnations and liliums, Messrs. H. B. May and Sons, Edmonton, for ferns and primulas.

Silver Knightian.—To Mr. Bullock, gardener to O. P. Serrocold, Esq., Taplow, for apples.

Silver Banksian.—To Messrs. H. Cannell and Sons, Eynsford, for primulas; Mr. G. Mount, Canterbury, for roses; Messrs. J. Peed and Son, West Norwood, for alpines; Messrs. Thos. S. Ware, Lim., Feltham, for alpines; Messrs. J. Cypher and Sons, Cheltenham, for orchids; Mr. Maurice Mertens, Mont St. Amand, Ghent, for orchids.

Bronze Banksian.—To Mr. G. Reuthe, Keston, Kent, for hardy plants.

Birmingham Gardeners' Association.

Under the auspices of the Midland Carnation and Picotee Society a meeting was arranged to be held at the lecture-room of the Birmingham Gardeners' Association, with the view of promoting the interests of the Carnation Society. Mr. Robert Sydenham presided over a large assembly of the members and their friends, to listen to the dual pronouncements of Messrs. A. R. Brown and C. H. Herbert, two well-known Birmingham experts in the cultivation and exhibition of the carnation and picotee. The addresses were given verbally, and were restricted to fifteen minutes each, so as to afford ample time for the discussion, which was participated in both by professionals and amateurs. Mr. A. W. Jones, another noted carnation grower, also gave considerable instructive information.

There was an animated "passage of arms" in reference to "dressed" and "undressed" blooms on the exhibition table, the general opinion being that there is room for both, the time-honoured system suitable for displaying them in the highest state of perfection requiring a certain amount of "dressing," but not necessarily so for decorative purposes. Mr. Herbert, in alluding to the "perpetual" or tree carnation, opined that in the course of time a cross between these and the border varieties would become the popular flower.

Mr. Robert Sydenham, in adverting to the essentials necessary for the attainment of success in the cultivation of the carnation, especially for exhibition purposes, instanced his own determination and fixity of purpose when striving to secure high rank on the exhibition table. In desiring to augment the membership of the Carnation Society Mr. Sydenham intimated that for every five shillings subscription he was prepared to present a dozen young plants in pots of the leading varieties, chiefly with the view of encouraging the cultivation of the carnation amongst amateurs. The hon. secretary, Mr. Thomas Humphreys, Botanical Gardens, Edgbaston, will be glad to receive the names of new members.

Chester Paxton Society.

At the third meeting of the winter session Mr. N. F. Barnes, F.R.H.S., head gardener to his Grace the Duke of Westminster, Eaton, delivered to the members an exceedingly interesting lecture entitled "A Visit to the Great Centenary Flower Show at Ghent, with Notes by the Way." The chair was occupied by Mr. Robt. Wakefield. The lecturer gave some interesting particulars of his travels to Ghent, and proceeded to describe its history, following this by descriptions of the beautiful cathedral and many other public buildings in Ghent. These were graphically illustrated by beautiful lantern slides. He also gave a short outline of the history of the Ghent Horticultural Society, which had promoted the exhibition, and which, like others of its kind, had a very humble beginning.

Of the exhibition proper, at which Mr. Barnes officiated as one of the jurors, he mentioned that it was formally opened by the King of the Belgians, and occupied two large buildings, the Casino and the Annexe. Many interesting details were given, and the system of grouping the plants and other exhibits was favourably commented on. The lecturer then very clearly described the many exhibits, the majority of which he was able to indicate by means of lantern slides. Special reference was made to the collections of hippeastrums (or amaryllis) shown by Major Holford, of Westonbirt, and by Messrs. Ker and Sons, of Liverpool. First honours were awarded to the last named, against strong competitors from Belgium and other Continental countries. The collection of orchids staged by Major Holford, and which occupied 300 feet space, was referred to as the finest and most representative in the show; whilst M. Charles Vuylsteke's new odontoglossums were described as one of the most notable exhibits of these beautiful flowers. The lecturer briefly made mention of the many nursery establishments in the neighbourhood of Ghent, from which large importations of plants, such as palms, camellias, azaleas, etc., are regularly made to England.

Mr. Barnes was heartily thanked for his able address by an appreciative audience.

Gardeners' Royal Benevolent Institution.

Under the presidency of Mr. Harry J. Veitch, a largely attended meeting of the committee, which included Mr. W. A. Bilney, the honorary solicitor, was held on February 23, when it was unanimously resolved, "That in view of amendments to the Old Age Pensions Act, which will probably be proposed by the Government during the present session of Parliament, no immediate steps should be taken for the alteration of annuities payable by the institution." At the same meeting six gardeners and two widows of gardeners in urgent need of assistance were granted between them £45 from the "Good Samaritan Fund" as temporary help.

The annual re-union of the Liverpool Auxiliary was held at the Bear's Paw on the 20th inst., and proved again a great success. M. E. Keaney, Esq., deputy chairman of the Parks and Gardens Committee, presided. The hall was charmingly decorated throughout by the kindness of Messrs. E. Webb and Sons, R. P. Ker and Sons, Dicksons, Chester, C. A. Young, and others. Both plants and flowers were in abundance, whilst buttonholes were more conspicuous than usual. The Chairman gave an admirable address on "Municipal Gardening." The arrangements were carried out by Mr. C. A. Young, chairman; Mr. A. J. Crippin, treasurer; Mr. J. Finnigan, musical director; and Mr. R. G. Waterman, secretary.

FORTHCOMING ENGAGEMENTS.

TUESDAY, March 2.—National Amateur Gardeners' Association: Lecture on "Garden Dahlias," by Mr. George Gordon, V.M.H., at 7 p.m.

WEDNESDAY, March 3.—Hampstead Heath Protection Society Annual Meeting: Lecture on "Beautiful Trees and Shrubs," by Mr. George Gordon, V.M.H., at 8.30.

THURSDAY, March 4.—Linnean Society Meeting. Royal Botanic Society; Lecture on "Water Plants," by Dr. Fritsch.

SATURDAY, March 6.—French Horticultural Society of London.

MONDAY, March 8.—United Horticultural Benefit and Provident Society at Royal Horticultural Hall, Westminster: Chair to be taken at 8 o'clock by Mr. C. H. Curtis.

TUESDAY, March 9.—Royal Horticultural Society: Fruit, Floral, and Narcissus Committees meet at 12 o'clock; Lecture by Mr. W. S. Murray on Tulips and the Tulip Mania, at 3 p.m.; Scientific Committee at 4 p.m. Competitive Show of Forced Bulbs.

WEDNESDAY, March 10.—Royal Botanic Society: Fellows' Dinner.

New Catalogue of Gardening Books.—The publishers of the Gardeners' Magazine have prepared a new catalogue of their gardening books, setting out full particulars of the contents of each work. The books, which are thoroughly practical and up-to-date, will be of particular service to those interested in flowers, the greenhouse, or the garden. A copy of the catalogue will be sent post free to any reader who addresses a postcard to the Publisher, The Gardeners' Magazine, 148 and 149, Aldersgate Street, London.

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The Rt. Hon. Lord Aldenham, Hilfield, Aldenham.
The Rt. Hon. Lord Dunboyne, Knoppogue Castle, co. Clare.
The Rt. Hon. Lord Hatherton, Teddesley, Penkridge, Stafford.
Sir J. B. Robinson, Park Lane, W. (Conservatory at Cape Town).
Sir Robt. Peel, Drayton Manor, Tamworth.
Sir Philip Chetwode, Oakley Hall, Market Drayton.
Count Gurowski, Woolhampton House, Reading.
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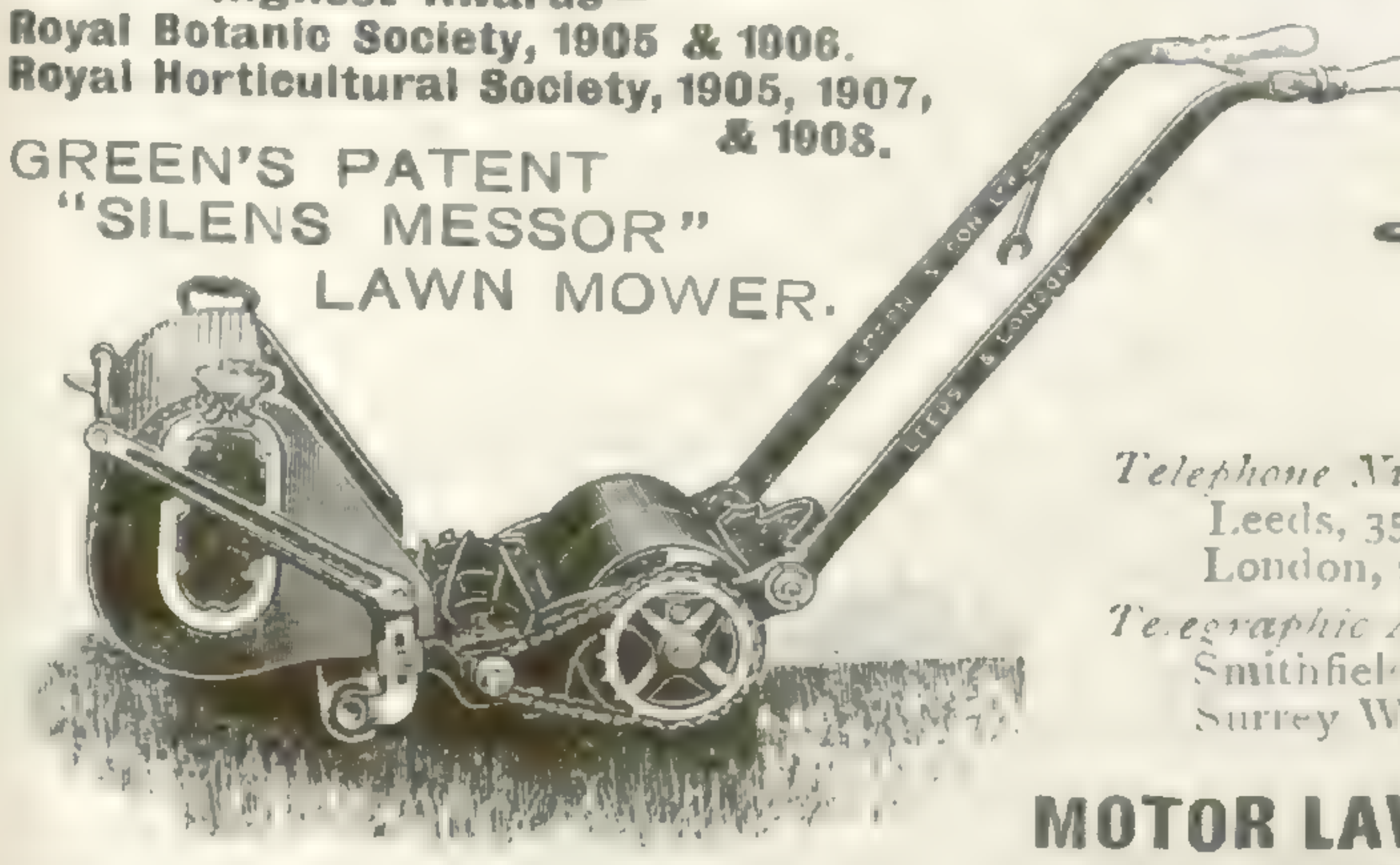

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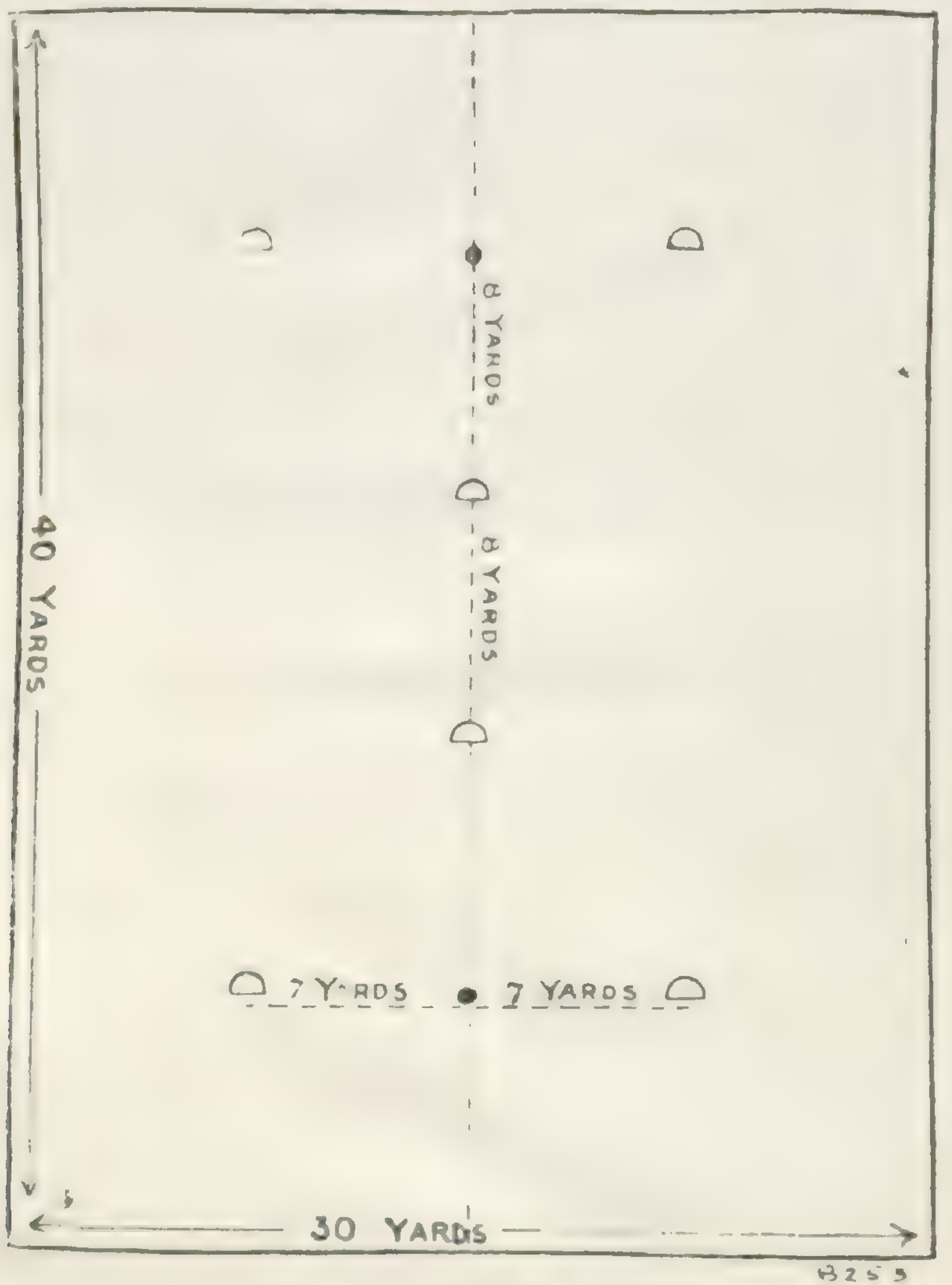
Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

CROQUET LAWN.—A. P. M., Chichester: If the game is to be played in strict accordance with the All England Croquet Club rules, then the lawn should be marked out as shown in the accompanying diagram. Once the measurements have been made, and pegs sunk in the corners and at the points where the hoops and croquet pegs are to be placed, no difficulty will be found in keeping the ground in accordance with regulations. A full-sized croquet ground should be 40 yards long by 30 yards wide. In a line through the centre of the ground two hoops and two pegs are placed, each of the latter being set up eight yards from the end boundary, with the two hoops between them, placed at eight yards from each other, and a similar distance from each croquet peg. The four corner hoops must be placed in line with the pegs, and seven yards from them, as shown in the diagram. Croquet is often played on smaller grounds, consequently, if space is limited, the measurements may be proportionately reduced, or the boundary disregarded. In the latter case, a space of about 26 yards by 16 yards would suffice for the field of play.



PLAN OF CROQUET GROUND.

DRY TENNIS COURT.—B. J., Eccleston: A dry tennis court may be made of tar paving, asphalt, wood blocks, or concrete, and, unless you have special facilities for the work it will be better and cheaper to invite tenders, and have the work done by contract. There is some objection to tar paving because, under very hot sunshine, some parts of it may become sticky, and thus inconvenience the players. Proper asphalt, put down by a firm well acquainted with the work, has a very even, smooth surface, and wears well. Wood blocks, if thoroughly well set, answer well for some time, but there is a danger of uneven wear, and cracking.

MUSHROOM CULTURE.—G. M., Dublin: If the door is in the nine-feet end of the building, and in the centre of the end, your best plan will be to arrange for two flat beds, one on either side, and each 6ft. wide, thus allowing for a 2ft. path down the centre. If the building is a strong one, it would be an easy matter to construct similar beds 4ft. above those on the floor, using angled iron for supports, and sheet iron or stout slates as a base for the beds. The woodwork for the edges of the lower beds should be creosoted, or treated with Stockholm tar some little while before being used. We have not tested the spawn you refer to, but the reputation of the firm is so high that you may safely rely upon the high quality of the material. No. 4 of the Market Gardening Handbooks deals with mushrooms, cucumbers, etc., and you will find it most useful; it can be obtained for 1s. 2d. post free from the GARDENERS' MAGAZINE Office, 148 and 149, Aldersgate Street, E.C.

SPECIALISED OUTDOOR TOMATO CULTURE.—M. T. C., Chelmsford: The special method of tomato culture you refer to was described several years ago in these pages, and it is such an excellent one that we readily publish it again: About the second week in April are secured stout young tomato plants that are just showing their flower buds, and have been grown in a greenhouse. These are planted in a border, which has previously been well prepared by deep digging, and the addition of some old lime rubbish, and allowed to settle. The plants are laid in a little way from the wall, and the stem covered, only the leafy head being left uncovered by soil. Firm planting is practised, and when the work has been completed, the lights from cold frames are tilted, lengthwise, against the wall, the lower edge being secured by the path curb. These lights shelter the tomatoes from cold winds and rains, and they serve as admirable sun-traps. Either end of this improvised shelter is blocked by a triangular board, and other boards are placed over the spaces formed by the abutting ends of the lights, but these are removed, as necessary, during the first few weeks, to afford ventilation, so that the lights themselves need not be moved. At night the lights are covered with felt and mats to keep out frost, and retain the heat accumulated during the day. When the plants increase in height, so as to reach nearly to the point where the light touches the wall, a thick block of wood is placed between the light and the wall, both to afford the plants more head room and provide increased ventilation. The single-stem method of training is adopted, and, consequently, all lateral growths are removed as they appear; and yet not all, i.e., the one that appears nearest the ground line, and points away from the wall, is allowed to extend, and when it is long enough to be so treated, it is "layered," some turf being laid over the stem, and a half brick on the turf to keep things in place. About the time that this secondary growth is laid down the frame lights are removed, and used for melons, cucumbers, etc. Fertilisation is assisted by dusting over the flowers during the middle of the day with a camel-hair brush, or a rabbit's tail, and by this means no difficulty is found in securing a good set, on even the lowest and first cluster of flowers. When three or four clusters have set and the fruits are swelling freely on the bottom cluster, a mulching of half-rotten manure is given. Ample water is now given, but care is taken not to over-water, and, on the other hand, the plants are never neglected, it having been found that irregularity and excess in the supply of water quickly exhausts the virtue of the mulch, and also causes the fruits to crack. When laden with fruit and foliage each plant needs about a pailful of water at each watering in an average season. The plants are never sprayed overhead, as this would encourage leaf growth, and would, moreover, rob the wall of a good deal of heat. It might be imagined that the encouragement of a lateral from the base would interfere with the progress and ripening of the lowest fruits on the main stem, but in practice this is not so, as the three lowest clusters will ripen before the lateral, trained at a moderate angle from the wall, is sufficiently large to intercept the sunlight. Nothing is left to chance. Each fruit cluster is slung, by means of raffia, to the leaf stem above, so that as the fruit swells it does not fall, and cause the flower stem to "kink," and so retard the flow of sap. This "slinging" is done as soon as the fruits have formed. The lower leaves are shortened during August, but not on the part of the plant where fruits are developing. The cost of this method is small, the prospects considerable, and the results are certain if reasonable care is taken, and a wall facing south or south-west is chosen for a site.

GRASS EDGE CUTTER.—C. C., Salisbury: There is a machine, or machines, on the market designed for the special purpose of cutting the edges of lawns and grass verges. The one we have seen looks like a small lawn mower, with six short blades set at one side so as to cut down vertically. Of course, the blades overhang the edge, and the edge of the roller of the machine can be kept on the true line of the margin. There is a special arrangement for raising or lowering the cutting blades according to the thickness of the turf. Your best plan will be to write for particulars of such a machine to those firms which are advertising lawn mowers in our columns.

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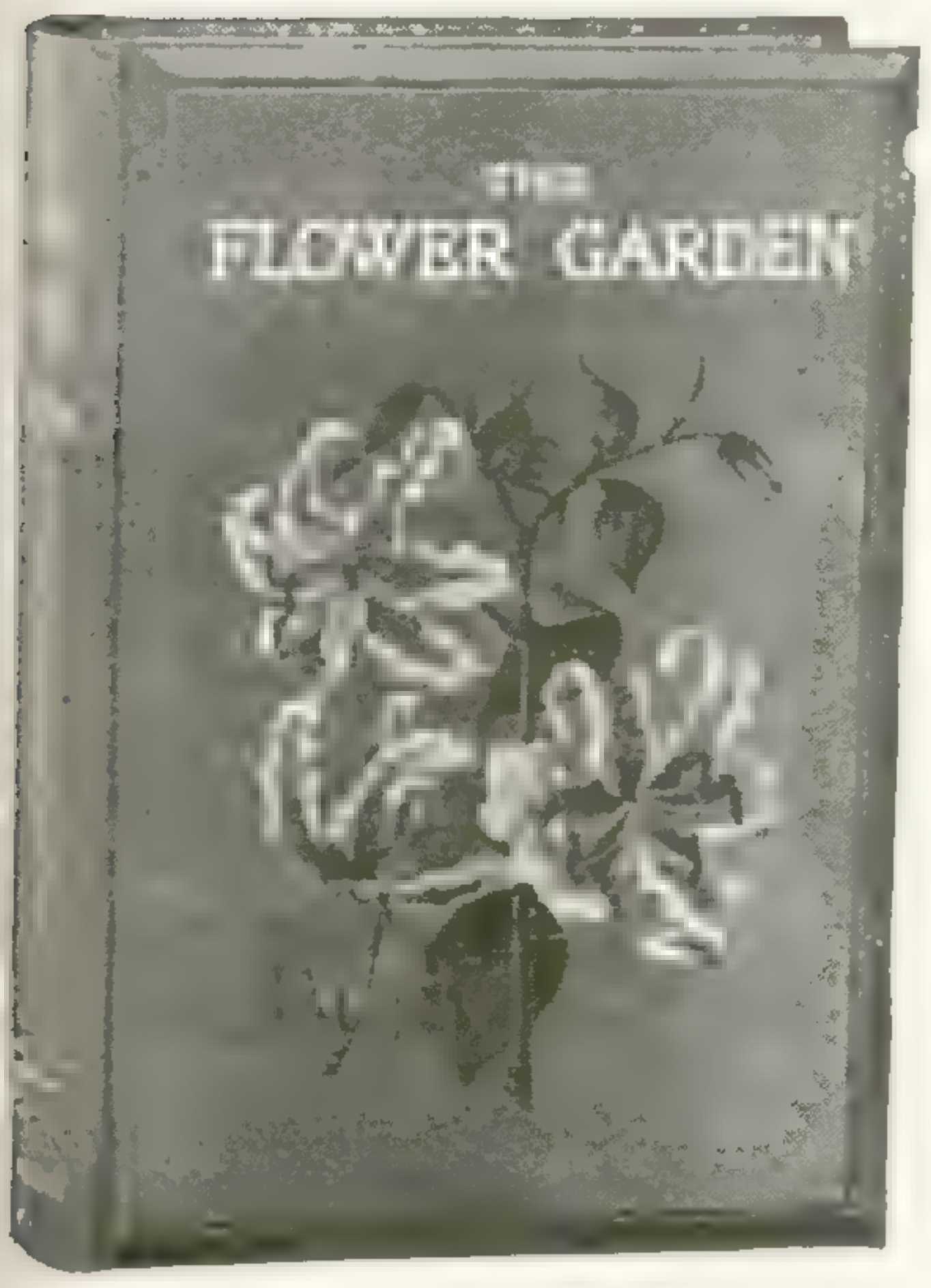

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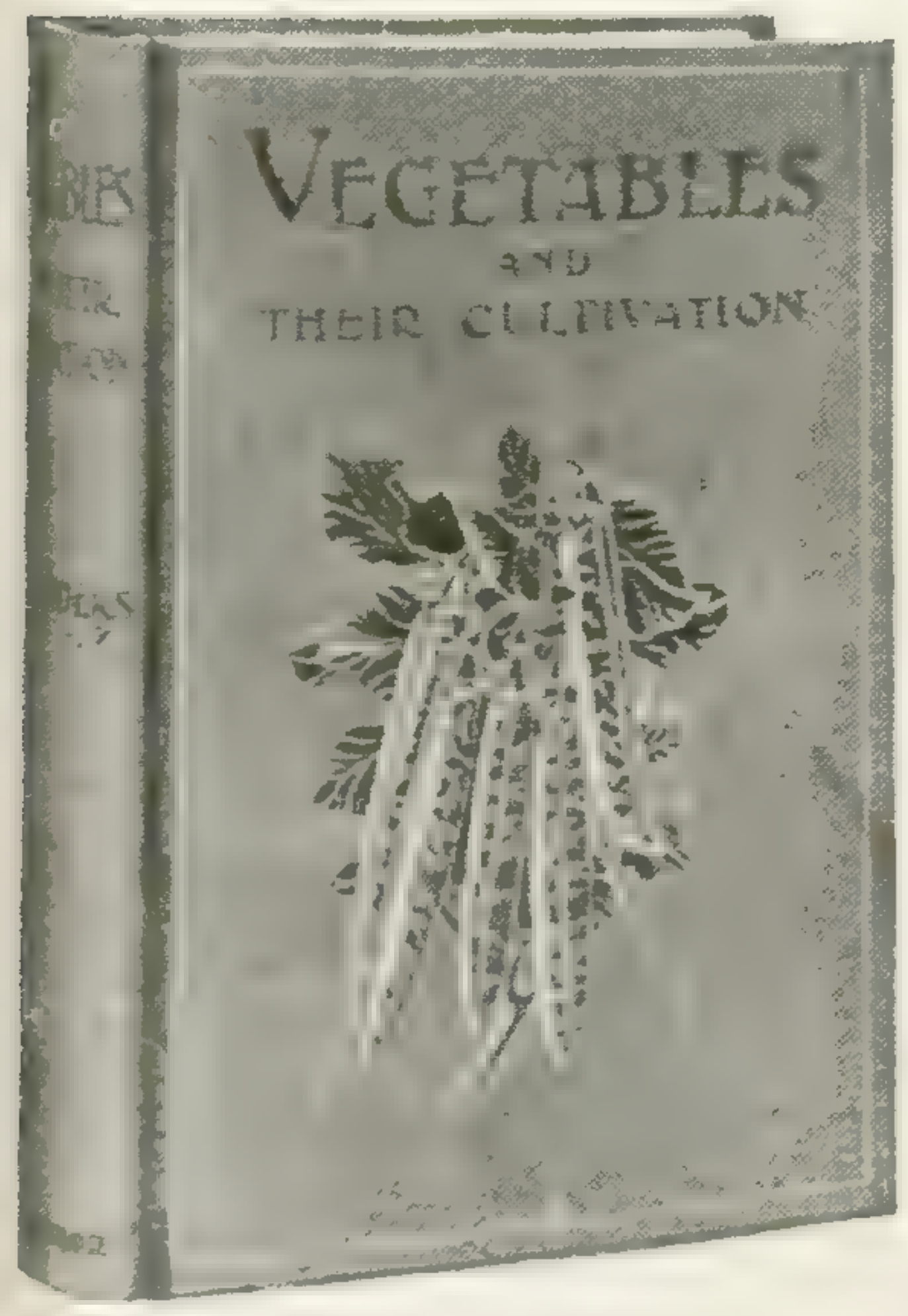

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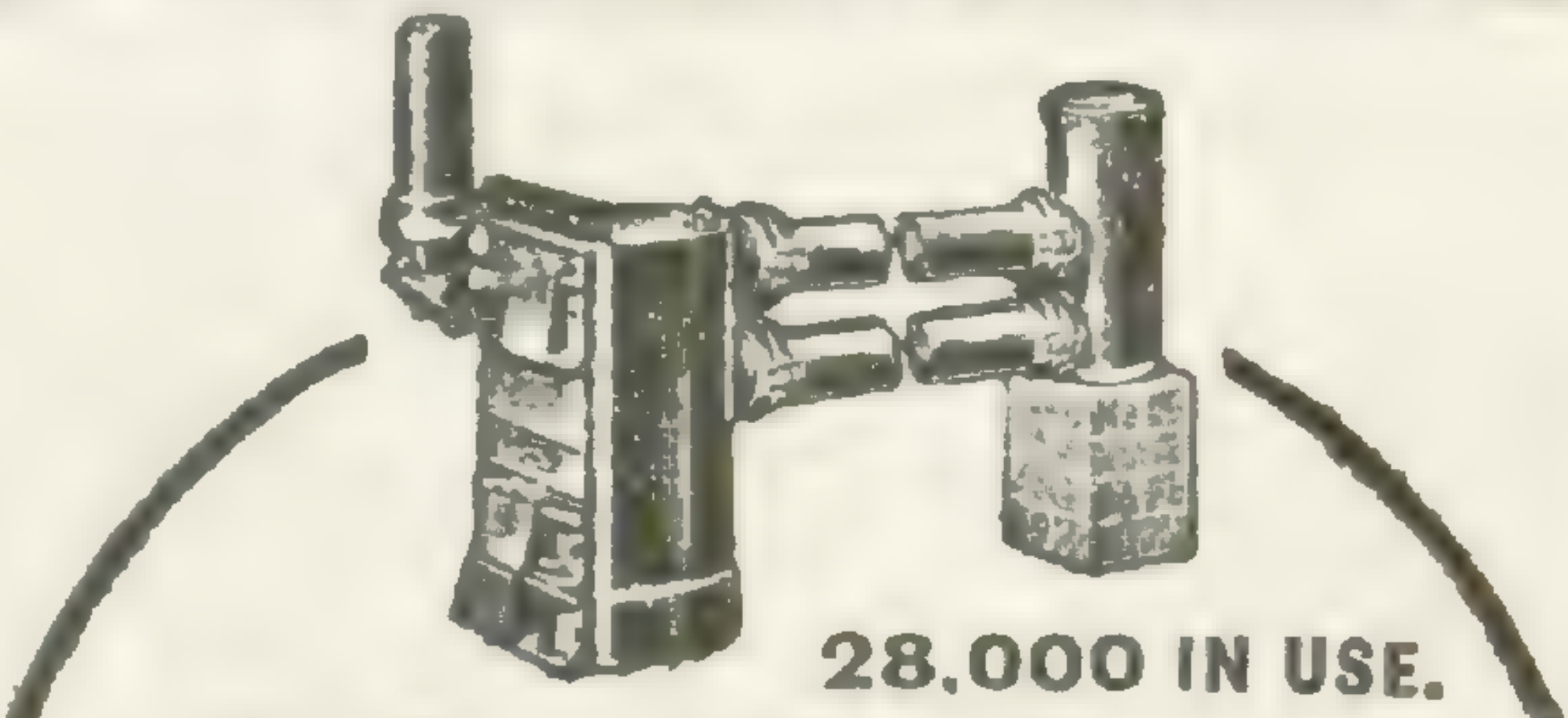

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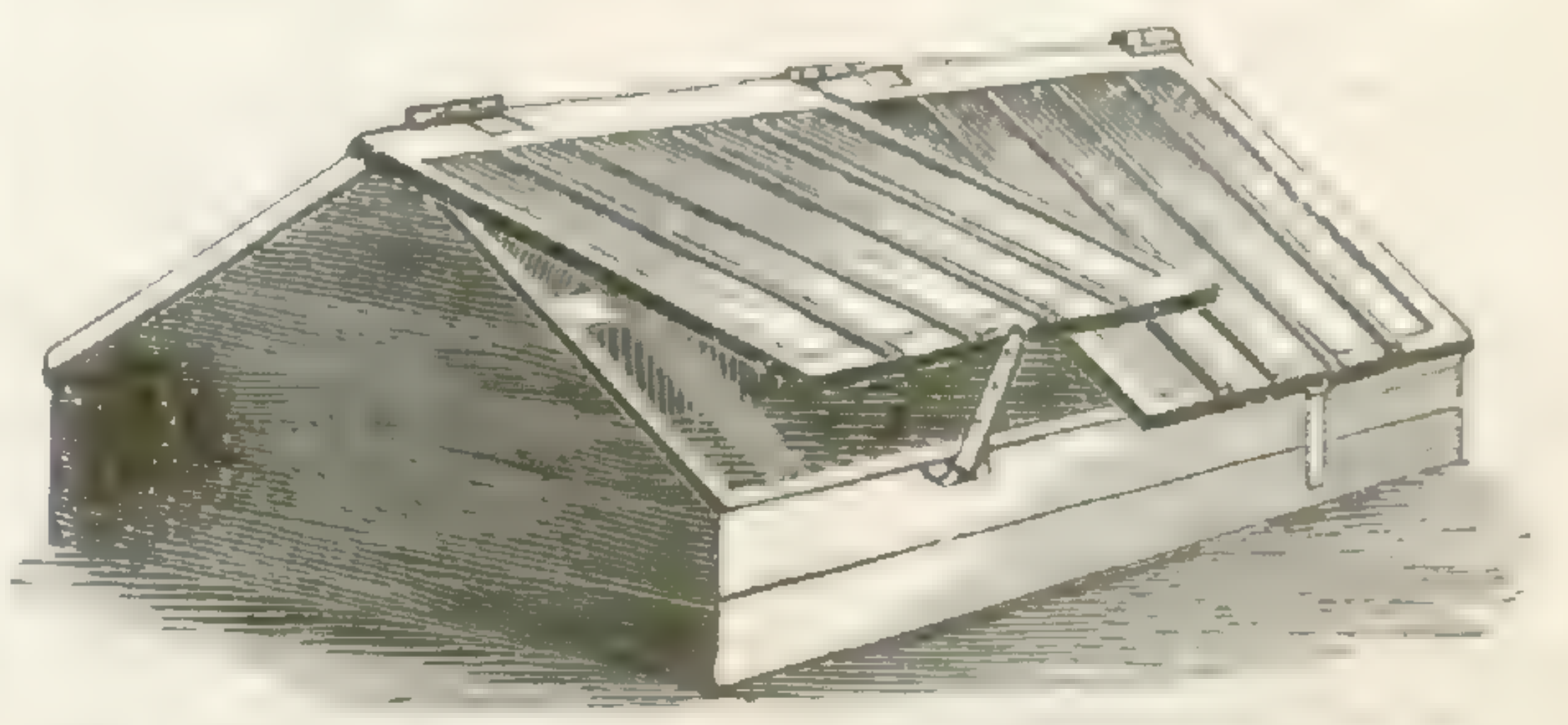

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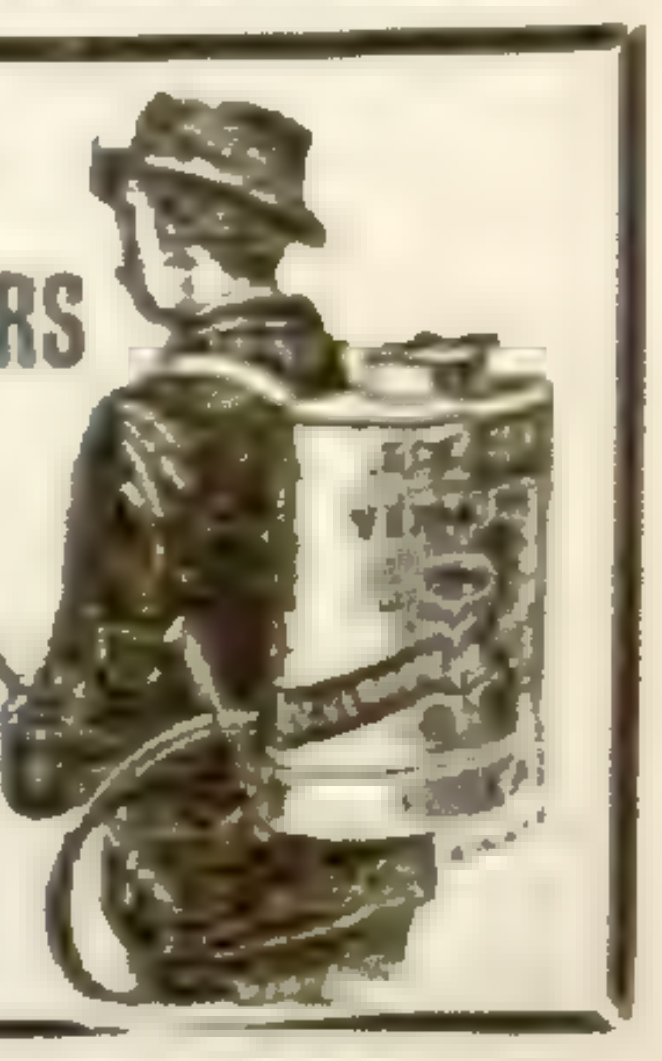

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HER GRACE THE DUCHESS OF DEVONSHIRE wishes to recommend J. THOMPSON to any Lady or Gentleman requiring the services of a HEAD GARDENER, where several are kept; 20 years' experience in all branches. Holker Gardens, Cark-in-Cartmel, Lancs.

LADY MALCOLM, of Poltalloch, highly recommends her HEAD GARDENER; eight years in present place. Head of three; life experiences in all branches; age 36; married, one child, seven years. W. BASTIN, Barnardiston Hall Gardens, Haverhill, Suffolk.

L. PAINE, Esq., Fernham House, wishes to highly recommend his HEAD GARDENER, who has been with him five years, to any Lady or Gentleman requiring the services of a thorough practical Man in all branches; life experience in good establishments; disengaged when suited; age 32; married, no family; Kew certificates. JAS. ASTLEY, Fernham House Gardens, Faringdon, Berks.

GARDENER.—Mrs. MEDDLETON strongly wishes to Recommend her late HEAD GARDENER (who was with her during her last five years at Haslbech Hall, Northamptonshire, and left owing to place being sold) as a good all-round, thorough practical, hard-working man; life experience; age 32 years, married; wife thorough dairywoman; holder of first-class certificate. Apply PROBERT, 3, Brighton Terrace, Morecambe, E. End, Lancashire. No circulars.

GARDENER (Head), seeks RE-ENGAGEMENT: practical and efficient in all departments; life experience in good gardens; 20 years as Head; reliable and trustworthy; highest references. E. WILSON, 5, Norville, Hurtmore Road, Godalming, Surrey.

GARDENER (Head.)—Advertiser is open to engage with any lady or gentleman requiring a good practical all-round man; life experience in every department; first-class character; married, no family. COCKS, 11, Wetherby Road, Darnall.

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GARDENER (Head, where two or more are kept); thorough knowledge of gardening, both Inside and Out; life experience; 5 years and 8 months in last situation; married, age 45, three in family, youngest 19. Address, J. CROCKFORD, 5, Stanley Road, Morden, Surrey.

GARDENER (Head); age 37, married one child; experience gained at Wynyard Park, Halton House, Alnwick Castle, Squerryes Court; 8 years Head at Thonock Hall and Blatherwycke Park; well recommended. A. BARTLETT, Blatherwycke Park, Wansford, Northants.

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GARDENER (Head Working, where several are kept); life experience in all branches; especially Grapes, Melons, Peaches, Cucumbers, and Stove and Greenhouse Plants; also Flower and Kitchen Garden; 21 years in last place, having left through death of employer; good references. C. T. M., 18, Pentland Street, Wandsworth, S.W.

GARDENER (Head Working, or good Single-handed), 17 years' experience (Inside and Out); 8 years' last place; age 33; married, 2 children; excellent references; nearer London preferred. T. BRADLEY, Laburnum Cottage, Portishead, Somerset.

GARDENER (Head of two or three), life experience Inside and Out, age 35; married; good references. S BUTLER, 4, Alexander Road, Chislehurst, West.

GARDENER (Head, where three or four are kept); life experience in all branches, both Inside and Out; highly recommended; excellent character. J. DENTON, The Gardens, Harrold Hall, Beds.

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GARDENER (Head Working), age 40, son 16, require SITUATIONS (together or separate); 25 years' practical all-round experience, including glass; excellent references; disengaged when suited; some experience in the care of poultry, bees, etc. H. W., 32, Alexandra Road, Chislehurst, Kent.

GARDENER (Head Working), thoroughly experienced in all branches, desires SITUATION; certified R.H.S.; formerly with Mr. E. Beckett, V.M.H.; married, no family; first-class testimonials. J. TAYLOR, 11, Cleaveland Road, Surbiton, Surrey.

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GARDENER (Head Working), age 47; good practical experience in all branches, Inside and Out; many years as Head; can have good references. H. TURNER, Fineshade, Stamford.

GARDENER (Head Working), age 32, married; life experience in good establishments, including Syon House, Mereworth Castle, and Old Warden Park; highest references. F. FRENCH, Covent Garden, Barming, Kent.

GARDENER (Head Working) seeks ENGAGEMENT: experienced Inside and Out; good reference from last employer; age 34; married, no family. T. L. IRELAND, 42, North Road, Highgate, N.

GARDENER (Head Working or good Single-handed); age 38; married, 2 children; thoroughly experienced in all branches, Inside and Out; understands cows; good references. Disengaged. A. GOODFELLOW, 94, Sherrard Road, Forest Gate, Essex.

GARDENER (Head Working, or good Single-handed); thorough, all-round, practical knowledge of Glass, Fruit, Flowers, and Vegetables; life experience; good recommendations; aged 37; married, one child, age four years. LEE, Lodge, Bitterne Court, Bitterne, Hants.

GARDENER (Head Working); life experience in all branches, Inside and Out; married; good references; disengaged when suited. W. CANE, Sparrows Green, Wadhurst, Sussex.

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GARDENER (Head Working, where two or more are kept); life experience in all branches; well recommended; abstainer; age 27, married. ADVERTISER, c/o Mrs. B. Porter, Alexandra Road, King's Langley, Herts.

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GARDENER (Head, or Single-handed); age 31; married, no family; good, all-round Man; highly recommended; 6 years in last place; left through gentleman giving up garden. Apply J. MANNING, 73, Thayer's Farm Rd., Beckenham, Kent.

A GENTLEMAN highly recommends his late HEAD WORKING GARDENER; reliable, trustworthy Man; thorough practical experience in all branches, Inside and Out; over 7 years last situation; age 39; disengaged. Apply, GARDENER, Athlone, Florence Road, Southall.

GARDENER (Head or Single-handed), age 31; married, no family; good all-round man; highly recommended; 6 years in present place; leaving through gentleman giving up garden. Apply, J. MANNING, The Lodge, Leicester Road, New Barnet.

GARDENER (Single-handed or with help); good Second's place not objected to; married, age 30; tall; one child; life experience Inside and Out; good references. H. WARNER, 17, Salmestone Road, Margate, Kent.

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GARDENER (Single-handed or Kitchen); experienced with Jersey Cows, etc.; 5 years with the late Sir George Livesey; leaving through breaking up establishment; good references; married, one child. W. WORSDELL, Shagbrook Gardens, Reigate.

GARDENER seeks SITUATION, single-handed, or where help is given; age 28; single; life experience in all branches; good references. H. ATTWATER, Ivy Cottage, Horsmonden, Kent.

GARDENER seeks SITUATION (Single-handed or Second): good knowledge of pleasure grounds, kitchen garden, and inside: five years [illegible] place; well recommended; good references. A. ANDREWS, Singlehurst, Fourth Avenue, Frinton-on-Sea, Essex.

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FOREMAN (Inside) seeks SITUATION, [illegible] experience; age 25; excellent references; [illegible] recommended; previously Ragley Hall, Warren House: abstainer. H. WHEELDON, Gardens, Road Manor, Bath, Somerset.

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SITUATION COUPON

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GARDENER, as Second; age 24; 9 years present situation; experience in Vines, Cucumbers, Tomatoes, and general greenhouse work; pleasure grounds and kitchen garden. H. DAWSON, The Hawthorns, Christchurch Road, Eaton Norwich, Norfolk.

GARDENER (27), good second or kitchen garden or pleasure grounds; could take both; life experience; good ref.; married, no children. G. ODDY, Avenue House Gardens, Finchley, N. No circulars.

MR. L. E. WALKER, Barton Hall Gardens, Bury St. Edmunds, highly recommends a trustworthy Young Man as FIRST JOURNEYMAN (Inside); 8 years' practical experience; age 24.

G. B. LEES, gardener to E. De Quincey, Esq., Oakwood, Chislehurst, would be pleased to recommend L. WALTON as First Journeyman in a good establishment; all-round man; 4½ years here; age 24; apply above.

JOURNEYMAN (First); age 23; eight years' experience gained in first-class establishments, including Chatsworth; good references; North preferred. E. MUNT, Ponsbourne Park, Hertford, Herts.

SITUATION as GARDENER, with help given; life experience in various branches, both Inside and Out; married; age 36 years; good references from present and previous places. W. MOXHAM, Eastley Wootton, New Milton, Hants.

SITUATION required as IMPROVER in Gentleman's Gardens; three years' good reference; age 19. Apply, PERCY DUNN, Risby Park, Beverley, Yorks.

IMPROVER (Inside); 19; 10 months' experience in Market Nursery, soft-wooded stuff, and general pot stuff. H. BREADMAN, 2, Norway Villas, Yiewsley, Midx.

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MR. J. HERAMAN, Under Fell Gardens, Burton, Westmoreland, will be pleased to recommend Youth as IMPROVER; age 16; 12 months' experience in these gardens.

MRS. JEFFCOCK highly recommends her LADY GARDENER; glass preferred; supervision of one man outside; R.H.S. and College Certificates. HORTULANUS, The Gardens, Wales Manor, Sheffield.

MR. TINDAL can thoroughly recommend "E. C." as good WORKING GARDENER and HANDY-MAN in the house; could help wait at table if required; smart in appearance; middle-aged; married; no encumbrances. Apply "E. C.," 1, Pitland Street, Holmbury St. Mary, Dorking. No circulars.

HANDY MAN wants SITUATION to assist Gardener; understands Bees (Certificated Expert). Can make the appliances, etc.; total abstainer. J. SHORT, 6, Freshwell Street, Saffron Walden, Essex.

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YOUNG MAN, age 20, seeks SITUATION Inside and Out; 4½ years present place; good reference. GEORGE MANNING, Bridge House, Sandwich, Kent.

YOUNG MAN seeks SITUATION as SECOND GARDENER in Kitchen Garden; six years' experience; Bothy preferred. H. HUNT, Penn, near High Wycombe, Bucks.

YOUNG MAN (22) seeks SITUATION as Under Gardener in private place; 5 years' experience; good references; live in, or Bothy. G. G., 61, Cavendish Road, Cambridge.

YOUNG MAN seeks SITUATION as Florist; 7 years' experience; good maker up and salesman. N. KEEN, Hill Cottage, Crescent Road, Cowley, Oxford.

YOUNG MAN seeks SITUATION as under Gardener; age 19; Inside and Out; strong and willing. G. LUFF, 18, Prospect Place, Maidstone, Kent.

YOUNG MAN seeks SITUATION as Under Gardener, where he can improve himself; 5 years' experience; age 19; good references. F. JARVIS, Dun's Tew, Deddington, Oxon.

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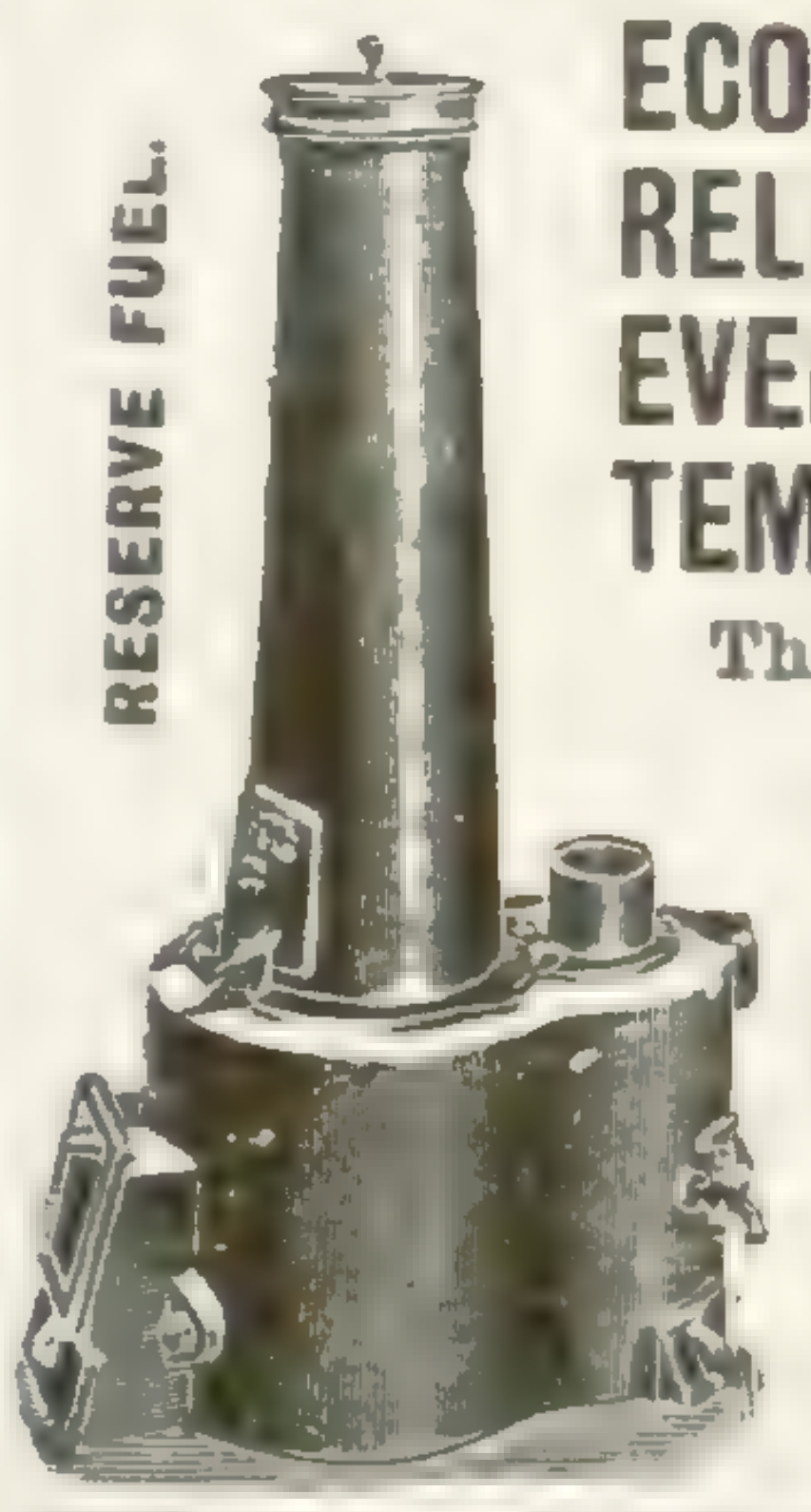
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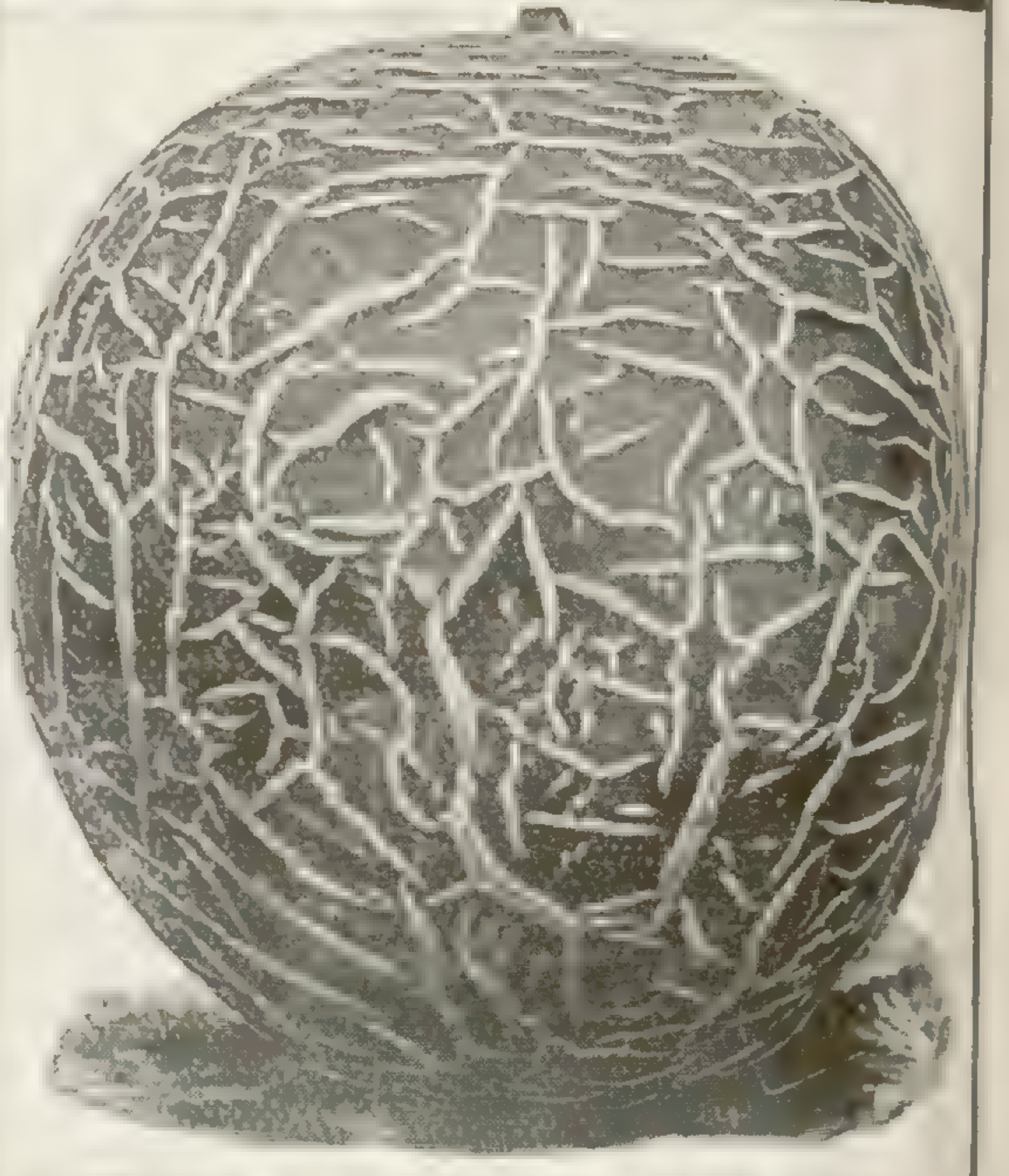

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VOL. LII.—No. 2,888. SATURDAY, MARCH 6, 1909

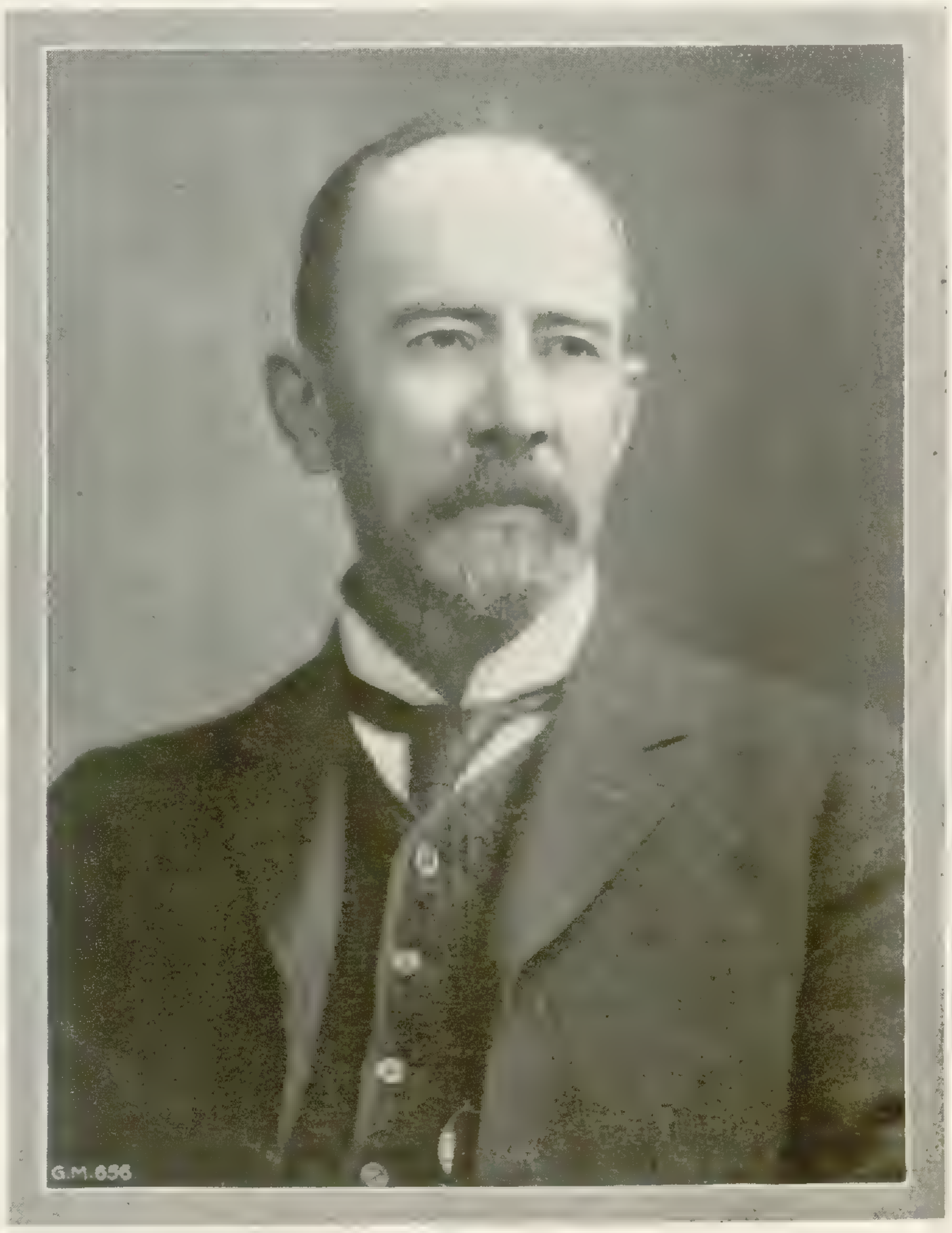
THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

◆

Vegetable Structure.

Undoubtedly it is in the vegetable kingdom that we find the most remarkable instances of economy of structural material combined with great strength, owing to the combination of tough fortifying tracery with padding of a resistant nature. An air bladder constitutes the ideal of such construction, where a thin skin is inflated with a body of air until, despite the tenuity of both skin and contents, it has all the resistance of an elastic solid body. Nature, however, in the plant world, uses water as the main ingredient in her most economical creations. Who would imagine when suffering the pangs of indigestion owing to consumption of the succulent cucumber, that over 95 per cent. of that very solid-looking vegetable is water pure and simple, so that less than only one thin slice in a score would represent the really solid portion consumed. Marrows, gourds, melons, and most succulent fruits and vegetables are similarly constituted, the proportion of solid matter to liquid being relatively minute, despite the apparent solidity. If we examine such structures we shall find such solidity to be mainly due to the fact that they are built up entirely of minute cells distended by watery sap. Each cell has its tiny bladder-like skin, and is closely pressed against its neighbours, and it is the accumulated strength of myriads of these which, despite their individual fragility, imparts the strength and club-like hardness which the grown cucumber possesses. In some cases this internal mass of cells is permeated by a strengthening network of tougher make, as we may see in the familiar "Loofah" of our bathrooms, which is merely the skeleton of a species of gourd, and the lightness and tenacity of which gives us an additional example of strength and economy of material. In another direction, as exemplifying the same principle, if we study the grasses, or, indeed, any plants bearing hollow stems, we may see how beautifully a strong, supporting slender-walled tube, stiffened here and there with stouter rings (the knots or nodes), is contrived with a minimum of material, while in the Equisetums, or Horse-tails, we have these tubes beautifully grooved, meaning a further saving without depreciation of strength; and if we study the chemical construction we find a minute quantity of flint is distributed to harden and stiffen the whole to the utmost. It seems somewhat of a puzzle in this connection, and in others, how the delicate roots manage to dissolve the flint in the soil so as to distribute it in the foliage, since only the most powerful acids have any solvent effect on flint in the ordinary way, but plants have all sorts of round-about ways of getting what they need, by breaking up compounds already made and appropriating the needful. Structural economy we also see exemplified in the wonderful network of leaves. The leaf is designed to expose as large a number of cells as possible to the light and air, and the delicate tracery of the veins constitutes not merely a structural support, but also a marvellous system of sap supply akin to the water supply of a city. It is, however, far more wonderful than this, for the tiny pipes, main and minor, which traverse the veins, have a double duty to perform. Not merely do they convey water from the terrestrial root system which collects it, but they carry back into the general body of the tree the formative materials elaborated by the leaf cells under the stimulating influence of light, which contribute to build up the wood, the flowers, and the fruits, and also the underground root system. It is in this way that the largest tree has been built up. Season after season the foliage has not merely increased in extent, but in the process of extension it has strengthened trunk, branch, and twig with a fresh ring of wood to enable the general structure to withstand the increasing strain, and at the same time it has widened and strengthened the root system on precisely similar lines of adjustment. In the case of slender climbers, structural economy is effected by the gift of power to use the strength of neighbouring trees instead of their own, all sorts of clinging, clasping, and enveloping contrivances having been evolved to this end, to say nothing of actual parasitism like that of the Dodder, which is so selfishly economical that it bleeds its host to death to feed its own flowers and perfect its seed—a vegetable leech.



MR. W. HAYWARD MATHIAS.

Honorary Secretary of the Perpetual Flowering Carnation Society.

Mr. W. Hayward Mathias, whose portrait we present to our readers in the current issue, is a good example of an amateur rising to the front rank of professionalism as a result of keen love for flowers, and a careful study of their requirements. For a long number of years Mr. Mathias occupied a high position in the Civil Service, and in his leisure time he made carnations his special hobby in his pretty garden at Ditton, Surrey. He was one of the first to take up the culture of the winter-flowering or perpetual carnations, and eventually he created a large establishment for their culture at Medstead in Hampshire. Mr. Mathias has written a book, in conjunction with Mr. P. Smith, entitled "The Modern Carnation and How to Grow and Show It," and he has, from its institution, taken upon himself the lion's share of the work in connection with the "Perpetual Flowering Carnation Society," acting as hon. secretary and treasurer until the recent annual meeting, when the increasing work compelled him to resign the treasurership. Mr. Mathias is a hard worker, and at his home at Lucerne, Stubbington, Fareham, he keeps well abreast of the times with his favourite flower.

Charles Darwin Centenary.—In commemoration of the centenary of the birth of Charles Darwin and of the fiftieth anniversary of the publication of "The Origin of Species," the syndics of the Cambridge University Press will publish this spring a volume of essays entitled "Darwin and Modern Science." The essays will be preceded by an introductory letter from Sir Joseph Hooker, and by a biographical epitome, including the dates of Charles Darwin's books, and of the principal events in his life. The contributors include about thirty of the most distinguished botanists and biologists in this country and America and on the Continent of Europe.

Prizes for Allotments and Small Holdings.—The well-known weekly "Lloyd's News" has instituted a land culture competition in the interests of small holdings and allotments, in which £1,000 will be awarded in prizes. This competition will be open to all occupiers of small holdings and allotments in the counties of Berks, Buckingham, Cambridge, Essex, Norfolk, Oxford, and Suffolk, the awards will be made by judges appointed by Lord Carrington, President of the Board of Agriculture, and entries must be made not later than May 1. The competition is divided into three classes; in the first, prizes of £20, £10, and £5 will be awarded to the occupiers of the best cultivated small holdings of ten acres or more in each of the counties mentioned; in the second, class prizes of the same amount are offered for the best cultivated small holdings of less than ten acres in each of the counties, and the third is for allotments. In the class for allotments the prizes are of the same value as for small holdings, and will be awarded in each of the above counties for the best cultivated fields, or areas of not less than two acres, and cultivated by field labour, by eight or more members of the working classes. There are, in addition, two championship prizes of £50 in the two classes for small holdings.

United Horticultural Benefit and Provident Society.—The annual meeting of this society will be held at the Royal Horticultural Hall, Vincent Square, Westminster, on Monday, March 9, at 8 p.m. Mr. Charles H. Curtis will preside.

Dog Roses for Sale—a Warning.—Mr. Elisha J. Hicks, of Twyford, Berks, writes as follows: On Wednesday, February 24, three men were hawking plants at Twyford, and among other things they had "rose" trees. I had a look at the "roses," and, being a rosarian, was somewhat interested in the nice way in which they were named, tied up, and packed. Wondering what the varieties were I made a closer inspection and found labels inscribed with John Hopper, Crimson Rambler, Dorothy Perkins, Gloire de Dijon, Marechal Niel, and other well-known names. But as all the plants were alike in growth and wood, I looked still more closely, and found that, without a doubt, all the plants were Rosa arvensis, one of the many varieties of our dog rose! I give this as a warning to buyers, and express a hope that something may be done to stop such dishonest practices.

Upkeep of Epping Forest.—The cost of Epping Forest last year totalled £6,479. The chief items of expenditure were salaries, £890; keepers' wages, £1,195; labourers' wages, £1,050; rent, rates, taxes, and insurance, £390; repairs, £334; thinning trees, £776; golf course, £553; and making register of commoners, etc., £228. On the other side, the actual income is shown at £3,186, the principal items being: Boating rents, £500; sale of thinnings, £471; licences and tolls, £868; and golf course account, £809. The Court of Common Council voted £300 towards the cost of thinning the trees, and there remains a balance of £2,993 to be provided from City cash. It is estimated that there are upwards of 167 fallow deer in the forest.

Soil Inoculation.—Following the house dinner of the Horticultural Club, at the Hotel Windsor, S.W., at 6 p.m., on Tuesday, March 9, Professor Bottomley has promised to further discuss the question of "Soil Inoculation," in reply to Mr. Chittenden's criticisms in the Journal of the Royal Horticultural Society based on the Wisley experiments. Mr. Chittenden has also promised to attend and to take part in the discussion.

British Gardeners' Association.—The monthly meeting of the London Branch takes place on March 11 at 8 p.m., when Mr. A. E. Hameling of the firm of Messrs. Barrie and Brown, will give a lecture on "Insect Pests." All professional gardeners are invited to attend, and any wishing to join the B.G.A. can hand in their application forms during the business part of the meeting, which precedes the lecture.

Some Birmingham Gardens. In continuance of our series of articles on district gardens, we shall give, in our issues of March 13 and March 20, accounts of numerous leading and interesting gardens in and around Birmingham. The accounts will be freely illustrated, and they will describe such well-known establishments as Edgbaston Botanic Gardens, Canon Hill Park, Whetstone, Wyddrington, Southfield, Berrow Court, Harborne Hall, Perry Hall, and Queen's Park.

An Important Irish Law Case.—In May of last year Messrs. Alex. Dickson and Sons, Royal Irish Nurseries, Newtownards, co. Down, brought, in the Rolls Court, Dublin, an action by which they sought to obtain an injunction to restrain the defendants, Alexander Dickson, Joseph Dickson, and Alexander Dickson, junior, from selling any roses or seeds not grown or propagated by the plaintiffs, as "Dickson's roses" or "Dickson's seeds," or as "Dickson's pedigree seeds," or "Dickson's Irish seeds," and from carrying on the business of nurserymen or seedsmen under the name of Alexander Dickson and Sons or Alex. Dickson and Sons, while not in partnership with each other, and from carrying on such business under either of these titles or under any style in which the name "Dickson" appeared without taking reasonable precautions clearly to distinguish the business carried on. The injunction was granted by the Master of the Rolls on May 9, 1908, and against the order then made the defendant, Mr. Alexander Dickson, Woodlawn Nurseries, Dundrum, co. Dublin, and Parliament Street, and Essex Street, Dublin, appealed. The appeal was heard in the Court of Appeal, Dublin, before the Lord Chancellor, Lord Justice FitzGibbon, and Lord Justice Holmes. On Wednesday, February 25, judgment was given by the Lord Chancellor, dismissing the appeal, with costs; but the form of the injunction was varied, restraining the defendant from carrying on the business of nurseryman or seedsman either in the name of Alexander Dickson and Sons, or Alex. Dickson and Sons, or in any name or any manner to mislead the public.

Monthly Returns of Visitors to Kew in 1908.—The detailed monthly returns of the visitors to the Royal Gardens, Kew, in 1908, is as follows: January, 34,807; February, 55,896; March, 76,01[illegible]; April, 200,203; May, 482,732; June, 462,137; July, 340,286; August, 493,694; September, 237,515; October, 209,988; November, 88,947; December, 28,000; total, 2,710,220.

Supplies of Perry.—While cider apples were plentiful in 1908, writes Mr. C. W. Radcliffe Cook, perry pears, except in a few favoured spots, were conspicuous by their absence. This was especially the case with the best sorts, such as Taynton Squash, Barland, Oldfield, and Moorcroft. The deficiency of this fruit is felt almost exclusively in the counties of Hereford, Gloucester, Worcester, and parts of Monmouth, as the perry pear is unknown in Devon and Somerset. It not uncommonly happens that in a year when the apple crop is scanty pear trees bear well and so help to fill the hogshead. Pear trees, growing to a much larger size than apple trees, bearing consequently heavier crops, and being far longer lived, constitute a valuable asset to the makers of champagne in France and to the cider makers in England; for although perry is not so well known to the bulk of the community as is cider, it is much appreciated in the districts in which it is made. Some perry, too, so closely resembles cider as only to be distinguished therefrom by an unusually keen or a trained palate. A blend of cider and perry makes, in the opinion of many good judges, a better drink than cider makes alone; certain choice varieties of each fruit excepted. When, therefore, cider runs short, perry can be blended with it without detriment to the consumer and with advantage to the maker.

Shropshire Flower Show is to be held on August 18 and 19, and will be on the same magnificent scale as in previous years. Plants have ample provision made for them, and in the class for groups of flowering and ornamental-leaved plants, the three prizes aggregate £60, while for the groups of fine foliage plants the amount offered as prizes is only £5 less. Fifteen stove and greenhouse plants have been allocated prizes of the value of £42, and in the class for thirty stove and greenhouse plants in pots not exceeding ten inches in diameter the prizes aggregate £45. The class for champion decorated fruit [illegible] is retained, and in this the six prizes [illegible] from £20 to £5, and in addition the winner of the first prize takes the champion silver cup of the value of twenty-five guineas, which has to be won three times, and the society's large gold medal. The classes for collections of vegetables are less numerous than usual, but those for single dishes have been augmented, and cultivators with the fifty odd classes have full opportunity for demonstrating their skill in the production of kitchen garden crops.

Mr. C. Harman Payne has been elected a member of the chrysanthemum section of the Floral Committee of the Société Nationale d'Horticulture de France, a distinction not previously conferred upon a foreigner, and our old friend and correspondent has our heartiest congratulations on the distinction he has received.

LILIUM SPECIOSUM.

Although we are often told that all lily bulbs should be potted or planted in the autumn, the fact remains that the best examples of Lilium speciosum and L. auratum, the supplies of which we obtain principally from Japan, do not, as a rule, reach here much before Christmas, while for a couple of months or so later than that splendid bulbs for either potting or planting can be obtained.

Lilium longiflorum, which Japan sends in its hundreds of thousands, blooms and goes to rest earlier than the two species previously mentioned, and consequently the first importations of the long-flowered lily reach here before autumn has left us, usually towards the latter part of October or in November. Successional batches are, however, sent over till long after that. In the case of the later arrivals it will be often found that the bulbs, when unpacked, are rooting freely into the clayey soil used for packing purposes.

Concerning Lilium speciosum it may be pointed out that though it is still grown by the Dutch, whose supplies reach here in the autumn, yet the numbers sent from Holland are nothing compared with the Japanese importations. The bulbs of this lily travel, as a rule, in splendid condition, and are ready to commence rooting directly they are potted. Some of these Japanese bulbs are of immense size, particularly those of the coloured varieties. Generally speaking, they are seldom disposed of under any varietal names, except those of rubrum and Melpomene, but from them can be picked out several beautiful and interesting forms. Some are delicately tinted, but the majority are remarkable for their rich colouring. In time of flowering, too, there is a certain amount of variation. The white-flowered kinds mainly consist of Krætzeri, with a few of album novum. This last is really a white form of an old variety known as punctatum, and remarkable for its bright yellow anthers.

Of those commonly grown by the Dutch there are two that I have never seen among the Japanese importations, viz., punctatum itself, a white flower dotted with pink, and album, which is totally distinct in bulb and flower from any Japanese form.

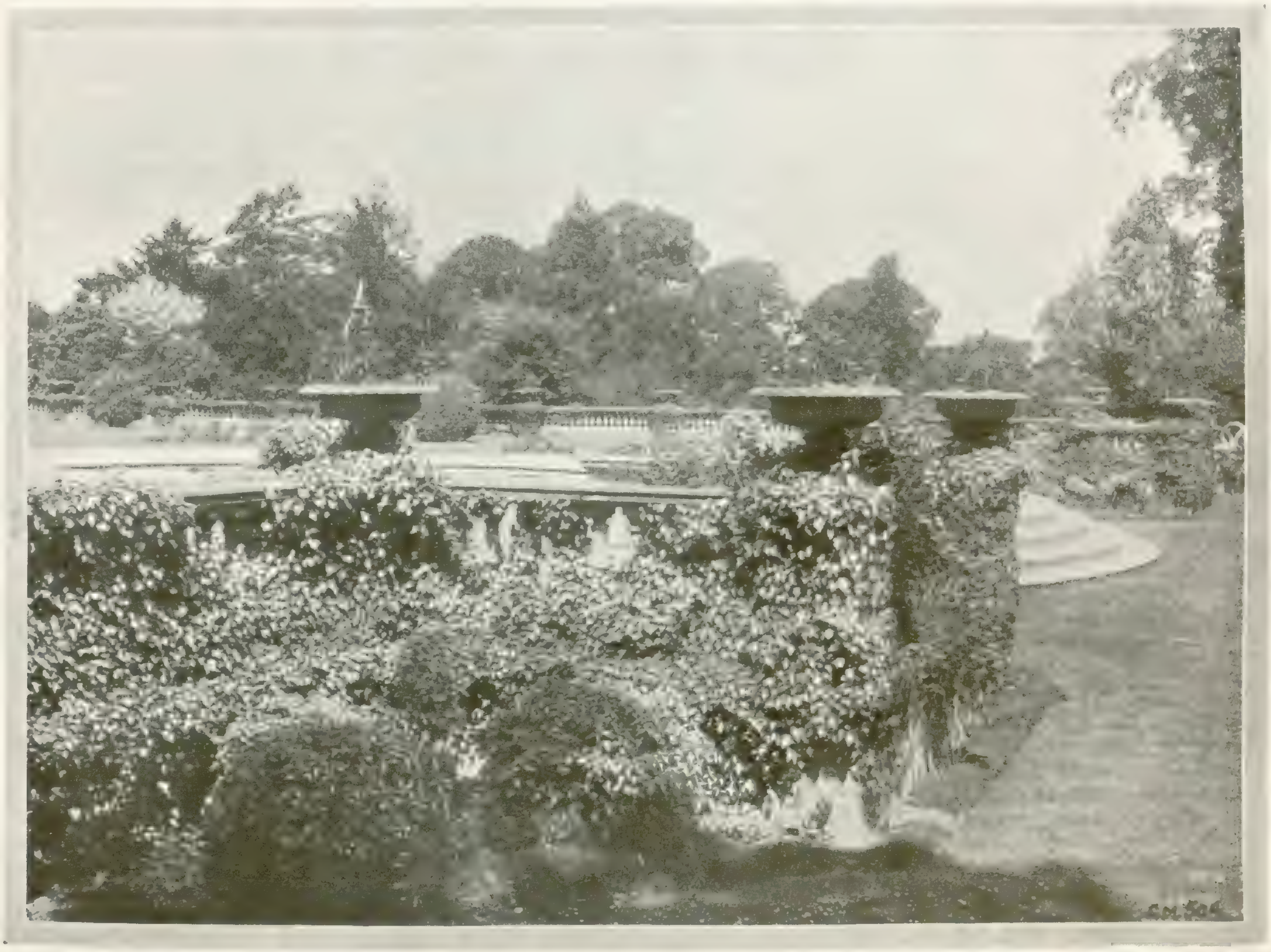
Lilium speciosum has many desirable qualities. In the first place it is not at all exacting in its requirements, and readily lends itself to pot culture. Next it is but rarely troubled by insect pests, while the blossoms have not the heavy overpowering scent of some lilies. Its normal season of flowering, too, is just as many summer-flowering subjects are on the wane, though, as the bulbs are now so readily retarded, it may be had in bloom at any season of the year

Concerning the early history of Lilium speciosum, the following interesting details occur in a French publication entitled "Monographie, Historique et Littéraire des Lis," par Fr. de Cannart d'Hamale, Malines, 1870. The entire note is too long for reproduction here, but, translated freely and briefly, it is stated that: Among some Japanese lilies which Dr. Von Siebold gave to the care of M. Mussche, chief of the Botanic Garden at Ghent, where Lilium speciosum of Thumberg, wrongly called L. lancifolium in gardens. This lily flowered for the first time at the University Botanic Garden at Ghent, in August, 1832. The beauty and elegance of its flowers caused at the time quite a sensation among the principal Belgian amateurs. The white variety flowered in the same establishment a year later, viz., August, 1833.

Concerning the variety punctatum above alluded to, the author says that Dr. Von Siebold could not recall ever having seen it in Japan, T.

IVY AND ARCHITECTURE.

Very wide are the differences of opinion among garden lovers as to the real value or otherwise of ivy in conjunction with architectural features. It is said, and not without cause, that ivy may become a real danger to architectural features in the garden by reason of the power exerted by its strong, sinuous stems and the action of its stem-roots. On the other hand, few deny the beauty of well-kept ivy upon house walls, gate pillars, terrace walls, and the balustrading of terrace steps. After all, a great deal depends upon the way in which the ivy is cared for. An annual close trimming in early spring, March for preference, is a necessity, for the sake of cleanliness, and to permit one to see where new growths are extending in a way that may lead to damage to the support. At Lord Hillingdon's beautiful garden, Hillingdon Court, Uxbridge, the ornamental terrace walls and balustrading, and the pillars on either side of the curved terrace steps, are clothed with ivy, and small, neatly-kept bushes of tree ivies are planted in the border below. The effect is very fine, especially as the climbing ivy has not been allowed to hide the architectural beauty of the terrace. The accompanying illustration admirably illustrates the scene along the front, with the terrace steps in the centre.



[Photo: H. N. King.

IVY AND ARCHITECTURE: THE TERRACE AND STEPS AT HILLINGDON COURT, UXBRIDGE.

SEEDS AND SEED SOWING.

Every seed is provided with an embryo, the vitality of which remains dormant so long as the carbon which the seed contains is not eliminated, by forming carbonic acid with oxygen during the process of germination. It has been fully demonstrated in the Rothamsted investigations that the composition of a seed is less liable to vary than that of any other part of a plant.

One of the most wonderful works of nature is the provision made for the perpetuation of the species. Every seed germ, or embryo, is really a plant in miniature, having its stem and leaves in a more or less undeveloped state.

If kept dry, and excluded from air and its oxygen, the duration of its vitality differs with different seeds. If the seed of any given plant which ordinarily retains its vitality for an extended period, is, when fully matured, thoroughly dried, and perfectly protected from contact with air and moisture, there is no reason why it may not retain its vitality for many years.

There is considerable difference of opinion between experimenters in regard to the duration of vitality in horticultural and agricultural seeds under ordinary climatic influences; but it probably depends upon the comparative condition of the seed and the influence of the different climates of their respective countries. Mons. Vilmorin, the well-known seed grower in France, states that few horticultural seeds can be depended upon to germinate after six years, and that the onion loses its germinating power after two years.

Some seeds lose their germinating power if allowed to become dry, as will those of the willow, two weeks after ripening. Experience has taught that fresh seeds of cucumbers, melons, etc., produce plants that are likely to run to vine, while older seeds yield more abundant crops of fruit. Old seeds, endowed with weaker vitality, are slower to germinate; they come up irregularly, and too large a percentage is absolutely sterile. Seeds of ten-weeks stock, four years old, are used by gardeners to produce plants to bear double flowers, while fresh seeds produce the more perfect single flowers. Such being the case, only fresh tomato seed should be used, as the double flowers produce irregularly-shaped, knobby fruit, while it is only the single flowers that form the desirable round and smooth fruit

The chemical constituents in an imperfectly matured seed seem unstably combined. If such germinate at all, it will be sooner than seeds fully ripe, but the plants will be of weaker growth, owing, probably, to an insufficient storage of nourishment. Such unripe seeds will also be the earliest to become sterile. Some vegetable physiologists believe that immature seeds will produce earlier varieties than the mature. There are many facts in regard to the distribution and germination of seeds which appear unaccountable and wonderful. After the destruction of forests or prairies by fire certain plants will spring up in large numbers, although no parent plants of the same species may have been growing in the vicinity. The Rothamsted experiments on permanent pasture show that the character of the herbage, and the description of the plants may be entirely changed by altering the manures and without any sowing of seeds. The unavoidable conclusion is, that the seeds had remained in the soil for years, awaiting favourable conditions for their development.

Plants, unlike any in the vicinity, have grown in the soil excavated from deep wells; thus the upper crust of the earth seems full of seeds.

No safe rule can be established as to the depth at which different seeds should be sown, as the weather and varieties of soil must be considered. If continued damp weather could be assured, the rule to cover the seed to a depth equal to its own thickness might be a safe one. In such case seeds would germinate if merely laid upon the surface, although darkness is more favourable for the formation of carbonic acid, and therefore for germination. In this matter the gardener must in each instance be governed by the character of his seed, and by the conditions of weather and nature of soil which obtain at the time. Seeds should never be sown, particularly on sandy soils, when the ground, from previous drought, is very dry below, with the surface only moist from recent rain, for if rain does not follow the seeds may perish after germination has merely commenced, or the lower soil may be too dry a little later to supply the young root with sufficient moisture.

At whatever depth the seeds are sown, the soil should have been carefully broken up or "fined" before sowing. After the seeds are sown the soil, if light and friable, should be "firmed" by patting it with the back of a spade, in order to bring the soil in close contact with the seeds. For large areas a light roller may be employed for this purpose. J. J. Willis.

Harpenden.

NOTES FROM SCOTLAND.

Early Potato Planting.

The fine dry weather in the autumn of last year was largely taken advantage of by growers of potatoes for the early markets to have the ground well and deeply broken up in readiness for the succeeding planting season. This having arrived, another favourable period is being experienced, the middle part of the month of February having been exceptionally dry and mild, and land ploughed as stated, and left rough for the winter, has become thoroughly sweetened and pulverised, thus minimising the labour and cost of planting very considerably.

Notwithstanding the general abundance of potato crops last year, and the large stocks of sound, well-ripened tubers still on hand in many cases, which, if well looked after, will probably carry the supply well into the coming summer, growers for the early markets appear none the less energetic and hopeful than in former years, and ere the close of the month large breadths of land will in all probability be thus occupied. During the past season prices were considerably lower than in the one immediately preceding it, the larger and earlier crop, together with the effects wrought by the industrial depression in the larger centres of population, accounting mainly for this. Among market growers on a large scale new varieties for early use are looked upon with a certain amount of suspicion, which arises, in the first place, from the uncertainty of the cropping qualities and earliness of the newcomer, and, secondly, the time required to get sufficient tubers of the right stamp to plant a large area. In some districts, and these among the foremost in the enterprise, Puritan still holds the lead, while in others it is largely displaced by Epicure, which, year by year, is more extensively grown. Several others find a place among first earlies, but those named are certainly the most highly esteemed at the present time. It may be stated in passing that quality is of less consequence than earliness, and a fair, uniform sample, suitable for market towards the end of June, and this is borne out by the fact that neither Puritan nor Epicure are much in favour among gardeners, though upon certain soils both do well, and are passable for quality.

Seed Storing and Planting.

Very diverse methods are adopted in the saving and storing the seed tubers, and many cultivators make the selection when lifting the crop, the tubers being placed in shallow boxes, and perhaps are turned or placed on end at some time during autumn or early winter to facilitate sprouting. The boxes are constructed in a way that readily admits of their being placed one upon the other without injuring their contents, thus economising space and allowing air to circulate freely all round. Owing to the length of time the tubers are housed in this way but little inducement by way of warmth is required to have the sprouting process sufficiently advanced in time for planting, consequently a cool, but frost-proof building fulfils the purpose very well. The bustle and animation manifested in a potato growing district during a spell of good weather at this season is interesting from various standpoints, and form a striking contrast to the previous quietness and solitude of the fields to which in rural districts one gets accustomed during the winter months.

All available hands employed regularly upon the farm are pressed into service for carrying out the principal work, while the neighbouring village is often depleted of most of its more youthful members to aid in the distribution and committal of the tubers to the soil.

Soil and Position.

A deep, well-drained sandy loam, that will work freely and cleanly, except when very wet, appears to be an ideal soil for the purpose; though often the heaviest and earliest maturing crops are produced where sand very largely predominates, but in this much depends upon the season, especially the amounts of rainfall and sunshine that prevail.

The potato crop being early cleared from the ground a sowing of rape seed immediately follows, and in a few weeks a luxuriant covering of herbage ensues, which is in turn consumed by sheep or cattle. The remnant of this crop is turned under by the plough in autumn, accompanied generally by a liberal dressing of farmyard manure. The green crop referred to makes a change of crop, and adds very considerably to the fertility of the soil, as it is obvious, owing to the limited extent of land suited to the potato crop, and more particularly its position, a systematic rotation of cropping cannot be carried out; but by careful and [illegible] cultivation crops of tubers are produced year after year from the same soil with but little, if any, diminution of bulk or precocity. A site by the seashore is favoured, as here the late spring frosts are of less intensity than further inland, and it is at times astonishing how the tender [illegible] escapes damage in the open fields, [illegible] to every wind that blows, when in enclosed and well sheltered gardens scarcely a trace of what but a short time previously was a flourishing crop remains.

James Day.

Galloway House, Wigtownshire.

There is no better guide to the kitchen garden than Vegetables and Their Cultivation, by T. W. Sanders. It is a complete treatise on the general management of the garden and the successful culture [illegible] saladings, and herbs for home use. Price [illegible] post, in box, 5s. 6d., from W. H. and L. [illegible] 148 and 149, Aldersgate Street, London.

SOME NEW ROSES OF 1907—II.

As was pointed out in the previous paper, the varieties of roses which are the subject of these notes fall under three divisions, viz.: (1) those that the writer has grown himself, (2) those seen growing elsewhere, and (3) those seen only at the exhibitions. Having considered Division 1, let us now pass on to Divisions 2 and 3.

Division II.—Varieties Seen Growing.

Mrs. Aaron Ward, H.T. (Pernet Ducher).—Colour orange-yellow, reverse of petals paler. Very distinct. Flowers of medium size, full and globular, produced singly on short, erect growth. In form the flower has a tendency to irregularity after passing the bud stage. This variety has been much praised in some quarters, and possibly it may improve in the coming season. It is not large enough for an exhibition rose, where its colour would be most welcome, but it may be suitable for massing, in which form it was exhibited at the Franco-British Exhibition.

Mrs. Cutbush, Polyantha (Cutbush).—Colour bright cherry-red. Small rosette-shaped flowers on long foot-stalks, produced in clusters, each stem forming a large, elegant bunch. Growth free. An attractive variety, suitable for massing; late flowering.

Division III.—Varieties Seen at Exhibitions.

Goldfinch, multiflora (Paul and Son).—Colour golden yellow, like R. ecæ in the bud, the opening bloom shading to almost white. Flowers small, semi-double, produced in clusters. It appears to be very vigorous, and, if sufficiently free flowering, will be an acquisition in the class of summer-flowering pillar roses.

Hugo Roller, Tea (William Paul and Son). Colour quite distinct, somewhat difficult to describe, a lemon-yellow suffused and edged with pink. Flowers of medium size, full, pointed, and of fairly good form. Said to flower freely until late in autumn. Attractive examples of it were staged by the raisers at the Horticultural Hall late in July. A promising decorative tea.

Lady Faire, H.T. (Bentley).—A sport from Mrs. W. J. Grant. Colour bright blush. As seen at the Leicester Show in August, 1907, where it was finely staged by the introducer, it appeared to possess all the characteristics of the variety from which it is said to have sported, both in form and habit. An attractive, distinct rose. An almost identical sport has been sent out by Messrs. Lowe under the name of Joseph Lowe.

Mrs. Dudley Cross, Tea (William Paul and Son).—Colour pale yellow, suffused red. Flowers of medium size, pointed, fairly full, growth free and vigorous. A decorative variety.

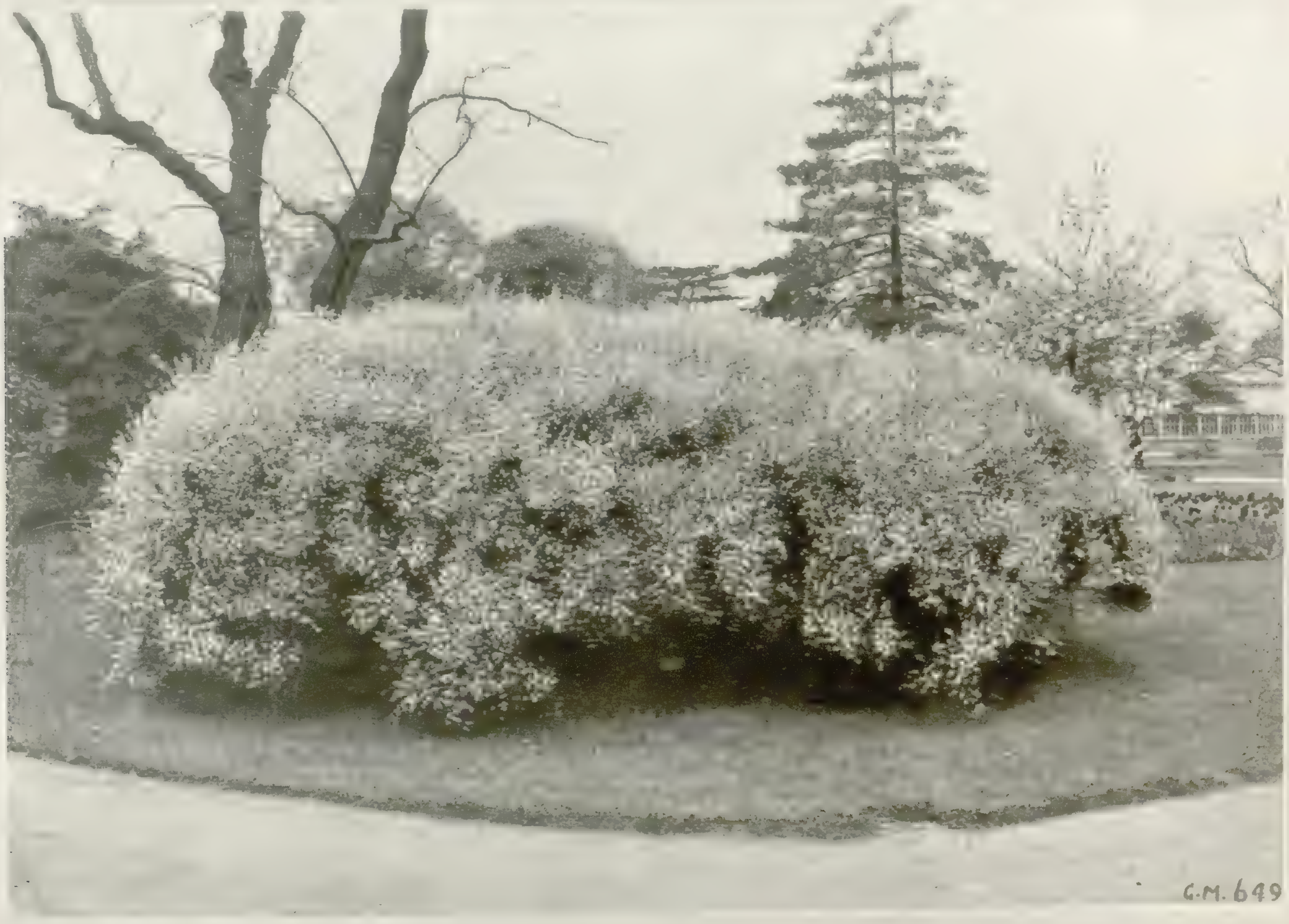
Mrs. Stewart Clark, H.T. (Hugh Dickson).—Colour bright pink. Flowers large, full, and of good form. Awarded gold medal of the N.R.S. A promising variety.

It will probably be found that the best roses in the lists given are W. E. Lippiatt, Harry Kirk, and Mrs. Cutbush. The first as an exhibition variety, and the other two as excellent for the garden and decorative effect. As to the Continental novelties, at present they are disappointing; they seem to be too thin, and wanting in form and distinctiveness. **Joseph H. Pemberton.**

Roses may be grown to perfection by following the instructions given in Roses and Their Cultivation, by T. W. Sanders. A selection is given, with description of all the best varieties, and full details for culture outdoor and under glass. Price 2s. 6d. net, by post, in box, 2s. 10d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

THE MOONLIGHT BROOM.

The most attractive of the brooms now at the command of the planter, if not particularly numerous, form a group of shrubs of much value for the ornamentation of the garden and pleasure grounds, and for the production of bold masses of colour in conspicuous positions in the park and on the margin of the home plantations. Of the several kinds, the Moonlight Broom (Cytisus præcox) has much to recommend it to the notice of planters. It is not superior to other of the finer kinds, but it is perfectly distinct from them all, and is highly attractive when grown under the conditions most favourable to flower production. It presents a pleasing appearance when planted in the shrubbery border in association with other subjects of moderate stature, and arranged in bold lawn groups, such as that herewith illustrated, it produces a striking effect when the slender growths are enwreathed with pale primrose-coloured flowers. Groups of this character are only suitable for large gardens; but small groups, consisting of three or four plants, are remarkably attractive and well suited for gardens of limited dimensions. Cytisus præcox is a hybrid obtained from a cross effected between the bright yellow C. purgans and the white Spanish Broom (C. albus), and has been in cultivation between thirty and forty years. Its hybrid origin is of considerable practical interest, inasmuch as it suggests that to raise plants identical in growth and colour of the flowers, increase of stock should be effected by means of cuttings. It commences to flower early in May, the exact date being determined by the season and district, and continues in bloom for about one month.



A LAWN GROUP OF THE MOONLIGHT BROOM (CYTISUS PRÆCOX) AT KEW.
A beautiful early-flowering hybrid with primrose-coloured flowers.

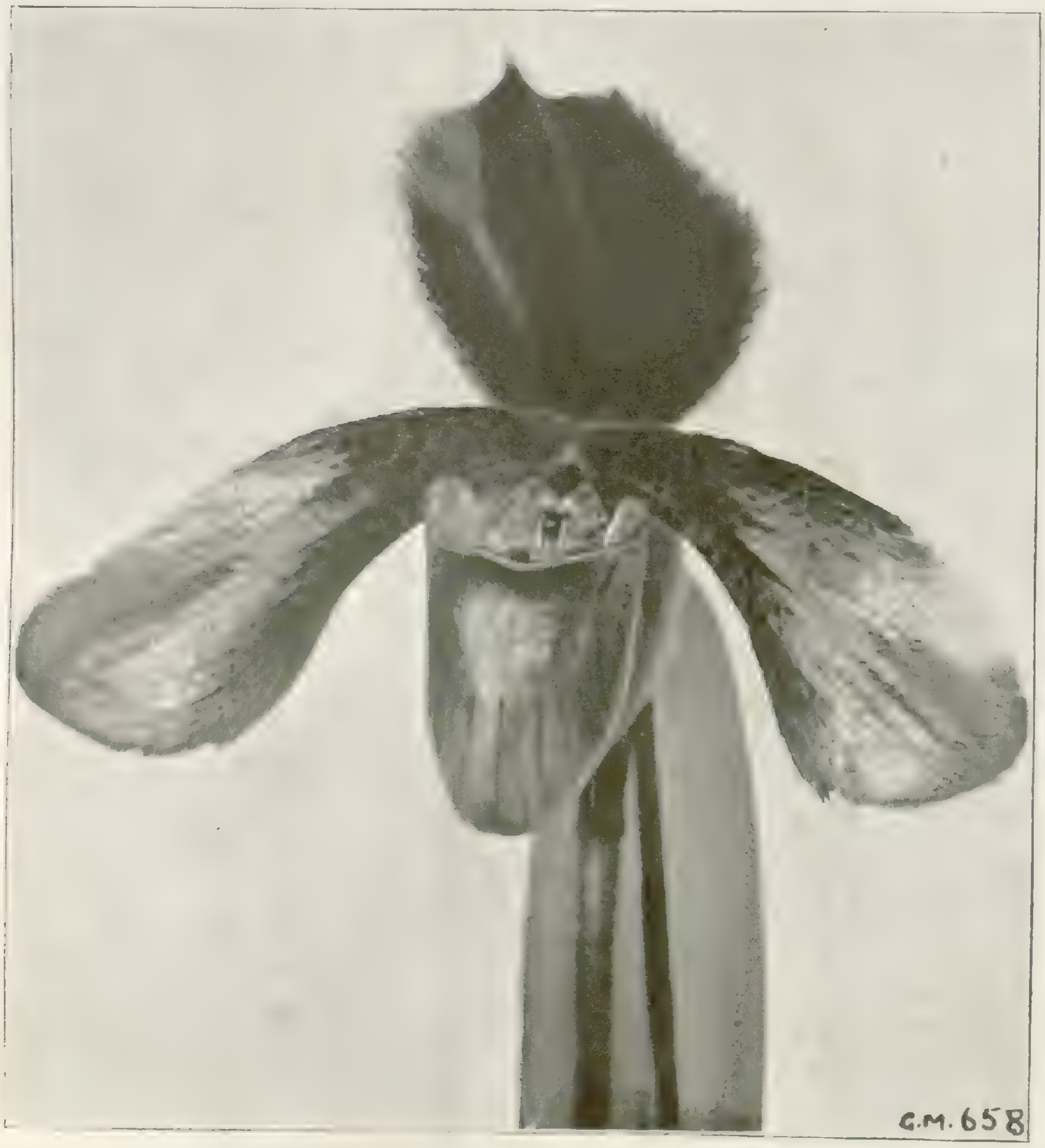
NEW PLANTS, ETC.

CYPRIPEDIUM BRIDGEI MAGNIFICUM.

The parents of this large and very distinctly coloured cypripedium are C. Godseffianum and C. Argus Moensi, and it is finer than the original hybrid both in form and colour. The dorsal sepal is dark purple with brown shading, and the broad, curved petals are of brighter purple with brown shading, the lip being green and purple. A.M., R.H.S., February 23. Mr. G. F. Moore, Chardwar, Bourton-on-the-Water.

CYPRIPEDIUM CURTE-MANNI.

This is a good orchid with an unfortunate name, that is meant to suggest the parentage, i.e., C. Mons. de Curte and C. Beckmanni; when it gets into commerce the hybrid will in all probability become C. Curtmanni, and the question will arise as to who was Mons. Curtmann. The new comer has a green, purple-spotted, white-margined dorsal petal, and very much waved petals that are brown and green, as also is the lip. A.M., R.H.S., February 23. Mr. G. F. Moore, Chardwar.



CYPRIPEDIUM BRIDGEI MAGNIFICUM.
Flowers green, purple, white, and rose. A.M., R.H.S., February 23. Mr. G. F. Moore, Chardwar, Bourton-on-the-Water.

LÆLIO-CATTLEYA PIZARRO WESTONBIRT VAR.

A very large-flowered hybrid derived from Lælia Jongheana and Cattleya aurea. The one bloom shown was rather flat, thus taking after the first named parent, and yet the petals were more or less waved. Petals and sepals are a bright shade of purplish mauve, and the broad, rounded lip is deep yellow with a pale purplish frilled margin. F.C.C., R.H.S., February 23. Lieut.-Colonel G. Holford.

CATTLEYA TRIANÆ MOOREANA.

A very beautiful variety of a fine old orchid. It is of fine form, and has very broad, light rose-purple petals, and narrower sepals, and a lip with an intense crimson-purple apex. F.C.C., R.H.S., February 23. Lieut.-Colonel G. Holford (grower, Mr. H. G. Alexander), Westonbirt, Tetbury.

FREESIA ROSE QUEEN.

A pretty new freesia with spikes of tubular rosy-pink flowers, that are white-throated, and sweetly fragrant. A useful addition. A.M., R.H.S., February 23. Messrs. Barr and Sons, Covent Garden.

ODONTIODA LUTETIA.

This is a beautiful new hybrid orchid, and its parents are Odontoglossum luteo-purpureum and Cochlioda Noetzliana. The flowers are of fair size and form, and very attractive. The ground-colour is yellowish, and on this are laid numerous brilliant orange-scarlet markings; the lip has a prominent golden crest. A handsome addition to our bigeneric hybrids. F.C.C., R.H.S., February 23. Messrs. Charlesworth and Co., Haywards Heath. (See figure on p. 159.)

ODONTOGLOSSUM KEIGHLEYENSIS.

A pretty orchid, with bright scarlet flowers, somewhat small and starry, borne on a branching spike. Odontoglossum cirrhosum and Cochlioda Noetzliana are the parents. A.M., R.H.S., February 23. Messrs. Charlesworth and Co., Haywards Heath.

CYCNOCHES PERUVIANA TRACEY'S VAR.

In this variety the curious and interesting flowers are borne in unusually dense spikes. The flowers are creamy-white, with purple-brown spots. A.M., R.H.S., February 23. Mr. H. A. Tracey, Twickenham.

CYMBIDIUM WOODHAMSIANUM ORCHIDHURST VAR.

This is a pretty orchid, derived from C. Lowianum, crossed with C. eburneo-Lowianum. The flowers are of good size and substance, greenish-white, with bright red-brown marks on the lip. The plant shown carried two fine spikes. A.M., R.H.S., February 23. Messrs. Armstrong and Brown, Tunbridge Wells.

DENDROBIUM LADY COLMAN.

A very handsome and large-flowered hybrid; one of the very best. Its parents are D. Artemis and D. Findlayanum. The sepals and petals are rose-pink, paling very much at the base. The big round lip is rosy, with a white rim around the fine central blotch of deep red-purple. A.M., R.H.S., February 23. Sir J. Colman, Bart. (gardener, Mr. Collier), Gatton Park, Reigate.

DENDROBIUM ATRO-BRYMERIANUM.

Although not beautiful, this orchid was deemed worthy of an award by the R.H.S. Orchid Committee, because of its interest as being the result of a cross between such very distinct species as D. atro-violaceum and D. Brymerianum. The council altered the Award of Merit to a Certificate of Appreciation, this being the first time the new award has been made. The habit of the plant suggests both parents. The broad flowers are greenish, with purple shading and dots; the colouring and fringing of D. Brymerianum have been lost in the hybrid. C.A., February 23. Mr. R. G. Thwaites, Chessington, Streatham.

APPLE BARNACK BEAUTY.

A very useful late apple, roundish oval with a fleshy bulge close to the insertion of the stalk. Pale yellow, with red cheek on the sunny side. Flesh yellow. Of good quality, and a fine market apple. F.C.C., R.H.S., February 23. Mr. A. Poupart, Twickenham Green.

ERIA RHYNCHOSTYLOIDES.

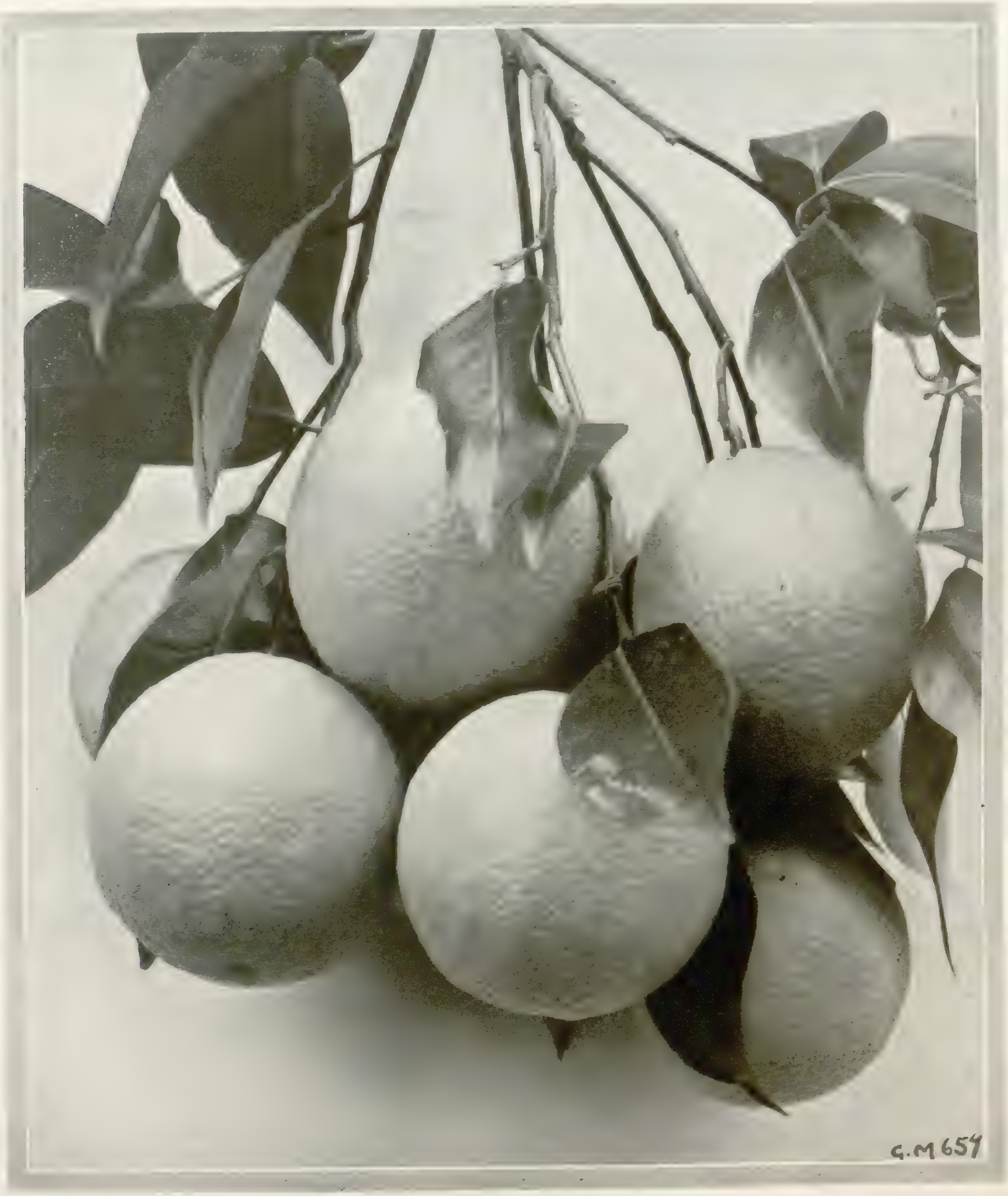
A Japanese species, and one that lends itself readily to cultivation in a warm orchid house. The tiny white and purple flowers are borne in large numbers on a dense curved spike about six inches long. Bot. Mag., t. 8,234.

Turnips.—Early turnips are given to prematurely running to seed, therefore, the best plan is to make small and frequent sowings. The first should be made in a warm and protected position. As the spring advances gradually select cooler quarters. The crop, too, is subject to attack from the turnip fly. As a means of prevention of this, and to assist growth, apply dustings of soot and light sprinklings of nitrate of soda when the young plants are nicely up. The variety Early Milan quickly bulbs, and is useful for the first sowing or two; afterwards [illegible] Snowball is more satisfactory.—C. F.

Ixoras.—The best time for taking cuttings is early in the spring, and preference should be given to the strong shoots [illegible] push from the base of the plants. In[illegible] them singly in small pots, in a compost [illegible] half peat and sand, or even in pure sand. [illegible] water them in and plunge in a bottom heat of from 75 to 80, and a night temperature [illegible] 75. Shift young plants, if not already done, into larger pots. Plants in vigorous health growing in 6 to 7-inch pots may be shifted into 10-inch pots. Pot them moderately [illegible] and use a compost of one part peat, two parts fibrous loam, and coarse sand. Water [illegible]fully until established, but make free and free use of the syringe. During the growing season keep the plants well up to the glass; give them a temperature ranging from 75 to 80 degrees. Amongst the best varieties are Ixora coccinea, I. Colei, I. W[illegible]liamsi, and I. Pilgrimi. Mealy bug and scale are partial to ixoras, and to keep them under unremitting attention is generally necessary. —William Fyfe.

ENGLISH ORANGE CULTURE.

There is a vast amount of difference between keeping large orange trees in presentable condition for conservatory or terrace decoration, and in growing oranges for the purpose of providing fruits of the highest quality. The tasteless pithy fruits the former trees yield are not to be mentioned in the same breath with those delicious examples given under good culture. Moreover, the difference between a ripe, well-grown English orange, and a good imported one is almost beyond description. The late Dr. Bonavia said the difference was as great as that between night and day. Anyhow, if the reader has not tasted a fully ripe English-grown fruit of St. Michael's, Brown's Orange, Sustain, or Navel varieties, he or she has no knowledge of the delicious flavour these possess.



A SEVEN-FRUITED CLUSTER OF ST. MICHAEL'S ORANGE.
Grown at Sawbridgeworth by Messrs. T. Rivers and Sons.

In these days when greenhouse construction and heating apparatus are so cheap, it is rather difficult to understand why so few have taken up the culture of oranges under glass seriously. Vast numbers of houses are devoted to peaches, but very few to oranges, and yet the latter yield freely, and the crop lasts over a much longer period than in the case of peaches, etc. The cost of production would be rather more for oranges than for peaches, not per fruit, but per size of house, because one could not leave the orangery unheated during the autumn and early winter. Some idea of the fruiting capacity of oranges trained loosely on wires, peach-tree fashion, in a span-roofed house, may be gathered from the fact that at Sawbridgeworth, Messrs. T. Rivers and Son could show, last week, a crop of 860 splendid fruits in a house 60ft. long, with a 4ft. border on either side of the 3ft. pathway. This is a very old house, planted experimentally many years ago, but it serves to show what could be done in a modern structure a little wider and with more headroom. Moreover, additional width would permit of the introduction of several dozen pot trees.

In such a house it would be a quite easy matter to obtain a thousand or more fruits each season, and the crop would last over a period of three months. Something must be said for the extreme beauty of a house full of oranges in fruit. The display at Sawbridgeworth, in the house referred to, was extremely beautiful, and one can imagine the delight with which a garden owner and lover would invite his friends from far and near to see a splendid display of this kind, just as he would delight to invite them to see his grapes or his chrysanthemums. Then, when the trees are flowering, there is an exquisite beauty and fragrance that no other fruiting tree can approach. Whether home-grown oranges would pay to market is doubtful, though it might do in a small way, because, one is thankful to say, there are always some folks able to appreciate and pay for the very best.

Equal parts of loam and leaf-soil, with some small charcoal added, and the whole made quite firm over good drainage, is all the orange asks for rooting in. If in a border, it needs an annual top-dressing, and the removal of inert surface soil; if in a pot, it needs potting about once in three years, and a top-dressing in the other years. A fairly even state of moisture is desirable at the roots, because drought and over-watering produce checks with oranges as with other plants. Feeding presents no difficulties simply because it is rarely necessary; soot water, and soapy water are both useful for occasional application, as they serve to keep the fine leaves deeply coloured, and also assist in brightening the colour of the fruits.

PERPETUAL CARNATION WINONA.
A fragrant salmon-pink variety of American origin.

You cannot carve a peach tree with impunity, and one has to deal very carefully with a vine or fig-tree, but the orange has not the slightest objection to the use of the knife. Cut hard back, it quickly starts into growth again, and practically every growth becomes a flowering and fruiting spray. As regards temperature the thermometer should not register less than 50 degrees during winter, with a rise to 65 degrees on bright days, when a little ventilation should be given near the hot-water pipes. When the crop has been gathered 45 to 50 degrees will suffice for a while, but 60 degrees at night and 70 degrees by day will be necessary when new growth commences, every advantage being then taken of the increasing sun-heat. Syringing is essential before and after flowering, but must cease during flowering and also when the fruits are colouring. Ventilation and damping down must be done in accordance with the range of outside temperature. No shading is ever necessary; indeed, the plants should not be trained right up to the ridge of the span, as their dark leaves would then exclude too much light.

From the foregoing remarks it would appear that orange culture under glass offers few difficulties. That is so. And yet there is one serious difficulty to overcome, and that is the one of keeping the plants clean. An annual cleaning of the house and plants, a free use of the syringe whenever permissible, frequent fumigation by evaporation of some nicotine compound, and an occasional examination of the trees, with sponge in hand, will keep insect pests and their attendant uncleanliness at bay. In short, the orange asks for no more attention than other fruits under glass, and in return it gives fruits of most delicious flavour, a veritable Garden of the Hesperides, a period of most delightful fragrance, and "Golden Apples" that will tempt the most fastidious Atalanta.

There are many varieties of oranges, but the best for the purpose suggested are St. Michael's, represented in the accompanying illustration by a seven-fruited cluster cut from the trained trees at Messrs. Rivers and Sons' nurseries; Sustain, Brown's Orange, Dom Louise, Bittencourt, White Orange, Silver, Washington Navel, and Blood Orange. The Jaffa is fine, but rather a shy bearer. It must also be pointed out that citrons, lemons, limes, and shaddocks may be grown side by side with the oranges. One feels quite certain that if owners of large gardens were to see the display and crop at the Sawbridgeworth nurseries, they would be so interested in and enchanted by it, that they would at once take up orange culture at home.

C.

PERPETUAL CARNATION WINONA.

The perpetual carnation Winona is one that is growing in favour with many of the lovers of winter flowers. We illustrate it herewith, and refer our readers to the excellent article on p. 162, by Mr. P. S. Hayward, wherein he refers to the variety as follows: Winona is another sterling acquisition from that expert American raiser, Mr. F. Dormer. In colour it is a taking salmon-pink, and will prove a strong rival to Mrs. H. Burnett. Winona is a very fragrant variety and with a good habit and pleasing formation, it should find a place in many collections.

THE WAYS OF THE BULLFINCH.

No one would willingly destroy this beautiful bird, but he is such a mischievous fellow that he cannot be tolerated, and the hand of every gardener is against him. He has chosen his spouse for the season now, and Mr. and Mrs. Bullfinch are on the warpath pecking the buds out of the currants and gooseberries, plums and pears, and if there is a shortage of this kind of food they turn their attention to the lilacs in the pleasure grounds. I do not mean to say that bullfinches are the only birds which destroy fruit buds, but I know of none that are so handy at the work, nor any that can do so much damage in so little time. Some well-meaning people would have us believe that the bullfinch is really a friend, and that he pecks out the buds for the sake of some insect there is inside them. We know our piping friend, or rather enemy, better than that, and are satisfied that it is a dainty morsel inside the bud that he is after, though a spirit of mischief may also to some extent account for his bad habits.

No one of late years has devised an original device for preventing the ravages of bullfinches, and we have to rely on the methods adopted by our grandsires. Perhaps small shot is the most effective remedy, not so much with the object of killing the birds as scaring them away until the buds have developed and there is no longer fear of damage. Wire netting round quarters of gooseberry and currant bushes, with wire netting over the top, is a well-known device, but everybody cannot employ it, and the next best thing is to make the buds distasteful to the birds. This can be done by syringing them with soapy water, and while the twigs are wet to dust them forcibly with soot and lime. This will also kill green moss and slime that sometimes infest bush fruits. Another remedy, also an old-time one, is that of webbing black thread over the bushes, and the fact of its long usage is evidence of its efficiency. But, after everything has been said about prevention and remedies, the fact remains that every spring season the piping bullfinch is a thorn in the side of the gardener.

H.

JAPANESE ART IN ENGLISH GARDENS.

As a striking contrast to the spread of Western ideas in Japan, one notes with the greatest interest the spread of Japanese ideas in our English gardens. One has not far to go to find out how deep an impression Japanese art has made in our English country gardens, for there are so many direct evidences of it. It is strange, certainly, that the Eastern nation, which has bowed itself to the incoming tide of Western ideas, and has grasped the main essential points of European progress in order to take its place in the ranks of progressive nations, should have silently and imperceptibly transferred to the West many of her own exquisite ideas in garden decoration. And it is these same delightful ideas which have assisted in the overthrow of the stolid formal garden.

In a subtle, mysterious way the mystic spell of the flowery land has been cast over our English gardens. We had not noticed its coming, although we had imported flowers and roots from Japan for many years; but all the same it is with us, and is moulding our own ideas of garden decoration on lines almost parallel with the land from whence it came. This spell has touched the quiet slumbering beauty of the old English garden, and with its fairy wand has transformed it into a living picture. All the magic and witchery of the East are apparent, and under its influence the English garden is entering upon halcyon days, and where we once had to look deep for beauty, lo, here we are confronted by it at every turn.

Can ought equal the iris gardens in Japan? Those glorious stretches of moisture-loving iris, which combine in themselves the most exquisite colourings under heaven, are already exercising their sway in this country. By the banks of pool and stream, margining the lakes, filling sunken beds upon the lawn, or growing in long sweeps of garden especially devoted to them, these magnificent iris are certainly a power in the land. The dainty tea house of Japan, clad with its wondrous covering of wistarias and vines, will certainly supersede the cumbrous artificiality of the English summer-house. There is a lightness in the tea-house of Japan, a daintiness of outline which harmonises with the garden proper. In itself it is a home of flowers, not like its English predecessor, a seeming "fowl-house in a garden." Everywhere the mystic influence is manifest, the graceful outline of bamboos, grouped in natural style, give a softness and exquisite touch of beauty to the landscape which never existed before.

Flowering trees, such as the cherry and many others, are ousting the funereal cypress, junipers, cedars, and other heavy evergreen trees which our fathers loved to plant. We may yet in our enthusiasm emulate the Japanese and have our feast days in accordance with the blossoming-time of our favourites. Certainly we are impelled to a strong love of flowering trees.

In the lilies of Japan we have another important factor in the English garden. Those lilies: auratum, magnificum, elegans, odorum, concolor, tigrinum, speciosum, yea, a whole host of them, call them what you will, but recognise in them the proof of the Japanese invasion. A long series of magnificent beauties, adapting themselves to the English garden as though they were native born. Surely never an army of invaders have had such a warm welcome before? A further look around reveals Japanese pæonies in immense numbers, Japanese roses, Japanese chrysanthemums, Japanese primulas, and hosts of other favourites of the Flowery Land all in keeping with their surroundings.

To go a step further, one notes the rapid strides made upon Japanese lines in the flower-clad pools. Lily pools, upon which rest the soft-hued water-lilies are already a feature in many gardens. What is more, the Japanese ideal in stonework for garden decoration is gradually displacing the appalling statues, vases, urns, and other incongruities which we received as a heirloom from the past. Japanese art in stone exists for an avowed purpose, and whether it is those interesting old stone seats, or those exquisite stone bridges, or, what perhaps will be more popular than either, those charming old stone lanterns, which at nightfall shed their diffused rays over rippling pools and waving irises, one realises the harmonious association they have with the garden scene. A harmony which entirely justifies their existence.

Certainly the outcome of this blending of East with West, will make for daintiness and simplicity in the garden, and furthermore it has considerably widened the scope of the landscape gardener. With such characteristically beautiful phases of garden decoration, it is not to be wondered that the garden-maker's art is being lifted to a higher plane than ever before.

We are on the upward grade, and though the idea in some quarters is to copy existing gardens, yet there is a widespread desire to give the country garden a complete living individuality of its own. In this manner the garden, complete and harmonious in its design and execution, will differ from its fellows. In this lies the interest and charm of the garden, and a combination of natural decoration and daring contrast should result in a phase of beauty which, initiated by the requirements of the one garden, it would be folly to endeavour to repeat in full in another.

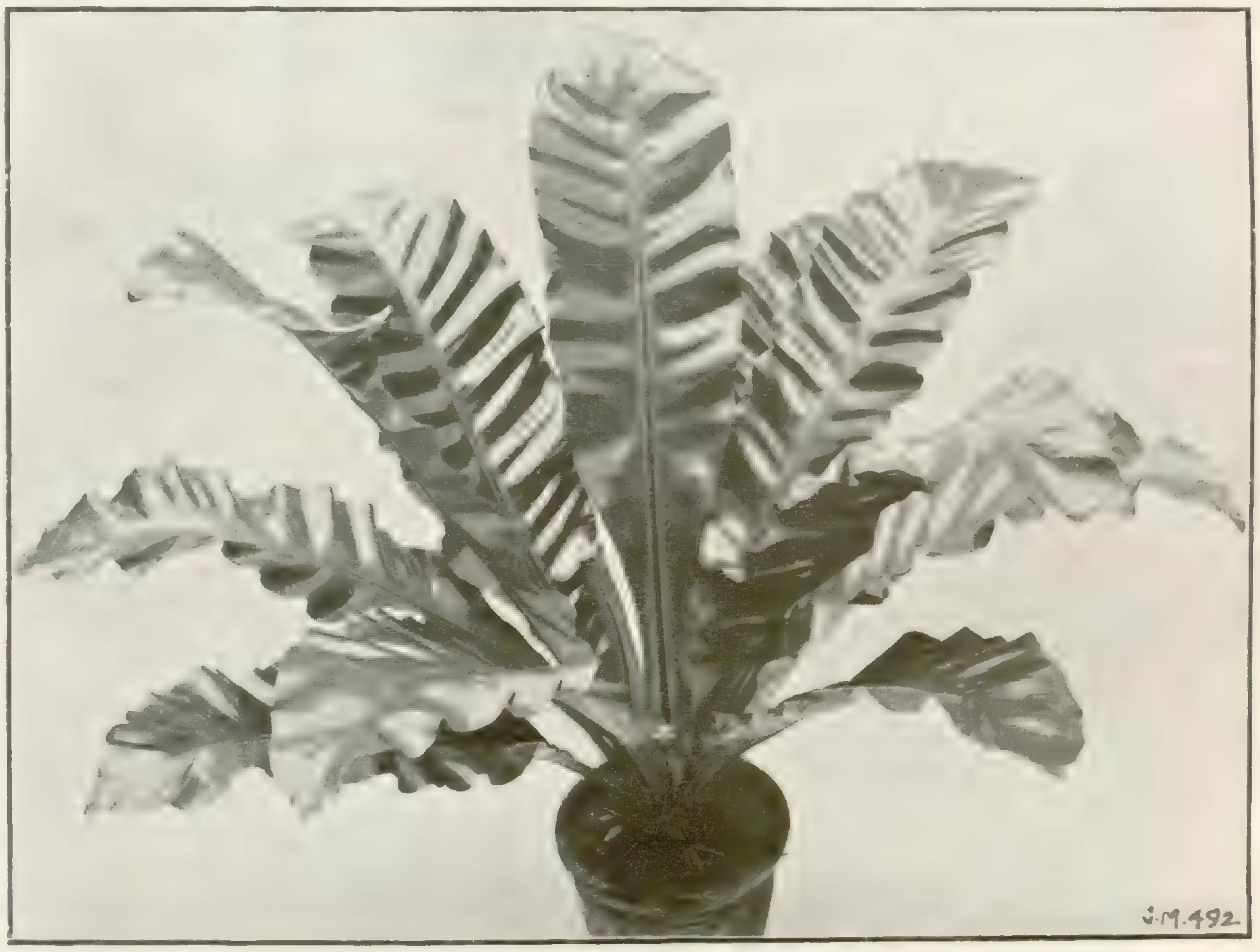
P. S. Hayward.

THE BIRD'S NEST FERN.

One of the boldest and most distinct of all ferns, and one that it is hardly possible to mistake for any other species, is the handsome Bird's Nest Fern, Asplenium nidus. The species has a wonderfully wide distribution, being found in the Mauritius, Seychelle Islands, Japan, India, Burmah, Assam, the Society Islands, Queensland, Norfolk Island, and Lord Howe's Island. The species is not markedly variable. In any large number of plants slight differences will be apparent, but of really distinct varieties there are few, the principal being A. n. australasicum, with rounded fronds and a keeled midrib; and A. n. musæfolium, with very large, rather upright fronds, that are elliptic in outline.

Although the bird's nest fern and its varieties will succeed under warm greenhouse treatment, it is as stove plants that they thrive best, but, as is the case with not a few other stove plants, they require little artificial heat during the summer, and may be placed out of doors then, in a sheltered and shaded position. In the production of sub-tropical effects Asplenium nidus is very useful. These ferns do not need a large amount of root room, because nourishment is very freely obtained by the roots that appear at the base of the fronds, and on the stem-like stock of the plant. The roots will also soon make their way out over the pot and attach themselves to its sides, so that moisture is more necessary than an abundance of soil. A suitable compost consists of fibrous peat and chopped sphagnum in equal parts, with a little sand added. Slugs and woodlice are persistent enemies, and will quickly spoil young fronds if they have the chance.

In 1906 a fern closely resembling A. nidus was exhibited; it had the fronds divided freely right down to the midrib into irregular segments. It was named A. n. laceratum, but some doubt has been thrown upon its relationship with A. nidus, several fanciers regarding it as a distinct species. The accompanying figure repre-



A FINE BIRD'S NEST FERN.
Grown by Messrs. J. Hill and Son, Edmonton.

sents a fine plant of a good type of Asplenium nidus, one of the many splendid plants exhibited not long since at Westminster by Messrs. J. Hill and Son, Barrowfield Nursery, Edmonton, who also showed the lacerated form just referred to, and obtained for it a First Class Certificate from the Royal Horticultural Society.

PANSIES FOR COLOUR EFFECT.

The pansy can be regarded in many different ways—as an exhibition flower of great worth, a spring bedding plant, a decorator of borders and window boxes in shade, and a lovely blossom for vases; but perhaps its chief merit is its suitability for creating vast stretches of colour in cold places away from midday sunshine. There are few of the lesser plants willing to thrive under these circumstances, and yet capable of imparting warm hues to the scene; on a higher level we may possess phloxes, but for a carpet pansies are unrivalled.

> "See, how a breadth of purple spreads
> Across the earth,
> Made up of myriad nodding heads
> Just sprung to birth.
> Mauve verges soft in rose and cream,
> White flushes into blue;
> And gold is splendid as a dream,
> For pansies are on view."

The garden landscape thus described is bound to be a fair one, and all the more valued because it may exist in the less favoured portions of the pleasure grounds. Pansy planting on a large scale can be well done in February, the weather being open. A regular plan should be pursued in order to gain the finest effect from the plants; thus, mixed varieties should only be used when they are of almost identical tints; a selection of pansies of gold generally proves satisfactory, so, too, with whites, but purples, blues, mauves, and even crimsons cannot be indiscriminately mingled without risk, as their shades clash so often.

A rarely beautiful effect may be created by covering the whole of a large bank, on the north, east, or north-west, or north-east sides, with this flower; a western aspect is also a good one, and a sloped wide border will do almost as well as a bank. There should be no regular pattern planting, but a long stretch of purple may be followed by one of mauve, next to which crimson, followed closely by rosy shades will look well; the next space may be a mass of lilac, then can come cream, white, indigo blue, and paler blues, perhaps separated by mahogany-brown.

All these colours are at the command of the pansy enthusiast, whether he raises his own plants from seed, or buys them. If only a beginning can be made this early spring by raising in heat in February, an autumn bloom can generally be relied upon, and the following spring display will be grand indeed. Of course, the quickest method is to purchase the plants at the cheap rate by the hundred, or half-hundred.

As a summer addition to pansy displays calceolarias are admirable; there can be gaps left at yard intervals, and these filled up with a trio of gold or brown calceolarias in May, the former tone with either the lavender, blue, and violet, or the lilac, mauve, and purple, or the crimson pansies; the latter look best with cream, gold, white, lavender, or pale blue. Such a bankside gives a glorious show from a slight distance, and is sufficiently telling even across several lawns, etc.

Named fancy pansies that are of extra merit for giving pronounced colour effects are represented by those old familiar varieties, Mrs. William Watson, lemon-yellow and black; Miss Stirling, cream and mauve; and Crimson Marmion. Show pansies, having petals less covered by dark blotches, appear of more "self" hues, yet it is doubtful if anything can surpass the warm or golden tints that the fancies, when grown to giant size, are sure to yield.

When shrubs are to be associated with pansy displays the golden-foliaged should be placed only among the dark-hued, and green-foliaged among white, cream, pale blue, mauve, rose, or yellow.

Shrubbery glades can be made beautiful by pansy planting in sufficient quantity; among sheltering branches the flowers will be protected from too much sun scorching, and the roots will find the cool moisture they need.

It will be essential to make the soil thoroughly rich, and if possible stiff clayish loam should also be incorporated; after this preliminary care a weekly watering of complete nature, followed an hour or so later by an application of liquid manure, will keep the plants healthy through the dryest summer.

In shade, or semi-shade, pansies will blossom freely for eight or nine months of the year, provided that they are kept from seeding, and have their number of shoots reduced now and then. M. H.

EARLY VEGETABLES.

In many gardens broccoli and other winter green crops have suffered very much this season through the exceptional severe weather at the end of December. Here we have not a dozen broccoli alive in the whole plantation, all varieties having suffered alike, and the same may be said of the asparagus kale, and Brussels sprouts. The bright sunny days, accompanied by cold east winds and sharp frosty nights that we are experiencing, are putting an end to the other green vegetables that were left. Under such conditions the garden will be denuded of all green crops with the exception of a few turnip greens and spring cabbage.

Therefore, it will be necessary to make other provisions where a large establishment has to be regularly supplied. Not only will it be necessary to force an extra quantity of such vegetables as asparagus, French beans, and seakale, but an extra supply of early potatoes, carrots, and other forced vegetables will be needed. Potatoes that have been prepared in boxes with a view of being planted on early borders should be brought forward if possible by planting a portion of them in frames or pits. Where practicable a slight hotbed should be provided to give them a start, but as the days are now becoming longer and the sun has sufficient power to generate a gentle warmth in the frames, all that will be necessary to ensure an active growth will be to cover the glass at night by means of mats to ward off the frost. Such provision can also be made for bringing forward carrots of the quick-growing kinds, also early turnips and dwarf cauliflower.

Asparagus is easily forced, either on an ordinary hotbed or in heated pits, but at this season of the year it is far better to have permanent beds where frames can be put over them, as this saves a great waste of roots. By doing this, growth can be forwarded at least a month in advance of that in the open ground, especially if the beds are raised, so that fermenting material can be put round the frames to generate a gentle heat, and the glass covered at night so as to prevent the temperature from falling too low. Most people are partial to asparagus, especially that of home growth, not the dry, blanched sticks that one sees in the shops. Nice green, juicy heads are appreciated by most people. French beans require more heat to bring them to perfection, but seed sown now on a hotbed where a temperature of from 65 degrees to 70 degrees can be maintained, will give a supply in from eight to ten weeks. These things are, however, a luxury that can only be indulged in by those who have the means for their production.

Cauliflowers raised from seed that was sown in boxes during January should now be making headway, and if plants of these are put out on a slight hotbed and given the protection of glass they will soon make headway, and will turn in during the latter part of May. Carrots and turnips may also be brought forward in like manner. If a frame can be afforded for early peas, these sown early in February under glass may be transferred to them. If these are placed in a sunny position, and the lights covered at night in case of frost, the crop will be accelerated by at least a month, but it is useless to bring such things forward unless attention is paid to them in later stages.

Where a large establishment has to be supplied, it is not only the dining-room that requires consideration, but there are other branches of the establishment that need looking after, and as the winter green crops in many instances are almost a failure, such crops as spring cabbage and turnip greens ought to be encouraged as much as possible. It would be well to give these a dressing of nitrate of soda the first warm, showery day, but care must be taken in applying it, otherwise much injury may be done to the leaves. To be of the greatest benefit the fertiliser should be reduced to as fine a state as possible, and then be carefully sprinkled over the surface between the rows. The rains and moist weather will soon dissolve the small particles and carry the nutrient matter to the roots. A good breadth of spring cabbage should always be planted, for there is no vegetable more useful in early spring, and it is doubly valuable in a season like the present. Those who still have plants standing in the seed-bed would do well to plant some of them out if they are at all likely to be required later on. It will also be advisable to make a sowing of parsley under glass, for in many places after such a spell of ungenial weather there may be a shortage as the season advances. H. C. Prinsep

Buxted Park Gardens.

Ferns.—The present is a very suitable time to undertake the repotting of ferns, though where a constant supply of adiantums is required, either for cutting or conservatory decoration, it would not be prudent to deal with them all at once. A batch should be picked out, selecting those somewhat more forward in growth than the rest, and keep them in a fairly warm, moist house; these will provide either fronds or plants till the freshly-potted get over their check. If it is necessary to increase the stock of adiantums, and seedlings are not available, some of the plants may be split up quite small, and this allows for all the others to be shifted into a size larger pot, but for all ordinary purposes 32 size or 24 size pots are large enough, though, of course, good specimen ferns in 12in. pots look very fine. A mixture of loam, leaf-soil, peat, and [illegible] with some well-broken crocks and rubble, will suit practically all kinds of ferns, and they should be potted firmly, placing them in a house where they can have a minimum temperature of [illegible] degrees, keeping them moistened overhead until growth commences, when syringing should be discontinued.—T. Stevenson.

LATE WINTER APPLES.

The heavy shipments of Colonial apples would seem very much to discount the value of late stocks of English fruit, indeed, there is a feeling abroad that not only late, but midwinter kinds also have suffered a setback. When such beautifully coloured, well-graded, and high-flavoured fruit comes in such quantities in the midst of our apple season, it cannot do other than injure the British outlook, judged from a commercial standpoint. Fortunately, however, those who have gardens in which to cultivate will have no heartburnings in regard to the Colonial enterprise, for though praise and credit is readily given the fine red-cheeked fruit from over the seas, we can still stand by our own when the question of quality arises.

There is yet an opening for our own or any other country to produce apples better than our best-class Cox's Orange Pippins. The British Columbians, though of fine size, have toughened skins that cannot gain in the race for flavour over our own. It is unfortunate that Bess Pool as a garden tree is so shy, for in the true forms of this variety there is a fine rich quality resembling somewhat a Cox's. From a large, healthy, established standard we have recollections of heavy crops of highly esteemed fruits. It belongs to the late section in its season of flower, commonly called "wise apples," and for this reason bears very regular and heavy crops. Mannington's Pearmain is another useful garden bush sort, cropping regularly and freely, and it has yellow-toned, richly-flavoured flesh. It must be left late on the trees in order that it be maintained in a plump condition until its season comes round. King of Tompkins County is another favourite for late use. This not only has good table qualities, but fine appearance also. King's Acre Pippin, an apple of modern introduction, is destined to furnish another useful high-flavoured late fruit. We are partial also to Claygate Pearmain, for this has several sterling qualities among winter selections.

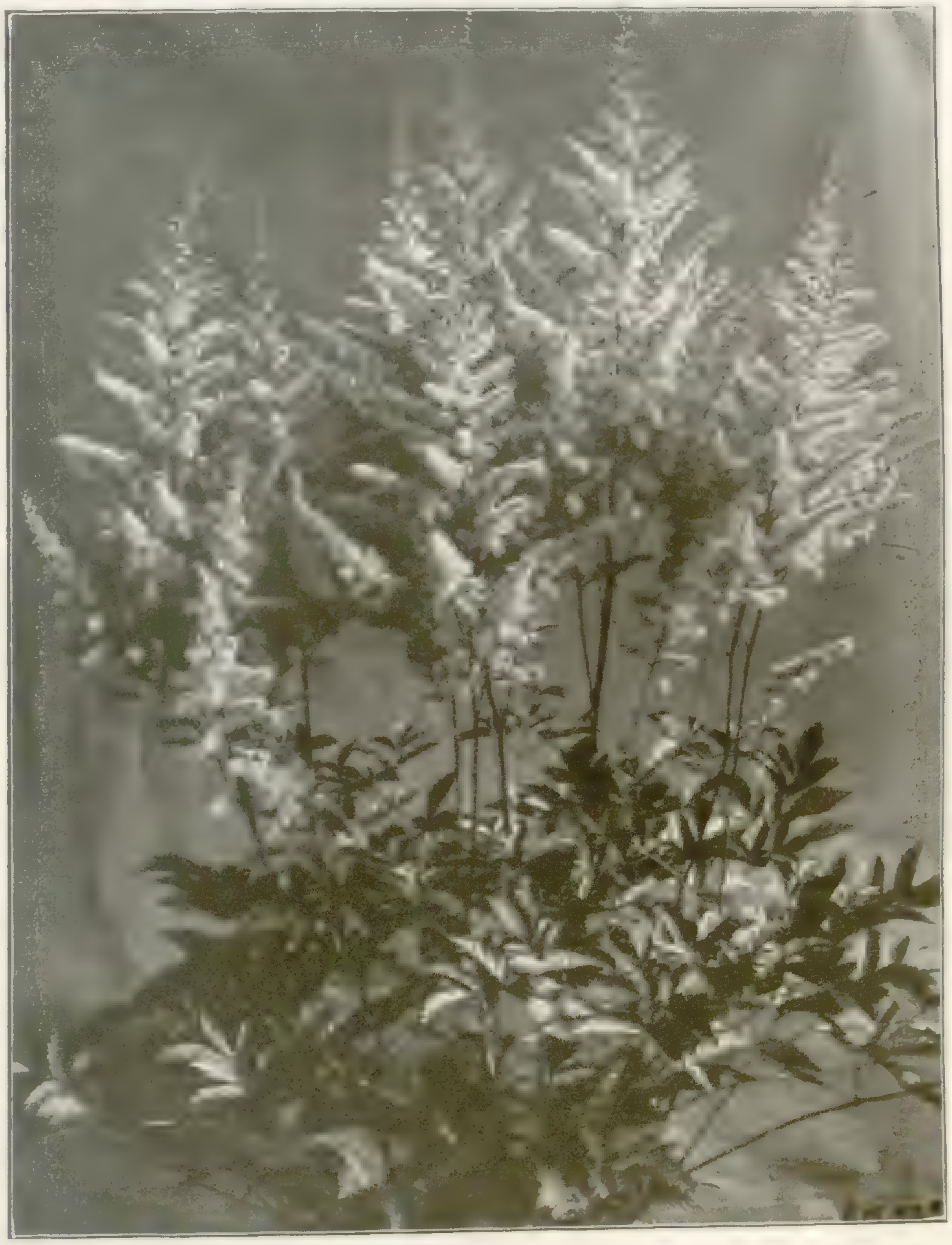
Lord Burghley and Sturmer Pippin both have many adherents, the latter certainly is valuable because of its prodigious bearing and its bright skin. It is valuable also because it will retain its freshness till so late in the spring. Lord Hindlip and Adams' Pearmain are other well-proved trees that will yet be retained in spite of Colonial ascendency. The old Cockle's Pippin possesses a crisp and sweet flavour which is much appreciated as a change from the yellow-fleshed apples. This has unusually pale flesh, which is one of its distinguishing features. With us it bears heavily every alternate year. Whether this is characteristic of the apple I am unable to say, possibly on the paradise stock it may be more regular. It will keep quite plump until March and retain its juicy crispness. Allen's Everlasting, Barnack Beauty, Hormead Pearmain, and Reinette du Canada are a quartette which claims the planter's attention when his bent is late spring stocks. The last named must be left as long as it is safe to do so on the tree, for the inevitable shrinkage of the flesh will spoil the best sample if this rule is disregarded.

One might easily extend the list of late winter apples, but it is, after all, not so much a long list that is needed, as one that can be depended on both as regards crop, storing, and table quality. These attributes are combined in several of the varieties mentioned, which renders them trustworthy.

W. Strugnell.

PINK ASTILBES.

There can be no question as to the beauty and value of the new pink flowered astilbes, and therefore we must accord all the more praise to Astilbe Davidi, the strong growing, deep coloured species that is so fine grown near water. The latter was one parent of the newest race of pink astilbes, and A. astilboides floribunda is the other. Several very beautiful forms of this hybrid were exhibited before the Royal Horticultural Society on July 21 last, and attracted a great deal of attention. The plants were all of sturdy growth, and said to be absolutely hardy. These crossbred plants, raised by Mr. Arends, of Ronsdorf, Germany, open up a fine prospect for planting in moist situations and in beds or borders for giving charming effects, for, with rare exceptions, all the herbaceous members of the spiraea group of plants are elegant and beautiful. Two varieties among the several that Mr. Arends has raised, stand out prominently by reason of their distinctness, vigour, and delightful colouring, and these are Astilbe Arendsi Ceres and A. Arendsi Pink Pearl. The former, of which there is an illustration herewith, grows about 2½ft. high., and produces graceful plumose spikes of deep rose-pink flowers. A. Arendsi Pink Pearl is soft, pearly pink, quite distinct, and equally beautiful, and the flowers open more slowly than in the case of the first-named variety, so that the flowering period is prolonged. To each of these two new astilbes the Royal Horticultural Society has granted an Award of Merit, and both are well worthy of inclusion in our gardens.



ASTILBE ARENDSI CERES.
Flowers deep rose-pink. Raised by Mr. Arends, Ronsdorf, Germany.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

General Remarks. — With the lengthening days and increased strength of the sun's rays, there will arise the necessity for providing more moisture in the atmosphere, but discretion is needed in increasing the amount at this season of the year. The changeable outside conditions, which of late years have been characteristic of our spring season, renders every caution necessary. No hard and fast rules can be laid down, therefore it is useless to advise that this or that division must be damped down two or three times a day. The grower must use his discretion. Situations also make a very considerable difference; naturally, in the neighbourhood of large towns and smoky manufacturing districts, where the sun's rays are more or less obscured, the drying conditions will not be so severe as under favourable situations. Under the latter conditions as long as we can keep up the temperature in the houses, damping may be done early in the morning from the present time onward, but even then the greatest care must be exercised during the prevalence of cold winds and frosty nights. Excess of atmospheric moisture during the prevalence of a low temperature is of no advantage to the plants, in fact I have not the slightest hesitation in saying that a considerable amount of the unsightly black spotting of the foliage is due to the effects of much moisture in the atmosphere during unfavourable outside conditions.

Shading.—Many houses with a southern aspect will now require shading during the hottest parts of the day. The blinds on all the houses should now be put in order for use at any time that they may be required.

Some classes of plants, such as odontoglossums, do not require a large amount of light, therefore sufficient shade is necessary at this season of the year to prevent loss of foliage through the ripening of the pseudobulbs. It is a very good plan where two sets of blinds can be used from the present time until the middle of April. All the shade that is absolutely necessary for these is something to break up the sun's rays, therefore a thinner material, with a larger mesh than that of the usual No. 5 greenhouse shading, may be used with advantage. The great disadvantage I find in lath roller blinds and thick shading material is that they obstruct more light than is absolutely necessary at the spring and fall of the year. I have no doubt others will have observed the sudden fall in temperature that takes place in houses where such blinds are let down over the glass. This necessitates the immediate closing of the ventilators, and this is one of the greatest possible dangers to plants, especially when their growth is in an early stage of development; nothing is more conducive to checks than a sudden fall in temperature, especially when it occurs when the atmosphere is heavily charged with moisture. A very considerable advantage is thus procurable from the use of thinner shading material.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

FERNS.—Now that the plants are dormant have them thoroughly cleaned of insect pests, and in the process of cleaning guard against their escaping by having some receptacle such as canvas underneath the plants. Should the fronds not yet have commenced to grow, fumigate two or three times in succession to clear the plants of thrips, the most difficult pest to clear. Now is a good time to pot, and the compost for the general collection of ferns should consist of two parts good yellow loam and two parts good peat, a little charcoal, and sufficient sharp sand to keep it porous and sweet. For such as gymnogrammas, make the compost fairly firm, which should consist of peat and plenty of sharp sand, with a portion of charcoal broken fairly fine. For gleichenias use shallow pots or pans, and give plenty of drainage, and, as in the case of davallias, assist the rhizomes to take root by pegging them down.

WHEN DIVIDING OLD PLANTS of Adiantum cuneatum, Pteris serrulata, etc., pull them to pieces for 4½ and 6-inch pots, in which they are so useful for decoration; keep the plants rather dry for a few days before the operation. The beautiful varieties of nephrolepis should not be overlooked for pots or baskets. Give attention to baskets containing adiantums, Woodwardia radicans, and Goniophlebium subauriculatum.

TREE FERNS, when repotted, should be kept fairly close for two or three weeks, and have their stems well syringed to encourage growth, maintain a day temperature of about 60 degrees. The method of increasing the popular varieties of ferns by means of spores is very interesting. Select fronds with spores of a dark brown colour, and, whether peat or loam is used to sow in, destroy all insect life by heat before using it. Press firmly, well water, and allow it to drain, then scatter the spores thinly, cover with glass, and put in the propagating pit or house until the seedlings are large enough to be pricked off into small pots.

ANTHURIUMS.—For stove decoration these are among the most useful plants when grown in 6in. or 8in. pots, for winter flowering. A. Andreanum is fine for filling vases, and is of easy culture when given good drainage, with farty peat and sphagnum moss in about equal parts, and a good proportion of sand for a rooting medium. Tall plants with bare stems will emit roots freely if a handful of sphagnum moss is placed tightly round under the leaves, and kept moist, and when roots have been freely made the top may be cut off and potted. Such kinds as A. Richardi and A. Scherzerianum are readily increased by divisions. The ornamental-leaved, including A. crystallinum, A. Veitchi, and A. Warocqueanum, with their large leaves, delight in a strong, moist heat, and a compost of turfy loam, peat, and sand, large pots, and good drainage.—Wm. Fyfe, Lockinge Gardeas.

FRUITS UNDER CLASS.

STRAWBERRIES.—The fruits should be thinned as early as possible after they are set, or as soon as can be seen which are swelling away. Six to eight fruits at this time are as many as the plants will bring to a high state of perfection. Supply the plants with some good liquid from the farmyard. A supply should be put in the house overnight, when it will be warm and fit for use in the morning. Syringe the plants well twice daily, and the house may be closed at 2 p.m. with sun heat. If the temperature rises to 75 deg. no harm will be done; but an average temperature of 60-65 should be maintained. To ensure a succession of ripe fruits, introduce batches about every ten days to follow up the earliest. Remove the loose soil from the surface, and see that the plants are free from slugs and worms. Top-dress and make firm, and wash the pots before putting them in the house.

EARLY VINES.—Attend to the tying down of the laterals, and exercise great care. The Black Hamburghs will soon be in bloom, and as soon as the flowers are thoroughly developed give the rods a sharp tap about midday, or agitate the air about the bunches with a fan in order that the pollen may be dispersed and fertilisation be effected. When several varieties are grown in the early house it is well to take a little of the pollen from the Black Harburgh and distribute it over the flowers of the shy setting varieties. Air must be given with caution, taking care not to admit east wind to the house at this stage, as much harm may soon be done. Maintain a temperature of 65 to 70 deg., with a rise of 5 deg. when the sun is shining brightly.

MUSCAT GRAPES may now be started into growth. These are best grown in a house that can be entirely devoted to them. If the border has been dealt with as recommended, the house may now be kept at a temperature ranging from 50 to 55 deg. Should the border be dry, give a thorough soaking of water at a temperature of 60 deg. I prefer inside borders for these grapes especially, as I have not found many roots travel outward, and one cannot be too careful in growing these, the most delicious grapes of all.

PEACHES AND NECTARINES.—The trees in the early house will now require disbudding, which should be done gradually, beginning at the top or uppermost branches. The operation should be extended over a week or more. Remove all laterals that point in an upward direction, and those that are under the branches. Leave to each shoot a growth as leader and one near the base, with as many as are necessary to fill up spaces. Thin the fruit moderately until it can be seen which are best placed and are swelling away, and then complete the thinning in a gradual manner. Fumigate immediately on the appearance of aphis. The temperature should now range from 60 to 65 deg. The trees in the second house will now be in bloom, and at midday the trellis should have a sharp tap to distribute the pollen and ensure a good "set." At this season I do not hesitate to spray the trees with a syringe and tepid water, and this I have always found to induce the young fruits to set freely. See that the borders are in a proper condition, and if at all dry give a good soaking. Trees in late houses should be kept cool and airy, as they will come along rapidly now, and what is wanted is to have them succeed each other in such manner as to avoid a gap.

FIGS.—These may now have an increase of temperature whether in pots or borders; about 55 degrees will suit them. See that the roots are well supplied with moisture, and syringe the wood twice daily, when the trees will make rapid progress. In planting figs do not give much border room, or growth will be so vigorous as to interfere with fruit production. The fig is best supplied with liquid nourishment, and a well-drained border is essential.—W. A. Cook, Leonardslee Gardens, Horsham.

THE KITCHEN GARDEN.

POTATOES.—Where cool frames are at command they may be made to serve a useful purpose at this season in safeguarding and forwarding early crops of potatoes on south borders to succeed those forced over hotbeds. Select nicely sprouted tubers, reducing any shoots down to the two or three strongest, and plant in quantity as likely to be required. The short-topped kidneys are very satisfactory for this form of planting. Sutton's May Queen, too, was a success with us last year. With these varieties, fifteen inches from row to row, and twelve inches apart in the row, will be sufficient room for the plants to develop. Also make a plantation in a sheltered border outside, where protection of some kind can be easily provided should spring frost make it necessary.

ONIONS.—Choose a fine day, and do not delay in sowing the main crop, if not already done. It is most essential that the ground should be in a dry condition. When preparing the seed bed apply a light dressing of soot and lime, and fork it in, afterwards treading and rolling the surface thoroughly to ensure its being firm and solid. The drills should be drawn out at one foot apart and about two inches deep. Sow the seed fairly thick to allow for a margin against loss of plants; moreover, the thinnings are mostly sought after for salad purposes. For general purposes, Bedfordshire Champion and James' Keeping are both very reliable.

AUTUMN-SOWN ONIONS.—These may also be planted out at once. Select a deeply dug and well-manured piece of ground, plant the onions with every care, and retain all roots possible. Fifteen inches from row to row will be necessary for these, and about twelve inches apart in the rows. If the soil is not fairly charged with moisture, give the plants a good watering to settle them after planting.

CARROTS.—Make a good sowing of the French Short Horn carrot in a light, warm soil and situation. This crop will be found very serviceable in yielding a supply of tender roots over a long period. Draw out the drills at about fifteen inches apart and two inches deep. Sow the seed rather thickly to provide plentiful daily thinnings when the young roots reach a usable size.

PEAS.—From now till midsummer make fortnightly sowings of peas. The distance from row to row may be decided by the height of the variety grown, always bearing in mind that no crop pays better for ample light, and thoroughly deeply stirred ground. Many prefer prepared trenches for sowings after May is in. There are so many excellent varieties to select from that it is of little advantage to recommend any one as being the best. For second sowings and onwards The Duke of Albany, and the different varieties of marrowfat peas give most satisfaction on the table. Harden off the plants that have been raised in pots under glass, with a view of planting them out as soon as the weather is genial enough.

GENERAL REMARKS.—Remove the stems of winter greens from the quarters as soon as the crop is used, as they are great robbers of the soil; and make every effort to manure and trench the ground before the frosts have gone. Should such a position be a suitable one for celery, the trenches are much easier and better made at this time than later, when the soil is less moist, and they afford most excellent sites for quick growing crops, such as lettuce and other salad plants. Make sowings of leeks, Brussels sprouts, cabbage, radishes, etc., outside as they are likely to be in demand. The kitchen garden from now onwards ought to present a neat and orderly appearance. When the heavy wheeling is completed, see that the pathe and edgings are put right, and if necessary, the gravel turned, or fresh added.—Charles Flack, Cholmondeley Castle Gardens.

NOTES OF OBSERVATION.

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Filberts and Cobnuts.—All young suckers should be carefully removed from around the stems, and the surface soil, so far as the roots extend, be pricked over lightly with a garden fork, removing at the same time any rubbish or weeds, and unless the trees are growing in very rich soil, a good mulching of manure spread evenly over the surface will be found beneficial. The nuts are produced on the upper portions of the young wood, also on short twigs and spurs. Pruning can therefore be carried out more successfully at the time when the crimson styles of the female flowers are most easily discerned, which is generally at the end of February and early in March, according to the season. When pruning it is essential that branches bearing plenty of catkins be left to ensure fertilisation. In many instances the bushes are allowed to grow in a natural manner, and where this is so some of the older branches should be cut out each season to prevent overcrowding.—G. W.

The Shortage of Greenstuff.—Those people who are dependent on the greengrocer for their vegetables have no need to be told that greenstuff is scarce just now, because they find it out by the price they have to pay for the commodity, and the difficulty they have in obtaining a regular supply. So scarce, indeed, is greenstuff that the greengrocer has to fall back on the farmer, and bargain with him for the green tops of the turnips growing in his fields. The other day we heard a farmer congratulating himself on having just sold ten acres of turnip tops as greens, and he still had the roots for his sheep. The reason of it! Well, last summer was not very favourable for the development of winter greens, owing to the drought, and on account of the mild, open weather in the autumn the plants never became properly hardened. It is true we have had no long spells of frost this winter, but the short, severe pinches have been too much for the tender sappy greenstuff, and the result is scarcity. Broccoli has wintered badly in most places, and there will be a big demand for spring cabbage when it begins to come in.—H.

Outdoor Vines.—These should have the lateral shoots pruned back to a couple of eyes, and the main leaders, if not required for extension, treated in the same manner. Reserve and nail in any of the young canes which are wanted to eventually replace any wornout branches; shorten the young canes back to well-ripened wood, training them to the old rod they are meant to replace, and remove the spurs from the old rod as far as the young one extends. Spray with a safe insecticide, examine the border, remove the loose surface soil, and top dress with some good loam, in which has been incorporated some wood ashes, and some finely broken up old mortar rubble, finishing off with a dressing of some good farm manure. Sometimes when vines are pruned late bleeding will take place, and to prevent this apply a little painter's knotting to each cut when pruning.—George Woodgate.

Daphne Blagyana is one of the daintiest and most reliable of dwarf shrubs which flower in the early days of spring. It scarcely, however, merits the title of shrub, as in practice the plant is only maintained in vigorous health by suppressing the branches level with the soil. Some growers effect this by means of stones, but I have found pegging the shoots is equally effective, and the best results follow if the stems are tongued or notched, and buried up to the foliage in the soil. It is often sent out as a grafted plant, which is unfortunate, as the species succeeds admirably upon its own roots. Daphne Blagyana grows freely in soil composed of peat and loam in equal parts, but it is unable to make headway in soil where lime is present, and I find it does well with a fair amount of shade. The flowers are produced in terminal clustered heads, and are of a soft cream colour, sweetly scented. —Thomas Smith.

Crocus banaticus.—A very distinct and handsome spring-flowering crocus is that named Crocus banaticus, the Banat crocus, although much more widely spread than its name would indicate. It is one which is more frequently quoted in catalogues than should be, seeing that some vendors do not possess the true species, but will substitute for it a purple variety of Crocus vernus. When the true plant is obtained, however, we possess a very handsome crocus indeed. It is of a warm purple colour, and each of the outer segments is prettily marked with a deeper shade of the same colour. The inner segments of the flower are lighter than the outer, and vary from nearly white to a pale purple, and are often striped or variegated with purple. The segments are comparatively short, and show the orange-yellow stigmata well above the flower. This handsome crocus is scarce in cultivation, but should not be so, as it occupies, in a wild state, a considerable area in Transylvania and the surrounding regions.—S. Arnott.

Garrya elliptica.—A fine specimen of Garrya elliptica, when seen in full flower during the early days of the year, may be counted one of the best garden pictures of the year, and because we have so few flowering shrubs at this season, it is well to keep this old favourite in remembrance when planting. It succeeds in the open in this district, but the richest display is produced by plants trained upon a wall, the catkin flowers, when fully open, form a cascade of creamy-white from top to bottom. The boughs are often employed as greenery to other flowers, and where large vases have to be filled a pretty effect may be obtained by mixing the Garrya shoots with the yellow sprays of Jasmine nudiflorum. When pruning is considered necessary with the garrya it should be performed as soon as the flowers begin to fade, so that a long growing season may follow, in which the shoots may attain maturity, and so flower freely the following spring.—Thomas Smith, Louth.

RED OR GRIZZLY GRAPES.

I would ask Mr. Pearson why, if Grizzly Frontignan grape is so valuable, it is not more grown? Can he give me a single instance of its inclusion in a vinery, and furnish name and address of grower? Surely Madresfield Court and Muscat of Alexandria are widely grown because they are worthy of attention in every way, and, if this is true, the opposite reason in relation to Grizzly Frontignan is a strong argument against its value. What an argument to advance in favour of grizzly grapes, to say that the employer usually prefers grapes that will make a show on the table! Surely few would advise a guest to try a grape if he knew it was no good in point of flavour.

Does Mr. Pearson wish us to believe that employers take so little interest in their fruit houses that they do not know of the existence of such a grape in their vineries? And would he also have us believe that the gardener's influence with his employer is of such small moment that he cannot persuade him to taste this much-belauded grape before placing it on the table for his guests? Really, the notion is much too absurd, and shows how little Mr. Pearson understands the relations of employers and gardeners.

I do not object to red or grizzly grapes because they might seem to be a "glaring proclamation of incompetence," but I object to them because they are worthless as compared to Madresfield Court or Muscat of Alexandria, and consider it waste of time to grow them, as apparently do most growers. If Mr. Pearson's head does not ache until either the Wisley experiments, or others, have made grizzly grapes to be preferred to Madresfield Court or Prince of Wales (leaving out that universal favourite Muscat of Alexandria), I guarantee him a long immunity from that distressing ailment. E. Molyneux.

Swanmore Park.

SWEET PEA JOTTINGS.

A week ago we were experiencing sharp frosts at night and bright sunshine by day. The thrush sang gaily, perched on the topmost branch of an ancient Catillac pear tree, and the ground trenched up for sweet peas was crumbling down beautifully. Spring was in the air, but now, March 3, the outlook is white, there is no brown earth to be seen, and the thrush has ceased to sing. It is winter again. But the snow will do no harm, nay, it will do much good, and if a good steady rain would come to wash it into the soil, that would further improve matters.

In suburban districts, or other places where it is no easy matter to obtain good brushy pea sticks, inquiries for these supports are generally left too late. There is usually someone who knows where to obtain good sticks, but the demand is so small and irregular that he does not lay in a stock. May I suggest that where there are little colonies of sweet pea lovers these should combine to secure the necessary sticks direct from the woodman, or through a dealer. It is a better method than that of leaving the matter late, and to chance.

Sweet peas are germinating magnificently this year; at least, that is my experience, and I have sown many varieties, from many firms, and from several countries. There is practically no difference in germination this year between Californian and English and German seed, and, if others have the same experience as I have, there will be little, if any, grumbling about faulty germination this season. It is wonderful how readily sweet pea seeds respond to genial warmth. In a temperature of about 50 degrees by night, rising perhaps 20 degrees by day during bright sunshine, germination is very rapid. In many cases the growing points of the young seedlings have come clear through the half-inch covering of soil in seven days from the time of sowing.

Where a moderate amount of heat is used to secure germination the chief difficulty is that of hardening off the young seedlings, and giving them cooler quarters before they become drawn and weak. If one has a frame heated by means of hot water the difficulty is easily overcome, because the heat can be readily adjusted, and ventilation provided so as to secure a sturdy growth and prevent a severe check.

The new catalogue of sweet pea names will soon be ready, and every new member of the National Sweet Pea Society will, as already announced, receive a copy free. Old members, who had a catalogue in the "Sweet Pea Annual" of 1908, and non-members, may purchase copies for 6d., post free. It is an interesting list, compiled by Miss Jessie Cuthbertson, and it is now no secret that this young lady is to receive a Gold Medal from the N.S.P.S. in recognition of her work on the catalogue.

The Woodbridge Horticultural Society has taken up sweet peas in a very whole-hearted way in recent years. Last year one whole tent was devoted to the popular annual. Mr. J. Andrews sends me a note to the effect that a new class has been provided for the show of July 14 next, and it is "for nine bunches of sweet peas, nine spikes to the bunch, correctly named, own foliage, any seed; space allowed, 3ft. 6in. by 3ft. The class is open only to amateurs and gardeners." The first prize is the 25-guinea Woodbridge Hunt Steeplechase Challenge Trophy, and a gold medal engraved with the holder's name, and date of winning. The trophy will, of course, only be held from year to year. The second prize is a handsome 400 day clock, and the other prizes are 10s. and 5s. respectively.

Chas. H. Curtis.

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EXHIBITIONS AND MEETINGS.

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Royal Horticultural Society.

SCIENTIFIC COMMITTEE, February 23. Present: Mr. E. A. Bowles, M.A., F.L.S., F.E.S. (in the chair), Sir J. T. D. Llewelyn, Dr. A. B. Rendle, Rev. W. Wilks, Messrs. J. L. Arkwright, J. W. Odell, W. Hales, R. H. Pearson, A. Worsley, E. M. Holmes, W. Fawcett, F. J. Baker, A. W. Sutton, R. A. Rolfe, G. S. Saunders, J. T. Bennett-Poë, W. Cuthbertson, G. Massee, and F. J. Chittenden (hon. secretary).

DISEASED PARSNIPS.—A report was received from Mr. Güssow concerning the parsnips with scabby spots shown at the last meeting, from Mr. Gregory, stating that they were attacked by the fungus Plasmopara nivea, which appears first on the leaves and attacks also carrots and parsley.

MALFORMATIONS IN ORCHIDS.—Mr. Gurney Wilson, F.L.S., sent the apical portion of a pseudo-bulb of Dendrobium nobile bearing a shoot from which roots had grown as in a vegetative shoot, and a flower, the lateral petals of which were coloured like the labellum. He also sent a dimerous flower of D. nobile, with the lip suppressed and the two lateral sepals coherent; a cypripedium from Sir Jeremiah Colman having two dorsal sepals was also shown.

MENDELISM IN ORCHIDS.—Mr. R. A. Rolfe showed flowers, the result of crossing Epidendrum evectum and E. xanthinum. The former of these is purplish in colour, the latter yellow. The first cross gives E. kewense, and flowers of this were shown. Seedlings had been raised from E. kewense after self-fertilisation, and of these, one which flowered earlier, was practically a reproduction of E. kewense, while of two others (flowers of which were shown) one showed partial reversion toward the purple E. evectum, the other toward the yellow E. xanthinum. He also showed the result of recrossing E. kewense with the original parent E. evectum, the resulting plant having a purple flower not quite so dark as the parent, and said that E. kewense re-crossed with E. xanthinum gave a yellow flower. Other plants of the crosses were yet to flower.

COLOUR CHANGES IN CARROTS.—Dr. C. B. Plowright sent the following note concerning the colour changes occurring in carrots, together with illustrative specimens: The portion of a carrot sent is interesting as showing the condition common last year, viz., the longitudinal splitting of the root from the crown downwards, exposing the medullary portion, which shows no tendency to cleave. The exposed portion shows a tendency to development of chlorophyl. On the edges of the cortical portion no chlorophyl is seen, but minute specks, tending to become confluent, of a red colouring matter (carotin ?) have been freely developed. The specimen sent is of an ordinary garden carrot; the fissuring of the outer portion is thought to be due to dryness at the time of growth. In the smaller specimen different colour changes have taken place. The exterior has freely developed a green tint mottled with patches of purple. They have been exposed on the surface of the ground all winter. The purple is quite superficial. It is interesting to note that this brilliant change has taken place in the least coloured variety; for these small ones are, as a section shows, of the pale variety grown for cattle, and popularly known as "stock carrots." Incipient colours are often shown in the exposed roots of other plants, for example, blue discoloration, as beet root stocks are frequently mottled with blue stains when they are pulled and left exposed to the light and air.

POTATO TUBER DISEASED. — Mr. G. Massee showed a potato tuber having a black patch (dry scab) about 2in. square, the result of an attack of the fungus Stemphylium (Phellomyces) atrovirens. This disease has been very prevalent in Scotland this season, and considerable damage has been done to the crop. The present example came from Oxford. The spores are known to remain alive in the soil, and be capable of infecting potatoes for several years. Diseased tubers should therefore not be used for "seed," nor should potatoes be grown on the same land as that on which the diseased crop was grown.

APPLE CONTAINING GERMINATING SEED.—Mr. F. J. Baker showed an apple containing germinating seed, and made some remarks upon the result of allowing seed to dry thoroughly before sowing. He considered that seed of many plants which had been allowed to remain as long as possible within the fruit gave better results than seed removed early and kept.

VARIATION IN PRIMULA SINENSIS.—Mr. A. W. Sutton showed a number of plants of Primula sinensis having leaves of a shape approaching those of ivy. He said that occasionally such plants were observed, but they had not until last year set any seed. Seeds had, however, been obtained from three plants last year, and this had given a considerable number of plants with leaves of the form of the parents, and with petals of a very similar form, the form of the latter being apparently correlated with that of the former.

CINERARIAS DYING.—Mr. W. J. James sent a plant of cineraria, one of about 150 which had died out of some 3,000. It was found that the base of the plant had been attacked by the bulb mite, Rhizoglyphus echinopus, in great numbers, and that these had caused the death of the plant.

MISCELLANEOUS.—Mr. Bowles, on behalf of Mr. Hudson, showed the inflorescence of Hæmanthus sp. A diseased plant of Lapageria rosea was referred to Mr. Massee, who kindly undertook to report upon it. Some vegetable material, called by the sender, "vegetable asbestos," was referred to Mr. Holmes. Numerous diseased plants were received and reported upon.

Croydon Gardeners' Association.

At the recent fortnightly meeting of this society, a lecture and demonstration on table decorations were given by Mr. R. Edwards, Beechey Lees Gardens, Sevenoaks, who has before read excellent papers on cultural matters before this society; therefore he received a very hearty welcome, especially as he has been most successful as an exhibitor of floral decorations. To illustrate his remarks, he furnished a table with floral embellishments, which at once struck one as being light and very attractive. It comprised a centre epergne with four corner pieces, and was built up in such a manner that the guests could see each other from all parts of the table.

One of the first things to consider, he remarked, was the harmony of colour one must provide, and, although he did not adhere absolutely to only one or two colours being used, whatever flowers might be brought into requisition they must be of shades in harmony with each other. Another point to be remembered was to let the decoration agree with the season. He said it was not necessary to mention any particular flowers to be used, as we have so many at our disposal all of which can be made effective.

From a dinner table he passed on to other types of decorations in the home, and showed how the intermixing of pot plants with cut flowers can be made to give good effects, especially where broad expanses have to be covered. A few useful hints were given for artificial aid in arranging flowers. A piece of wire netting pressed together and laid in a bowl of water will be a valuable aid to hold flowers erect. When Iceland or Shirley poppies are used it is, he said, a good plan to put the cut stems in boiling water or just burn the ends with a lighted candle or match.

Where flowers are required to be preserved for several days the water should be changed daily, and a little sugar may be added with beneficial results. Flowers for travelling are best when cut the previous evening, when dry, and the stems immersed in water.

The subject brought forth a good discussion by the members, and Mr. Edwards generously replied to all questions. A very hearty vote of thanks was conveyed to him, and a like tribute was given to Mr. M. E. Mills, Coombe House Gardens, for an exhibit of cones from different species of conifers.

Dumfriesshire and Galloway Horticultural Society.

The annual general meeting of the Dumfriesshire and Galloway Horticultural Society, which was founded in 1812, was held in the Town Hall, Dumfries, on the evening of February 20, Provost Nicholson, Maxwelltown, occupying the chair. The treasurer's report was submitted by Mr. R. G. Mann, and showed a credit balance of £5 18s. 8d., a reduction of about £17 from the previous year, the total income being £252 6s. 4d., and the expenditure £246 6s. 4d. The drawings at the gate amounted to £108 10s. 8d. The report was adopted, on the motion of Mr. F. W. Malloch.

Before proceeding to the election of directors the opinions of the members present were asked regarding the propriety of continuing the show, and while the consensus seemed in favour of again holding the show, different views were expressed by the members, some holding that the sports were necessary to draw the public, and others advocating other features combined with the flower show, which, they suggested, should be held in the Drill Hall. It was ultimately agreed to ask the directors to discuss the question, and to report to a future meeting. As Provost Nicholson wished to retire from the chairmanship, it was resolved to ask Provost Lennox, Dumfries, to become the chairman for the year, and Messrs. R. A. Grigor, J. W. Haining, James Henderson, F. W. Malloch, C. Murray, James M'Leod, J. M. Stewart, and Taylor, were appointed directors. Mr. Mann, "Courier and Herald" Office, Dumfries, was reappointed secretary and treasurer.

Oxford Gardeners' Association.

Mr. Frank Harris, the chairman of this newly constituted association, presided over a large attendance at the recent monthly meeting, when Mr. A. G. Nicholls, of Strathfieldsaye, gave an instructive lecture on the cultivation of potatoes. The lecture was illustrated by lantern slides, which had been kindly lent by Messrs. Sutton and Sons.

In his opening remarks, Mr. Nicholls said that an ideal soil for potatoes was a good friable loam, rather light in texture and free from stagnant moisture. Such soil would produce heavy crops of good quality, while least satisfactory were those which naturally wet, close, and heavy. The situation should be open, free from overhanging trees and shrubs, and where the sun reach it throughout the day. The ground should be well manured and trenched in the autumn months, leaving the surface rough a state as possible for the pulverising agency of frost to act on it. In trenching, if the subsoil was of poor quality, his advice was not to bring it to the surface, well manure and thoroughly break leaving it to remain at the bottom. For soils he recommended well decomposed yard manure, while for heavy soils, surpassed good rotten oak and beech free from sticks and decayed refuse, scrapings from roads where flints were used, old mortar refuse or the refuse from a potting bench. By the operation of trenching superfluous water would drain away in winter, a greater root run was provided, and the soil would be warmer in the spring and allow of moisture rising by capillary attraction in summer. If the growers had to depend on home supplies for seed purposes, let them select sound, good-shaped tubers from three to four ounces in weight from a crop lying on the ground when lifted, and not, as was often done, from those packed in a heap and not suitable for culinary purposes. They should place them thinly in boxes or on shelves in some frost-proof place till early in January, when they should be set, eyes uppermost, in trays or shallow boxes, before any growth appeared and exposed to as much light as possible, at the same time guarding them against frost. By so doing, strong dwarf, dark green shoots at planting time would be obtained. He strongly advised the purchase of Scotch or Irish seed. They should be procured early and placed on their ends as soon as received. As soon as the strongest shoots were discernible they should be reduced to the two strongest, while if they were for exhibition purposes one should be left. These shoots should be removed with the point of a knife. Mr. Nicholls recommended May Queen as a first early, with Ninetyfold and Puritan to follow, Sir John Llewelyn, Windsor Castle, and Up-to-Date. For exhibition purposes he recommended Satisfaction or Windsor Castle (W.R.), Reading Russet or Herd Laddie (C.R.), Mr. Bresee or King Edward VII. (C.K.), Superlative or Up-to-Date (W.K.).

Bristol Gardeners' Association.

The usual fortnightly meeting was held on Thursday, February 25, at St. John's Parish Rooms. Mr. A. O. Shelton presided over a good attendance. A very instructive lecture upon "Barren Soils" was given by Mr. Arnold, gardener to Earl Bathurst, Cirencester House. The lecturer dealt very exhaustively with all kinds of soils, giving minute particulars as to the best methods of successfully working the various kinds. In shallow soils, with a strong or brashy subsoil, the lecturer said great difficulty would be experienced in keeping the crops growing, and in order to keep it fertile, a good layer of fat manure should be placed at the bottom when trenching, and there should be lavish top-dressing. Deep soil with gravel subsoil, is generally devoid of potash and lime; stable manure and wood ashes was recommended in this case. Deep loam, with clay subsoil, requires careful drainage; trenching is of the utmost importance, then vegetables will flourish in it. For heavy soil, with sandy subsoil, deep cultivation is necessary. For heavy clay, thoroughly drain, burn the surface to a depth of twelve inches, and add sand, grit, builders' rubbish, and lime; avoid nitrogenous manures on clay, but use basic slag freely. Keep the hoe working on all soils in hot, dry weather. These were the chief points.

A good discussion followed, and the best thanks of the meeting was extended to Mr. Arnold at its close. For two primulas, Mr. Grieve, gardener to G. A. Wills, Esq., was first; Mr. Jennings second; there was strong competition.

Cardiff Gardeners' Association.

At the fortnightly meeting of the above society, held on the 16th ult., at the St. John's Schools, Mr. H. R. Farmer presiding, Mr. H. A. Gerhold, Penarth, delivered a lecture on the "Cultivation of Sweet Peas."

The lecturer, in his introduction, made reference to the discovery of these beautiful flowers in the Scilly Isles upwards of 200 years ago by a monk, who was an enthusiastic botanist. He then referred to the slow progress made by the popular flower until Mr. Henry Eckford did so much to improve it in the size and colour of the flowers. Mr. Gerhold explained the different characteristic forms of the flowers, and how cross-fertilisation should be effected to ensure success in raising new varieties. He spoke also on the preparation of soils, autumn v. spring sowing, and the application of fertilisers.

Mr. G. Wells opened the debate, and Mr. Julian proposed, and Mr. Malpass seconded a hearty vote of thanks to Mr. Gerhold for his practical and interesting paper, which was carried unanimously.

Beckenham Horticultural Society.

On Friday, the 26th ult., in the Beckenham, Public Hall, Mr. H. Vincent, of Brighton, author of "How to make £60 per annum from half-an-acre of land," lectured on "Up-to-Date Gardening for Amateurs." Councillor Neville presided. This lecture had been arranged specially for allotment-holders, and an audience of 150 had assembled, which, considering the unpropitious weather, was very gratifying. The neighbouring societies from Bickley, Croydon, and Dulwich were strongly represented.

Dual or intercropping seemed to be one of Mr. Vincent's chief points, so that the land is kept fully occupied. In one or two instances this was thought to be too intensive, and parsnips in rows a foot asunder with cabbages between caused some criticism, as also did the statement that all refuse, such as cabbage stumps, etc., should be dug in, the prevailing opinion being that encouragement of "club" and ground vermin would follow. To a question as to trenching, the lecturer said he had nothing to trench, having only a foot of soil resting on chalk, and artificial manures he did not look upon with favour. Potatoes are not treated in the orthodox way, but planted in November eight inches deep, and one is bound to say that Mr. Vincent evidently knows well how to store and start seed potatoes, for some specimens shown by him had short, sturdy sprouts on them, as thick as the top of one's little finger. Very early lifting is also practised. Mr. Vincent very strongly advocated giving the best of attention to all vegetables that are useful in winter, seakale being very profitable.

A hearty vote of thanks to Mr. Vincent was accorded, and the Rev. G. O. F. Griffiths proposed a like compliment to the chairman, who, by the way, gave some particulars of the Council's allotments, and also alluded to the culture of his own allotment, which he carried out himself to the benefit of his health and advantage of his table.

National Amateur Gardeners' Association.

MARCH 2.

At the monthly meeting held at Winchester House, on Tuesday evening last, Mr. T. W. Sanders presided over a good attendance of the members, when an address was given by Mr. George Gordon, V.M.H., on "Garden Dahlias." The lecturer's remarks were wholly confined to the use of dahlias for garden decoration, and the importance of differentiating the culture of dahlias for the production of colour effects in the garden, from the practice which should be adopted in the production of exhibition blooms.

A brisk discussion was followed by votes of thanks to the lecturer and the president.

Chester Paxton Society.

At the meeting held on Saturday, February 27, under the chairmanship of Mr. W. S. Sharpe, Ince Hall Gardens, Mr. Alfred Newstead, curator of the Grosvenor Museum, lectured on "Familiar Wild Birds in Relation to Gardens and Orchards." The lecture was illustrated by a series of specially-prepared lantern slides. Mr. Newstead, in his introductory remarks, referred to the special attention that has been given to birds during the past few years with reference to their economic importance to British agriculturists and horticulturists. In addition to a considerable number of personal observations and field notes, summarised post-mortem records were quoted from a paper on "The Food of Some Birds," by Professor R. Newstead, recently published by the Board of Agriculture, some of which may be tabulated as follows: The Titmice.—31 contained insects of the injurious group; 3, beneficial insects; 7, indifferent insects; 3, spiders; 10, wheat; 4, maize; 5, pear; 3, apple rind; 11, bud scales; 2, vegetable matter undetermined; 4, fungi. The Rook.—5 contained insects of the injurious group; 1, beneficial insects; 6, indifferent insects; 1, mollusc; 2, earthworm; 3, potato; 6, wheat and oats; 1, maize, 1, fragments of pear; 1, vegetable fibre. Barn Owl.—1 contained beneficial insects; 2, indifferent insects; 5, voles; 2, mice; 2, shrews; 1, bats; 3, birds.

B.G.A., Haslemere Branch.

Mr. Brooks, the chairman, presided over a good attendance of members of this branch of the British Gardeners' Association at the meeting held in the Co-operative Hall, Haslemere, on the evening of the 20th inst., when Mr. George Gordon, V.M.H., lectured on "Gardens of Roses."

In his opening remarks, Mr. Gordon spoke of the importance of giving roses a position in the garden where they would have full exposure to the beneficent influence of light, and enjoy a free circulation of air about them. He also directed attention to the necessity for liberally enriching the soil and stirring it to a depth of two or more feet; and the importance of maintaining it in a high state of fertility. The desirability of cultivators differentiating between garden and exhibition roses, and of selecting varieties specially adapted to the respective purposes was referred to, and it was pointed out that while varieties remarkable for the relatively large size, perfect form, and attractive colouring of their flowers should be selected for the production of blooms for competitive purposes, varieties that have a vigorous habit, and are free and continuous in flowering should be selected when the object in planting is beautifying the garden.

Then, with the aid of about sixty lantern slides, Mr. Gordon proceeded to describe the various ways in which roses can be utilised in gardens, and pointed out the best methods of procedure to ensure the most satisfactory results.

At the close of the lecture Mr. Gordon was accorded a hearty vote of thanks, and this was followed by a discussion on the work of the British Gardeners' Association, in which the Chairman, the Hon. Secretary, and several of the members took part.

SOME
FAMOUS GARDENS
IN AND ABOUT
BIRMINGHAM.

EDGBASTON BOTANICAL GARDENS.
WHETSTONE.
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Royal Society for the Protection of Birds.

An exceptionally interesting and largely-attended annual meeting of the Royal Society for the Protection of Birds was held recently at the Westminster Palace Hotel, when, in addition to the adoption of the report and election of officers, the proceedings included the presentation of the society's gold medal to Mr. A. Holte Macpherson, F.Z.S., as winner in the society's international competition for an essay on "Comparative Legislation on Bird Protection." The second prize, of ten guineas, went to Colonel A. G. Momber (San Remo).

The Duchess of Portland presided at the meeting, and in speaking of her warm sympathy with the society, of which she is president, said she longed for the day when all ladies would leave to the birds their beautiful plumage instead of wearing dead bodies with glass eyes for the supposed adornment of their hats. Sir John Cockburn also eloquently denounced the wearing of plumage. Mr. F. E. Lemon (hon. secretary) made special reference to the story recently circulated by the trade that "osprey" plumes are moulted feathers, and to the complete answer to this contained in information received by the society from H.B.M. Consuls in Venezuela and the Argentine, and from the United States; he also drew attention to the fact that three of the watchers employed by the Audubon Societies had recently been murdered at their posts, two of them in Florida, where they are specially employed in protecting the remaining egrets.

The valuable work done by the watchers of the society in the preservation of rare British birds, and the zeal of its inspector among the birdcatchers, were spoken to by Mr. Trevor-Battye, who strongly appealed to landowners for further support to the Watchers' Fund; and Mr. Montagu Sharpe (chairman of council) said that he would not rest satisfied until he saw the society with five times its present income (which is under £1,000), in order that it might have the power to carry out its objects, and with at least one inspector in every county. Sir William Anson referred to the excellent educational effect of the Bird and Tree Challenge Shield competitions in elementary schools, of which he has knowledge in his own county. Other speakers included Julia Lady Tweedale, the Earl of Stamford, Captain Tailby, Mr. Meade-Waldo, and Mr. Champion B. Russell; and among those also present were Lady Forester, the Hon. Mrs. Arthur Henniker, the Hon. Mrs. Boyle, Mr. Dresser, Dr. Penrose, Mrs. Sturge, Mr. W. L. Fisher, and Mr. Ernest Bell.

TRADE NOTES.

A great deal of interest was created last year by the offer from Messrs. Rogers and Co., Leamington, of £100 as a first prize for the best Leamington Giant onion raised from seed supplied by them. There was an extraordinary competition, and Mr. A. R. Searle, of Castle Ashby Gardens, was the fortunate winner of the prize. This season the Messrs. Rogers are offering £200 in prizes for fine examples of their onion, and full particulars can be obtained from them. Messrs. Rogers and Co., have recently issued an eight-page pamphlet, entitled "Onions and their Culture," in which Mr. A. R. Searle describes the method of culture he follows at Castle Ashby, and which enabled him to win the great prize in 1908. This pamphlet can be obtained for 3d.

FORTHCOMING ENGAGEMENTS.

SATURDAY, March 6.—French Horticultural Society of London.

MONDAY, March 8.—United Horticultural Benefit and Provident Society at Royal Horticultural Hall, Westminster: Chair to be taken at 8 o'clock by Mr. C. H. Curtis.

TUESDAY, March 9.—Royal Horticultural Society: Fruit, Floral, and Narcissus Committees meet at 12 o'clock; Lecture by Mr. W. S. Murray on Tulips and the Tulip Mania, at 3 p.m.; Scientific Committee at 4 p.m. Competitive Show of Forced Bulbs.

WEDNESDAY, March 10.—Royal Botanic Society; Fellows' Dinner.

ANSWERS TO CORRESPONDENTS.

SIZE OF CROQUET LAWN. — Captain Mander, of The Red House, Ely, kindly writes to say that our advice to "A. P. M., Chichester," (p. 178), respecting the size of a croquet lawn is incorrect. He states that the rules of croquet are now governed by the Croquet Association, whose office is at 47, Fleet Street. The lawn should be 35 yards by 28 yards, instead of 40 yards by 30 yards, and the hoops and pegs should be seven yards from each other each way and seven yards from the boundary. If a smaller ground is used keep the hoops, etc., still in equal proportions. Our diagram and measurements were taken, if we remember rightly, some years ago, from the rules of the All England Croquet Club regulations, and though we have published them on several occasions, they have never previously been called into question. We are obliged to Captain Mander for his correction, but we wonder what our friend, the Rev. J. H. Pemberton has been doing to let us make this mistake without question? We thought he was as keen on croquet as he is after new roses!

WEEDS IN LAWN.—J. H. M., Ely.—If the lawn is as weedy as would appear from your letter, we doubt whether it can be brought into proper condition by any means short of the removal of the turf and laying down good lawn grass seed. However, lawn sand will work wonders if used strictly in accordance with the directions sent with it. The brands vary somewhat, therefore, it will be the best plan for you to write to the several firms who advertise lawn sand in our columns, or who specialise in everything connected with lawns, asking for the price of the material and the amount necessary for your own lawn, giving them the correct dimensions.

BOOKS ON HYBRIDISATION OF PLANTS.—F. E. T., Hereford: An exceedingly interesting book that deals with hybridisation in a very clear and yet popular way, is "Cultivated Plants: Their Propagation and Improvement." It was written by the late Mr. F. W. Burbidge, and published in 1877 by W. Blackwood and Sons. If we remember rightly, the price was 12s. 6d., but the work is probably not obtainable now, except from secondhand dealers, though it is kept in many public libraries. "Plant Breeding," by Professor L. H. Bailey (Macmillan and Co.; 5s.), is a useful work on the subject. The most up-to-date and scientific treatises on the subject of hybridity are to be found in "The Report of the First International Conference on Genetics," 1899; and "The Report of the Third International Conference on Genetics," 1906; both of which may be obtained from the Royal Horticultural Society, Vincent Square, Westminster, S.W., for 5s. each. The "Report of the Second International Conference on Plant Breeding and Hybridisation" is an American publication, as the second conference was held in New York; it is to be obtained from Mr. L. Barron, 136, Liberty Street, New York, U.S.A.

BAIT FOR MOLES.—In our issue of February 20 we asked for information relative to the use of any kind of bait for mole traps. Mr. E. Rowbottom, of The Court Gardens, West Wickham, Beckenham, very kindly sends us the following note on this subject: Mole catchers, like charcoal burners and gamekeepers, are noted for keeping their special knowledge to themselves, and one has to be on very friendly terms with them to discover their secrets. I once heard a mole catcher tell a friend that for baiting mole traps he used worm oil. He caught a lot of worms, and placed them in a tin can or glazed jar, without any earth or other material, and left them thus for several days. He then extracted the oil from them, and put it in a small bottle, corking it tightly. When setting traps for moles he, with a small brush, placed some of this worm oil upon the trigger. This was his story, and I suggest that your Kidderminster correspondent puts the recipe to the test. I may also add that the thickly-spined branches of whitethorn or blackthorn, pushed into mole runs, will effectually prevent trouble in the same direction, but it might only cause the trouble to arise in another place.

DESTRUCTION OF VERMIN. — Most gardens are pestered with Rats and Mice. Every effort should be made at this time of the year to exterminate them before seeds are sown. Danysz Virus is first rate stuff for killing these vermin. Single tube, 2s.; three tubes, 5s. Post free from DANYSZ VIRUS LTD., 52, Leadenhall Street, Garden Dept., London, E.C. [Advt.]

COST OF PERGOLA WALK.—G. W., Scarborough: The particulars given are so scanty that we cannot arrive at the cost of construction. You do not give the width of the path, nor the distance to which the excavated material would have to be removed. Further, would the brick rubble have to be purchased as well as the gravel, or are these obtainable on the estate? You ought to be able to remove the soil one foot deep at the rate of from 3d. to 6d. per cubic yard. Brick rubble and clinkers may possibly be had for the cost of carting. In a general way, bearing in mind the different costs of labour and material in different districts, the cost of a good gravel path would be about 4s. per square yard.

EXAMINATION PAPER. — A. R. W., Hastings: We cannot say whether the examination paper set for the recent examination in horticulture by the Royal Horticultural Society is yet obtainable, but you could ascertain by enquiring of the Secretary, Royal Horticultural Society, Vincent Square, Westminster, London, S.W., enclosing a stamped addressed envelope for reply.

MAGGOTS IN SOIL.—H. M., Stourbridge: The "maggots" are the grubs of a species of Otiorhynchus. There are two species very much alike, i.e., the Clay-coloured Weevil and the Vine Weevil, and both are very destructive in the beetle or weevil state, while in the larva state they also do damage to roots, and when in flower pots, will quickly account for the plants therein. Ferns and cyclamens they seem to be particularly fond of. It is probable the grubs were imported in the leaf-soil, and we suggest, therefore all the leaf-mould used should be subjected to great heat to sterilise it before use in potting compost. When plants are attacked they should have the soil shaken away and the roots washed, and be repotted in light, sterilised soil, or the pots may be submerged in tepid water for a day to kill the grubs.

CROWS IN A GARDEN.—C. F. A., Kidderminster: We take it that you refer to rooks rather than to crows, as the latter do very little harm in a garden, and are more likely to do good, as they are more carnivorous than herbivorous. Rooks detest gunfire, and there is no need to shoot many to frighten the rest away, especially if a gun is fired now and again during seed-sowing time. Scarecrows are of little value, but feathers or glass, or small bells, set on wire or string, and so arranged that very little motion will put them in action, will usually disconcert birds, and one may often tide over a critical period by means of them, ere the birds discover the trick played upon them. A boy with a clapper, starting directly after daylight, and keeping about until "the rooks go home," is the only other suggestion we can offer.

NAMES OF PLANTS.

P. A., Beckenham.—Chorozema L[illegible]

B. T., Swindon.—Chimonanthus fragrans.

E. G., Colchester.—1, Carex brunnea; 2, Polygala Dalmaisiana; 3, Acacia long[illegible]

S. A. S., Tenterden.—1, Gasteria verrucosa; 2, Quercus Ilex; 3, Odontoglossum gloriosum.

N. S. E., Derby.—1, Veltheimia viridifolia; 2, Jasminum nudiflorum; 3, Cypripedium Euryades; 4, Dendrobium heterocarpum.

O. T. B., Bedford.—1, Opuntia [illegible] dasys; 2, Acacia lophantha; 3, Ce[illegible]ciata; 4, Peristrophe speciosa; 5, B[illegible] brasiliense; 6, Clivia miniata.

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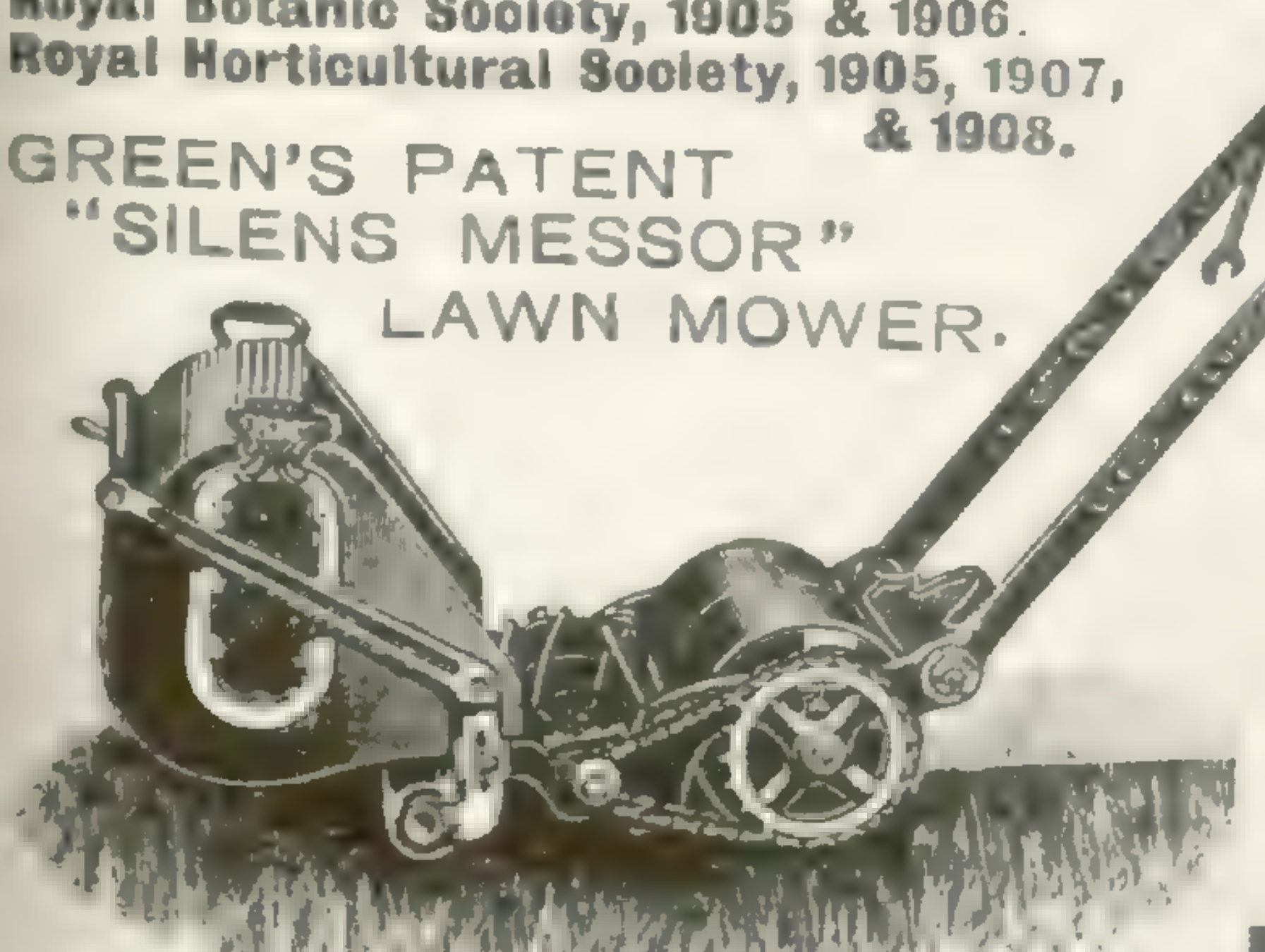

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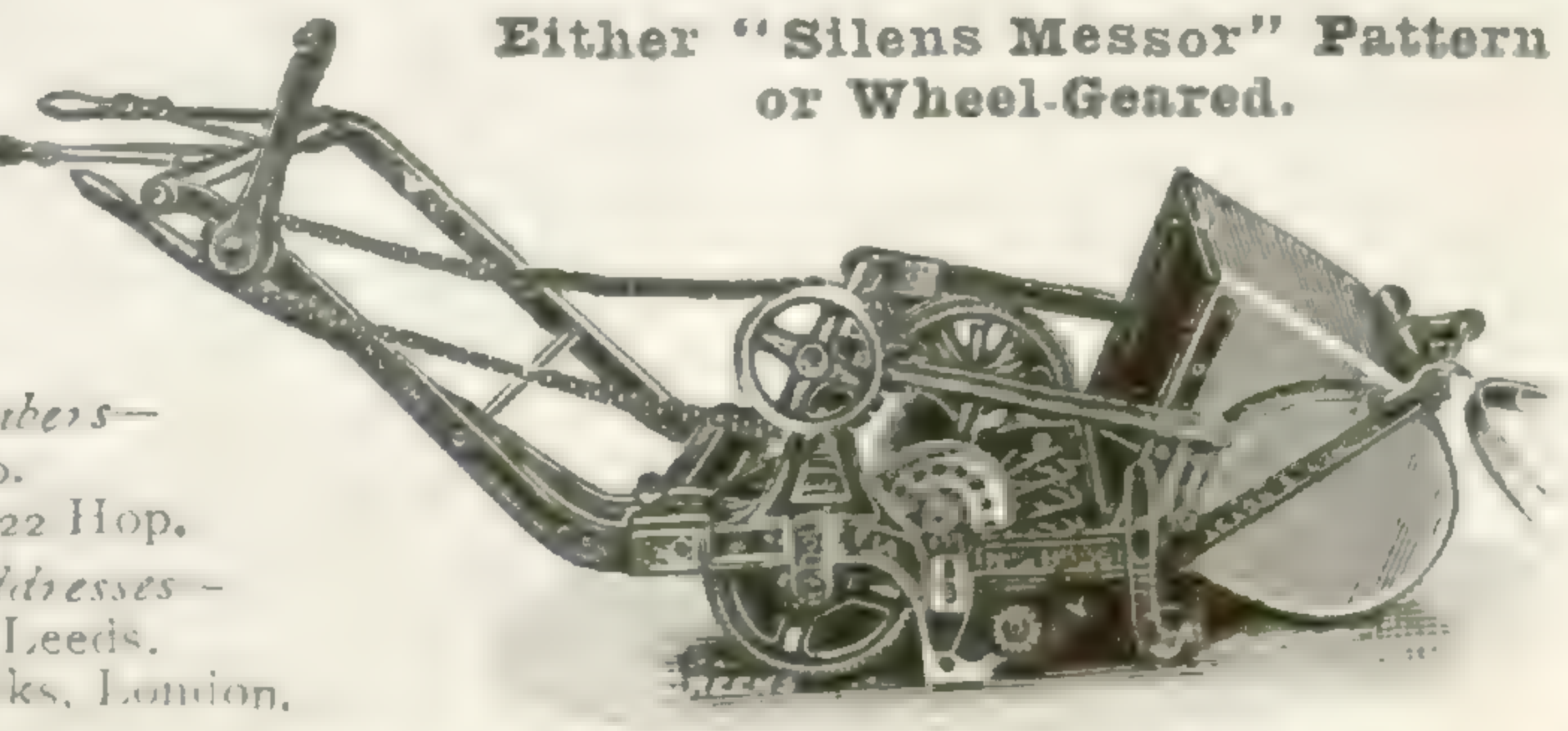

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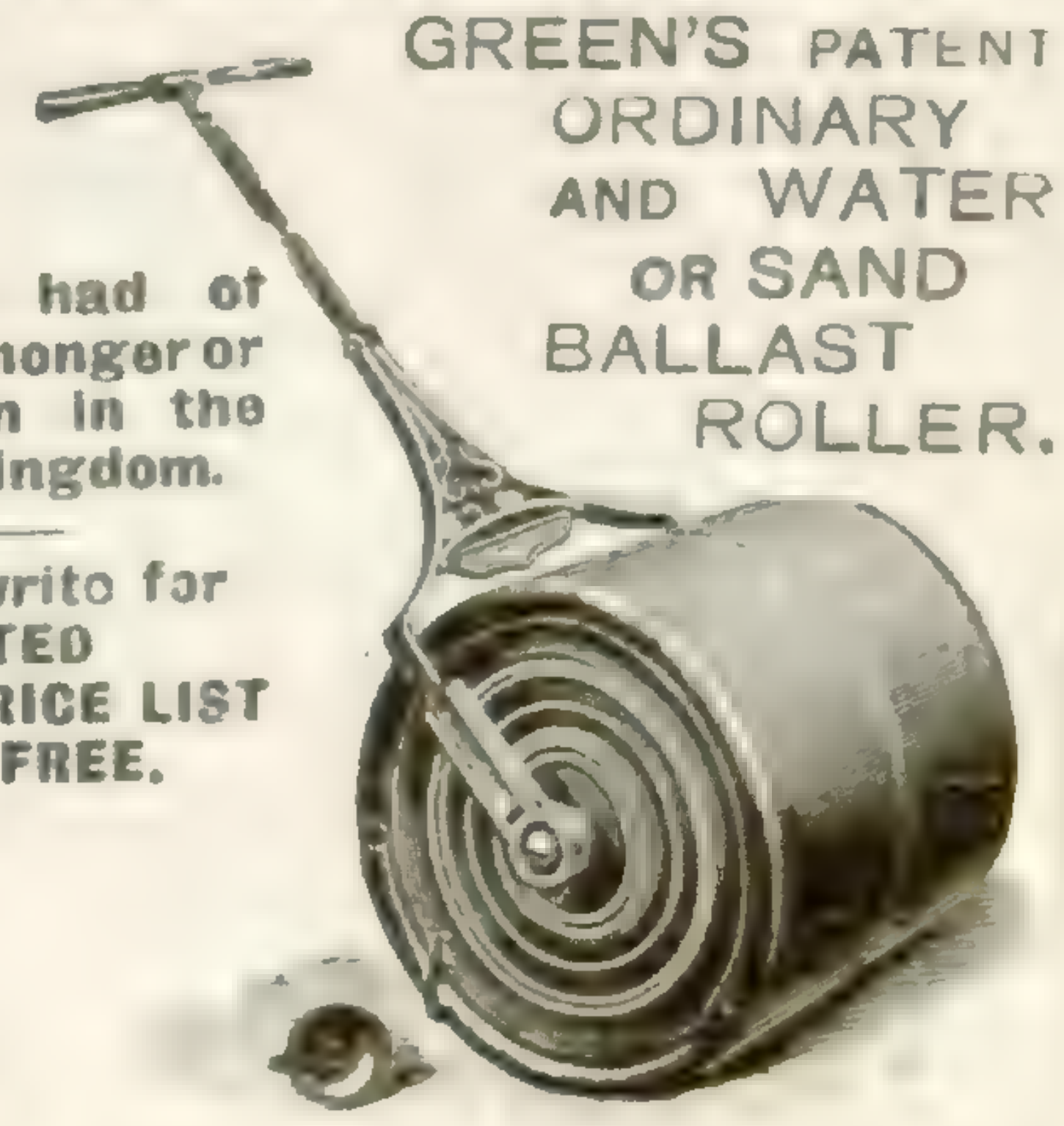

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Asparagus	per doz. bun.	1 6		6 0
Azaleas	per doz. bun.	4 0		5 0
Bouvardias	per doz. bun.	6 0		8 0
Camelliae	per doz.	1 6		2 6
Carnations	per doz. blms.	2 0		3 6
,,	per doz. bun.	9 0		12 0
Cattleyas	per doz.	10 0		15 0
Chrysanthemums	per doz. bun.	10 0		20 0
,,	per doz. blms.	2 0		4 0
Croton leaves	per bun.	1 0		1 6
Cypripediums	per doz. blms.	1 6		3 0
Daffodils	per doz. bun.	3 0		6 0
Dendrobiums	per doz.	2 0		3 0
Eucharis	per doz.	2 6		3 6
French fern	per doz. bun.	1 0		3 0
Freesias	per doz. bun.	2 6		3 0
Gardenias	per doz.	3 0		5 0
Hyacinths, Roman	per doz. bun.	7 6		12 0
Lapagerias	per doz.	1 6		2 0
Lilac, white	per bun.	3 0		5 0
,, mauve	per bun.	4 0		5 0
Lilium auratum	per bun.	2 0		3 0
,, speciosum	per bun.	2 0		3 0
,, longiflorum	per bun.	4 0		5 0
Lily of the Valley	per doz.	7 0		12 0
Marguerites, white	per doz. bun.	2 0		3 0
,, yellow	per doz. bun.	2 0		3 0
Mignonette	per doz. bun.	2 0		3 0
Narcissus, Paper White	per doz. bun.	2 0		3 0

Fruits.

Business is more brisk, and fair supplies are offered. Apples are a little dearer.

		s. d.		s. d.
Apples, American	per barrel	13 0	to	26 0
,, English	per bush.	7 0		10 0
,, Nova Scotian	per barrel	17 0		26 0
,, Californian	per case	8 0		10 0
,, French Russets	per case	9 0		10 6
Apricots, Cape	per case	6 0		10 0
Bananas	per bun.	4 0		10 6
Chestnuts	per bag	7 0		16 0
Cranberries	per case	8 0		12 0
Figs	per box	0 10		1 6
Grapes, English	per lb.	1 0		4 0
,, Almeria	per bar.	12 6		20 0
,, Guernsey	per lb.	0 10		1 2
Lemons	per case	7 0		15 0
Medlars	per case	4 0		5 6
Oranges, Jamaica	per case	6 0		10 0
,, Denia	per case	10 0		28 0
,, Jaffa	per case	8 0		10 6
,, California	per case	12 0		15 0
,, Tangerines	per box	0 8		1 6
Peaches, Cape	per case	5 0		10 0
Pears, Californian	per case	8 0		11 0
,, Catillac	per crate	8 0		9 0
Pineapples	each	2 0		6 0
Plums, Cape	per case	3 0		10 0

METEOROLOGICAL OBSERVATIONS.

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Height above Sea-level, 150 feet.

Date. 1909. February 21 to February 27.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Feb. 21—Sunday	9 30	37	35	52	33
,, 22—Monday	5 6	25	25	46	21
,, 23—Tuesday	5 48	23	23	48	17
,, 24—Wednesday	4 6	30	30	38	23
,, 25—Thursday	—	34	34	35	25
,, 26—Friday	—	32	32	35	30
,, 27—Saturday	—	31	30	34	29
Means	3 30	30	29	41	25

Date. 1909. February 21 to February 27.	Rain.	Temperature of the Soil. At 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
Feb. 21—Sunday	—	35	38	40	25
,, 22—Monday	—	35	38	40	16
,, 23—Tuesday	—	35	37	40	14
,, 24—Wednesday	—	34	37	40	21
,, 25—Thursday	—	34	37	40	19
,, 26—Friday	0·02	34	37	40	29
,, 27—Saturday	0·02	34	37	40	26
Means	(total) 0·04	34	37	40	21

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MESSENGER AND CO., LIM., LOUGHBOROUGH, and 122, VICTORIA STREET, S.W.—This catalogue comes to hand at a season when blinds for greenhouses have to be seriously considered, and also when the kind of garden seat to be used in the summer must be discussed. The catalogue, with its illustrations of garden seats and wood-lath blinds, will prove very helpful.

ANT. ROOZEN AND SON, OVERVEEN, HOLLAND.—As usual, this firm is sending out a very comprehensive catalogue of choice bulbs, etc., for spring planting, together with a seed list. The British agents are Messrs. Mertens and Co., Cross Lane, St. Mary-at-Hill, E.C.

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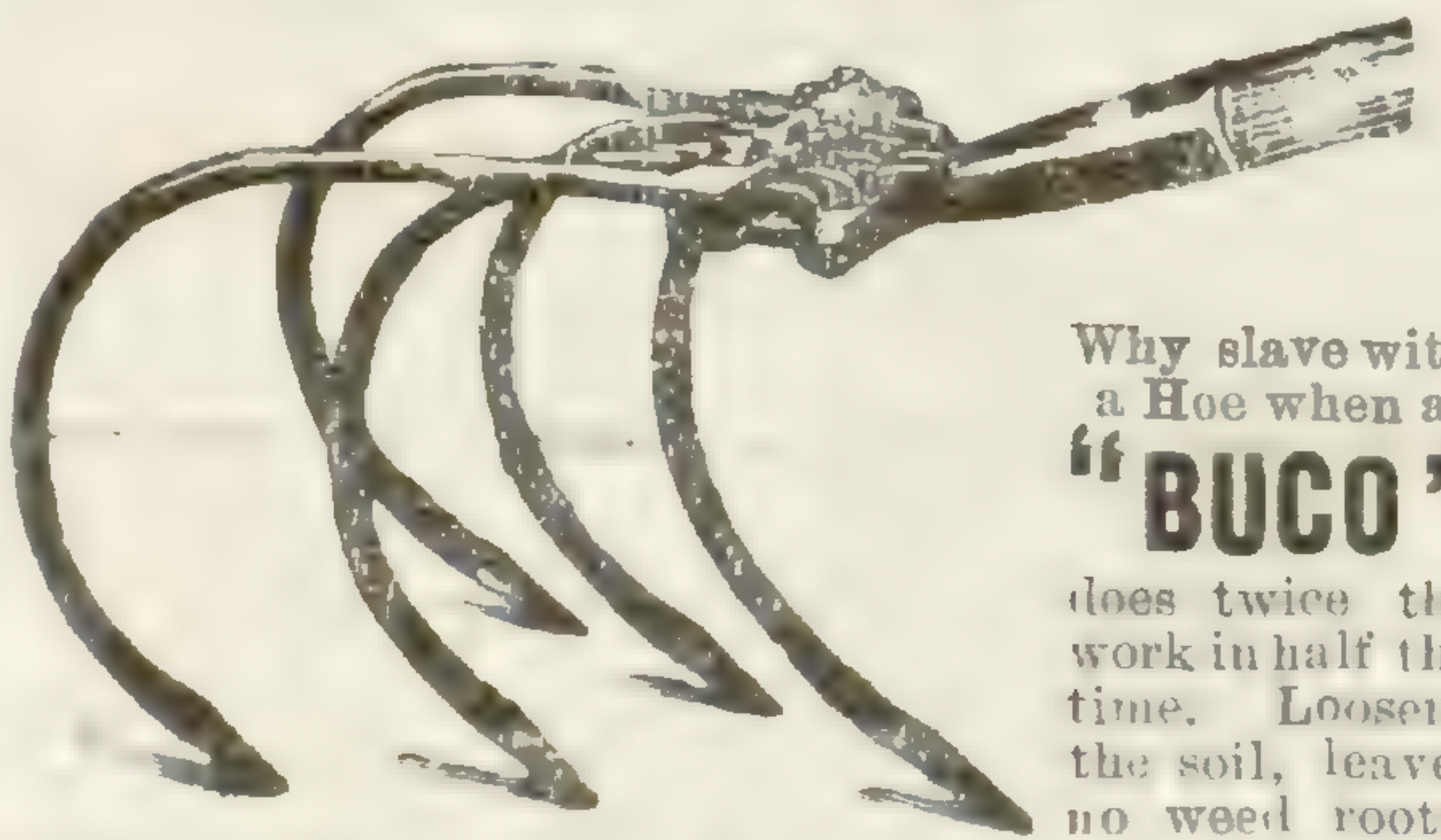

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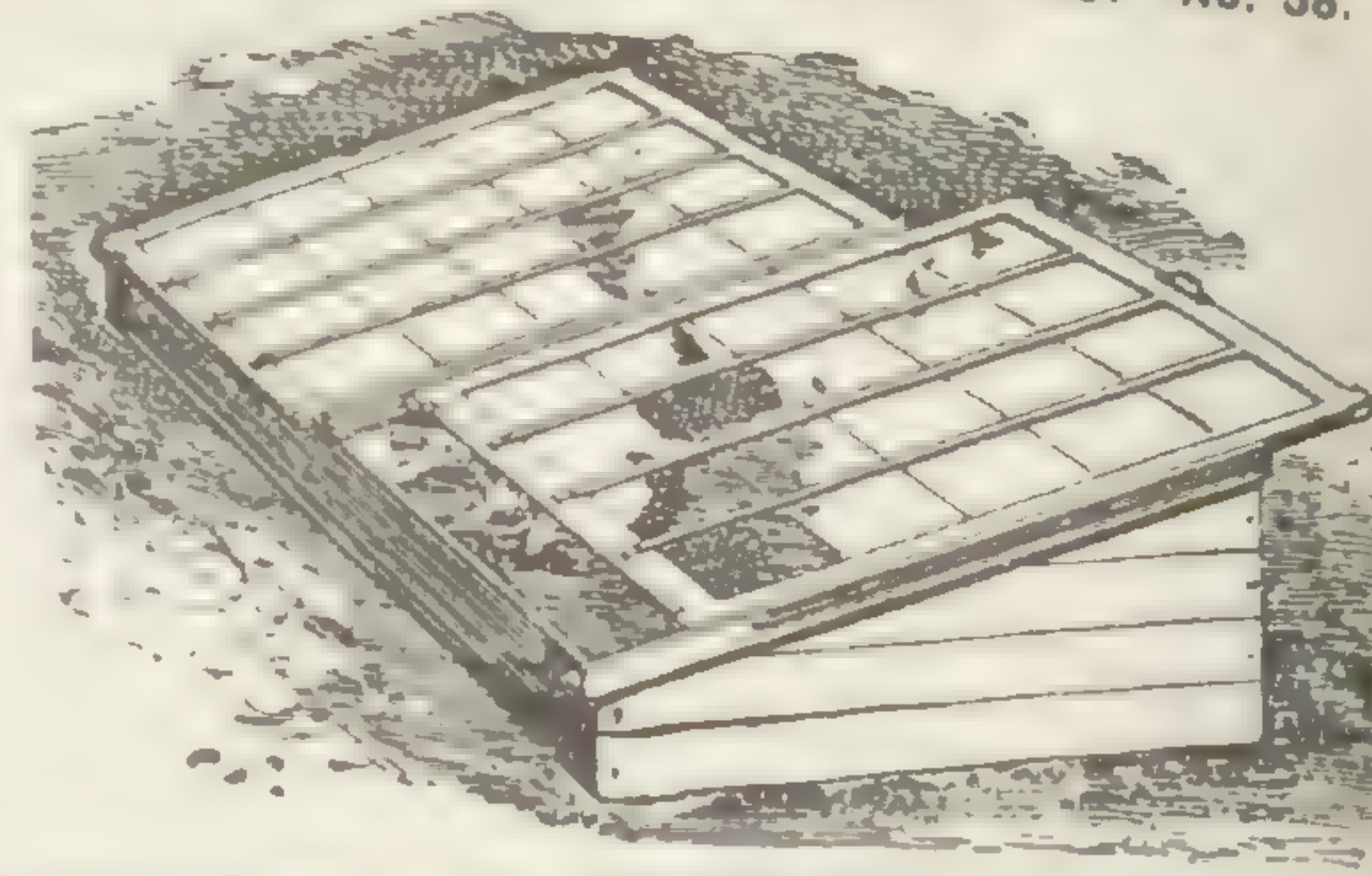

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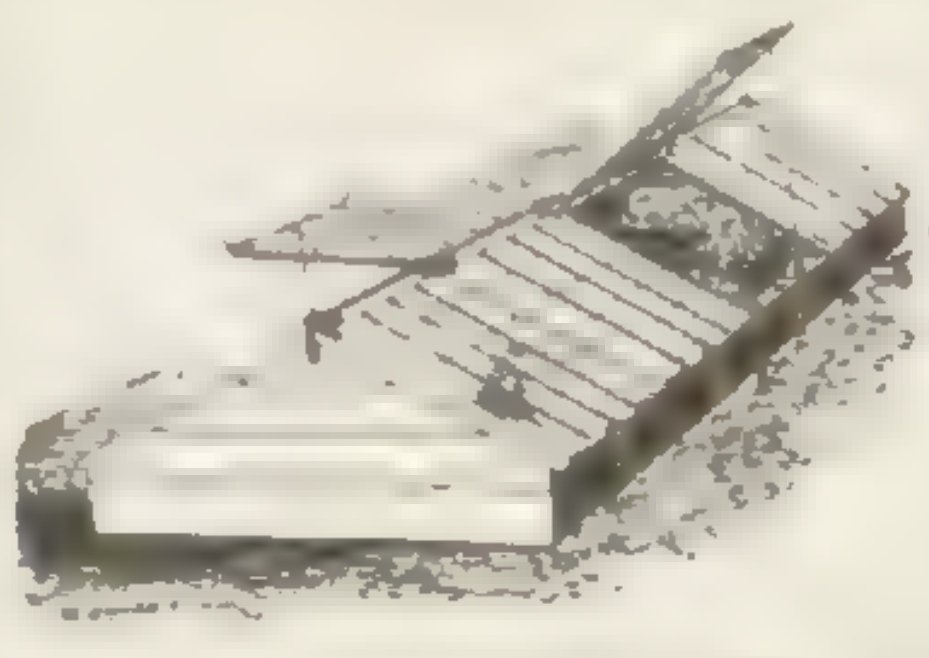

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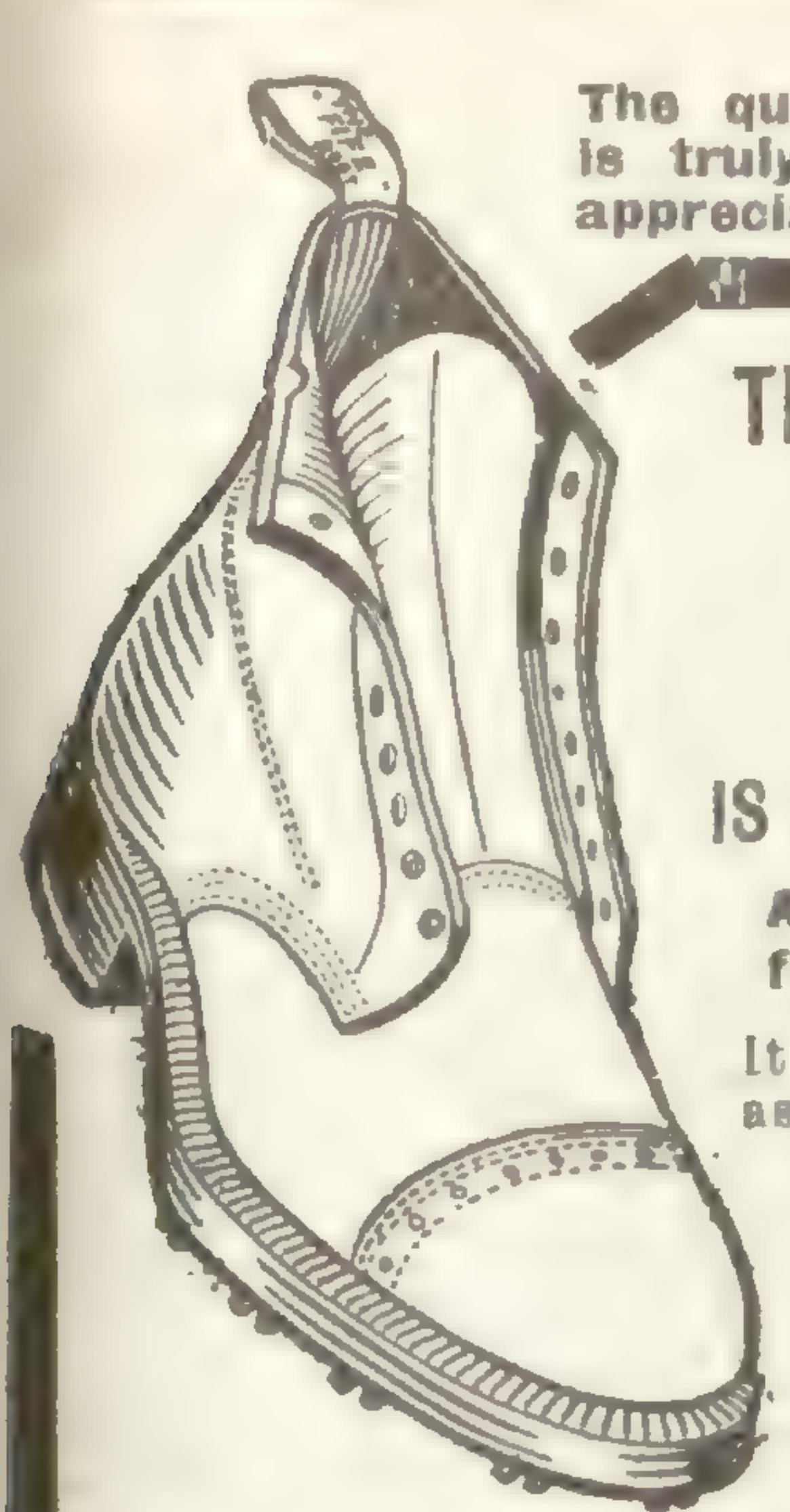

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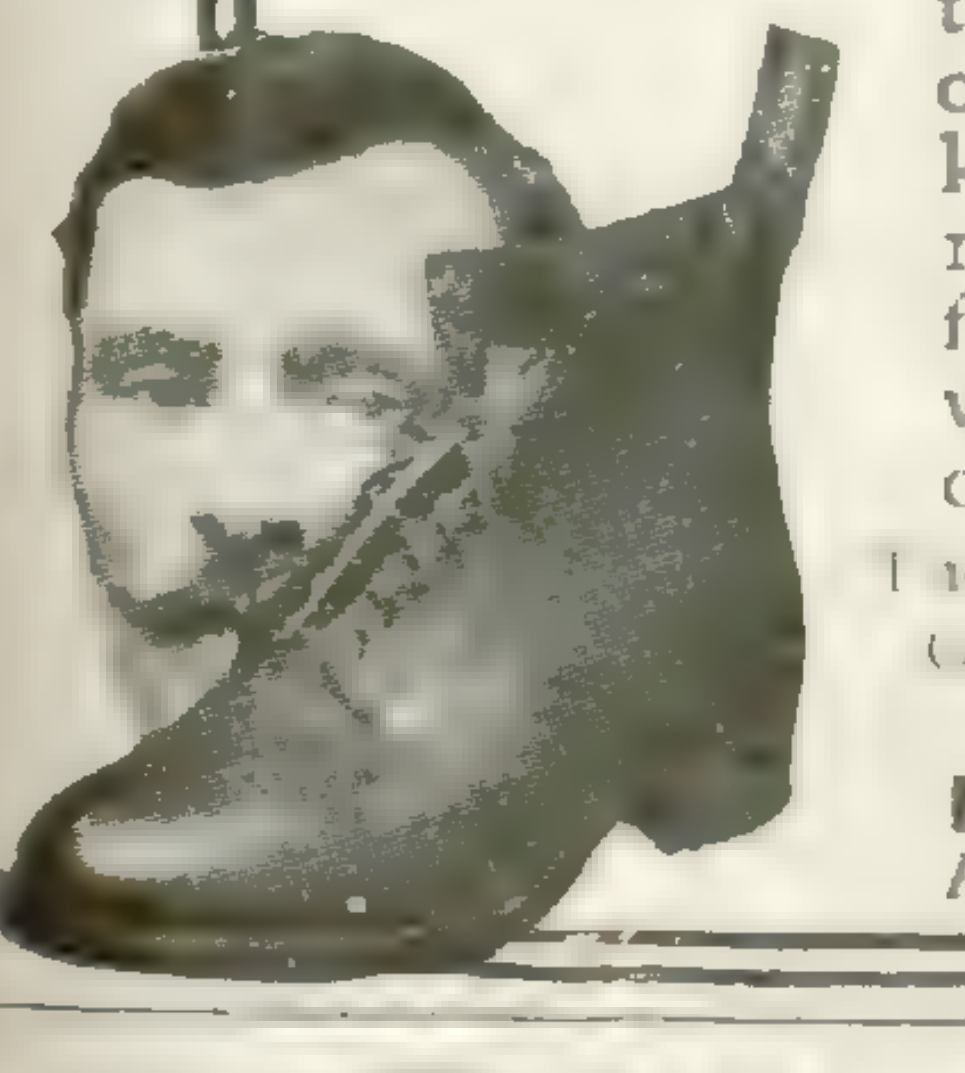

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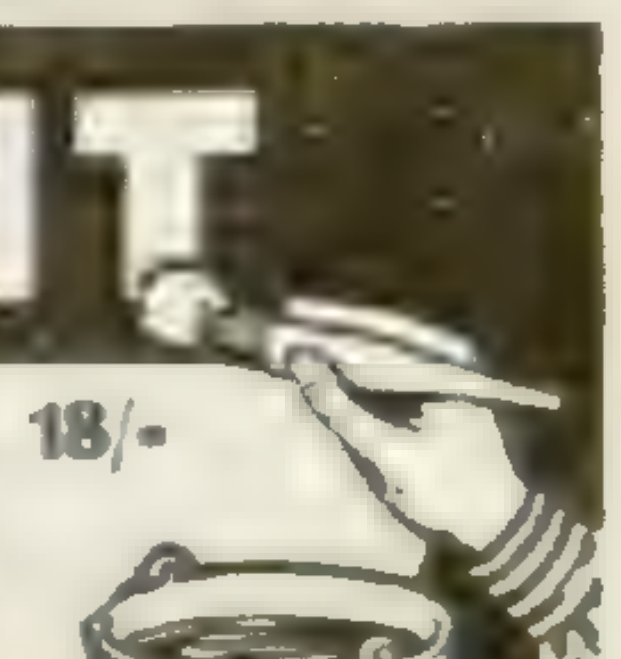

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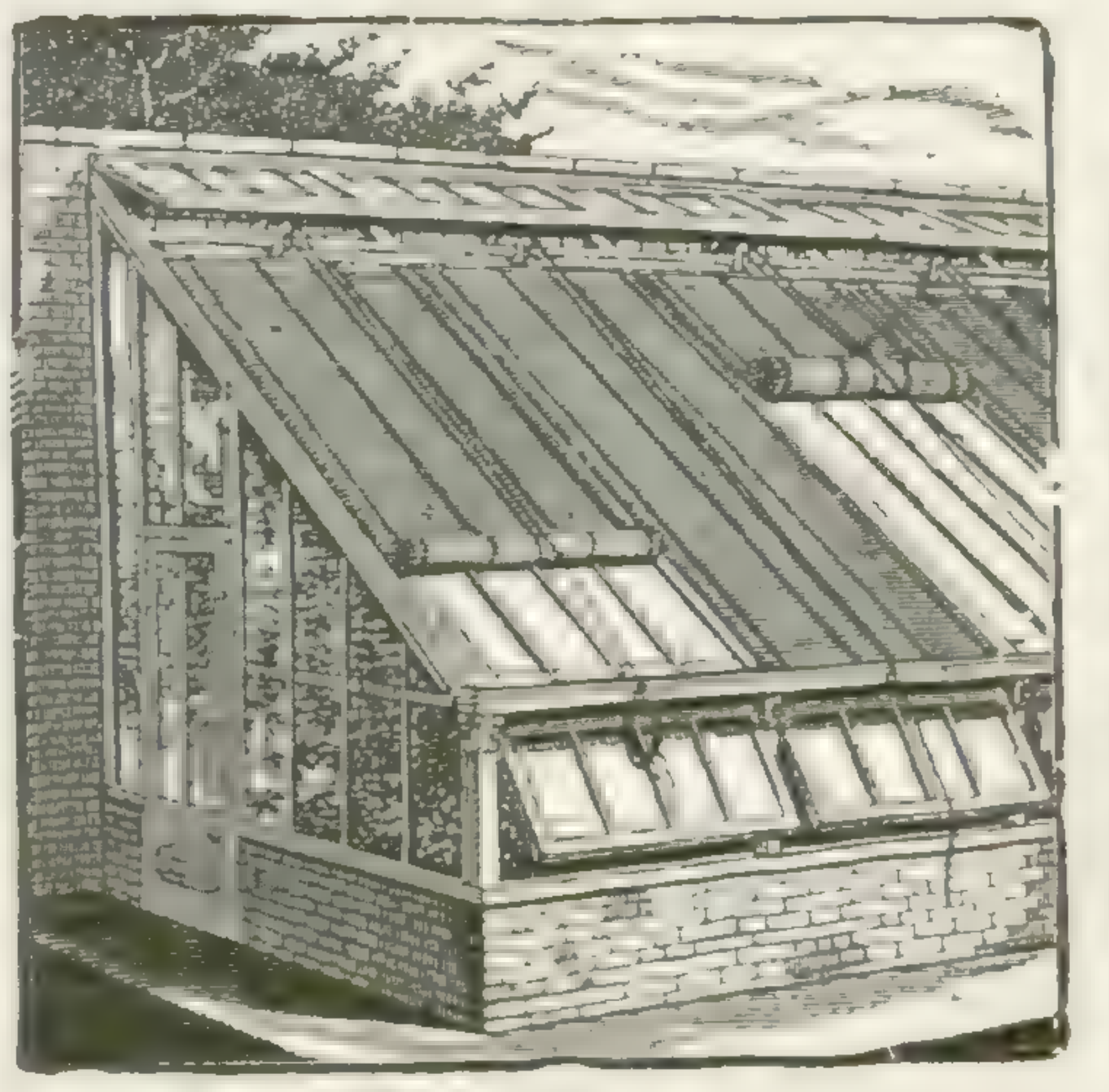

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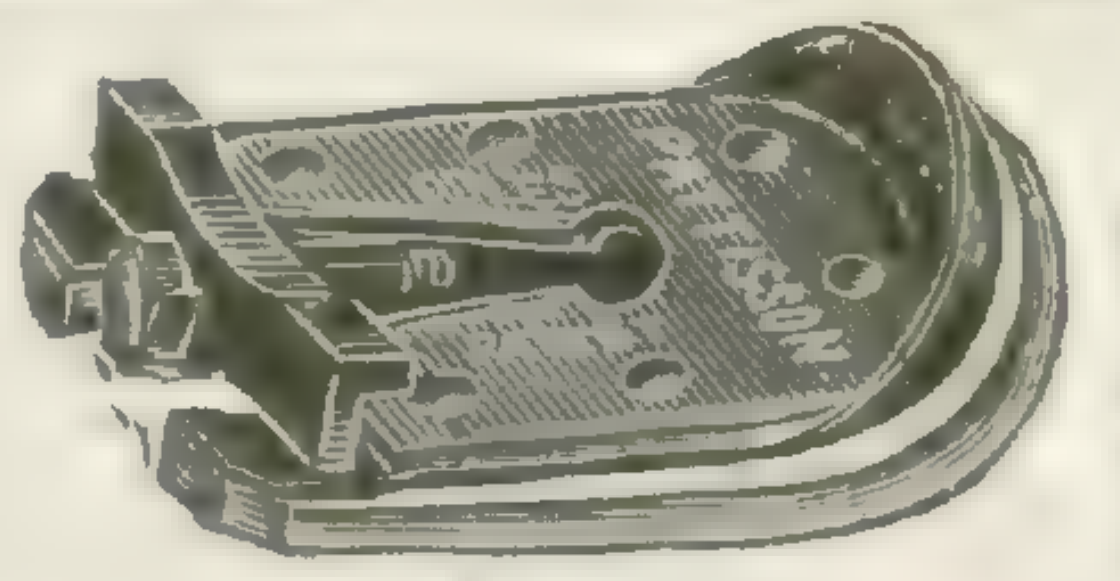

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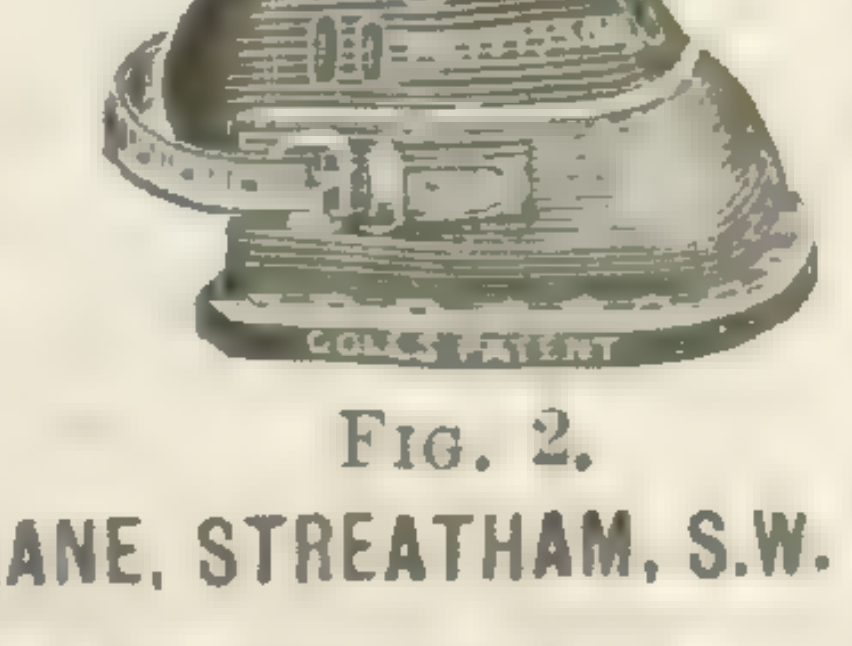

FIG. 2.

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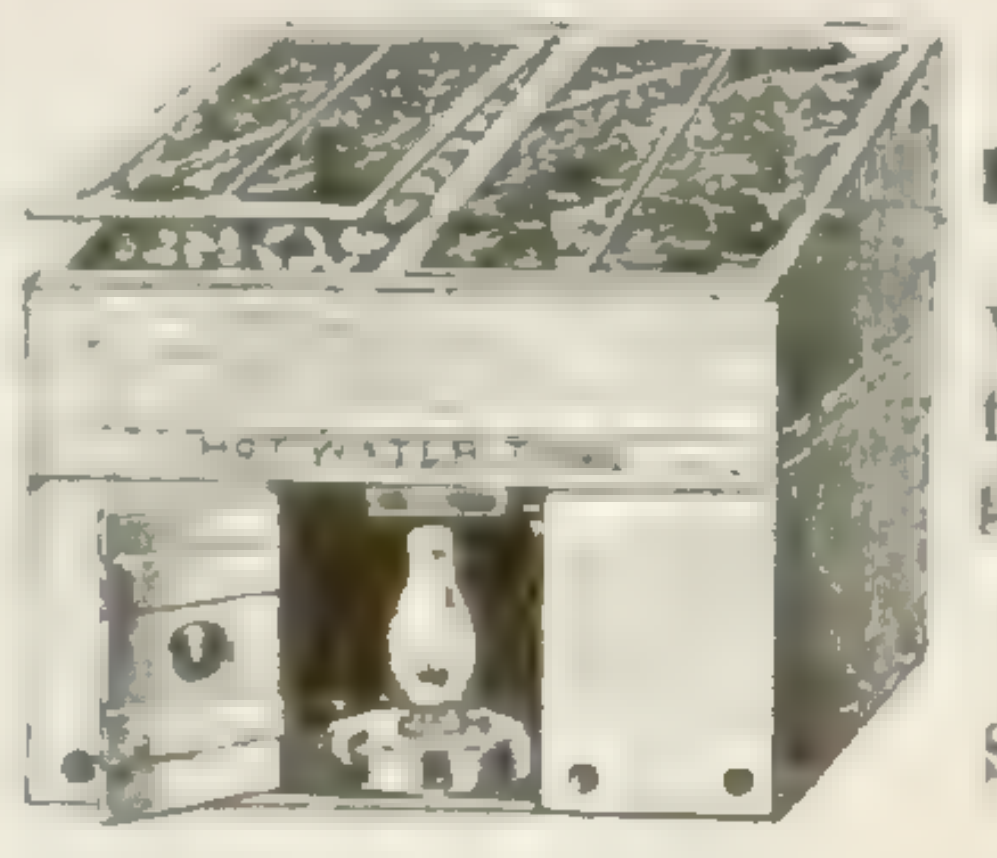

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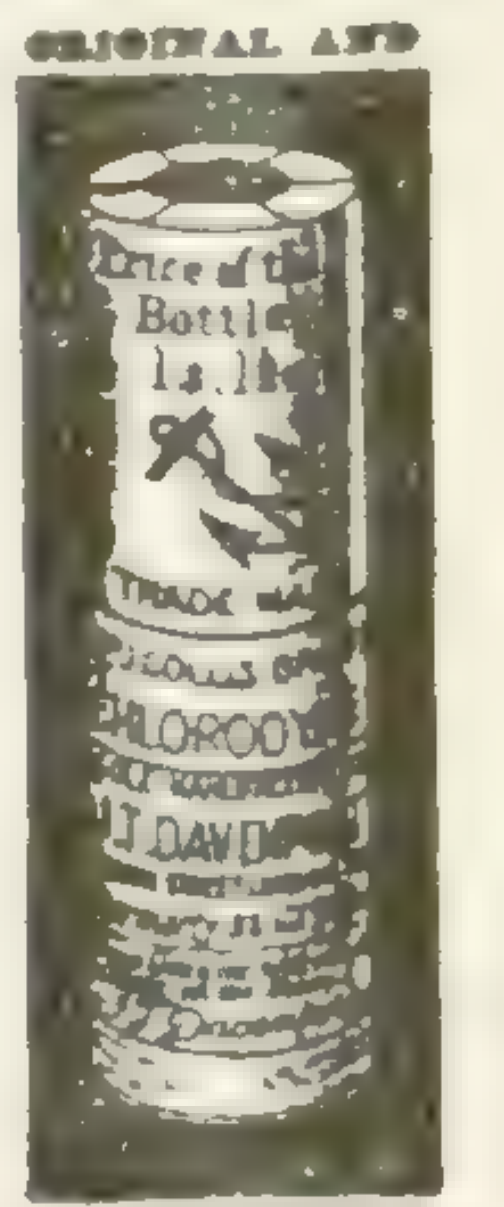

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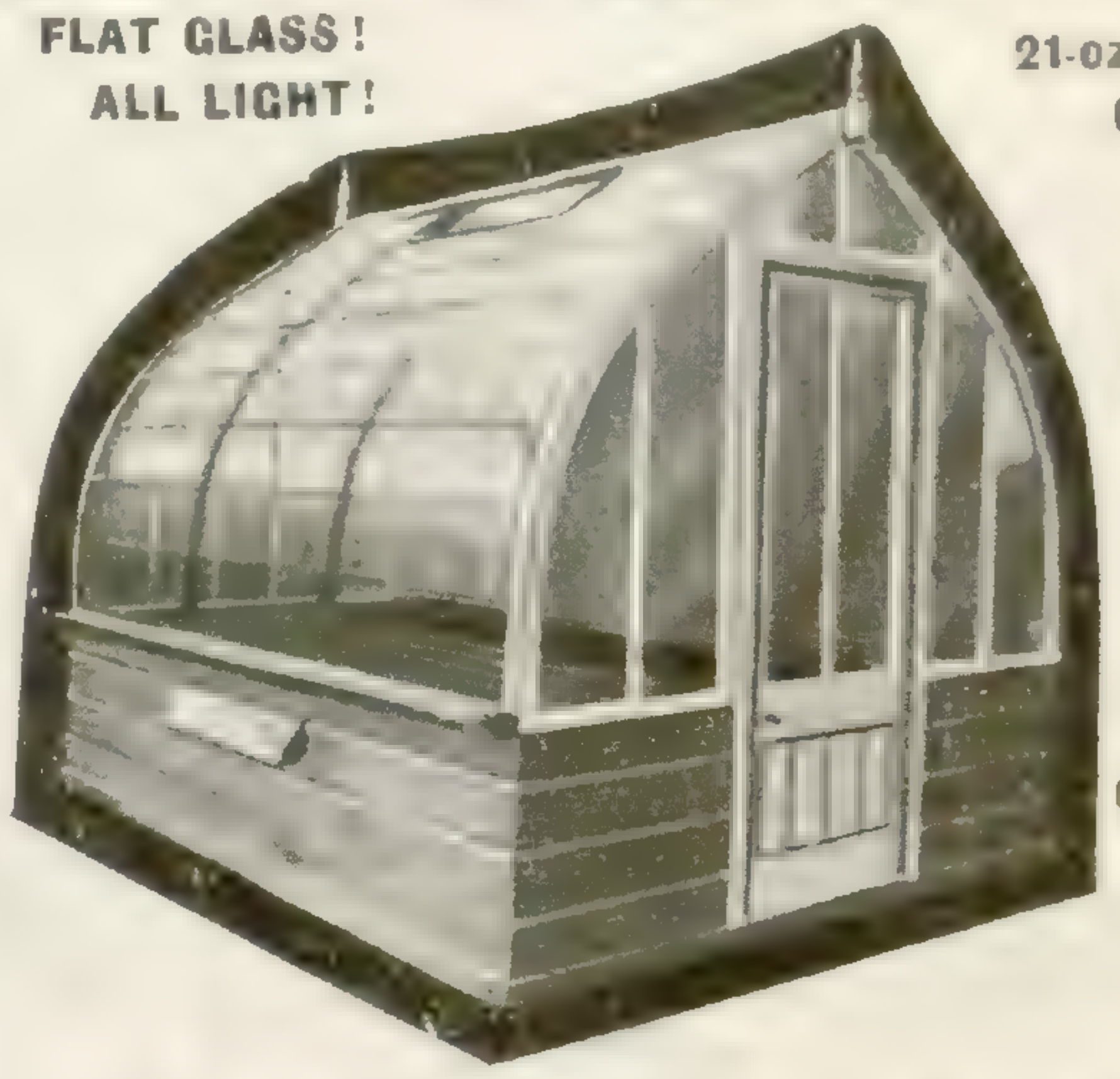

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MONDAY and FRIDAY next, March 15th and 19th; at Twelve o'clock.—Choice Hardy BORDER and HERBACEOUS PLANTS, Japanese Liliums, Gladiolus, Begonias, etc., Azaleas of sorts, Rhododendrons, also Greenhouse Plants and Ferns.

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SUMMARY of the REPORT presented at the SIXTIETH ANNUAL MEETING, held on 4th March, 1909.

ORDINARY BRANCH.—The number of policies issued during the year was **80,379,** assuring the sum of **£7,614,898,** and producing a new annual premium income of **£440,376.** The premiums received during the year were **£4,616,337,** being an increase of **£135,960** over the year 1907. The claims of the year amounted to **£2,812,962.** The number of deaths was **8,389,** and **15,322** endowment assurances matured.

The number of policies in force at the end of the year was **866,797.**

INDUSTRIAL BRANCH.—The premiums received during the year were **£6,925,755,** being an increase of **£264,124.** The claims of the year amounted to **£2,670,345,** including **£72,696,** the proportion of bonus paid since the date of the last Annual Meeting. The number of claims and surrenders, including **4,355** endowment assurances matured, was **310,722.** The number of free policies granted during the year to those policyholders of five years' standing and upwards who desired to discontinue their payments, was **145,261,** the number in force being **1,395,929.** The number of free policies which became claims during the year was **40,094.**

The total number of policies in force at the end of the year was **17,963,127;** their average duration exceeds eleven and a quarter years.

The assets of the Company, in both branches, as shown in the balance-sheet, are **£71,958,859,** being an increase of **£3,952,575** over those of 1907.

In the Ordinary Branch a reversionary bonus at the rate of **£1 12s.** per cent. on the original sums assured has again been added to all classes of participating policies issued since the year 1876.

The Directors are pleased to announce an increase in the Iudustrial Branch bonus. All policies of over five years' duration which become claims either by death or maturity of endowment from the 5th of March, 1909, to the 3rd of March, 1910, both dates inclusive, will participate. This bonus will be paid by way of addition to the sums assured of:—

£5 per cent. on all policies becoming claims upon which at least five but less than ten years' premiums have been paid,

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£12 10s. per cent. on all policies becoming claims upon which at least twenty years' premiums have been paid.

Messrs. Deloitte, Plender, Griffiths and Co. have examined the securities, and their certificate is appended to the balance-sheets.

D. W. STABLE, } Joint
J. SMART, } Secretaries.

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The Full Report and Balance Sheet can be obtained upon application.

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A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

LADY MALCOLM, of Poltalloch, highly recommends her HEAD GARDENER; eight years in present place, Head of three; life experiences in all branches; age 36; married, one child, seven years. W. BASTIN, Barnardiston Hall Gardens, Haverhill, Suffolk.

L. PAINE, Esq., Fernham House, wishes to highly recommend his HEAD GARDENER, who has been with him five years, to any Lady or Gentleman requiring the services of a thorough practical Man in all branches; life experience in good establishments; disengaged when suited; age 32; married, no family; Kew certificates. JAS. ASTLEY, Fernham House Gardens, Faringdon, Berks.

GARDENER (Head Working), where more are kept; 25 years' practical experience in all branches, Inside and Out, early and late Forcing, Vines, Cucumbers, Melons, Stove, and Greenhouse Plants, Herbaceous Borders; thoroughly reliable; highly recommended; married, without encumbrance. WOODHOUSE, Eastwood Road, Bramley, Surrey.

GARDENER (Head Working), age 47; good practical experience in all branches; Inside and Out; many years as Head; can have good references. H. TURNER, Fineshade, Stamford.

GARDENER (Head, where two or more are kept); thorough knowledge of gardening, both Inside and Out, life experience, 5 years and 8 months in last situation, married, age 45, three in family, youngest 19. Address J. CROCKFORD, 5, Stanley Road, Morden, Surrey.

GARDENER (Head Working or good Single-handed); age 47; life experience Inside and Out, 7 years at present place; 17 years Head at Belmont Castle, Grays. Leaving through gentleman giving up garden. HILL, 8 Wallis Avenue, Prittlewell, Southend, Essex.

GARDENER (Head Working, where two or more are kept); life experience in all branches; well recommended; abstainer; age 27, married. ADVERTISER, c/o Mrs. B. Porter, Alexandra Road, King's Langley, Herts.

GARDENER (Head Working).—Sir WILLIAM CHANCE, Bart., Orchards, Godalming, highly recommends G. DOE; good, practical experience; all-round man Inside and Out, married, two boys, 10 and 11.—Care of SARGOOD, Millmead Terrace, Guildford.

GARDENER (Head Working, or good Single-handed, with help), experienced in all branches; age 37, abstainer, married; 2 children, good references. ELLIS, c/o J. Lutnall, Stationer, Newbury.

GARDENER (Head), age 37, married, one child, experience gained at Wynyard Park, Halton House, Alnwick Castle, Squerreys Court, eight years Head at Faonock Hall and Blatherwycke Park; well recommended. A. BARTLETT, Blatherwycke Park, Wansford, Northants.

GARDENER (Head Working, where several are kept); life experience in all branches, especially Grapes, Melons, Peaches, Cucumbers, and Stove and Greenhouse Plants, also Flower and Kitchen Garden; 21 years in last place, having left through death of employer, good references. C. F. M., 18, Pentland Street, Wandsworth, S.W.

GARDENER (Head, where two or three are kept); 12 years' good general experience; two years in present place as Foreman, previously at Bradfield; good references, single. E. OSBORNE, The Gardens, Leweston Manor, Sherborne, Dorset.

GARDENER (Head Working of two or three, or good single-handed; life experience in Fruit, Flowers, Vegetables, and Glass in private gardens and nurseries; excellent references; abstainer; age 26; married when suited. E. R. BEAMES, Shiplake Court Gardens, Henley-on-Thames.

GARDENER (Head Working, or good Single-handed), 17 years' experience (Inside and Out); 8 years' last place; age 33; married, 2 children; excellent references; nearer London preferred. T. BRADLEY, Laburnum Cottage, Portishead, Somerset.

GARDENER (Head of two or three), life experience Inside and Out, age 35; married; good references. S BUTLER, 4, Alexander Road, Chislehurst, West.

GARDENER (Head, where three or four are kept); life experience in all branches, both Inside and Out; highly recommended; excellent character. J. DENTON, The Gardens, Harrold Hall, Beds.

GARDENER (Head working, where 3 or more are kept); first-class experience, both under Glass and Outside; excellent character from present and previous employers; married, no children. J. LIDDICOAT, 20, Carnarvon Road, Barnet.

GARDENER (Head Working), age 40, son 16, require SITUATIONS (together or separate); 25 years' practical all-round experience, including glass; excellent references; disengaged when suited; some experience in the care of poultry, bees, etc. H. W., 32, Alexandra Road, Chislehurst, Kent.

GARDENER (Head Working), age 32, married; life experience in good establishments, including Syon House, Mereworth Castle, and Old Warden Park; highest references. F. FRENCH, Covent Garden, Barming, Kent.

GARDENER (Head Working or good Single-handed); age 38; married, 2 children; thoroughly experienced in all branches, Inside and Out; understands cows; good references. Disengaged. A. GOODFELLOW, 94, Sherrard Road, Forest Gate, Essex.

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GARDENER (Head Working), thoroughly experienced in all branches, both indoor and outdoor; highest references from present and previous employer; three years present situation; married, age 40. STEADMAN, Drayton Lane, Cosham, Hants.

GARDENER (Head, or Single-handed); age 31; married, no family; good, all-round Man; highly recommended; 6 years in last place; left through gentleman giving up garden. Apply J. MANNING, 73, Thayer's Farm Rd., Beckenham, Kent.

GARDENER (Head or Single-handed), age 31; married, no family; good all-round man; highly recommended; 6 years in present place; leaving through gentleman giving up garden. Apply, J. MANNING, The Lodge, Leicester Road, New Barnet.

A. WOODS, Ouseley's Gardens, Wargrave, Berks, highly recommends R. WELLS, age 26, as SINGLE-HANDED GARDENER, or SECOND where three are kept; eight years in present situation; abstainer. R. WELLS, 34 Brook Street, Twyford, Berks.

AS GARDENER (Single-handed with help or Second), thoroughly recommended by the Gardener here, Inside and Out. Near London preferred; married when suited; age 26. J. CLARKE, Eastcourt Gardens, Malmesbury, Wilts.

GARDENER (Single-handed, or with help); Vines, Stove, Greenhouse Plants; experienced Inside and Out; good character by me; age [illegible], married (boy 5 years); willing to be useful. State terms. C. H. SMITH, 44, Ravenbourne Road, Catford, S.E. Disengaged when suited.

GARDENER (good Single-handed with help), age 28; single; 15 years all-round experience; excellent references; well recommended. W. PARKE Cedar Cottage, Harrow Weald, Middlesex.

GARDENER (Single-handed or Second), years' experience under glass and Outside in general; over 4 years present situation; single; age 23; good reference; abstainer. G. HUNT, 33, Woodside Crescent, Sidcup, Kent.

GARDENER (Single-handed or where help is given); age 30; married when suited, good references. W. R. WELCH, New Lodge Farm, Winkfie Berks.

GARDENER (Single-handed or otherwise); 12 years' experience Inside and Out; good references; age 26; married. F. P., 52, Stanstead Road, Forest Hill, S.E.

GARDENER (good Single-handed, or Leading Hand); Pleasure Ground or Kitchen Garden; can be highly recommended; 3 years last place, age 32; married when suited. G. LEGGATT, Barlavington, near Petworth, Sussex.

GARDENER (Single-handed or with help); life experience Inside and Out; married, no family; age 38; good references. F. SARGENT, Pew Lodge, Beddington Lane, Croydon. (No circulars.)

GARDENER (Single-handed or with help); good Second's place not objected to; married, age 36; tall; one child; life experience Inside and Out; good references. H. WARNER, 17, Salmestone Road, Margate, Kent.

GARDENER (Single-handed or otherwise.—Young Man seeks SIT.; 9½ years' good all round experience on large estabs.; married when suited; good refs. R. LOCK, Arborfield, Weybridge, Surrey.

GARDENER seeks SITUATION, single handed, or where help is given; age 28; single; life experience in all branches; good references. H. ATTWATER, Ivy Cottage, Horsmonden, Kent.

GARDENER seeks SITUATION (Single handed or Second); good knowledge of pleasure grounds, kitchen garden, and inside; five years last place; well recommended; good references. A. ANDREWS, Singlehurst, Fourth Avenue, Frinton-on-Sea, Essex.

GARDENER (native Swiss), aged 27 years; Fellow Royal Hort. School Germany; speaks English, French, German; 12 years' experience in the culture of vegetables, stove and greenhouse plants, landscape gardening, designing of plans, and commercial correspondence. Formerly employed in first class Swiss and German private gardens; latterly acting as Croton Grower. Seeks SITUATION in private garden or office. Good references. Apply PAUL SMITH, 11a, Creswell Rd., South Norwood.

FOREMAN (Inside).—Mr. MUNDAY, gardener to the Right Hon. L. Harcourt, M.P., Nuneham Park, Oxford, will be pleased to recommend A. WEBB as above; good experience in Fruit, Plants, Carnations, and Dcorations.

SITUATION COUPON

To the Advertisement Manager of "THE GARDENERS' MAGAZINE,"
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For MARCH 20, 1909.

Please Repeat my Advertisement.

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Date....................................

THIS COUPON, duly filled up, should be forwarded not later than Tuesday for the next issue.

Situations Wanted—*continued.*

FOREMAN (Inside) seeks SITUATION in good establishment; 13 years' experience in good places; good references. E. MOORS, 11, Bond Street, Englefield Green, Surrey.

FOREMAN (Inside).—Mr. HUTT highly recommends his Foreman; good practical knowledge all branches; good references; age 30; life experience. J. TOWN, Priory Gardens, Burnham, Maidenhead, Bucks.

FOREMAN (Inside or General); age 27.—Mr. WHEELER, Wenvoe Castle Gardens, near Cardiff, will be pleased to recommend GEORGE MORRIS as an energetic, trustworthy, and capable Man; 4 years Foreman here.

FOREMAN (Inside), age 27. Mr. S. W. TUCKER, Longford Castle Garden, Salisbury, wishes to recommend FRANK HEATH as above; 10 years' experience in fruits and plants; two years' inside here.

GARDENER, as Second; age 24; 9 years present situation; experience in Vines, Cucumbers, Tomatoes, and general greenhouse work; pleasure grounds and kitchen garden. H. DAWSON, The Hawthorns, Christchurch Road, Eaton Norwich, Norfolk.

GARDENER (Second of five or six), or good JOURNEYMAN; age 25; 11 years' experience Inside and Out; nearly 5 years last situation; recommended by W. DAFFURN, Elmstree Gardens.—Apply, C. SMITH, Northfield, Tetbury, Glos.

MR. W. J. SHORT can highly recommend W. HANCOCK as a good SECOND GARDENER or GARDENER where two or three are kept; has been Foreman in present situation for the last four years; age 27; Midlands preferred. W. HANCOCK, Freeland Gardens, Woodstock.

SECRETARY, "Professional Gardeners," Chapel-Allerton, Leeds, highly recommends Young Man as INSIDE FOREMAN; age 27; excellent references and experience all branches; 2½ years last as Foreman.

SECOND (Inside and Out); age 25; 10 years' good reference and experience; good character. H. CHERRY, Victoria Cotts., Green Lane, Eltham, S.E.

G. B. LEES, Gardener to E. De Quincey, Esq., Oakwood, Chislehurst, would be pleased to recommend L. WALTON as FIRST JOURNEYMAN in a good establishment; all-round man; 4½ years here; age 24. Apply above.

JOURNEYMAN (Inside); age 19; 2½ years' experience in present place; Inside and Out; leaving for improvement. RICHARDSON, Poynter's Gardens, Cobham, Surrey.

JOURNEYMAN (Inside) in Fruit and Plant Houses; five years' experience; good references; age 21; Bothy preferred; disengaged. H. HEAD, The Manse Cottages, Bracebridge, Lincoln.

JOURNEYMAN (Inside and Out). — Mr. HATTO, Walsingham Gardens, Chislehurst, would be pleased to recommend Young Man as above; age 21; seven years' experience; three present situation. Apply, MUMMERY, 190, Widmore Road, Bromley, Kent.

JOURNEYMAN, Fruit and Plant Houses; age 25; good references; Bothy preferred. A. HATHER, Lubenham, Market Harboro', Leicestershire.

JOURNEYMAN in Plant Houses; seven years' experience; age 22; good references; two years present situation. A. PIPE, Dunstall Gardens, Shoreham, Kent.

JOURNEYMAN.—As such WILLIAM COLLINS desires ENGAGEMENT in a Private Garden; age 20; well grounded in the rudiments of his profession; abstainer and non-smoker. WILLIAM COLLINS, Michaelstow Gardens, St. Teath, R.S.O., Cornwall.

ESTATE CARPENTER and HANDYMAN seeks Situation; good joiner, and used to all house repairs, painting, paper-hanging, etc.; 11 years' good character; own tools. W. BARRIER, 17, Lennard Road, Penge.

GROWER and FERN RAISER (26); life experience; Fern from Spores, Palms, Chrysanthemums, Begonias, Pelargoniums; General Inside: Soft-wood Stuffs; take charge; good references. GARDINER, Goldington, Bedford.

IMPROVER, under Glass.—Mr. F. DANIELS, Birdingbury Hall Gardens, Rugby, can highly recommend Young Man as above; 12 months present situation; three years previous; wages required, 14s. and Bothy. Apply as above; or JOSEPH SHAW, Melbourne Lodge, Stauntonharold, Ashby-de-la-Zouch.

IMPROVER (Inside and Outside).—C. H. PERKINS, The Gardens, Milton Abbey, Blandford, will be pleased to recommend a YOUTH, age 19, as above; tall and strong.

IMPROVER (Inside).—W. JACKSON, Dalton Hall Gardens, Beverley, can highly recommend ALBERT ELLARBY as above; age 20; five years in these Gardens; two years under Glass.

IMPROVER (Inside); 19; 10 months' experience in Market Nursery, soft-wooded stuff, and general pot stuff. H. BREADMAN, 2, Norway Villas, Yiewsley, Midx.

MR. J. HERDMAN, Under Fell Gardens, Burton, Westmoreland, will be pleased to recommend Youth as IMPROVER; age 16; 12 months' experience in these gardens.

LAD (16) wants SITUATION, Inside or Inside and Out; two years present place; good character and recommendation; Bothy preferred. C. CATON, Darenthdale, Shoreham, Sevenoaks, Kent.

MR. W. G. SHIPLEY, The Gardens, Milstead Rectory, Sittingbourne, wishes to recommend a strong, willing YOUNG MAN for Kitchen Garden and Fruit; age 24; here three years; Bothy preferred. Apply as above.

MR. TINDAL can thoroughly recommend "E. C." as good WORKING GARDENER and HANDY-MAN in the house; could help wait at table if required; smart in appearance; middle-aged; married; no encumbrances. Apply "E. C.," 1, Pitland Street, Holmbury St. Mary, Dorking. No circulars.

MARRIED MAN (30), two children, seeks SITUATION; used to Cow, Pigs, etc., Kitchen Garden or Pleasure Grounds; good references. J. DAINTON, 24, Buxton Road, Mortlake, S.W.

NURSERY FOREMAN AND GROWER.—Practical exp. Grapes, Strawberries, Cucumbers, Tomatoes, General Pot Stuff, Roses, Chrysanthemums, Bedding Stuff, Bulbs, Valley, Forcing, Propagating, Salesman; good references; married. HUMPHREY, 5, Leopold Street, Ramsgate.

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YOUNG MAN, 20, seeks SITUATION Inside under Foreman; nearly three years' experience; strong and willing; Bothy preferred. WEBB, Clapton Road, Bourton-on-the-Water, Glos.

YOUNG MAN, age 20, seeks SITUATION Inside and Out; 4½ years present place; good reference. GEORGE MANNING, Bridge House, Sandwich, Kent.

YOUNG MAN (22) seeks SITUATION as Under Gardener in private place; 5 years' experience; good references; live in, or Bothy. G. G., 61, Cavendish Road, Cambridge.

YOUNG MAN seeks SITUATION as Florist; 7 years' experience; good maker up and salesman. N. KEEN, Hill Cottage, Crescent Road, Cowley, Oxford.

YOUNG MAN seeks SITUATION as under Gardener; age 19; Inside and Out; strong and willing. G. LUFF, 18, Prospect Place, Maidstone, Kent.

YOUNG MAN seeks SITUATION Pleasure and Kitchen Garden; or single-handed; good characters. London suburbs preferred. A. POTTEN, 3, Western Lane, Balham, S.W.

YOUNG MAN, strong, willing, and obliging, seeks SITUATION, Inside and Out; age 20; 6 years' experience in the culture of flowers, fruit, and vegetables; leaving when suited; excellent character. Apply, G. GOWER, East Bridgeford Hall, Notts.

YOUNG MAN, with six years' experience in General Pot Stuff, seeks SITUATION in Trade or Private; excellent references; abstainer. W. F. R., 41, Gore Park Road, Eastbourne.

YOUNG MAN (Single) seeks SITUATION as UNDER-GARDENER, or in Nursery; nine years' experience; good refs.; age 24. E. BAKER, 14, Grand Parade, Muswell Hill.

YOUTH (19) requires SITUATION in the Gardens; Kitchen Garden preferred; has a little knowledge of gardening, being two years at last place. Can be highly recommended. J. WILFORD, Launde Abbey Gardens, Leicestershire.

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VOL. LII.—No. 2,889. SATURDAY, MARCH 13, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

A Destructive Disease of the Apple.

The apple tree has many enemies with which to contend in the making of its seasonal growth, and the production of its crop; and of these some are so destructive in their effects on the growth of the fruit that it would not be a light task to determine with scientific exactitude which of them is the most injurious. Were it practicable to readily accomplish a satisfactory differentiation between the most injurious of the several pests, it is doubtful whether any useful purpose would be served in so doing. We are anxious to induce all growers to take a greater interest in the enemies of the apple, and, as the result, to study their ways, or, to be more exact, their life histories, and to use every endeavour to ward off attacks and repress them when made. It is not sufficient to provide the trees with the soil exactly adapted to their requirements and to prune with skill, they must be kept free from everything hurtful to their health. The disease of the apple to which we are especially desirous of directing attention at the present time is that commonly known as "apple scab," which is caused by Fusicladium dendriticum, one of the most destructive of the fungi that infest the apple tree and its fruit. This disease is general over the whole of the United Kingdom, and it is sufficient to walk through the markets to which apples are sent during the autumn to obtain a good idea of the immense loss that growers annually suffer from the ravages of the fungus by which it is caused. If the trees are only moderately infected, the fruits will be marked by a few isolated black spots, which are quite sufficient to materially depreciate their value in the market and render them less serviceable for use at home. When the disease is virulent the spots coalesce, large brown patches are formed, and later on, owing to the inability of these portions to expand at the same rate as the other parts, they crack in various directions, and the fruits become misshapen and practically worthless. Growers usually have their attention first attracted to the disease by the appearance of black spots on the young fruits, and, as a consequence thereof, it has been assumed by many that it is confined to the fruit. This, however, is not the case. The disfigurement of the fruit is evidence that the disease is present on the same or neighbouring trees. If the leaves are, with the aid of a pocket lens, subjected to a careful examination, dark brown or very deep green patches of variable size will be found mostly on the upper surface, but on the underside as well, these patches having somewhat of a sooty appearance. These patches are proofs of the presence of the disease, and from these enormous numbers of spores are carried, by the wind and other agencies, to the fruit and other leaves, which they infect. Sometimes the young shoots also are infected, but, generally speaking, the disease does not do a large amount of damage to the growth. Its presence in the shoots is, however, a serious matter, inasmuch as the fungus that has hibernated in them produces its spores about the same time as the leaves are in process of development and the young fruits are commencing to swell and especially liable to fungoid attacks. It is satisfactory to know that, although the disease is general over the United Kingdom, and most destructive in its effects upon the crop, it is not specially difficult to keep trees free from it, or so far free from its attacks that but little damage will be done. The remedy is systematic spraying of the trees with Bordeaux mixture. The first spraying should be done when the young leaves are unfolding, and before the flowers commence to expand, as at that stage the fungus is becoming active and may be readily checked. Immediately the flowers have fallen the trees should receive a second spraying, and in plantations where the disease has been very rife, the trees should be sprayed a third time some sixteen or seventeen days later. The preparation of the Bordeaux mixture requires sufficient care to ensure the different ingredients being of the proper condition and used in the right quantities. Mr. E. S. Salmon, of the Wye College, who has given much attention to fungoid diseases, recommends a mixture prepared as follows: Copper sulphate (98 per cent. purity), 4lb.; quicklime, 4lb.; and water, 50 gallons, and advises that the lime be as freshly burnt as possible, air-slaked lime being useless for the purpose. The copper sulphate is dissolved in water in a wooden tub, and, if wanted at once, sufficient hot water should be used to dissolve it quickly, and when dissolved sufficient cold water be added to bring up the quantity to 25 gallons. Otherwise, 25 gallons of cold water may be put in the tub and the copper sulphate, in a piece of coarse sacking, be suspended in the water. The lime, in accordance with Mr. Salmon's advice, should be put in a tin pail and water added until it has been slaked and converted into a

MR. GEORGE WARD.
Superintendent of the Brighton Public Parks.

creamy paste. The lime milk is then put into a tub and sufficient water added to make 25 gallons. When practicable the whole of the water should be added to the lime milk and to the solution of copper sulphate before they are mixed. It is important to test Bordeaux mixture previous to use to ascertain whether the whole of the copper sulphate has been precipitated, for unless this is the case injury may be done to the leaves and young fruits. Immersing the blade of a penknife in the mixture for a minute or so is considered a good test. If the blade is unchanged when removed the mixture will be safe, but if changed to a copper colour, more lime must be added. In Mr. Spencer Pickering's opinion, the best test is to put a few drops of a solution of potassium ferrocyanide in a saucer and to drop into this some of the Bordeaux mixture. Brown or red colouration indicates that there is copper in solution, and that additional lime is required. The spraying of fruit trees with Bordeaux mixture entails a considerable amount of labour, but the results far outbalance the cost, and apple scab should no longer be tolerated.

Mr. G. Ward has rendered such excellent service during the period he has occupied the position of superintendent of the Brighton Parks and Gardens, that visitors to this popular seaside resort will not need to be told that the open spaces under his charge bear in a marked manner the impress of his skill and good taste. The more important of the Brighton parks are Hollingbury Park, which has an area of 180 acres, and was purchased by the town nine years since. Preston Park, a finely matured open space, with an area of 62 acres, and remarkable for its sylvan beauty, and Queen's Park, which was purchased in 1892. The last named open space, if not remarkable for its area, occupies a charming position, and is highly picturesque. There are several smaller areas which contribute materially to the interest of the town and the pleasure of the visitors, chief among them being the Pavilion Grounds, which are not less noteworthy for their historical associations than for their beauty.

Fruit Imports in February were somewhat smaller than in the corresponding month of last year, but the decreases were more marked in the quantities than in value. Of apples the imports were 248,501 cwt., of the value of £373,736, these figures representing a decrease in quantity of 19,147 cwt. and an increase in value of £408. There was a material increase in the imports of apricots and peaches, the aggregate having been 639 cwt., of the value of £5,395, or an increase in quantity of 430 cwt. and in value of £4,267. In the imports of bananas there was a decrease of 29,779 bunches, the total having been 390,298 cwt., of the value of £111,717. The imports of grapes aggregated 1,090 cwt., of the value of £5,449, or a decrease in quantity of 416 cwt. and in value of £1,530. There was a material drop in the imports of lemons, consequent on the terrible earthquake in Sicily, and in the imports of oranges there was a considerable increase. Nuts were also received in increased quantities. Pears make a poor showing in the returns as compared with the corresponding month of last year. The aggregate imports were 1,298 cwt., of the value of £4,872, or a decrease in quantity of 2,107 cwt. and in values of £2,189. Plums on the other hand show an increase in quantity of 695 cwt. and in value of £4,895, the aggregate imports having been 1,135 cwt. of the value of £5,870. Unenumerated fruits aggregated 3,520 cwt., of the value of £5,757, these figures representing moderate increases. The total value of the fruit imports during the month was £726,184, or an increase of £643.

Horticulture at the White City, 1909.—Mr. W. H. Adsett has been appointed hon. secretary to the horticultural and agricultural section of the Imperial International Exhibition, to be held this year at Shepherd's Bush. An influential committee is now being formed. It is intended to hold two international flower shows during the season, and a special feature is to be made of the bedding, which proved so attractive at the White City last year. Several of the leading Continental firms are arranging to provide specimens of bedding out, and it is hoped to secure an adequate British representation, in order that a comparison of the various methods in vogue may be afforded. Full details will be forwarded by the Hon. Secretary, Administration Offices, London, W.

National Dahlia Society.—This long-established society, with which has been incorporated the London Dahlia Union, is showing distinct signs of activity and vigour, as evidenced by the programme of this year's work. In addition to two exhibitions in September next, it has arranged for three trials of dahlias for the purpose of determining the varieties best adapted for garden decoration. These trials will be as follows: garden dahlias in association with the Royal Horticultural Society at Wisley; cactus dahlias in conjunction with Mr. J. T. West at Shenfield, and pompon dahlias at Slough in conjunction with Mr. Charles Turner. The garden dahlias at Wisley will be grown under a distinctive number, and two plants of each variety should be sent in April, to be grown on before planting out. They should be addressed, if by rail, Superintendent, R.H.S. Gardens, Horsley Station, L. and S.W.R.; or, if by post, Superintendent, R.H.S. Gardens, Wisley, Ripley, Surrey. New varieties of cactus and pompon dahlias are alone invited for the Slough and Shenfield trials, and these will be grown under number in conjunction with comprehensive collections of varieties in commerce. Two plants of each variety should be sent not later than the end of May, ready for sending out. Those desirous of including their novelties in these trials should notify their intention to Mr. E. F. Hawes, Royal Botanic Gardens, Regent's Park, N.W., and send with the notification the names of the varieties intended for trial. These names will be registered in numerical order, and the corresponding number with address label will be returned ready for despatch to the trial ground. All packages should be sent carriage paid. On arrival they will be carefully planted, be supported with a single stake and grown without disbudding.

Royal Society.—The fifteen candidates that have been selected by the council of the Royal Society to be recommended for election at the annual meeting include Mr. A. D. Hall, the director of the Rothamsted Experimental Station, and Dr. A. B. Rendle, the distinguished botanist.

Vegetables of Foreign Growth were much less plentiful in February than they were in the corresponding month of 1908, but owing to the comparatively high prices that obtained for onions the drop in value was less proportional to the quantity than is usually the case. With the low prices that ruled throughout last month it is not surprising there should have been a considerable decrease in the imports of potatoes. Last year the aggregate for the month was 509,195 cwt., of the value of £102,037; this year for the same period it was only 41,401 cwt., of the value of £12,293. The onion imports amounted to 536,963 bushels, at the value of £109,500, these figures representing a decrease in quantity of 206,947 cwt., and an increase in value of £29,429. Tomatoes were imported in smaller quantities, the total having been 58,610 cwt., of the value of £44,167, or a decrease in quantity of 10,740 cwt., and in value of £13,201. The value of unenumerated vegetables was £43,252, or an increase of £5,727.

Welsh National Emblem.—We are informed by a Welsh correspondent that strenuous efforts are being made in the Principality to substitute the daffodil for the leek as the national emblem, and that considerable success has already been achieved. Daffodils were worn by large numbers of Welshmen, and, indeed, by Welsh women, on St. David's Day, both at home and in other parts of the United Kingdom, and we should certainly prefer to see the daffodil substituted for the leek, although the wearing of that highly odoriferous vegetable has become obsolete. It is suggested by some of the partisans of the daffodil that there is justification for the belief that it was really the old floral emblem of Wales. We should be pleased to accept the suggestion, but are quite unable to do so, inasmuch as we cannot find any evidence in support of the views of those who regard the daffodil as the older emblem. There is no occasion to question the tradition that St. David caused the Britons under King Cadwallader to wear a leek in their caps. They provéd victorious against the Saxons, and recalled their victory by wearing a leek on March 1. In "Henry V.," Shakespeare makes out that leeks were worn by the Welsh at the battle of Poitiers, for Fluellen says, "If your Majesty is remembered of it, the Welshmen did good service in a garden where leeks did grow, wearing leeks in their Monmouth caps, which, your Majesty knows to this hour, is an honourable badge of service; and I do believe your Majesty takes no scorn to wear a leek upon St. Tavy's Day." Our correspondent has not stated whether any particular daffodil was worn on St. David's Day, or whether several varieties were utilised. We would suggest that Sir Watkin should be accepted as the form most suitable, as it possesses boldness and beauty in a marked degree, and is a native of Welsh soil.

Children's Hyacinth Show. The exhibition of hyacinths grown by children belonging to the Glasgow Southern District Sabbath School Union, recently held in the Dixon Hall, was highly successful. Mr. A. Cameron Corbett, M.P., presented 18,000 hyacinth bulbs to the schools in association with the union, with the condition that each school should contribute twenty plants to the show. The hyacinths contributed by the seventy-five schools were about equal in number to those shown last year, but on the whole the spikes were in a higher state of development.

School Garden at Willesden. At a recent meeting the Willesden District Council decided to convert a portion of the grounds of Dollis Hill House into an English garden, for the instruction of school children in the art of gardening.

CLIMBING FRENCH BEANS.

A type of bean greatly neglected in gardens is the Climbing French. Why this should be the case I am totally at a loss to understand, unless it is that growers cannot get away from the methods adopted long ago of growing only the Dwarf French and Scarlet Runner beans. I feel sure, if these climbing varieties were more generally grown, there would soon be fewer of the dwarf beans catalogued than is at present the case. All the varieties known to me are exceedingly prolific, and, apart from that their cropping is continuous, which cannot be said of a great many dwarf varieties. For supporting their growths good pea-sticks or stakes that stand some five feet or so out of the ground are required if clean pods and maximum crops are expected, and that should be the aim all through.

For main crops under glass, where three feet or so of head room can be given, one or two plants in 8in. pots trained up sticks will yield far more beans in a given space than is possible with the quite dwarf forms and their varieties. Tender and True or Princess of Wales cannot be excelled for the purpose. The most up-to-date gardeners know of their value for planting after melons and cucumbers are cleared in the autumn; and plants are raised in small pots for transferring to beds of this description and trained up under the roof to supply valuable late autumn and early winter supplies that are always appreciated. As a matter of fact, when outside crops are killed, some persons call to mind that there are such delicately flavoured things as French beans, but one ought not to wait till then before being able to realise the value of such excellent vegetables.

The Channel Islanders have taught us how to produce French beans and peas in quantity under glass, and, if this type of bean were not more profitable than the dwarf ones, it would have been dropped long ago, but the reverse is the case, and this is mainly why I write of their good qualities. Undoubtedly one of the reasons why it is difficult to dispose of these beans in the open market after the Runners appear is that they are allowed to become tough and stringy, and in such a state they are practically useless, and cannot be in any way compared to the young tender pods that are more delicate in flavour than their rougher skinned Scarlet Runner brethren.

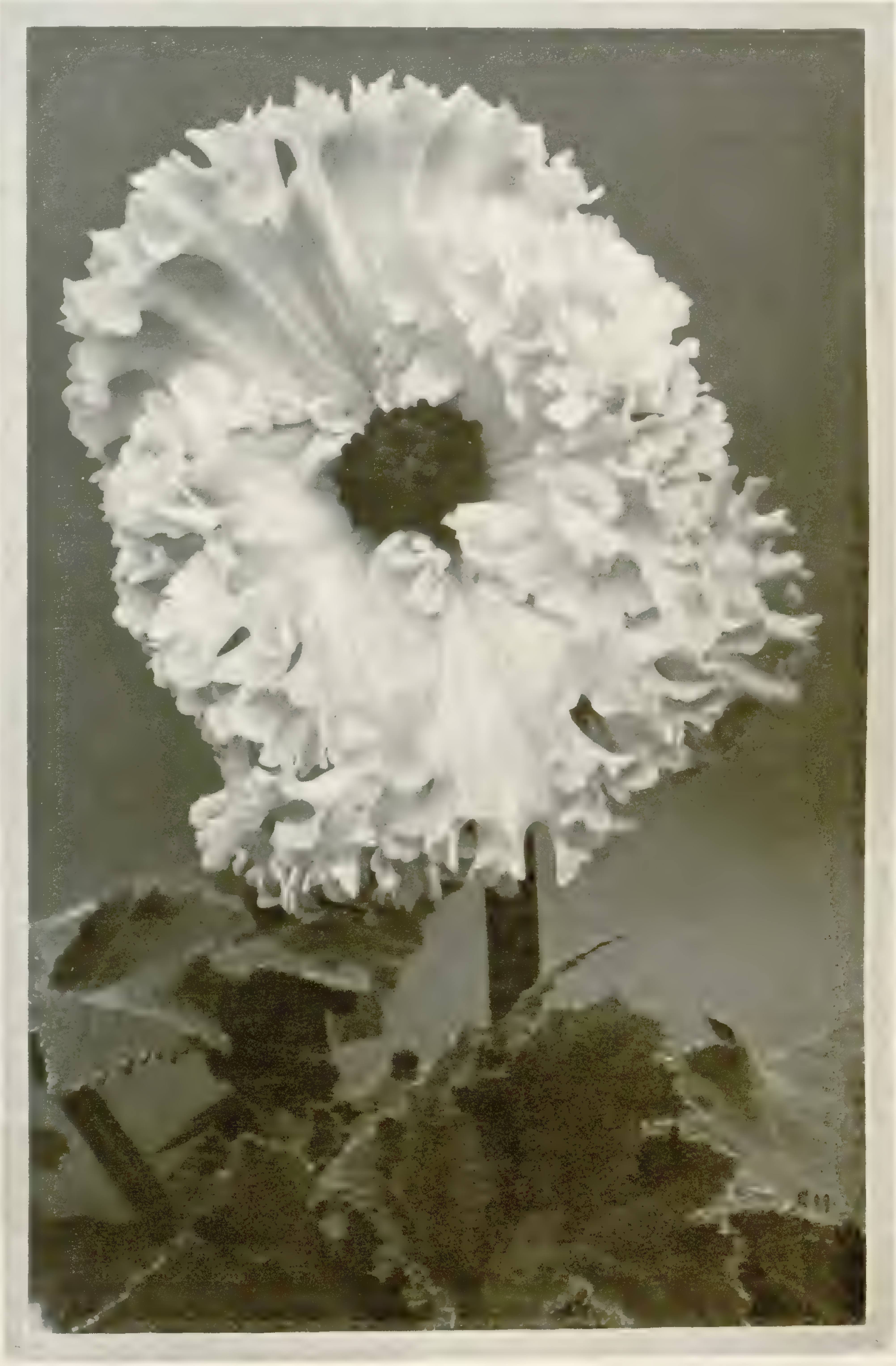
Apart from the two distinct varieties named, and whose pods remind one of good types of Canadian Wonder, there are other distinct and valuable varieties, such as Earliest of All and Epicure; these are very early and also very prolific, the pods are almost round, very succulent and fleshy, and the varieties crop heavily. Gathered quite young and served whole these beans are delicious vegetables, but because they are not of the shape and size usually found in English gardens we have found it difficult to market them, and, until our customers have been persuaded to give them a trial, they were thought to be old, because of their thick fleshy nature. When known they sell rapidly enough, and are preferred to the ordinary dwarf forms. Two at least of these climbing French beans ought to be grown in every good garden, and no persuasion should be necessary to induce anyone to take up their cultivation, because they have real merits of their own, and are, from an economical standpoint, indispensable to the economiser of space.

For very early crops sow seeds singly in small pots during early April, and transplant into the open when properly hardened, giving protection if necessary from cold winds and late May frosts.

Reading. Charles Foster.

FRILLED BEGONIAS.

One of the never-failing wonders of plant life is to be found in the extraordinary variation that may arise in any highly cultivated race of florists' flowers. In few, if any instances can such great variety of form and colour be found as in tuberous begonias, where the rose, the pæony, the water lily, and the hollyhock have all, so to speak, been reproduced. This is among double varieties. The single ones kept fairly regular for a long number of years, and then, taking advantage of small suggestions on the part of certain flowers, the raisers commenced to evolve the crested and the frilled varieties. The crested tuberous begonias are distinctly interesting and effective, but for real beauty they do not compare with the finest of the frilled varieties. Messrs. Blackmore and Langdon, of Twerton Hill Nurseries, Bath, have been very successful in this, as in other directions, with tuberous begonias, and at the Holland House Show last year their display of frilled begonias constituted one of the great attractions. This firm has now many shades of colour represented, and the flowers, of fine form and substance, have the edges of the petals beautifully and deeply frilled. A few especially fine forms have been named, and one of the best of these is Frilled Queen, a charming pink shade, that gained an Award of Merit from the Royal Horticultural Society in July last, and one that is figured in the present issue. This serves to show the type of flower found among the frilled varieties, a class that can now be obtained true from seed.



BEGONIA FRILLED QUEEN.
Flowers bright pink; A.M., R.H.S., July, 1908; Messrs. Blackmore and Langdon, Bath.

HARDY FLOWERS are always popular, as they make the garden bright and attractive, and require but little attention. All the information required for their successful culture is given in Easily Grown Hardy Perennials, by G. H. Vos. Price 5s. net, by post in box, 5s. 6d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

OVERCROPPING FRUIT TREES.

Allowing fruit trees to be overburdened with fruit is one of the most common of the various errors made in fruit culture, and though this mistake is made in reference to most kinds of fruit, the apple and pear are usually the greatest sufferers in this respect, doubtless because they are generally grown. Grapes, peaches, nectarines, and figs, being classed as choice fruits, invariably receive more consideration. It is difficult to give explicit directions about the quantity of fruit a tree of any kind, of a given size or age, should be permitted to carry. It depends so much upon the conditions under which it is cultivated. For example, take two trees of any variety of pear or grape of the same age and size, carefully nourish one, and in this respect neglect the other. The manured tree might, without injury, yield a much heavier crop than the other, while the unmanured tree was seriously exhausted by the lighter crop.

The detrimental effect that overcropping has upon the quality of the crop of fruit is of little moment compared with the injury inflicted upon the vitality of the trees by it; so severe is this in some instances that it takes several years for the trees to wholly recover. I have in my mind two pyramidal trees of pear Louise Bonne of Jersey that several years ago carried crops which so exhausted them that they have not sufficiently recovered to either make satisfactory growth or produce fruit of high quality, though it may be said that little more than ordinary cultural measures have been taken in order to improve matters.

I have endeavoured to show that trees after being exhausted by overburdening crops take a long time in an ordinary course to recover from the injurious effects. This state of things can, however, be accelerated by special treatment. In the first place the condition of the trees' roots should be considered, and defects of any description respecting them be rectified. Extra nourishment must be provided by some means, the mode of accomplishing this being carried out to best meet the requirements of individual cases. In some instances it may be desirable, in accordance with the age or size of the trees, to remove the soil containing the roots to more or less near the stem, and replace it with fresh compost made quite firm, in which the roots should be spread; or the surface soil may be removed down to the top roots and replaced with rich soil. A compost suitable for this purpose may consist of turfy loam, mixed with such material as road scrapings, wood ashes, charred garden refuse, and crushed bones. Operations of this character are most satisfactory when carried out early in autumn—as soon as the leaves commence to fall, and they should be completed by applying mulchings of stable or other suitable litter.

Radical measures of this description are necessary in cases only where the soil is naturally of an unsatisfactory description, or has become impoverished. In ordinary cases, at any rate for hardy fruits such as apples, pears, or plums, top-dressings of suitable manures usually readily promote good wood growth and improved crops of fruit. There are many most valuable materials for top-dressing commonly available, which are more or less effective according to the time of year they are made use of. Comparatively slow-acting ones, such as farmyard manure, vary greatly in value. Bonemeal and kainit should be applied in autumn, while superphosphates, nitrate of potash, muriate of potash, and similar soluble artificial compounds, act best when applied in spring and early in summer. Lime, particularly where used in conjunction with decomposed or charred garden refuse, or similar material, is also valuable, especially for stone fruits. Farmyard liquids, when judiciously utilised, are invaluable quick-acting fertilisers; our experience with them, however, has shown that they cannot be safely used without their strength being first determined, and reduced by dilution when necessary.

Severely weakened trees treated as recommended may be still more improved by having their exhausted branches thinned and shortened. This will stimulate new growths, the most suitable of which, to retain the symmetrical form of the trees, should be selected to replace unsatisfactory branches. This new wood will readily become fruitful, and produce finer fruit than will the older branches. It is well known how quickly exhausted vines become invigorated when treated as has been advocated in these notes, and other kinds of fruit, though not so commonly operated upon in this way, respond equally well to the practice.

T. Coomber.

The Hendre.

PRUNING ROSES.

Few things distress the rose lover more than the reckless and thoughtless way the most valuable growths of last season are cut away under the guise of pruning. Mutilation would seem a more fitting word.

No hard and fast rule can be laid down, for many roses in the same class or section need a distinct method of pruning if we are to secure good results. With the rapidly increasing number of varieties, and intermingling of classes through hybridisation, this point needs emphasising more than formerly.

At the start it may be as well to note that all newly-planted roses do better if pruned hard the first season. It is best to have wood upon established roots; without this the plants cannot do themselves justice. If planted early, and the wood is exceptionally firm and ripe, or in the case of climbers and others from pots, we can leave a little more wood for the present season's use. In any event, one does not err by close pruning the first year.

It is an excellent general rule to prune the weaker plants harder than those of strong growth. One frequently sees the long shoots made upon the extra-vigorous varieties cut away under the impression that they are comparatively useless, because they made so much growth last season without a corresponding amount of blossom. Now it is almost always the case that these are the most useful growths of any. Varieties which throw up strong shoots usually produce their best and greatest number of flowers from such wood, and this needs pruning sparingly. It is a paradox to many of the inexperienced that we should cut more freely from weak wood than from that of stronger type; the more so that the weaker the constitution of the plant the more we cut away what it has succeeded in forming.

Then we want to consider what purpose we are pruning for. It is one thing to prune in the hope of a few extra good blossoms, and quite another if we wish for a quantity of medium flowers for decoration only. Many of us undoubtedly prune too early. The end of March is quite soon enough to commence in most seasons, and then only upon the hardier hybrid perpetuals, hybrid teas, and Bourbons. A large number of the teas and noisettes, and some of the hybrid teas, are very precocious and push into growth at the first sign of spring. One need not be alarmed because growth, even to the formation of the leaves, takes place in such varieties. Below these eyes there will still be sound and comparatively dormant buds that are far better through delay in breaking; and, if we prune too early the first flow of sap must necessarily go into the top eyes. A little "bleeding," or loss of sap is not so detrimental as was thought a few decades ago.

Always endeavour to keep the centre of a plant open to air, whether a standard or dwarf. Cut down close to the topmost eye left, and use a knife in preference to secateurs. Leaving an inch or two of wood above the eye or bud results in a piece of dead wood that is not only unsightly but never calluses or heals over, and has a tendency to carry decay lower down and harbour many insects.

Most of the fairly vigorous growers of all classes can be cut back to three or six inches of the previous year's pruning, but where practicable it is well to cut out some of the older wood entirely from established plants, otherwise we cannot keep the plants within bounds. This also has a tendency to promote younger growths from the base, and such is the life and strength of all roses, no matter of what class. In the case of extra strong growers, such as pillar and climbing roses, cut away all the wood that can be spared which flowered last season, and replace with ripe maiden growths as far as the plant will allow. Here, too, it is advisable to cut some of the older growths out to the base and afford the bottom ones a better chance. Climbers upon a house or wall, especially such varieties as Charles Lawson and the semi-climbing teas, may be spurred back within two or three inches of last year's pruning.

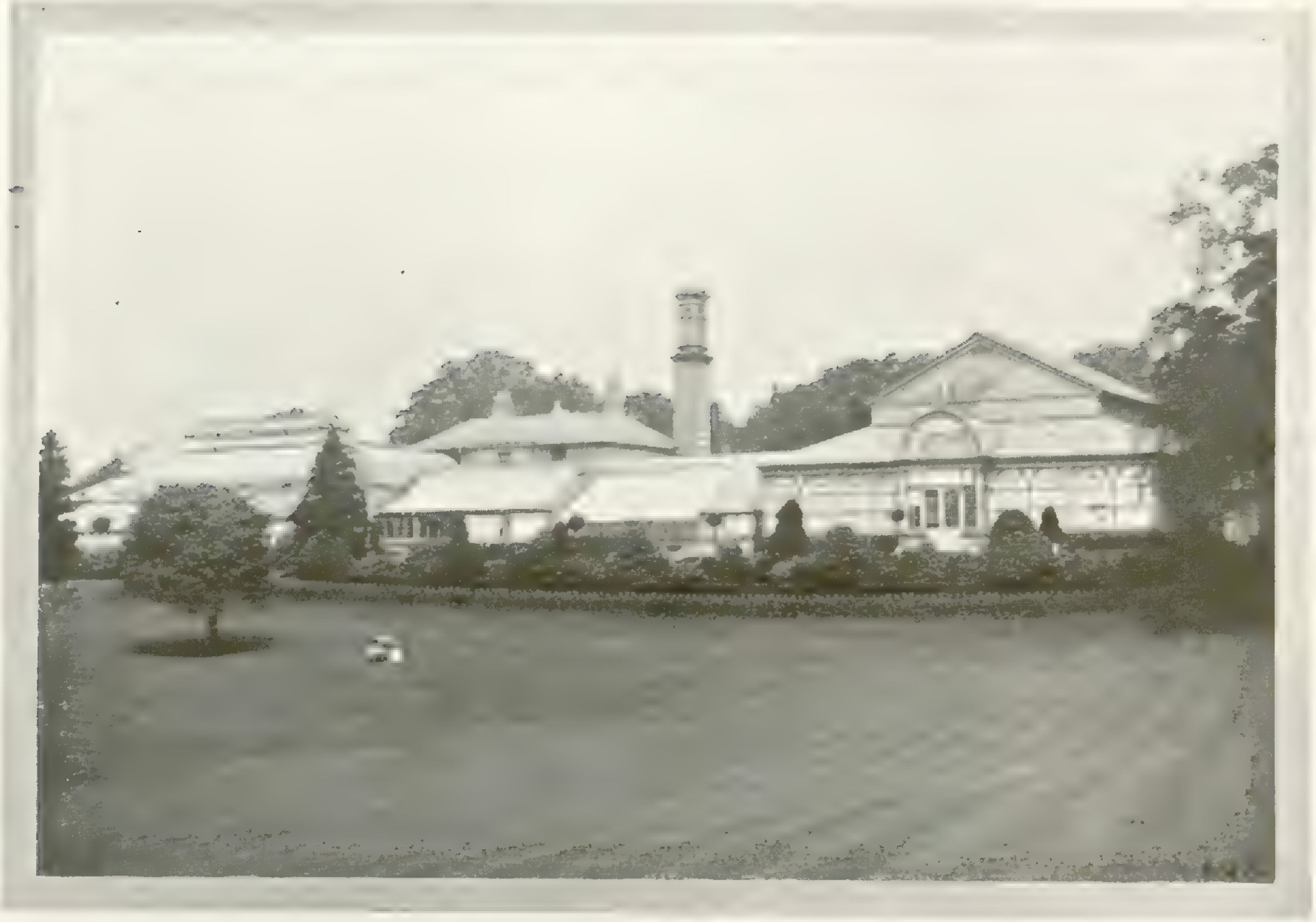
Banksians only need the dead and failing growths removed; the remainder, with the exception of a soft tip or two, may be left. After the first year Wichuraianas, Penzance briars, and those of similar vigour may be left, except to thin out where very much crowded. Crimson Rambler, Dorothy Perkins, Helene, Blush Rambler, and such like may have most of the wood removed that flowered last year. It is the maiden growths of last autumn that are of most service here. Try to retain a good shape in the plant, but do not sacrifice the best growth for this object.

The dwarf-growing polyanthas and Chinas only need thinning. In short, the removal of dead wood and old flower trusses is almost all these want. Teas, noisettes, and hybrid teas of average growth may be pruned similar to the hybrid perpetuals, but affording a little more care to retain the lower growths that so often push from the sides of the plants. Of course, before pruning, one will always cut out dead wood, and in doing this, one often obtains a good insight into how to treat each individual plant.

A few that I have found better when less pruned than is general are Beryl, Gabrielle Luizet, Fellenberg, Dupuy Jamain, the Austrian briars, Maman Cochet, and its white counterpart, Souv. de C. Guillot, Safrano, Marie Van Houtte, Ma Capucine, G. Nabonnand, Homère, Dr. Grill, and Anna Olivier. These vary very much in habit of growth, but scarcely need the knife. I would prune moss and Provence roses quite as hard as the shorter-growing hybrid perpetuals.

A. Piper.

Uckfield.



EXHIBITION HOUSE AND PALM AND ORCHID HOUSES, BOTANICAL GARDENS, EDGBASTON.

SOME BIRMINGHAM GARDENS—I.

The Birmingham district has long been noted for its many good gardens, and for its numerous horticultural exhibitions. The busy Midland city, with its innumerable factories, wonderful jewellery trade, and a host of minor industries, has much need of gardens and open spaces, and, fortunately, the business men have found in their gardens that lie all around the City a pleasant relaxation from business, and a delightful recreation in the culture of flowers and plants. Nor have the needs of the people been forgotten by the City authorities, and so we find within the City's boundaries a fine series of public gardens, playgrounds, parks, and playing fields, all well kept. In the following notes a few of the more important of the private and public gardens at Birmingham are briefly described, to show what is horticulturally possible within the confines of a large industrial centre

Edgbaston Botanical Gardens.

Quite familiar to a very large section of the horticultural public, and especially those who take a keen interest in exhibitions, are the delightful gardens of the Birmingham Botanical and Horticultural Society, situated in Westbourne Road, Edgbaston. It was in 1829 these gardens were founded, and they were designed and laid out by Mr. J. C. Loudon, who, with consummate skill, made the most of his opportunities, so that now the extent of the gardens seems far greater than it really is. The site is one that slopes rather sharply to the south-west, but instead of providing a series of regular and formal terraces, Loudon allowed one long, broad terrace along the top of the site, close by the entrance, and then secured access to the lower parts of the grounds by means of sloping lawns and curving walks, with here and there some special feature to arrest attention, and, consequently, make the descent or ascent appear the more easy.

The society has a membership of less than one thousand, and one is inclined to think that the good people of Birmingham are so busy manufacturing goods for the world at large that they fail to fully realise the value, beauty, usefulness, and real need of this little paradise in their midst. Birmingham is well supplied with parks and open spaces, but here is a semi-private garden, with landscape effects not equalled anywhere else within the City borders, with collections of plants that make it a miniature Kew, and with opportunities for study and recreation not obtainable elsewhere within a reasonable distance. Moreover, everything is well kept and well grown, and Mr. Thomas Humphreys, the able curator, is always delighted to give information relative to plants, flowers, etc., and his long experience at Kew and elsewhere admirably fits him for the post he occupies, and is a guarantee that nothing but the best advice will be given. An annual subscription of 10s. 6d. gives personal admission to the gardens at all times when they are open to members. For 25s. per annum one can obtain a family ticket that admits all the resident members of a family on ordinary days, and two sets of special tickets for reserved days and flower shows, and also private admission on Sunday mornings from 10 a.m. to 1.15 p.m. Anyone who takes up a two guinea share in the society, and also takes out a family ticket, is in the happy position of having a beautiful garden to enjoy all the year through. But he may not pluck the flowers, and, after all, this is not a serious matter, now that flowers are so cheap and plentiful. I am convinced that there are hundreds of people, garden lovers and garden owners, all around Birmingham, who would become members if those who are already members were to use their personal influence. Further, the City Fathers might well make it a point of honour to visit the gardens in state once a year, to draw attention to its beauties and its wonders. A Corporation garden party, or something of the kind, would give the right kind of advertisement.

The Right Hon. Lord Calthorpe is president of the society, Mr. Edward Nettlefold and Mr. Neville Chamberlain are the trustees, and Professor Hillhouse is the hon. scientific director. The fine generosity of the president has served in no small degree to put the society on a better footing in recent years, while the value of the intense interest Mr. Neville Chamberlain has taken in the improvements carried out in late years by Mr. T. Humphreys is hardly to be overestimated.

Under the curatorship of Mr. W. B. Latham, the gardens attained considerable fame, and not a few of the young men who graduated under him are now occupying responsible positions in gardens in various parts of the world. One calls to mind Mr. Raffil in the garden, and Mr. Skan in the herbarium at Kew; Mr. Hales, curator at the Chelsea Botanic Gardens; and Mr. E. H. Wilson, who has collected so many fine new plants in China; all students under Mr. Latham, and there are many others. My point is that Birmingham, as a City, does not fully appreciate its Botanical Gardens. The annual expenditure averages about £2,000, and the subscriptions amount to about £1,100. The average annual admissions of members and visitors amount to 75,000, thus proving the need of the gardens. It would be nothing less than a calamity if, owing to lack of support, the gardens should have to be closed, and the estate cut up for building—but such a calamity is unthinkable in Birmingham, where everyone has a great pride for the City and its various institutions.

But let us stroll round the gardens. We first peep into the useful library of horticultural and botanical books open to all subscribers, and then inspect the big corridor and show house, where so many famous exhibitions are held each year. At one end is the palm house, and the water lily house, where the Victoria regia is a great success. Parallel with the show house are several well-designed houses that contain excellent collections of orchids and tropical plants. The former are largely grown, and include particularly fine specimens of Cypripedium grande, C. Rothschildeanum, C. A. de Lairesse, C. Lathamianum, Cœlogyne Massangeana, Cœlogyne cristata, a large white-flowered species of sobralia, named S. Elizabethæ, etc. Many of the finer hybrid orchids are now included, and for these the society is largely indebted to the generosity of Mr. Joseph Chamberlain and Messrs. Charlesworth and Co. One may mention the cattleyas, thunias, and vandas as being in exceptionally fine condition.

The climbing plants are a great feature of the houses, notably Clerodendron Thompsoniæ, Bougainvillea glabra, red and white lapagerias, the wonderful Aristolochia gigas Sturtevanti, allamandas, stephanotis, and fuchsias trained to the rafters. Ferns are also excellent, and it would be difficult to find equally good examples of gleichenias, or of Dicksonia Lathami and Cyathea medullaris. Large batches of campanulas, primulas, chrysanthemums, gesneras, poinsettias, cinerarias, calceolarias, fuchsias, carnations, salvias, eupatoriums, exacums, and many other showy subjects are cultivated skilfully, and these are necessary for the decoration of the corridor, show house, and the cooler houses, and at no season of the year is the glass department dull. Mr. Humphreys does not believe that a botanical garden should be a dull place, and interesting only to botanical students.

Of trees and shrubs there is a very fine collection at Edgbaston, and these are grouped in a most pleasing manner. Along the outskirts of the garden the effect of overcrowding is to be seen, but this is being remedied as fast as circumstances permit, indeed the improvements recently made have been very marked. The replanting and remodelling of the rhododendron garden has been one of Mr. Humphreys' happiest ideas and greatest successes. The rock garden is a charming spot, and it contains a collection of beautiful plants, some of them of considerable rarity. Gentians and hardy primulas are notable successes, and cotoneasters and Salix lanata are shrubs that at once arrest attention. Nor must I omit the rosery constructed five years ago, and now one of the leading features. In the lowest corner of the gardens there is a water lily pool, its farther margin planted with willows and poplars, and edged with beautiful wild flowers. Of the many famous trees the gardens possess there is not room here to write, but a wonderfully fine old double cherry must not be overlooked, because it is one of the finest in the county, and, thanks to a little judicious thinning around it, its beauty can now be fully enjoyed.

On the terrace there are beds of flowers, where fuchsias, cannas, Calceolaria amplexicaulis and begonias are freely used for the summer display, but the great flower gardening feature is the bank from the terrace to the lawn. Here is the great attraction for those who delight in summer bedding. A different conventional pattern is worked out each summer, and while dwarf flowering and foliage plants are used freely to form the groundwork, the design is always relieved from flatness and monotony by the introduction of groups of pelargoniums, yuccas, agaves, dracænas, begonias, fuchsias, abutilons, and many other effective and graceful plants

AUGUST BANK HOLIDAY SCENE, BOTANICAL GARDENS, EDGBASTON.

But I must conclude, for lack of space, not lack of material to write about, and permit the illustrations to add to this brief garden story.

Whetstone.

The reputation of a garden does not depend upon its size; many gardens of great extent have no reputation worth speaking of, while others of quite moderate dimensions are famous. The famous gardens are mostly those where some distinctive feature is brought as nearly to perfection as human skill can attain, or where some class of plants is grown superlatively well. It does not follow that where the owner or gardener specialises everything outside the speciality is far below the average of good quality, though some folks have an idea that this is almost a rule. After visiting hundreds of gardens of more or less note I have come to the conclusion that where there is a speciality one rarely finds other things below par. The contrast would be too sharp. Specialising in a private garden is usually the result of one or both of two things, i.e., a keen love and enthusiasm for the particular subject on the part of the owner, or a special skill in, and liking for, its cultivation on the part of the gardener.

Whetstone is famous, not only in the Birmingham district, but far afield. It is peculiarly situated, and the situation is not conducive to the best results from a gardening point of view. Right along its longest side the Whetstone garden is bounded by a very deep railway and canal cutting, and a visitor can hardly refrain from wondering whether or no the garden will some day slide down into the cutting below. In short, the garden is too well drained, and it can be no easy task to keep the lawn fresh and green, the roses happy, and the herbaceous plants flourishing in a hot season, and yet the task is accomplished.

The owner of Whetstone, G. H. Kenrick, Esq., who is this year Lord Mayor of Birmingham, is a great lover of plants and flowers, and Mr. J. V. Macdonald, who has been his head gardener for fourteen years, is an enthusiastic plantsman. Experience has shown the best means of overcoming the difficulties of the situation, and the size of the place has made it a fairly easy matter to provide the means and save labour. Whetstone is an admirably equipped garden. The roses are a success, and especially so on the pergola that skirts the tennis lawn. Rock gardening is a feature, and clambering over, prettily clothing the big boulders, or filling the pockets and ledges, are some very fine examples of helianthemums, Veronica cupressoides, saxifrages in variety, cistuses, Genista radiata, gentians, Phlox frondosa, Cotoneaster horizontalis, and many another choice subject. Forming almost a part of the rock garden is the heath garden, and in the peaty bed provided for them many varieties of heaths thrive, and provide a distinct attraction, for at all seasons of the year some of the kinds are in bloom.

Nearer the house, and well in view from the principal windows, is a large bed of flowering cherries in variety, all standards, with a dense undergrowth of Cotoneaster Simonsi. This is a rather unusual association, but it is a successful one. The cotoneasters are kept low, and form a splendid groundwork for the lovely blossoms produced profusely by the trees above in spring and early summer. Rosa rugosa is rather freely planted in beds, and in groups along the boundary line; Blanc double de Coubert is always pleasing, whether in flower or fruit, and it thrives where many other roses would fail. There are limitations in a garden like that of Whetstone, and the great skill of owner and gardener are shown in the cultivation of the choicest of those subjects that can be managed successfully.

The splendid collection of plants under glass is the great outstanding feature at Whetstone, and I have purposely left this until last, lest the impression should be given that the glass department is the only good feature, and my previous remarks be thereby contradicted. There are sixteen houses, of various sizes, but one block consists of eight houses, all opening into a long and beautiful corridor, with a conservatory at the end adjoining the mansion. Passers-by cannot see into the conservatory, but Mr. Kenrick has had a series of exquisitely beautiful panels of flowers, in tile-work, set in the outer wall, that all may see, for, curiously enough, there is neither fence nor hedge around the little lawns that surround the front entrance. The lawns are raised a couple of feet above the road level, and a few stones are placed so as to prevent vehicles from traversing them—that is all. Orchids fill a considerable space in the houses, and it was a pleasure to find a collection of phalænopsis in rude health. Cattleyas fill the stages of another house, and from the roof depends a wonderful specimen of Lælia anceps, on a raft. Dendrobiums are unusually well managed, and D. Dalhousieanum, with growths 6ft. long, and racemes carrying from twelve to twenty-two flowers each, are a revelation. Mr. Macdonald believes in peat, sphagnum, crocks, and charcoal for orchids, and he is no lover of the leaf-mould culture. D. fimbriatum, D. bigibbum, and D. phalænopsis Schroderianum grow, to use a common expression, "like weeds," for love, as well as skilful management go towards their production. You have but to watch Mr. Macdonald handle a Cattleya gigas, or hear him tell the history of Vanda teres and V. t. alba, to understand that he is something more than a clever cultivator.

Besides the orchids, and these are chiefly those needing warm treatment, there are many other plants that are grown with a skill well above the average. Crotons are superbly coloured, and the tall, single-stemmed plants of C. Warreni and others of somewhat similar character, carry bright leaves from pot rim to summit. One house is almost full of the Javanese section of greenhouse rhododendrons, and there are always many of the plants in flower, carrying trusses of beautiful blooms, no matter what the season of the year. Ixoras are splendid, and the charming Fuchsia triphylla is finer here than I have ever seen it elsewhere. Caladiums, gloxinias, achimenes, and amaryllis are all grown largely, and the ever-popular Begonia Gloire de Lorraine is given its rightful place, and the bright B. Winter Cheer is successfully managed.

Climbing plants add to the beauty of the various houses and the corridor, and these include a fine Pleroma macrantha, Gloriosa superba, fuchsias, roses, Begonia President Carnot, habrothamnus, stephanotis, clerodendrons, allamandas, and dipladenias. Dracænas, palms, and ferns are all beautifully clean and healthy. The houses are well built, and there is a water tank beneath the central stage of all those devoted to warmth-loving subjects, as well as a cement trough under each side stage.

Mr Macdonald exhibits largely, and is always found well to the front at Shrewsbury and other shows, where he has to meet competitors from much larger establishments. He is clever at the arrangement of groups of flowering and foliage plants, and has a long record of notable successes. In conclusion, it must suffice to say that Mr. Kenrick's collection of indoor plants is one of the best, most interesting, and most successfully managed in the Birmingham district.

Harborne Hall.

The suburb of Harborne lies a little beyond Edgbaston, and, like the latter, includes a considerable number of interesting gardens within its boundaries. One garden well known in the neighbourhood for its beauty and excellent upkeep is that surrounding Harborne Hall, the residence of Edward Nettlefold, Esq.

The hall has a long garden frontage, from which the lawns and pleasure grounds slope away gently, the land beyond dipping sharply to the south-west into a valley, permitting wide views beyond across to the Lickey Hills and Barnt Green. The gardens, and grounds, and fields, cover an area of about fifty acres. About seven acres are devoted to pleasure grounds, and there is a fine square kitchen garden, just out of sight from the Hall, surrounded by an oak fence. During the last five years the gardens have been almost remodelled, and the work has been done so well that the beauty of the place is certain to increase as the years go by. Mr. and Mrs. Nettlefold take a close and personal interest in their gardens, and Mr. G. Giles, their gardener, is an enthusiast.

What strikes one as being a very uncommon feature of the Harborne Hall gardens is the proximity of the rock garden and the water garden to the house. A broad walk runs along in front of the hall, and at one end, just beyond the hall itself, is the low rock garden, that is always interesting, but of special charm during the spring and early summer. It is a homely rock garden, because everyone can see it and admire the plants that thrive upon it without clambering over or round big boulders, and without going to the other end of the estate to find it. These low, unpretentious alpine or rock gardens ought to be more frequently met with, and in many cases they could be constructed quite close to the home. At the opposite end of the walk, where it curves round the lawn, is the water garden, and this is as simple in its way as the rock garden at the other end. The little pool and its banks have been prettily planted. There is a very fine clump of Gunnera scabra, and there are fine groups of eulalias, pampas grass, spiræas, and Galtonia candicans, the latter being especially fine close to the water. Water lilies of the best kinds flourish in the water, and the bullrushes and aponogeton have to be regularly thinned out to prevent their intrusion upon the lilies.

Roses are a delightful feature at Harborne Hall, and they are freely used to form arches over the paths. The rose garden proper is completely surrounded by a dense, closely clipped, battlemented yew hedge, and it is so cleverly arranged, and so well masked by fine hollies and a broad herbaceous border, that one comes upon it unawares, and receives a very pleasant surprise. The surprises of this kind that one finds in gardens add not a little to the interest of the place. It is a great disadvantage to any garden when its natural form, or its design, permit the view to range over practically all its features. Dorothy Perkins is a fine rose, but rarely is it seen flowering with such freedom and beauty as in the rose garden at Harborne Hall, where a light and elegant pergola is completely covered with it. Other kinds of roses abound in the beds and borders, but this bold planting of Dorothy Perkins has produced a picture that is at once exquisitely beautiful and satisfying.

It is not often one finds a wide herbaceous border cut out in the lawn, as at Harborne Hall. The fine collection of pæonies, delphiniums, pyrethrums, lilies, irises, and all other good things are backed by numerous beautiful hollies, gold and silver and green; indeed, the hollies are fine all over the garden. There is another big border of hardy flowers opposite this one, but it seems to have been in position a long time, while the new one looks as though it had quietly and cleverly worked its way up from the lower ground until now it flings its challenge across the broad grass

A FINE SPECIMEN OF THE DOUBLE CHERRY IN THE STUDENTS' GARDEN, BOTANICAL GARDENS, EDGBASTON.

belt to its older companion. The increasing love of hardy perennials has brought this new border into being, and, in some measure also, the free use made of flowers in the hall has made it a necessity.

Besides the hollies and roses there are many fine specimens of beautiful trees and shrubs in the Harborne Hall gardens. Magnolia conspicua is very fine, and of Berberis stenophylla there is a specimen difficult to excel in this country. Flowering peaches, cherries, and plums are delightful, and Prunus pendula is a very pretty tree. Skimmia japonica, rhododendrons, and azaleas are freely planted in groups, and a careful and skilful use has been made of the golden privet and the golden elder, these giving fine touches of colour among the darker evergreens. A big weeping elm, and a fine deodar also deserve mention.

In the lower part of the garden, among the trees, there is a pretty combination of rock and water gardening. Spring-flowering plants are freely grown, and good effects are produced by the bold planting of polygonums, spiræas, berberis, Japanese maples, groups of herbaceous phloxes, cotoneasters, and, nearer the water, hardy ferns. The bank that forms a sort of connecting link with this garden and the grounds above is planted with phloxes, and it is easy to see that these flowers are very popular with Mr. Nettlefold and his family.

One might dwell at some length upon the fine crops Mr. Giles cultivates in the kitchen garden. Peas, both edible and sweet, are grown particularly well; Mr. Giles believes in giving peas abundance of room, and cropping between the rows. Carter's Emperor runner bean, the new Russian kale, the onions, the seakale, and the cordon gooseberries are all so admirably managed as to attract special attention. In the glass houses the chief attractions are perpetual carnations, cyclamens, primulas, and calanthes. The vineries and peach houses are old structures, and will, doubtless, give place to modern designs in due course. Early-flowering chrysanthemum and November varieties grown in free bush form—a very popular method in the Birmingham district, and bouvardias, planted out in frames, give further evidence of the love of flowers at Harborne Hall, and also of the skill of the gardener.

Queen's Park.

Since Queen Victoria opened Aston Park to the public in 1858, the parks and open spaces of Birmingham have increased largely in number, extent, and beauty. Calthorpe Park was opened the year previously, but Queen's Park, at Harborne, is one of the smaller and most recent additions to the city's playgrounds. It is about fifteen acres in extent, and was opened in 1898. It is essentially a playground or recreation ground, and ample provision is made for the children and young people to enjoy themselves and play games.

But Queen's Park is not without its horticultural features. It has many fine trees and hardy flowers, but the great attraction is the display of summer bedding. Just inside the main entrance is a pretty cottage that is the residence of the foreman in charge, and behind this are several excellent low greenhouses, admirably adapted to the cultivation of bedding plants. Immediately in front is a well-kept lawn enclosed by a low wire fence or edging, and here there are several flower beds that are annually filled with plants that yield beauty of flower or leafage. In addition to the flower garden on the lawn, the border on the other side of the pathway also serves to provide a bright display. Here, last summer, fuchsias were a great attraction, the tall standards of many varieties being a conspicuous success. Calceolarias, ageratums, nicotianas, lobelias, and Paul Crampel and Flower of Spring pelargoniums were also used freely and effectively in this same long border.

In the flower garden proper the effect was not spoiled by the creation of a large number of pretty beds. One big central bed formed the great feature, and the other beds were quite subsidiary, and merely helped to form a setting to the chief effort. As so many readers have the work of summer bedding in full view, it may be as well to describe this big bed at Queen's Park. In outline it is like five circles linked together, the three central circles being larger than the two end ones, and raised higher. The circular portions were filled with pelargoniums. Paul Crampel was used in the central circle, and Universe in those on either side of it, while the end circles were planted with Mrs. Quilter. Verona was the variety used to fill the links between the outer circles and those filled with Universe. The portions of the bed that linked up the three chief circles were filled with Flower of Spring, and some fuchsias. The edging for the whole display was blue lobelia.

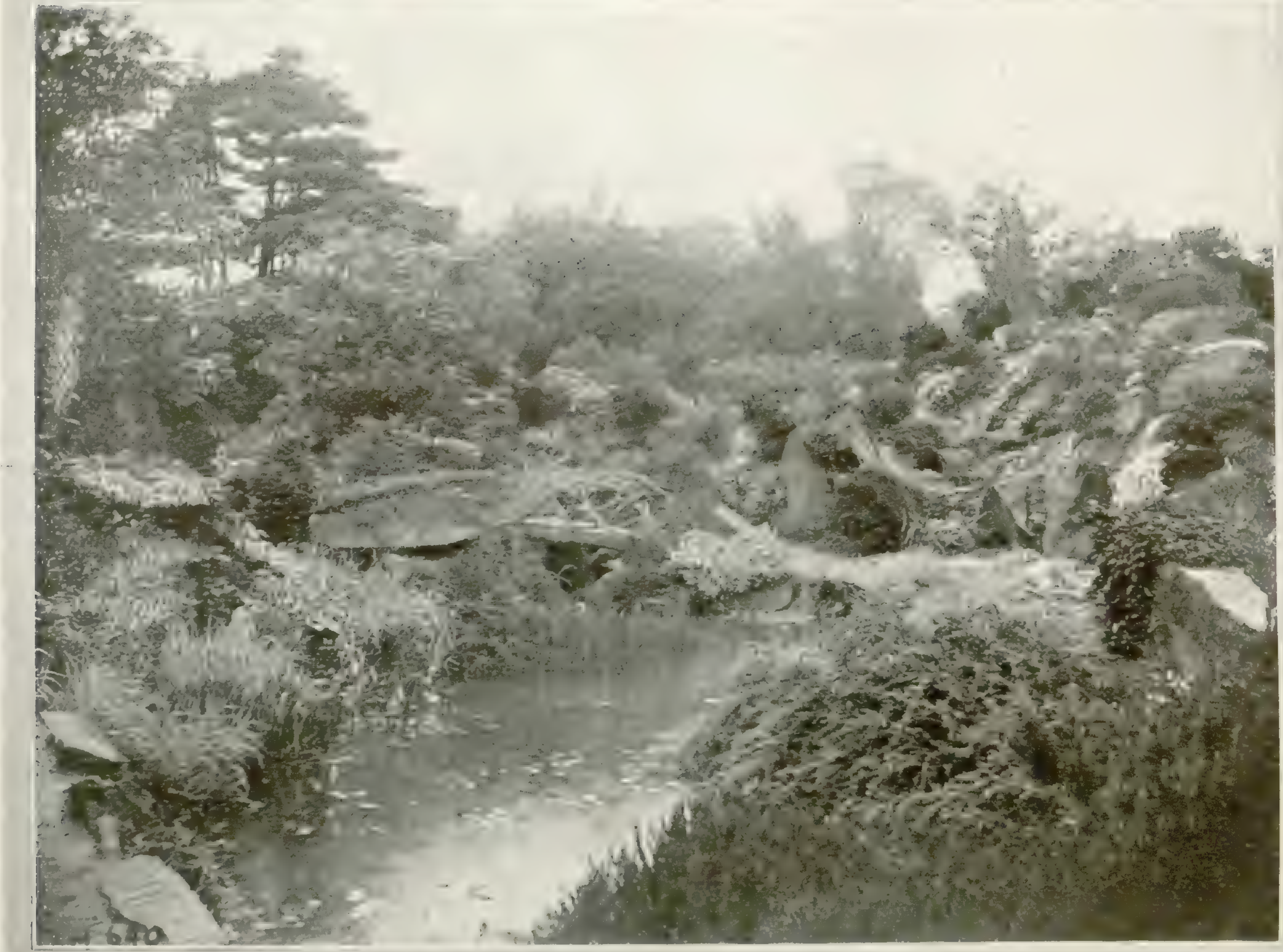
It will be seen that there was nothing very elaborate in such a bed as this, no complicated design or uncommon plants. The effect was particularly good, and one had only to stand by for five minutes and listen to the expressions of pleasure that fell from the lips of a continual stream of admiring visitors, to discover how deep-seated is the love of summer bedding, and how great is the attraction that plants and flowers pleasingly associated and well grown can provide.

Charles H. Curtis.

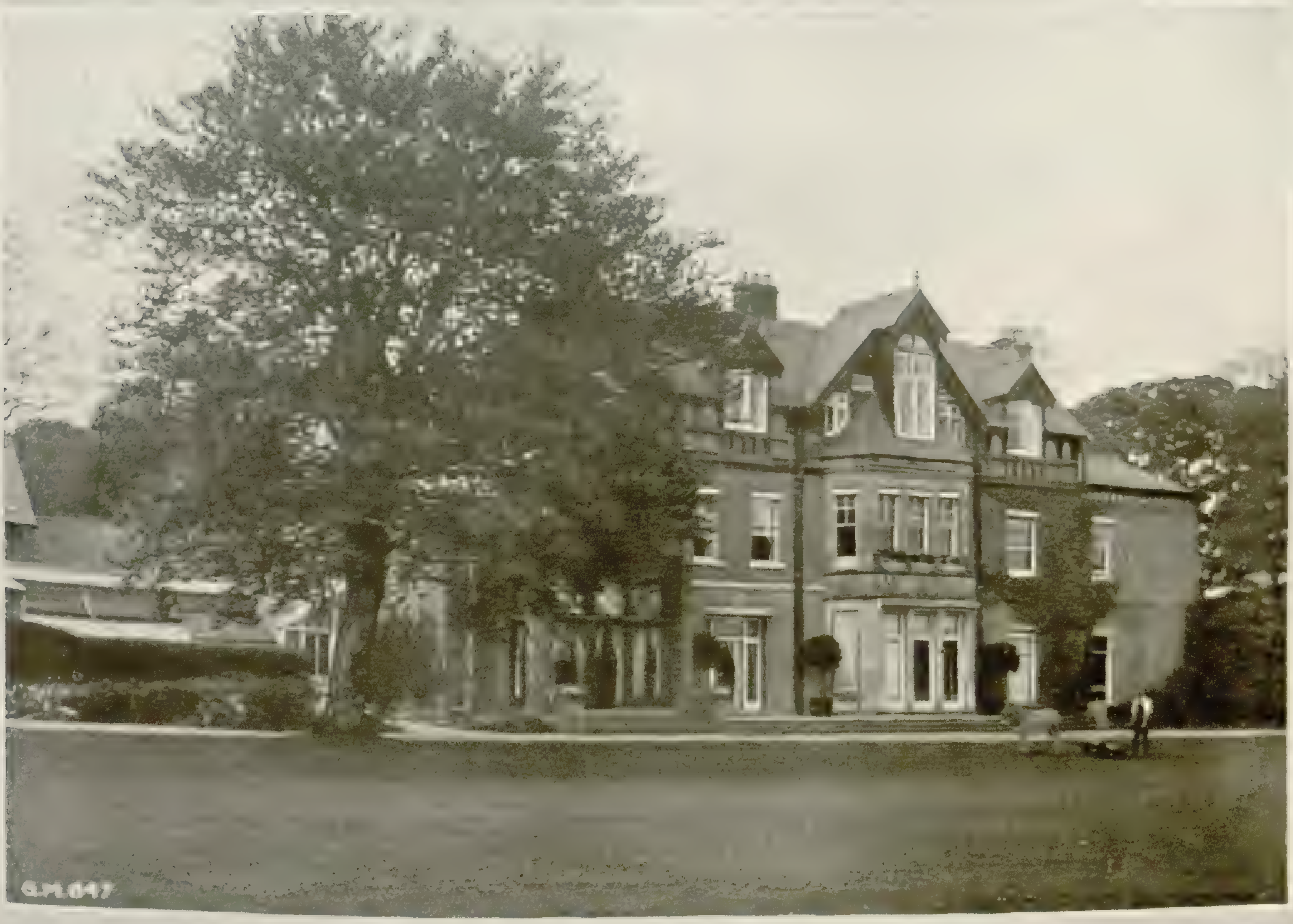
⁂ The second article on "Some Birmingham Gardens" will appear in our next issue.

WATER LILY POOL, BOTANICAL GARDENS, EDGBASTON.

Gypsophila paniculata fl.-pl. as a Cut Flower.—The double form of Gypsophila paniculata has now been before the public for several years, so that in no sense can it be considered premature to offer an opinion upon its usefulness in the garden. In the first place, the growth is quite as hardy and vigorous as the parent, while the branch system undergoes the same perfect development, building up a huge, ball-like mound of slender stems, which terminate in countless blossoms. Except for the fact that these are so small, the doubling is in no way disadvantageous, as they can be employed in the same free manner as the type. The greatest advantage, however, lies in its lasting quality in a cut state, and as it always blooms later than the type, it must, in this respect, inevitably occupy a position of preminence in the garden. In most gardens the call for cut flowers is always great, and as this type of plant is extremely limited, gardeners should early recognise its distinctive merits, and at once include it in their charge. Perennial gypsophilas are essentially limestone plants, retaining their vigour year after year with indifferent attention when planted in soil largely composed of chalk, and where this is absent crushed limestone or old mortar rubble can be used.—Thomas Smith.



VIEW IN THE ROCK GARDEN, BOTANICAL GARDENS, EDGBASTON.



HARBORNE HALL.

LILIUM TESTACEUM.

A favourite and extremely useful lily for the border is Lilium testaceum, sometimes called L. excelsum and L. isabellinum, the latter name being applied from the colour of the flowers, which is of the tint of yellow or nankin called Isabel. It is understood to be a hybrid between L. candidum and L. chalcedonicum, the Scarlet Turk's Cap lily, and in form it takes after the latter parent, the flowers being recurved like those of L. chalcedonicum and others of its class. When well grown, it is a very stately lily, and I have seen it as much as six feet high—although in poor soil it may not be more than three, especially when it has not been long established. When five or six feet high it is very fine indeed, with its pretty leaves and its tall stalk bearing a number of these nankin-coloured recurved flowers.

I have in my mind's eye as I write two long borders in an old garden which I have not seen for years, in which there were many plants of this Nankin lily. At intervals, at the back of these borders, were groups of the lily, breaking the lines of delphiniums and other tall border flowers; and in summer, when the lilies were in bloom, the effect was superb, especially towards evening, when the colours of the flowers seemed more in harmony with the fine surroundings of old trees, old hedges, old turf, and old-fashioned flowers, which constituted the setting of these gems of the garden. Since then I have seen Lilium testaceum in many gardens, and it ever remains with me one of my favourite flowers—a preference increased by knowing that it is one of the easiest of all lilies to cultivate.

It was with some surprise and fear that I learned some few years ago that it was subject to the same diseases as one of its parents, Lilium candidum, the charmingly pure Madonna lily, whose exquisite purity is so pleasing to everyone. It seems to me, however, that this disease is not very widely spread, as, frequently as I have come across L. testaceum, I have never seen it attacked by this pest. I am thus led to conclude that it is less subject to it than has been asserted, and this is partly borne out by the knowledge that in the old garden to which I have just referred the Madonna lily was very subject to this disease, while Lilium testaceum seemed quite immune.

Like quite a number of other lilies, L. testaceum seems to enjoy the cool atmosphere of the North, and in many Scottish gardens, it is exceedingly fine, even where it receives the minimum of care. Then it is also less injuriously affected than some lilies by the presence of fresh manure in the soil, and I have been amazed at its indifference to the somewhat rough treatment I have seen it receive. I know a garden where it and other border flowers were lifted every two years or so, just after the potato planting time, when the garden was receiving its annual overhaul. The border was thoroughly manured with almost fresh, steaming horse-manure, and the lilies replanted without any detriment to them—nay, one would rather say, with a distinct improvement to their vigour. This somewhat unorthodox treatment—for even the manure was unorthodox, cow-house manure being the orthodox prescription—was followed for years with excellent results, and the plants gave strong, vigorous leaves and stems and large flowers of great substance.

A good loam is a soil which suits this lily well, but I have seen it flourishing under the most diverse conditions; here in good garden loam; there in poor and sandy soil; and there, again, in stiff clayey loam. It is, in brief, one of the most accommodating of lilies under varied conditions. As regards the situation, I have seen it do splendidly in such positions as among shrubs, but I have also observed that it flourishes in the sun equally well, so that the statement that this is one of the most accommodating of garden lilies holds good in connection with situation as well as of soils. Thus those who wish to cultivate it need not hesitate to attempt it, as they have every prospect of success.

It is also an excellent pot lily if treated in the ordinary way adopted for such lilies as Liliums auratum, longiflorum, and other favourite lilies cultivated in this manner.

For planting outside I generally recommend a depth of from nine inches to a foot as the best depth to plant, but in pots about four to six inches is a better depth. It is unfortunate that the deep pots which are most suitable for lilies and some other bulbs are not stocked by many seedsmen, as they are by far the best for such plants as Lilium testaceum. I have practised with considerable success in growing this and other lilies in pots a plan I once read of years ago. This was to smear the inside of the lower parts of the pots, i.e., at about the level of the base of the bulbs, with fresh cow manure. This did not, of course, come in contact with the bulbs themselves, but the roots had access to it, and it was wonderful how they seemed to find their way to the manure and apparently to enjoy the strong feeding. This but confirms the belief that this and many other lilies do not object to some manure within their reach, but not in direct contact with the bulbs.

Propagation of L. testaceum is effected by means of division of established clumps of bulbs, and also by means of scales, but the latter method is not a convenient although an interesting one, for the amateur with little space and little time to spare for work of this kind. L. testaceum is not expensive, and a bulb or two will form a good nucleus of what may in due time prove a large stock.

S. Arnott

WATER GARDEN AT HARBORNE HALL.

LINARIAS.

Linarias are not usually regarded as typical garden plants, though for decorative effect they leave but little to be desired. Though, however, it is usual to exclude the majority of them from the garden proper, there are few groups of plants which are better adapted for certain purposes in garden adornment. I am speaking in reference to their value for the rock garden and the wild garden, for in these places the linarias are at home, and one can keep their somewhat aggressive tactics under control.

They are certainly aggressive, and with their creeping, fleshy roots and their prodigal distribution of seed, they may be deemed invaders in the fullest sense. Though, of course, this roving freedom necessitates a certain amount of watchfulness if there are choice plants in their vicinity, yet one would not deny them this characteristically invasive disposition. On the contrary, this delightful freedom of growth and prodigality of blossom endears the whole group to those who desire "natural beauty," especially in reference to the wild garden.

One has only to recall the delightful grace and the attractive sulphur and orange colouring of our common Linaria vulgaris to be assured of the beauty of the whole group. One can often meet with L. vulgaris in out-of-the-way hedgerows in August, growing three to four feet high, and forming a veritable "picture" with its dainty spires of blossom.

Naturalised in extensive groupings this linaria will give pleasing effects, and in conjunction one could also utilise other of the finer tall linarias, such as L. dalmatica—an exceedingly good plant and very lasting in blossom; L. genistæfolia, a light habited, pale yellow gem; L. macedonica, probably a variety of L. dalmatica, from which it differs in its deeper hue and broader foliage; and L. purpurea, a rich purple-coloured species, with a light, graceful habit, which contrasts splendidly with the sulphur and gold of the other species. Linarias revel in a fairly good retentive soil, and in a sunny situation will not fail to produce a "very riot of beauty." They often do well in a shady position, but the wealth of blossom is considerably curtailed.

Linaria alpina is one of those exquisite rock plants which blossom over a long period and never appear weedy. I recollect an old time garden where this species had taken full possession of some old stone steps, and certainly the tiny grey-green leafage, with their tiny culminating spikes of purple-blue and orange blossoms, roving out from the crevices between the stones, made a very pleasing effect. I would advocate the merits of L. alpina, and more especially its charming varieties rosea, a soft rosy pink of exquisite appearance, and alba, a rarity in white, the three forms being extremely valuable for the embellishment of the rock garden.

L. pallida is a favourite in many quarters, and makes spreading mounds of greenery, which are gemmed in summer with dark lilac blossoms. A somewhat uncommon purple variety of pallida was noted at Kiln[illegible] Gardens last summer, and gave one the impression of being a pleasing addition to the rock-garden linarias.

A plant that should on no account be left out of the rock garden is L. repens alba, which produces an abundance of dainty flower-clad growths, which are graceful in appearance and wonderfully fragrant. These tiny linarias, L. pilosa and L. hepaticæfolia, are splendidly adapted for shady nooks and crevices, and may also be used as carpeting plants around taller subjects.

Of the other rock linarias one would not miss L. cymbalaria, the Kenilworth ivy, which is so well adapted for streaming down from the crevices of old walls. Its principal variety alba, a white counterpart of the type, is also of service in the direction noted.

Others might also be utilised, and among them L. anticaria, a beautiful variable species; L. origanifolia, blue and gold in long racemes; and L. italica, a floriferous white, are worthy of notice.

One might indeed profitably include a selection of linarias in rock and wild garden plantings. P. S. Hayward.

JERUSALEM ARTICHOKES.

These are most valuable to the gardener who has to supply large quantities of vegetables through the whole year. The Jerusalem artichoke (Helianthus tuberosus) is available for the table about the middle of October, and gives a continuous supply till the latter end of March. Then there is the Chinese artichoke (Stachys tubifera), which is a small, wrinkled, tuberous-rooted plant that makes a most acceptable dish, and is a useful addition to the vegetables, available in its season. This may be used from about the same time as the Jerusalem artichoke, but after December it becomes a little too sweet, and is therefore not much in request.

To many it may appear that the Jerusalem artichoke is inferior to the potato in nutritive quality, but analysis shows that the tubers are inferior in but a slight degree; and when properly cooked and served, a dish of artichokes is very agreeable. When potatoes are of indifferent quality, which very frequently occurs, a store of artichokes becomes invaluable. Where the slightest knowledge of cookery exists there is no difficulty in serving them up in a most tasty manner. As regards cultivation, the Jerusalem artichoke is often left alone in some out-of-the-way corner to take care of itself. But if systematically cultivated, it is as easily and cleanly forked out of the soil, when ready, as is the potato. It has a great advantage over the latter, for its tubers will stand any amount of frost without the slightest injury.

ROSE PERGOLA, HARBORNE HALL.

The tubers of the Jerusalem and Chinese artichokes could be left in the ground if necessary all winter, but it is far the best method to dig up a quantity and store in ashes or sand, so that they may be easily obtained when required during hard frost without much trouble. These two latter kinds are extraordinary croppers, and free from any kind of disease, so an abundant supply is certain, with but litle trouble in the preparation of the soil, and even without the application of manure.

As before stated, the Jerusalem artichoke will thrive in any kind of soil and in almost any situation, but to grow it well, and of nice flavour, a good deep sandy loam is required and an open, sunny position. The ground should be well trenched in the autumn, so that the frost may have full effect on the soil, which will make it better for working. The best time for planting is in February and March. Choose moderate-sized tubers, and plant them 18in. apart from each in rows with 2ft. spaces between them. The tubers will soon grow on and take care of themselves, the growths running up in some seasons from 10 to 12ft. high; consequently, if there is any unsightly wall or buildings in the garden that it is desired to block out, these are most useful.

To obtain good-sized tubers, it is necessary to plant a quarter every year, and if in very exposed situations some support will have to be given to the growths to prevent their being broken by wind. Strong twine fastened to poles driven in the ground will answer very well. Watering or mulching is not required, except on very poor, shallow soils, when a mulch may be applied or water given with advantage.

T. W. Birkenshaw.

Hatley Park Gardens.

Walnuts.—These are generally much appreciated, but very little attention do the trees receive in a general way after they become established. Yet large trees are much improved, and the fruit enlarged, by having the soil over the roots kept open, and by an annual dressing of manure placed over the surface during the winter.—Geo. Woodgate, Rolleston Hall Gardens.

GARDEN DAHLIAS.

The following is the substance of the address given by Mr. George Gordon, V.M.H., at the meeting of the National Amateur Gardeners' Association on the 2nd inst.:

It cannot at the present time be said that dahlias enjoy a high degree of popularity, or indeed, the popularity their merits would warrant. They are annually grown in large numbers, and they have their admirers; but they seldom give rise to any considerable degree of enthusiasm. Knowing the present state of feeling with regard to dahlias, Mr. Gordon said he would certainly not have suggested a talk about them had he desired to obtain a little applause, but rather would have recommended an address on roses or some other class of plants that are so highly esteemed that one can be sure of obtaining hearty response when speaking of their usefulness, and the charming effects they are capable of producing. His object, he said, in selecting garden dahlias for his subject, was to endeavour to show that dahlias can at a small expense, and without any special difficulty, be made to contribute materially to the attractions of the flower garden during the greater part of the summer, and at a time when many of the flowers belonging to that season have lost their freshness and beauty.

In acknowledging the fact that dahlias do not enjoy a high degree of popularity, it was desirable it should be carefully considered why they fail to be regarded with the favour justified by their merits. They are, it is true, not distinguished by their fragrance as in the case of roses, carnations, and some other flowers that could be mentioned, but they are free and continuous in flowering, the blooms are highly diversified in form and varied in colour, and the hues are all more or less attractive. Dahlias are at the present day suffering appreciably from the raisers having regarded them more as flowers for the production of colour displays on the exhibition stage than as flowers for beautifying the garden. Cultivators have also helped to hinder dahlias rising to the position they should occupy in public estimation, by failing to differentiate between the course of procedure desirable in the production of exhibition blooms and the practice by which the most satisfactory effects can be obtained in the garden.

There is nothing new in this. For more than a hundred years raisers have constantly had their attention directed to the exhibition side of dahlias, and been striving to produce plants bearing blooms remarkable for their large size and perfect form, as judged by the standard of the day, instead of building up plants of neat habit, profuse in flowering, and bearing their blooms on stiff stalks well above the foliage. For more than a hundred years writers on dahlias, in dealing with their cultivation, have shown remarkable unanimity in recommending, whether the plants were intended for the production of individual blooms of exceptional size, or for garden decoration, a course of procedure only adopted for the first-named purpose. A stock phrase was, and still is, "As the dahlia is a gross feeder, the ground, in being prepared for them, should have a heavy dressing of manure."

One hundred and ten years have elapsed since the dahlia was introduced to Europe from its Mexican home. But it was not until 1815, when plants were obtained from France, that it was really established in this country. Immediate attention was directed to the raising of new varieties, and these were multiplied at so rapid a rate that fifteen years later there were several hundred named varieties in cultivation, and numerous exhibitions were held annually. These exhibitions created an immense amount of interest, certainly not less than that associated with the chrysanthemum shows held twenty years ago, and this interest was maintained until quite the middle of the last century. Single flowers were not appreciated in the earlier days of the dahlia in this country, and all the raisers did their utmost to obtain double flowers of a perfectly symmetrical form. It was from the earliest introductions that the show and fancy varieties originated.

These latter have throughout their history been so closely associated with the exhibition stage that they have not been regarded with much favour for garden decoration. They are, it must be admitted, not all that could be desired from an artistic standpoint, but when grown under a course of procedure adapted to the production of firm, short wood and medium-sized leaves, the growth will be compact, and the blooms will be borne in profusion on stiff, erect stalks, well above the foliage. When, on the other hand, manure from the stable or farmyard is applied in excessive quantities, as so generally advised, the growth will be so luxuriant as to hide the comparatively few blooms produced, and these will be so heavy as to hang down instead of standing erect.

Pompon dahlias, which made their appearance in this country about the middle of the nineteenth century, are of German origin. These have undergone an immense improvement, both in habit and in the form of the flowers, and are so neat in growth and free in blooming, as to be of much value for garden decoration. The height is about three feet, the growth is compact, and the blooms, standing erect, well above the foliage, produce an excellent effect. The latter afford a wide range of colour, and although distinctly formal can be employed with good effect in floral decorations. The plants should be arranged about thirty inches apart each way.

The cactus dahlias, it was pointed out, have, during the past quarter of a century, occupied a large share of attention, and, notwithstanding the energies of the raisers, they have failed to realise anticipations with regard to their value for the garden. It was supposed in their earlier days that they would become essentially the dahlia of the garden, but, with few exceptions, they have proved most disappointing. Dahlia Juarezi, the progenitor of the cactus varieties, was sent from Mexico to Holland in 1872, and eight years later was introduced to this country. The distinct form and the brilliant colouring of the blooms soon obtained for the species a large share of attention, and the raising of seedlings was entered upon with much zest. Here, as in the case of the show and fancy varieties, the mistake was made of regarding the cactus dahlias almost entirely from the exhibition standpoint. Growers based their estimates of the merits of varieties upon individual blooms, and purchased novelties in accordance therewith. Raisers naturally endeavoured to obtain varieties with flowers large in size, elegant in form, and resplendent in colour, for which there was the strongest demand. They achieved much success in the production of flowers of what is popularly known as exhibition quality. But, unfortunately, little attention was paid to the habit of the plants, and, as a consequence, large numbers of varieties were introduced that have proved unfit for the garden, and have set back the cactus dahlia considerably in public estimation. The growth of a very considerable number of the varieties make so robust a growth that the blooms are quite hidden, and those who grow them have huge masses of leaves, among which may be found a few finely-developed blooms, instead of masses of blooms relieved by a moderate amount of greenery.

Societies have much to answer for in making awards exclusively to specimen blooms without regard to the habit. This fact is now acknowledged, and it is satisfactory to know that an endeavour is being made to effect an improvement, and bring into prominence varieties that are really suitable for the garden. The Royal Horticultural Society has during the past three years held trials of cactus dahlias in the Wisley Gardens, with a view to determine their merits for garden decoration. The National Dahlia Society, with which has been incorporated the London Dahlia Union, will continue this good work. Under the altered state of things it is hoped that within the next few years an immense improvement will be effected on the lines indicated. To the grower for exhibition the habit of the plant is a secondary consideration, but to those who plant dahlias for beautifying their garden it is of the utmost importance.

The following cactus varieties, as proved by the Wisley trials, and recorded in the R.H.S. "Journal," are well adapted for the garden: A. D. Stoop, light crimson; Avoca, rich carmine; Brightness, carmine-red; Crepuscule, salmon-buff; Flash, scarlet; Florence Stredwick, white, with cream-coloured centre; J. H. Jackson, deep crimson; Lustre, light carmine; Miss Willmott, yellow, shading to soft salmon; May Carpenter, mauve-pink; Mrs. Charles Scott, yellow; Molly, yellow, suffused buff; Mont Blanc, white; Primrose, pale yellow; Stalwart, deep yellow; and West Hall Scarlet, brilliant scarlet.

Of quite recent introduction are the paeony-flowered dahlias, which were introduced to this country from Holland three or four years ago. These are strong in growth, but they are free in blooming when excessive manuring is avoided, and very attractive. The flowers are of large size, single and semi-double, and have broad florets. They are best suited for large beds and borders, and should not be planted extensively by amateurs who have but little space at their command. The flowers do not retain their freshness long after having been cut, and, consequently, are not very useful for indoor decorations. The following were mentioned as including a few of the best: Baron de Grancy, white; Duke Henry, red; Garabaldi, scarlet; Dr. Van Gorkom, white, shaded rose; Glory of Baam, pink; King Leopold, yellow; Queen Wilhelmina, white.

Single dahlias do not enjoy a very high degree of popularity at the present time, although they include several varieties possessing much beauty. D. coccinea, a single variety, with scarlet flowers, was one of the first dahlias introduced to this country at the beginning of the nineteenth century, but it appears to have been lost. It was re-introduced in 1880, with two or three other singles From these have descended the varieties now in cultivation. When well grown they possess considerable beauty, but, unfortunately, the flower heads have a rather unsightly appearance when the florets have fallen.

There was not, in Mr. Gordon's opinion, any occasion for referring at great length to the cultural details, because of their extreme simplicity. Sunlight and air were important factors in dahlia culture, and therefore open positions should, where practicable, be selected. The ground should be trenched or deeply dug to give the roots a free run, and a moderate application of manure should be made and well incorporated with the soil. The quantity of manure must be regulated by the condition of the soil. That which is poor and light should receive a more liberal application than one that is rich and retentive. In no case must the heavy dressing usually recommended be applied.

A simple course of procedure in raising a stock is to take the roots from the store at the end of February or early in March, and stand them in boxes, over the bottom of which a layer of light soil has been spread. Then fill in the spaces about the tubers with fine soil in sufficient quantity to reach to the base of the old stem. Placed in a frame or greenhouse, and lightly syringed once or twice a day, they will soon commence to make new growth. When the shoots are three inches in length, lift them out of the box and divide them into two or more portions, each with a shoot attached, and pot them in six-inch pots, using a moderately rich compost. As the young plants are potted place them in a frame where they will be near the glass and can be kept safe from frost.

If a stock has to be purchased, obtain the plants not later than the end of April, and at once shift them into six-inch pots, this being necessary to enable them to acquire strength by the end of May, when they should be planted out. Our summers are short that it is most important the plants should be strong and in a progressive state when bedded out. The necessity for strong plants could not well be over-emphasised, because of the failures to obtain a full measure of success from bedding out plants of so small a size, that the summer is well advanced before they approach the flowering stage.

TOWN GARDENING.

Having been engaged in public work for upwards of eighteen years, it naturally follows that Mr. Hayward's letter, in a recent issue was of much interest to me, and doubtless to everyone similarly placed.

I, or we, are grateful that he has taken up the cudgels on our behalf, and while nothing but good can accrue from honest criticism, I hardly think that Mr. Maurice Maeterlinck can have, or possess, a very wide knowledge of town gardens as they exist in this country. It is not a difficult matter to pass hasty judgment after having observed a score of villa gardens, and it must be remembered that men with big names and reputations often feel at liberty to express themselves very freely upon any subject under the sun, but it proves nothing. Would Mr. Maeterlinck propose to abolish the lake in Kew Gardens simply because it is an artificial one, and are we to believe that the lawn is not a very beautiful accessory to any garden?

Cavilling at the setting aside of a portion of a town garden to accommodate the "everlasting flower beds" cannot be taken seriously, more especially as they are planted and arranged to-day, exhibiting in a very marked degree a sense of harmony and artistic perception. As a people we are not likely to substitute the present style of gardening for the Italian pattern, and, further, it would be a very lame affair to attempt "the very forest itself" in small gardens. Where can we find more stately and majestic trees, and their name is legion, than those in our London parks and gardens, and the great provincial towns are not far behind in this respect. Mr. Hayward truly remarks that the town gardener is placed at a very great disadvantage in every way, not the least being his inability to cultivate successfully more than a very limited number of trees, shrubs, or flowering plants. The smoke and atmospheric impurities account for this, hence it behoves us, in catering for the public, to do everything in our power to make the best possible use of subjects that, to a great extent, ignore the unfavourable conditions, and, in these enlightened days every encouragement is given by the responsible authorities.

The district from which I write is a purely industrial one, and nothing has given me greater pleasure than to note the intelligent interest displayed by horny-handed men of toil in plant life generally. One specialises in dahlias, another lilies, and so on, as far as circumstances permit, and in offering information, and doing everything in my power to foster and encourage the practices of the gentle art. I fully recognise the fact, that the person who takes up gardening as a hobby, no matter whether the plot does not exceed 2ft. by 12ft., is almost invariably a steady and law-abiding citizen.

Mr. Hayward suggests the planting of limes, chestnuts, and roses in town gardens and streets, which leads me to say that the above-mentioned would prove an utter failure in such congested parts as Bermondsey or Shoreditch, while at Dulwich, Highgate, etc., they would be a huge success. It is impossible to treat the matter in a general way. In conclusion, I may refer to a letter which appeared in a London daily some time ago, in which the writer stigmatised gardeners as being an inferior race of men, making use of long names they knew nothing about, and could not even pronounce correctly, etc. I suppose that writer has to do something for a living, but one thing is certain, his knowledge of gardeners is confined to the individual who cuts his grass patch once a week.

Walter H. Aggett.

SOWING SEEDS.

Now is the time when many choice seeds may be sown; begonias, gloxinias, and other subjects that are to flower this season should be sown at once. In districts where fogs prevail it is not safe to sow much earlier. The prevailing idea with many is that all seeds should be well shaded until they germinate, and under this treatment they undoubtedly do start better, but often they are lost after they have germinated. I am fully convinced that almost all seeds should be exposed to the light, and certainly many do not require shading from the sun at this season of the year. If a little extra care is given until the seedlings are large enough for pricking off, those fully exposed to the light will make sturdy plants, and quite as large a percentage of seed will grow.

It is of great importance that moisture should be sustained, and when well exposed there is not so much danger of the soil becoming sour. When preparing the pots for very small seeds, the surface soil should be sifted through a fine sieve, and after the seeds are sown they may be lightly pressed down, but no covering should be given. Good drainage is very often advocated, but I prefer a good depth of soil, as it can be kept moist with less trouble. Drainage is of more importance when preparing the pots for pricking off the seedlings.

For all seeds that require a surface covering care should be taken that the compost is not inclined to cake after it has been watered. It is sometimes caused through pressing it down too firmly. A little dried sphagnum rubbed through a fine sieve is a good addition to the compost, as it prevents caking and holds moisture as well. For seeds of primulas, cyclamens, etc., sphagnum and sand only should be used for covering. Many seeds will germinate better and more evenly if soaked in water for a time before sowing. The period of soaking will depend upon the nature of the seeds. Cannas, acacias, and other hard seeds may be kept in water for some time, but the water should be changed, and when the seeds have begun to swell they may be sown. In no case should seeds be allowed to become dry after they have been soaked. One great advantage in soaking seeds is that they do not lie dormant so long and are less liable to damp off, as the soil does not have time to get sour. If a little more care and judgment were exercised in sowing seeds, there would be fewer complaints about inferior seeds being supplied by the seedsmen.

T. B. Field.

Ashwellthorpe.

Imantophyllums or Clivias are very easily-grown greenhouse plants, and when grown in 32-sized pots are very useful for the decoration of the conservatory. Plants that have been forwarded in a warm house will now be going out of flower, and if it is desired to increase the stock, they may now be split up to single crowns and repotted, using a compost of loam (fairly stiff), leaf-soil, and sand, with bonemeal added. I usually put them into 48's for the first season, and if properly treated they will flower in these pots the following spring, and they are afterwards transferred to large 32's. After potting they should be placed in an intermediate house, where they can have daily syringings until root action commences again. Plants that are pushing up their spikes should be liberally fed with liquid cow manure, and occasionally given a little artificial manure, as this adds greatly to the size of the bloom and colour of the foliage. —T. Stevenson.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

SEEDLING ODONTOGLOSSUMS.—To incorporate the treatment of seedling odontoglossums in the work of the week column I feel has become necessary. Very few, if any, of the prominent orchid specialists who, like myself, have been writing on these subjects for a number of years, could have anticipated a few years ago the possibility of such a requirement. Orchid hybridisation, though still in its infancy, has made such rapid progress, and the interest shown in this fascinating subject in practically every garden in which orchids are extensively grown, render it desirable that occasional reference be made to the details in this column.

ODONTOGLOSSUM SEEDLINGS which we once found so difficult to raise, are now procured as easily as those of any other genera of the orchid family. I have seen no advice offered elsewhere as to their general treatment, so that a brief outline of the requirements may be of service. Plants that have advanced to, say, the third leaf from the seed, will be found to produce roots very freely, and little difficulty is experienced with their advancement when they have reached this stage. The plants in this stage of development will now be more or less in an active state, and as the aim of all raisers is to diminish as far as possible the length of time between the sowing of the seed and their reaching the flowering stage, it is advisable to give treatment accordingly. With this aim in view, we may consider these orchid seedlings in the light of seedling plants of other genera of the vegetable kingdom, and as the aim is to frequently shift and pot them on as their requirements demand, so we must practically follow the same rule in growing on our orchid seedlings. It is not a bad plan to shift or pot on odontoglossum seedlings as soon as the roots have penetrated the potting compost, in their early stages of development. It is useless to state what size of pots should be used, as no practical end can be served; those who are dealing with the plants are in a better position to judge, and thus should use their discretion.

REPOTTING.—There is one rule which should be applied in all cases, and that is to see that liberal drainage is afforded. It is a good plan to place a crock over the hole at the bottom of the pot, and to fill to at least one-half the depth with well-dried chopped bracken roots. The potting compost may consist of about equal portions of finely chopped sphagnum moss and broken peat, graded according to the size of the pots that are being used. A few broken beech or oak leaves may be added if desirable, or equal proportions of finely chopped osmunda fibre may be included with the peat. Whichever is determined upon, sufficient sand or finely broken crocks should be added to keep the compost porous. Water with rain water as soon as repotting is completed.

Plants that have reached the stage of the seedling growth, where they commence to develop their first pseudo-bulb, are generally found to be in an active rooting state, and these should also be attended to at this season. It is well to have the repotting of odontoglossum seedlings done as early in the season as possible, as it enables them to become re-established in the new compost before the hot summer season arrives. There is nothing more trying to young odontoglossums than the hot, dry summer season.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

HANGING BASKETS.—Nothing adds to the elegant appearance of the conservatory or greenhouse more than well-furnished hanging baskets, and, if suitable places can be found for them until they are nicely furnished, nothing will more amply repay the time and trouble taken. The present is a very suitable time to furnish these baskets, as many of the young plants with which they may be filled will be well rooted. The baskets themselves are now made much plainer than they used to be, with the wires much closer together, and they are consequently stronger. This is an advantage, as they keep the moss and soil together better. In making up these baskets they should be well lined with clean moss, on which should be placed flat pieces of fibrous loam or peat, according to the character of the plants used, afterwards filling up with soil of not too porous a nature, as the baskets being isolated will dry more quickly than plants in pots. In addition to the usual ferns (Nephrolepis in variety) that one usually sees, various forms of adiantum may be used with advantage, as they grow freely, and, when well furnished, give quite a cool effect when hung where they are not exposed to much sun. Various pterises may also be used—in fact, almost any kind of fern will grow better in baskets than in pots, if proper attention is given to watering and feeding. Various greenhouse plants may also be used, the acalyphas being among the best subjects; A. musaica, when used in conjunction with Abutilon Sawitzi and panicum, produces a very charming effect. A. hispida planted in a basket does well, and grown in this manner gives better tails of bloom than when grown in pots. Fuchsias and begonias may be used in conjunction with small grasses or lobelia, and even petunias make a very fine show in baskets, though these latter do not last right through the season. When once the plants are established they will need a liberal amount of water, and after a time liquid manure as well; consequently they must be hung where the drip will not interfere with the well-being of other plants.

LACHENALIAS.—Among the many bulbs that are now making a good show the lachenalias are prominent, and, though not quite so bright in colour as the tulips, they are none the less useful, as their pendulous blossoms last a very long time, and their colouring is quite distinct. L. Nelsoni is perhaps the best kind. Weak liquid manure should be given the plants as they throw up their flower spikes, and should be continued after they go out of flower, to help make good bulbs for the following autumn.

BULBS AND FORCING PLANTS.—Continue to forward batches of these as required, and as many of the forcing plants are now going out of bloom, they should be brought back from the conservatory, have any long, straggly shoots shortened back, and be put into a house where they will receive every encouragement to finish their growth, after which they should be gradually hardened off, previous to being put out of doors. In this way many kinds of forced plants may be kept going from year to year—in fact, many of the prunus, the wistarias, laburnums, etc., will flower better by being kept in their pots. Batches of liliums, such as L. Harrissi, L. longiflorum, and L. speciosum, may now be brought forward to succeed the earlier flowering bulbs, but do not push them along too rapidly, or scantily-flowered stems will be the result. As growth generally is now good, care must be taken to see that insect pests are kept down by occasional fumigations, or, in the case of small batches of plants, by dipping or syringing with some approved insecticide.—Thomas Stevenson, Woburn Place Gardens.

THE FLOWER GARDEN.

DRIVES AND WALKS.—Well-made and properly cared for drives and walks become a pleasure; the present is a capital time for either remaking or renovating these. In the first place it is most important that they be of sufficient width to be in harmony with the size and surroundings of the gardens. The larger and more important these latter are the wider and more bold should the walks be, but either too great a width or too narrow are equally bad. Walks and drives should always be thoroughly drained, with good catchpits at suitable intervals for collecting the water, and the pit should be of sufficient depth to retain a fair amount of sand and sediment, which should be regularly cleaned out. The centre of the walk should be raised just enough to allow the rainfall to drain to the side, but not so as to make it uncomfortable for walking or driving on. When they are sweeping, the men who are deputed to do this work should be instructed to make good any slight depression by utilising the sweepings taken from other parts; the garden roller must be kept well employed all through the year, and especially after rains. The edges of the turf should be neatly trimmed at this season, using a good edging iron for this purpose, and a certain amount of skill is required to carry out this work in a satisfactory manner.

LAWNS.—These are equally as important both for appearance and utility as the walks and drives, and to keep them in perfect order it is often advisable to apply a good dressing of suitable material, either in the autumn or at this season; but, for choice, I prefer to work now. When lawns become weedy and starved they should be thoroughly raked over with an iron-toothed rake, and have a good dressing of road scrapings and well-decayed leaf-soil, to which should be added one of the many manures especially prepared for this purpose. The whole should be spread evenly over the surface and well swept about to work it in; and towards the end of the month a well-prepared mixture of clover and fine grass seed should be sown, and the lawns be kept thoroughly rolled. Where daisies abound and are considered objectionable, these may be successfully eradicated by using lawn-sand. I have on many occasions proved this to be most satisfactory, as it not only kills the daisies and many other weeds, but it also acts as a stimulant to the grass, though for a short time the latter presents a browned appearance.

SPECIMEN CONIFERS.—These, when growing on the lawns, will be much invigorated if a good dressing of loam, well-decayed manure and leaf-soil in equal proportions is applied any time during the next month or six weeks.

MICHAELMAS DAISIES. — These deservedly rank among our most important and effective hardy autumn-flowering plants. The new and improved varieties have done much to stimulate a liking for them, and they are quite worthy of a border devoted to them entirely in a garden of any pretensions. These should be divided and planted a good distance apart, on well-manured ground, at the earliest possible moment.—E. Beckett, Aldenham House Gardens.

HARDY FRUITS.

FIGS.—The protecting material may now be removed, and the branches fastened into their proper positions, but some mats should be hung over them during the night if frosts are probable, until the trees have become thoroughly hardened again. If the trees were attended to as advised during the past season, in the matter of disbudding the surplus growths, stopping the others as required to prevent overcrowding, also cutting out the old fruiting wood at the time of the fall of the leaf, very little, if any, pruning will now be necessary. The leaves of the fig are large, and the branches should be arranged to allow plenty of room for the proper development of the foliage, without which good crops of choice fruit cannot be expected. A restricted root space is necessary for the fig, but when this has been fully taken possession of by the roots, an annual dressing of some reliable fruit manure should be applied to the surface of the border at this season, and well watered in. A good mulching of rotten manure may also be given with advantage at the time the fruits commence to swell up.

PLUMS AND CHERRIES.—The young foliage of these fruits is liable to be attacked by aphis, and as it is impossible to combat these pests by using an insecticide until after the fruit is set, much damage in the meantime is often done to the trees. This may in a great measure be prevented by spraying the trees just before the blossoms expand with some reliable insecticide, to destroy any aphis which may have escaped the usual winter spraying, and at this season may often be found at the base of the buds.

RASPBERRIES.—If the ends of the fruiting canes were not slightly shortened at the time of training, let the points be cut back to just above the supports. Autumn fruiting varieties should be cut down to within six inches of the ground, the fruit from these being produced during the autumn on the young canes of the same season's growth. Where fresh plantations have been made during the autumn, if the young canes were not shortened at the time of planting, this should be done now by cutting them down to within a few inches of the soil, the object being to encourage the growth of strong suckers which should produce fruit in the following season. If a dressing of manure in the alleys has not already been put on, let this be done forthwith, that the rain may carry the manurial properties into the soil for the benefit of the plants, while the strawy portion of the manure will become clean for walking on by the time of fruit gathering.

GRAFTING.—Head back all branches of trees on which it is intended to perform this operation a few inches above the position where the young scions are to be inserted, at the same time being careful not to damage the bark on the portion remaining, by tearing, and have everything in readiness to carry out this work as soon as the sap in the trees commence to rise freely.—George Woolgate, Rolleston Hall Gardens.

LABOUR-SAVING APPLIANCES.

It is rather curious that in private gardens there appears to be no great anxiety to take advantage of the different appliances there are in the market for saving labour. We are now approaching the time when onions, carrots, parsnips, and other seeds will be sown, but, for the most part, drills are drawn with the corner of the hoe, and the seed is put in by hand, just in the old sweet way. The market grower, by the way, is far more up to date in the matter of seed sowing than most private gardeners, for he uses a small seed drill, which does the work quicker and better than is possible by hand, and if the soil is in right condition there is no need to wait for a still day. It is all very well to be continually talking about the advantages of thin sowing, but it is not such an easy matter to sow small seeds thinly and quite evenly by hand, and the bending posture gets tiring if one has a lot of sowing to do. And yet these difficulties can be got over, and seeds be sown at a uniform depth, in much less time, by the use of a drill.

Later on there is surface hoeing to be done, and every gardener knows the advantage of keeping the top crust of soil in crumbling condition for the sake of conserving moisture and keeping down weeds. The orthodox tool for this operation is the Dutch hoe, but if one has got a lot of ground to get over, and not much time to spare, the thing to use is that simple, but ingenious little wheel hoe known as the Planet Junior. This implement is largely used in market gardens and fruit plantations, and for getting over the ground quickly it knocks the Dutch hoe quite in the shade, while it also does its work effectually. For damping purposes and syringing the hand syringe still holds a honoured place in private establishments, but in this work time and labour may be saved by the use of one of the small spray pump apparatuses that can be fixed to the side of a wooden pail. These implements not only do their work well, but can be used with much less discomfort to the operator than a hand syringe, particularly if this implement is not quite in first-class order. H

THE PERPETUAL FLOWERING CARNATION SOCIETY.

The GREAT SPRING SHOW of CARNATIONS will be held in the ROYAL HORTICULTURAL HALL, Vincent Square, Westminster, S.W., on WEDNESDAY, March 24th.

Admission from 1 p.m. to 6 p.m. 1s.

Schedules and particulars from the Honorary Secretary, Mr HAYWARD MATHIAS, "Lucerne," Stubbington, Fareham, Hants.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

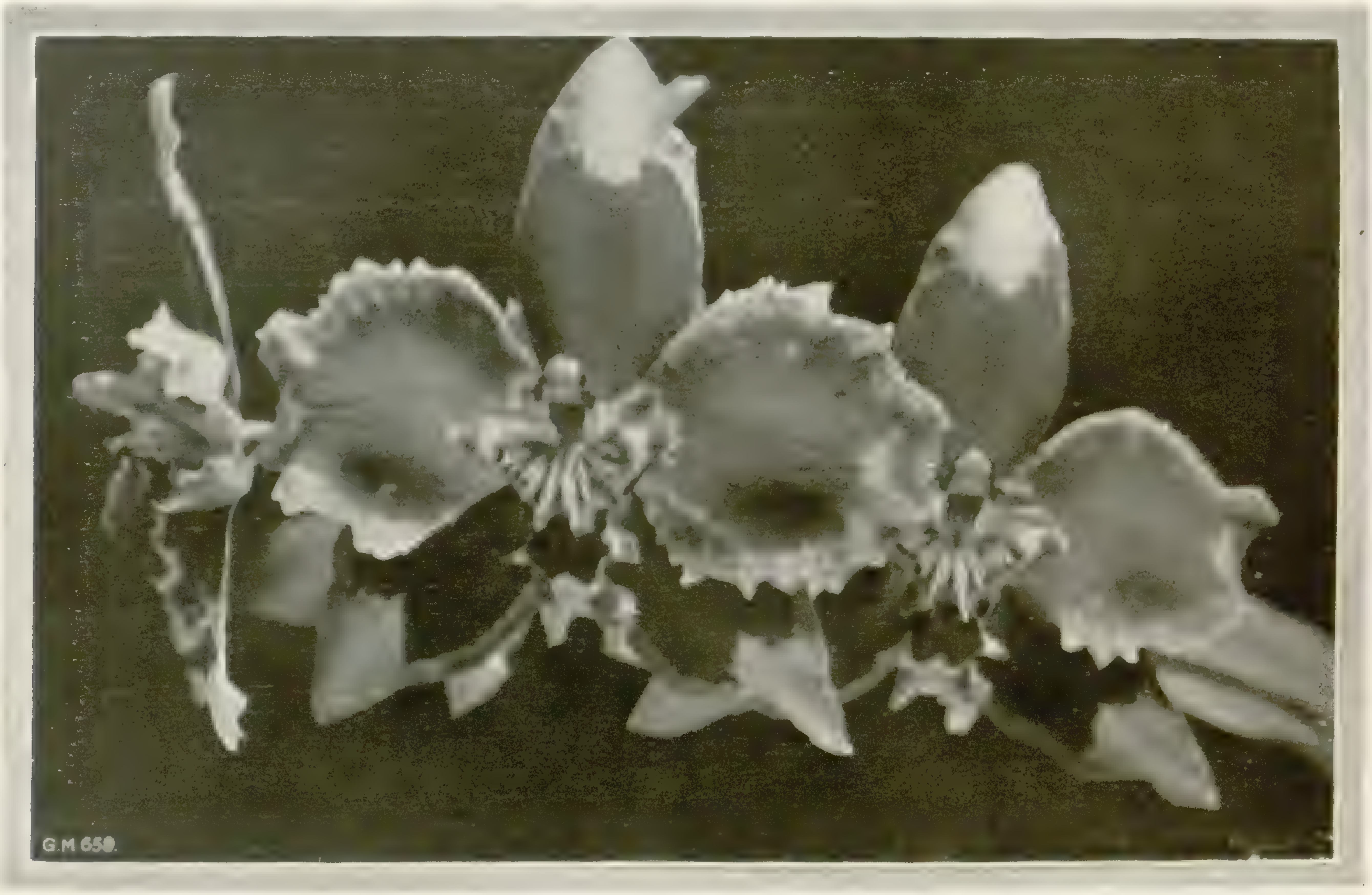
EXHIBITIONS AND MEETINGS.

◆

Royal Horticultural Society.

MARCH 9.

The hall on this occasion was filled to its utmost capacity, both the annexes being utilised to make room for the exhibits, which in many instances had to be somewhat crowded for lack of space. The attendance, too, was much too large for the gangways allowed, and during the afternoon locomotion was difficult in the extreme, while reporting was almost out of the question for a time.



ODONTIODA BRADSHAWIÆ COOKSON'S VARIETY.

A magnificent bigeneric hybrid, of which the seed parent was a fine form of Odontoglossum crispum; the flowers are brilliant scarlet; the petals have a margin of rich mauve, and the sepals are tipped with the same colour. It was raised in the collection of Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne, and received a F.C.C. at R.H.S. meeting, on Tuesday, the 9th inst.

FLORAL COMMITTEE.

A fine display of hardy plants came from Sir Eric Hambro, K.C.V.O., Hayes, Kent (gardener, Mr. J. Grandfield), who had tastefully arranged a large quantity of spring-flowering plants. The groups of primulas were most attractive, and embraced P. cortusoides, P. floribunda, P. dentriculata, and P. Forbesi, all in full flower, while some fine examples of saxifragas formed an attractive front line. Such subjects as Kalmia glauca, Spiræa Thunbergi, Azalea rosæflora, muscari in variety, were all utilised in quantity, and produced a fine effect.

Messrs. W. Paul and Son, Waltham Cross, Herts, contributed one of their well-known collections of camellias, both in pots and in a cut state, also some really fine plants of double-flowering peaches; these included the double white, crimson, and carnation varieties, all being in the best possible condition. The camellias were particularly healthy, and the most striking varieties were Reine des Fleurs, Mrs. J. Buchanan, and the single reticulata. Cut flowers of camellias were also displayed in baskets.

Messrs. J. Cheal and Sons, Crawley, were represented by a collection of rock and alpine plants, tastefully arranged in tufa stone. The clumps of primroses in variety were particularly good, while Olearia stellata, with Azalea mollis were outstanding features. Suitable conifers were employed as a background. Messrs. Bees, Lim., Liverpool, sent a fine exhibit of Primula malacoides in good form. The plants were grown in five-inch pots chiefly, and clearly demonstrated the value of this form for decorative purposes.

Lachenalias were staged in quantity and in good style by the Marquis of Salisbury, Hatfield (gardener, Mr. Prime). The plants were equally at home in pots and baskets, the whole being nicely arranged with suitable foliage plants and green moss. Messrs. Paul and Son, Cheshunt, had a miscellaneous exhibit of Azalea mollis in vases, some good plants of Primula Kewensis, and Clematis montana rubens in full flower. Lachenalias were also well grown. The popular perpetual-flowering carnations were admirably staged by Mr. H. Burnett, Guernsey, the whole exhibit being noteworthy for the excellent colour of the flowers, while the arrangement of the vases with asparagus and smilax left little to be desired.

A collection of spring-flowering plants was staged by Mr. W. P. Horton, Cravenhurst, Seaford, which included hyacinths, Iris reticulata, anemones, and lily of the valley.

Messrs. Jas. Carter and Co., High Holborn, presented a miniature spring garden, with a lawn that made one's eyes sparkle and long for the month of May. The grass was simply perfect, while beds of tulips, hyacinths, and narcissi were arranged round the sides. Lilacs, prunus, and standard laurels helped to form an attractive background.

A good miniature rockwork from Messrs. R. Wallace and Co., Colchester, attracted much attention, for it was a fine effort in a small space. The irises were grouped in various positions and made pleasing contrasts. The sweet little Viola gracilis looked charming, while muscari in variety, cyclamen, and anemones all added colour to the scene. The conifers were sparingly used, but they were sufficient to harmonise with the rest of the exhibit.

Mr. G. Reuthe, Hardy Plant Nursery, Keston, made a bold display with hardy flowers, using some of the rarer rhododendrons for a background, while the irises in variety, and crocuses were most attractive. From Mr. W. H. Page, Tangley Nurseries, Hampton, came a very fine collection of narcissi and liliums grouped in tall pyramids with a foreground of carnations in all the popular varieties.

An interesting display of fibrous-rooted begonias was staged by Messrs. H. Cannell and Sons, Swanley, which demonstrated the value of this section for winter decorations. The old B. fuchsioides was in fine condition, as were also Vesuve, Paul Bruant, B. Haageana, and Saturne; needless to add, the whole of the plants were well-grown and tastefully staged.

Messrs. Jas. Veitch and Sons, Lim., Chelsea, had a large exhibit of flowering plants. Azalea indica in variety formed the most prominent feature, while the small orange trees were wreathed with blossom. Some capital plants of Boronia megastigma were also noted, as were also good decorative plants of Crowea angustifolia.

Messrs. H. B. May and Sons, Upper Edmonton, arranged a table with a variety of subjects.

From Messrs. H. Low and Co., Bush Hill Park, came a well-grown collection of acacias, chiefly of a decorative size, with good plants of daphnes, ericas, palms, and foliage plants. The same firm also staged some capital carnations, in which the vases of Aristocrat, White Enchantress, and Britannia, were most conspicuous. Messrs. T. S. Ware, Lim., Feltham, also staged hardy flowers arranged on a natural rockery. The irises were quite a feature, while other suitable plants were saxifragas in variety, winter aconites, and Ficaria grandiflora.

Another collection of rock and alpine

plants were put up by Messrs. G. and A. Clark, Dover, who staged in their well-known style. The primroses were especially good, both in the colour and size of the flowers. Hardy ferns were also a feature here, while the hepaticas only required a burst of sunshine to produce fine masses of colour. Messrs. W. Cutbush and Son, Highgate, staged forced shrubs and hardy flowers.

FRUIT AND VEGETABLE COMMITTEE.

Messrs. Sutton and Sons, Reading, staged a collection of lettuces and radishes, grown on the so-called French system, which were splendidly developed, in spite of the severe weather. The former were displayed in baskets, and included good clean samples of Sutton's Nonsuch, Early Paris, Commodore Nutt, and others. The radishes were excellent, especially Forcing Carmine, a most attractive variety, French Breakfast, and Red Market.

In Class 10, for apples, Mr. M. Nicholls, gardener to Sir M. E. Collett, Bart., Kemsing, Sevenoaks, was first with Hambling Seedling, Alfriston, Newton Wonder, and Bramley's Seedling. Mr. H. Markham, gardener to Viscount Enfield, Wrotham Park, Barnet, second, with good dishes of Chelmsford Wonder and Striped Beaufin. There were three exhibitors.

Class 11 was for one dish of cooking apples. Here Mr. J. Whittle, gardener to Colonel Borton, Cheveney, Kent, was first with a good example of Belle Dubois. Mr. E. Beckett, gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree, was second with well-coloured examples of Bramley's Seedling; there were five exhibitors.

For a collection of apples Messrs. J. Veitch and Sons were the only exhibitors, winning with well-coloured examples of Wadhurst Pippin, Alfriston, Lord Derby, Lane's Prince Albert, Belle Pontoise, Bramley's Seedling, Newton Wonder, and Betty Geeson.

A nice collection of well-preserved apples came from Mr. G. B. Baskett, gardener to Mr. P. Nelke, Woodlee, Virginia Water, the best being Cox's Orange Pippin, well-coloured, King of Pippins, Wellington, and Ribston Pippin.

Mr. E. Beckett, gardener to the Hon. V. Gibbs, Aldenham House, Elstree, staged three baskets of Ailsa Craig onions, which were not only of the highest culture, but were also well preserved.

NARCISSI COMMITTEE.

Messrs. Barr and Sons, Covent Garden, were represented by a display of daffodils in good condition. The most striking varieties were Princess Ida, Princess Maud, Victoria, Admiral Togo, and Fairy Queen. They also presented a large display of crocuses with Iris tuberosa, Shortia galacifolia in good colour, and hepaticas in variety.

Messrs. Jas. Veitch and Sons, Lim., Chelsea, occupied an entire table with hyacinths in pots. The spikes were well-developed, and the whole collection well arranged. A few of the most striking varieties were Lady Derby, Masterpiece, Fabiola, L'Innocence, Ivanhoe, Chas. Dickens, Moreno, Mina, King of Blues, Distinction, and La Victorie.

Messrs. M. Gleeson and Co., Watford, also contributed a large display of hyacinths in pots, which made a good display, though the large plunging pots did not improve them from a decorative point of view.

A tasteful group of narcissi was staged by the Rev. J. Jacob, Whitchurch, Salop. The flowers were arranged on a bright green felt, which proved most appropriate. The most conspicuous were N. Fairy, Sarah Bernhardt, Hoboken, and Mrs. Herbert, quite a number of the Tazetta type were staged, which included some new colours.

Messrs. R. H. Bath, Lim., Wisbech, made a really fine display of flowering bulbs, grown in pots and vases. The latter were very fine, especially the tulips and narcissi, while bowls of all shapes and sizes appeared to suit the bulbs equally well. The hyacinths also appeared very much at home.

An entire table was occupied with a collection of spring-flowering bulbs from Mr. W. Howe, gardener to Lady Tate, Streatham. The table was a mass of flowers. The narcissi arranged in blocks of each variety were most attractive, while a front was formed with miniature hyacinths relieved with lachenalias. Hippeastrums were also much in evidence, while the tulips were in fine condition.

Messrs. W. Cutbush and Son, Highgate, contributed a table of narcissi and hyacinths in large variety.

Mr. F. H. Chapman, Guldeford Lodge, Rye, staged a small exhibit of daffodils, which included Ben Johnson, Madame de Graaff, and Homer, also a few pots of irises, while Mr. R. Sydenham, Birmingham, had a nice exhibit of lily of the valley, hyacinths, narcissi, and tulips in bowls, with moss fibre.

Messrs. Cartwright and Goodwin, Kidderminster, arranged a fine exhibit of narcissi tastefully displayed with isolepis. A few of the most conspicuous were Grandee, Emperor, Empress, Circlet, Chaucer, Felicity, Blackwell, White Lady, and Autocrat.

BULB COMPETITION.

On this occasion liberal prizes were offered for hyacinths by the Royal Dutch Bulb Growers' Society at Haarlem; and Mr. Robert Sydenham offered prizes for bulbs grown in fibre without drainage.

In the amateur section for eighteen hyacinths, distinct, there were six competitors. The Hon. V. Gibbs (gardener, Mr. E. Beckett) was first with a fine collection, some of the best varieties were Lady Derby, L'Innocence, City of Haarlem, Rose Merveille, Captain Boyton, and King of Blues. The second prize was awarded Mr. L. Noblett (gardener, Mr. R. T. Bushell), Monkswell, Wavertree, Liverpool, with a nice even display. The Duke of Portland (gardener, Mr. J. Gibson) was third.

Class 7, for six single hyacinths, five entries. Here the Hon. Mrs. Guy Baring, 16, Cadogan Square, first, with medium spikes; Miss C. A. Michell, Oakfield, Cricklewood, second; and Mr. R. Holmes, Norwich, third.

For four pans containing ten bulbs, one variety, Mr. J. Gibson obtained premier honours with some splendid spikes. His varieties were La Grandesse, Moreno, King of the Blues, and City of Haarlem. Mr. E. Beckett was second with an even display, while Mr. J. Vert was third.

For six vases of tulips, the Hon. Mrs. G. Baring was placed first with nice pots of Keizer Kroon, Rose Gris de Lin, Pottebakker White, Van de Neer, and Vermilion Brilliant. Mr. W. Howe was second, and Mr. Hall, gardener to Mrs. Buxton, Cobham, third.

For six vases of narcissi Mr. W. Howe was a good first, with Emperor, Victoria, Madame de Graaff, and Sir Watkin in good form.

The gold medal of the Royal Dutch Bulb Growers' Society at Haarlem was awarded to Messrs. R. and G. Cuthbert, Southgate, who had a fine display of hyacinths, occupying the entire end of the hall. They were displayed in mounds of distinct varieties, in association with maidenhair ferns, each variety being represented by eight or ten good spikes. A few of the best were Queen of England, Rose Merveille, Lord Balfour, City of Haarlem, Simplicity, Lord Mayo, Charles Dickens, and Mina.

ORCHID COMMITTEE.

A glorious bank of orchids came from Mr. J. Collier, gardener to Sir J. Colman, Bart., Gatton Park. It was literally a feast of dendrobiums, and was much admired. Some of the most prominent forms were D. Cooksoni, D. Dormanianum, D. Wiganianum aureum, D. Cybele Gatton Park variety, D. nobilis, and D. n. alba; groups of epidendrums were lightly arranged at the back, while some choice odontoglossums, cattleyas, and other kinds helped to swell a magnificent exhibit.

From Mr. Chapman, gardener to Mr. N. Cookson, Wylam-on-Tyne, came a beautiful Odontioda Bradshawiæ Cookson's variety, a distinct break from the type. The petals are about three inches over, and the sepals proportionately broad; bright scarlet, the petals margined, and the sepals tipped with mauve.

From Messrs. James Veitch and Sons, Lim., Chelsea, came a small group of cypripediums, which included C. Harrio-Leeanum, and a variety of hybrids between C. villosum and C. Euryades, also some good forms of Odontoglossum crispum, O. triumphans, and Brasso-cattleya Thorntoni.

Messrs. Cypher, Cheltenham, made a nice display of dendrobiums, which included some good forms, also a few well-flowered plants of Sophronitis grandiflora, and a few nice cypripediums.

Mons. Maurice Mertens, Ghent, sent a small exhibit of odontoglossum hybrids, also some white cattleyas, and a fine form of miltonia, likewise some pretty cypripedium hybrids.

Mr. W. P. Horton, Cravenhurst, Seaford, staged a table of odontoglossums, cypripediums, and dendrobiums, which included a few nice pieces of D. Wardianum.

Messrs. Sander and Son, St. Albans, had a small, though choice collection of orchids, in which were noted some very fine cattleyas.

CERTIFICATES AND AWARDS.

First Class Certificate.—To Sophro-cattleya Thwaitesi, from R. G. Thwaites, Esq.; to Cattleya Trianæ Grand Monarch, from F. Menteith Ogilvie, Esq.; to Odontioda Bradshawiæ Cookson's var., from N. C. Cookson, Esq.; to Cattleya Cliftoni magnifica, from Messrs. Charlesworth and Co.; and to Cattleya Schroderæ Mrs. F. Sander, from Messrs. Sander and Sons.

Award of Merit.—To B.-l.-c. Cooksoni, from Messrs. Charlesworth and Co., and to Odontoglossum Myonianum, from J Gurney Fowler, Esq.

Botanical Certificate.—To Chytroglossa Marilloniæ, from Messrs. Sander and Sons.

Cultural Commendation. — To Cymbidium insigne, from Baron Schroder.

MEDALS.

Gold.—Sir E. Hambro, and Sir J. Colman, Bart.

Silver-gilt Flora.—Messrs. Charlesworth and Co., and Messrs. Cartwright and Goodwin.

Silver-gilt Banksian.—Lady Tate, Messrs. W. Cutbush and Son, and Messrs. J. Carter and Co.

Silver Flora.—Messrs. W. Paul and Sons, Mr. W. H. Page, Messrs. H. Cannell and Sons, Mr. L. Russell, Messrs. Sander, Messrs. H. Low and Co., and Messrs. R. H. Bath, Lim.

Silver Banksian.—Messrs. H. B. May and Sons, Messrs. T. S. Ware, Lim., Messrs. H. Low and Co., Messrs. J. Peed and Son, Mr. H. Burnett, Messrs. W. Cutbush and Son, Messrs. J. Veitch and Sons, Lim., Messrs. Bees, Lim., Marquis of Salisbury, Mons. M. Mertens, Messrs. Cypher, Mr. P. Nelke, Messrs. Sutton and Sons, and Hon. V. Gibbs.

Reading Rose Society.

The annual general meeting of subscribers was held at the secretary's offices, the Rev. F. Page Roberts presiding over a scanty attendance. The Secretary (Mr. C. J. [illegible]lett), submitted the report, in which reference was made to the record entries and general high quality of the exhibits in competition at the show held in the Abbey Ruins on July 1 last. Great regret was expressed at the meagre attendance of the public on the show day, notwithstanding the fact that ideal weather prevailed. The donors of the challenge bowl and cups were heartily thanked, and an appeal made for further cups. The statement of accounts showed that the expenses had exceeded the receipts by £37 17s. 3d. In reviewing the position, the committee considered it would be advisable to change the locale of the show. Mrs. Rufus Isaacs was elected president for the year; and, in consideration of the circumstances, gave permission for the next show to be held in the grounds of Fox Hill on June 30.

Reading Gardeners' Association.

An extremely interesting scientific lecture was given by Professor Keeble, of the University College, Reading, at the fortnightly meeting of this society, in the Abbey Hall, the subject being "Applied Mendelism." The president (Mr. Alderman F. B. Parfitt) occupied the chair, and among the large audience were the vice-president and Mr. M. H. F. Sutton.

Professor Keeble opened his remarks by stating that at present Mendelism was in its infancy, and comparatively little was yet known regarding the abstruse laws governing heredity, which had puzzled scientists for many ages. He also pointed out that in almost all cases of great discoveries years elapsed before mankind awoke to their real value, and Mendelism was no exception to this rule. The fact that like produces like was correct only in a degree, for in the course of experiment under Mendelian laws, it was frequently found that the hybridisation of two flowers would result in blooms of quite a different shade and character to either flower—e.g., two white sweet peas crossed produced a purple; this was due to latent characters which could only manifest themselves when in conjunction with other complementary characters which came together as a result of hybridisation.

Hybrids always embodied the colour, habit, and constitution of both parents, though one only might be evident, but the influence of the recessive qualities came out in the second generation. Thus, if tall peas were crossed with dwarf peas, the result would be tall peas only, but the second generation produced by self-fertilising these hybrid plants would give 25 per cent. dwarf, and 75 per cent. tall, proving that the characters of the dwarf parent had been carried through a generation without visibly showing. At the close of his lecture, Professor Keeble answered fully the many questions put to him. The meeting terminated with a hearty vote of thinks to the lecturer, proposed by the vice-president and seconded by Mr. A. F. Bailey.

Mr. F. Townsend, head gardener to the vice-president, exhibited a beautiful group of primulas, for which he was awarded a certificate; and Mr. W. Barnes, head gardener to A. F. Walter, Esq., Bearwood, staged (not for certificate) some splendidly-grown seakale. Several new members were elected.

United Horticultural Provident and Benefit Society.

The annual general meeting of this society was held on Monday, 8th ult., at the Royal Horticultural Hall, Mr. Thomas Winter, in the unavoidable absence of Mr. C. H. Curtis, in the chair. The Chairman dealt with the most prominent points in the report which had previously been read by the secretary, and moved its adoption, and that it be printed and circulated. Mr. A. J. Brown, of Chertsey, supported the motion, which was carried unanimously. Mr. J. J. Frogbrook moved a vote of thanks to the trustees for the admirable manner in which they had discharged their duties during the past year. Similar votes were proposed, and carried, to the treasurer and auditors, who, under the constantly-increasing work of the society, were required to give more and more attention to its interests.

Mr. Brown proposed "The Committee and Officers," and, in the course of his remarks, stated that every member was gratified with the result of the past year's working. The annual dinner had been a great success, and the general management of the society left little to be desired. He hoped the society would still continue to prosper, and offered to assist in providing music for the next annual dinner. The retiring members of committee were Messrs. Hawes, Frogbrook, Winter, and Hill, and these gentlemen were re-elected, as also were the treasurer and auditors. Mr. C. H. Curtis was re-elected chairman of committee, and Mr. S. Winter vice-chairman.

Birmingham Gardeners' Association.

"The Rotation of Vegetable Crops" was the important and interesting subject dealt with by Mr. A. Jeffs, gardener to Alderman E. Ansell, Esq., Moor Hall, Sutton Coldfield, in the presence of a fair assemblage of the members. Mr. T. Humphreys presided. Mr. Jeffs, who was a member of the Sutton Coldfield Gardeners' Branch of the Birmingham parent society until it was abrogated some years since, adverted to the great benefit he had derived in his young days from the lectures, discussions, library of the association, etc., and strongly recommended the young gardeners to avail themselves of such invaluable means of improvement.

Mr. Jeffs, who is a most successful exhibitor of vegetables in the Sutton Coldfield district, was enabled to afford considerable information obtained from his own experience. He advocated, as one of the best, cheapest, and most economical manurial composts, notably for potatoes, plenty of burnt garden refuse, in preference to converting it into an otherwise decayed state, and thus also effecting the destruction of the larvæ of insects and fungi. In the matter of garden soil that had been subjected to heavy and continuous cropping, or containing an excess of humus, and, consequently, deteriorating produce, he had found that one of the most effective correctives was to allow the ground to "rest," or lay fallow for a year or two untouched, and not to trouble about weeds, except to prevent their seeding, the result being, after duly digging or forking it over, a thorough renovation of the soil and excellent crops of vegetables without additional manure for at least the first season or so. Mr. Jeffs' remarks gave rise to a useful discussion, and he was heartily thanked at the close.

British Gardeners' Association.

LONDON BRANCH.

On Saturday evening, March 6, the first social evening, in the form of a smoking concert, was held at Carr's, Strand, in aid of the branch funds. Mr. E. F. Hawes presided, and was supported by Mr. R. J. Frogbrook (vice-chair), Mr. T. Winter (treasurer), and many other leading members of the association. Notwithstanding the inclement weather, over seventy members and friends assembled to hear the excellent musical programme provided for the occasion. After the interval, the Chairman, in a brief speech, set forth the objects and work of the association, and invited any gardeners who were present as visitors to join at once, and bring along a friend next time. At the close of the evening a most hearty vote of thanks was accorded the artistes. A similar vote, with musical honours, was given the chairman, and then a brief announcement made by Mr. A. J. Hartless, the hon. secretary, brought a most enjoyable evening to a close.

Croydon Gardeners' Society.

The recent fortnightly meeting of this society was devoted to a paper by Mr. W. Rowson, of the Falkland Park Gardens, on manures. In tne course of his paper Mr. Rowson gave much useful information on the maintenance of the soil in a fertile state, and on the various natural and artificial manures suitable for use in the garden.

There was a good discussion at the close of the paper, and a vote of thanks was accorded Mr. Rowson. Among the contributions to the meeting were three fine dishes of pears from Mr. W. Pauley, well-developed forced rhubarb from Mr. Oxtoby, and excellent Jerusalem artichokes from Mr. Mills.

DESTRUCTION OF VERMIN.—Most gardens are pestered with Rats and Mice. Every effort should be made at this time of the year to exterminate them before seeds are sown. Danysz Virus is first rate stuff for killing these vermin. Single tube, 2s.; three tubes, 5s. Post free from DANYSZ VIRUS, LTD., 52. Leadenhall Street, Garden Dept., London, E.C.—[Advt.]

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

WARLEY YELLOW PRIMROSE.—F. E. A. B., Ballymascanlan: Exactly how much Warley Yellow differs from other yellow varieties of the primrose we are not in a position to say, simply because one needs to have a collection of varieties to enable proper comparisons to be made. We have not seen Warley Yellow catalogued, but we have seen it growing, and regard it as a very beautiful spring flower. Probably at a somewhat later date we may be able to make comparisons. You have an excellent collection, and it might be possible to effect by exchange what would not be possible otherwise.

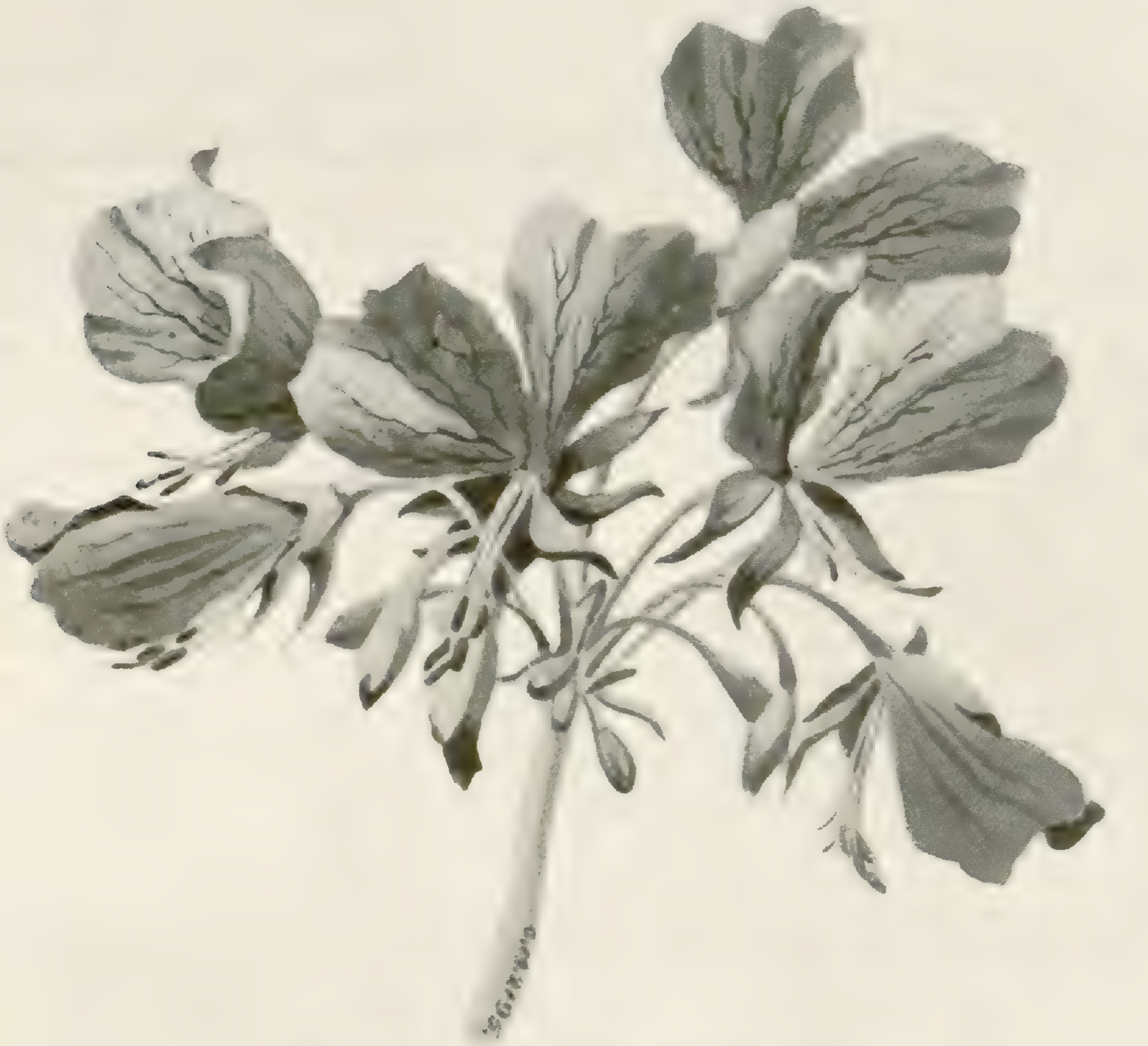
FAULTY HEATING.—F. F. J., Harwich: It is possible that there is a fall in the pipes somewhere; therefore examine the pipes and see that there is a gentle rise from the boiler to the extreme end of the heating apparatus. Open all the air taps and fill the feed tank. If no water passes through the air taps, and the feed tank remains full, then there is a stoppage somewhere, probably in the feed pipe. A piece of stout wire or a thin cane forced down the pipe may remove the obstruction; if the latter is moved the water in the tank will pass quickly into the boiler and from thence to the pipes, finding outlet at the air taps, which may then be closed, with the knowledge that the apparatus is filled with water. The feed box should be higher than the highest air tap or air tube. We prefer the latter to air taps in most cases, as there is then always a clear passage for air. The air tube or pipe may usually be carried sufficiently high to prevent loss of water. Air taps are very often forgotten, and the water in the pipes becomes air-locked and the heating faulty.

AMATEUR GARDENERS.—G. D. R., St. Neots: The following rule, taken from the constitution of the National Amateur Gardeners' Association, will, we think, meet your case: "No person shall be eligible to become a member of the Association who disposes of plants, flowers, seeds, or trades in garden produce for profit (except in the case of new seedlings and sports), or is in the employ of a nurseryman or gardener, or is employed as a gardener. Gentlemen who engage professional aid shall be entitled to become members, but shall not be privileged to compete at the exhibitions held by the Association, except in such classes as may be specially set apart for them. Occasional help from a labourer in wheeling, digging, and similar rough work, is, however, allowed to all members.

CAULIFLOWERS.—C. J. B., Limerick: Make a sowing of an early-maturing variety at once, in brisk heat, and as soon as the seeds have germinated place the pan or box near the glass in a cooler, but still warm, place, such as a pit, so that the seedlings do not become drawn. As soon as they can be conveniently handled prick out the seedlings in rich soil in a sheltered frame or pit, and when they are strong enough and the weather permits plant them out carefully, with a trowel, in rich land and an open position. Make a sowing out of doors at the end of this month or early in April.

OVERHANGING ELM TREE.—J. J., Stoke: Write to your neighbour, pointing out the inconvenience you suffer from the overhanging branches of his elm tree, and request that he remove them. The letter should be as pleasant a one as possible, and it should contain no threats or discourteous language. If your neighbour declines to remove the branches, then you can give him notice that after the lapse of a few days—say, a week—you will have them removed, and at the end of the time you may cut back the branches level with your boundary; but you must not cut them back beyond this, nor may you keep the branches without his permission, but must throw them over into his garden.

PELARGONIUM ENDLICHERIANUM.—F. E. G., Brighton: Almost hardy, this native of the Taurus was introduced in 1855, but it has not become a popular plant. It is a very interesting species, and has handsome, rather large, deep rose-coloured flowers, on erect herbaceous stems. P. Endlicherianum has a large root-stock, and its cordate leaves are obscurely five-lobed. The species flowers in summer, and bears its blooms in terminal loose umbels. It may be grown in an ordinary greenhouse all the year round, or it may be placed out of doors in a sunny position during summer. The accompanying illustration will serve to show the kind of flowers and inflorescence borne by this rather rare species.



PELARGONIUM ENDLICHERIANUM.

CHOICE HERBACEOUS PLANTS.—S. C. G., Wrexham: We take it that you refer to choice hardy flowers for beds and borders, and, if that is so, we can recommend for your purpose the selections and cultural notes given in the "Gardening Year Book for 1909" (post free, 1s. 2d., from the Gardeners' Magazine Office, 148, 149, Aldersgate Street, E.C.). The suitability of certain kinds for certain positions and purposes is discussed, and methods of propagation are stated. The great advantage of such an account as the one indicated is that you will not be confused with an almost endless list of names, or be left in a hopeless position as regards the selection of the best kinds and varieties to make a start with. You could not wish for a better guide on the selection and culture of hardy border flowers, or on the selection and culture of the various classes of tender plants, fruits, and vegetables.

FUCHSIAS FROM SEED.—H. H. P., Torquay: If you sow the seeds at once you should obtain plants that will flower in August. Use well-drained pots or pans, and make the soil firm; sow the seeds about an inch apart, and place in a warm house or pit to germinate. Prick off the seedlings early, and keep them growing freely, but as they advance in size do not over-pot them. The growing points may be pinched out about twice to induce a bushier growth, but this is not an essential matter if the purpose is to test the quality of the flowers. Narrow, pointed-leaved seedlings never give fine flowers—at least, the flowers are not fine in the estimation of the florists; consequently such seedlings may be thrown away to save time and space.

SWEET PEAS.—P. W. H., Birmingham: It is probable that the seeds have not been able to burst their hard coating. Find them, and then just cut a nick through the tough skin, along the back, and not along the scar-like surface where the seed was formerly in contact with the pod. You will find these and other particulars explained most clearly, as well as cultural directions, in "Sweet Peas and their Cultivation," by C. H. Curtis, 1s. 2d. or 1s. 8d., post free, from the "Gardeners' Magazine Office, 148 and 149, Aldersgate Street, E.C.

NAMES OF PLANTS.

Under this heading we can only undertake to name species and well marked varieties of plants, and not florists' flowers. Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one correspondent.

J. L., Andover.—1, Garrya elliptica.

F. F., Rugby.—Odontoglossum Adrianæ.

N. W., Saltaire.—1, Cyperus alternifolius; 2, Cissus discolor; 3, Dendrobium nobile, a very ordinary form.

M. S. P., Warwick.—1, Dendrobium heterocarpum; 2, Dracæna Godseffiana; 3, Pteris tremula; 4, Acalypha Macafeeana.

E. H. B., Weston-super-Mare.—1, Tillandsia Lindeni; 2, Pelargonium denticulatum; 3, not recognised, send when in flower.

NEW BOOKS.

HANDBOOK ON PRUNING ROSES.

(Edward Mawley, V.M.H., Hon. Secretary, National Rose Society, Berkhamsted.) Price, 2s. 6d.

The new and revised edition of the "Handbook on Pruning Roses," recently issued to its members by the National Rose Society, is a very considerable improvement upon the first issue of the publication, and fully justifies the large amount of time that has been devoted to its preparation. The instructions have been revised throughout, and, where necessary, extended. The alphabetical list of roses at the end of the book has been made more complete by the inclusion of upwards of 100 varieties, mostly newer introductions. As the result of this augmentation of the list the rosarian who refers to the work will be able to find full directions for the pruning of 1,100 varieties.

CHRYSANTHEMUMS FOR GARDEN AND GREENHOUSE.

By D. B. Crane. (W. H. and L. Collingridge, 148 and 149, Aldersgate Street, E.C.). Price, 2s. 6d.

It was a happy idea on the part of Mr. Crane to write a book on the cultivation of chrysanthemums for beautifying the flower garden and the greenhouse during the autumn months, when their bright colours are especially acceptable. The idea was happy, inasmuch as no book of its kind had been previously published, previous authors of books on chrysanthemums having confined their attention to the exhibition side of these flowers. That a book dealing with the decorative varieties was wanted, and that Mr. D. B. Crane has provided exactly the work of which cultivators were in need, has been proved to demonstration by the rapidity with which the first edition was exhausted. We are not surprised that the book should have received a warm welcome from those who fully appreciate the varied charms of the varieties especially adapted to garden culture and to decorative purposes under glass and in the house, for Mr. Crane has a graceful style, and he writes with a full knowledge of the relative merits of varieties, and their cultural requirements. In the preparation of the second edition the full lists of varieties have been revised, new illustrations added, and other improvements made. The book is so comprehensive in its scope, and so admirable in treatment that we can strongly recommend it to the notice of our readers.

THE WATKINS' MANUAL.

By Alfred Watkins. (The Watkins' Meter Company, Hereford.)

Books on photography are so numerous and varied in treatment and merit that it is not easy for those who for the first time turn their attention to this fascinating art to select the instruction exactly adapted to his needs. Some are simple enough, and useful, but they do not go far enough to afford the assistance required by the beginner. Others do not give the help necessary in the preliminary stages to enable those who wish to depend upon them for guidance to make sufficient progress to take full advantage of the more advanced instruction. The book before us is free from either of the defects mentioned, and is so simple in the statement of details, and so thoroughly scientific in its treatment that the photographer will require no other guide until he has become so proficient that he is justified in specialising according to the trend of his taste. We can speak with the knowledge that comes from experience upon this point. We have had the second edition constantly in use for several years past, and have found it of so much service that we almost formulated the opinion that no more useful book could well be desired. But the fourth edition, now before us, is a considerable improvement upon all previous editions, and quite indispensable to those who have not mastered the art.

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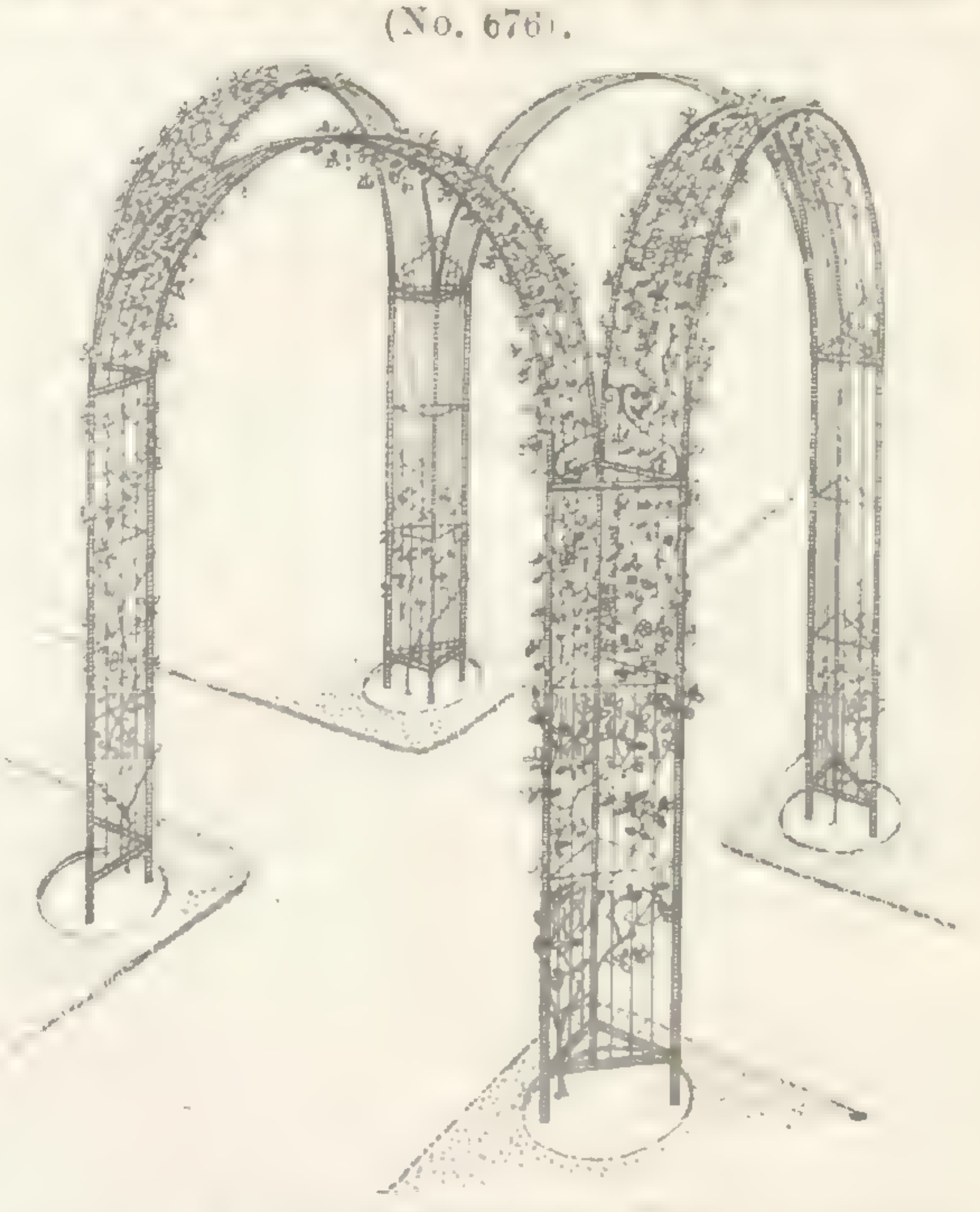

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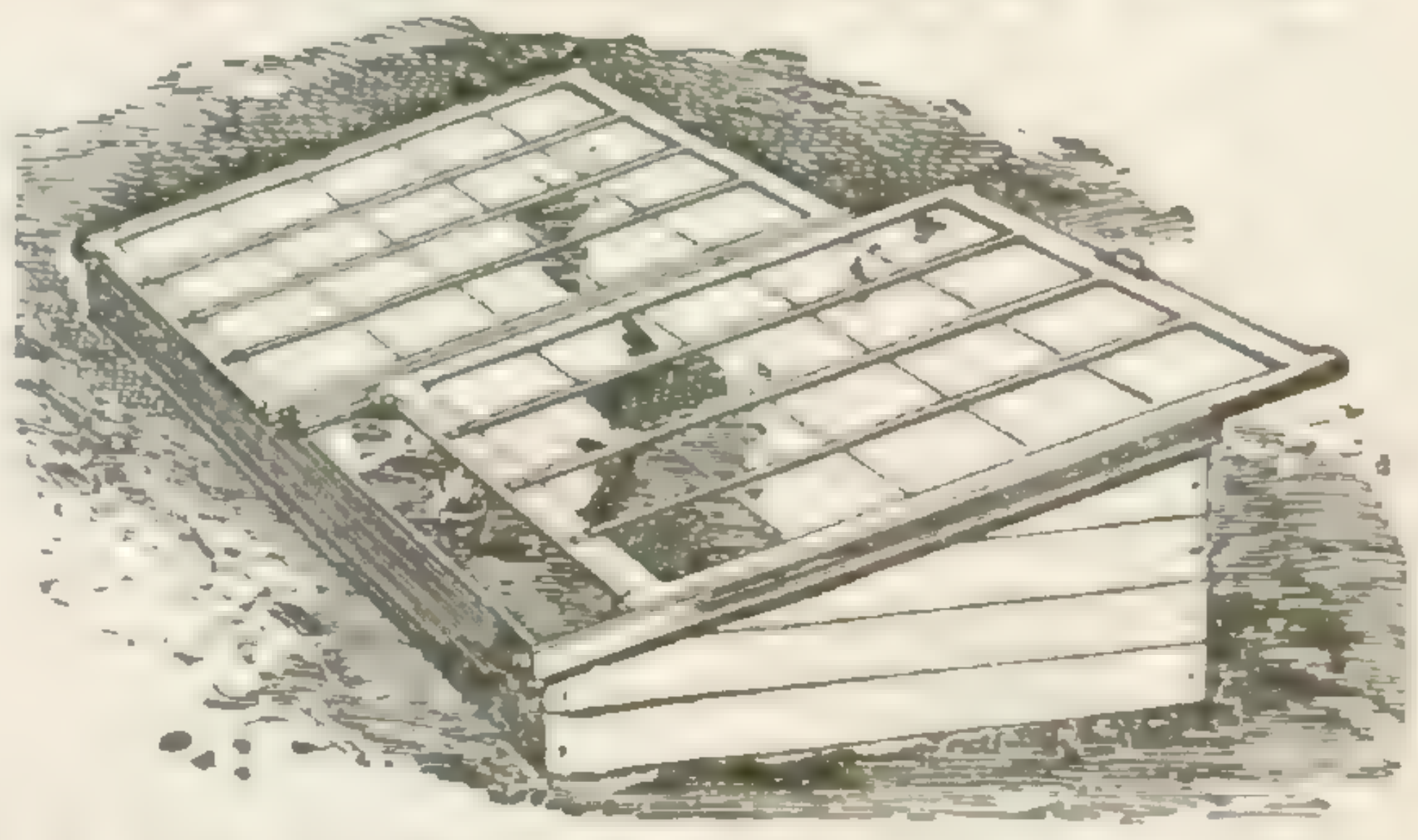

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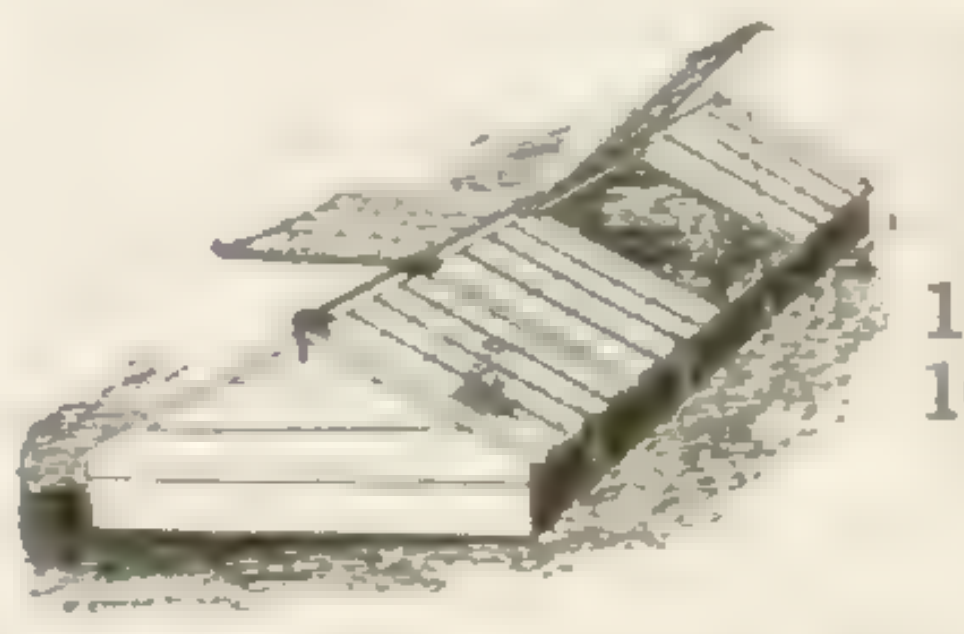

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ROSES AND ROSE GROWING.

By Rose G. Kingsley. (Whittaker and Co., 2, White Hart Street, Paternoster Square, E.C.) Price, 6s.

The books on roses, of which so large a number have been published during the past few years, might, with a very few exceptions, be divided into two classes. In the first we have books that are severely practical, and so technical as to provide but little reading that can be described as entertaining: and in the second, books that are brightly written, but more or less weak in the information they contain relating to the practical details of rose culture. Miss Kingsley's book belongs to the second of the two classes, and it in some respects more satisfactory than several books on roses that have preceded it, is disappointing, and especially coming so soon after her admirable book entitled "Eversley Gardens," which was reviewed in these pages a few months since.

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(Clay and Son, Stratford, E., and Simpkin, Marshall, Hamilton, Kent, and Co., London, E.C.). Price, 9d.

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By Emmeline Crocker, F.L.S. (Dulau and Co., 37, Soho Square.)

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METEOROLOGICAL OBSERVATIONS.

TAKEN BY THE R.H.S. GARDENS AT WISLEY SURREY.

Height above Sea-level, 150 feet.

Date. 1909. February 28 to March 6.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Feb. 28—Sunday	1 54	30	30	35	30
Mar. 1—Monday	—	28	28	32	28
,, 2—Tuesday ..	—	22	22	35	14
,, 3—Wednesday.	—	23	23	31	19
,, 4—Thursday ..	3 6	29	29	36	23
,, 5—Friday	7 18	23	22	39	17
,, 6—Saturday ..	—	34	34	40	23
Means	(total) 11 78	27	27	35	22

Date. 1909. February 28 to March 6.	Rain.	Temperature of the Soil. At 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
Feb. 28—Sunday	0·11	34	36	40	29
Mar. 1—Monday......	0·02	35	37	39	29
,, 2—Tuesday ...	0·19	35	37	39	23*
,, 3—Wednesday.	0·15	35	37	39	24*
,, 4—Thursday ..	—	35	37	39	28*
,, 5—Friday	0·17	34	37	39	11
,, 6—Saturday ...	0·40	34	36	39	23
Means ...	(total) 1·54	35	37	39	24

* High minimum compared with minimum in screen due to coating of snow over the grass thermometers.

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Royal Kidney	per ton	55 0		60 0
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,, Blacklands	per ton	50 0		55 0

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CATALOGUES RECEIVED.

JOHN FORBES, HAWICK, N.B.—Mr. Forbes' plant catalogue is a remarkably full, useful, and interesting descriptive list of hardy and tender florists' flowers, and of hardy perennials. Over four thousand species and varieties are enumerated and described, and as these comprise the best in their several classes, the catalogue has strong claims as a work of reference.

THOMAS S. WARE, LIM., FELTHAM, MIDDLESEX.—This catalogue of herbaceous, alpine, and water plants, roses, etc., is comprehensive and admirably prepared, and contains all the best of the hardy plants for the herbaceous border, the rockery, and the water garden. The catalogue also contains full lists of roses, dahlias, carnations, and several other important classes of plants.

CLARENCE ELLIOTT, SIX HILLS NURSERY, STEVENAGE, HERTS.—An excellent catalogue of alpine and herbaceous plants, containing [illegible] of the many species and varieties in cultivation, [illegible] of much value to the cultivator for the [illegible] amount of information given in the notes [illegible]panying the names of the plants enumerated.

R. H. BATH, LIM., WISBECH.—This nicely got up catalogue should prove of great interest to those who are fond of florists' flowers, as it contains very complete lists of carnations, dahlias, pansies, violas, begonias, phloxes, etc., etc.

H. J. JONES' NURSERIES, LIM., RYECROFT, LEWISHAM.—The new plant and seed catalogue from the Ryecroft Nurseries is a substantial little work of 140 pages, brimful of interest, and especiall notable for its lists of new chrysanthemums, Michaelmas daisies, zonal pelargoniums, carnations, dahlias, phloxes, and sweet peas.

GEE AND SONS, BIGGLESWADE.—This seed catalogue will appeal to many because it is so handy for the pocket. It is small, but good.

BLACKMORE AND LANGDON, TWERTON H[illegible] NURSERY, BATH.—The greater part of this c[illegible]logue is occupied by descriptions of fine t[illegible]gonias suitable for various purposes, and c[illegible] notes. Carnations and violets are also listed.

CHAS. TURNER, SLOUGH.—A useful list of seed potatoes, flower and vegetable seeds, tools and sundries.

HUGH LOW AND CO., BUSH HILL PARK, ENFIELD.—Malmaison and perpetual carnations are fully described in the new catalogue; the new varieties are of special interest.

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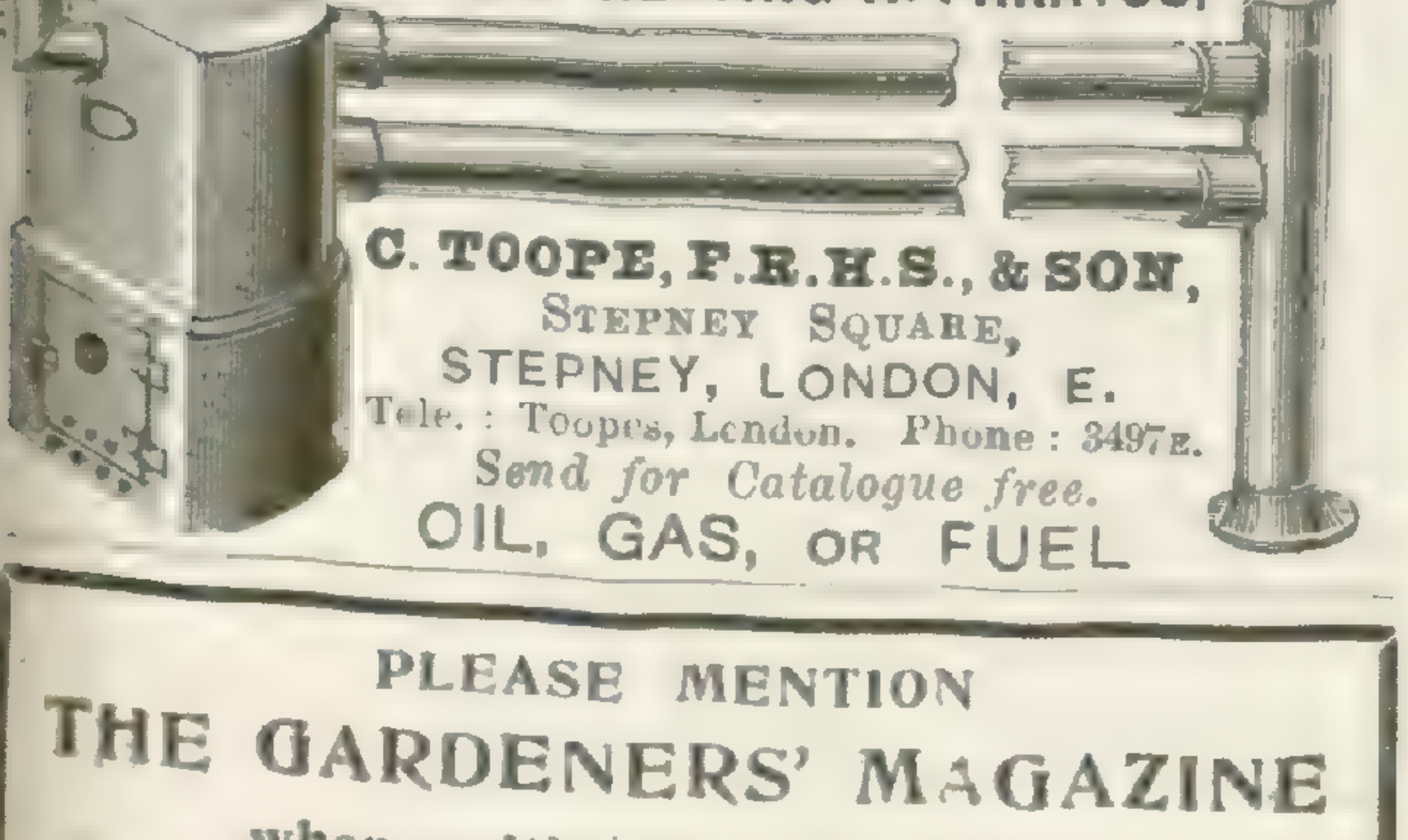

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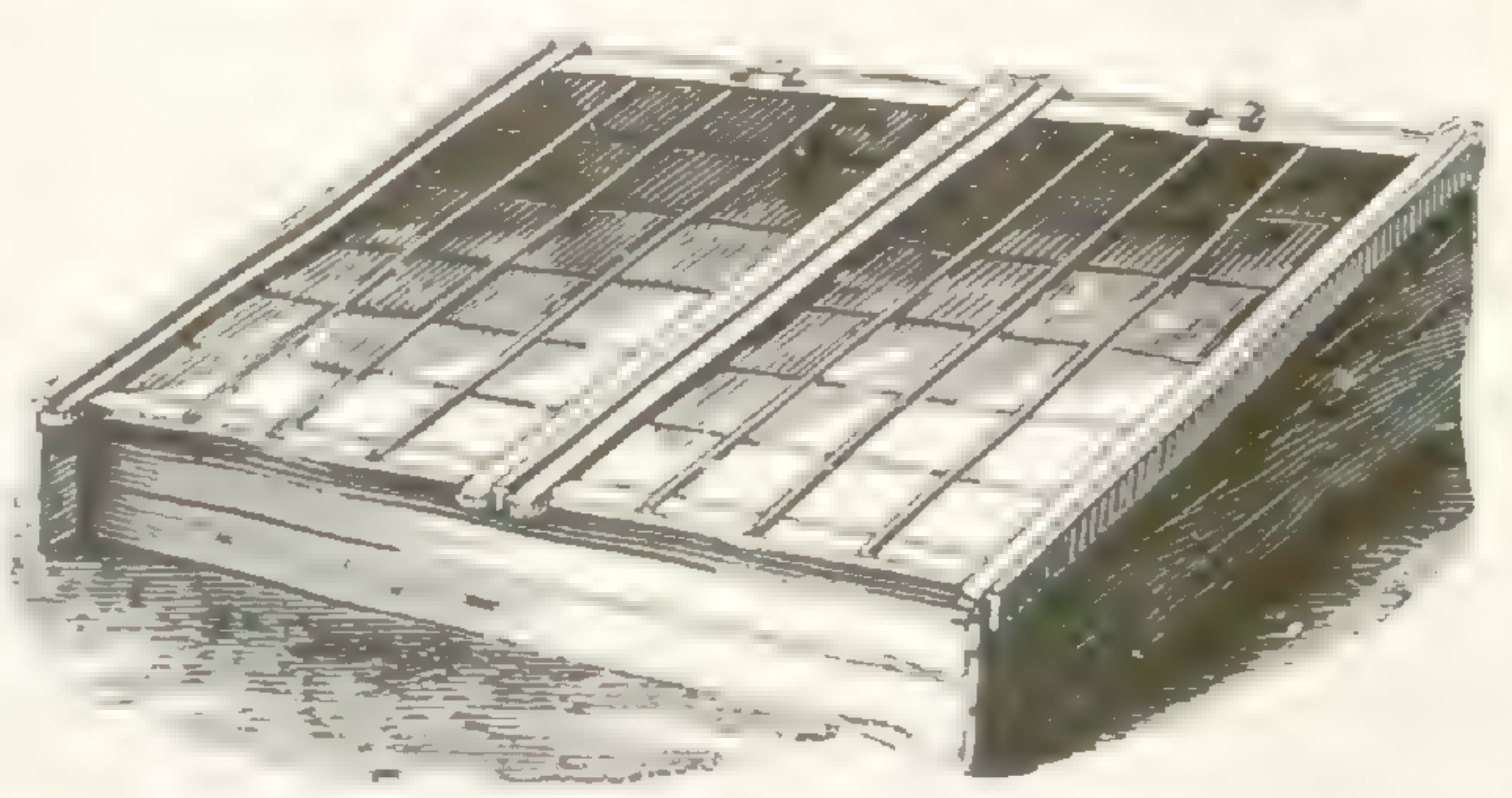

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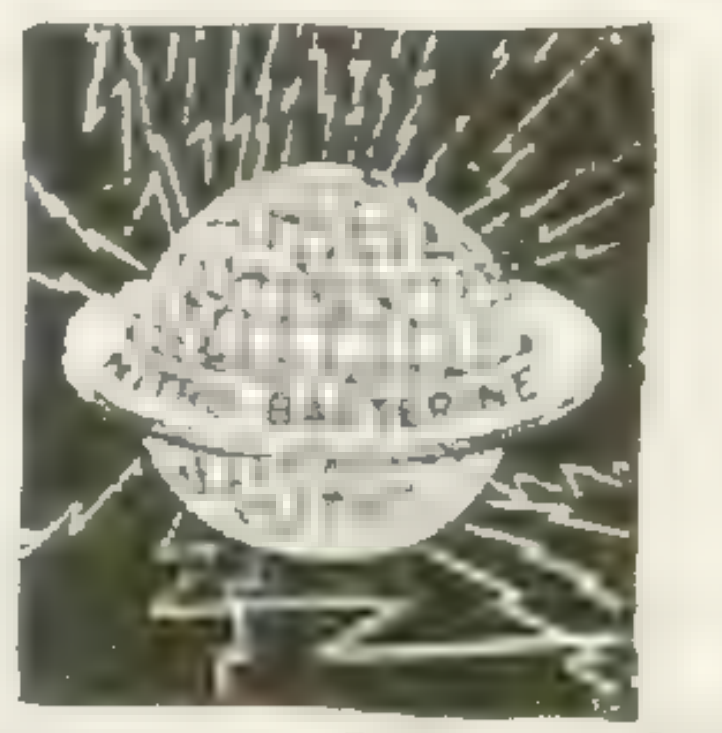

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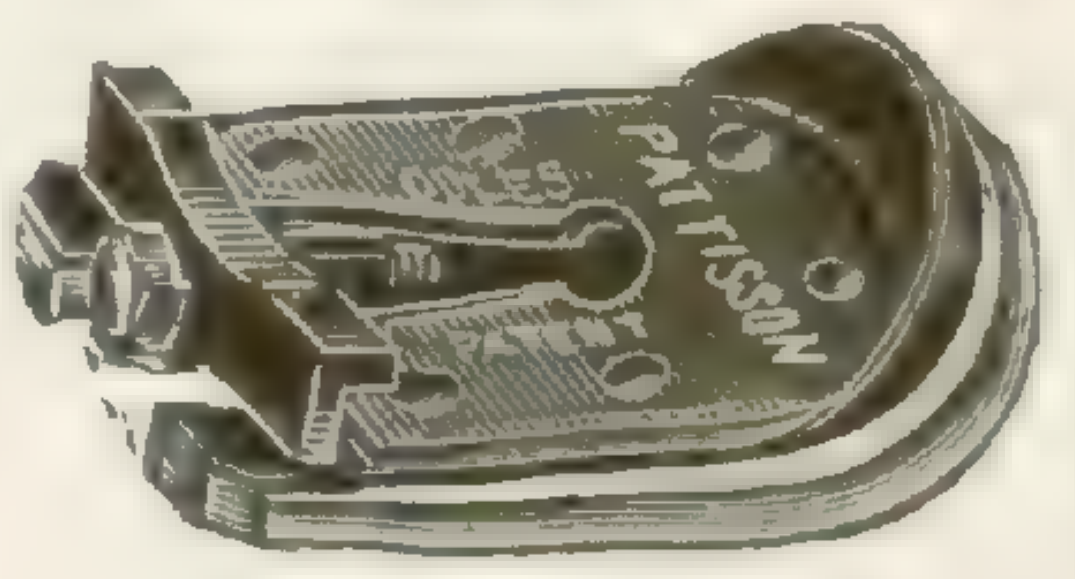

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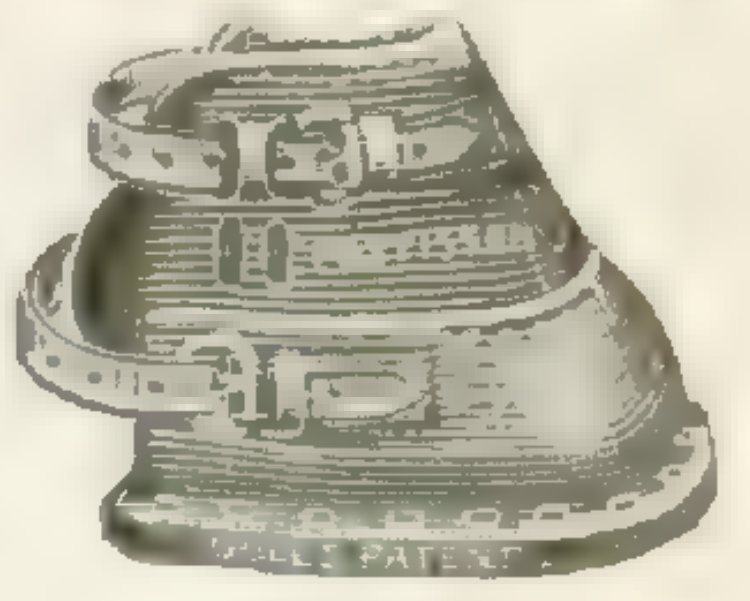

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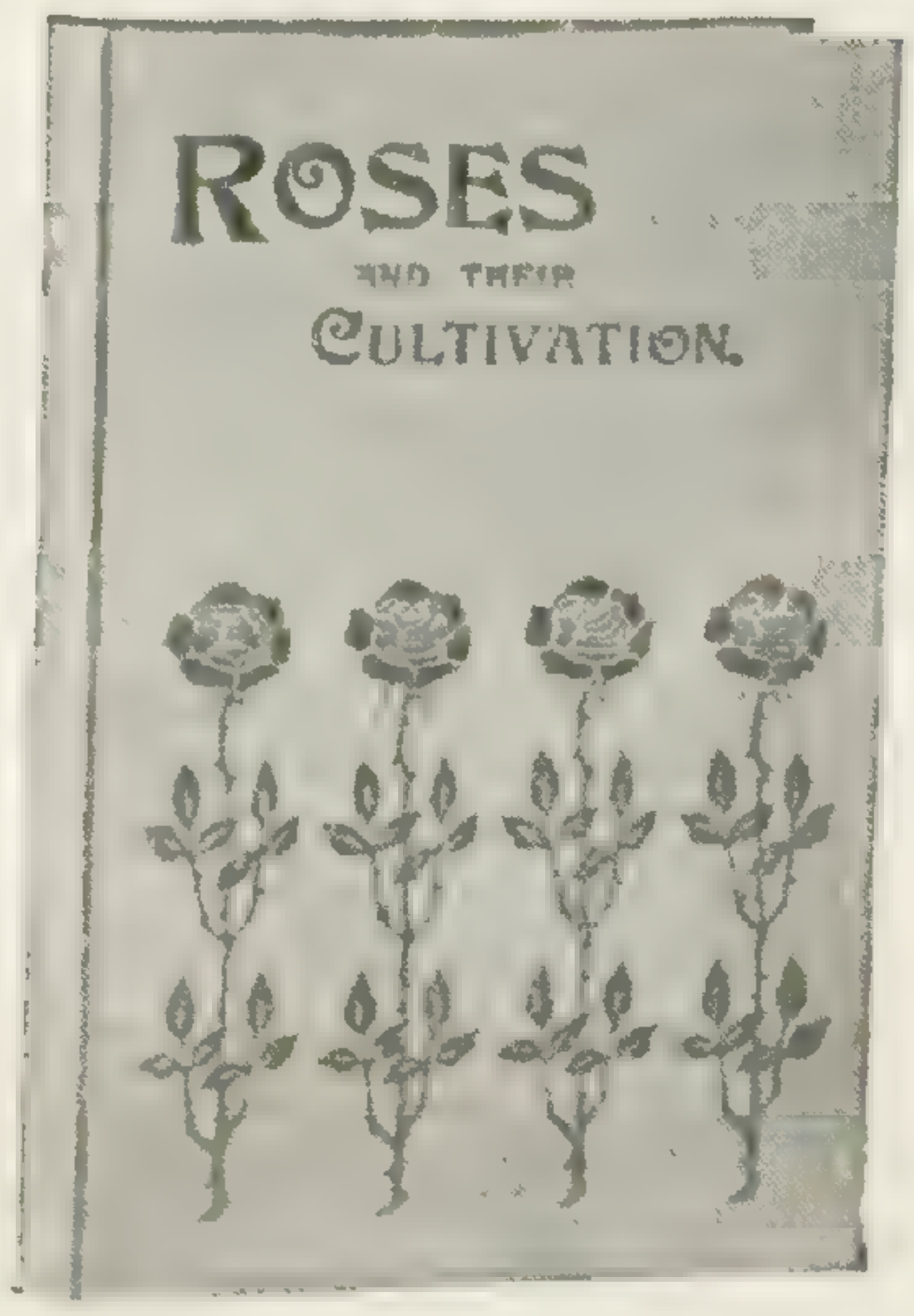

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At Half-past One o'clock.—1,000 ROSES, Standard, Dwarf, Climbing, etc.; also Fruit Trees of sorts.

WEDNESDAY next, March 24th, at Twelve o'clock.—New and Rare PERENNIALS, Hardy Bulbs and Plants, Liliums, Gladiolus, Begonias, etc.

At Half-past One o'clock.—3,500 ROSES, Standard, Dwarf, Climbing, etc.; also Fruit Trees in variety.

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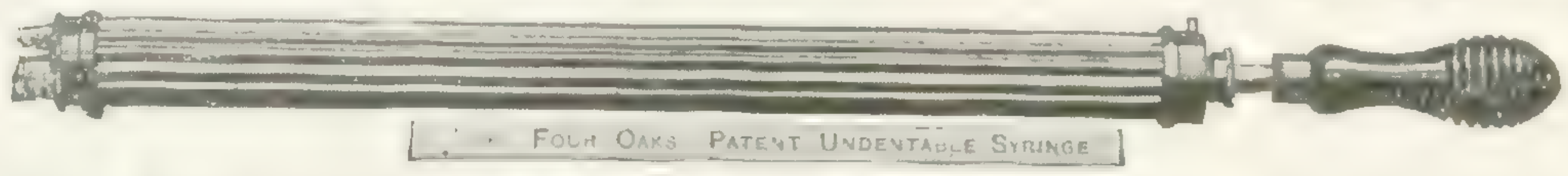

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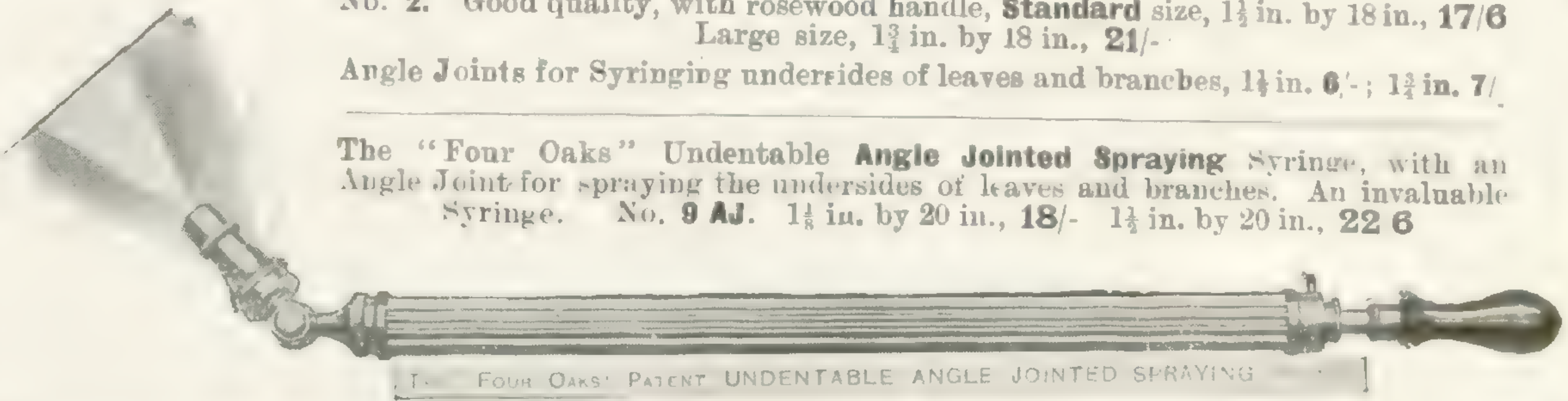

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HEAD GARDENER to Sir Alfred Reynolds, life experience in all branches, seeks SITUATION where three or more are kept; excellent references. H. PARCELL, 15, Warren Terrace, Bengeo, Hertford.

GARDENER (Head of two or three), life experience Inside and Out, age 35; married; good references. S BUTLER, 4, Alexander Road, Chislehurst, West.

LADY MALCOLM, of Poltalloch, highly recommends her HEAD GARDENER; eight years in present place, Head of three; life experiences in all branches; age 36; married, one child, seven years. W. BASTIN, Barnardiston Hall Gardens, Haverhill, Suffolk.

ADVERTISER seeks RE-ENGAGEMENT as HEAD WORKING GARDENER to any Lady or Nobleman requiring the services of a good practical man, who has had 20 years' experience in all branches (Inside and Out); excellent testimonials; personally recommended if desired; married; age 35. Apply, W. GUNSTON, c/o Mrs. Knowlton, Brook, nr. Lyndhurst, Hants.

GARDENER (Head); experienced in all branches, Inside and Out; age 31; good references; 5½ years last. W. MARKS, jun., Waterloo Place, Leatherhead.

GARDENER (Head Working), where more are kept; 25 years" practical experience in all branches, Inside and Out, early and late Forcing, Vines, Cucumbers, Melons, Stove and Greenhouse Plants, Herbaceous Borders; thoroughly reliable; highly recommended; married, without encumbrance. WOODHOUSE, Eastwood Road, Bramley, Surrey.

GARDENER (Head Working), age 47; good practical experience in all branches; Inside and Out; many years as Head; can have good references. H. TURNER, Fineshade, Stamford.

GARDENER (Head Working).—Sir WILLIAM CHANCE, Bart., Orchards, Godalming, highly recommends G. DOE; good, practical experience; all-round man Inside and Out; married, two boys, 10 and 11.—Care of SARGOOD, Millmead Terrace, Guildford.

GARDENER (Head Working of two or three, or good Single-handed; life experience in Fruit, Flowers, Vegetables, and Glass in private gardens and nurseries; excellent references; abstainer; age 26; married when suited. E. R. BEAMES, Shiplake Court Gardens, Henley-on-Thames.

GARDENER (Head Working, where several are kept); life experience in all branches; especially Grapes, Melons, Peaches, Cucumbers, and Stove and Greenhouse Plants; also Flower and Kitchen Garden; 21 years in last place, having left through death of employer; good references. C. T. M., 18, Pentland Street, Wandsworth, S.W.

GARDENER (Head Working).—Mr. Peters, Gardener to H. P. Sturgis, Esq., Givons, Leatherhead, will be pleased to recommend his GENERAL FOREMAN (F. GODDEN), where three are kept; 5½ years present situation; good experience both Inside and Out; good references; age 29; leaving when suited.

GARDENER (Head Working where two or three are kept, or good Single-handed with assistance); thoroughly qualified, all-round, Inside and Out; active, energetic, good manager, understands bees and making of bee appliances; 15 years as head; 9 years last sit.; establishment broken up; married, age 40. Can be well recommended, highest testimonials; abstainer. Apply 4,626, J. L. D., Office of this Paper.

GARDENER (Head Working, or good Single-handed, with help); experienced in all branches; age 37; abstainer; married; 2 children; good references. ELLIS, c/o J. Tutnall, Stationer, Newbury.

GARDENER (Head working, where 3 or more are kept); first-class experience, both under Glass and Outside; excellent character from present and previous employers; married, no children. J. LIDDICOAT, 20, Carnarvon Road, Barnet.

GARDENER (Head Working), age 40, son 16, require SITUATIONS (together or separate); 25 years' practical all-round experience, including glass; excellent references; disengaged when suited; some experience in the care of poultry, bees, etc. H. W., 32, Alexandra Road, Chislehurst, Kent.

GARDENER (Head Working), age 32, married; life experience in good establishments, including Syon House, Mereworth Castle, and Old Warden Park; highest references. F. FRENCH, Covent Garden, Barming, Kent.

GARDENER (Head Working or good Single-handed); age 38; married, 2 children; thoroughly experienced in all branches, Inside and Out; understands cows; good references. Disengaged. A. GOODFELLOW, 94, Sherrard Road, Forest Gate, Essex.

GARDENER (Head Working); life experience in all branches, Inside and Out; married; good references; disengaged when suited. W. CANE, Sparrows Green, Wadhurst, Sussex.

GARDENER (Head Working), thoroughly experienced in all branches, both indoor and outdoor; highest references from present and previous employer; three years present situation; married, age 40. STEADMAN, Drayton Lane, Cosham, Hants.

GARDENER seeks SITUATION as HEAD WORKING or SINGLE-HANDED; life experience all branches; understands Poultry; excellent references; married; age 38. CHANDLER, Saltwood Cottage, Brasted Chart, Kent.

W. S. WELLS, Esq., Bitterne Court, Bitterne, Southampton, thoroughly recommends his late HEAD WORKING, or good SINGLE-HANDED GARDENER; thorough practical, all-round knowledge of all branches; life experience; age 37; married, one child, age four years. LEE, above address. No circulars.

GARDENER (Head, or Single-handed); age 31; married, no family; good, all-round Man; highly recommended; 6 years in last place; left through gentleman giving up garden. Apply J. MANNING, 73, Thayer's Farm Rd., Beckenham, Kent.

GARDENER (Single-handed or with help); life experience all round; age 30; married, no family; disengaged; good references. R. BRADLEY, 49, Chaddleworth, near Wantage, Berks.

GARDENER (Single-handed or otherwise), with House Work if required; age 27; married, no family; disengaged February 27; country preferred. Apply S. HOLMES, 49, Murray Road, South Ealing.

A. WOODS, Ouseley's Gardens, Wargrave, Berks, highly recommends R. WELLS, age 26, as SINGLE-HANDED GARDENER, or SECOND where three are kept; eight years in present situation; abstainer. R. WELLS, 34, Brook Street, Twyford, Berks.

AS GARDENER (Single-handed with help, or second); thoroughly recommended by Head Gardener here; Inside and Out. Near London preferred; married when suited; age [illegible]. J. CLARK, Eastcourt Gardens, Malmesbury, Wilts.

GARDENER (Single-handed, or with help); Vines, Stove, Greenhouse Plants; experienced Inside and Out; good character by me; age 35; married (boy 5 years); willing to be useful. State terms. C. H. SMITH, 44, Ravenbourne Road, Catford, S.E. Disengaged when suited.

GARDENER (good Single handed with help; age 28; single; 15 years all-round experience; excellent references; well recommended. W. PARKER, Cedar Cottage, Harrow Weald, Middlesex.

GARDENER (Single-handed or Second); years experience under glass and Outside general; over 4 years present situation; single, age 23; good reference; abstainer. G. HUNT, 33 W[illegible] side Crescent, Sidcup, Kent.

GARDENER (Single-handed or where help is given); age 30; married when suited; good references. W. R. WELCH, New Lodge Farm, Wi[illegible] Berks.

GARDENER (good Single-handed, or Leading Hand); Pleasure Ground or Kitchen Garden; can be highly recommended; 3 years last place; age 32; married when suited. G. LEGGATT, Barlavington, near Petworth, Sussex.

GARDENER (Single-handed or with help good Second's place not objected to; married age 36; tall; one child; life experience Inside and Out; good references. H. WARNER, 17, Salmes[illegible] Road, Margate, Kent.

GARDENER (Single-handed); life experience Inside and Out; wife Caretaking if required; no family; disengaged; age 34; good references. T. EVANS, 2, Priestwood Terrace, Binfield Road, Bracknell.

GARDENER (Single-handed or otherwise).—Young Man seeks SIT.; 9½ years' good all round experience on large estabs.; married when suited; good refs. R. LOCK, Arborfield, Weybridge, Surrey.

GARDENER (good Single-handed or where another is kept); experienced Inside and Out; good references; age 27; married when suited. Apply H. CORNICK, Ponfield, near Hertford.

GARDENER seeks SITUATION, single-handed, or where help is given; age 28; single; life experience in all branches; good references. H. ATTWATER, Ivy Cottage, Horsmonden, Kent.

GARDENER seeks SITUATION (Single-handed or Second); good knowledge of pleasure grounds, kitchen garden, and inside; five years last place; well recommended; good references. ANDREWS, Singlehurst, Fourth Avenue, Frin[illegible] Sea, Essex.

GARDENER seeks SITUATION as SECOND where three or four are kept; years experience; age 23. Apply M. CLUETT, C[illegible] Okeford, Blandford, Dorset.

GARDENER seeks SITUATION as SECOND or SINGLE; four years' experience in Nursery and three years Gentleman's Service; age 23; good references. C. SLADDEN, Bapchild, Sittingbourne, Kent.

GARDENER (Second, Inside and Out).—H. STARKE, Gardener to C. Butler, Esq., B[illegible] House, Shrivenham, Berks., can confidently recommend W. JENNELL, who has been with him five years as above; strong and willing; age 25; four years in previous place.

GARDENER (Under or Single-handed) or CARETAKER; 14 years' experience, [illegible] Outside; good references; married; abstainer. The Lodge, West Hatch, Chigwell, Essex.

SITUATION COUPON

To the Advertisement Manager of "THE GARDENERS' MAGAZINE,"
148 & 149, Aldersgate Street, London, E.C

For MARCH 27, 1909.

Please Repeat my Advertisement.

Name..

Address..

....

Date..............................

THIS COUPON, duly filled up, should be forwarded not later than Tuesday for the next issue.

Situations Wanted—*continued.*

GARDENER (Second, Inside and Out, where three or four are kept); three years present situation; age 23; abstainer. A. LEWINGTON, The Gardens, Ascot Cottage, Winkfield, Windsor.

SECOND (Inside and Out); age 25; 10 years' good reference and experience; good character. H. CHERRY, Victoria Cotts., Green Lane, Eltham, S.E.

GARDENER (native Swiss), aged 27 years; Fellow Royal Hort. School Germany; speaking English, French, German; 12 years' experience in the culture of vegetables, stove and greenhouse plants, landscape gardening, designing of plans, and commercial correspondence. Formerly employed in high-class Swiss and German private gardens; latterly acting as Croton Grower. Seeks SITUATION in private garden or office. Good references. Apply, PAUL SMITH, 11a, Creswell Rd., South Norwood, S.E.

FOREMAN or SECOND (Inside), age 27; 11 years' experience, can be highly recommended; two years present place as Second.—H. DAY, The Gardens, Bedwell Park, Hatfield, Herts.

FOREMAN (Inside).—Mr. HUTT highly recommends his Foreman; good practical knowledge all branches; good references; age 30; life experience. J. TOWN, Priory Gardens, Burnham, Maidenhead, Bucks.

FOREMAN (Inside or General); age 27.—Mr. WHEELER, Wenvoe Castle Gardens, near Cardiff, will be pleased to recommend GEORGE MORRIS as an energetic, trustworthy, and capable Man; 4 years Foreman here.

FOREMAN (Inside), age 27.—Mr. S. W. TUCKER, Longford Castle Garden, Salisbury, wishes to recommend FRANK HEATH as above; 10 years' experience in fruits and plants; two years' inside here.

FOREMAN (Inside).—Mr. J. LISNEY, Berwick House, Shrewsbury, highly recommends D. COCKERILL as above; age 26; well up in Fruit and Carnations; two years as Foreman. Address, COCKERILL, Upper Hillesdon, Old Catton, Norwich.

NURSERY FOREMAN AND GROWER.—Practical exp. Grapes, Strawberries, Cucumbers, Tomatoes, General Pot Stuff, Roses, Chrysanthemums, Bedding Stuff, Bulbs, Valley, Forcing, Propagating, Salesman; good references; married. HUMPHREY, Leopold Street, Ramsgate.

MR. W. J. SHORT can highly recommend W. HANCOCK as a good SECOND GARDENER or GARDENER where two or three are kept; has been Foreman in present situation for the last four years; age 27; Midlands preferred. W. HANCOCK, Freeland Gardens, Woodstock.

MR. D. NORRIS, Head Gardener, Lindley Lodge, Nuneaton, is pleased to recommend J. HEXTALL, as a good SECOND or FIRST JOURNEYMAN (Inside); well up in Fruit and Plants; life experience. J. HEXTALL, Lagoe Buildings, Long Street, Atherstone.

JOURNEYMAN (First), age 22; in fruit or plant houses; highly recommended.—Apply, J. AYERS, 5, Holly Cottages, Norfolk Road, Rickmansworth, Herts.

JOURNEYMAN (Inside); age 19; 2½ years' experience in present place; Inside and Out; leaving for improvement. RICHARDSON, Poynter's Gardens, Cobham, Surrey.

JOURNEYMAN (Inside and Out).—Mr. HATTO, Walsingham Gardens, Chislehurst, would be pleased to recommend Young Man as above; age 21; seven years' experience; three present situation. Apply, MUMMERY, 190, Widmore Road, Bromley, Kent.

JOURNEYMAN.—As such WILLIAM COLLINS desires ENGAGEMENT in a Private Garden; age 20; well grounded in the rudiments of his profession; abstainer and non-smoker. WILLIAM COLLINS, Michaelstow Gardens, St. Teath, R.S.O., Cornwall.

JOURNEYMAN (Inside), under Foreman; life experience; age 23; can be well recommended; 3½ years present situation. J. CALDER, Worcester Court Gardens, Worcester Park, Surrey.

JOURNEYMAN (Inside or Inside and Out); Bothy preferred; well recommended; five years' experience; age 19. F. ASLETT, North Mymms, Hatfield.

JOURNEYMAN (Outside).—P. STICKLAND wishes SITUATION as above; three years' experience here; age 19; strong and willing; good character. A. GIBSON, Zeals House Gardens, Zeals, S.O., Wilts.

WANTED, SITUATION as an IMPROVER, age 17; strong and willing; has had three years and ten months' general experience Inside and Out; total abstainer. Bothy preferred. A. HYLAND, Woodlands, Ticehurst, Sussex.

IMPROVER (Inside and Outside).—C. H. PERKINS, The Gardens, Milton Abbey, Blandford, will be pleased to recommend a YOUTH, age 19, as above; tall and strong.

IMPROVER, age 18; four years' experience; good reference; Bothy preferred; Inside or Inside and Out. S. MARSH, Marie Villa, Court Road, Walmer, Kent.

IMPROVER (Inside and Out), age 19.—J. COWIE, The Gardens, High Barn, Godalming, highly recommends a strong, willing, and obliging Youth as above; two years' experience here. Bothy preferred.

J. COWIE, Gardener to the Honourable Stuart Bouverie, High Barn, Godalming, wishes to recommend his Son, age 17½, as IMPROVER (Inside); two years' experience in the Gardens of Sir Chas. Metcalfe; strong and willing. Bothy preferred.

ESTATE CARPENTER and HANDYMAN seeks Situation; good joiner, and used to all house repairs, painting, paper-hanging, etc.; 11 years' good character; own tools. W. BARRIER, 17, Lennard Road, Penge.

SITUATION as ELECTRICIAN; Oil Engine preferred; willing to be generally useful; age 21. G. STRIPP, Shabden, Chipstead, Surrey.

SECRETARY, "Professional Gardeners," Chapel-Allerton, Leeds, highly recommends Young Man as INSIDE FOREMAN; age 27; excellent references and experience all branches; 2½ years last as Foreman.

THOS. MORRIS, Gardener, Dytchleys, Brentwood, Essex, would be pleased to recommend ALFRED RAINBIRD, age 18½, Inside and Out; 4½ years' experience. Bothy preferred.

W. JARVIS, Manor House, Duns Tew, Deddington, Oxon, wishes to place his Son, age 19, in a good establishment; Inside preferred; 5 years' experience with the above.

YOUNG MAN, age 20, seeks SITUATION Inside and Out; 4½ years present place; good reference. GEORGE MANNING, Bridge House, Sandwich, Kent.

YOUNG MAN, age 22, seeks SITUATION in good establishment as JOURNEYMAN; can be well recommended; seven years' experience. W. DREWRY, Postwick Rectory, Norwich.

YOUNG MAN seeks SITUATION as Florist; 7 years' experience; good maker up and salesman. N. KEEN, Hill Cottage, Crescent Road, Cowley, Oxford.

YOUNG MAN seeks SITUATION as under Gardener; age 19; Inside and Out; strong and willing. G. LUFF, 18, Prospect Place, Maidstone, Kent.

YOUNG MAN (23), Farmer's Son, seeks SITUATION as UNDER GARDENER, with a good chance for improvement. Good knowledge of kitchen gardening; abstainer; excellent reference. G. SEAR, Hardham, Pulboro, Sussex.

YOUNG MAN, with six years' experience in General Pot Stuff, seeks SITUATION in Trade or Private; excellent references; abstainer. W. F. R., 41, Gore Park Road, Eastbourne.

YOUNG MAN (20) requires SITUATION in Kitchen Garden and Pleasure Grounds; six years present place; highly recommended. F. BARTLETT, The Gardens, Appleby Hall, Atherstone, Leicestershire.

YOUNG MAN seeks SITUATION as UNDER GARDENER; age 21; respectable; abstainer; can wait at table; good character.—HENRY HOROBIN, Brampton Road, Bexley Heath, Kent.

YOUNG MAN seeks SITUATION Pleasure and Kitchen Garden; or single-handed; good characters. London suburbs preferred. A. POTTEN, 3, Western Lane, Balham, S.W.

YOUNG MAN (21) seeks SITUATION in Kitchen Garden, Pleasure Ground, or Inside and Out; eight years' experience. C. ANDERSON, The Lodge, Ravenshill, Chislehurst, Kent.

YOUTH (18) requires SITUATION in kitchen Garden and pleasure grounds; Bothy preferred; 2½ years in present situation; good characters. B. JARRATT, Waverly Road, Weybridge, Surrey.

YOUTH, 18, seeks RE-ENGAGEMENT as Third or Fourth, Indoors; or help Out; 4 years outside. Address, Mr. G. FARMER, Head Gardener, Beckford Hall, Tewkesbury.

MARRIED MAN (30), two children, seeks SITUATION; used to Cow, Pigs, etc., Kitchen Garden or Pleasure Grounds; good references. J. DAINTON, 24, Buxton Road, Mortlake, S.W.

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VOL. LII.—No. 2,890. SATURDAY, MARCH 20, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Temperature.

The question of temperature is a very important one with regard to plant life, since it has not only formed one of the main factors in the evolution of that variety of form which constitutes the basis of our enjoyment as flower lovers, but success or failure still depends largely upon it under cultural conditions. As a rule, the rate of growth is determined by the amount of warmth afforded either naturally by the sun or artificially by the stove, and, under wild conditions, as we know, the ebb and flood of vegetative activity coincides with the decline or increase of the solar heat, according to the season. When alternations of sunshine and cloud, warm sunshine and genial showers, give place to bitter winds, and snow and hail on wintry blizzard lines, which the sun's rays appear incapable of modifying, we see at once how the vigorous growth of a week or two may be severely checked, and brought to a practical standstill. The bursting and unfolding buds of tree and shrub make no progress at all, and it is only when we examine the alpine tribe of plants, such as the primulas, saxifrages, and their kin, that we note continued well doing, due to the fact that as natives of mountain heights and a cool environment generally, they are really more in their element than under normal spring conditions. They have been evolved to make the most of the time when winter has done its worst, and the snow-clad heights begin to throw off their dazzling mantle of white to permit these highland flowers to see the light again, and, thus endowed with special vigour, their offspring and representatives in the lowlands feel the less the temporary incursion of the winter conditions we may be experiencing. One of the greatest puzzles in this particular connection is the great diversity of temperature which is experienced at like periods of the year. Small fluctuations we naturally expect at this season; there is always a struggle going on, as it were, with the retreating forces of King Winter and the advancing ones of King Sol, but why the latter should sometimes apparently beat a precipitate retreat for a week or two, and leave the field in the foe's possession so thoroughly, is an enigma which even our most expert meteorologists, we fancy, can throw no light upon whatever. What determines the steady and persistent flow of biting wind from the north-east for so long? We ask in vain, we may be told of barometrical depressions here, and risings yonder, but these are only indications of facts, and not reasons for their existence, and we are as wise, or rather as ignorant, as ever. One thing, however, we may learn from the example of the alpine plants alluded to, and that is that coddling and protection from chill are not always conducive to vigorous growth, however much growth depends in general way on warmth. There are plants and plants. Some, like alpines, are the children of the bleak hillsides, others have been evolved under warm valley or glen conditions, and it may be even tropical ones. Such conditions are usually essential to existence, and must be imitated, as far as possible, when, as in these days of facile transport, plants are transferred from one part of the world to another, and consequently it may be to very different climates from their native ones. It, however, by no means follows that a plant from under the Equator is necessarily a stove plant. Temperature depends not only on latitude or longitude, but also on elevation, the snow line exists in the tropics as well as in cooler regions, it is simply at a higher elevation, and on the flanks of tropical mountains we consequently find all grades of vegetation, suited at their feet for stove culture, higher up for the temperate house, and higher still they are absolutely as hardy as the Arctic flora itself, and inevitably perish if treated as stove plants, because of their tropical origin, a point well worthy of being borne in mind. This season the temperature has been so uniformly low that fruit trees and ornamental plants have as yet escaped the injurious effects that usually result from the alternation of periods of heat and cold.

MR. WILLIAM HOWE.

Mr. William Howe has so long occupied a prominent position as an active worker in the cause of charity, and for the advancement of horticulture, and as a successful exhibitor, that he is one of the best-known and most highly respected gardeners within the Metropolitan area. In presenting our readers with Mr. Howe's portrait it is of interest to recall the fact that he spent much of his early life in the great gardening establishments north of London. When a lad, fifteen years of age, Mr. Howe commenced his career in the gardens of Aldenham House, then occupied by Mrs. Michael Bass. Thence he went to Hillfield House, Aldenham, and he left there to enter the gardens of Warren House, Stanmore, where, as in the two other gardens he remained about two years. Leaving Warren House Mr. Howe obtained a position in the gardens of Bentley Priory, then the property of Sir John Kelk, where he had the advantage of being under two of the foremost gardeners of their day. Seeking knowledge further afield, Mr. Howe went to Osteley Park, Ellesmere, as foreman. and after a stay of two years he came back to London to occupy a similar position in the gardens of Park Hill, Streatham, then the property of William Leaf, Esq., and under the charge of Mr. T. Page, a successful exhibitor of hard-wooded plants and pineapples. When, on the death of Mrs. Leaf, in 1874, Mr. Page retired, Mr. Howe was appointed his successor, and this position he has occupied with singular success until the present time. The estate was purchased about 28 years ago by the late Sir Henry Tate, who will long live in the memory of art-loving people by his munificent gift to the nation of the collection of pictures in the Tate Gallery. Encouraged by appreciative employers, Mr. Howe has, during this long period, fully maintained the high reputation of the Park Hill gardens, notwithstanding the increased difficulties consequent on the enormous extension of buildings on all sides. Mr. Howe, although he does not make special provisions for exhibiting, has achieved much success at competitive gatherings with fruits, flowers, and plants. He has at Park Hill a remarkable Alicante vine which, during the past 28 years has borne from 85 to 100 bunches annually of the average weight of 3lb., some bunches reaching 7lb. Mr. Howe is a member of the Royal Horticultural Society's Floral Committee; the National Chrysanthemum Society's Executive and Floral Committees, and the Royal Gardeners' Orphan Fund Committee.

Kew Gardens.—Although the season is a very backward one, and in many of the flower beds the daffodils have scarcely pierced the soil, there is very much to interest a visitor to Kew.—The greenhouse is particularly bright with hyacinths, daffodils, amaryllis, carnations, forced shrubs, Coleus thyrsoideus, primulas, acacias, wallflowers, etc., etc. The crocuses under the big Turkey oak commenced to open during the genial sunshine of Tuesday last, and under the lilacs in the great bed near the Sun Temple the Winter aconites were quite gay. On the Cumberland Mound, snowdrops, hellebores, and crocuses, are attractive, and in various parts of the gardens the earliest shrubs are putting forth their flower buds. The new formal water garden, near the old museum, is finished; there is water in most of the seven pools, and the groundwork all round is now being completed.

Severe Frost at The Hendre.—Mr. T. Coomber writes from The Hendre Gardens, Monmouth: We registered 25 degrees of frost on the morning of March 4, and 32 degrees on the morning of March 5, and the ground on these dates was covered with about six inches of snow. On March 6 we registered 0.55 inches of rain—really melted snow and sleet.

The Extemporised Lawn that was formed by Messrs. James Carter and Co., of High Holborn, on the occasion of the exhibition held by the Royal Horticultural Society on the 9th inst., was so interesting and attractive as to merit more prominent mention than it was possible to give in our report of that gathering. This lawn was of special interest for the advance it evinced in the presentation of horticultural products to public notice, and also for the evidence it afforded of the possibilities in forming grass lawns from seeds when, as in this case, the several kinds most suitable for the purpose are selected and used in the proper proportions, and the seeds are of the highest quality. Not only did the firm lay down within the precincts of the great hall a lawn that at once attracted attention by reason of the uniformity of growth and the rich green of the grass, but they tastefully embellished it with flowers and other accessories, and thus provided a valuable object lesson in the art of exhibiting. One side and two of the ends had a charming fringe of flowers, consisting chiefly of hyacinths, narcissi, and tulips, and the flowers had for a background a belt of shrubs, chiefly evergreens. At either end was a stone vase filled with shrubs, and in the centre was an elegant sun-dial. The grey colouring of these admirably harmonised with the rich tone of the grass, and the bright hues of the flowers, and appreciably contributed to the general effect. This lawn may well be regarded as a veritable triumph, and worthy of taking a high place among the achievements of the firm.

Orchid Hybrids.—Mr. H. J. Chapman, gardener to N. C. Cookson, Esq., Wylam-on-Tyne, placed before the R.H.S. Scientific Committee Odontioda Bradshawiæ, Oakwood var., raised by crossing Odontoglossum crispum var. Graireanum (white) with Cochlioda Noetzliana. The flowers showed no trace of blotching, but were almost of one shade of colour throughout. Another form, Odontioda Bradshawiæ, Cookson's var. (see p. 211), raised from Odontoglossum crispum x Cochlioda Noetzliana, had a deep mauve margin to the bright red segments, and showed distinctly the deeper coloured blotches upon the lighter ground colour. The difference in colour and markings in these two varieties forms an interesting problem in heredity.

Flower Imports were in February last above the average, the value having been £32,971, as compared with £30,541 and £25,541 in the corresponding month of 1908 and 1907. The value for the first two months of the year was £62,635. In the same period of 1908 and 1907 the value was £59,721 and £44,086.

Stephanotis Fruiting. — Miss Frances Brenan, The Cottage, Ballymascanlan, Louth, Ireland, writes that a stephanotis in her garden flowered profusely all last season, and is now carrying one large fruit, about as large as a medium-sized pear. The plant is in a ten-inch pot, and is usually potted every third year. It grows freely, flowers profusely, and keeps clean and healthy. As Miss Brenan remarks, it is not often the stephanotis fruits, and it is remarkable that only one flower out of many left to wither, should have formed a seed pod.

The Perpetual Flowering Carnation Society holds its sixth exhibition in the Royal Horticultural Hall on Wednesday, March 24, and its annual dinner will be held on the evening of that day at the Hotel Windsor, Victoria Street, Westminster. An excellent schedule is provided for the March show, and both amateurs, gardeners, and traders are encouraged to compete.

Erlangea tomentosa.—There is now flowering in the greenhouse at the Royal Gardens, Kew, a very interesting plant that promises to be a very useful one for conservatory and greenhouse decoration during the late winter months. It is a composite, hailing from the higher land of British Central Africa, and needs pretty much the same treatment as a eupatorium, or say Coleus thyrsoideus. The flowers are borne very like those of a eupatorium, and the florets in the little heads of bloom are all fairly well developed, but there are no distinct ray florets, as in so many composites. These little heads are freely borne in clusters several inches across, and they are of light blue colour that fades to lilac with age. The stems and the backs of the leaves are downy, and the plants are 2ft. to 2½ft. high.

Rock Gardens.—At the general meeting of the Royal Horticultural Society on Tuesday next, March 23, Mr. R. Lloyd Praeger will give a lecture on "Rock Gardens: Natural and Artificial." The chair will, as usual, be taken at 3 p.m.

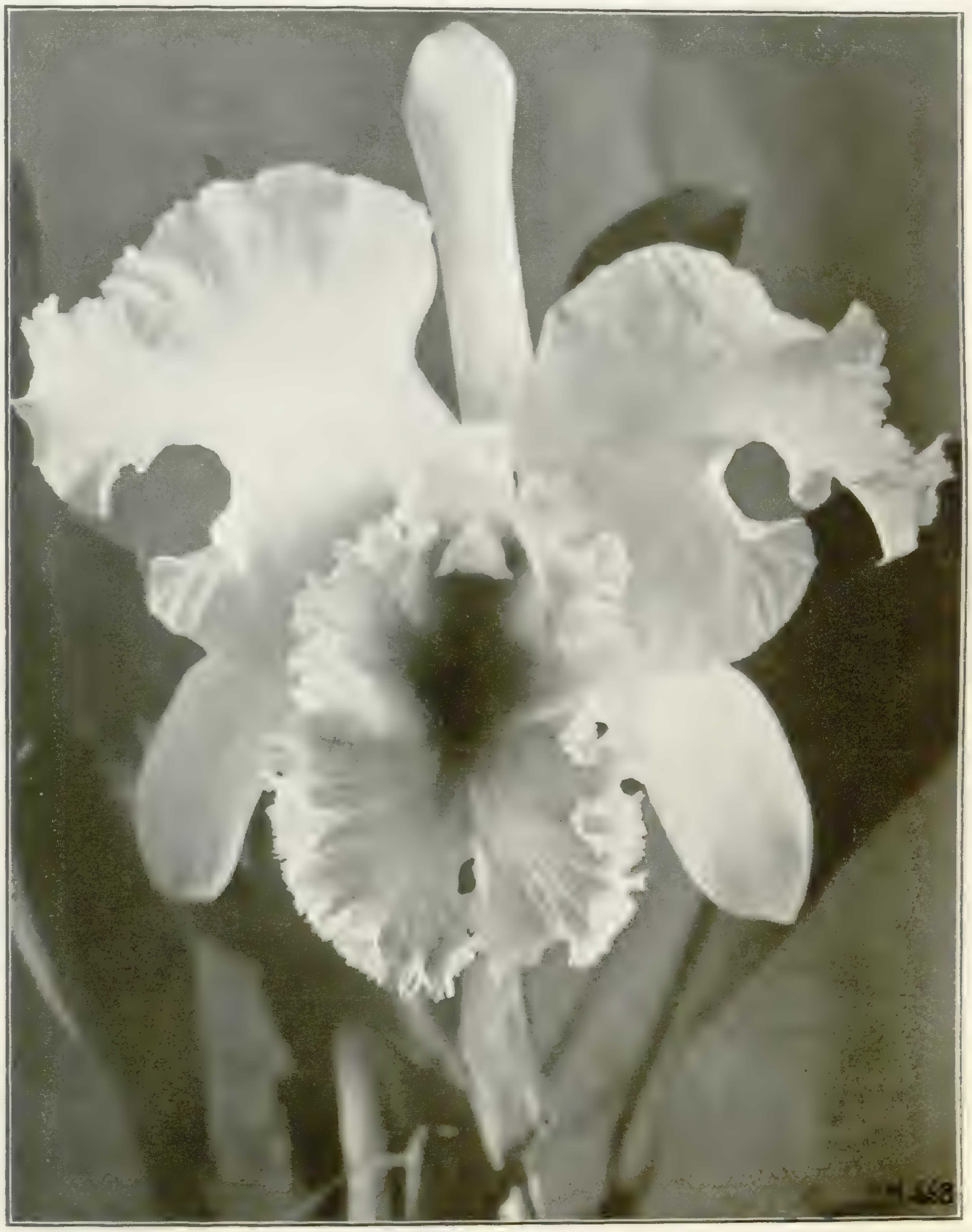
Mealy Bug.—The term "Mealy Bug," according to the "Journal" of the Board of Agriculture, is applied to two members of the family Coccidæ, viz., Dactylobius citri and D. longispinus (formerly known as Coccus adonidum). These insects are harmful, not only on vines but on other greenhouse plants. The best treatment for destroying these pests consists in fumigation with hydrocyanic acid gas. According to Newstead (Monograph of the British Coccidæ, Vol. II.), D. citri breeds rapidly in summer, and although the males are not found in winter, all stages of the female occur. This species secretes honey, and this is taken as a food by ants. Where the insect is abundant the honey collects on the leaves of the infested plants, and acts as a germinating medium for fungus spores. D. citri has been recorded at Kew in the open, "on ivy-clad hothouse walls." D. longispinus resembles the former species in its mode of life. It is a greenhouse species in temperate climates, but an open-air species in tropical and sub-tropical countries.

Tree Lopping in Burnham Beeches.—A correspondent of the "Times" has adversely criticised what is being done by the City authorities in pruning certain of the old beeches, and some of the luxuriant hollies. In a reply thereto Mr. M. C. Duchesne writes: "These old pollard beech trees, after having been lopped regularly for centuries—accounting for their present picturesque appearance—have been allowed to develop branches, in many cases, for upwards of 150 years. The dimensions of the limb mentioned by "Rusticus" gives a good idea of the size some of these have attained. The pollard trunks are, in nearly all cases, mere shells, only a few inches in thickness, and the weight of the large limbs which the trunk supports has frequently been responsible for the loss of the tree. In spite of extensive wiring of the branches, unsightly props, and other steps taken to prevent this loss, this can be seen in every part of the Beeches—seven fine trees were lost last summer alone. This danger grows more serious every year, as the tops get heavier and the pollard trunks decay further. There are other reasons that make it important that the tops should be lightened. One of these is too scientific and lengthy to go into here; but the death of the finest tree, known as the 'Queen Beech,' and two other fine pollards by the Plain, was due to this cause. . . . A third reason for cutting back some of the largest limbs is to encourage fresh growths of branches below, and if this is deferred much longer there is the risk of losing the vitality of the dormant buds. The question of public safety must also be considered, and there have been what can only be described as miraculous escapes from death from falling limbs.

The Daylight Saving Bill, which, we are told, has been introduced with a view "to promote the earlier use of daylight in certain months yearly," has been read a second time in the House of Commons, and referred to a Select Committee. Its history in this year is therefore the same as that of last Session, and it is difficult to imagine that it will proceed far beyond the committee-room. It is proposed by the Bill that from two o'clock in the morning, Greenwich mean time in Great Britain, and Dublin mean time in the case of Ireland, of the third Sunday in April in each year, until two o'clock in the morning of the third Sunday in September, the local time shall be one hour in advance of the Greenwich and Dublin mean time respectively. During the other half of the year the time will remain as now. It was urged by the supporters of the Bill that it would be an enormous advantage to those engaged in agriculture, gardening, and the various trades to have the clock put on an hour during the period embraced by April and September, the speakers being evidently oblivious of the fact that a very considerable proportion of the workers have to travel considerable distances to reach their employment and consequently to rise early.

Royal Agricultural Society.—At the monthly meeting of the council of this society Mr. Adeane, in presenting the report of the Finance Committee, said that the total income for the year was £8,442, giving a credit balance of £563. The society's capital at the end of 1907 stood at £29,267. The total capital at the present time was £43,592. The reserve fund at the end of 1907 stood at £22,000; it was now £37,700. This was the largest invested fund the society had ever possessed. The Finance Committee estimated that from subscriptions of governors and members they would this year receive £7,480, and that the total receipts would be £8,780. The contribution to the show account of £2,500 would make a total estimated expenditure for the year of £8,326, giving an estimated balance of receipts over expenditure amounting to £454. They were getting through their period of stringency, and on the part of some there was a desire for expansion. He only hoped they would not go in for expansion too quickly, and that their memories would not be too short, because it was only five years ago that the society assembled together to consider whether their financial position would permit of the "Royal" show being held in the ensuing year. They ought to secure the society against ever being placed in such a position again.

Revision of the French Tariffs.—At the last meeting of the Commission Administrative de l'Union Commerciale des Horticulteurs et Marchands Grainiers de France, presided over by Mons. A. Truffaut, it was decided, after due consideration of the propositions contained in the report of the Commission on the Revision of Tariffs to be submitted to the French Parliament, to protest against any new duties or increase of duties on the importation of plants, flowers, fruits, and vegetables. Although the additional duties proposed are not very high, the Union Commerciale, according to the vote recorded on the subject at the last general meeting, is of opinion that French horticulture is sufficiently protected. The adoption of new or increased taxes which have been asked for by a small group of interested persons might, it is feared, induce other countries to create new taxes or increase existing ones, which would sensibly affect the exportation of French products, such as flowers, fruits, and palms from Southern, and plants and trees from Western parts of France; as well as of primeurs or early vegetables and fruits from the Paris district, the whole of which forms the most important part of French horticulture. It was decided that another deputation should wait upon the president of the Commission, and also that Mons. Deloncle, M.P. for the Department of Seine, and Mons. Arago, M.P. for the Alpes Maritimes, should be asked to use their influence, and to oppose all new taxes, and any increase of existing taxes when the discussion of the Bill takes place in the French Parliament. French horticulturists of all descriptions wish it to be known that they are opposed to new or increased duties being put upon gardening goods, as they are convinced that nurserymen of both countries must benefit by every facility being given for a free entry of such goods from other countries into their own.



BRASSO-CATTLEYA CLIFTONI MAGNIFICA.

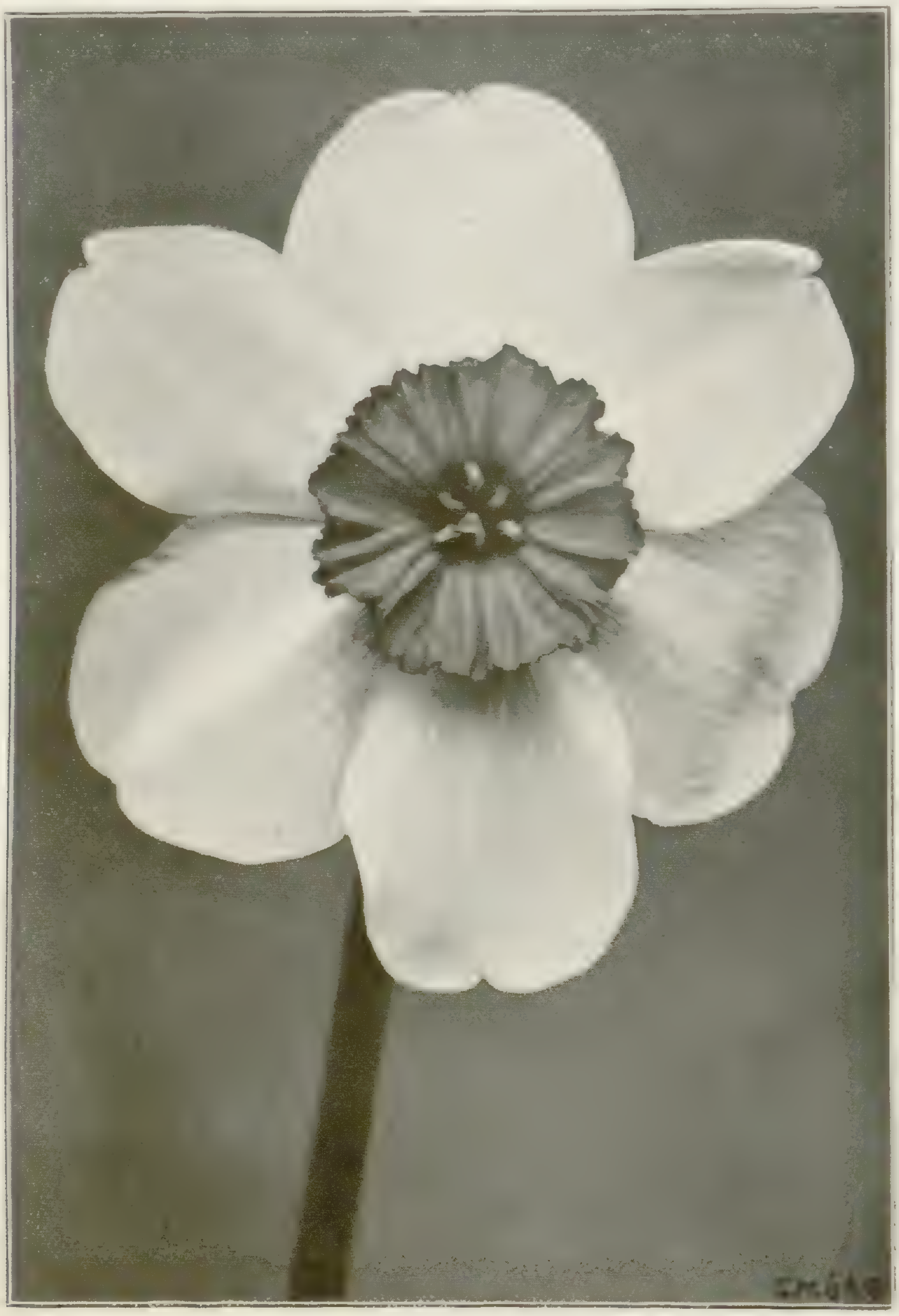
Exhibited by Messrs. Charlesworth and Co., at R.H.S. Meeting, March 9, when it received a F.C.C. Flowers considerably reduced, sepals and petals white, tinted rose, the lip crimson.

Scientific Aspect of Tillage.—Tillage, observes Professor Wrightson, in the "Agricultural Gazette," justifies itself, and needs no theory, nor apology. It is, however, capable of explanations which shed considerable light upon its processes, and may even modify them. Among these may be mentioned the aeration of the soil, or the effects of free oxidation. With this is closely connected increase in percolative properties towards water, and porosity and absorptive powers towards both water and gases. A well-tilled soil at once allows of the downward passage of water, and consequently of air, and it is capable of retaining a much greater amount of moisture than if in a compact state. It also favours the processes of nitrification to a marked degree, and allows of unimpeded ramification. Oxygen acts upon both the organic and inorganic constituents of soils, causing the complete decomposition of the one, and the liberation of fertilising matter in the other. It promotes the action of the aerobic microbes, which perform an active part in nitrification, and sweetens the soil by destroying those organic acids which are associated with partially-decomposed organic matter. Under the influence of tillage the interstices of the soil become the theatre of many important and beneficial changes, which could be only imperfectly effected without it. The exposure of fresh surfaces, and the pulverisation of the staple, facilitate atmospheric action, and assist in the liberation of both nitrogenous and mineral plant food.

NEW PLANTS, ETC.

BRASSO-CATTLEYA CLIFTONI MAGNIFICA.

An exquisitely beautiful form of one of the finest of the Brasso-cattleya hybrids, but, as might have been anticipated from its parentage, the characteristic features of the cattleya predominate. The flowers are large, the petals of great breadth, and with the sepals are white delicately tinted with rose; the rich crimson lip is broad and finely frilled. F.C.C., R.H.S., March 9, Messrs. Charlesworth and Co., Haywards Heath.



NARCISSUS CIRCLET.
Exhibited by Messrs. Cartwright and Goodwin at R.H.S. Meeting, March 9. Awarded a Certificate of Commendation for forcing. Flowers white, with lemon-coloured cup.

CATTLEYA TRIANÆ GRAND MONARCH.

A magnificent variety, not less remarkable for its rich colour than for the superb form and noble proportions of the flowers. The sepals and petals are of great breadth, and of a rich rose-purple hue, and the fine broad lip is ruby-crimson marked with gold. F.C.C., R.H.S., March 9. Mr. Menteith Ogilvie (gardener, Mr. Balmforth), The Shrubbery, Oxford.

ODONTIODA BRADSHAWIÆ COOKSON'S VARIETY.

A brilliantly coloured and exceedingly beautiful bigeneric hybrid that may be regarded as a veritable triumph of the hybridist's art. The flowers are large, as so well shown in the characteristic illustration we were able to give in our issue of the 13th inst., and the sepals and petals are of considerable breadth, as in a fine form of Odontoglossum crispum. Both sepals and petals are bright scarlet, and the sepals are tipped with mauve, and the petals have an irregular margin of the same colour; the lip is scarlet, mauve, and yellow. F.C.C., R.H.S., March 9, Mr. Norman C. Cookson (gardener, Mr. H. J. Chapman), Oakwood, Wylam-on-Tyne.

SOPHRO-CATTLEYA THWAITESI.

A beautiful bigeneric hybrid, obtained from a cross effected between Sophronitis grandiflora and Cattleya Mendeli. The flowers are of medium size, the sepals bright red, reticulated with cream colour; the petals red suffused rose, and the lip red and yellow. F.C.C., R.H.S., March 9. Mr. R. G. Thwaites (gardener, Mr. Black), Chessington, Streatham.

CATTLEYA SCHRODERÆ MRS. F. SANDER.

A pure white form, remarkable for the large size and fine form of the flowers. F.C.C., R.H.S., March 9. Messrs. F. Sander and Sons, St. Albans.

BRASSO-LÆLIO-CATTLEYA COOKSONI.

A distinct hybrid, with medium-sized flowers, attractively coloured yellow and red. A.M., R.H.S., March 9. Messrs. Charlesworth and Co.

ODONTOGLOSSUM WYONIANUM.

A charming form, the flowers white, marked on the sepals, petals, and lip with large ruby-coloured blotches. A.M., R.H.S., March 9. Mr. J. Gurney Fowler (gardener, Mr. J. Davis), Glebelands, South Woodford.

NARCISSUS CIRCLET.

A handsome variety belonging to the Englehearti group. The flowers are comparatively large, with broad white segments and rich lemon-yellow cup. Certificate of Commendation for forcing, R.H.S., March 9. Messrs. Cartwright and Goodwin, Blakebrook, Kidderminster.

NARCISSUS QUEEN OF THE WEST.

A beautiful variety of special value for forcing. Certificate of Commendation, R.H.S., March 9. Mr. Walter T. Wa Bath.

NATURALISATION OF DAFFODILS.

The naturalisation of the narcissi is one of the greatest successes ever added to our gardens and landscapes, and I very much question if these flowers are ever seen to greater advantage than when growing in the orchard, meadow, or other grass. Two common dangers, however, are often seen; first, overcrowding, in which the whole surface of the grass is dotted over, and, second, the use of mixtures instead of distinct varieties. The first destroys all good effect, the second, as we see in some of our public gardens, is also not the best way to go to work. It is only when the plants are grouped naturally and simply in the turf with plenty of verdure about them, that we get the best effect.

Nothing is weaker than a mixture of a number of forms. I do not say that mixtures are not good occasionally, for two well-chosen varieties very often go together with graceful results, but the best way is to keep them apart. Even those which, seen when gathered might be called second rate, often give, when grown in turf, most beautiful colour effects from a distance. Narcissi and other bulbs should be planted freely, and as they are offered by the thousand at very cheap rates, many spots in our shrubberies that have long been bare and unsightly should be made interesting and beautiful. It should also be borne in mind that while the narcissi of themselves are very beautiful, another and distinct series of colours must be added to them, and the best are azure-blue flowers of the mountains and northern pastures. It is when these are seen together, or in relation with the narcissi in the form of carpets, near or beneath them, that we obtain the most charming effects that any flower planting can give. We are now so near the season of daffodils that I hope these notes will quicken the interest in these lovely flowers, and lead readers to observe the fine effects that free planting will produce.

T. B. Field

Ashwellthorpe Gardens.

Protecting Fruit Blossoms.—In warm situations the early flowers on apricots and other wall trees will soon be expanding. In some seasons we may pass through this critical period without experiencing any cold sufficient to damage the blossoms, but the reverse is more often the case, so that it is advisable to have everything in readiness for use if required. If such material as Frigi Domo or canvas is used, it should be so fixed as to be readily rolled up or removed during the daytime, but where the protection consists of two or three thicknesses of fish netting, this may be left up until the fruit is well set, and the foliage grown sufficiently large to act as a protection. Whatever kind of protection is used, be careful to see that it is made perfectly secure, and not liable to come into contact with the trees when rough winds are experienced.—George Woodgate.

VIEW IN THE GARDENS, BERROW COURT.

SOME BIRMINGHAM GARDENS—II.

Perry Hall.

A fine old place is Perry Hall. The house tells of strength and comfort, and the gardens tell of long years of love and care. It is the home of Lieut.-General Sir Somerset J. Gough Calthorpe and Lady Calthorpe, and it is as a home rather than a place of occasional residence that Perry Hall and its surroundings appeal to the visitor. Stately and strong, rather than ornate, is the Hall itself. It was built in 1759, is square in outline, and is surrounded by a moat 40ft. across. Four pretty ivy-clad bridges provide the means of access to or exit from the inner garden, and, as there are stout gates to the bridges, it were an easy matter to keep out intruders. The strongly-built house, the moat, the bridges, the formal flower garden, and the straight paths all carry one back to earlier days and stirring times. But they fit in well the one with the other, and are quite in keeping with the home of a soldier.

If there is formality in the plan of this part of the garden, there is none in the planting, nor in the surroundings. There are rose-clad arbours and on the west side of the house is a very handsome pergola, also rose covered. Climbers clothe the walls of the Hall, and quite close up to the windows are raised, bricked-up flower beds, that are filled in summer with fragrant and beautiful flowers. These are very quaint and different from anything I have seen elsewhere. Both Sir S. J. Calthorpe and Lady Calthorpe love their garden and take a very personal interest in it, and though I have referred to the garden within the moat first of all, it must not be thought that this is the limit of gardening operations. By no means. Perry Hall estate is a fairly large one. Within the garden and grounds there are about six miles of roads, and the drive up to the Hall is a full half-mile long, and there is another long back drive to the stables and servants' quarters. Further, there are about seventeen acres of gardens and pleasure grounds, about eighteen acres of golf lawns, five acres of kitchen and fruit gardens, and a glass department of thirteen houses.

It is not a small garden that Mr. Thomas Burn has charge of, consequently, it is a good thing that the restless energy that characterised him when he was at Kew, about twenty years ago, seems to have in no way abated. He is never happier than when conducting alterations and improvements; the golf lawns have provided an outlet for his energy of late, but failing special work of this kind, he looks round for sites that will be all the better for being trenched. Mr. Burn loves to get to the bottom of things, and herein lies the great secret—if it can be called secret—of his success. He is an out-and-out advocate of deep cultivation, and the magnificent crops of all kinds of vegetables to be found within the high-walled kitchen garden are a striking tribute to the correctness of his views. A cleaner, better cropped kitchen garden one might long seek for. Hardy fruits are also finely managed, and though here and there, as is the case in all old gardens, there are fruit trees long past their profitably fruitful stage, these are being steadily replaced by young ones, and, meantime, there are clean, established trees of various sizes and ages that yield an ample supply. One long arch of apples in the kitchen garden is an attractive rather than a profitable feature, but it is an institution sacred by reason of its age.

Hardy flowers, annuals, and flowering trees and shrubs abound at Perry Hall, indeed there are flowers everywhere. Herbaceous borders are many in number, and one of these, backed by a high climber-clad wall, Mr. Burn hoped to be able to widen considerably, and, of course, thoroughly trench, although such widening would mean the removal of a path, the lifting and removal of several trees, not to mention alteration of drains, etc. Another improvement on hand is the planting of groups of flowering shrubs, or strong-growing hardy perennials on either side of the long lime avenue or drive. This is proceeding as opportunity serves, and as it provides room for shrubs and plants that must be thinned out in grounds nearer the hall, the work serves a double purpose, securing improvements in both cases and in an economical fashion. The curse of over-planting, and consequent over-crowding and spoiling, is alas, written all too legibly on many a garden; here is a suggestion for remedying the evil.

Very freely do the roses grow in the flower garden at Perry Hall, whether in beds or borders, or on arches, or arbours, indeed, the south front is even more of a rose garden than the west front. In the rose beds gladioli and violas are planted, and a feature is made of the varieties of Gladiolus Colvillei. Plants in tubs, such as hydrangeas and marguerites stand along the pathways, and a vase of flowering plants marks each corner of every bridge across the moat. In the centre of this garden is an ancient sun-dial with several inscriptions, such as "I tell no hours but sunny ones," "Look while you have the light," and "Shadows we are, and like shadows depart." Beyond the moated garden, through a plantation composed largely of beautiful trees and shrubs that flower in spring and early summer, with some purple beeches and golden poplars to give colour at other seasons, is the tennis court. All around it is a rather high bank topped by a hedge of Cupressus Lawsoniana erecta viridis. It is so usual to find the tennis court right out in the open, with little or no protection for the players from sun and wind, that this sheltered grass-plot proves a very distinct and pleasing variation.

ONE OF THE CONIFER AVENUES AT WYDDRINGTON.

The front door of the Hall faces the park and it is sheltered by a remarkably fine oak porch. On the opposite side of the carriage way there is a lawn, with groups of rhododendrons and azaleas. The iron fence that protects anyone from falling into the moat is completely covered with ivy, indeed, the moat is hardly noticeable along the front of the house. Further along a broad garden path curves round the rising park land and leads through a pleasant dell along by the side of the little River Wray. Broad borders of annuals, backed by sweet peas are inducements to pass along this way. Presently the path divides and one path leads upward and out into the park and the golf course, while the other keeps to the bank of the stream under the beeches and past several grand old lime trees. There are some pretty peeps along this woodland walk, just as there are some charming views from the moated garden, down the stream that supplies the moat and wanders away amid flowers, reeds, and rushes and grasses, past a pretty little boathouse, and on between the meadows.

Cannon Hill Park.

The most famous of the many parks and open spaces under the control of the Birmingham Corporation is Cannon hill Park, where Mr. W. H. Morter, Parks Superintendent to the Corporation, resides. This park was opened in 1873, and seven acres were added in 1897, bringing the total area up to 74 acres. The total expenditure on the parks maintained by the Corporation is about £21,000 a year, and in a manufacturing and thickly-populated City like Birmingham this expenditure is a very necessary one. As a matter of general interest it may be mentioned here that the Birmingham Parks lie widely apart, and for the convenience of Mr. Morter and members of the Parks Committee, a motor has been provided. One wonders how the ground could be covered and the parks properly overlooked by Mr. Morter before the provision of this means of quick transit. The various parks and their areas are Adderley Park, 10 acres; Aston Park, 50 acres; Balsall Heath Park, 4¼ acres; Burbery Street Recreation Ground, 4¼ acres; Calthorpe Park, 31 acres; Cannon Hill Park, 74 acres; Highgate Park, 9 acres; Lightwood's Park, 24 acres; Nechells Recreation Ground, 9¼ acres; Park Street Gardens, 4¼ acres; Queen's Park, Harborne, 15 acres; Rednal and Bilberry Hills, 120 acres; St. Mary's Gardens, 2¾ acres; St. Mark's Recreation Ground, about 1 acre; St. Paul's Recreation Ground, 3 acres; Summerfield Park, 34¼ acres; Victoria Park, 43 acres; Walmer Recreation Ground, 2¼ acres; and Washwood Heath Park, Saltley, 54 acres. This is a record any city might be proud of.

Enormous quantities of bulbs for the spring display and of tender plants for summer effects are used in the several Birmingham Parks, but the great flower-gardening centre is at Cannon Hill Park. The spacious park is pleasantly undulating and is fortunate in containing an abundance of large trees. It contains a large lake where boating is a favourite summer recreation, and it also contains water and rock gardens. From the main entrance a chestnut avenue runs well into the park, and on either side, set in the grass, are large flower beds. Last season a few of the combinations were as follows: Tall Souvenir de Chas. Turner pelargoniums and standard fuchsias, over a ground work of scarlet pelargoniums; a ground work of yellow calceolarias, with short pillars of S. Parker fuchsia and tall standards of Rose of Castile fuchsia; and a fragrant combination of stocks and petunias. The big raised Crown bed, composed of coleus, pyrethrums, sedums, echeverias, and alternantheras, delighted the multitude, while a border in front of a group of hollies, filled with clumps of sweet peas and columns of ivy-leaved pelargoniums was a striking feature.

Some magnificent weeping standards of Dorothy Perkins rose were specially noted, toward the centre of the flower garden, and a pair of fine trees of Pyrus salicifolius also attracted attention. A subtropical effect is produced in one section by means of tall cordylines, bold phormiums, cannas, palms, eucalypti, anthericums, etc. A number of small beds are arranged around the fine monument erected to Birmingham's sons that fell in the South African war, and a special feature is made of these for the production of spring effects. One very bold bed near by was filled with Dorothy Perkins roses trained up pillars, and a border of very fine white phloxes, with scarlet gladioli between, was a great success in the autumn. A big bed that was very popular last summer was of carpet-bed style, and represented the Union Jack and tricolor flags a further reminder of the "entente cordiale." Large beds of Gruss an Teplitz rose, and white stocks were also good, while scarlet begonias and white phloxes were freely used and with fine effect in many parts of the park.

It should be mentioned that hollies thrive finely at Cannon Hill Park, and that choice trees and shrubs have been planted wherever there is ample opportunity for their development. The cultivation of these subjects and of hardy herbaceous and alpine plants is being extended, and it may be that ere long there will be less need for such an enormous quantity of tender summer bedding plants. At present there is rather too much summer bedding, and even towards the close of a bright day in early autumn the display, as a whole, is rather too dazzling and bewildering, skilful though it be.

Berrow Court.

For a very long number of years the names of J. A. Kenrick, Esq., and his gardener, Mr. A. Cryer, have figured at the leading exhibitions in the Birmingham district, and one always finds them inscribed with prize slips fixed thereto at the great chrysanthemum show held in the big Midland City. In the gardens at Berrow Court many things are grown well, and in the glass houses it is pleasant to find big specimens of Adiantum Williamsi, A. formosum, A. æthiopicum, and A. Mooreanum, beautiful crotons, splendid examples of Dracæna Sanderiana, D. Godseffiana and a whole host of other ornamental foliaged plants. Plants and flowers of all kinds are used very largely for indoor decoration and for the embellishment of the conservatory that is practically a part of the home itself, so we find a considerable variety of subjects grown by Mr. Crier, and it must be allowed that the success he achieves is above the average.

There are many glass houses at Berrow Court, though none of them are very large, and, mostly, they have been arranged so as to occupy in the aggregate as small an amount of space as possible. No room has been wasted. In addition to a fine selection of stove foliage plants, the collection contains a fine lot of dendrobiums, for which Mr. Crier believes in a comparatively small amount of root room; calanthes that are a special success, with leaves that show no trace of spotting; streptocarpuses, representing a first-class strain in first-class style; odontoglossums, all grown in polypody fibre and looking the picture of health; zonal pelargoniums, a splendid collection of the finest varieties, grown in free, informal style and filling one span-roofed house with great beauty and brilliance; perpetual carnations, to follow the zonal pelargoniums; and amaryllis, which also have to themselves one of the light and useful houses erected by Messrs. Wright and Holmes, of Birmingham. Some patent frames by the same builders, filled with primulas and cyclamens, are worthy of notice, as they are arranged to open easily from either side, and they have a rising apex that permits of top ventilation. The amaryllis are a very fine lot, and they consist of the best of varieties from the collections of Messrs. J. Veitch and Sons, Chelsea, and Messrs. R. P. Ker and Sons, of Liverpool, and selected seedlings raised by intercrossing these.

Peaches are well managed at Berrow Court, the long peach case containing excellent trees of King George, Noblesse, Raymackers, etc., all of which fruit freely, the latter carrying a very late crop of fine fruits. There are two vineries, and though the vines are old they carry good useful crops.

Not an easy place to manage is Berrow Court garden, because of its steep slopes and curious corners, but, like almost every other garden where the owners and the gardener are lovers of plants and flowers, and where the skill of the latter is backed up by the liberality and kindly consideration of the former, it has a beauty and interest of its own that are quite distinct from that found in any other garden. Right along one side of the lawn is a pleasing combination of herbaceous border and rock garden. It is really an elevated border faced with rock work. Here, in a warm and sheltered position, large groups of such beautiful flowers as liliums, montbretias, kniphofias, crinums, heucheras, Sedum spectabile, phloxes, Michauxia campanulata, hollyhocks, etc., etc., are an unqualified success. It is no haphazard success, however; no lucky hit. The border is made of the best material, and good mulchings of manure and plentiful supplies of water, with a careful regulation of growth, do the rest.

Herbaceous plants are also freely grown a little farther along, and through this part of the garden one passes to the little rose garden where a magnificent arch of Dorothy Perkins rose was the outstanding feature for a considerable part of last season. This beautiful rose is certainly a great success in the Birmingham district. Still descending, the rhododendron garden is reached, where a good selection of these ever-beautiful shrubs is planted upon a semi-circular bank, with beds of Ghent and Mollis azaleas in front of them. It was a happy idea that conceived this rhododendron garden, and no small skill was necessary to carry it out. More rhododendrons follow, and then the little pond comes into view with a really splendid group of the bold Saxifraga peltata at either end, forming a distinct and beautiful feature.

Climbing up another way to the kitchen and fruit garden it is at once apparent that Mr. Cryer's care and skill are not all expended on plants and flowers grown solely for their beauty. This part of the garden comes as a distinct surprise just as you have concluded that Berrow Court garden is given over to plants, hardy flowers, and choice fruits. No one need ask for finer bush apple trees than Mr. Kenrick's garden contains, and especially fine is Golden Noble, Blenheim Pippin, and Lord Suffield. Close cropping is the order in this acre and a-half of kitchen garden, not a bit of room is wasted, and with peas, bush fruits, and Brussels sprouts, Mr. Cryer is as successful as with stove plants, amaryllis and chrysanthemums. The latter are largely grown, and during the summer time no fewer than seven hundred plants line the broader pathways in this upper kitchen garden. The majority are grown for the production of large blooms, but that still leaves a large number grown in bush form for conservatory decoration or for cutting from.

A FINE WEEPING BEECH NEAR THE LAKE AT WYDDRINGTON.

Wyddrington.

At Edgbaston, quite near the famous Edgbaston Botanic Gardens, there is a peculiarly interesting old-time garden belonging to Mrs. John E. Wilson. Time was when Mr. Jinks who has been head gardener at Wyddrington for thirty-six years, was in the forefront as an exhibitor in the Midlands. He was always a strong competitor with plants of all kinds, while fruits and vegetables were scarcely less well shown. But times have changed, and, though Mr. Jinks, still hale and hearty, is a strong supporter of every horticultural movement in Birmingham, he does not now exhibit. Where once was the bustle and excitement incidental to any preparation for an exhibition, there now reigns a peaceful, restful quiet.

Wyddrington is a garden of terraces and long straight alleys; a garden of fine trees, water, and woodland. A quiet garden wherein to rest and meditate, and let the world rush along outside as swiftly as it may. The house is set high above a deep valley, and one end of the valley is broadly and stoutly banked up, and along the top of the bank runs a canal that extends to Worcester. On bank and steep, and all around the lake that lies in the bottom of the valley, trees abound, ranging from deodar and Lebanon cedars to elms and oaks and fine beeches. Standing at the garden front of the house one obtains many pleasant views, and it is hard to believe such a garden could be so near a great manufacturing city.

A modest flower garden is on the topmost terrace, and the terrace bank is clothed with such spring flowers as arabis, aubrietias, saxifragas, phloxes, dianthuses, and the like, while the broad path below has an arbour of golden yew at each end. A lawn occupies a large part of the second terrace. All around are winding walks amid rhododendrons, fine hollies, and rare old conifers, but presently one comes to the long alleys or avenues, each from 100 yards to 160 yards long, and from one point five of these avenues radiate. There are eight of these quiet, straight avenues, and one of the best is of golden English yew, backed by common English yews 20ft. high; one is of Irish yews; one of Cedrus Deodara; one of Pinus Cembra, 25ft. high; another of the green Ilex aquifolia minorca, and yet others, two of the newest, of Cupressus Lawsoniana lutea. All the alleys or avenues are 16ft. wide, and the trees are only sufficiently pruned to keep them in bounds, and secateurs, not shears, are used, and it occupies three men about five weeks to do all the pruning.

Away below, to the right is the kitchen garden, so carefully hidden as not to be seen from the house or terraces; indeed so wonderful are the winding walks and so straight the alleys, that it would be a difficult matter to find the kitchen garden without a guide. Further along to the left is the lake, with its margin of pampas grass, osmundas, irises, and bullrushes, its bamboos, and its water lilies. Near by are some beautiful oaks, a noble Taxodium distichum, and at the head of the lake is one of the most perfect specimens of a weeping beech one could wish to see, and it is a big one also. The rose garden is also a distinct and attractive feature at Wyddrington.

In the spring time and in early summer these gardens must be particularly pleasing, when the daffodils and bluebells yield their charming flowers in myriads, and when the abounding rhododendrons and azaleas produce their beautiful blooms. It is good to visit a garden of this kind now and again, and wander adown its grass walks amid the stately yews and cypresses, and drink in some of the peace that broods over it—a peace that is not found in any new garden.

PART OF MANSION AND MOAT AT PERRY HALL.

Southfield.

Southfield, the residence of W. Waters Butler, Esq., is at Edgbaston, and is entered from the Norfolk Road. The house is a pretty one, the stables and yard are as spick and span as the most modern fixtures and appliances can make them, and the garden is very cosy and admirably kept. Not very large is the Southfield garden, but it is skilfully arranged and well named. Immediately in front of the garden side of the house a small, well-kept lawn extends to the railings of the meadow. Evergreen trees and shrubs, hollies prevailing, act as screens and shelter on either side, and a few well placed flower beds give the necessary colour. Beyond the lawn the pathways curve to right and left, passing round the two fields and meeting again at the far end of the little estate and at its lowest point. The garden proper extends all round these fields, showing how large a garden may be made to appear, and how infinite is the variety of design for a garden. The pretty Jersey cows and the happy donkey that is requisitioned for mowing, together with the very ornate cowshed and pigeon cote, are not the least of the attractions at Southfield.

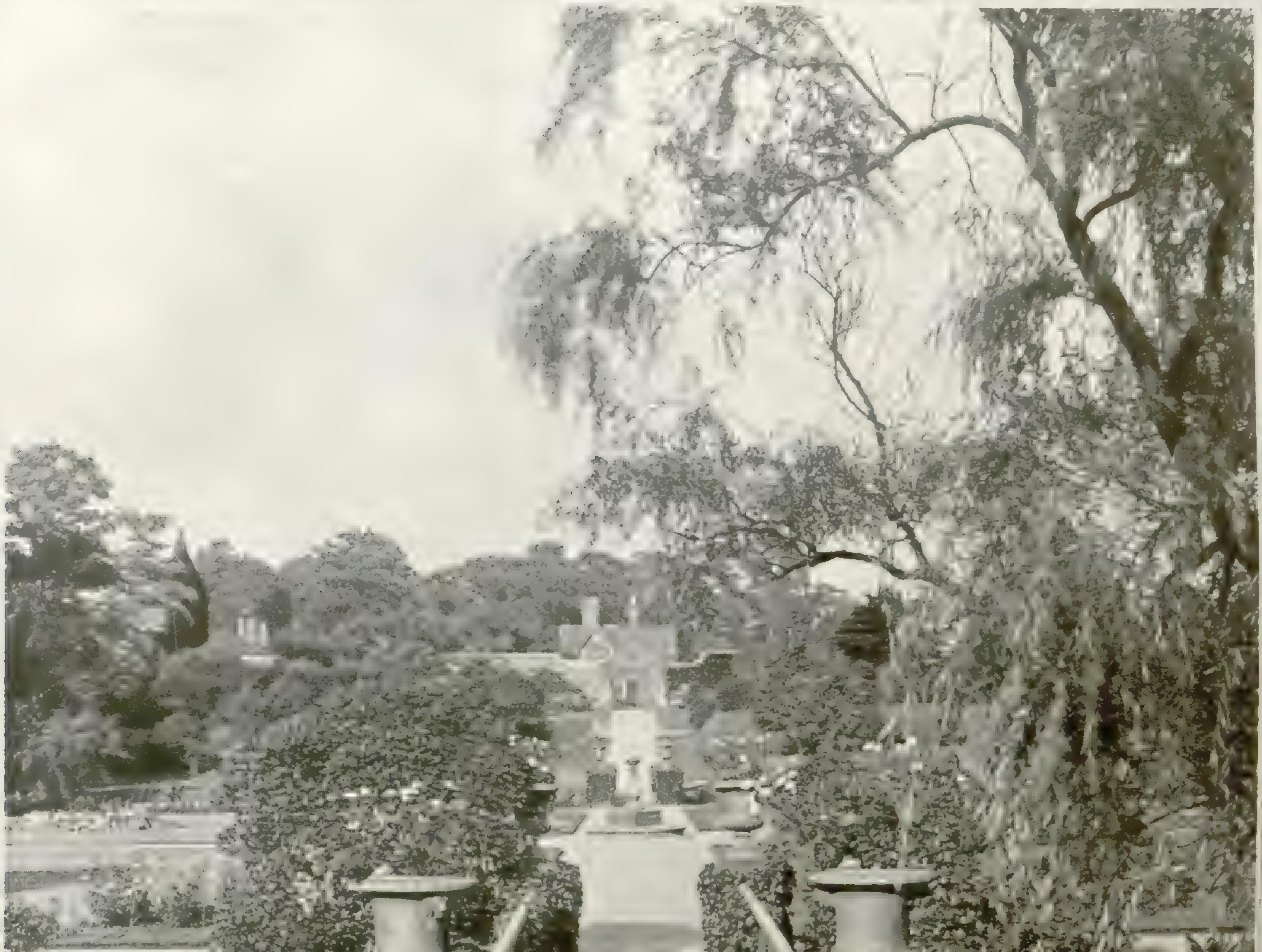
We will make the circuit of this novel and cosy garden. The glass department is in excellent order and the houses are given over largely to orchids. Mr. Waters Butler is getting together an excellent collection of these aristocratic flowers, and more houses will be a necessity if his enthusiasm continues. There are seventeen houses altogether, and twelve are devoted to orchids. The odontoglossums look very well, and they include a fine form of O. Uro Skinneri, and O. crispum Luciani, O. c. Fernley Sander, and O. Pescatorei alba represented by four plants. Cattleyas and lælias are also good and include C. gigas in fine form, L. c. calistoglossa, L. c. Aphrodite, Brasso-cattleya Mdme. Maron and many other species and hybrids. Seedling orchids fill a large part of the room, and there is a choice selection of cypripediums, though these latter do not figure so largely as in many modern orchid collections. Mr. R. Jones, Mr. Butler's head gardener, has been six years at Southfield, and the orchid collection has come into being during his period of service. It promises to become a well-known collection.

Tuberous begonias are superbly grown here, and at the time of my visit one house full of these showy plants presented a glowing picture. The strain grown is that of Messrs. Blackmore and Langdon, of Bath, and Mr. Jones told me that from a 5s. packet of seed he obtained four hundred plants, and only two of the plants gave single flowers—a fine record of fixity for the seedsman and skill for the grower.

Four years ago last autumn the smaller of the two fields was planted with groups of daffodils, and now each succeeding spring it provides an increasingly beautiful picture of charming flowers. The lawns by the side of the field have here a series of arches and pillars and chains of roses. On the left hand, and opposite the roses, are standard apple trees, beautiful and useful. Further along is the rose garden, where beds of Mrs. J. Laing, Gloire Lyonnaise, Caroline Testout, and Capt. Hayward give abundance of blooms. Beyond, the rose garden keeps closer to the meadow, leaving a broader space towards the boundary fence, and here, in this space, margined and screened with bush apple trees, is the kitchen garden. Now the walk r again and there are beds of choice h baceous plants in the well-kept lawn. w along the boundary side a big bank, raised to form a screen, is planted with hollies. In front of this bank are large groups of phloxes, pæonies, Bocconia cordata, geums, gaillardias, helianthuses, and other free-growing and showy hardy perennials.

Presently, this marginal garden widens out again, and amid the shelter of t cypresses and flowering cherries there lies an exceedingly pretty little rock and water garden. Water lilies cover the lit pool, and bamboos flourish on its bank. On the rock garden and overlooking the pretty scene is a clematis-clad summer house. No attempt has been made t obtain a particularly rare collection alpines, but popular free-growing k have been carefully planted all a Through this garden one arrives a the croquet lawn from whence the t commenced, and all around there h a continual sequence of pleasing p Said not I that Southfield was a cosy g den!

Charles H. Curtis



VIEW IN THE INNER GARDENS AT PERRY HALL.

MAINCROP CARROTS.

Probably this is one of the most uncertain of crops cultivated in the kitchen garden, except in some favoured localities where the soil and climatic conditions seem to suit it admirably: but even in such cases there are times when the crop is anything but satisfactory, and this applies to those specially cultivated for exhibition purposes, as well as those grown in the ordinary way for home use. I am a great advocate for making several sowings through the spring and summer, on various sites and aspects, rather than trust too much to one or two maincrop sowings. Not only for the reason that one is much more likely to be successful at one or other of the intervals, but tender young roots are generally much preferred, and they are certainly much better than old, matured specimens. Nevertheless, it is essential in many places, and under various conditions, that the principal sowing should be made at a given time, and the best season for this varies from March 20 to April 20, according to the locality, soil, and condition of the weather.

VIEW IN THE FLOWER GARDEN, PERRY HALL.

Preparation of the Ground.

This is unquestionably the most important detail in relation to successful culture. The site selected should be an open one, and if the plot has not been manured to any extent for the past two or three years, and especially with farmyard manure, so much the better. Trenching should always be practised early in the new year, and in doing this take special care to bring up the subsoil to the surface, and should this be of an unkindly nature, do not hesitate to apply a thorough good dressing of some lightening material. Whatever may be most convenient should be used, but there is nothing I have found of so much value as burnt garden refuse, and one can hardly overdo the ground with this. Soot, lime, old mortar rubble, sand, disused hotbeds, and, in fact, anything that helps to make the soil lighter may be used

Sowing the Seed.

The surface should be forked over a few days prior to raking down the beds for sowing the seed. Shallow drills should be drawn about fifteen inches apart, and the seed scattered thinly along these. Before raking soil over the seed apply another good dusting of wood ashes or soot, and the surface should be raked down very evenly, and made firm. To ensure extra fine specimens for exhibition or competitive purposes it will be necessary to make good holes with an iron bar fifteen inches apart each way. The depths for intermediate or long kinds should be not less than three feet. These should be filled with finely sifted soil in a moderately dry condition, which can be prepared on wet and inclement days during the winter. The material should be a light sandy one, nothing being better for the purpose than old soil from the potting shed that has been passed through a quarter-inch mesh sieve, but failing this, an endeavour should be made to procure that which resembles it as nearly as possible. In all cases the soil should be free from wireworm. A few seeds should be sown in each hole, and covered to the depth of an eighth of an inch, and made firm.

The Growing Crops.

As soon as it is safe to do so the seedlings should be thinned out in the drills, leaving them sufficiently close to allow for the young roots to be pulled as required. The hoe should be frequently used to stir the surface, but the ground should be made very firm by treading, to prevent the carrot fly depositing its eggs on the roots. Those in the bored holes should be thinned to a single plant, of course leaving the strongest, and also the one nearest the centre. I have found it a capital plan to place a little silver sand round the crown of each of these, and if done when quite young the fly will seldom deposit its eggs upon them. These, too, should be constantly hoed, and soot should be frequently applied, at least once in every ten days. On poor soil some good artificial fertiliser should be given, as per directions. But the soot and the artificial should, as far as possible, be applied during wet weather. It is a capital plan to mulch carrots after they have made good growth with finely sifted leaf-soil or manure from an old mushroom bed. This will assist in conserving the moisture during spells of drought, and prevent the ground cracking, as well as preventing the crowns becoming green, which is always objectionable. In no case allow the crop to remain too long before lifting or many of the specimens will become cracked and spoilt, and they may become over large.

Enemies of the Carrot.

Ground game have a great liking for these, and must always be guarded against. Wireworm is most troublesome, and means must be taken to prevent the pest injuring the roots. Deep tillage of the soil and exposing it early will do much to eradicate this, and I have found Vaporite, when properly applied, excellent. Greenfly is frequently very troublesome, and when the young seedlings become badly infested syringe with strong soft soap and water, or dust with tobacco powder. The carrot fly is perhaps the most troublesome of all, and frequently it will ruin the whole crop. There are many remedies suggested for this, but I have found nothing more effective as a preventive than keeping the soil thoroughly firm close to the young plants after thinning.

Varieties.

There are now some very choice stocks, the best and most popular being New Intermediate or St. Valery, of which there are many stocks. Long Surrey is only suitable for very favoured soils. Among the stump-rooted kinds Early Nantes, Model, and Favourite are desirable varieties, and well adapted for shallow soils.

Edwin Beckett.

CHRYSANTHEMUMS.

The First Potting.

Whether chrysanthemums are grown for the production of large exhibition blooms, for home decoration, or for cutting, the initial stage of growth is of first importance. It is well known amongst successful cultivators that a chrysanthemum should receive no check from the time the cutting is taken to the final stage when the blooms are fully developed. If there is one period more than another when a check to growth is undesirable, it is when the plants are needing their first shift to larger pots.

SOUTHFIELD: MANSION AND TENNIS LAWN.

Assuming the cuttings were inserted singly in small pots they will now require shifting into those 4in. in diameter. From these they will go into others 6½in. wide, and from that into those they are to flower in, which are usually 10in. in diameter. It sometimes happens that it is a convenience to grow two plants of the same variety in one pot. This is economy in space and in pot room too. I would point out, however, I am now alluding to plants that are grown for the production of large exhibition blooms and not "bush" plants, from which come quantities of flowers in sprays.

The pots should be quite clean inside, because the plants are then more easily transferred to larger pots next time; the roots cling to dirty pots and are torn asunder when turning the plants out for potting. Efficient drainage is a necessity, to preserve the green tint of colour in the leaves, which changes to a sickly hue if the roots become damaged by imperfect drainage and an irregular supply of water. Because a chrysanthemum plant is a voracious feeder, needing much moisture at the roots when in a healthy condition, it is a mistake to think it cannot have too much water at the roots. Many instances of loss of chlorophyll in the leaves, especially in March and April, have been traced to an over-plentiful supply of water to the roots. This defect in culture is quite easily corrected if the plants are kept rather dry for a couple of weeks.

A very rich or special compost is quite unnecessary for good chrysanthemums, although the soil plays an important part in the welfare of the plants. What is added to it afterwards in the shape of manurial feeding, and a regular water supply, is of equal importance. Three parts sweet turfy loam to one part of half-decayed horse manure, with the addition of sufficient sharp silver sand to keep the whole porous, and a small quantity of Thomson's vine manure or bonemeal, will provide a desirable compost.

Pot firmly, so that the roots will be mainly of a fibrous character, which is not the case where the soil remains loose. What is required is growth that will be of a firm character as it proceeds. I am a staunch believer in ripe or matured wood even in a chrysanthemum, because I do not think high-class blooms can be had from any other type of plant; gradual maturity, much aided by firm potting, is desirable.

At this stage an unheated frame or pit is the best place for the plants, as here the growth is sure to be short jointed, except there be too little space given, and they then become drawn up weakly. This is an error which no experienced person will commit, but the inexperienced may, and for such I write. Too often frames or pits are not available; a cool house, or peach case, with a shelf supended near to the glass is the next best site. Here the plants will obtain plenty of light and air.

SOUTHFIELD: COW-SHED, PIGEON COTE, AND DAIRY COWS.

Carefully supply the roots with water, that of a soft, tepid nature being best. Plants progress much better under such favourable conditions than they do when treated in a haphazard manner. Keep the plants in the frame rather close for a few days until new roots are being made, and after that air in abundance should be given, even to drawing the lights entirely off the frame in suitable weather.

Keep a sharp look out for mildew and aphis. The former is easily got rid of by dusting the leaves with brown sulphur. Green and black aphis are at times troublesome to the points of the growth, and if allowed to remain long undisturbed will quickly check progress, crippling the young leaves. Tobacco powder dusted on the aphis will quickly get rid of the pests. If it is a bad case, where the leaves are curled up, and hide the aphis, then dipping the points of the shoots in tobacco water will be necessary.
E. Molyneux.
Swanmore Park.

ADIANTUM FORMOSUM.

This fine adiantum was introduced into England about 1820, and, as its name implies, it is a beautiful fern. Though growing most rampantly under moderately warm treatment, this species will succeed fairly well in an ordinary greenhouse or cool fernery. Grown as a large specimen its magnificent dark green fronds are imposing, and where decorative plants are used largely specimens of this fern should always be grown, as its appearance is so distinctive that it adds charm to large groups wherever they may be arranged. Spores of Adiantum formosum seem rather rare, for it is seldom found springing up amongst other ferns in the seedling state, and it is therefore propagated by division of the roots, and every small piece will grow. The roots are very eccentric in their manner of growth, properly they are rhizomes; they run about in the pots or pans and often take a downward course towards and amongst the potsherds. They are very brittle and snap suddenly when bent in the slightest degree. The new fronds push out at intervals along these creeping rhizomes.

To produce large specimens it is the best plan to place three small examples together, towards the centre of the pot, in which position they soon grow vigorously. A plan that sometimes obtains is that of breaking the ball up and selecting all the rhizomes out, especially the growing ends, and fill up the pot to within two inches of the surface with the compost, and carefully spread out the rhizomes on it and cover them carefully. But this method has a tendency to weaken the growth by reason of the sudden and severe check imposed. Another reason why it is the best plan to put two or three small plants together in the centre of the pot is, that by adopting this method the middle will be well furnished with young fronds, whereas with old plants the fronds spring from the sides of the pot as the rhizomes mostly strike outwards from the centre, leaving that part bare.

When filling up interstices in the rockwork in the fernery, this is a very useful fern, as it can be planted in somewhat deep crevices and its tall fronds will spring up in a pleasing manner. Adiantum formosum is not very useful in a cut state as its noble fronds, so beautiful to look upon, soon dry up and wither away. It must likewise be given a good supply of water when growing, as it is very impatient of drought. The best compost is prepared with loam, peat, and leaf-mould, mixed rather roughly, being careful to retain the fibrous parts. The proportions should be half-loam, one-quarter peat, and one-quarter leaf-mould. Add, if possible, a sprinkling of broken charcoal, and give a liberal amount of silver sand. Pot rather firmly, and allow a fair amount of room for water.

Cheshire. W. M.

February Weather.—The rainfall here was only just over half an inch, namely, .53in., and that of January 1.27in. Frost was registered on 25 nights last month, 15 degrees on the 23rd ult. being the lowest recorded. On March 5, 21 degrees of frost were registered, this being quite exceptional at the commencement of the present month in this district. Notwithstanding the abnormal weather, the camellias out of doors are all looking well. Many flowers under the foliage that were out were cut, but this only served to thin them. There are thousands of blooms that have to expand.—W. A. Cook, Leonardslee Gardens

WATER AND ROCK GARDEN AT SOUTHFIELD.

ANTIRRHINUMS.

For some years past these plants have been growing rapidly in favour for the summer decoration of our flower beds and borders. Perhaps from the old florists' point of view some of them lack form, but it cannot be said that there is a lack of colouring about the numerous present-day strains, whether they be dwarf, intermediate, or tall; indeed, there are most pleasing and artistic shades to be selected from each section. The present time is a good one to sow seeds for a summer display, and if the seeds are scattered evenly and thinly upon any ordinary soil, lightly covered, and placed in a warm house for a few weeks to germinate and give them a start, they will make very useful sturdy plants in these self-same boxes, ready for transferring to the open borders or beds during May.

Antirrhinums are a class of plants that should appeal to all who are desirous of economising, for a packet of seed will produce a great number of plants that practically take care of themselves when once established in their flowering positions. Orange King was very greatly admired here last summer, and it is so toned that it is never misplaced even in the mixed borders. In this intermediate section there are pink and carmine-pink shades, also crimsons, yellows, and whites, the latter a very telling and beautiful plant for flower beds. These varieties are more telling than the very dwarf ones, which are often formal and stiff, while the taller section are apt to be broken unless support is supplied in some form or other. Golden Chamois is a fine and effective colour amongst the tall ones, while Coral Red, Cloth of Gold, and Tall White are good. Mixed packets of this strain give great pleasure when grown in the vegetable garden, and for producing a great quantity of cut flowers they are invaluable, especially as they are perpetual flowering until stopped by sharp frosts.

The Tom Thumb section has a great number of admirers, and very fine the plants are when well grown, although of dwarf stature their flowers are exceptionally large and usually of good form, they have also been well selected for a good number of years, and are very true to colour and habit of growth; Yellow Prince, White Queen, Crimson King, and Old Rose are all of them good. Apart from their beauty when grown in beds of distinct colours, many of the quieter tones are admirably adapted for planting under standard and half-standard roses, and are preferred by some to such plants as violas and pinks or carnations, because their flowers are bright over a longer period.

On light poor soils young antirrhinums from July sowings usually winter well, and also flower earlier than spring-raised seedlings. Those not having glass accommodation should certainly select a poor, dry, sunny spot for raising seedlings in this way, and excellent and useful plants will be obtained. Charles Foster

Agapanthus Mooreanus.—The blue flowers of Agapanthus umbellatus are familiar objects in many gardens during autumn, being almost exclusively employed as tub plants for the embellishment of terrace walls and similar positions. The [illegible] is a very popular one, so that it appears singular that Agapanthus Mooreanus should be entirely neglected; yet it is perfectly hardy and produces the same bright blue [illegible]. The foliage is strap-like, shorter, [illegible] erect, and the flowers are in umbels [illegible] two-feet stems. It is less suitable for [illegible] tubs than umbellatus, yet in many [illegible] it would prove a decided gain, as [illegible] flowering qualities are constant, and [illegible] well into autumn. At the same time [illegible] always earlier in flower by a month, and calls for no protection to safeguard it from loss or injury during winter, as it [illegible] in the open border here without any protection in winter.—Thomas Smith.

PLANT NAMES.

One of the most puzzling things with which the amateur flower lover has to deal is the name of the plants concerned, and the deeper he dips into the subject the greater, as a rule, his puzzlement becomes. The large majority, of course, are satisfied to deal with popular plants bearing fancy names, sometimes of a partially descriptive character, such as Crimson Rambler, but, as a rule, no more indicative of the real nature of the plants than the names Brown, Jones, and Robinson are indicative of the individuals bearing them. Hence, it is only by actual purchase that they become really acquainted with the plants, though by reference to the descriptive, or, better still, the illustrated catalogues of reliable nurserymen, they may be able to form some idea of what they may expect.

Here, however, art is too often in advance of Nature. "Perfection," "superbissimum." "Ne plus ultra," etc., etc., are represented by, or even photographed from, plants which have been so skilfully cultivated that they no more represent what the amateur can grow than the fat cattle at the great shows represent the oxen and sheep of the ordinary farmer. It is, however, when the amateur begins to study the botanical names of plants that he finds himself on the verge of a veritable slough of despond.

With immense study he familiarises himself with a number of the names, only to find that presently many of these, for reasons he cannot grasp, have been rechristened by experts with totally different apellations, the tritoma of to-day is the kniphofia of to-morrow, the familiar convolvulus is a calystegia or ipomæa, and so on, so that in endeavouring to obtain what he expect to be novelties, he only succeeds in acquiring fresh specimens of old familiar friends. Very often research reveals the fact that one and the same plant has been christened by different godfathers with half a dozen different names, and even the botanists themselves are divided in opinion as to the eligibility of these, and choose them accordingly on different lines, making confusion worse confounded. As the number of plants brought into cultivation is ever increasing, new regions of the earth being ever explored, and yielding their distinctly characterised flora, these difficulties are constantly increasing in like ratio. Not only this, but since man has come in as one of the main factors in producing new forms by crossing and hybridising, and by profiting by natural "sports" to improve abnormal types by selection, another immense field of diversity has been created, and the consequent difficulty of individualising the results by appropriate naming is augmented accordingly.

So great has this difficulty become that an international congress has been held in Vienna, with the object of formulating some definite laws to be observed in nomenclature, with the view of instituting at least a check upon the ever-growing chaos. The result, however, to the "man in the street," or the general run of amateur gardeners, is simply brain-racking. Page after page of rules for guidance or observance show, on perusal, such a multitude of inevitable exceptions, reservations, recommendations, vetoes, suggestions, etc., that with the best will in the world, and with every appreciation of the magnitude and difficulty of the task, and the competency of the high authorities by whom it has been undertaken, it seems to us very doubtful indeed that its practical utility will be commensurate with its intrinsic merits. So much confusion has been inherited and handed down as a basis for the existing nomenclature, and so much of this has become part and parcel of all existing lists and catalogues, that it is practically impossible to formulate a scheme with a thoroughly logical basis.

If this applies to the normal types of genera and species, how much greater does the difficulty become when, as appears to be the case, all these are liable to modifications on more or less marked lines by "mutation," while, at the same time, man is finding, as in the case of orchids, that even generic differences may be no bar to hybridisation, and that the hybrid offspring so produced need not be, as hitherto assumed, infertile, so that multigeneric combinations are practicable to an unlimited extent. No language on earth, ancient or modern, is capable of providing descriptive names to meet such an inexhaustible demand.

C. T. Druery, V.M.H., F.L.S.

ROSE MARECHAL NIEL.

Sent out by M. Pradel almost fifty years ago and still by far the best yellow rose, is a good proof of the merits of this rose. The chief use made of Maréchal Niel is as a climber under glass, and here no rose does better or is more pleasing. In the open it needs a very warm and well-sheltered position. I have seen it when a large space was simply yellow with blossom, but to have it really good out of doors is rare. It is too tender, and, like most roses with this trait, has a tendency to make very early growths that seldom escape the spring frosts; it also continues to grow late in the season after this check, with the result of only semi-ripened wood. Perhaps no rose is in more need of well-matured growth than this, so that it cannot be grown successfully in the open, except in a few favoured spots.

But under glass it is invincible. Given only a very little shelter, and with just sufficient artificial heat to secure freedom from frost after it breaks into growth, and to enable us to maintain a dry atmosphere during a spell of cold fog, we can have Maréchal Niel in its grandest form. Canker is its worst enemy, and unfortunately this is about the most difficult to combat. There are many ideas about this disease. Some insist upon certain stocks, others that the Maréchal Niel must be worked upon some other rose, such roses as Gloire de Dijon and the Banksians are especially favoured. So far as my experience has gone there is not much in this theory; soil and treatment having much more to do with the matter than stocks. I have tried several plants in all ways before arriving at this conclusion. Frequently the rose is placed in some corner of the greenhouse, perhaps close to the furnace or a very warm wall, or it may be where the roots can soon reach some most unsuitable soil. Another cause appears to lie in injudicious pruning. To cut back the whole of the growth at one time directly the main crop of bloom is realised, and the plant in full vigour must affect the roots. Both stock and rose need to grow in fuller harmony than could possibly be the case under these conditions. It is a singular fact that when one plant has failed from canker, a second one, even though apparently treated the same, will often thrive on the same spot. I am no believer in having this grand rose upon its own roots as a preventive of canker. Give a good root run, let the soil be rather heavy, and prune by degrees, and the results will be satisfactory.

A. Piper.

THE EDELWEISS.

Interest has for long centred around this well-known gem of the Alps, generally spoken of as the Edelweiss. Its quaint beauty, its adaptability for the rock garden, together with its "difficult" nature in many gardens, combine to make the edelweiss an essential subject for the rock gardeners' attention. Although the common form is ranked as specific, it is an open question as to whether Leontopodium alpinum is the original species or not. The edelweiss is doubtless one of the survivals of the last glacial period, and was most probably a migrant from Northern Siberia, where the varietal form (or perhaps the original species), sibericum, exists in quantity at the present day.

One further favours this idea of migration, because in other mountainous districts of Europe and Asia other well-defined varieties are to be met with, the majority of which are finer than the reputed species. There is the Russian form, altaicum, from the Altai Mountains; the Himalayan variety, himalayanum; and L. a. transylvanicum, which inhabits the Austrian ranges. In addition, there is maximum, a giant form found in Switzerland, which is more closely in keeping with the Russian and Siberian varieties. Certainly all the varieties follow the type in form.

But doubtless the influence of the different localities has done much to promote the differences in height and size which distinguish them from each other. Natural selection may also have done much to promote these differing points, as in some localities better and stronger seedling forms may have been produced, which have, by reason of their superior qualities, gradually ousted the "meaner type" from their quarters. Certainly, where the several forms of the edelweiss can be secured, they should be introduced into the rock garden, together with the Japanese edelweiss, L. japonicum. This latter is a large, erect-growing kind, with flower heads that are remarkable by reason of their size and silvery whiteness

With reference to their introduction into English rock gardens, I would advise that wherever possible, seed should be procured. Easy of germination (the chief trouble is the danger of damping off by reason of excessive moisture), one can with a little care raise a good batch of healthy little plants. Grown steadily, under hardy conditions, and allowed to suffer no checks, one soon comes to realise the advantage of home-grown seedlings over established stocks. Planted in open chinks or well-drained ledges of the rock garden, in a mixture of sandy loam to which has been added some lime rubble, the leontopodiums should soon establish themselves. Excessive moisture is the great enemy, therefore an outstanding crag, or a sheltering boulder which will protect them from the fall force of the south-west rains is a distinct advantage. It is always well to sow a pinch of seed every season, as even in good surroundings flowering makes such a big demand upon the strength of the plant that it is well to have a few sturdy young seedlings to take the place of exhausted specimens.

H. P.

A Fine Early Radish.—Carter's Early Favourite, grown in a spent hotbed, where asparagus has been forced, was ready to pull in a month from the time of sowing. It is a fine variety for frame culture, for it is not only rapid in growth, but remarkable for its delicate flavour.—W. A. Cook, Leonardslee Gardens.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

DECIDUOUS DENDROBIUMS.—As the various species and hybrids belonging to the deciduous section of dendrobiums pass out of flower the plants should be placed under growing conditions. As soon as the growths have attained a length of a few inches they, in most cases, commence to produce new roots. When in this stage any repotting or top-dressing that may be found necessary should be attended to without delay. These new roots are exceedingly brittle, and, therefore, where the plants can have attention before they become far advanced there is less danger of their becoming damaged in the process of repotting. A compost of about equal portions of fibrous peat and chopped sphagnum moss suits the whole of the dendrobiums. The principal point to be observed is to see that there is not a great bulk of potting compost about the base of the plants. To avoid this use ample drainage, and see that the compost is fine and open.

PROPAGATING DECIDUOUS DENDROBIUMS.—To increase the stock of any desirable varieties the back pseudo-bulbs may be cut away and laid on a bed of moss in a moist position of the stove or hottest house; or better still, if a propagating case is available, lay the pseudo-bulbs on a bed of cocoanut-fibre refuse, and keep them moist and close. They will then break freely from most of the dormant eyes which have previously failed to produce flowers. When the young growths have reached the stage when they commence to produce roots, they may be carefully cut away from the pseudo-bulb, or a portion of the pseudo-bulb may be taken away with the young plant and be potted in a compost of finely chopped sphagnum moss and silver sand. As soon as the roots begin to run freely in the potting compost the plants may be subjected to the same treatment as the larger examples, and be placed under the conditions conducive to the promotion of growth advancement. Another method of propagation, and one that is profitable, when dealing with pseudo-bulbs that have failed to flower, is to cut them into lengths each having two or three nodes, and insert several together around the edge of small pots filled with a compost as advised above. If the pots are plunged in a bottom heat, or suspended in a moist position of a hothouse, they rarely fail to produce growths. These may be allowed to grow on in the same pots for the season, or if desired they may be taken out immediately the new roots make their appearance, and be potted separately.

EVERGREEN DENDROBIUMS.—D. thyrsiflorum, D. densiflorum, D. Farmeri, and others of this section will now be commencing to produce their flowers. These dendrobiums are not so much appreciated as their merits deserve. Where there is a demand for plants in flower for decorative purposes during the latter part of April and May, there are few subjects that are more serviceable. Well-flowered specimens are extremely beautiful, and when used for general house decorations D. thyrsiflorum is especially effective. The plants that are beginning to produce their flower buds should now be given greater encouragement, and in bright weather syringing the plants overhead is most beneficial, but syringing should be done sufficiently early in the day to permit of the moisture becoming evaporated, and the foliage dry before the evening temperatures are reached. Potting requirements may be attended to after the plants have passed out of flower. They should not be disturbed for repotting purposes more frequently than is absolutely necessary. If the surface moss is removed, and annually replaced with fresh, all that is necessary will have been done, providing the compost beneath is in a good state of preservation.—H. J. Chapman, Oakwood Gardens.

FRUITS UNDER CLASS.

PEACHES AND NECTARINES.—Where the fruits of these are swelling rapidly the trees must be kept moist by syringing twice daily. If the borders are at all dry give a thorough soaking of water about 20 degrees warmer than the temperature of the house, and thus prevent a lowering of the temperature of the border. Cold water may give such a check to the roots as will result in the loss of the crop. The borders may now have a mulching of spent mushroom manure, which should be spread over the surface to form a 1½in. layer. The second house, in which the blooms will have just set, should have a watering; this will give the necessary impetus to the young fruit. Raise the temperature 10 degrees by day and 5 degrees by night, and allow plenty of air when there is strong sunshine, but avoid exposing the foliage to cutting winds. Trees in the late houses that are coming into bloom should have attention each day, and about noon, when the pollen is dry, give them a sharp knock to ensure its dispersion. If aphis makes its appearance fumigate at once. Usually this pest makes its appearance just after the flowers are set.

EARLY VINES.—Commence thinning bunches as soon as the berries are of a suitable size, which will be the case a few days after they are set. It is a mistake to leave them until nearly as large as peas, for as soon as thinned the berries swell rapidly. A few points to be observed are, use good, clean, and sharp scissors, and do not allow the points to prick any of the berries. Do not touch the berries with the hand or hair. Commence shaping your bunch from the bottom, leaving one berry at the point. When thinning is completed give a liberal dressing of some approved fertiliser. Water this in with water at a temperature of about 80 degrees; the border may then be mulched as recommended for peaches.

STRAWBERRIES.—Plants ripening their fruits should not have manure after showing colour, and when the fruits are nearly ripe remove to a cooler and more airy house to ensure the full development of the flavour. Succession batches should have the fruit supported with small wire frames, which can be obtained from nurserymen or sundriesmen. These answer well, and last for years if taken care of.

MELONS.—In the case of melons in houses train the growths up short stakes till they reach the wire trellis, and do not bruise the leaves or stems, as it is often from this cause that gumming or canker makes its appearance. Continue to train the main stem up the trellis, and stop when the top is reached. When the side or lateral growths have developed female flowers these should be pollinated. This operation should be effected in the middle of the day, when the pollen is dry. It is best to pollinate about four fruits on each plant at the same time, and if one fruit obtains a great start it should be taken away.

FIGS.—These are now growing rapidly, and when the new shoots are about a foot long the points should be taken out in order to divert the energy to the fruit. Tie in new growths where required for extension purposes. See that plants growing in pots do not suffer from an insufficiency of liquid nourishment, because of the risk of the premature falling of the fruit. Syringe the foliage twice daily in fine weather.—W. A. Cook, Leonardslee Gardens, Horsham, Sussex.

THE KITCHEN GARDEN.

ASPARAGUS.—If the permanent beds of asparagus are not in a satisfactory condition, and it is necessary to make new beds, do not delay in carrying out the work. Use two-year-old plants, and provide for them thoroughly well-trenched soil that has been enriched with good farmyard manure, wood ashes, etc. Asparagus is very impatient of stagnant moisture, therefore if the soil is at all stiff or retentive add coarse sand accordingly, and keep the beds high. For good strong produce it is advisable to plant in rows from 2 feet 6 inches to 3 feet apart and to allow about 18 inches from plant to plant in the row. In planting carefully spread out the roots, and do not allow them to become dry during the process. It is a good plan to have a young colony of home-grown plants on hand by sowing a little seed each year.

CELERY.—The main sowing of celery should now be made in boxes in rich soil. Sow the seed somewhat thinly, and place in a temperature of between 50 and 55 degrees. Cover the boxes till the seed germinates, after which bring the young plants along sturdily by placing them near the glass in a cool frame, where they should remain until they are large enough for pricking out into prepared beds. Wright's Grove Pink and Red have been excellent in standing the winter here, and I recommend them to be included in every collection.

VEGETABLE MARROWS.—Sow now in 60's, two seeds in each pot, and assist with a little heat till the young plants have formed their first rough leaves. Afterwards gradually harden them by removal to a cool frame. These plants will be suitable for transferring at the end of May to their permanent beds. The protection of handlights may then be needful to avoid a check to growth till the weather is genial enough for full exposure.

SPINACH.—To follow the winter crop fresh sowings will now need to be made. Select a warm border and sweetened soil, and add a light dressing of soot and lime to its surface. Sow in drills at 15 inches apart. Thin the young plants early before they become drawn or weakly, and apply periodically a light dressing of fine nitrate of soda to encourage a vigorous growth.

SPINACH BEET.—Also make a sowing of the seeds of spinach beet. This crop is not particularly fastidious as to soil or situation, and will succeed in positions not particularly favourable, especially during the summer months.

FRENCH BEANS.—The recently experienced severe weather has seriously damaged outside green crops, hence a scarcity will be experienced. To maintain, as far as possible, the supply of green vegetables, make liberal sowings of French beans in pits and frames in rich soil. Only very mild hot-beds will be necessary after this date to promote a healthy and active root action.

HERBS.—Herbs are continually in request, and the present season is a good one for examining the stock plants and dividing and replanting them according to their condition. For convenience it is a good plan to have a bed of each kind of a size likely to meet the demand. Seeds may also be sown of the hardier kinds, such as thyme, sage, chervil, tarragon, leaving the tenderer sorts, as the basils, etc., a week or two yet before sowing them.

GENERAL REMARKS.—Large plantations of potatoes will soon have to be made. Therefore, the important matter of having the seed in proper condition should not be overlooked. Expose the tubers to light in a cool place, and remove the weakest shoots, leaving three shoots only, and these the strongest. Neglect of this is often the result of a large percentage of small and comparatively useless potatoes. Continue to place warm manure and protecting material round the crowns of rhubarb outside. This method now will be the most economical and efficient means of forcing rhubarb. The above also applies to seakale. By placing ashes about 10 to 12 inches deep over a quantity of crowns under some pots, good strong produce may be obtained in succession to the manure-forced crop. Also continue to make small and frequent sowings of the various salad plants, and prick off young lettuce from earlier batches under frames for planting out later.—Charles Flack, Cholmondeley Castle Gardens.

BULB CULTURE.—A practical treatise on the cultivation of hardy, hothouse and greenhouse bulbous and tuberous rooted plants is "Bulbs and their Cultivation," by T. W. Sanders, price 2s. 6d. net, or by post 2s. 10d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

SWEET PEA JOTTINGS.

The subject of supports for sweet peas is one of more than passing interest to the great body of sweet pea lovers. It may not greatly concern the large growers, especially if they are located well out in the country, and even if they are near towns, they can easily make suitable contracts for sticks. I am strongly of opinion that the stout wire supports will increase in favour. They are costly to instal, but they last a long time. I hope to make some experiments with the wide-meshed, hurdle-like wire supports this season, for, though I have seen these supports used in several ways, and seen miles of wire netting supporting sweet peas, I have always used sticks exclusively myself.

The number of societies in affiliation with the National Sweet Pea Society steadily increases. There are now seventy-three such societies, and I am sure there would be many more if members of the society used their efforts and influence whenever possible. The chief points are that the local society pays an annual subscription of 10s. 6d. In return for this modest sum it receives one silver medal, to be offered in an amateur, or at least a trade-excluded, class; a copy of the "Sweet Pea Annual and Schedule," and the opportunity of representation at the general meeting of the parent society. It is expected that affiliated societies will adhere to the list of too-much-alike varieties at their own shows, and also maintain the society's standard of colour classification. The honour of winning one of the society's medals appears to be very greatly appreciated.

In the official catalogue of sweet peas quite the right thing has been done in inserting, after the name of the variety, the name of the raiser or distributer, or, where these are not one and the same, placing the two names within the brackets. In this way the name of the raiser is recorded, and he receives some credit for his work. In many classes of florists' flowers it is now practically impossible to find out who were the raisers of even very popular varieties, and though the variety is neither better or worse for this lack of knowledge, the information would add interest for the raiser, the grower, and the scribe.

In a letter received recently from Mr. T. [illegible] Dignall, he raises the question of synonymy, and suggests that efforts should be made this summer to determine which varieties are identical with certain others. This is a good point, and, with the lists of too-much-alike varieties at hand the work, if possible, should not be difficult. Anyway, it would serve a useful purpose if every grower sent in lists of what he or she considered synonymous varieties in the various show classes.

Just how many varieties of sweet peas I shall grow this season it is difficult to say at present. Forty-eight has hitherto been the limit, but with rather more space at disposal that limit is certain to be exceeded. Sweet peas are very seductive, even in the advertisement stage, and one needs great strength of will to resist the temptation to secure "just one or two more." Then there are one's friends, who have more than enough of seeds of certain varieties, and they offer their surplus in exchange for any varieties you possess and they have not. This is a subtle temptation, because the chances are you accept varieties not already sown, and so the list increases. A competitor who has a small garden is safe from these blandishments; he dare not crowd his plants and rows, and he cannot afford to experiment too freely on the newer varieties.

The National Sweet Pea Society has to suffer a little for its success, just as individuals do. Some want the committee to go faster; others consider the pace too hot already. But there always will be people who "are never happy unless they are miserable"; people who raise bogies for the pleasure of knocking them down again. There are many things the society might do if it had more funds at disposal. At present it gives more for a 5s. subscription than any other society I know, and I know and belong to a good many societies. From most of these I receive a one-shilling admission ticket—that is all. From the N.S.P.S. I receive:

	s.	d.
"Sweet Pea Annual" (2s. post free), say =	1	9
Admission ticket to London show ... =	2	6
Admission ticket to Saltaire show ... =	1	0
	5	3

Besides these there are other receipts that have no defined cash value, but are of no small worth, and they include the right to compete free in certain classes at London and Saltaire; admission to inspect the society's trials at Reading University College; and the schedule, which contains the classification lists. Further, membership gives me the opportunity, if not the right, of worrying the hon. secretary as much as I please; of slanging the General Committee; and of abusing the trials and Floral Committee—all for 5s. And yet those who "take" these opportunities are mostly non-members! Thank goodness Mr. C. Foster and I are not thin-skinned, and the General and Floral Committees are well able to look after themselves and their own business. Moreover, one hundred and thirty new members since the list was closed for the 1909 "Annual," is not exactly discouraging.

Chas. H. Curtis.

Sweet Peas and Frost.

The recent severe frost gave growers an anxious time. Observations over a number of years on the effects of frost on sweet pea plants started in slight heat, and transferred to a cool greenhouse, show that they are extremely hardy. My plants on two successive nights were subjected to about 20 degrees of frost without any extra covering. Each morning they were drooping, and looking very unhappy. I sprayed them with ice cold water, and within an hour they were "up and at it" again. This holds good with all the varieties except the scarlet and orange shades. In such weather they should be transferred to a little warmth again.

Last year, when we had similar frosts late in April, and the pots were outside, the two colours named suffered severely, their leaves were blanched, and they never recovered from the shock. Among some pots of F1 seedlings (the second year from the cross) some plants were damaged, and they proved to be of these shades. The curious thing is that the others from the same cross and in the same pots were unharmed. It is wise, therefore, to give these tender ones the warmest position in the cold greenhouse, and to plant them out a fortnight later than the others.

A cold wind blasts the young plants when planted out even more than severe frost that comes when the air is still. Plants put out early should have wind protectors. For circles I use portions of old sacks, 18 inches deep, tacked on to three two-feet stakes, and forming a semicircle. These are easily knocked in when wind comes, and removed in good weather. Longer material is necessary for rows. Plants in pots should be examined regularly now, and the growths tied loosely, but securely, to the stakes. When transferred to their permanent quarters this trouble is well repaid, as otherwise they are apt to be broken and nearly twisted out of the ground in windy weather. As each station or row is planted remember to run black thread across the tops and centre of the plants to prevent birds doing damage.

Duns. A. Malcolm.

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EXHIBITIONS AND MEETINGS.

◆

The Horticultural Club.

SOIL INOCULATION.

The usual monthly dinner of this club was held on Tuesday, the 9th instant, at the Hotel Windsor, under the chairmanship of Mr. Harry J. Veitch, V.M.H., a very full attendance of members and guests being present to hear a discussion on the above subject between Professor Bottomley and Mr. F. J. Chittenden with reference to the recent experiments conducted by the latter with nitro-bacterine at Wisley. It will be remembered that, as a result of those experiments, Mr. Chittenden came to the conclusion, on the basis of very carefully prepared and tabulated data, that for ordinary garden soil the bacteria introduced by Professor Bottomley's cultures produced practically no advantageous results. Since, however, these Wisley experiments had embraced, in addition to the inoculation, the application of varied manures to many of the plots concerned, Professor Bottomley claimed that this fact vitiated in many cases the value of the results, some of the manures being admittedly inimical to the bacteria concerned; and he furthermore considered that certain deductions from the data arrived at were not quite just. The happy thought was then conceived of bringing these two gentlemen together on this occasion, and thus affording an opportunity of ventilating the question not merely between themselves, but in the presence of a number of gentlemen keenly interested in the matter, and, many of them, capable of throwing side lights upon it by independent experiments.

Professor Bottomley opened the discussion by repeating the argument already published anent the injurious effects of some of the manures, and he also, by means of tables roughly prepared and displayed in chart form, re-analysed a number of Mr. Chittenden's figures to show that the unfavourable results were largely due to tabulation on, what he submitted, were unfair lines, the actual results, from his standpoint, showing material advantages due to inoculation under the Wisley conditions, though he contended that those conditions were absolutely not such as permitted of a fair trial at all; the regeneration of poor and uncultivated land, and not the treatment of already fertile soil, forming the main field for the inoculation operations which he advocated. This address, which was admirably lucid and characterised, as was indeed the whole discussion, by the utmost good humour and mutual appreciation, created the most favourable impression.

Mr. Chittenden, on the other side, then rose, and, although he disclaimed the gift of eloquence such as that which had just been heard, he was no whit behind his friendly adversary in the power of summing up the per contras and giving adequate reasons for the course he had pursued in mapping out the trials at Wisley, and tabulating the results, and it was abundantly obvious that every step he had taken has been the outcome of ripe and careful provision. In conclusion, after dealing with Professor Bottomley's argument and objections, he sat down with the distinct and unqualified assertion that it was his opinion still that soil inoculation was of no service whatever in ordinary garden soils.

Professor Keeble, of Reading, then rose, and, in an admirable but brief address, expressed the opinion that the value of inoculation for sterile soils, such as Professor Bottomley had in view, had not been in any way negatived by the Wisley trials. The real fact was that the study was a new one, and that the discrepancies in results were mainly due to ignorance of other factors affecting the question. It had been noted, for instance, that inoculation had a remarkable effect in modifying the root system, transforming deep tap-root systems into ramifying fibrous ones, a fact which brought the nature of the soil, friable or otherwise, into question, entirely independently of manurial admixture, a fact which would also account for many puzzling differences in results obtained under apparently identical conditions.

Messrs. A. Sutton, C. E. Pearson, Walker, G. L. Paul, R. Barr, and Voss, also took part in the discussion, the final results being, as Mr. Harry Veitch put it, a practical draw, a draw, however, which he hoped would be succeeded later on by another discussion, when fresh facts had been obtained, and the points now in dispute had become clearer.

A very hearty vote of thanks was accorded to Professor Bottomley and Mr. Chittenden, and also to Professor Keeble.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, MARCH 9.

Present: Mr. E. A. Bowles, M.A., F.L.S., F.E.S. (in the chair); Rev. W. Wilks, Dr. F. Keeble, Messrs. C. T. Druery, A. Worsley, W. Hales, J. Arkwright, L. Crawshay, J. Douglas, H. J. Chapman, G. Massee, A. W Hill, H. T. Güssow, G. S. Saunders, A. W. Sutton, E. M. Holmes, J. T. Bennett-Poë, J. Fraser, R. Hooper Pearson, H. J. Veitch, and F. J. Chittenden (hon. secretary).

BEETLE IN STEM OF VANDA TERES.—Mr. G. S. Saunders reported that he had examined the stem of Vanda teres sent to a recent meeting of the committee, and found that the beetle boring into it was a species of xyleborus, not a native, nor so far as could be ascertained recorded as occurring in Europe up to this time. The plants attacked were sent by Mr. Rogers from a greenhouse at Bury, Lancs.

SPOTS ON LEAVES OF LAPAGERIA.—Mr. Massee reported that he had examined the leaves of lapageria shown at the last meeting, and found that the roundish brown spots upon them had been caused, not by a fungus but by drip.

CINERARIA SP. (?).—Mr. A. W. Sutton showed a plant of cineraria for naming, but it did not appear to agree exactly with any described species, though in many points it resembled Cineraria Heretieri.

"VEGETABLE" ASBESTOS.—Mr. Holmes reported that he had examined this material, sent to the last meeting, and could find no trace of vegetable structure in it. The substance was creamy-white in colour, and was lamellated, fairly soft to the touch, and resisted fire. Chemical analysis showed it to contain alumina in large quantities, magnesium, calcium, and smaller quantities of sodium and silica. Mr. Holmes considered that the analysis pointed to this being of mineral origin, and not of having been derived from "a cactus from China," as the sender had suggested. It appeared to be nearly allied to the substance known as "mountain leather."

BULB ON INFLORESCENCE.—Mr. Worsley showed an inflorescence of Lachenalia tricolor, having a small bulb occupying the position of a terminal bud on the inflorescence.

ABERRANT ORCHID.—From Mr. G. W. Miller, of Wisbech, came a specimen of Cypripedium Pitcherianum, Williams' var., with a well-formed double lip.

FASCIATION IN EUONYMUS JAPONICUS.—Mr. J. Fraser showed fasciated branches of Euonymus japonicus. The fasciation had followed after severe cutting back of the stem. Numerous buds had started in growth from near where the cut had been made, and among them some had produced fasciated shoots.

MALFORMATION IN TULIP.—Rev. J. Jacob sent a flower of tulip, having on the mid-rib of one of the perianth pieces on the outer side, two small horn-like growths. The structure was similar in character to those seen in crested flowers, and was apparently the commencement of a crested growth.

East Anglian Horticultural Club.

Mr. T. G. Bishop has on several occasions given information to the members of this club, hence it was natural that a large number of members turned up at the March meeting, whereat he was announced to give a paper upon "Hardy Climbers and Their Uses." The way that these subjects adorned old buildings, old tree stumps, arches, etc., was well known to every gardener, but yet they were not used to the extent they ought to be. Undoubtedly the most popular at the present time was the Ampelopsis family, its freedom of growth, grace, and beauty of colour being so much in its favour. Next in point of popularity came the ivies. Then the essayist went through the whole range of suitable subjects. The paper was "leavened" with little anecdotes and episodes, to great advantage.

Mr. J. Powley (president) opened the discussion, and was followed by Messrs. J. Forder, L. Smith, C. H. Fox, R. Watson, E. Peake, H. Perry, C. Burtenshaw, C. Hines, E. Goldspink, and others. Mr. L. Smith reported on his visit to the Ipswich Gardeners' Association, when a good assemblage turned up to hear his paper upon "Orchid Culture." The exhibition tables contained some choice fruit exhibits; Cox's Orange Pippin apple was staged in grand form by two or three exhibitors, while Annie Elizabeth dominated the culinary apple section. Mr. C. Burtenshaw had a splendid dish of Uvedale St. Germain, which gained him first place in a strong class for pears. Mr. W. Shoesmith, gardener to F. W. Harmer, Esq., Cringleford, had a well-grown cattleya in the orchid class, and a beautiful bunch of dendrobiums, cyclamens, and begonias in the flower class. Mr. W. Laws, gardener to G. E. White, Esq., Eaton, staged some grand winter-flowering carnations, which brought him a first in the cut flower section. Plants were good, and beet and rhubarb were well shown in the vegetable section.

Bristol Gardeners' Association.

The Bristol Amateur Gardeners' Association paid their annual visit to the above association on Thursday, March 11, at St. John's Parish Rooms, and Mr. S. Shaddick presided over a good attendance. In the absence of Mr. White, of the Amateurs', through bereavement, Mr. Scott, of Downside Gardens, kindly filled the breach, and gave a practical paper upon "Border Carnations." At the outset Mr. Scott deprecated the way in which flowers are mutilated and dressed with paper collars on the show board, and he recommended the more natural and artistic way of staging them in vases as being a decided improvement on the old method. The lecturer gave full cultural details, and said July was the best month for layering, and autumn the best time for planting. Wood ashes mixed with the soil proved very beneficial; he advised firm planting, and said the bed ought not to be in the same place two consecutive years. Planting in masses gives much the best effect.

The Chairman, Messrs. Holt, Curtis, Garnish, Morse, House, and Wakefield took part in the discussion, after which a hearty vote of thanks to Mr. Scott ended the meeting. An ordinary certificate was awarded to Mr. House, jun., for a nice pot of Iris reticulata.

Birmingham Gardeners' Association.

An instructive paper was read on Monday evening, the 8th inst., by Mr. Robert Usher, gardener to J. A. Kenrick, Esq., Harborne House, Harborne, the subject being the "Culture of Cœlogyne cristata." Mr. T. Humphreys occupied the chair. This being Mr. Usher's initial attempt at lecturing before the members of the society (of which he is a member of committee), considerable interest was created among the members anticipatory to the meeting. This interest was fully justified by the able manner in which Mr. Usher acquitted himself in giving a concise and practical exposition on the culture of that useful and charming winter-flowering orchid, Cœlogyne cristata. In the compost employed Mr. Usher favours osmunda fibre in preference to polypodium fibre as one of the constituents. He also prefers the earthen pans or pots without side holes, as these afford a ready harbour for beetles, etc. In support of his method of culture the lecturer exhibited well-grown specimens of Cœlogyne cristata Chatsworth var. measuring upwards of two feet in diameter, and profusely covered with finely developed flowers. This evoked the encomiums of several experts present, and a cultural certificate was worthily accorded.

In the animated discussion that followed, a member, in referring to osmunda fibre, said he found that it developed the mycelia of fungus, but after the first application of water the mycelia disappeared. Another speaker remarked that a most successful grower preferred blocks of wood instead of pans or baskets, as when so grown they formed most suitable objects for dinner table or other room decoration. Blocks of [illegible] denuded of bark were said to be excellent, and, of course, artificial drainage was not required, but the ordinary compost was used in a more fibrous state than for pan culture and copper or other suitable wire was used in securing the material and pseudo-bulbs to the blocks of wood.

At the same meeting the chairman announced that the application for permission to visit Chatsworth on the occasion of the summer "outing" had been granted, and the vice-secretary was instructed to record the permission in the minute book.

Reading Gardeners' Association.

A most interesting and entertaining [illegible] ture was given in connection with the above society on Monday, March 8, in the Abbey Hall, Reading, by Mr. W. F. Giles, [illegible] Messrs. Sutton and Sons, the subject [illegible] "Vegetables, Old and New." The lec[illegible] was illustrated by a collection of about [illegible] lantern slides.

Mr. A. F. Bailey (chairman) presided, and there was an exceptionally large attendance of members.

Mr. Giles opened his remarks by tracing the antiquity of some vegetables which still find favour in our own time, reminding his hearers that the Israelites, in their wanderings, murmured at being deprived of the leeks and onions which they had enjoyed during their sojourn in Egypt. Records [illegible] cerning radishes, too, are to be found depicted on the Pyramids. Pliny also was an authority on the vegetables used by the ill-fated inhabitants of Pompeii. The [illegible] turer then drew attention to the fact [illegible] if in science, arts, and commerce we [illegible] advanced by leaps and bounds, it was [illegible] the case with regard to the produ[illegible] new and improved vegetables.

To give force to his remarks Mr. [illegible] threw upon the screen some pictures [illegible] from "Gerard's Herbal," published in [illegible] showing the type of vegetables in vogue [illegible] the days of "Good Queen Bess," and [illegible] by way of contrast, illustrating some [illegible] magnificent varieties of peas, beans, [illegible] cabbages, celery, carrots, onions, [illegible] leeks, melons, tomatoes, turnips, etc. [illegible] out by the leading seed merchants [illegible] present day

Mr. Giles then explained to his audience what immense pains are taken in selection, re-selection, crossing, and re-crossing, in order to obtain new, and retain the vigour of older varieties of vegetables, and drawing attention to what had been done with garden peas in particular, since Thomas Andrew Knight, afterwards president of the Royal Horticultural Society, made the first recorded cross with peas in 1787.

At the conclusion of his lecture Mr. Giles was warmly applauded, and at the close of the meeting was accorded a hearty vote of thanks. Mr. Charles Foster, Assistant Director in Horticulture, University College, Reading, exhibited a splendid collection of forced vegetables, including asparagus, lettuces, radishes, rhubarb, seakale, etc., which evoked much admiration.

Several new members were elected.

British Gardeners' Association.

LONDON BRANCH.

The monthly meeting took place at Carr's Restaurant, Strand, on Thursday, March 11, at which the chairman of the association presided. The epidemic of influenza was largely responsible for the small attendance, only 32 members being present. At question time, the vexed question which has occupied the minds of many of our leading scientists was put to the meeting: "What is the cause of variegation in plants?" Messrs. Cowley, Barnes, Hartless, and Summerfield gave some interesting points, which were followed by some practical remarks by the Chairman. The business part of the meeting was followed by a lecture on "Insect Pests." Unfortunately the lecturer, Mr. A. E. Hamling, was unable to attend, but he kindly forwarded his paper, which was read by Mr. E. F. Hawes. The paper dealt with the different orders the insects mentioned belonged to, and the rapidity with which many classes of insects increased. The goat moth, cabbage moth, onion, beet, turnip, and crane flies, wireworms, and surface caterpillars were some of the principal kinds dealt with. Mr. Hill and Mr. Prince opened the discussion, and enlarged upon the remedies to be used. At the conclusion a very hearty vote of thanks was accorded to Mr. Hamling for his valuable paper; to Messrs. Pets and Co., for sending large diagrams of insects; and to Mr. Hawes for presiding.

FORTHCOMING ENGAGEMENTS.

TUESDAY, March 23.—Royal Horticultural Society, Meeting of Fruit, Floral, and Orchid Committees at noon; General Meeting at 3 p.m. Lecture by Mr. R. Lloyd Praeger, on "Rock Gardens"; Scientific Committee at 4 p.m.

National Rose Society, Meeting of General Committee, at Westminster Palace Hotel, 3 p.m.

WEDNESDAY, March 24.—Royal Society of Arts, Meeting at 8 p.m.

Croydon Gardeners' Association will hold its usual exhibition of spring flowers on Wednesday, May 5, and it is anticipated that it will be not less successful than in previous years. We mention this event because of the unique manner in which it is carried out. Instead of offering prizes and making a charge for admission, the society engages a suitable hall, the members contribute freely of their best, and the public are admitted free. We admire the public spirit of the society and its members, but we are not sure whether the provision of free entertainment for those who can well afford to pay is quite wise. There may be local considerations of which we have no knowledge, and it may be that there are collecting boxes for one of the gardening charities to which the visitors contribute liberally as an expression of their appreciation of the display provided.

DESTRUCTION OF VERMIN.—Most gardens are pestered with Rats and Mice. Every effort should be made at this time of the year to exterminate them before seeds are sown. Danysz Virus is first rate stuff for killing these vermin. Single tube, 2s.; three tubes, 5s. Post free from DANYSZ VIRUS, LTD., 52, Leadenhall Street, Garden Dept., London, E.C.—[Advt.]

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

SYNONYMOUS TEA AND NOISETTE ROSES.—F. E., Chertsey: For exhibition purposes it is not permissible to show both Souv. de S. A. Prince and The Queen in the same stand; and only one of the following four may be staged in any class for distinct varieties: Alba rosea, Josephine Malton, Madame Bravy, and Madame de Sertol.

DISEASED CHRYSANTHEMUMS.—Last autumn several correspondents sent stems and leaves of chrysanthemums that had become browned and shrivelled, and appeared to be suffering from some malignant disease. We sent several specimens to Mr. G. Massee, who undertook to examine them. He now informs us that there was no real disease present, and he succeeded in raising a young plant with perfectly healthy leaves from this apparently hopeless material. There were fungus spores present in the specimens, but these were not the cause of the damage, but were present as a result of the decay. Mr. Massee believes the shrivelling to be the outward and visible sign of some physiological disorder, and suggests over feeding as the probable cause.

RED-STEMMED ROSE.—S. E. W., Tonbridge: We feel sure the rose you mean is Rosa ferruginea, or, as it is often called, R. rubrifolia. It is an European species, of fairly strong growth, furnished with hooked prickles, and ovate, glaucous, red-tinted leaves. The stems are red or purple, the flowers are deep red, and the fruits purplish-red. The growths of this rose are frequently and most effectively used in floral decorations where rose blooms are freely used.

"BOTANICAL MAGAZINE."—J. A. A., Didcot: The "Botanical Magazine" was commenced in 1786, by Wm. Curtis, and the introduction to the first volume is dated from the Botanic Gardens, Lambeth, March, 1787. The book has been issued continuously ever since, and in recent times has been edited by successive directors of the Royal Gardens, Kew. There are now one hundred and thirty-five volumes, and a complete set is worth a great deal of money—indeed, is very hard to obtain. In its present style the monthly parts usually contain five coloured plates, and each part costs 3s. 6d.; if plain illustrations are desired, the parts may be obtained for 2s. 6d. each. The publishers are L. Reeve and Co., Henrietta Street, Covent Garden. The work is an excellent one, but is of little use to amateurs with small gardens; its great value lies in its portraits and descriptions of new and rare plants, and thus botanists, journalists, and cultivators of rare species are those who purchase it.

MANURES.—J. A., Newtown: Both the manures you mention are excellent; the first is more suitable for use in the garden, for crops of vegetables, etc., whereas the second is highly concentrated, and, therefore, more readily adapted for use under glass or for any garden crop that is being made a speciality. Send for particulars in each case; you will find the names and addresses in our advertising columns. We cannot undertake to answer queries by post, though if the matter is very urgent we sometimes relax this rule.

LIVER OF SULPHUR.—J. H., Wansford: The chemist's name for the popular liver of sulphur is sulphide of potassium. If you cannot get what you want from the chemist send to one of the horticultural sundriesmen who advertise in our columns, and you will receive the proper material in the course of a post or two. We have found it difficult sometimes to deal with the ordinary chemist in materials used in horticulture because the prices are very high, and there is, not infrequently, an endeavour to sell something else "that will do as well," and there is an implied suggestion that the gardener customer does not really know what he wants; we therefore recommend the horticultural sundriesman. We certainly should not recommend liver of sulphur if we thought it injurious; it must be used in accordance with directions, and, of course, should not be used when fruits are approaching ripeness, especially when the fruits are downy, as in the case of peaches. Nitrate of soda is a very quick acting nitrogenous manure, and is not used as an insecticide.

PRIMULA KEWENSIS.—D. C., Salop: Primula Kewensis is not "dried off" after flowering, but it will require less root moisture after flowering than during that period, and when growing robustly. You will find the plants making several crowns or leaf-rosettes, and it will be possible before long to separate these one from another by means of a sharp knife, and if the work is carefully done each crown will have a few roots attached. These should be potted up separately and kept rather close in a warm greenhouse for a few weeks until new roots have formed, when cooler conditions will be necessary, and a cold frame will afford the needful shelter. You may retain the old plants, unperturbed, if you prefer it, but in such case shake away a good deal of the old soil, put the plants in pots that will just comfortably hold them, eventually giving them a good shift, and using fairly rich soil. Primula verticillata, which is one parent of P. Kewensis, requires pretty much the same treatment, but should not be watered overhead.

OSTROWSKYA MAGNIFICA.—J. A., Didcot: We do not understand the omission to which you refer; it must have been an oversight. Ostrowskya magnifica comes from the higher uplands of Eastern Bokhara, and is quite hardy. Some protection from strong winds is desirable, and a covering of ashes or light sandy soil over the plant during winter serves to keep the large tuberous roots quite safe. Though loving a deep soil, this giant bell-flower should have a well-drained position. Great care should be exercised in planting, as the large fleshy roots are very brittle, and it is the easiest possible thing to break, and otherwise damage them. Take out a large hole, sufficiently deep and wide to amply accommodate the plant, put the latter into position, and then fill in the soil. Any attempt to force the plant into a hole or position will end in failure. It is a quite easy matter to raise ostrowskias from seed, but seedlings do not come into bloom until the third or fourth year. If you add a good proportion of sand to your soil, and some leaf-mould also, you should be able to grow Ostrowskia magnifica well. Plants may be purchased from any of the hardy plant specialists who advertise in our columns.

NAMES OF PLANTS.

M. R. A., Weymouth.—1, Primula rosea; 2, Adonis amurensis; 3, Camellia reticulata.

D. H., Abingdon.—1, Sarracenia flava; 2, Phalænopsis Schilleriana; 3, Odontoglossum Adrianæ; 4, Cochlioda vulcanica.

E. J., Cirencester.—1, Nothoclæna sinuata; 2, Asplenium Richardsoni; 3, Santolina incana; 4, Bryophyllum calycinum.

NAMES OF FRUITS.

We have received several fruits for name during the week, but as they are rather difficult to determine at this season we are holding them over for further opinion.

TRADE NOTES.

From the Native Guano Company, Bridge Street, Blackfriars, E.C., we have received a book of over one hundred pages, chiefly devoted to testimonials showing the great advantages to be derived from the use of Native Guano on farm and garden crops. These testimonials are from all parts of the United Kingdom, proving that in the cool north, the warm south, and the moist west, the manure is alike efficaceous. Directions are given for the use of Native Guano, and these we should like to see extended and particularised in a future issue, with a view of showing the wider use to which the guano can be put.

As so well known to our readers, Mr. C. E. West, of Higham Hill, N.E., has devoted much of his time to the invention of labels suitable for ornamental plants, fruit trees, etc., and has been successful in introducing several forms not less remarkable for their usefulness than for the ingenuity they represent. Within the past few days we have received specimens of labels which are a considerable advance upon those previously manufactured, and should prove of much value. These are known as the "Alu" label, and are manufactured in white metal, somewhat resembling aluminium, and have a smooth surface, which can be readily written upon with a lead pencil, which Mr. West states is indelible. The plain labels are provided with a shank, by which they can be inserted in the ground or suspended to the branches of a tree. The fancy shapes can be attached to the branch of a plant or tree by means of narrow wing-like strips of metal at the top, or by a wire passing through a hole at the bottom. The labels are inexpensive, and we suggest that samples, with prices, be obtained.

CATALOGUES RECEIVED.

JAS. CARTER AND CO., HIGH HOLBORN. — A very useful catalogue of farm seeds, containing much interesting information relating to grasses.

HARRISON AND SONS, MARKET PLACE, LEICESTER.—An admirably printed, freely illustrated, and otherwise excellent catalogue of farm seeds.

AMOS PERRY, ENFIELD, MIDDLESEX. — Mr. Perry has now issued his "First" catalogue of hardy ferns, and it is a most interesting one, including about three hundred varieties, a considerable number of which are illustrated.

NEW SPRAYING MACHINES.

The importance of judicious spraying as an essential in the successful cultivation of hardy fruits is now recognised by the general body of growers, and the question to which they now give close attention is not whether spraying is desirable or not, but which of the machines on the market is likely to be the best adapted to their requirements. We have recently had our attention drawn to some spraying machines that have been introduced by the Four Oaks Undentable Syringe and Spraying Machine Company, Sutton Coldfield, Birmingham, that have the promise of possessing a high degree of usefulness. These include the Four Oaks Knapsack Sprayer, in which lightness and strength are admirably combined. The special features claimed for this machine are the absence of rubber valves, which, in some cases, occasion considerable trouble, the force by which the spray is delivered, and the design of the nozzles, which ensures a spray of remarkable fineness. The firm manufactures a considerable number of other spraying and lime-washing machines in different designs, and of these brief reference must be made to the Westwick Park Spraying Machine, which is intended for larger work than the knapsack sprayer, and is mounted on two wheels, and can be moved about by a horse or by hand. This machine is fitted with two delivery pipes, and capable of spraying a considerable area in a comparatively short time. In some gardens a well-made syringe fitted with a suitable nozzle will be equal to the spraying that will be necessary, and in some others of large dimensions a syringe fitted with a spraying nozzle will be found a valuable adjunct to the larger machines. It is therefore of some practical importance that the Four Oaks Company should, by the provision of suitable nozzles, have rendered their popular syringes no less useful for spraying than for the ordinary work of such implements, the patent syringe manufactured by this firm is provided with a corrugated or fluted covering, which protects the inner working barrel from indentation, and gives a firm hand grip. The form for ordinary use may, if so desired, be fitted with an angle joint, which greatly facilitates the syringing of the underside of the leaves.

NEW BOOKS.

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THE ENCYCLOPÆDIA OF GARDENING. By T. W. Sanders, F.L.S. (W. H. and L. Collingridge, 148 and 149, Aldersgate Street, E.C.) Price, 3s. 6d.; post free, 3s. 10d.

When a book has passed through twelve editions, each numbering many thousands of copies, it may be safely assumed that it has become so well known as to render lengthened description of its features unnecessary. Therefore, in referring to the thirteenth edition, which is now before us, we need do but little more than congratulate the author on the success he has achieved in the production of a book that has proved so admirably adapted to the requirements of all who take an active interest in the gardening art, and direct attention to the improvements that have been effected. The exceptional success of the work is no doubt due to the fact that it contains in a concise form what a man who takes an interest in his garden, and has but little spare time, wishes to know about the cultivation of the various classes of hardy, half-hardy, and tender plants, that have a place in gardens. It matters not what may be the tree or shrub, the hardy annual or perennial, the rock or water plant, the greenhouse or stove plant, the orchid or palm, or the fruit or vegetable on which information may be desired, it can at once be found. Full and admirably arranged as was the matter in the previous editions, it was decided when the preparation of the thirteenth became necessary, to reset the whole of the book in new type, and to make several improvements thus rendered possible. Chief among other improvements is the breaking up the more solid portions of the text into paragraphs, which greatly facilitates reference; the addition of lists of species belonging to each genera, with their height, colour, duration, period of flowering, etc.; the material increase in the cultural details, more particularly those relating to vegetables and fruits, the revision of the nomenclature, and the inclusion in alphabetical order of all the common names in general use. These and other alterations greatly enhance the value of the book as a work of reference, and should add materially to the high degree of popularity it already enjoys.

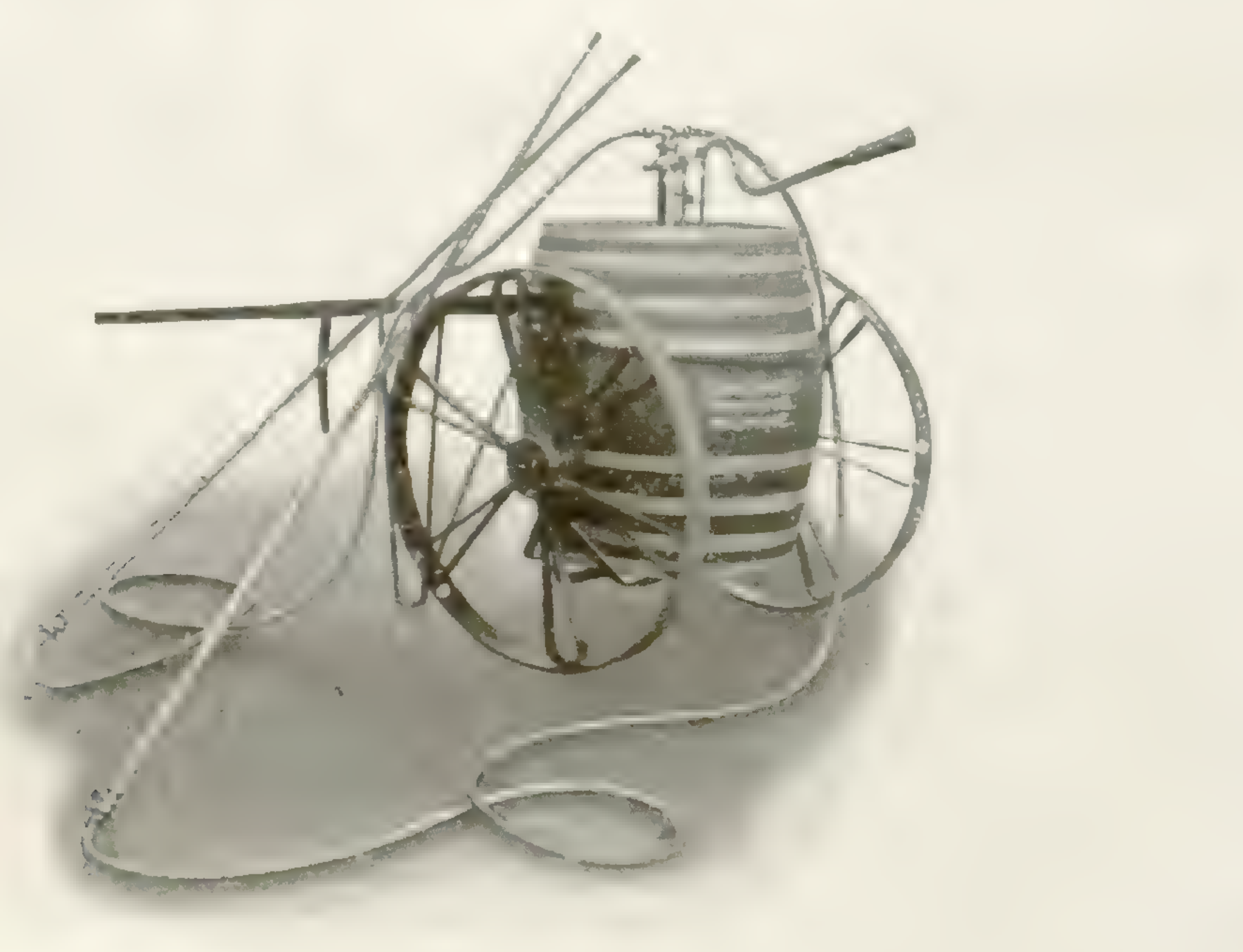
METEOROLOGICAL OBSERVATIONS.

TAKEN BY THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1909. MARCH 7 TO MARCH 13.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Mar. 7—Sunday	5 54	35	33	46	33
,, 8—Monday	7 54	41	39	48	31
,, 9—Tuesday ..	0 12	35	34	40	33
,, 10—Wednesday	—	37	36	41	34
,, 11—Thursday ..	—	35	34	35	35
,, 12—Friday	—	34	33	37	31
,, 13—Saturday ..	2 42	36	33	41	33
Means	(total) 16 2	36	35	41	31

DATE. 1909. MARCH 7 TO MARCH 13	RAIN.	TEMPERATURE OF THE SOIL. AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
Mar. 7—Sunday	0·10	35	36	39	32
,, 8—Monday		36	37	39	29
,, 9—Tuesday ...	0·05	37	38	39	18
,, 10—Wednesday.	0·03	37	38	39	33
,, 11—Thursday ..	0·02	37	38	39	34
,, 12—Friday	—	36	38	39	32
,, 13—Saturday ...	0·22	36	38	39	27
Means ...	(total) 0·42	36	38	39	31



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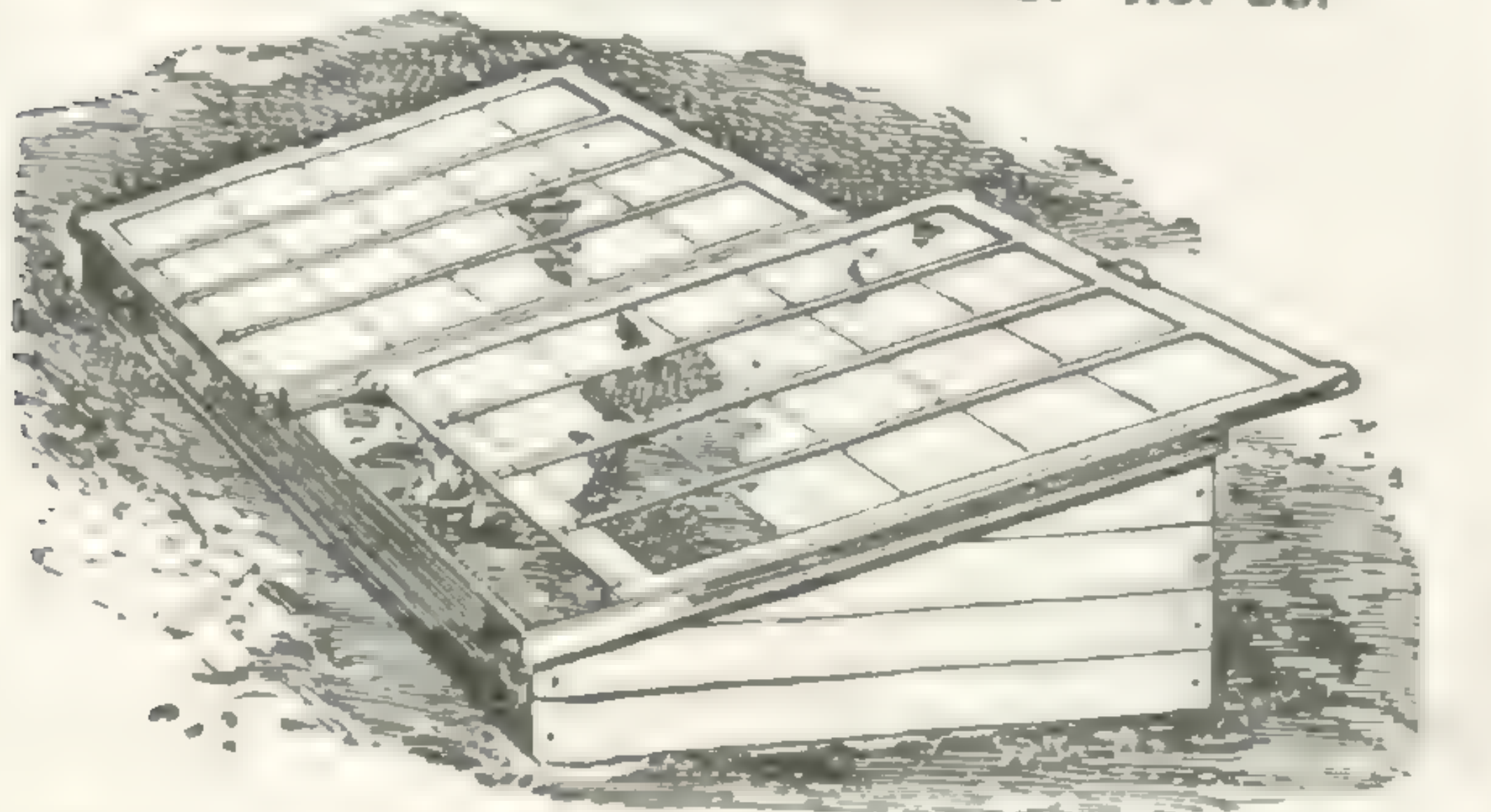

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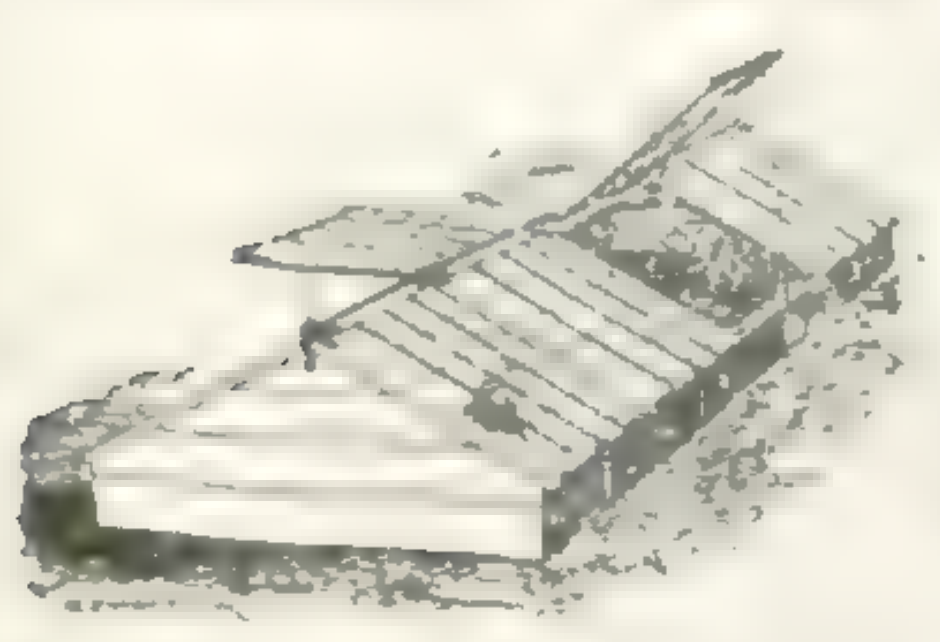

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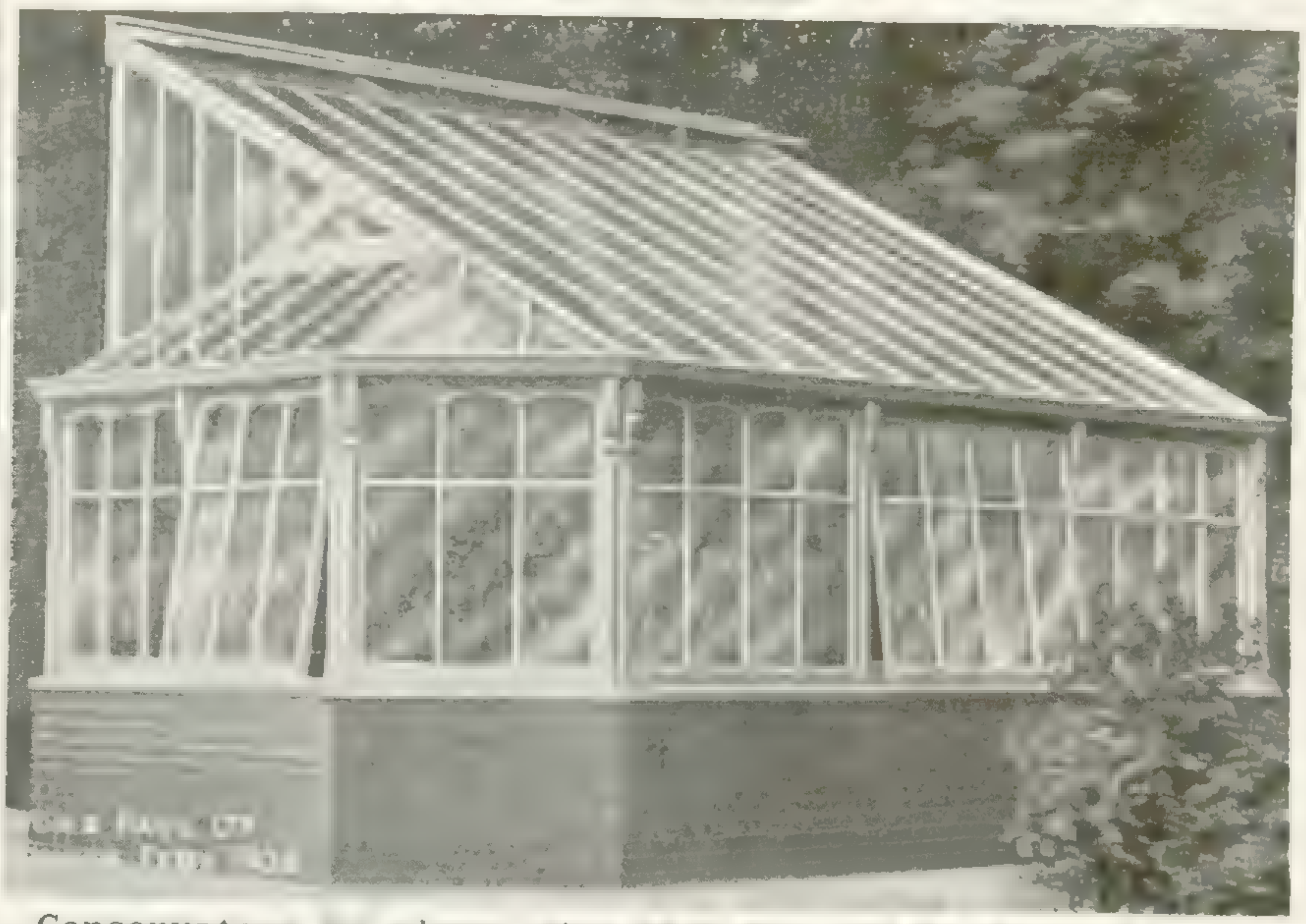

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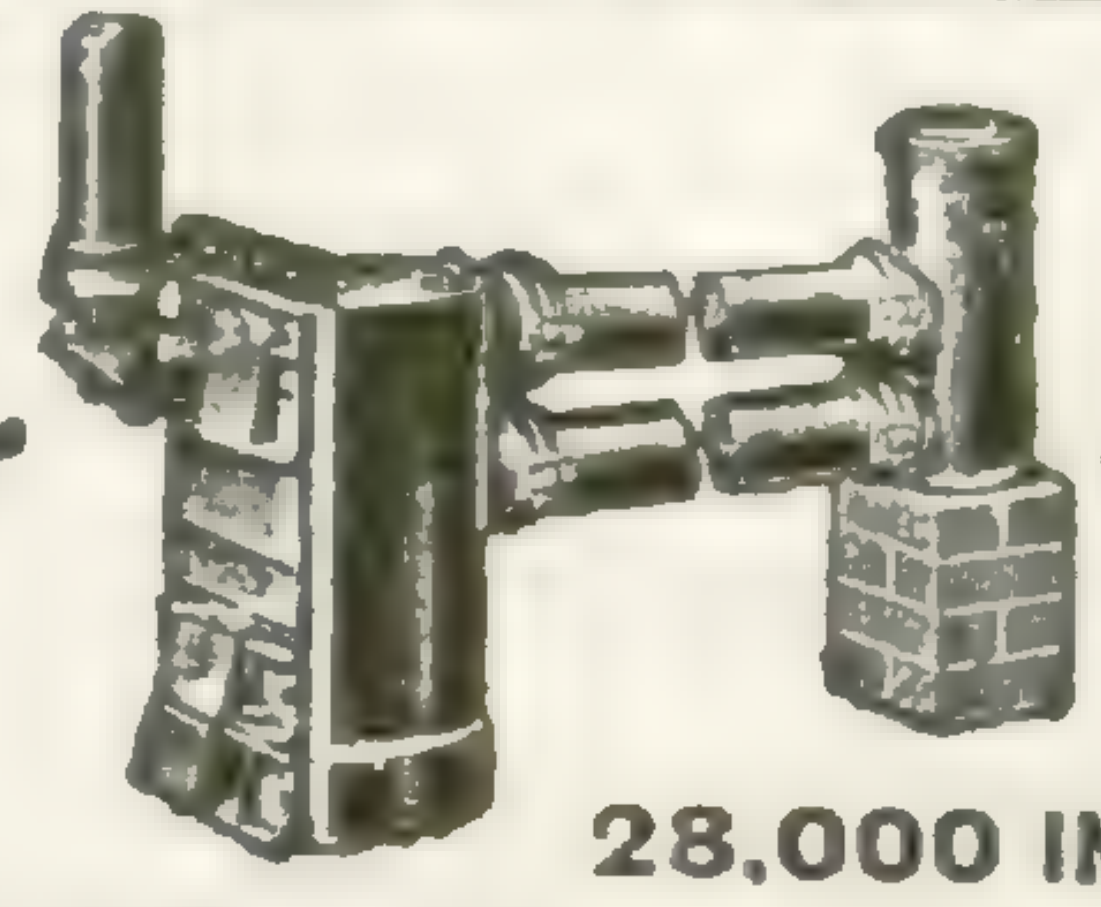

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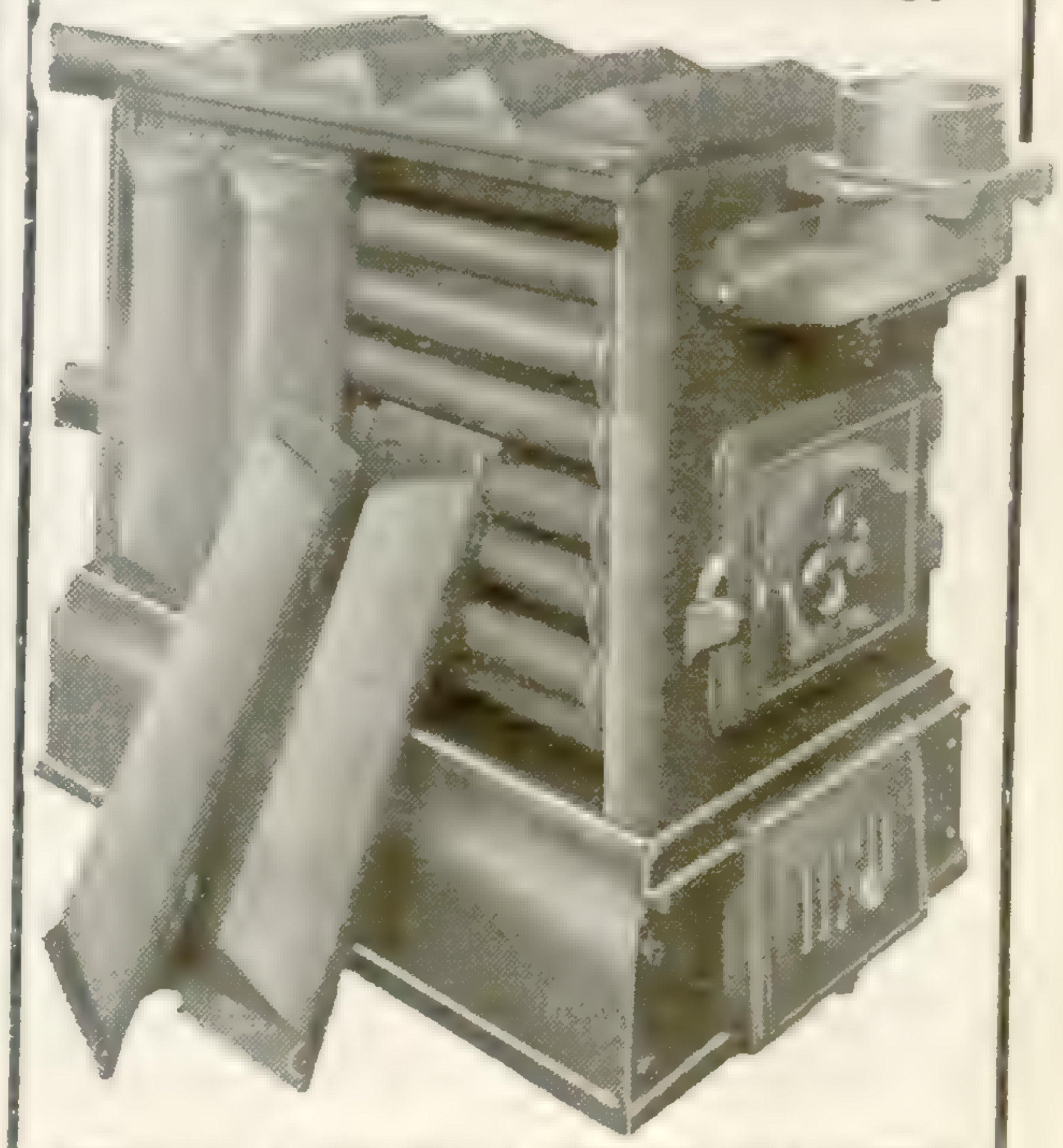

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		s.	d.		s.	d.
Acacia	per doz. bun.	8	6	to	12	0
Adiantum cuneatum	per doz. bun.	5	0		9	0
Anemones	per doz. bun.	1	6		2	0
Arums	per doz.	3	0		4	0
Asparagus	per doz. bun.	1	6		6	0
Azaleas	per doz. bun.	4	0		5	0
Bouvardias	per doz. bun.	6	0		8	0
Camellias	per doz.	1	6		2	6
Carnations	per doz. blms.	2	0		4	0
,,	per doz. bun.	9	0		12	0
Cattleyas	per doz.	10	0		15	0
Croton leaves	per bun.	1	0		1	6
Cypripediums	per doz. blms.	1	6		3	0
Daffodils	per doz. bun.	3	0		5	0
Dendrobiums	per doz.	2	0		3	0
Eucharis	per doz.	2	6		3	6
French fern	per doz. bun.	1	0		3	0
Freesias	per doz. bun.	2	6		3	6
Gardenias	per doz.	3	0		5	0
Hyacinths, Roman	per doz. bun.	7	6		10	0
Lapagerias	per doz.	1	6		2	0
Lilac, white	per bun.	3	0		4	6
,, mauve	per bun.	4	0		5	0
Lilium auratum	per bun.	2	0		3	0
,, speciosum	per bun.	2	0		3	0
,, longiflorum	per bun.	4	0		5	0
Lily of the Valley	per doz	7	0		12	0
Marguerites, white	per doz. bun.	2	0		3	0
,, yellow	per doz. bun.	2	0		3	0
Mignonette	per doz. bun.	2	0		3	0
Odontoglossums	per doz. blms.	2	0		4	0
Pelargoniums	per doz. bun.	5	0		9	0
Roses	per doz.	2	0		9	0
Snowdrops	per doz. bun.	1	0		2	0
Spiraeas	per doz. bun.	5	0		7	6
Stocks	per doz. bun.	2	6		4	0
Tulips	per doz. bun.	5	0		15	0
Tuberoses	per doz. blms.	0	3		0	6
Violets	per doz. bun.	1	6		3	0
,, Parmas	per bun.	4	0		5	6

Fruits.

Business continues brisk, and fair supplies are coming forward.

		s.	d.		s.	d.
Apples, American	per barrel	13	0	to	26	0
,, English	per bush.	7	0		10	0
,, Nova Scotian	per barrel	17	0		26	0
,, Californian	per case	8	0		10	6
,, French Russets	per case	9	0		10	6
Apricots, Cape	per case	6	0		8	0
Bananas	per bun.	4	0		10	6
Chestnuts	per bag	7	0		16	0
Cranberries	per case	8	0		12	0
Figs	per box	0	10		1	6
Grapes, English	per lb.	1	0		4	0
,, Almeria	per bar.	12	6		23	0
,, Guernsey	per lb.	0	10		1	2
,, Cape	per case	5	0		6	0
Lemons	per case	7	0		15	0
Medlars	per case	4	0		5	6
Oranges, Jamaica	per case	6	0		10	0
,, Denia	per case	10	0		23	0
,, Jaffa	per case	8	0		10	6
,, Californian	per case	12	0		14	0
,, Tangerines	per box	0	8		1	6
Peaches, Cape	per case	5	0		10	0
Pears, Californian	per case	8	0		12	0
,, Catillac	per crate	8	0		10	0
Pineapples	each	2	0		6	0
Plums, Cape	per case	3	0		10	0

Vegetables.

Greenstuffs are scarce and high in price; roots sell readily at fair prices and there is a good demand for forced produce.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	2	6	to	4	0
,, Jerusalem	per bush.	1	9		2	6
Asparagus	per bundle	3	6		6	0
,, Sprue	per bun.	0	8		1	0
Beet	per bush.	1	6		2	0
Beans (French)	per lb.	1	6		2	6
Broccoli, Srouting	per bag	3	0		4	0
Brussels Sprouts	per ½ bush.	2	0		4	0
Cabbage	per tally	4	6		8	0
Carrots	per doz. bun.	1	0		3	6
Cauliflowers, Cornish	per crate	6	0		9	0
,, Italian	per basket	3	0		4	0
Celery	per doz. rolls	7	6		12	0
Celeriac	per doz.	1	6		3	6
Chicory	per lb.	0	4		0	6
Cucumbers	per doz.	5	0		10	0
Endive	per doz.	1	6		3	0
Horseradish	per doz. bun.	8	0		12	0
Kale	per bush.	3	0		4	0
Leeks	per doz. bun.	1	0		2	0
Lettuce, French	per crate	3	0		4	6
Mint	per doz. bun.	3	0		6	0
Mushrooms	per doz. lb.	7	0		12	0
Onions, Pickling	per bush.	3	6		4	6
,, Valencia	per case	10	0		12	0
Parsley	per doz. bun.	2	0		3	0
Parsnips	per bag	2	0		3	0
Radishes	per doz. bun.	1	3		2	6
Rhubarb	per doz. bun.	0	9		1	0
Savoys	per tally	7	0		10	0
Seakale	per doz. pun.	9	0		15	0
Spinach	per basket	2	6		3	6
Tomatoes	per doz. lbs.	4	0		6	0
,, Canary	per pack.	8	0		14	6

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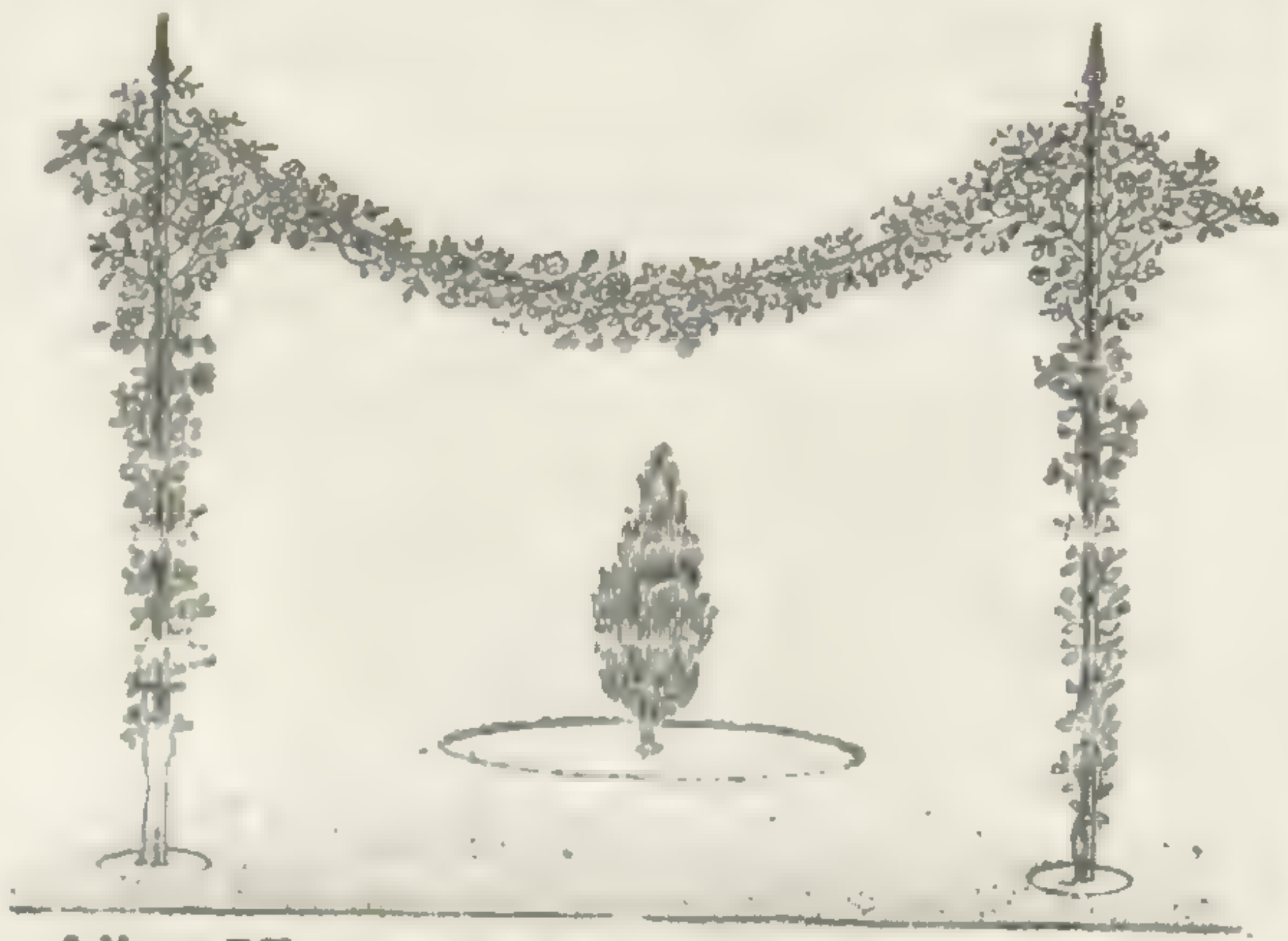
No. 633.



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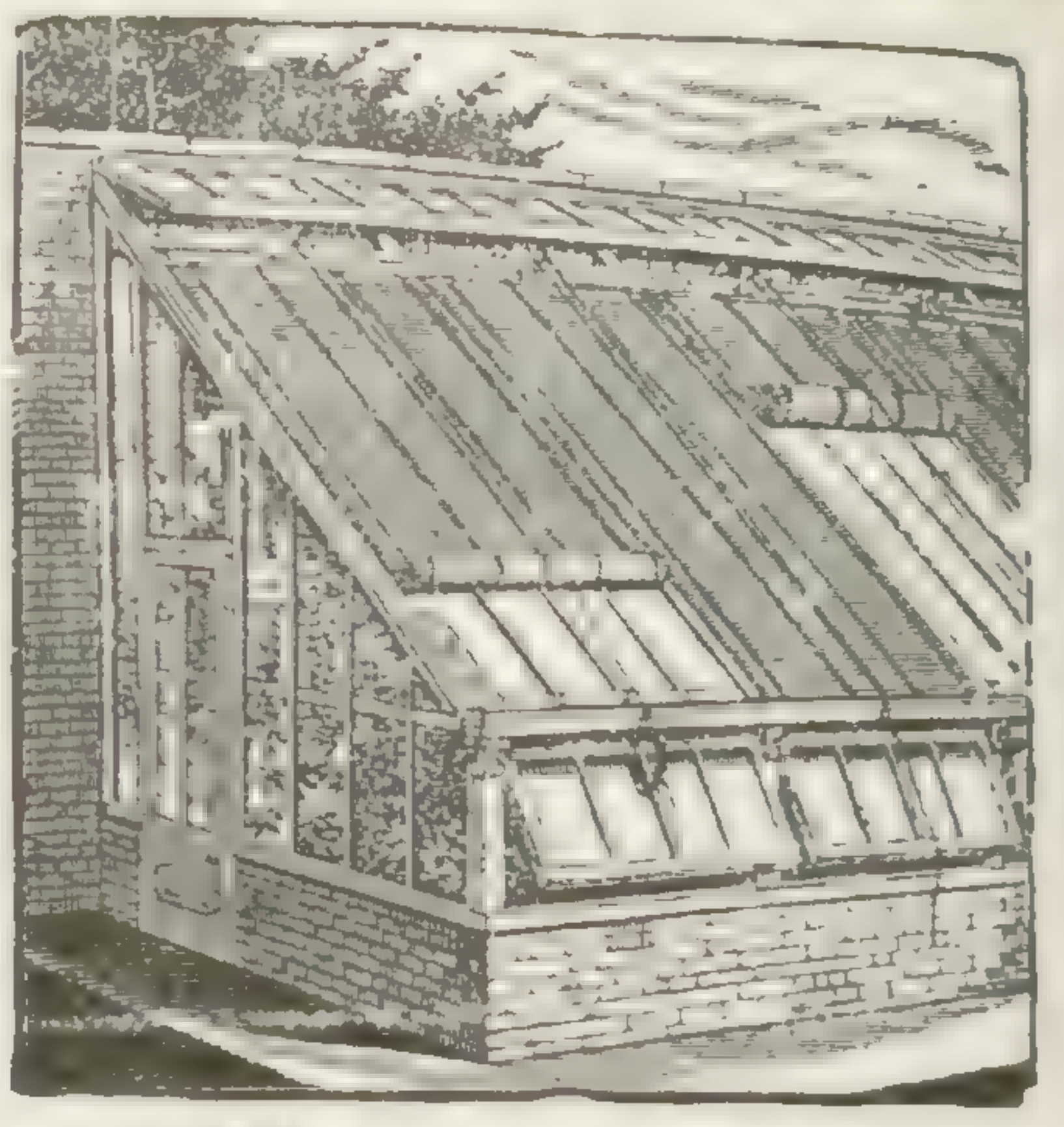

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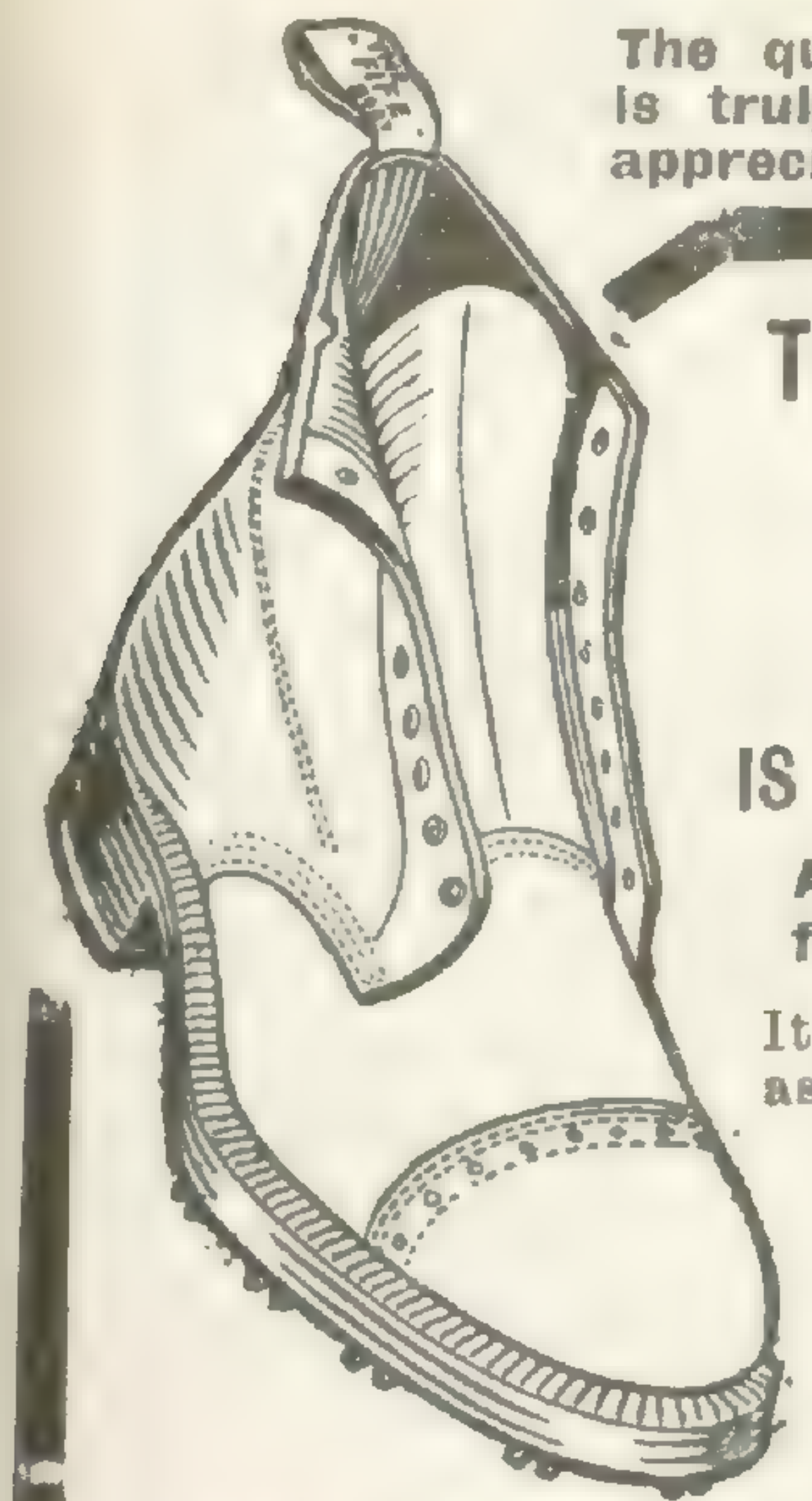

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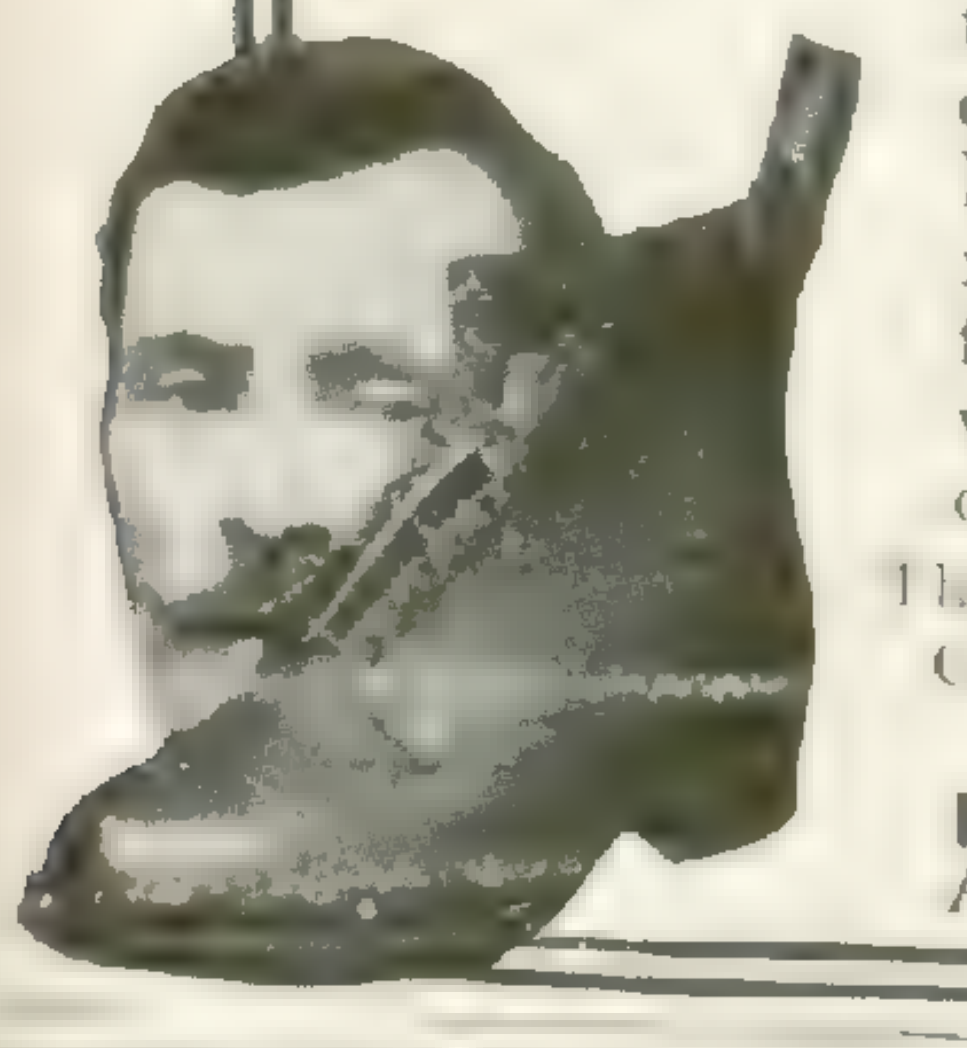

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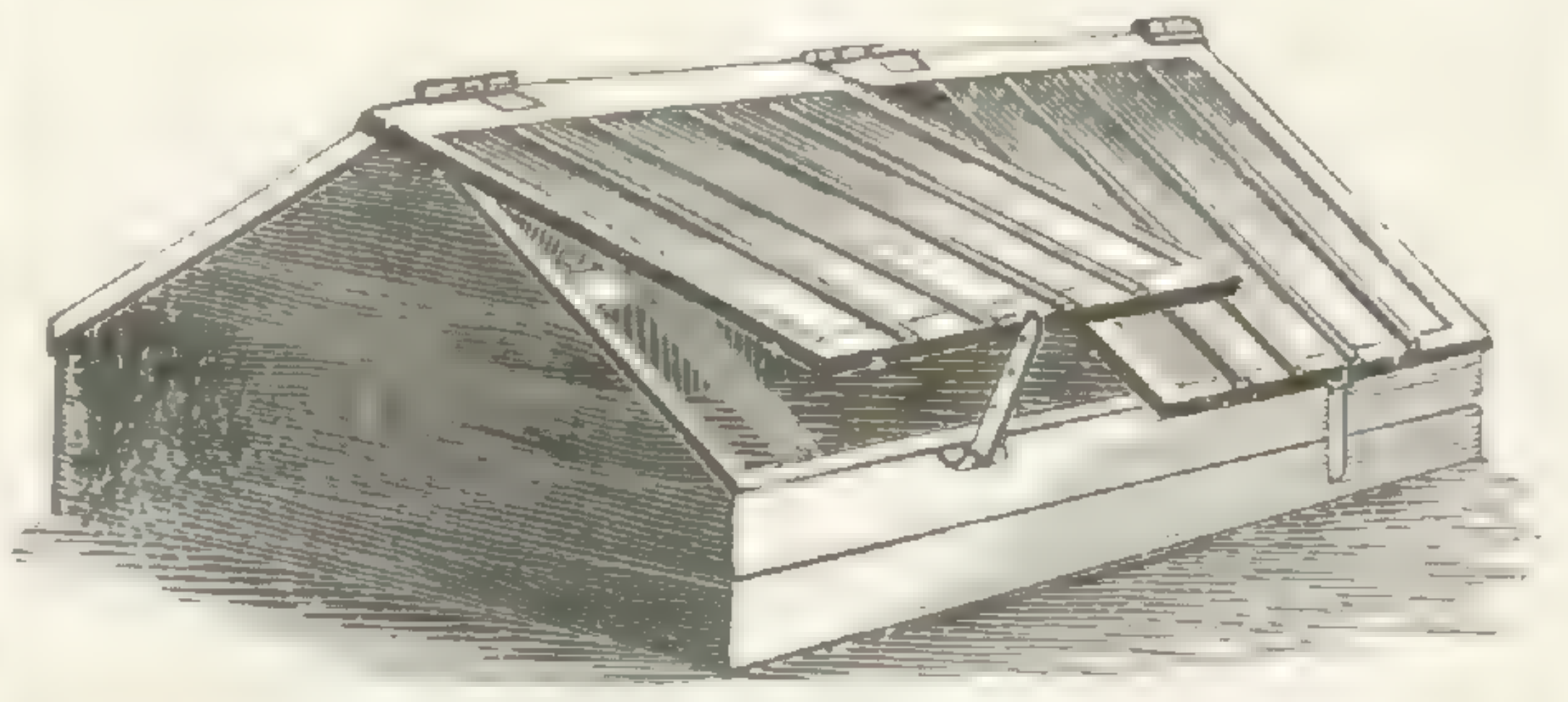

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12ft. ,, 4ft. ,,		4	0	0
12ft. ,, 5ft. ,,		4	15	0
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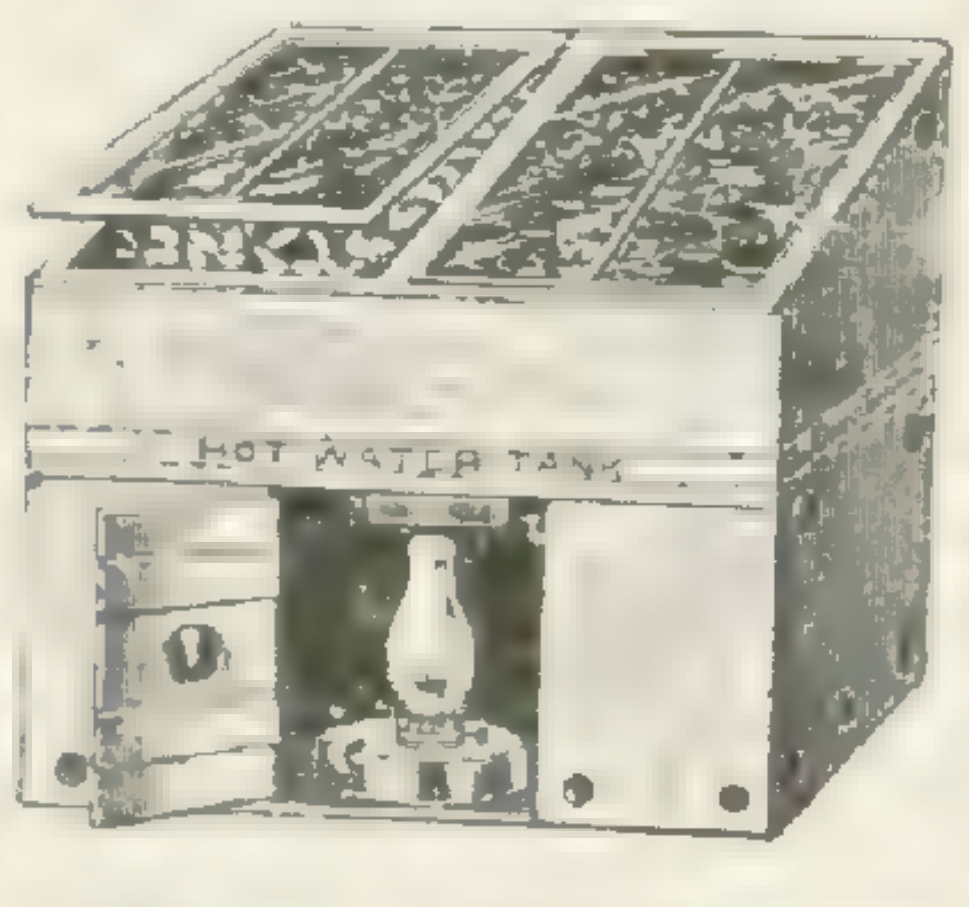

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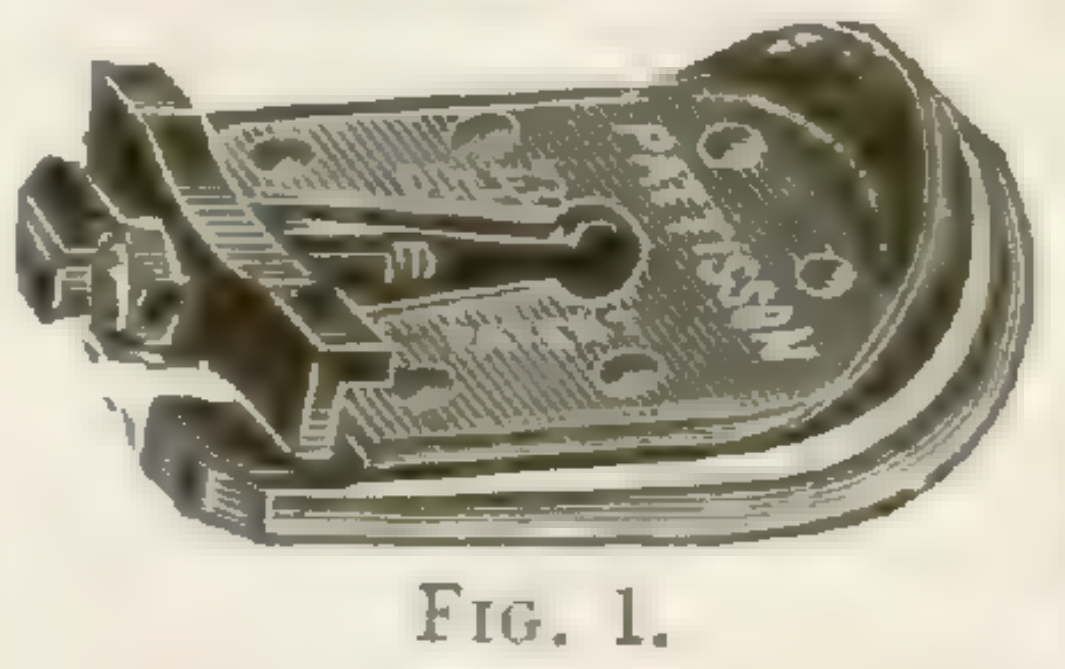

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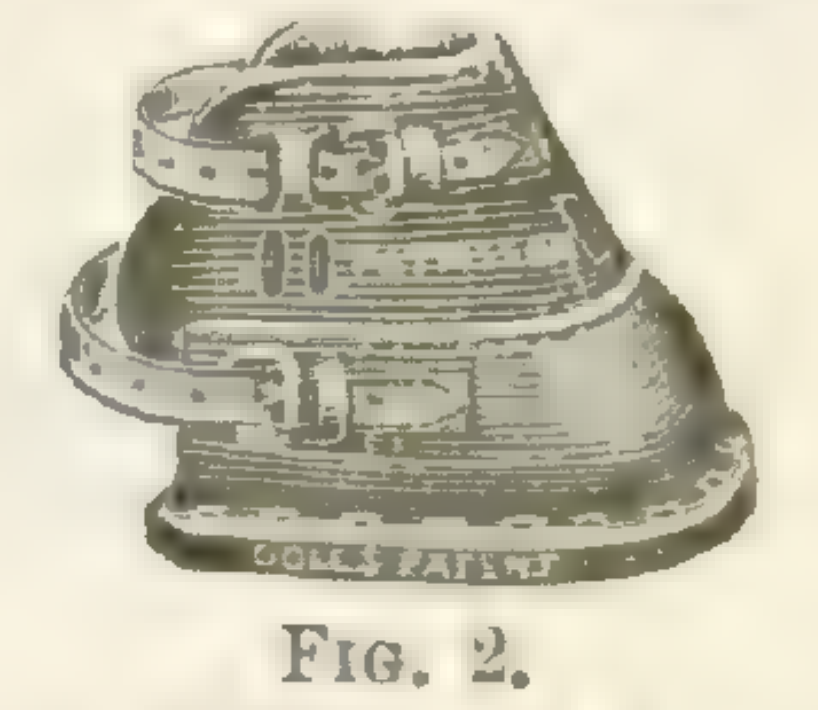

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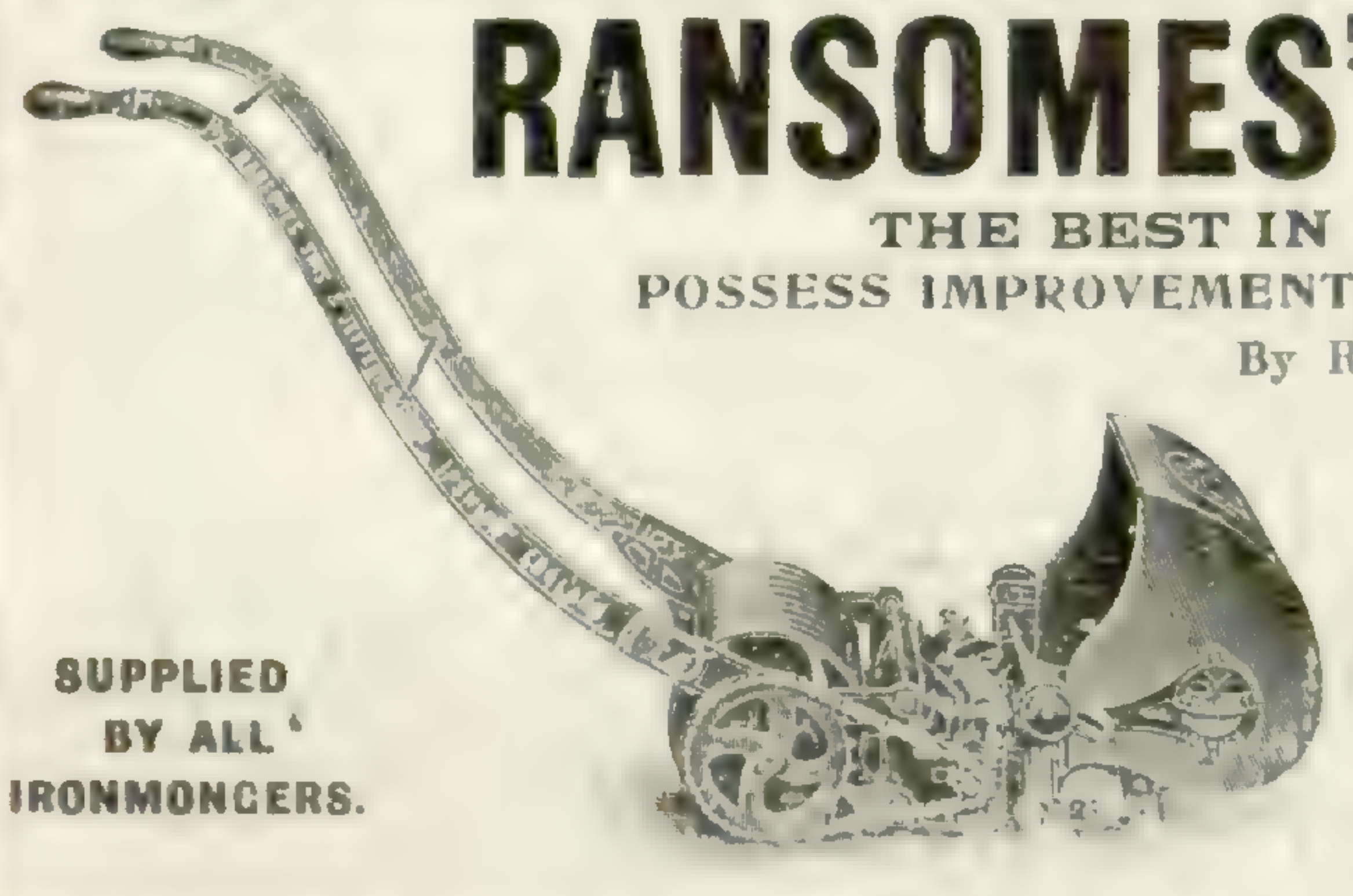

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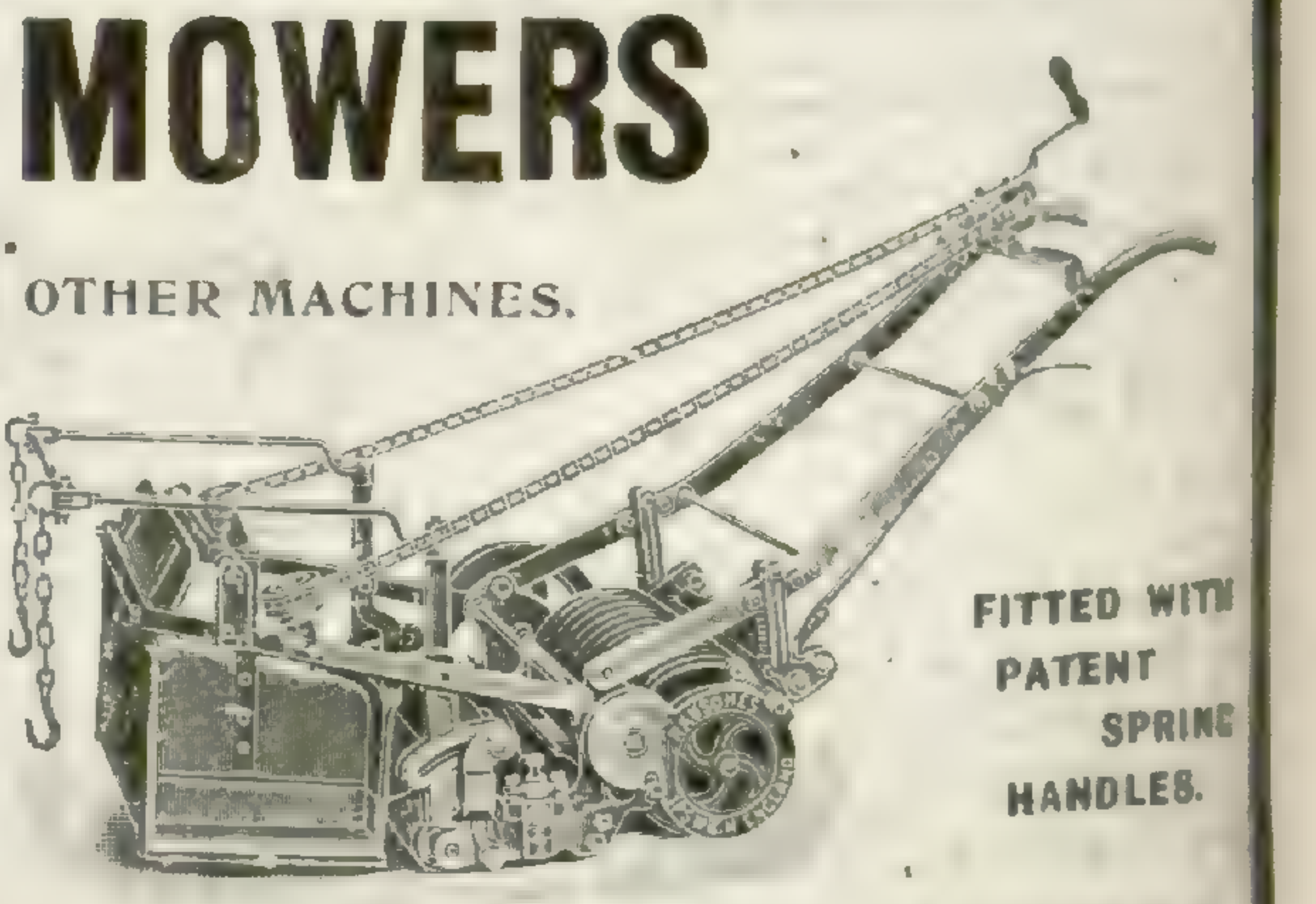

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The charge for an Advertisement INCLUDES A FREE ENTRY ON THE REGISTER. Immediate Notice must be given when an engagement is secured.

A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

GARDENER (Head).—T. BENNETT desires RE-ENGAGEMENT with any Lady or Gentleman requiring a first-class man who is well up in all branches of Horticulture, including Fruit under Glass, Stove and Greenhouse Plants for Cut Flowers and House Decorations, Roses, and Alpine Plants, Herbaceous and Water Gardening; can undertake Landscape Work upon any scale; good manager of men; highest references from large establishments. T. BENNETT, 27, Cyril Street, Northampton.

J. J. PARKER, Oakleigh Road, Whetstone, N., wishes to recommend a hard-working reliable Man as HEAD; age 40; married, 2 children; life experience cultivating fruit, flowers, vegetables, grapes, chrysanthemums; 9 years' present situation.

LADY MALCOLM, of Poltalloch, highly recommends her HEAD GARDENER; eight years in present place, Head of three; life experiences in all branches; age 36; married, one child, seven years. W. BASTIN, Barnardiston Hall Gardens, Haverhill, Suffolk.

GARDENER (Head), Scotch, seeks SITUATION, where three or more are kept; life experience in all branches, Inside and Out; age 37; married, one boy, 13 years; excellent references; disengaged when suited. R. CRUICKSHANK, Handcross, Sussex.

GARDENER (Head); 25 years Head Gardener at Holwood Park, residence of the late Earl of Derby; life experience. A. GARRETT, Welbrook Road, Farnborough, Kent.

THE HONBLE. R. P. STANHOPE, Revesby Abbey, Boston, will be pleased to recommend good Man as HEAD GARDENER; thoroughly practical and reliable; experienced all branches; 6¼ years here as Foreman; age 33; married when suited. W. EDWORTHY, Revesby Abbey Gardens, Boston, Lincs.

A GENTLEMAN highly RECOMMENDS HEAD WORKING GARDENER to any lady or gentleman requiring an experienced Man for inside and outside work of a well-kept garden; he is industrious, obliging, and thoroughly reliable in every way; two children, ages 12 and 13. Address W. FRENCH, Cherington, Stroud, Glos.

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GARDENER (Head Working).—Sir WILLIAM CHANCE, Bart., Orchards, Godalming, highly recommends G. DOE; good, practical experience; all-round man Inside and Out; married, two boys, 10 and 11.—Care of SARGOOD, Millmead Terrace, Guildford.

GARDENER (Head Working of two or three, or good Single-handed; life experience in Fruit, Flowers, Vegetables, and Glass in private gardens and nurseries; excellent references; abstainer; age 26; married when suited. E. R. BEAMES, Shiplake Court Gardens, Henley-on-Thames.

GARDENER (Head Working, where several are kept); life experience in all branches; especially Grapes, Melons, Peaches, Cucumbers, and Stove and Greenhouse Plants; also Flower and Kitchen Garden; 21 years in last place, having left through death of employer; good references. C. T. M., 18, Pentland Street, Wandsworth, S.W.

GARDENER (Head Working), age 47; good practical experience in all branches; Inside and Out; many years as Head; can have good references. H. TURNER, Fineshade, Stamford.

GARDENER (Head Working or good Single-handed); age 47, life experience, Inside and Out; 7 years at present place; 17 years Head at Belmont Castle, Grays. Leaving through gentleman giving up garden. HILL, 8, Wallis Avenue, Prittlewell, Southend, Essex.

GARDENER (Head Working), age 40, son 16, require SITUATIONS (together or separate); 25 years' practical all-round experience, including glass; excellent references; disengaged when suited; some experience in the care of poultry, bees, etc. H. W., 32, Alexandra Road, Chislehurst, Kent.

GARDENER (Head Working, where two or more are kept), thoroughly experienced in vines, peaches, melons, stove, and greenhouse plants, flower and kitchen garden; leaving through employer giving up place; age 30; single. EDWARDS, Gardens, New Park, Brockenhurst, Hants.

GARDENER (Head Working where two or three are kept, or good Single-handed with assistance); thoroughly qualified, all-round, Inside and Out; active, energetic, good manager; understands bees and making of bee appliances; 15 years as head; 9 years last sit.; establishment broken up; married, age 40. Can be well recommended; highest testimonials; abstainer. Apply 4,626, J. L. D., Office of this Paper.

GARDENER (Head Working, or good Single-handed, with help); experienced in all branches; age 37, abstainer; married; 2 children; good references. ELLIS, c/o J. Tutnail, Stationer, Newbury.

GARDENER (Head working, where 3 or more are kept); first-class experience, both under Glass and Outside; excellent character from present and previous employers; married, no children. J. LIDDICOAT, 20, Carnarvon Road, Barnet.

GARDENER (Head Working), age 32, married; life experience in good establishments, including Syon House, Mereworth Castle, and Old Warden Park; highest references. F. FRENCH, Covent Garden, Barming, Kent.

GARDENER (Head Working or good Single-handed); age 38; married, 2 children; thoroughly experienced in all branches, Inside and Out; understands cows; good references. Disengaged. A. GOODFELLOW, 94, Sherrard Road, Forest Gate, Essex.

GARDENER (Head Working); life experience in all branches, Inside and Out; married; good references; disengaged when suited. W. CANE, Sparrows Green, Wadhurst, Sussex.

GARDENER (Head Working), thoroughly experienced in all branches, both indoor and outdoor, highest references from present and previous employer, three years present situation; married, age 40. STEADMAN, Drayton Lane, Cosham, Hants.

GARDENER seeks SITUATION as HEAD WORKING or SINGLE-HANDED; life experience all branches; understands Poultry; excellent references; married; age 38. CHANDLER, Saltwood Cottage, Brasted Chart, Kent.

GARDENER (Head, or Single handed); age 31; married, no family; good, all-round Man; highly recommended; 6 years in last place; left through gentleman giving up garden. Apply J. MANNING, 73, Thayer's Farm Rd., Beckenham, Kent.

GARDENER (Single-handed or with help), nine years' experience; Inside and Out; good references. L. LAMBERT, 11, Chapel Road, Pimperne, Blandford, Dorset.

AS GARDENER (Single-handed with help, or Second); thoroughly recommended by Head Gardener here; Inside and Out. Near London [illegible]ferred; married when suited; age 26. J. CLARK, Eastcourt Gardens, Malmesbury, Wilts.

GARDENER (Single-handed, or with help), Vines, Stove, Greenhouse Plants; experience Inside and Out; good character by me; age 35; married (boy 5 years); willing to be useful. State terms. C. H. SMITH, 44, Ravenbourne Road, Catford, S.E. Disengaged when suited.

GARDENER (good Single-handed, or Leading Hand); Pleasure Ground or Kitchen Garden; can be highly recommended; 3 years last place; age 32; married when suited. G. LEGGATT, Barlavington, near Petworth, Sussex.

GARDENER (Single-handed or with help); good Second's place not objected to; married; age 36; tall; one child; life experience Inside and Out; good references. H. WARNER, 17, Salmestone Road, Margate, Kent.

GARDENER (Single-handed); life experience Inside and Out; wife Caretaking if required; no family; disengaged; age 34; good references. T. EVANS, 2, Priestwood Terrace, [illegible] Road, Bracknell.

GARDENER (Single-handed or otherwise), Young Man seeks SIT.; 9½ years' good all-round experience on large estabs.; married when suited; good refs. R. LOCK, Arborfield, Weybridge, Surrey.

GARDENER seeks SITUATION, single-handed, or where help is given; age 2[illegible]; [illegible]; life experience in all branches; good references. H. ATTWATER, Ivy Cottage, Horsmonden, Kent.

FOREMAN (Working), 36; Fruit and R[illegible] or Fruit Plantation; good Budder, Grafter, Pruner, Packer; 22 years' experience with leading Nurseries and large Fruit Growers; good references. H. SMITH, 2, Camden Terrace, Cranbrook, Kent.

FOREMAN (Inside), age 27.—Mr. S. W. TUCKER, Longford Castle Garden, Salisbury, wishes to recommend FRANK HEATH as above; 10 years' experience in fruits and plants; two years inside here.

FOREMAN (Inside), age 26; 12 years' experience; fruit and plants, house and table decoration; good references, including Waddesdon Manor and Worth Park. G. JOHNSON, Stansted Hall Gardens, Stansted, Essex.

GARDENER (Second, Inside and Out).—H. STARKE, Gardener to C. Butier, Esq., [illegible] House, Shrivenham, Berks., can confidently recommend W. JENNELL, who has been with him [illegible] years as above; strong and willing; age [illegible] years in previous place.

GARDENER (Second, Inside and Out), nine years' experience; good references; age 25. Berks or counties joining preferred. W. SMITH, The Bothy, Epping House, nr. Hertford, Herts.

GARDENER (Under or Single-handed), or CARETAKER; 14 years' experience [illegible] Outside; good references; married; abstainer. [illegible] The Lodge, West Hatch, Chigwell, Essex.

GARDENER (Under), 20, seeks SITUATION; strong and willing; 4½ years' experience Inside and Out; good reference; free when suited. MURRELL, 50, Hill View Road, Tunbridge Wells.

GARDENER (Working) seeks SITUATION; [illegible] practical experience, Inside and Out; [illegible] age 38; good character. W. SCOTT, [illegible] Dorset.

GARDENER seeks SITUATION on Pleasure Grounds or Kitchen Garden; good [illegible]; age 35; married, two children. E. VINALL, [illegible] Mr. Buckland, Lambs Green, Rusper, Sussex.

SITUATION COUPON

To the Advertisement Manager of "THE GARDENERS' MAGAZINE,"
148 & 149, Aldersgate Street, London, E.C

For APRIL 3, 1909.

Please Repeat my Advertisement.

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Date.............................

THIS COUPON, duly filled up, should be forwarded not later than Tuesday for the next issue.

Situations Wanted—*continued.*

JOURNEYMAN (Third) seeks SITUATION, Inside; four years' experience; age 18; highly recommended; Bothy. E. HENLEY, The Gardens, Saxham Hall, Bury St. Edmunds.

JOURNEYMAN (First, Inside); Fruit and Plant Houses, Table Decorations; age 24; eight years' experience; good references. H. COX, 3 Etterby Terrace, Carlisle.

JOURNEYMAN (Inside and Out). — Mr. HATTO, Walsingham Gardens, Chislehurst, would be pleased to recommend Young Man as above; age 21; seven years' experience; three present situation. Apply, MUMMERY, 190, Widmore Road, Bromley, Kent.

IMPROVER seeks SITUATION in good establishment, Inside; four years' experience; good reference; age 18; Bothy preferred. W. WALLER, Labourne Lane, Hascombe, near Godalming, Surrey.

WANTED, SITUATION as an IMPROVER, age 17; strong and willing; has had three years and ten months' general experience Inside and Out; total abstainer. Bothy preferred. A. HYLAND, Woodlands, Ticehurst, Sussex.

A. CUCKNEY, Fulbeck Hall Gardens, Grantham, can recommend YOUNG MAN for Inside and Out; age 19; Bothy preferred.

ESTATE CARPENTER and HANDYMAN seeks Situation; good joiner, and used to all house repairs, painting, paper-hanging, etc.; 11 years' good character; own tools. W. BARRIER, 17, Lennard Road, Penge.

MARRIED MAN (29), one child, seeks SITUATION as KITCHEN GARDENER, used to cows and poultry; good references; also slight knowledge of greenhouse work; willing and obliging. Apply ARTHUR WILLIAMS, Bisbrooke, Nr. Uppingham, Rutland.

MRS. ANDERDON WESTON wishes to find a place for a STRONG LAD, aged 16, in the gardens, has worked on her farm for 2 years; Bothy preferred. Holme Grange, Wokingham.

SITUATION as ELECTRICIAN; Oil Engine preferred; willing to be generally useful; age 21. G. STRIPP, Shabden, Chipstead, Surrey.

THOS. MORRIS, Gardener, Dytchleys, Brentwood, Essex, would be pleased to recommend ALFRED RAINBIRD, age 18½, Inside and Out; 4½ years' experience. Bothy preferred.

WANTED, SITUATION as HANDYMAN, to work in house or garden, etc.; Reservist; single; abstainer; good references. Apply to ERNEST SCRIVENS, Longborough, Moreton-in-Marsh, Gloucestershire.

YOUNG MAN seeks SITUATION as under Gardener; age 19; Inside and Out; strong and willing. G. LUFF, 18, Prospect Place, Maidstone, Kent.

YOUNG MAN (23), Farmer's Son, seeks SITUATION as UNDER GARDENER, with a good chance for improvement. Good knowledge of kitchen gardening; abstainer; excellent reference. G. SEAR, Hardham, Pulboro, Sussex.

YOUNG MAN seeks SITUATION; assist in garden or odd jobs; age 28, single; 5½ years present place. Apply "P. S.," c.o. Tyrrell, 9, West Street, Crawley, Sussex.

YOUNG MAN seeks SITUATION Pleasure and Kitchen Garden; or single-handed; good characters. London suburbs preferred. A. POTTEN, 3, Western Lane, Balham, S.W.

YOUNG MAN, age 24, seeks SITUATION, Pleasure and Kitchen Gardens, or SINGLE-HANDED; good characters; London suburbs preferred. A. POTTEN, 3, Western Lane, Balham, S.W.

YOUNG MAN (25), seeks SITUATION, either trade or private; 11 years' experience; good references. E. BARNES, 10, Charles Street, Hillingdon Heath, Uxbridge, Middx.

YOUTH, 18, seeks RE-ENGAGEMENT as Third or Fourth, Indoors; or help Out; 4 years outside. Address, Mr. G. FARMER, Head Gardener, Beckford Hall, Tewkesbury.

YOUTH, age 18, seeks SITUATION in good Garden; slight experience; strong and willing; Bothy preferred. H., 138, Silvermere Road, Catford, S.E.

YOUNG MAN (21) seeks SITUATION as GARDENER or IMPROVER; no objection to Nurseries; good references. A. COX, Swerford, Enstone, Oxon.

YOUNG Man, age 23, seeks SITUATION in Nursery; experience in Tomatoes and General Pot Stuff; good reference; abstainer. G. MOCKETT, 6, Vicarage Road, Old Town, Eastbourne.

YOUNG MAN (21), seeks SITUATION in Nursery; Tomatoes, Cucumbers, Strawberries, Chrysanthemums, Bulbs, Bedding Stuffs; 4 years' experience; good references. W. T., 42, Wimborne Road, Southend, Essex.

YOUTH (16), requires SITUATION in kitchen garden and pleasure grounds; can be well recommended; Bothy preferred; strong and willing; 2½ years in present situation. B. JARRATT, Waverly Road, Weybridge, Surrey.

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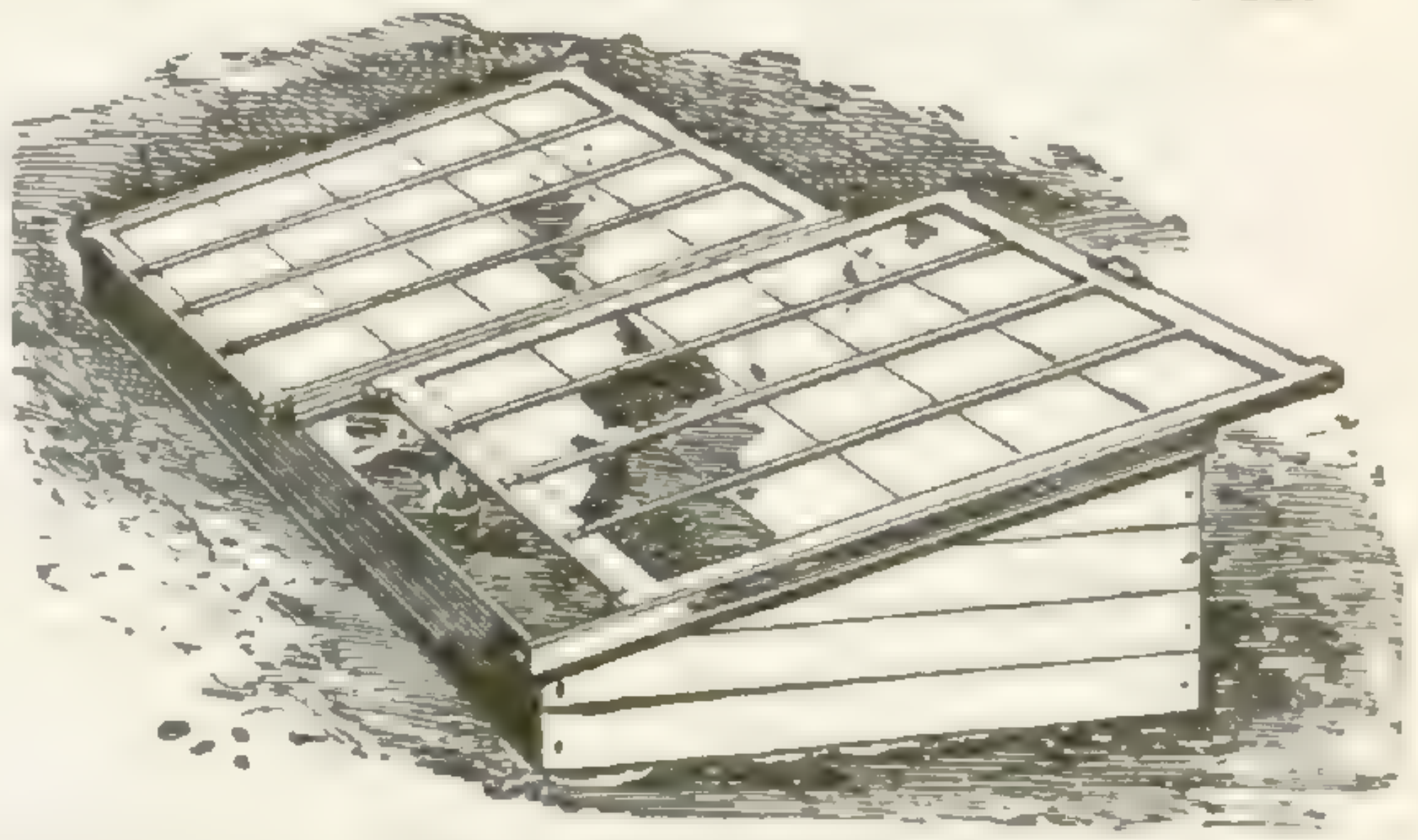

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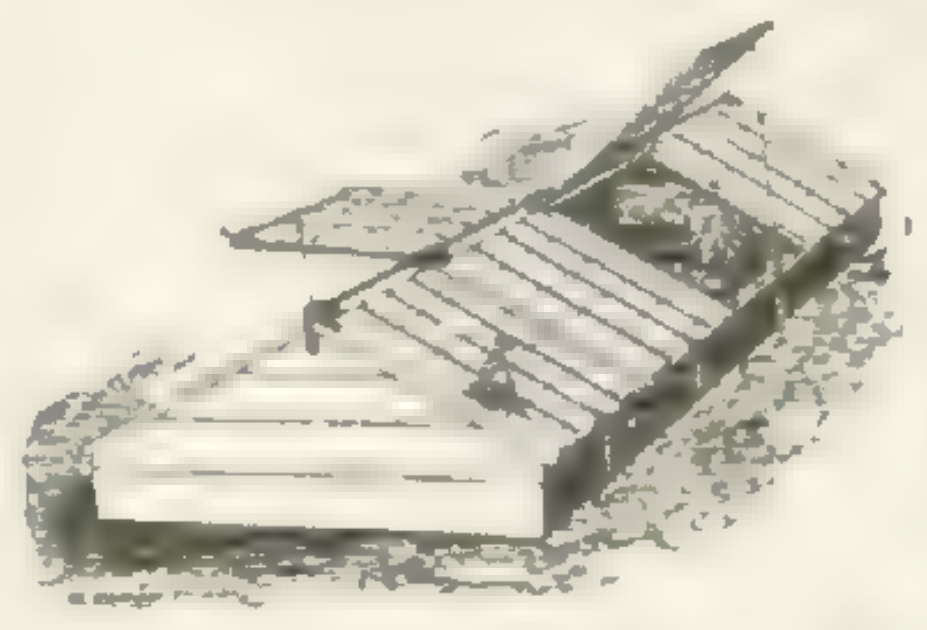

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INDEX and Title Page to Vol. LI. (comprising the weekly numbers from January to December, 1908), price 2d., by post 2½d.

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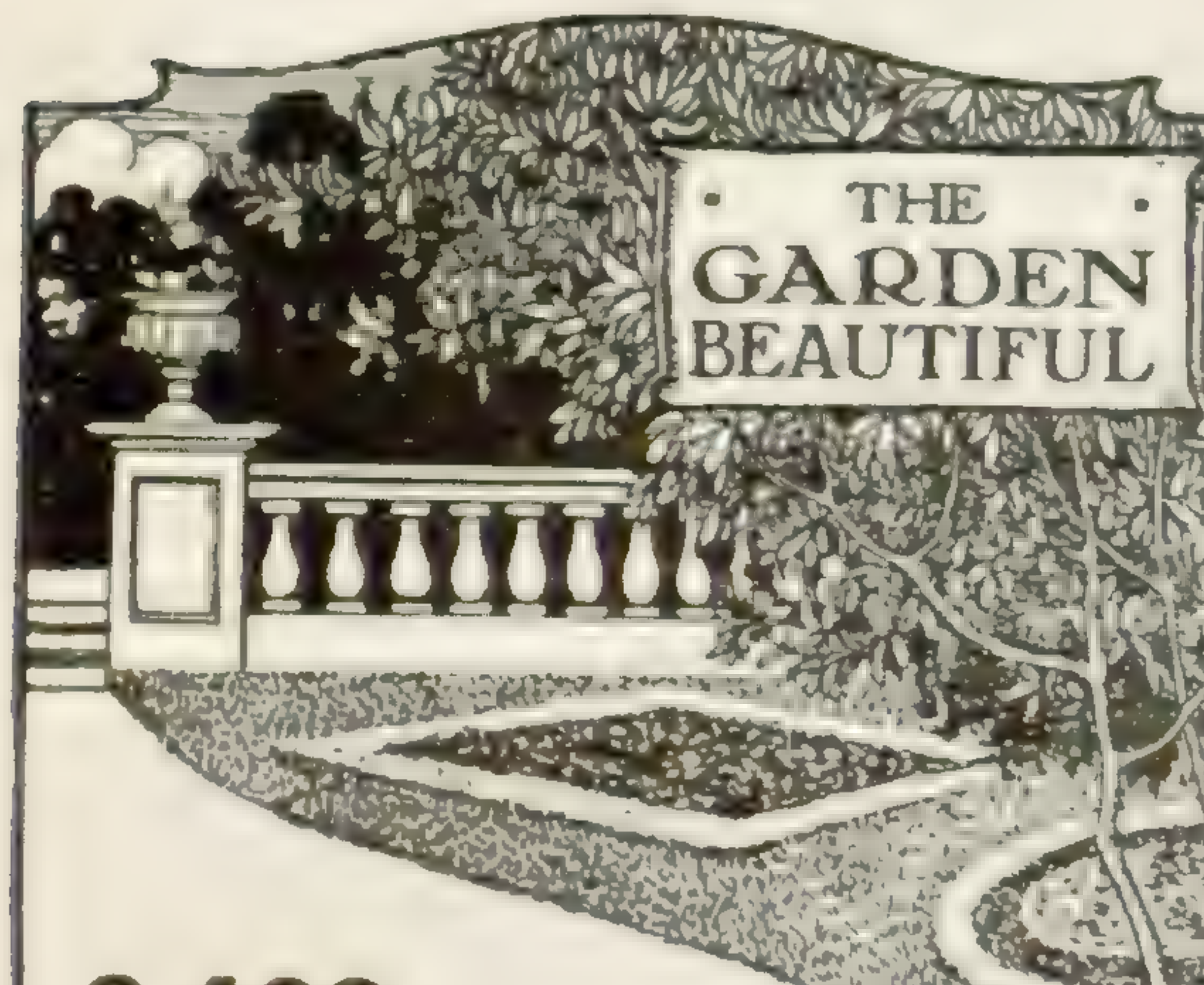

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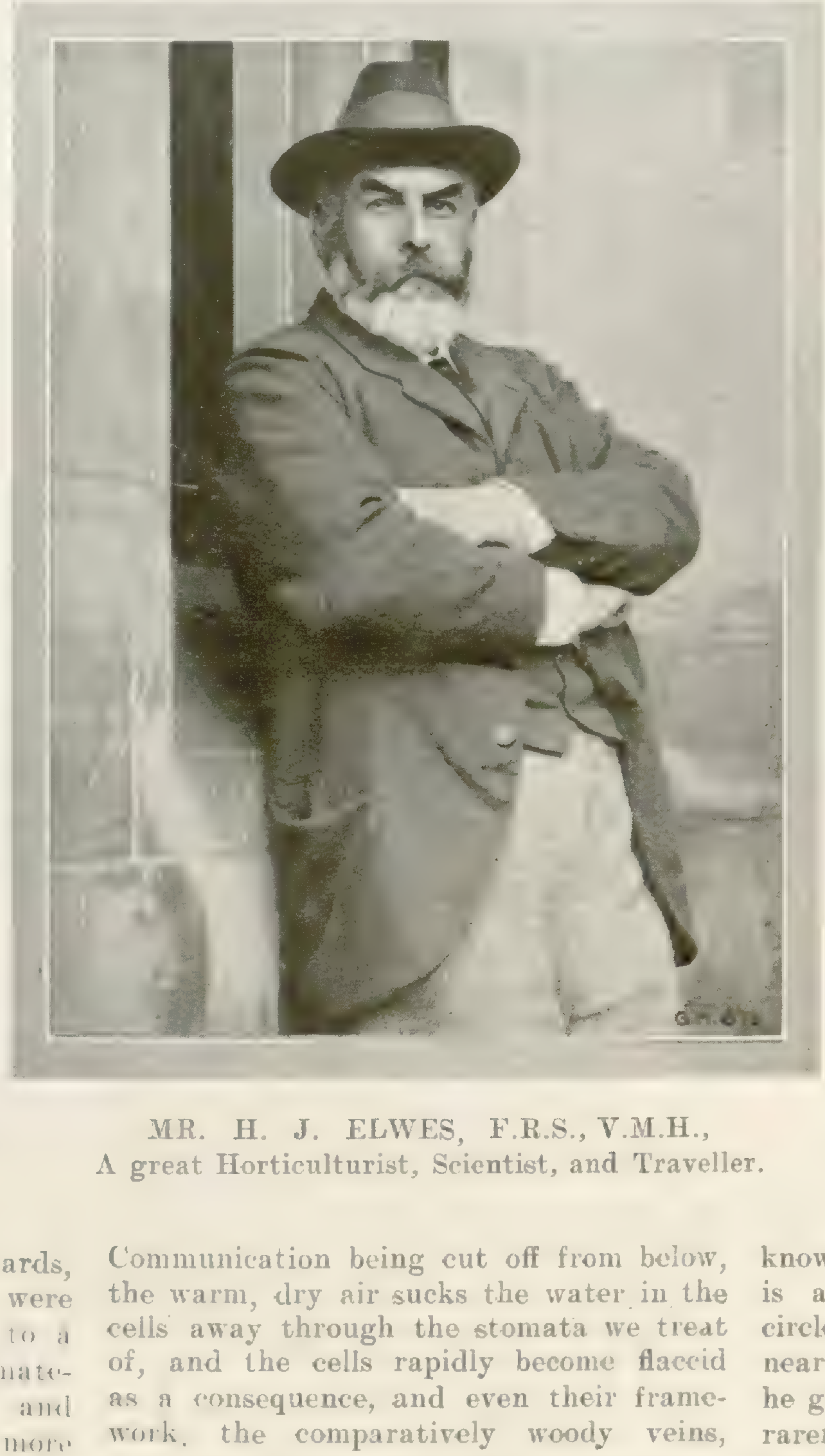
VOL. LII.—No. 2,891. SATURDAY, MARCH 27, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Transpiration.

If we examine with a microscope either the leaves of trees, shrubs, and other forms of flowering plants, or the fronds of non-flowering plants, such as ferns, we shall find them in most cases profusely dotted with minute perforations of the surface, tiny orifices between the cells which fill up the spaces in the network of veins, which at once form their support and their sources of sap supply from below. These openings are called stomata, from stoma (Greek) a mouth; and are mostly found on the undersurfaces, though their presence is largely determined by the position the leaves assume, vertical leaves having them in fairly equal numbers on both sides. Their minuteness may be judged by the fact that in some plants a square inch may contain between thirty thousand and forty thousand. They vary in shape from oval to round, or even quadrangular, according to the species, and are distinguished by having a tiny wall of cells around them, usually two,of a curved sausage shape, joined at their tips. These openings communicate directly with the cells below the outer skin of the leaves, and one of their offices is to form an outlet for evaporation of water, one object of which is to keep down the temperature in hot weather. A far more important one, however, is that of stimulating the current of sap from the root system upwards, which obviously could not continue were no outlet provided, since the cells, to a very large extent, concentrate the materials supplied by the root system, and conveyed by the sap, in solution, into more or less solid substances, and, hence, have constantly to get rid of the surplus remaining. The intimate correlation which exists between warmth and rapidity of growth is in all probability largely due to this evaporative process, since the growing cells, which, by absorbing carbonic acid gas from the atmosphere, a vital operation which is also effected through the stomata, and combining its contained carbon with the inorganic salts collected by the roots, and conveyed by the sap, provide all the materials of the plant, are naturally stimulated to more rapid absorption of fresh material through their walls, the greater the draught upon them by evaporation at high temperatures. How great this draught is is easily seen by noting how soon the leaves of a severed branch wilt and wither on a warm day.



MR. H. J. ELWES, F.R.S., V.M.H.,
A great Horticulturist, Scientist, and Traveller.

Communication being cut off from below, the warm, dry air sucks the water in the cells away through the stomata we treat of, and the cells rapidly become flaccid as a consequence, and even their framework, the comparatively woody veins, loses its rigidity, and flags in sympathy. When, therefore, in this connection we consider the countless myriads of stomata or perspiration pores which must exist on a huge tree in full foliage, and that every one of these is constantly occupied in pouring forth its minute portion of invisible steam, it seems incredible that a sufficient supply can be obtained by the roots in soil which may be but slightly moist, or that it can be conveyed, as it is conveyed, with sufficient rapidity through that thin ring of living cells which lies beneath the bark of the trunk and its internal core of old wood. If we study the root system we find, naturally, no stomata since we find no leaves, but we find an infinite multitude of tiny absorptive growing points, whose province it is to collect the water required by the cellular system above ground. That under normal conditions of rainfall and sunshine they are competent for the task is clear enough, or the foliage would wilt at once in proportion to the deficit; but none the less is the tree we have taken as an example a living wonder on a bright, hot day, when, nevertheless, it manages to hold its own, and spread its vast expanse of leafage abroad in all its freshness and vigour of growth. There is, however, a wonderful provision in this connection; the stomata, as we have said, are bounded by curved marginal cells, and these cells are so constituted that under dry conditions they contract, and so reduce, or even close entirely, the opening between them, thus acting as check valves. In the process of plant evolution the number of stomata has become varied according to the conditions, dry or humid, of the environment of the species concerned, so that in succulent plants, such as are peculiar to very dry conditions, they are comparatively rare or imperfectly developed.

Mr. H. J. Elwes, F.R.S., V.M.H., is well known in the world of science, and is a prominent figure in horticultural circles. He is owner of Colesborne Park, near Cheltenham, Gloucestershire, where he grows a large collection of the finer and rarer plants, and where he has raised many fine new nerines and other plants. As an arboriculturist Mr. Elwes is particularly famous, and the new work he has published, in conjunction with Dr. Henry, on trees, is a fine example of the excellence of his work. Quite magnificent is his monograph of the genus Lilium, a folio work with splendid coloured plates. Mr. Elwes' contributions to scientific literature have been many, and spread over many years, and comprise treatises on zoological botanical, entomological, and horticultural subjects, delivered before the learned societies. Mr. Elwes is a great traveller, an enthusiastic butterfly collector, and a famous big game hunter. He has travelled in Turkey and Asia Minor, and has visited Tibet, been to India four times, Mexico three times, Russia and Siberia three times, and South America several times; he represented Great Britain at the Botanical Congresses at St. Petersburg and Amsterdam, and was scientific member of the embassy to Tibet in 1886. He has been president of the Entomological Society of London, and a vice-president of the Royal Horticultural Society. Mr. Elwes is a gentleman of strong opinions, and he has the courage of his convictions, as witness his strong opposition to the R.H.S. garden scheme, and his promise of £1,000 towards the R.H.S. hall scheme; his views on the British timber question; and his annual protest against the niggardly policy adopted by the Royal Horticultural Society in connection with the Lindley Library.

The Daylight Saving Bill. It is interesting to find the widest possible difference of opinion with reference to the advantages of this Bill among fruit growers and market gardeners. At a recent meeting of the National Fruit Growers' Association it was opined that not a single fruit grower or agriculturist would be found in its favour, and yet, about the same time, a meeting was being held in Guernsey to consider the matter, and a resolution was passed in favour of the Bill, and a committee was appointed to bring the matter before the Legislative Assembly. The opinion at Guernsey, judged from this meeting, was that the adoption of the Daylight Saving Bill would add hundreds of pounds to the receipts of the growers, by enabling them to ship their produce to England one hour earlier each day during the season from April to September. In Kent the opinion of fruit growers is very much divided upon the question, as evidenced by the diversity of opinion expressed at a recent meeting.

The "Compleat Angler." The most important book in a recent sale of old and rare books, in London, was a perfect specimen of Izaak Walton's "Compleat Angler," of 1653, in original calf. Commencing at £100, the bidding rose to £1,085, at which figure it was purchased by Mr. Bernard Quaritch. Two years ago a fine copy realised £1,290, and a month ago 3,900 dollars was paid, in New York, for an example that was catalogued a few years since by a London firm at £375.

The Berberis Dell at Kew. Kew, in general, is so flat that such diversities of level as it possesses (and they are all of artificial origin) acquire a peculiar value in the landscape. Next to the Lake and the Rhododendron Dell, the most important excavation in the gardens is the Berberis Dell. Originally it was a pit from which gravel was taken to cover the paths. The idea of developing it into a garden for shrubs was entertained as early as 1869. The depression was considerably enlarged during the next five or six years, and by 1876 it had been brought to its present conformation, and planted with trees and shrubs belonging to the early Natural Orders. The species of berberis being the most numerous, it came to be called, perhaps unofficially, the "Berberis Dell." It is one of the most picturesque spots in Kew, the apparent depth of the hollow being increased by its proximity to the mound on whose summit the flagstaff stands—once the site of the Temple of Victory. A new entrance to the Dell has, says the "Kew Bulletin," recently been made from the Kew Road side. The path that runs parallel with the wall is now a very popular walk, but access from it to the Dell was previously rather restricted. The new entrance gives an extended view right through the valley in a north westerly direction to the Pagoda Vista and beyond.

British Botany at South Kensington.—The rearrangement of the botanical gallery of the Natural History Museum at South Kensington has been completed by Dr. Rendle. The great plant groups of flowering plants, ferns, mosses, seaweeds, and fungi are illustrated by specimens, models, and pictures. The display of British flowering plants, ferns, and mosses, in frames, is excellent, and renders reference quite easy. The illustrations of British plants, by Miss E. N. Gwatkin, are available for consultation, and afford a ready means, together with the models and specimens, of identifying native plants. The new arrangement will appeal to the amateur botanist, to the collector of British plants, and to lovers of our native flora, more than to the botanical expert, and it should serve greatly to popularise and broaden the interest in the plants and flowers of the country-side.

New Gardeners' Society at Twickenham. — Although Twickenham possesses a horticultural society, certain energetic spirits have deemed it desirable to start a Gardeners' Mutual Improvement Society in the pretty Thames-side town. There was an enthusiastic inaugural meeting, under the presidency of Mr. James Bigwood, M.A., and Mr. W. H. Page, of Tangley Nurseries, Hampton, decorated the meeting room at the Town Hall with arums, carnations, and daffodils. Mr. Bigwood was elected president, and Mr. Alfred Watkins, the wholesale seedsman, of Tavistock Street, Covent Garden, was elected vice-president. Mr. Wheeler, who has had experience of gardening societies at Egham, was elected hon. secretary.

Trees and Town Gardening.—Mr. Andrew Kingsmill, of Harrow Weald, writes: On p. 209 of the GARDENERS' MAGAZINE (March 13), Mr. Walter H. Aggett states: "Mr. Hayward truly remarks that the town gardener is placed at a very great disadvantage in every way, not the least being his inability to cultivate successfully more than a very limited number of trees and shrubs, or flowering plants." It is not for me to question the statement as to inability, but I strongly protest against the perpetuation of the error that the number that "can" be successfully cultivated is limited. Of trees alone, there are in good condition in the London parks to-day over one hundred distinct species!

National Dahlia Society.—The schedule of the two exhibitions that will be held by the National Dahlia Society in September next has been issued. We are pleased to see that at both exhibitions classes are provided for cactus dahlias specially adapted for the decoration of the garden and home. Classes are also provided for paeony-flowered dahlias, which hitherto have not obtained full recognition from the society. This expansion in the policy of the National Dahlia Society, with a view to bringing into greater prominence these varieties of special value for beautifying the garden and the supply of blooms for indoor decoration, should quicken an interest in the work of the society, and materially help in the augmentation of the list of members. With the schedule is issued a supplement for the current year to the society's official catalogue, which contains selections of varieties belonging to the several classes, and should prove of much value to cultivators generally.

Appointment of Inspector of Surrey School Gardens.—Mr. A. E. Burgess, for several years lecturer on gardening to the Hertfordshire County Council, has been appointed Inspector of School Gardens under the Surrey Education Committee. The post became vacant by the resignation of Mr. John Wright, V.M.H., who felt himself unable to undertake the heavy duties. During the past three years Mr. Horace J. Wright has carried out the work on behalf of his father, and before advertising the appointment the Education Committee offered him the permanent inspectorship, but his other engagements prevented him from giving his whole time to Surrey.

Rare British Butterflies. On Tuesday the collection of British butterflies formed by the late Mr. J. Pardoe was sold by Mr. J. C. Stevens. Many rare species were included, and no fewer than twenty-one examples of the extinct Large Copper (Polyommatus dispar) were disposed of: the best price made was £5 [illegible] a fine large male, while another specimen nearly equal was sold for £3 15s.

Presentations at Battersea.—On the occasion of the annual dinner of the Battersea and Wandsworth Chrysanthemum Society, Mr. W. J. Stringer, who has for many years been chairman, was, on his retirement, presented with a [illegible] life-size, framed portrait of himself, and Mr. W. J. Lavender, the retiring secretary, was presented with a pair of bronze Marley horses, suitably inscribed on the marble base, in silver. Both these gentlemen have served the society faithfully for many years, and, though retiring from office, they will continue to give the society the benefit of their experience.

The Wolverhampton Floral Fete, the dates of which have been fixed for July 13, 14, and 15, will be of special interest from the fact that it will be the twenty-first of the great flower shows that have been held within the borough. To mark the coming of age of these important gatherings, the committee have materially increased the prizes in the leading classes, and offer a silver vase of the value of £[illegible] (or £50 in cash) for the most meritorious and effective display in the show, which may be selected by the judges from either the competitive or trade exhibits. The more important open classes for plants include a display of plants in or out of bloom and cut flowers in which the prizes aggregate £100, and group of ornamental foliage with prizes amounting to £57 10s. Roses have had liberal provisions made for them, and in the great class for 72 distinct varieties the prizes range from £20 [illegible]. Prizes of the value of £30 are offered for an arrangement of hardy flowers, and of the value of £10 10s. for a collection of delphiniums. In the section for fruit a class is provided for a display of fruit trees in pots, with a first prize of £20

A Large Arum Spathe. [illegible] Savile Reid, in drawing attention to the great variation in size among the spathes of arum lilies, states that he measured the longest examples in his garden at [illegible] Elms, Yalding, and found one 7[illegible] wide, and 8¾ inches long from base to tip, with an inch of "tail" projecting beyond. This, he remarks, seems unusually large, and he would like to know what are the usual dimensions of a big arum spathe.

LATE CROPS OF FORCED STRAWBERRIES.

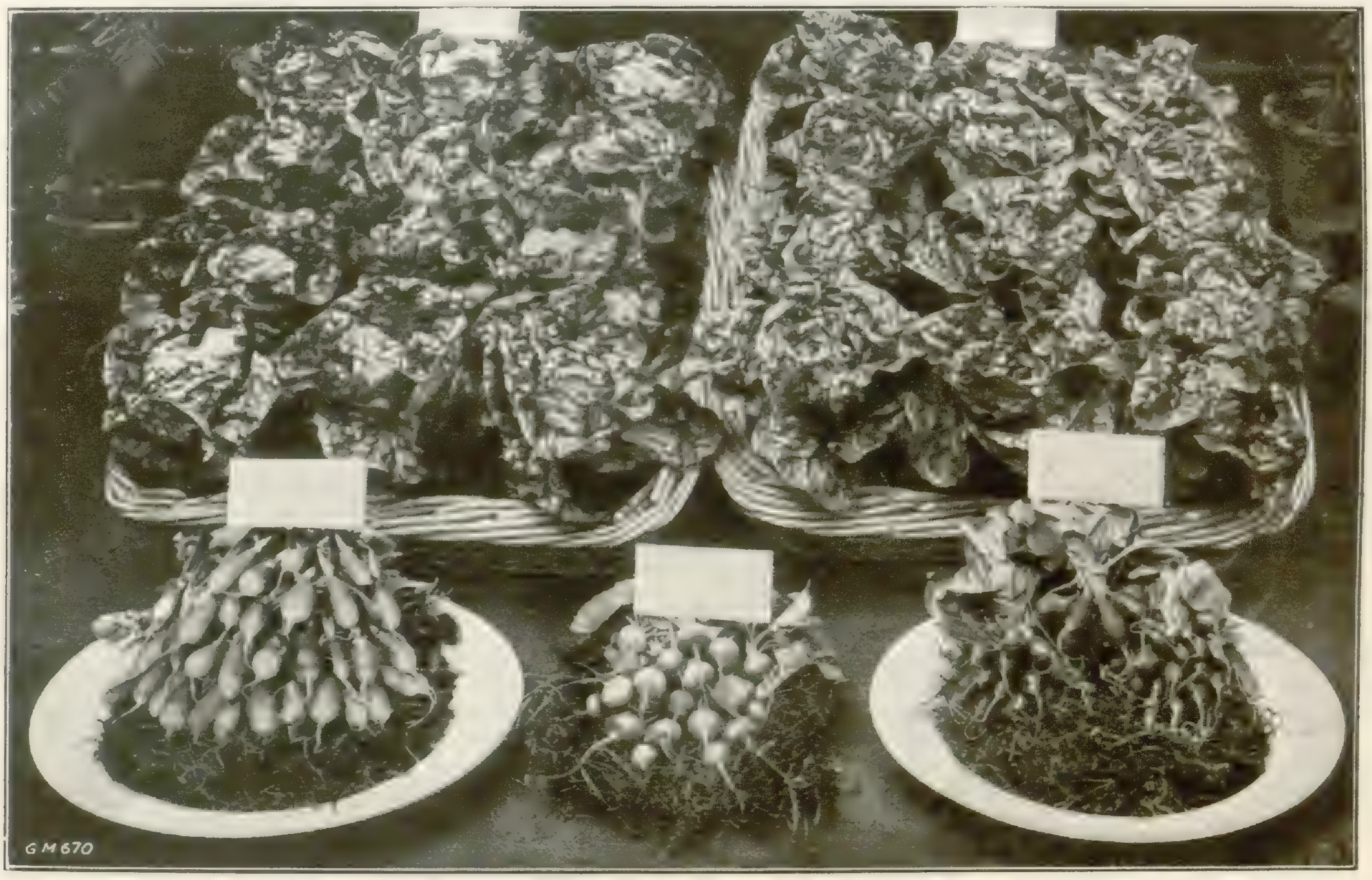
The term "forced" has been used in the heading of these notes, though it may be found not wholly applicable. Great pains are taken in many gardens to secure crops of ripe strawberries as early in the year as possible, but these exceptionally early crops are not gained without special means, and, in some instances it is feared, a considerable sacrifice of plants. Even when obtained the fruit is not of high quality, and really not worth the trouble and expense incurred in producing it. In cases therefore where an insufficient number of plants are grown to keep up a supply of fruit from the earliest date it can be secured to the time fruit can be gathered in the open, it is unwise to force very early, and thus make sacrifices of both quantity and quality, when much better results, both as regards the weight of crop and the flavour of the fruits, can be comparatively easily secured, by starting the plants into growth at later dates.

When preparing plants for the later crops similar cultural details must be followed as are necessary for early forced plants, but the cultural details for the fruiting season may with considerable advantage differ in some respects. The best early forcing varieties, such as Royal Sovereign, Vicomtesse Héricart de Thury, and La Grosse Sucree, answer also very well for late crops; in fact, though we keep up (from pots) a supply of ripe fruit throughout the forcing season, and until after we gather outdoors, we grow but one variety—Royal Sovereign, for the purpose, except that we sometimes test a new variety. By-the-bye, we are trying Reward this year. There are nevertheless several strawberries that succeed admirably for mid-season and late crops that do not respond to early forcing.

As the days have lengthened, and the sun become powerful by the time late crops are swelling and ripening their fruit, it is not advisable, as in the case of early crops, to afford the plants the most sunny positions, for if subjected to these conditions, even when under very careful management, it is difficult to avoid attacks of red spider, and the evil effects from drought, and should these perplexities be overcome the fruit is seldom, especially in bright seasons, of such good quality as when it is not so much exposed to the full force of the sun. For this reason houses, or pits, having a south aspect cannot be recommended for these late crops, span-roofed ones running from north to south, or lean-to ones facing east being more suitable. In these the plants and their fruits escape the effects of too much exposure to the sun, and under proper treatment the crop swells, colours, and ripens perfectly, and, moreover, attains a high degree of flavour. We make use of a large hip-roofed house with an eastern aspect for late crops, but had we no other convenience for this purpose than a house facing south, we should shade with thin tiffany through the hottest part of bright days. I have seen excellent late crops grown in cool pits, both with plants in pots and planted out in beds.

There are points attending the culture of late forced strawberries that may be easily overlooked, and among these may be mentioned the necessity, owing to growth having advanced before they are placed under glass, of timely attention to top-dressing and watering while the plants are still in the open, and also to protecting the blossom buds from frost. It is particularly important in low situations that the latter precaution is taken in the case of plants in open quarters, otherwise, when the blossoms expand their centres are likely to be found blackened, and the prospect of a good crop is gone. T. Coomber.

The Hendre Gardens.



MESSRS. SUTTON AND SONS' EXHIBIT AT R.H.S. MEETING, ON MARCH 9, OF EARLY LETTUCES AND RADISHES GROWN UNDER THE "FRENCH" SYSTEM.

EARLY LETTUCES AND RADISHES.

As "French" gardening is being so much talked about and written about, the exhibit of early lettuces and radishes made by Messrs. Sutton and Sons, Reading, at the meeting of the Royal Horticultural Society on Tuesday, March 9, was of special interest. It served to show that it is by no means an absolute necessity to sow the varieties grown by the Parisian maraichiers, as has been so frequently asserted. The Messrs. Sutton adopted the French method of frames and hotbeds, and made up the beds in December last, sowing them with carrots and radishes, and planting lettuce in them, from sowings made under cloches in October. During one cold spell 27 degrees of frost was registered. The radishes used were Earliest of All, Forcing Carmine, Paris White-tipped, and Sutton's Forcing French Breakfast, and these were excellent produce. The varieties of cabbage lettuce grown were Commodore Nutt, Improved Tom Thumb, Golden Frame, and Early Paris, and the varieties of Cos lettuce were Nonsuch and Little Gem. The cabbage lettuces were beautiful examples, of good size, very green, fresh, and tempting, and they proved once more that in private gardens there is no real difficulty to be overcome in providing early salads where they are in demand. We were informed that the varieties named were in advance of the French varieties said to be essential, though all were grown under the same conditions.

Currants and Gooseberries.—Cuttings which were put in during the past season should, as soon as the soil is in a fit condition, be well firmed in their positions by treading; these are very apt to become loosened by frosts, and will not emit roots unless the heel of the cutting is in close contact with the soil.—G. Woodgate.

BEAUTIFYING BANKS.

Banks are generally an advantage in a garden, but they can only be said to really improve it when they are well and suitably planted according to their size and situation. They act as screens from roadways or house windows, shut off ugly views, and also as shelters from cold winds or hot sunshine, for the ground on either side of them is bound to be either warmer or cooler. This means that where there are numerous banks the facilities for growing delicate and shade-requiring plants are greatly increased. Perhaps, however, the greatest merit of banks is their creation of "views beyond," and their relief to a flat level of garden.

Faulty bank planting is too commonly seen. Ordinary shrubs and perennials are exposed to extraordinary influences, mostly chills upon summits, and so struggle to keep alive, and are weakly in foliage and blossom, a disgrace to the pleasure grounds; yet there are sufficient robust subjects that would have thriven luxuriantly in their stead.

For giant banks shutting off north winds from the garden beyond there can scarcely be a better covering than one made up of Berberis aquifolium, gorse, and hypericums, both shrubby and herbaceous. For a bank in a rough spot, say of the wild garden, or one dividing a side lawn from a field, varieties of rubus, the hardy fruiting brambles, look well, especially if interspersed with hartstongue and other robust ferns.

Seaside banks were once considered difficult to cover satisfactorily, but experience has proved that there are native and other shrubs and plants in plenty that will succeed to perfection. The feathery tamarisk never looks so well as when accompanied by eryngiums and echinops, with some bracken fern, gorse, and heather. Other subjects for coastside banks are aucubas, kept rather dwarf, Berberis aquifolium, Berberis Darwini, Berberis stenophylla, which blooms from spring until winter; the prickly Berberis virescens, box, in the ordinary type of Buxus sempervirens; Cistus ladaniferus, on sunny south slopes; Escallonia macrantha, in the same positions; euonymuses, Hippophæ rhamnoides, which is the sea buckthorn, a tall-growing, yellow-flowered and berried shrub; Spiræa japonica, Veronica Traversi, laurustinus, and American currants.

An original looking shrub for an inland garden bank is Stephanandra Tanakæ; this grows in a spreading fashion, and is valued for the peculiar bronze, copper, rose, and red shades that its giant leaves take on in the autumn, though the foliage, when green, is sufficiently attractive to warrant its being far more planted. Another pretty shrub of horizontal growth is Viburnum plicatum Mariesi, the cream florescence of which is remarkably effective; Hedera helix conglomerata will cover soil under tree and shrub branches with masses of waved, darkest green leaves, so proves serviceable where little else will thrive. There should be no ground left unclothed upon a bank, in order that the appearance may be one of great luxuriance; the winter aconite, periwinkles, Tussilago fragrans, Stachys lanata, Santolina chamæcyparissus, the lavender cotton, and London pride will be found exceedingly useful for shaded carpets.

The southern bankside in a fairly sheltered garden in which gales do not create much havoc, offers the gardener a splendid opportunity. A rare effect can be easily achieved by planting Pyrus japonica in its three shades of scarlet, white, and pink, and training the branches all over the slope, using stout double wooden pegs to hold them down. Another plan is to give up the bank to hardy azaleas and Daphne mezereum, alternated with clumps of either outdoor chrysanthemums or Michaelmas daisies. Another scheme, suitable for a western bankside, consists of pink and white spiræas, herbaceous and shrubby, alternated with groups of briar roses.

Of course, Wichuraiana roses offer a fair covering, indeed, the varieties now being so numerous and of such varied tints it is an improvement to plant here and there among them single bushes, or groups, of the little white Scotch rose, which has so hardy and compact an appearance. In addition to planting banksides with shrubs and perennials, bulbous plants should be plentifully cultivated, since they give colour and fragrance at an early season, and do no harm to their neighbours. Banks of chrysanthemums would be highly meritorious but for the fact that they are not attractive until August, but if sufficient narcissi, Darwin and cottage tulips, Spanish irises, and montbretias are set among them this reproach is not of serious importance.

Low foliage and floral coverings have an uncommon look; these are made by massing dwarf plants in groups, especially those which, like pinks, have a double attractiveness; evergreen perennials should be largely represented, for the winter show made by sedums, saxifrages, vincas, thymes, iberises, arabises, aubrietias, cerastiums, stachys, heucheras, and pinks is of incalculable value. Pansy and viola clothed banks are pleasing, especially near the windows of a house; potentillas and the wild strawberry are admirable associates, while the natural beauties of woodland scenes may be imitated by a judicious mingling of turf with primroses, violets, hairbells, brambles, honeysuckles, anemones, bluebells, and foxgloves.

M. H.

GLOBE ARTICHOKE.

The globe artichoke differs considerably from the Jerusalem artichoke, as the edible portion is produced at the apex of the shoots, which attain a height of five or six feet if they are cultivated on suitable ground. A deep, moist, rich soil is necessary for the production of large, fleshy heads. The soil which is intended for forming a plantation of this delicious vegetable should be deeply trenched, working in a liberal supply of farmyard manure as the work proceeds.

The quickest way to form a plantation is to put out strong suckers in April, keeping them well supplied with water whenever they appear at all dry. And when they are beginning to show their "heads" liquid manure should be given them frequently, which will greatly assist them in producing their crop.

Some growers prefer to raise plants from seeds, and when this method is adopted March is the best time for making the sowing of seed. The distance that is most suitable to ensure strong plants is about four feet each way. When the crop is over the stems may be cut down, and before hard frosts occur the crowns should be protected with long litter and ashes. When the severe frosts are over the litter can be removed and the suckers thinned out, leaving about three of the strongest on the old plants. Then add a liberal dressing of manure, and fork it in, taking care not to injure the roots of the plants when doing the work.

It is always as well to have some young suckers growing into eight-inch pots, and kept in cold frames ready for replacing any that die off.

T. W. Birkinshaw.
Hatley Park Gardens.

DECORATIVE DAHLIAS.

Some very fine additions have been made in recent years to the dahlias suitable for garden display, and a number of the French varieties are of extraordinary dimensions, and have gorgeous colouring. As garden plants, and to produce a fine effect, they stand unrivalled, and I would strongly advise that they be employed as background plants in the borders, etc.

Souvenir de Gustave Douzon is as large as a breakfast plate, and the flowers are a brilliant red colour. It attains to a height of seven feet, and the plants are invariably smothered with flowers until stricken by frost. Further, it forms a splendid tuber, so that a fine stock can be worked up from a couple or three plants the following season. A giant form, but white, and a fitting companion to the foregoing, is Madame Helen Charvel. Extremely beautiful also is Jeanne Charmet, with white-ground flowers shaded with lilac and yellow. Madame A. Lumiere is pure white tipped with reddish violet and a most attractive variety, while the older Grand Duc Alexis is both bold and distinct, with its rolled petals, usually of spotless purity, though now and again a light shading of lilac appears upon some of the flowers, which enhances their beauty.

The pæony-flowered dahlias are also characterised by immense proportions, and have been well represented in the public parks during the last two seasons. They produce a fine effect when massed, and in spite of powerful rivals will, I think, find a place in most gardens. The most strikingly effective are Garibaldi, intense crimson with very prominent golden-yellow anthers; Gloire de Baarn, a splendid shade of lilac; Duc Henri, scarlet-crimson, and very fine; Dr. K. W. van Gorkum, white and lilac; Reine Emma, lilac and yellow; Germania, a fine shade of crimson; and Baron de Grancy, pure white. The price of many was rather prohibitive last season, but now they have become distributed they will be available at a cheaper rate.

Writing of dahlias reminds me that earwigs can be kept at bay by damping the plants overhead late in the evening, and where these nocturnal pests are very troublesome this should be carried out in conjunction with trapping. As far as my experience goes earwigs devour young plants and growths ravenously, but trouble the plants very little when they reach the mature stage. To trap them wholesale rolled brown paper or sacking should be fixed to stakes a couple of feet high, and I would advise that this trapping be carried out a week or two before plants known to be liable to attack are placed in their permanent quarters.

Walter A. Aggett.

Swift Moth Caterpillars on Pæonies.—Specimens of pæonies, of which a large number had been badly attacked by a caterpillar, were sent to the Board of Agriculture from Surbiton. The pest was identified as the Swift Moth caterpillar (Hepialus), and no fewer than [illegible] caterpillars were found in the material sent for examination. These caterpillars are very voracious, and attack the roots and underground stems of both cultivated plants and weeds. On a small scale they could be combated by the injection of bisulphide of carbon, but on large areas [illegible] should be prong-hoed into the soil, and they may be combated by similar methods to those applicable in the case of [illegible] caterpillars.

EARLY DAFFODILS.

Very few indeed will be the daffodils that "take the winds of March with beauty" this year, owing to the extreme lateness of the season; but, fortunately, we may gently hasten daffodils in our greenhouses and frames, and not seriously impair the vigour of the plants thereby, provided they are not forgotten when they have finished flowering. Forcing, as generally understood, is quite another subject. We now refer to the increasing popularity of daffodils in pots for home and conservatory decoration in March, and very little heat is necessary to produce flowers during that month. The essentials are early potting, a sojourn out of doors under ashes until an abundance of roots have formed and leaf growth commences, and then a place in a light frame, from whence batches may be transferred to a warm greenhouse. Under these conditions the flowers come fine and clean, and they last a very long time, as compared with flowers that have travelled hundreds of miles before they reach us.

Many of the newer and finer daffodils should be grown in this way, as their exquisite beauty can then be enjoyed by those members of the household who may not care to risk the treacherous spring weather out of doors, and also by those who, having paid a fair price for the bulbs, do not care to consign them to mother earth and run all the risks of climate and enemies. As already pointed out, if the plants are gradually hardened off when the flowers are over, and watered as necessary, the bulbs may be saved for forming little colonies of select varieties out of doors another season.

At the recent show of spring flowers held at the Royal Horticultural Hall, Westminster, Messrs. Cartwright and Goodwin, of Blakebrook, Kidderminster, exhibited one of the best grown collections of early daffodils we have seen. Both flowers and foliage were finely developed, and the varieties were especially good ones. These included the perfectly formed Victoria, and such gems as Circlet, Waterwitch, Blackwell, Lucifer, Beauty, Fairy Queen, Chaucer, Scarlet Eye, Sunset, Aspasia, Felicity, Grandee, Emperor, Empress, Autocrat, and Firebrand. We may add that these flowers were admirably staged in a setting of Isolepis gracilis.

MESSRS. CARTWRIGHT AND GOODWIN'S EXHIBIT OF EARLY DAFFODILS AT WESTMINSTER ON MARCH 9.

ANNUAL CHRYSANTHEMUMS.

What may be termed the Star group of annual chrysanthemums are such great improvements upon the ordinary carinatum and segetum kinds that they should be included in all gardens where useful and showy plants are required. Although supposed to be hardy, very few survive severe winters, their growth is too soft and their stems too hollow to withstand much freezing and thawing, consequently they collapse, and better results are to be had by raising those for the earliest flowering in a little warmth, transferring them to the borders during May. For later use thin sowing where it is intended the plants should bloom is the best course to follow, and it is because they are too thickly sown that such unsatisfactory results are often seen in flower borders. Given plenty of space, each plant will form a compact bush with many lateral growths each crowned with good flowers; but grow them thickly like larch in a plantation, then each individual will be crowned by one flower, and the side issues will be too weak to produce any, while the whole thing quickly collapses, and is often condemned as an unsatisfactory plant when cultural defects are the cause of trouble.

The latest novelty to this section is Northern Star. Mr. Watkins kindly sent me seed of this to test last summer, and it deserves attention from all who are looking for an annual that keeps fresh in appearance and blooms continuously the whole summer through, providing, of course, that it is not allowed to seed. It is also a very fine plant for greenhouse decoration in pots, and for that purpose it should be raised in October and be kept growing slowly all through the winter months, potting it again in the early days of February; indeed, several of the varieties are extremely useful as pot plants and give very little trouble.

I have found for general effect that seed sown during early March in a pan or pot in a warm house and the seedlings pricked off into 3½in. pots separately, when large enough, will, when properly hardened and planted in the borders during May, give the most satisfactory returns, and, as each plant may be given a definite space, there is no overcrowding. Of course, the growth made follows the condition of the border to some extent; if rich and moist, each plant will spread at least two feet across, but less if the soil is poor and dry.

Following Northern Star is Eastern Star, and this is a soft yellow variety with a very distinctive dark eye; it is a very telling plant growing and also valuable for the production of cut flowers; in fact, all of these single forms are in great demand for cut purposes because they are so lasting when placed in water. Morning Star is of a pleasing yellow colour, and the flowers are of good form, produced on good long stems. Although the first improvement of this type, it is not the least desirable, and if limited to two of the varieties, this and Northern Star would doubtless be my choice. Evening Star, a more decided colour than any of the others named, is golden yellow; it is as free-blooming as the others named, and if carefully placed near some purplish colouring, it will add to the general effect of any flower border.

Charles Foster.

Reading.

CHRYSANTHEMUMS.—For full instructions on the Culture of Early-flowering Chrysanthemums in beds or borders for garden or greenhouse decoration, read Chrysanthemums for Garden and Greenhouse, by D. B. Crane, price 2s. 6d. net; or by post, 2s. 10d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

FAVOURITE VARIETIES OF TOMATOES.

There is a wide difference between tomato culture of the present day and twenty years ago. The fashion has changed from mere individual size to that of more economic and less vulgar proportions. It comes well within the memory that a score or more of years ago there was a craze for the largest possible size, apart altogether from culinary or dessert use. Fruits of 2lb. and over were the ambition of the enthusiast, and well can I remember the pride that followed their production. This has now changed to an every-day demand for medium-sized tomatoes, though even now, it is observed that judges sometimes favour large samples at the vegetable shows. Of course appearance rather than utility are ruling points in such cases, and such decisions do not govern the every-day purposes of tomatoes. For culinary purposes high quality, combined with moderate size, is the chief essential, and properly so.

PERPETUAL CARNATION MELODY.
Flowers sort rose-pink.

Though it would seem that the climax had been reached as regards stocks and names, long since, yet it is found that new ones, even if not quite so numerous as a few years since, come now from various sources in goodly numbers. It is wonderful what a clamour there is even at the present time for a variety whose character has been praised by reputable growers. There is no doubt but that deterioration takes place when stocks are kept too exclusively select, and when this happens there is less satisfaction and profit in the results. There is not quite the same troubled experience as regards disease as was common to everyone a few years since. Science has helped us, and it is fortunate that this is so, for the tomato-growing industry has assumed such magnitude that the disease fiend in its several forms seriously threatened the tomato trade.

What a change has come over the choice of varieties since the days of the Old Red, Orangefield, Hepper's Goliath, and other kindred strains of corrugated fruits. Such sorts, in the present day, would have no chance, and yet twenty years ago the Old Red was a favourite with many. Conference, Frogmore Prolific, Ham Green Favourite, Holmes' Supreme, Hathaway's Excelsior, Lister's Prolific, Comet, Up-to-Date, Sutton's Perfection, and Winter Beauty, have each claimed in their day honourable positions in the estimation of large and small growers alike. There are, of course, a multitude of others that have had their merits extolled and their praises sung, but as time advances these have dropped out in the race for supremacy, and their names become memories only. Two of the most popular of to-day's tomatoes are Carter's Sunrise and Moneymaker. These have acquired fame because of their heavy crops of useful sized fruits, and, moreover, they have good constitutions which evade disease attacks. Quality, shape, and colour are points that tell in the race for priority, and these several merits are embodied in these varieties to a degree of perfection that places them beyond criticism. The ideal would seem to have been reached in these, but who can say how long they will maintain their unchallenged position, or what fertile mind is engaged on evolving something better?

Not many tomatoes are honoured with the R.H.S. certificate; perhaps one of the oldest among the foregoing names is Ham Green, a famous variety in its day. Sunrise, Winter Beauty, and Frogmore Selected are a small group of favourite sorts. Veitch's Dwarf Red stands out prominently as a certificated variety, and reports from growers justify the favour it has obtained.

Yellow-fruited tomatoes seem slow in gaining commercial status; the public has been so educated up to the uniform red fruits that they look askance on the golden ally. Connoiseurs, however, proclaim them as superior in a dessert sense to the red-skinned fruit, and we have many instances where this opinion has been supported when prejudice has been overcome and a trial permitted. But without this directly forced persuasion they seem to be passed over as ornamental only, and not intended for edible purposes. At least two of the golden-skinned strains have been awarded the coveted F.C.C., i.e., Sutton's Golden Nugget and Veitch's Golden Jubilee. Sunbeam I have proved to be high class in every particular. These do not crop quite so heavily as the better stocks of red fruits, hence would not pay the market grower.

W. Strugnell.

Rood Ashton Gardens.

PERPETUAL CARNATION MELODY.

Notwithstanding the many fine new perpetual-flowering carnations that have been introduced recently, there are many growers for market who still regard the famous Mrs. T. W. Lawson as one of the most profitable. In private gardens also, while new varieties are grown, and some retained, it is the usual custom now to grow good batches of Mrs. T. W. Lawson and Enchantress. There have been numerous sports from Mrs. T. W. Lawson, and these are all meritorious. One of the prettiest of these is Melody, a new variety of 1907; it has rosy-pink flowers of a rather deeper shade than Enchantress, and it carries these on stiff stems of good length. The growth is compact, erect, and stout, and does not fall about or need so much support as is the case with some other varieties, and a further advantage is that the colour does not fade out quickly in sunshine, as unfortunately it so often does in the case of rosy and blush shades. Melody is a variety that appeals to many growers, especially in private establishments; it received a First Class Certificate from the Royal Botanic Society. Mr. H. Burnett, of Guernsey, has shown this variety particularly well, but other growers have included it in their exhibits recently.

A FEW GOOD ALPINE SPRING FLOWERS.

The spring flowers which I enumerate here are not novelties, neither are they rarities in the strictest sense, but, unfortunately, they are not so frequently seen in gardens in spring, as are bedding pelargoniums and calceolarias met with in summer. It appears that many amateurs have not yet realised the wealth existing among rock and alpine plants, and as even the best classes of alpines are comparatively inexpensive at present, it seems reasonable to insist upon their extended culture. In many gardens hybrid aquilegias are successfully grown, but species like A. alpina and A. glandulosa are frequently ignored. The first is easy to grow in any soil, but A. glandulosa prefers a light moist soil, free from lime, and it generally succeeds best in a position lightly shaded; in winter the crowns must be safeguarded from the ravages of slugs, and then in spring the pretty pale blue and white flowers are unfolded, fine in form, and rich in colour.

Anemones scarcely contain anything finer than the deciduous species, A. alpina and A. sulphurea; the latter has soft yellow flowers on 18in. stems, carried well above the fern-like foliage: it is generally regarded as the granitic form of A. alpina, at any rate it fails on our chalk soil, only succeeding in that specially prepared with peat and loam. A. alpina produces white cup-shaped flowers, which are pencilled with slate colour on the reverse of the petals: the addition of peat to the soil is beneficial, as it retains moisture during periods of summer drought.

In Hutchinsia alpina we have a common but valuable plant, in that it clothes the soil with rich pale green foliage during winter, and in spring it breaks into a snow-like carpet with its flowers. It has no merit whatever as small plants, but in drifts a yard or two across the green tone is exceedingly restful and refreshing to the eye. It also forms an ideal carpet through which dwarf narcissi, or, in fact, any dwarf bulbs will push, and be protected from soil splashing.

Iberis gibraltarica forms a loose, sprawling shrub when over a year old, but if the stock is kept replenished by seedlings or cuttings, those which have flowered for two years in succession can be discarded with advantage. It forms a most satisfactory rock plant for extra-dry positions in the hottest, sunniest exposure; the flowers are largest upon young plants, and the colour is a rich and pleasing shade of rose-lilac.

Omphalodes verna is a spring treasure, anticipating the forget-me-nots, with its rich blue flowers that also resemble them in form. The leaves are much larger, and of a cordate shape. Along with Tiarella cordifolia it makes an excellent plant to associate with hardy ferns in a slightly shaded spot, and as both root by means of stem-like runners, it is well to grow them under semi-wild conditions.

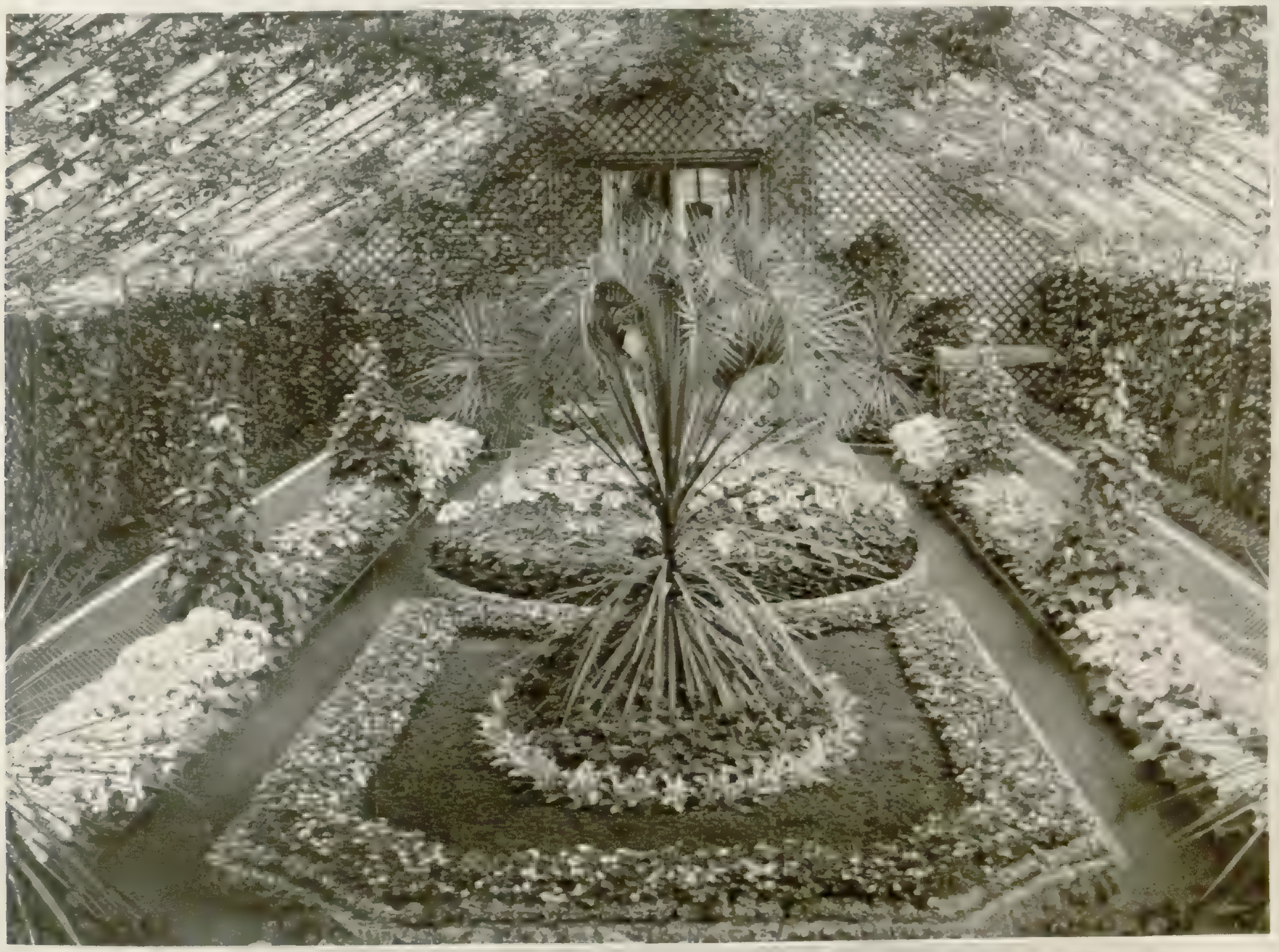
At least two primulas should be included in every spring rock garden, and if planted in a colony the effect will be very fine. Primula rosea is a clear pink-flowered species from the Himalayas, and succeeds to perfection in ground that is always moist. The flowers are produced as early as March on stems varying from 6 to 12 inches in height, and these are always in advance of the leaves. Primula viscosa alba (nivalis of gardens) prefers somewhat drier conditions: the flower heads are like snowballs borne upon short stems that appear as if unable to support the weight of blossom, and for this reason a position above the ground level when planting adds to its effect when in flower.

Saxifraga Burseriana is one of the earliest rock plants to flower, as it is distinctly one of the best; the growth is tufted, each stem being close set with needle-like leaves; the flower stems are scarlet supporting snow-white flowers, which are relatively large for the size of the plants. Major is a stronger and earlier-flowering variety of the type.

Walmsgate Gardens. **Thomas Smith.**

A NOVEL WINTER GARDEN DESIGN.

The interior of a winter garden may be as different from any other as its exterior. The builder has most to do with the design of the building, but the owner and gardener have all to do with the effect produced within. The accompanying illustration shows part of the interior of the winter garden at Baron Rothschild's garden at Vienna, and represents a very distinct and novel method of arranging the plants and flowers. The usual staging is dispensed with, and the general design is that of a flower garden. Some of the plants are planted out, others are plunged to the pot rim, but the effect of flower beds and borders is produced. There are ample paths for promenading, and the "lawns" are of Selaginella denticulata. Chinese primulas, zonal and show pelargoniums, variegated and flowering abutilons, Cineraria maritima, dwarf begonias, ageratums, cordylines, and palms are the subjects chiefly used in that part of the winter garden illustrated. We do not present this illustration for the purpose of urging that the style it indicates should be copied in this country, but rather because of its novelty and suggestiveness.

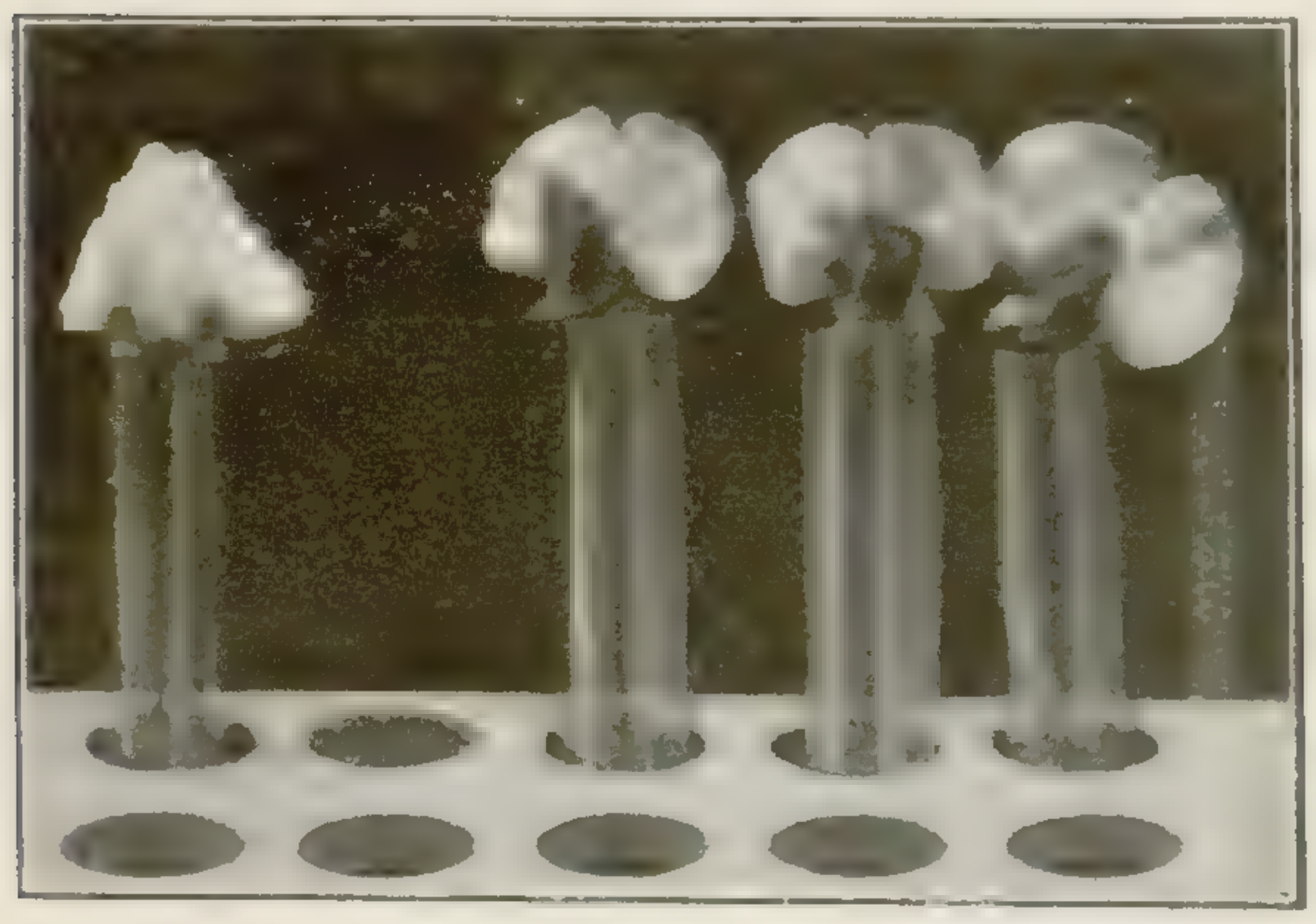


[Photo: International Publication Co.

VIEW IN BARON ROTHSCHILD'S WINTER GARDEN AT VIENNA.

RESULTS IN HYBRIDISATION OF PEAS.

Since the republication of Gregor Mendel's work on hybridisation of peas, in 1900, considerable attention has been given to the subject, and the object of this article is to give a short account of some experiments conducted at the Midland Agricultural and Dairy College. Before doing so, however, it will facilitate matters if the general characters of peas are given. With respect to the colour of the flowers, the cultivated garden varieties as a rule possess white flowers, but some two or three kinds grown in the fields, viz., Maple, Sand Pea, and Grey Jacks, have purple coloured petals.


MENDEL'S RATIO.
*Red flowers, 3 : White flowers, 1.

In respect to the length of haulm, though there is considerable difference in size of plants, it may be said that all varieties are either of tall or short habit. The difference between the two groups is gauged by the length of the internodes of the stem. A tall variety has greater intervals between the axils than a dwarf variety. For example:—

Talls.	Dwarfs.
Quite Content.	Harrison's Glory.
Gradus.	Best of All.
Centenary.	Excelsior.
Maple.	Glory of Devon.
Sand Pea.	Perpetual.

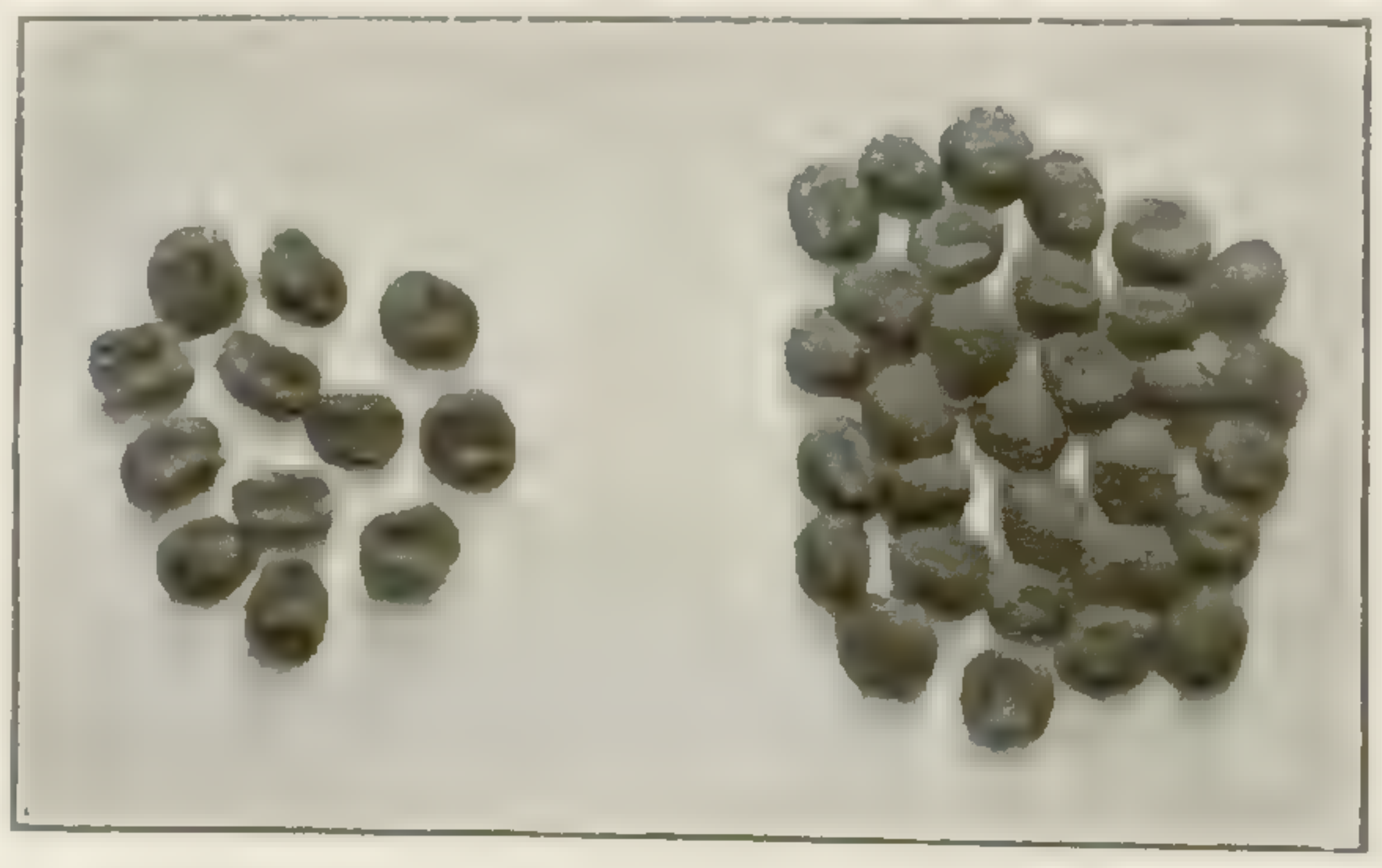
HARRISON'S GLORY × MAPLE CROSS (FOUR TYPES).
F2, short purple, short white, tall white, tall purple.

In regard to the shape of the seed, peas are round smooth seeds, or they are wrinkled. This latter quality pertains on drying, and is especially seen amongst the marrowfat (sweet) varieties, whilst the former shape is more often seen in the so-called field sorts; examples: Round—Harrison's Glory and Sand Pea; wrinkled—Gradus and Gladstone.

Great variety is exhibited in the colour of the seed coat. Green (blue), white, and mottled seem to be the more pronounced, but there are intermediates between the different grades, and the colour to some extent depends upon the colour of the interior of the peas, as examples: Blue—Best of all; mottled—Maple; white—Charlton. Exposure to light tends to bleach away the colour, so that a blue variety of pea may appear almost white.

In addition to the foregoing colours, there is purple spotting of the seed coat, which is confined to purple-flowered kinds. This peculiarity is not constant, and may be absent altogether, whilst in extreme cases the colour may be diffused, causing the seed to appear blood red. Again, on the same plant the spots may be fewer in number on some specimens, or almost invisible. Example: Grey Jacks.

With respect to the cotyledonary colour. On stripping off the testa or seed coat the colour of the interior, or flesh of the seed, is exposed. Yellow and green are the two prevailing colours, and it is interesting to mention that white peas are yellow inside, whereas blue ones are green, as examples: Yellow—Gradus, Maple, Sand Pea; green—Harrison's Glory, Best of All, Centenary. In many of the garden peas now in the trade the seeds are not true in this respect. In bulk they have some with yellow, and others with green cotyledons.


HARRISON'S GLORY × GRADUS.
(Seed from one plant.)
A sporting type from above cross.
Ratio, 31:12.

In the matter of the shape of pods the differential characters are not so clear though it is possible to arrange the pods under two or three groups. Some possess a distinct prolonged- pointed—legume, in others the curvature is more abrupt on the dorsal terminal extremity of the pod. Another class falls quite intermediate between these two shapes, but is readily distinguished, and is constant to the variety producing it. Pointed—Gradus, Centenary, Quite Content; blunt- Excelsior, Maple, Autocrat: intermediate Harrison's Glory.

The colour of the hilum is of interest, for on close inspection of field varieties, particularly those with red flowers, one finds seeds with a black scar or hilum. This property is also common to some sorts of broad beans. The hilum may not be black on all the seeds of any particular variety, but is constant on any plant which exhibits it. The colour appears on the seed ripening, and is probably due to some oxidisable pigment in the corky layer of the scar which occurs at the juncture of the funicle and the seed.

Having set out the chief characters of the different kinds, it is left to consider their behaviour when combination of them is brought about by crossing. According to Mendel, and others, the following list sets forth the dominant and recessive characters:—

Dominant.	Recessive.
(a) Red or purple flowers.	White flowers.
(b) Tall habit.	Dwarf habit.
(c) Round shape.	Wrinkled shape.
(d) Yellow cotyledons.	Green cotyledons.
(e) Mottled seed coat.	Plain seed coat.
(f) White seed.	Green (blue) seed.

These have been verified by experiments as the following crosses will show:—

(a) Purple flowers dominant over white flowers.

Purple Flowers.		White Flowers.
Maple	×	Gradus.
Maple	×	Harrison's Glory.
Maple	×	Autocrat.
Sand Pea	×	Perpetual.

† SAND PEA × PERPETUAL.
Purple Spots.

F1, the crosses produced are purple flowers.
*F2, the next generation sported white flowers in minority.

(b) Tall habit dominant over dwarf habit.

Dwarf Habit.		Tall Habit.
Harrison's Glory	×	Gradus (pollen).
Harrison's Glory	×	Maple ,,
Perpetual	×	Sand Pea ,,

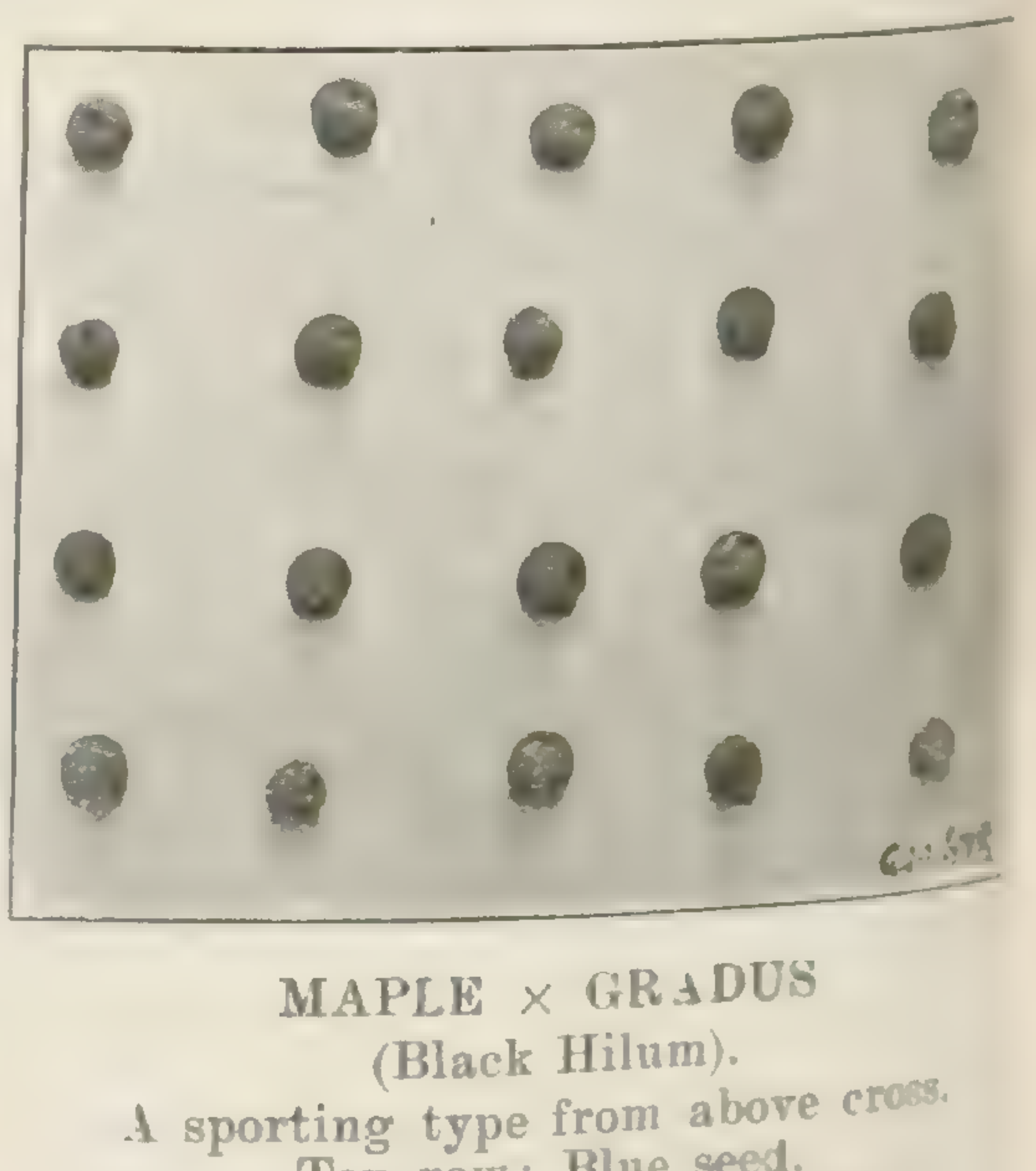
F1, the crosses produced are tall plants.
F2, the next generation sported shorts in minority.

Harrison's Glory	×	Centenary (pollen).
Excelsior	×	Gradus ,,
Perpetual	×	Centenary ,,

F1, the crosses of 1907 produced all tall plants in 1908.

(c) Round seed dominant over wrinkled seed.

Round Seed.		Wrinkled Seed.
Harrison's Glory	×	Best of All.
Harrison's Glory	×	Centenary.
Harrison's Glory	×	Perpetual.
Harrison's Glory	×	Glory of Devon.


MAPLE × GRADUS
(Black Hilum).
A sporting type from above cross.
Top row: Blue seed.
Next three rows: White seed.
All possessing the black hilum.

F1, the crosses of 1907 gave round wrinkled peas in the same pods of 19

In the above crosses the peas from two plants of each were counted as follows:—
Total 8 plants—round, 53: wrinkled, 17.

Harrison's Glory	×	Gradus.
Maple	×	Gradus.
Sand Pea	×	Perpetual.

F1, sported wrinkled in minority.

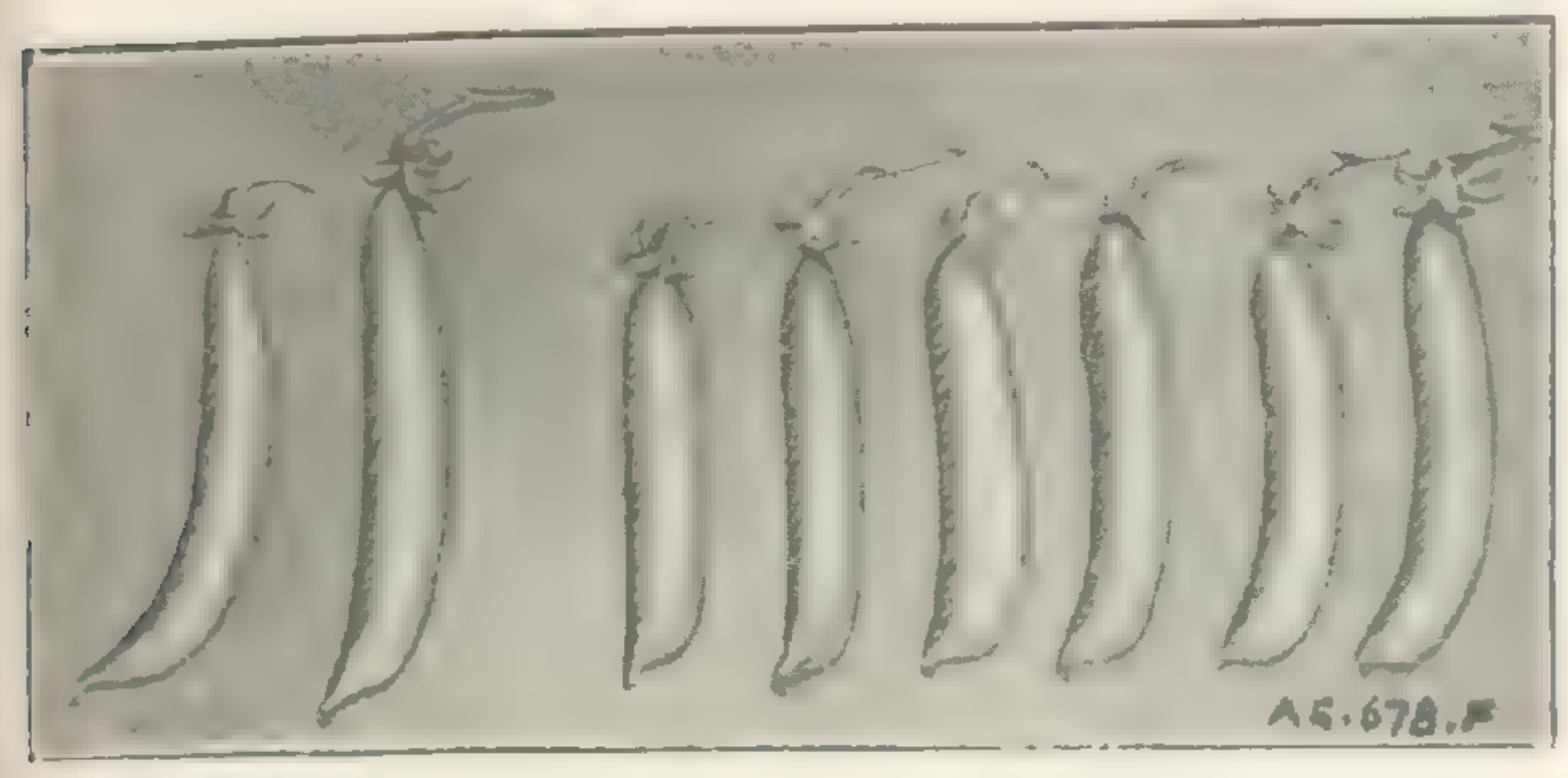
(d) Yellow cotyledons dominant over green cotyledons.

Yellow cotyledons.		Green cotyledons.
Maple	×	Harrison's Glory.
Gradus	×	Harrison's Glory.
Perpetual	×	Harrison's Glory.
Perpetual	×	Centenary.

F1, the crosses sported green cotyledons in minority.

When Harrison's Glory was the mother plant pollinating changed the cotyledons of the seed to yellow.

(e) Mottled testa dominant over plain testa, and white dominant over blue.



SAND PEA AND PERPETUAL.
Pods from different plants of the F2 generation (drawing).

Mottled.		Plain.
Maple	×	Gradus.
Maple	×	Harrison's Glory.
Maple	×	Autocrat.

F2, sported plain in minority.

(f) White.		Blue.
Gradus	×	Harrison's Glory.
Perpetual	×	Harrison's Glory.

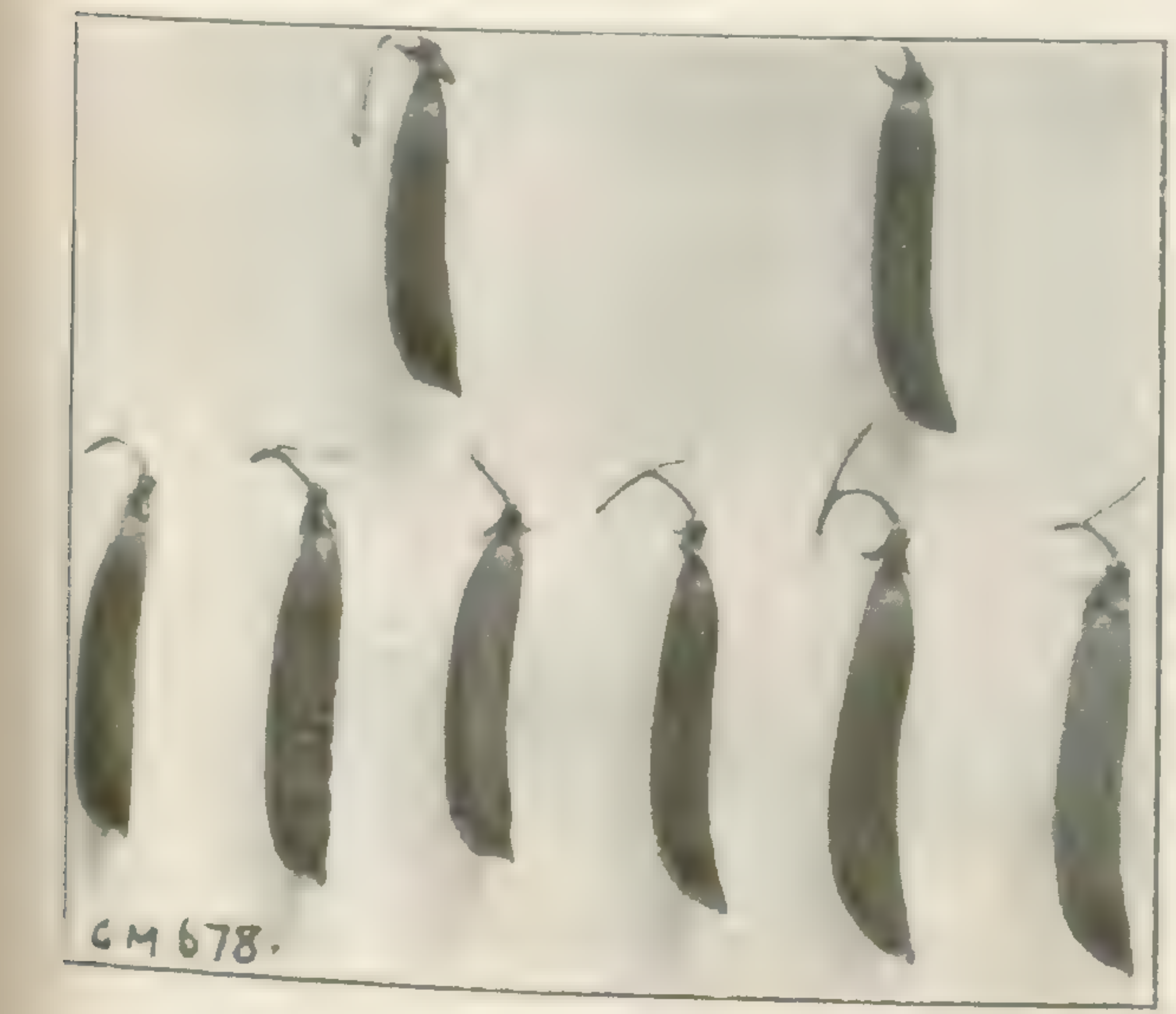
F1, sported blues in minority.

Purple spotting of seed. It has been found that crossing purple flowers with white ones induces purple spotting on the seed of the F2 generation.

Examples:

Maple	×	Autocrat.
Maple	×	Harrison's Glory.
Maple	×	Gradus.
† Sand Pea	×	Perpetual.

F2, purple spotting, though not uniformly constant, appears in the majority.



‡ HARRISON'S GLORY × GRADUS PARENTS.
Six distinct types (two kinds of pods).

In addition to the above, other points have been investigated. First, the black hilum observed on some seeds of purple-coloured flowers appears to be a dominant character, and is quite separable from mottling of seed and colour of the flower. In the undermentioned crosses this mark has been found to continue on both white and blue seeds resulting sports of the F2 generation.

Black Hilum—Present.	Absent.
Maple (some)	Harrison's Glory.
Maple ,,	Gradus.
Maple ,,	Autocrat.

F1, possessed the black hilum and sports in the F2 generation.

Secondly the shape of the pod to some extent obeys the same laws.

Blunt pods dominant over pointed pods.

Blunt.		Narrow.
Sand Pea	×	Perpetual.
Maple	×	Gradus.

F2, produced sports narrow pointed pods in minority (1908). See above.

‡ Harrison's Glory	×	Gradus.
Harrison's Glory	×	Maple.

F1, produces the two shapes of pod as seen in the parents.

It may be noted, too, that when two narrow-podded parents were brought together the F1 generation produced similar pods. Example: Perpetual x Centenary (F1 grown in 1908).

Again, when two blunt-podded parents were crossed, Partridge x Autocrat, all the sporting types, both red and white flowers, carried pods like the parents.

In conclusion, it may be stated that these results have been given to emphasise the use of factors in plant breeding.

Where peas are concerned we now know several of the recessive characters, and a plant exhibiting a recessive character does not sport in that direction.

PODS FROM SIX SPORTING PLANTS.

This knowledge, in the hands of the hybridiser, is a most useful lever, rendering the work of plant breeding less uncertain than it has been in the past.

Fred Wakerley, M.Sc., F.H.A.S.
Kingston-on-Soar, Derby.

ASPERULA HEXAPHYLLA.

A border plant of considerable merit, yet one which has never had its value sufficiently recognised is Asperula hexaphylla, the Five-leaved Woodruff, a native of Italy and Hungary. It has been in cultivation for a considerable time, and was first brought under my notice some years ago by a hardy plantsman of great experience, as a hardy plant of graceful growth, giving elegant flowers for cutting, and excellent for growing in a shady border. This it proved to be, and I found it an acquisition of real merit for certain purposes. Its narrow leaves are arranged in whorls, generally numbering five in each, and it gives a cloud of little white flowers, like those of the little common woodruff, but valuable for such purposes as sprays of Gypsophila paniculata frequently fulfil among other blossoms. This asperula grows to about a foot high, and prefers shade to sun, while it does not like a very dry, but prefers a rather moist border in common soil. It is increased by division, and looks elegant in summer with its small flowers and its graceful leaves.

S. Arnott.

EARLY PHLOXES AMONG ROSES.

The early phloxes of summer, as distinct from the small-growing spring phloxes of the type of P. subulata, etc., do not appear to grow so much in favour as they should do. An excellent use has been made of small plants of these by planting them in spring in rose beds, although the enthusiastic lover of the Queen of Flowers will probably view the statement with some cavilling. Of course, if large plants were employed, there would be a danger of their robbing the soil for the roses, but small plants, such as can be purchased from the nurserymen in spring, will not do any harm to the roses, and will add beauty to the bed at a time when it is most required.

There are some very beautiful things among this early-flowering section of phloxes, and such varieties as the sweet-scented Lady Napier, of purest white; that beautiful variety, Mrs. Forbes, also white; Alliance, rosy-cerise; Mrs. Miller, reddish-purple; General Roberts, white, crimson eye; the lovely snowy Snowflake; The Queen, soft pink, and many more might be mentioned as splendid for our purpose. It must be remembered that these young plants give much finer spikes and flowers than do old ones, and when autumn comes they can be divided again, so as to prevent them from encroaching upon the food of the roses. They delight in the good soil and fat feeding of the rose, and will thus thrive splendidly in the same beds as it.

Young plants of this early-flowering section of phloxes, which is called the Suffruticosa one, are procurable from most dealers in hardy flowers, and if the selection is left to them, good plants can be secured at a lower price than otherwise.

S. A.

WINTER HELIOTROPE.

Among our very few outdoor winter flowers there are at least three which are sweet-scented, which is a very good proportion, better perhaps than at any other season of the year. Petasites fragrans is well-named Winter Heliotrope, as it is very much like the heliotrope in scent and only a shade or two paler in colour. It is admirably adapted for a clay soil of the wettest description, and I think it was in Mrs. Earle's "Pot Pourri of a Surrey Garden" that the authoress lamented that she was not able to grow this sweet-scented flower because of the sandy character of her soil. But, as with the Bindweed, we must be very careful where we plant it, as it spreads underneath the soil only less insidiously than that plant, and therefore it should never be planted near choice shrubs, or within reach of the roots of fruit trees. I grow it in an angle where two walls meet, the base of the triangle being the gravel path, and there it is pretty safe. It will grow where the sun never shines, and the ideal place for it is on wet clay banks by ponds or streams.

The foliage is not without beauty and makes a good carpet to the ground in wild or waste places, often through the winter, though severe frost cuts it off as black as a dahlia. It begins to bloom in a favourable season by the end of November. Its correct name, Petasites is from a Greek word meaning a covering for the head, owing to the size of the leaves of our native butter-burs (P. vulgaris). The name Tussilago, sometimes used, is only properly applied to our wild Colt's foot, and is derived from the Latin tussis, a cough, owing to the use of that plant as a remedy for coughs—a custom still not extinct.

Alger Petts.

COOL ORCHIDS.

The following contribution to the "Memoirs" of the Royal Caledonian Horticultural Society, by Mr. R. Brooman White, of Arddarroch, Garelochhead, is of special interest for the unquestionable evidence it affords of the facility with which cool orchids may be grown in gardens of quite moderate dimensions:

"I cannot afford to grow orchids," is a remark which has become so hackneyed that were I to retort, "There are many orchids which can be grown as cheaply as geraniums, or, at any rate, as cheaply as ordinary stove-house plants," many of my readers would be sceptical. Yet such is the case; and to prove that it is so, the matter only requires to be put to the test.

Among cool orchids, Odontoglossum crispum, the "Alexandra" orchid of common parlance, the easiest to grow and flower of the whole genus, takes first place. As applied to these plants, the term "cool" implies that they come from high altitudes; and when it is mentioned that in the Colombian Andes they grow up to an elevation of 12,000 feet above sea-level, the significance of the term will be fully appreciated.

The requirements of a cool orchid like Odontoglossum crispum (and for my purpose I will include under the term "crispum" not only the species of that name, with its hybrids and varieties, but such allied species as triumphans, gloriosum, etc.), are briefly these: (a) A light, airy house that can be well ventilated, and kept damp at will. Though they will grow in almost any locality, in Scotland at any rate, except perhaps in some hot situations, an independent house with span roof, walls to the roof (i.e., without glass sides), and top and bottom ventilators is to be preferred. (b) A tank or tub in which to keep water at the same temperature as that of the house. As a regulation minimum, a temperature of 50 degrees should be aimed at, though in very cold weather, when it would be difficult to maintain this, a temperature as low as 45 degrees will not hurt the plants, if they are kept proportionately dry at the roots at the same time. In the hottest weather the temperature of the house should never exceed 75 degrees if possible, though, if the plants are kept wet, a higher temperature occasionally will do no harm. Modifications of this temperature, according to weather and other conditions, will, however, soon suggest themselves to the thoughtful would-be grower of crispums. (c) The house should be shaded by a blind of cotton shading or laths, made so that it can be easily rolled up and down at will.

The plants can be purchased from the importers, or at auction sales of imported plants, at from 1s. to 5s. and upwards each, according to size. For the tyro in crispum growing it is better, perhaps, to begin with plants at 2s. 6d., and to continue with these for a while, as they will be better subjects to work upon than any of the other sizes. From amongst imported plants all the most valuable forms of Odontoglossum crispum which have appeared from time to time, and which have created such sensations in the orchid world, and in the press, have been obtained. When the plants are gathered from the trees they are dried in order that they may withstand the journey through the hotter parts of the country at lower levels, and across the ocean; and when they arrive here all that is necessary is to resuscitate them. This is done by laying the plants on tiles, or stage battens, with a little moisture-retaining material, and syringing them, great care being taken not to give too much water at a time till they begin to "plump up." They will then produce roots and growth from the "lead," which is the last-made pseudo-bulb, and they should then be potted.

As a general rule, the more porous the pots the better will the plants grow, though this has been proved not to be an inexorable rule by an English grower who has introduced glass pots with excellent results in the cultivation of his own collection. The size of the pot, however, is important, and it may be stated that it should never be larger than what is just sufficient to enable the plant to form its next bulb comfortably. The potting material varies greatly according to position, climate, country, and the ideas of the cultivator; but, speaking from my own experience, and judging from the condition of my own plants, the following will, I think, be found a good basis whereon to work.

First, "crocks," or potsherds, should not be used for drainage. This practice is now abandoned by all the best growers, and the rhizomes of the common brake fern, found in the peat formed from the debris of this plant, are used instead. These should be well "baked" before using, in order to kill any germs or fungus-mycelium which may adhere to them. They should be cut into pieces one to two inches in length, and two-thirds of the pot should be filled with this material, to act as drainage; and the remainder should be filled with a compost consisting of one-third good fibrous peat, one-third oak leaves, and one-third sphagnum moss, with a little sharp sand. The oak leaves should be gathered soon after falling, and they should be stored under cover for about a year in order to prevent them from rotting, as actual decomposition dissipates the nutriment they contain, and defeats the object in view in adding them to the peat; and it is advisable to have a layer of rough ashes beneath them so as to prevent the ingress of worms. The leaves should be rubbed through a sieve of half-inch mesh in order to break them up a little, and the peat should be broken up into pieces not larger than a hazel-nut. The peat should be well incorporated with the sphagnum, and this and the oak leaves should then be well mixed together, a little silver sand being added to keep the compost open, and in this the plant should be firmly potted. Water should be judiciously applied, and the greatest care should be taken not to overwater the plants. On hot summer days water finely sprayed over the plants is very beneficial. Fumigation is necessary in order to destroy insects; but tobacco paper or cloth should never be used. The best insecticide with which the crispum grower has yet been provided is undoubtedly "XL ALL." The observant amateur cultivator will soon ascertain from the appearance of the plants whether all goes well with them. If the conditions are favourable, growth will be strong; but should the reverse be the case, advice should be sought from someone who can give the necessary information to his less fortunate fellow-cultivator.

In due time the flower spikes will appear. As a rule, strong plants bloom the year following importation, though, of course, they do not show their full beauty till after they have become quite established. Now it is that the interest commences in real earnest. Day by day, night by night, the developing buds are watched by the expectant cultivator in order to see whether he is to obtain a great prize or but an ordinary form. If it be the former, great is his joy; if the latter, then, as "Hope springs eternal in the human breast," he betakes himself to the other spikes, there to watch with the same intent interest as he did before. That prizes, and great ones, do come is matter of common knowledge; and as all the plants are gathered in a wild state, very few of them being seen in bloom by the collectors, the buyer of imported plants has always the chance of flowering something finer than anything that has yet been seen. The highest price hitherto paid for a crispum variety is £1,500, and this for a plant which would have gone into an ordinary glass tumbler. Many plants have been sold at sums ranging from £500 to about £1,000. Scores have realised from £100 to £200, while hundreds of examples exist which have realised £50. I have seen plants in bloom which cognoscenti would call rubbish sold for 4s. per dozen. The tyro gloats over such purchases at first; in time he becomes one of the cognoscenti, and then he too considers them rubbish. I know one grower who at a certain auction sale bought three plants for 19s. One of these, which he named after himself, turned out a very fine form, and the plant has been valued at no less than £800. In nature, these fine forms are no doubt produced by insect agency. Many species very frequently grow in the same forest; and the endless crossing and re-crossing of species and of their hybrids and varieties which has taken place has resulted in the evolution of these forms, and this in a manner which the hybridist has as yet failed to discover. The beautifully spotted forms are the most prized of all the odontoglossums, and the more of these that flower the greater does the demand for such forms seem to be.

One error into which the tyro generally falls is to leave the flower spikes too long. This exhausts the plants, and the spikes should therefore always be cut when they are fully developed, say, when a fortnight old as a maximum. If this is done the plants will not suffer any harm.

The propagation of Odontoglossum crispum is easy enough when one understands how it should be done, but many a valuable form has been lost owing to want of knowledge of this important cultural operation. It is a difficult thing to explain in a short article such as this is, how propagation should be carried out, but, generally, the best way is to sever the leading pseudo-bulb from its fellows when its growth has reached the height of 2 inches. The rhizomes from which the bulbs spring should be cut through with a sharp knife, and for a fortnight afterwards the plants should have dry treatment in order to facilitate healing of the wounds.

As cut flowers, crispums excel in beauty, and almost all of them last for a long time in the cut state, more especially if they are allowed to remain on the plant for about a fortnight after opening.

For cultural purposes, under crispum may be included such species as triumphans, gloriosum, luteo-purpureum, Hunnewellianum, Lindleyanum, and such hybrids as loochristiense, Andersonianum, Wilckeanum, Adrianæ, and Coradinei. These and the blotched crispums grow well together, and collectively they give to the lover of plants the greatest possible amount of enjoyment which the cultivation of any single genus can give.

Rhus Toxicodendron.—In commenting upon the varied statements concerning the poison ivy that appeared not long since in the daily Press, Mr. W. J. Bean remarks in the "Kew Bulletin" that among the recent correspondents of Kew was a lady who sent the true Rhus Toxicodendron with the remark that she had used the leaves for dinner-table decoration. As no evil consequences were recorded she was evidently one of the persons who are immune from the effects of this poison. This correspondent also drew attention to an interesting property of the juice of this plant, namely, its indelibility when applied to linen and similar fabrics. She states that wherever the liquid touched the white table-cloth it produced a perfectly ineradicable stain, and remarks that "it is really better for marking purposes than many so-called indelible marking inks." The property has long been known to botanists. Kalm noticed it during his travels in North America about the middle of the 18th century. And in Woodville's "Medical Botany" (1832) it is stated that "this juice, applied to linen, forms one of the most perfect kinds of indelible ink; it does not fade from age, washing, or exposure to common chemical agents . . . . but continues to grow darker as long as the linen lasts." It may be mentioned that the juice (which immediately exudes from a broken or cut surface of the wood or leaf-stalks) is at first milky and yellowish, but soon becomes black.

THE MANAGEMENT OF HEDGES.

Hedges occupy an important position in many gardens, and apart from their ornamental character, they are, under proper management, of the greatest possible utility in acting as a wind screen and shelter for more or less tender plants. There is, however, another side to the question, and it not infrequently happens that we find anything but satisfactory growth or returns in crops of all sorts for several feet distant from the hedge. This is attributed by some to the shade cast, but the real cause is found in the fact that the hungry and far-reaching roots of the hedge plants deprive the soil of its stores of plant food and moisture.

When taking charge of a garden in Surrey, many years ago, where the kitchen garden was bounded on three sides by a dense hedge, I found that the roots of the yew, holly, and Portugal laurel had been allowed to extend unchecked, with the result, and more especially in the fruit quarter, they were found quite six feet away from the hedge. Immediate steps were taken to remedy matters; a narrow trench was cut out three feet deep at two and a-half feet distant from the hedge, and the whole of the roots severed during the process. The change effected in the growth of everything beyond the trench was remarkable, and no appreciable difference could be detected at the end of the season between the plants near the hedge and those further afield.

In this case the trench was left open, and on account of being only nine inches wide was inconspicuous. If filled in it would be necessary to repeat the operation every alternate year, and I may mention that in a Western garden where I was employed the then head gardener experimented with concrete, which effectually removed any further trouble in this direction. If, however, large trees are in close proximity to the hedge it is highly probable that the powerful roots would break through a concrete barrier.

Walter H. Aggett.

PRUNUS TRILOBA.

On several occasions we have illustrated this exquisitely beautiful flowering shrub for the purpose of drawing attention to its great merits for early flowering out of doors. We have also frequently referred to its value as a shrub for forcing, and we now give an illustration of it thus grown. Some of our useful forcing shrubs may be forced year after year, if treated in a generous manner, and P. triloba is one of them. After it has been forced into flower, and the blooms have faded, the plants should be pruned hard back and placed in genial warmth, where, given sufficient moisture, new and vigorous growth will be made. It is necessary to gradually harden off the plants so treated, and a sunny position should be provided out of doors as soon as weather permits. Weak liquid manure is very helpful while growth is vigorous. The specimen illustrated herewith is one grown by Messrs. William Paul and Son, Waltham Cross, who for many years have made almost as great a feature of pot-grown early-flowering shrubs for forcing, as they have of roses.

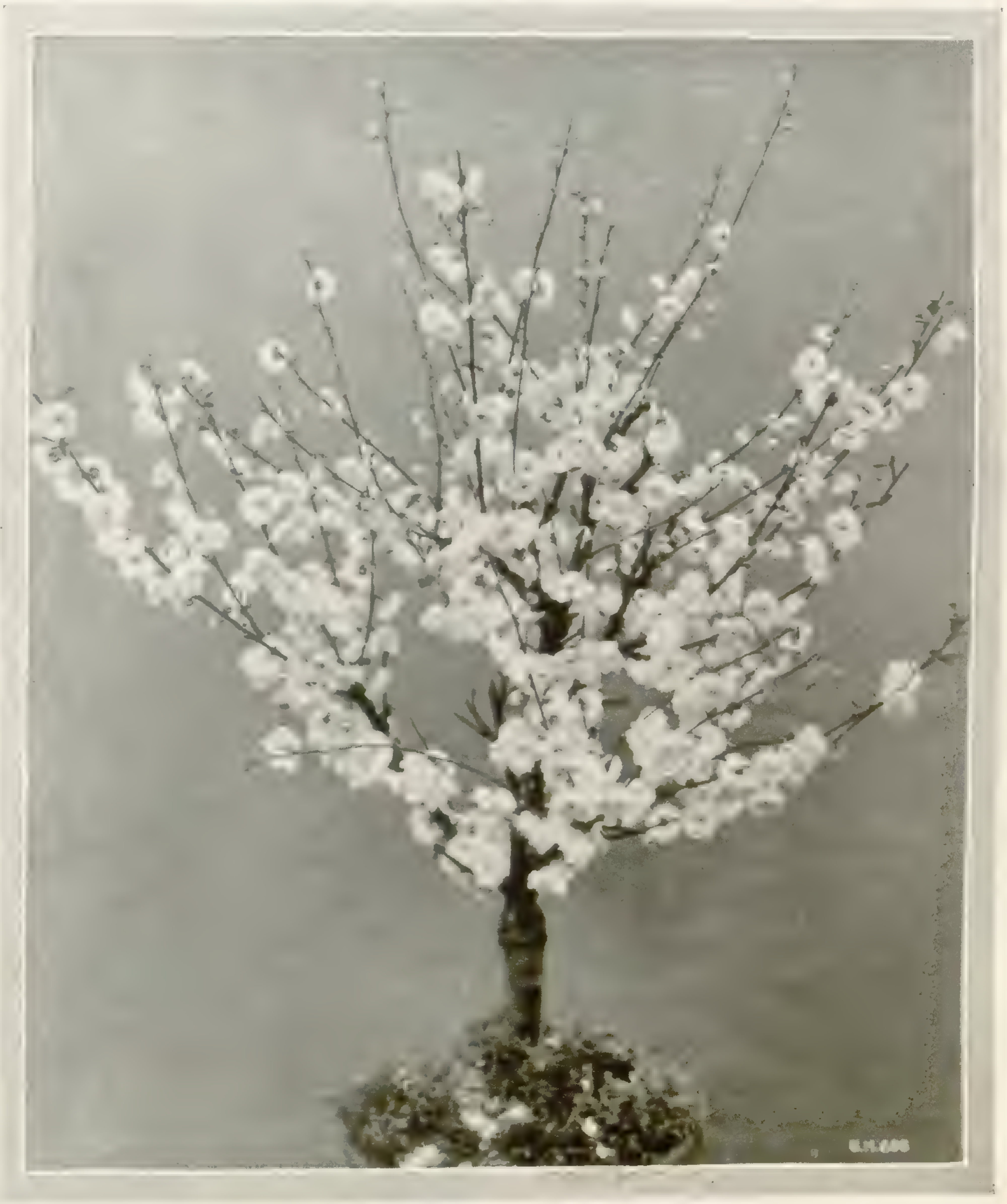
BEST PLANTS FOR GREENHOUSE.—Nearly 300 pages are devoted to the description, propagation, and culture of the best flowers and plants for the greenhouse in The Amateur's Greenhouse, by T. W. Sanders, price 5s. net, or by post 5s. 6d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

THUNIAS.—The various species and hybrids of this genus will now be showing new growths, and they should be removed from their cool resting quarters and placed under growing conditions. It is advisable they should remain a few days under warmer treatment before they are repotted, but they must be thoroughly watered, so that the hard, dry compost may be the more readily removed when the plants are turned out of their pots. It is necessary that these brittle-rooted orchids should be repotted before the new roots become far advanced, thus avoiding damage, as far as possible, during the operation. Turn the plants out of their pots, and, after removing the potting compost, cut off the old roots to within two or three inches of the stem. Any old pseudo-bulbs may be removed, and where there is any vitality left in them they may be placed on one side and used for increasing the stock. After having cut away all dead and decaying material about the base of the last-made growth, examination should be made for scale and other insect pests, which may be found secreted beneath the dead leaf scales. Where insect pests are found the stems should be thoroughly cleansed by washing with strong soapy water or some safe insecticide; cleansing the old growth will to some extent prevent the new becoming infested.

SPECIMEN PLANTS.—For specimens it is desirable that several plants should be placed together in the same pot, therefore a stick sufficiently strong to secure each in position should be neatly affixed. The pots used should be clean, and drained to about one-third their depth with clean crocks. The compost we find suitable consists of about equal portions of fibrous peat, turfy loam, and chopped sphagnum moss, with sufficient sand and finely broken crocks intermixed to render the compost porous. The plants having been placed in their position in the pot, the compost should be made firm about them, care being taken to see that the base of the young growth is only just on a level with the potting compost, and not buried, or they will be liable to damp and rot off. Water carefully until the new roots get hold of the compost, but as growth advances and the pot becomes filled with roots, liberal treatment may be afforded. The conditions of an ordinary plant stove suit the thunias, but to induce satisfactory flowering it is desirable that the plants should be afforded ample light.



PRUNUS TRILOBA.
A forced specimen exhibited by Messrs. William Paul and Son, Waltham Cross; flowers double, soft pink.

INCREASE OF STOCK.—Any of the pseudo-bulbs that have been discarded, or old ones that are still in a plump state, and removed as suggested above, may be cut into lengths of about two nodes each; the cuttings thus made should be placed in pots, several together, using a compost of finely chopped sphagnum moss and sand. The pots should be placed in a brisk bottom heat, when they soon push new growths, which emit roots at an early stage, and as soon as the roots are observed, the plantlets should be potted up separately in small pots and shifted on as required. It is rarely such plants flower the first season, but they make good stock for future use.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

CHRYSANTHEMUMS. — Preparations should now be made for potting the most forward plants into 32-sized pots, using a fairly rich compost and potting firmly, afterwards placing them in a cold frame and giving them plenty of room. They should be kept close for a few days, and syringed twice a day when weather permits, gradually increasing the ventilation as they make new roots. Cuttings of decorative plants put in the middle of last month should be fit for potting off into 60's, treating them as advised above. The present is a good time to put in a batch of cuttings for flowering in 32-sized pots, and the best plan at this season is to dibble the cuttings, about two inches apart, in boxes, placing them in a house or frame where a moist atmosphere is maintained, and here they will soon make roots. These late-rooted cuttings are particularly well adapted for giving big blooms for grouping in the conservatory or at exhibitions, and some varieties produce flowers of greater excellence by this method than by any other.

CANNAS.—When good batches of these plants are required for conservatory decoration the present is a very suitable time for breaking up the old stools and repotting; for making big plants pieces of the old root with three or four eyes should be potted up into 32's, to be afterwards transferred into 9in. or 12in. pots, but by far the most useful method of growing these beautiful subjects is to pot each young shoot singly into 54-sized pots, afterwards potting them into 32's. The young rhizome should be severed from the old stool with a sharp knife, taking care that there are a few young roots attached, and be potted up in a compost consisting of loam, leaf-soil, and sand. These, if placed in an intermediate house, will soon make roots and grow freely, but care must be taken not to over water in the early stages, though afterwards, when potted into their flowering pots, they will need plenty of water and quantities of liquid manure, liberal feeding being the one thing essential to ensure success.

BEGONIAS AND GLOXINIAS that are getting forward in growth should be potted into their flowering pots and kept steadily growing, as it is very bad practice to keep them long in the small pots. Seedlings of these, as well as of streptocarpus, torenias, etc., etc., should be pricked off as soon as large enough to be conveniently handled, the rapid growth following this operation proving how much the seedlings appreciate a change of soil. Seedling celosias, cockscombs, smilax, and other things should also be potted off when large enough, keeping these as near the glass in a warm house as possible, thereby securing a sturdy growth.

PROPAGATION.—Continue the propagation of any plants needed. Coleus are especially useful in small pots, as well as tradescantias and panicum for edging the stages throughout the summer months. The present is also a very suitable time for propagating batches of Salvia splendens grandiflora for autumn blooming. S. patens will also be useful in the greenhouse during August and September if propagated now. Further batches of seed should be sown of such subjects as celosias, torenias, schizanthuses, clarkias (for pots), etc.; Humea elegans should now be sown to provide plants for pots or bedding in 1910.

FORCED PLANTS.—many of the earliest plants may now (if they have been properly hardened off) be placed out of doors under some temporary shelter, thus making room for those that are still being forced or grown on. A great many of the narcissi that have been forced may be planted out in the copse or wild garden, this being much better than keeping them standing about in pots until they dry off, and it entails much less labour. —Thomas Stevenson, Woburn Place Gardens.

THE FLOWER GARDEN.

CLIMBERS.—In nearly all gardens one has to deal with climbing plants in some way or other, and never probably in our history have these been so largely employed for various purposes as at the present moment. We have a wealth of both foliage and flowering subjects, and yet it is somewhat surprising that even now better use is not made of many of the more beautiful, in place of the more common kinds which occupy prominent positions on many of our houses and buildings. I strongly urge those who have favourable aspects occupied by uninteresting kinds to take steps at this season of the year to add others more worthy of the place. The pruning and training should now be pushed forward without delay, and at the same time in many cases it will be necessary to provide some good material for the roots. Large pillar roses should be severely pruned or thinned out, for after these have become at all aged the old growths should be completely cut away to the base, and the younger ones be laid in; and apply a good mulching of half-decayed farmyard manure. All poles and supports should be examined, and when at all doubtful new ones should be provided.

PROTECTION.—Plants which have been protected during the winter, notably the more tender shrubs and trees, should now be examined, and the covering partially removed, but care should be taken not to expose them too suddenly, or they will in all probability suffer more than if no covering had been given.

TUBEROUS ROOTS.—Dahlias, cannas, begonias, marvel of Peru, Commelina cœlestis, etc., which have been stored away in suitable places for safety during the winter months, ought now to be brought out, potted up, and started into growth. Cannas may be divided up into quite small pieces, and placed fairly thickly in boxes, when they will make charming plants by the bedding-out season. Dahlias may easily be increased by rooting the young growths as fast as they are produced, in strong heat, and they should be quite large enough for planting out the first week in June.

PROPAGATION.—This should now be expedited as speedily as possible, and though much may be done during the next month, it is best to complete the work as soon as possible after this date. The potting up and boxing off of the various kinds of soft-wooded plants required for summer bedding should also be completed as early as possible.

SEED SOWING.—There will be many kinds of seeds, both of annuals and perennials, which should be sown now. The majority should be raised in gentle heat, be duly pricked off, and well hardened before planting out during the month of May; they will include asters, celosias, stocks, zinnias, lobelias, marigolds, mignonette in small pots for early flowering after planting, verbenas, and solanums of sorts. Aquilegias, pyrethrums, delphiniums, and campanulas may also be sown, and pricked off in due course. Shrubby calceolarias and other half-hardy plants which were struck and wintered in frames should now be given more room by planting them out in other lights, a good distance apart, and air should be given freely whenever possible.—E. Beckett, Aldenham House Gardens.

HARDY FRUITS.

THE RAINFALL for this year, up to the present, has been under the average, and it is very probable, and more especially on light soils, that the borders by the walls will be found much drier than is usually the case at this season, so that it will be as well to thoroughly examine all wall fruit borders, and those found dry should receive a good watering forthwith, as dryness at the roots is not conducive to a good set of fruit.

NEWLY-PLANTED TREES should be examined to see that they have not been loosened by winds or frosts, making each secure, the standard trees by refastening them to their supports, and the dwarfer kinds—as pyramids, and bush-trained—by well firming the soil about the roots. If these newly-planted trees were not mulched with some light strawy material at the time of planting no time should be lost in attending to this work, so that the moisture may be conserved in the soil among the roots. See that permanent labels are affixed to each tree before the writing on the nurseryman's tally is obliterated, and thus much inconvenience will be spared later on.

PRUNING FRESHLY-PLANTED TREES.—This work is best done after the sap commences to rise freely, and the young buds begin to push forth. The various kinds of fruit trees, when once established, require somewhat different treatment in the matter of pruning, but young planted trees may be treated very much in the same fashion in the first season. The general principle is to shorten all the main shoots by about one third of their length, always pruning to a prominent wood bud, pointing in the direction that the young growth is expected to take, and shorten all laterals back to two or three buds.

GRAFTING.—This operation may be performed as soon as the sap in the stocks commences to rise freely. Time should not be wasted by inserting grafts on anything but thoroughly healthy stocks; far better grub up old trees and plant good standard varieties. While on this subject I should like to say that in these gardens, where hardy fruits are largely grown, we find it is a good practice to always have a few trees in hand for replacing any worn out or worthless varieties. There are several advantages in this system, not the least being that one is able to fill up the vacancy with a larger tree than one would care to get in from a nursery, and which can be shifted as early in the autumn as the leaves are ready to fall, and while the soil is still sufficiently warm to encourage the tree to establish itself in its new position. By this means the tree is able to produce a fair crop of fruit during the following season. Another advantage in replanting trees two or three years after being received from a nursery is that many will be found with a tendency to send their main roots downwards into the subsoil, thereby causing unfruitfulness; these roots are cut away when transplanting, and this does away, in a great measure, with the necessity of root pruning in after years.

CLEFT OR RIND GRAFTING may be followed when operating on old trees. In cleft grafting the branch is split down the centre by a chisel and mallet, the chisel being left in to keep the crack open until the scions are inserted. It is necessary for success that the edges of the bark on both the stock and scion should fit together. In rind grafting the bark only of the stock is cut down, about four inches, the scions being prepared by tapering about three inches at the lower end, making a shoulder to rest on the stock by means of a slight horizontal cut at the point where the downward cut commences, the scions being pushed down between the bark and the wood until the shoulder rests on the stock; two or three scions may be fitted to each branch. Bind the young scions firmly in their positions with some broad strands of raffia, covering the whole with grafting wax or prepared clay, the object being to exclude air until the union of stock and scion is complete.—Geo. Woodgate, Rolleston Hall Gardens.

Thalictrum adiantifolium.—As its name implies, the foliage of the Maidenhair-leaved Rue is so much like that of the maidenhair fern that it might almost be mistaken for it. It is, however, stiffer in character, and more lasting when cut [illegible] recommendations for growing it. It will grow in any ordinary soil, but it is in sandy loam that it really luxuriates, where it forms large clumps which are really beautiful in themselves. Where it thrives in this way it may be used for edging with good effect, though it needs a few little sticks put amongst it to keep it from falling down. Given favourable conditions it makes a good subject for naturalising in shrubberies. The flower is quite insignificant, and for the sake of the foliage this should be picked off as soon as it appears. It is easily propagated by division in the autumn, before the leaves have died away, or in early spring.—Alger Petts.

CRITICAL NOTES.

It is not uncommon for honours to be bestowed on some individuals late in life, and what is true of human beings apparently applies to apples as well, for on February 23 the Fruit committee of the R.H.S. granted a First Class Certificate to that well known apple Barnack Beauty. I do not know the origin of the variety, nor yet its history, but I am aware of the fact that it has been in cultivation for a considerable time, and I can't quite see whether the granting of a F.C.C. now will serve any useful purpose. Mind you, I have no reasons for criticising the action of the committee; they may have good reasons for what they did, but I am thinking that there are many good old apples that have never been recognised in the same way as yet, and if they were sent up to Westminster the Fruit Committee might be kept quite busy for some time to come in granting Certificates and Awards of Merit.

Why are oranges not grown more in British gardens? Your correspondent "C." asks this question on page 185, and remarks that while numbers of houses are occupied by peaches, few are devoted to oranges, and yet the latter yield freely, and the crop lasts over a much longer period than peaches. Perhaps a good many garden owners have not tasted a fully ripe English-grown fruit, which privilege has been enjoyed by "C," and his description of the above fairly makes one's mouth water, but the fact remains that oranges are not a glass crop in English gardens. There is such a thing as familiarity breeding contempt, and I doubt if as much glass would be devoted to peaches if these fruits were offered for sale on every costermonger's barrow, even if the quality bore no comparison with the glass-grown fruit. One has recollections of sweating in a pine pit years ago, but few people grow pines to-day, and their culture ceased when St. Michaels stepped in, though it would have to be a high-class St. Michaels that could compare with fruits grown in English pine stoves in the old days.

Calendar matter, I take it, is written for the benefit of the uninitiated rather than for the gardener, who may reasonably be expected to understand his business; and, this being so, for fear any amateur reader should go wrong in his operations, I should like to ask the writer of kitchen garden notes, on page 190, to explain the reason why he advises the use of a light dressing of soot and lime in the preparation of an onion bed. Lime, I know, is essential to fertility, and soot is a very good fertiliser, but to use the two together is surely wrong, as the mixing leads to the loss of the valuable nitrogenous properties contained in the soot. Naturally, in the use of soot one wants to make the most of the fertilising properties it contains.

Mr. H. Vincent, of Brighton, must be a most unselfish man, because, having learnt the art of making £60 a year from half an acre of land, he does not object to telling other people how they can do likewise. He has imparted this useful bit of information in his much-talked-about little book, and recently also in a lecture before the Beckenham Horticultural Society. Fancy £60 from half an acre with only a foot of soil resting on chalk, and no artificial manure! There, you gardeners, English and French, what do you think of that? Mr. Vincent advocates planting potatoes in November eight inches deep. I wonder if they get much frost down Brighton way, because I was tempted to plant potatoes in the autumn once quite eight inches deep, but we had a severe winter after it, and those unlucky potatoes were never seen afterwards. Again, intensive culture is a fine thing, but parsnips in rows a foot apart, with cabbages between, seems too much of a good thing.

In a recent issue a correspondent asked for information regarding a bait for mole traps, and a reader, on page 194, suggested the use of worm oil, an article, by the way, which I don't suppose many readers of the GARDENERS' MAGAZINE had ever before heard of. In the event of the worm oil not answering, and assuming that the correspondent who sought for information is not so adept at setting traps as some old labourers I know, let me give him another tip—shoot the moles. A farmer informed me quite recently that in 1908 he shot over 200 moles in January and February, and has had no trouble with them since. White frosty mornings are the best for the sport, as the freshly-thrown hillocks are easily seen, and the method is to approach very quietly, and watch for the movement of the soil. As soon as this is observed fire into the bottom of the hillock from a distance of four to six yards, and if the aim is straight the dead mole is generally to be found. H.

INJURIES TO PLANTS DUE TO HAIL AND FROST.

Hail.

The injury to foliage and flowers caused by hail is well known; the fact that an equal, or perhaps greater amount of damage to the bark of trees is due to the same cause, is not so generally realised, the wounds formed being often attributed to frost, insects, or fungi. Young trees, or the young branches of older trees suffer most, especially those kinds possessing a smooth bark. The injury caused is greatest during the early summer months, when the trees are in full growth, as at this time the bark is soft and most easily injured by bruising. . . . When soft bark is struck by a hailstone with moderate force, the bark is completely crushed and disorganised at the point of contact, and soon becomes dead and dry, contracting at the same time and breaking away from the surrounding living bark. Owing to this contraction, a fissure is formed separating the dead from the living portion, which too frequently enables the spores of different kinds of parasitic fungi to gain an entrance into the living portion of the branch, and complete its destruction.

It rarely happens in this country, that hailstones do a greater amount of damage to trees than indicated above, but in tropical countries where such storms are very severe, the amount of injury done must be immense. Under such conditions I have seen galvanized iron roofing perforated by hailstones as readily as if it had consisted of paper.

In speaking of the damage done to trees, Hartig says:—"At places where the hailstones strike the rind is crushed, or it may be knocked off altogether. Although as a rule, a callus very soon forms over such wounds, still it not infrequently happens that the injured portion of the stem dies. In young spruce woods in the neighbourhood of Munich, I found that the leading shoots which were affected by hailstones died—a result doubtless due to the excessive evaporation from the wood, which in many cases was stripped of its cortex on one side of the shoot to the distance of about an inch."

Spring Frosts.

These are, with much reason, dreaded by those concerned with the cultivation of plants. Many kinds of plants that survive without injury severe winter frosts, succumb to a comparatively slight frost after growth has commenced. This difference depends on the relative amount of water present in the tissues during different seasons of the year. When active growth commences the leaves and youngest shoots contain a considerable amount of water. During a late spring frost water is abstracted from the cells into the intercellular spaces, more especially under the epidermis of leaves and shoots, where it freezes into parallel prismatic crystals. The withdrawal of water from the cells of a leaf causes it to droop and exhibit the well-known symptoms of the effect of frost. The recovery or death of a frozen leaf depends mainly on the precise manner in which thawing takes place. If the process is gradual, allowing the water to be reabsorbed by the cells as it thaws, little or no injury is sustained, whereas if the thaw is sudden, due to bright sunshine early in the day following a sharp frost, the rapidly liberated water floods the intercellular spaces, instead of being absorbed by the cells, and the death of the organ results. When actively growing leaves are frozen late in the spring, the epidermis of the under surface is often completely torn away from the remainder of the leaf, and hangs like a blister. Cabbages are often injured in this manner. The young leaves of evergreens also suffer in a similar way.

Frost Cracks.

These are longitudinal cracks of variable length in the bark and wood of tree trunks, and are the result of a great and sudden lowering of the temperature. In this instance water is withdrawn from the cell walls, and freezes in the cavities of the cells. Owing to loss of water from the cell walls the cells shrink, and a crack is the result. When the temperature rises the cell walls re-absorb the water, causing the cells to expand, and the crack closes more or less. The subsequent formation of callus completes the work of closing the wound. It not infrequently happens that an old frost crack, being a weak point, is reopened by succeeding frosts. As a rule little direct injury results from frost cracks in the case of our native trees, but they often enable parasitic fungi to gain a foothold. When a frost crack is completely healed, the callus formed from the two edges of the crack meets, and forms a more or less projecting ridge, known as a frost rib.

Sub-tropical trees often suffer severely from frost when grown in this country, even when not at first killed outright. Catalpa bignonioides, Walt., an ornamental tree, a native of Southern United States, is often injured by frost when growing in England or in the New England States. A very fine specimen at Kew, about sixty years old, recently succumbed from the cumulative effect of frost. The tree had two tiers of three more or less horizontal branches each. When the branches of the upper tier were about forty years old, each one was injured by a severe frost crack throughout its entire length. These wounds never completely healed, and afterwards no more shoots were produced on these branches, the result being a scarcity of leaves, which resulted in the crown of the tree being literally starved to death, owing to lack of food and water. The lower tier of branches, being sheltered by the upper ones, was perfectly healthy, and carried an abundance of foliage and flowers when the tree was cut down.

Something can be done to protect plants that have been caught by a spring frost. They should be protected by a covering of some kind—sheets, straw, etc.—from the sun's rays, so that they may thaw gently and gradually. When the covering method is impracticable, a thorough spraying with cold water is often effective in preventing rapid thawing.

In the case of frost cracks or injury caused by hail, the wounded parts should be sprayed with Bordeaux mixture at intervals until a callus is formed.—Mr. G. Massee, V.M.H., in "Kew Bulletin."

Choisya ternata as a Seaside Plant.—For growing in gardens near the seaside, either as a wall or a bush plant, Choisya ternata is a most useful one. Few shrubs bear more beautiful leaves, and fewer still such delightfully fragrant flowers, which are borne in clusters very freely. Cuttings root readily in a sandy compost in a cool frame; the younger wood striking as freely as a zonal pelargonium, in a hotbed. A well-grown plant has foliage sweeping the ground, and forms a dense thicket. It will grow in almost pure sand, but a friable loam is the most suitable soil. Cuttings may be inserted at once.—G. GARNER.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

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Royal Horticultural Society.

On Tuesday, March 23, there was another fine exhibition at the Royal Horticultural Hall, Westminster, all the space being occupied with orchids, cinerarias, begonias, daffodils, and forced shrubs. During the early part of the afternoon there was a crowd of visitors, that rendered notetaking and the careful inspection of groups almost an impossibility.

FLORAL COMMITTEE.

The central exhibit of the show was a large and elegant circular one of perpetual carnations, arranged artistically by Messrs. Hugh Low and Co., Enfield. The flowers in great variety were arranged in baskets and in vases of various kinds, and the groundwork was of moss and maidenhair ferns. This firm also showed acacias in bloom, A. cordata and A. armata standing out finely among many others. Messrs. Heath and Son, Cheltenham, showed an assortment of scented-leaved pelargoniums and flowering plants of carnation Lady Audley Neeld.

The new rose Rhea Reid (A.M.) was shown by Mr. G. W. Piper, Uckfield; this H.T. variety has been a great success in America and in the Bagatelle trials in Paris. A few cactus-flowered cinerarias were sent by Messrs. Jarman and Co., Chard. Messrs. C. Brooks and Co., Worting, Basingstoke, showed examples of their fine selections of florists' primulas. Their Orange King, Queen Alexandra, Giant Crimson, Ruby Queen, Duchess, Brilliant King, and True Blue were splendid in form, size, and colour. Messrs. Frank Cant and Co., Braiswick Nurseries, Colchester, showed three stands of the charming Lady Roberts rose, the buds and open flowers being delightful in form and colouring.

Cinerarias of the cactus-flowered type were largely and finely shown by Messrs. Sutton and Sons, Reading, who have now a fine strain of these elegant flowers, and have them in a very large range of colours. These are particularly useful cinerarias for conservatory decoration, and are, with many, greater favourites than either the Star or florists' forms. Particularly fine were the perpetual carnations shown by Mr. H. Burnett, Guernsey, whose beautiful exhibit of Mrs. Burnett, Mikado, Enchantress, and Marmion was greatly admired.

Dwarf lilacs, beautifully flowered, were largely shown by Messrs. Paul and Son, Cheshunt: Souv. de L. Thibaut, Comtesse H. de Choiseul, Alphonse Lavallee, Souv. de Leon Spathe, La Tour d'Auvergne, Mdme. Lemoine, and Marechal de Bassompierre were all charming varieties, and the scent of the display was delightful. At the back of the group were standards of Calceolaria Burbidgei. Messrs. J. and A. Clarke, Lim., Dover, set up a low rock garden, and stocked it with alpines, flowering shrubs, and tulips.

Mr. W. H. Page, Tangley Nurseries, Hampton, contributed one of his splendid groups of grand liliums and perpetual carnations, showing both in grand style, and setting up the whole in a very attractive manner. Messrs. T. S. Ware, Lim., Feltham, were represented by a collection of alpines and early flowers, the crocuses, hepaticas, androsaces, and saxifragas being all very pretty. Rose Doré, the fine new rose-red perpetual carnation, was largely shown by Mr. Lancashire, Guernsey. Mr. W. P. Horton, Cravenhurst, Seaford, showed a miscellaneous collection of flowering plants, azaleas and spiræas predominating.

A brilliant exhibit of Indian azaleas, all smothered with blooms, came from Messrs. James Veitch and Sons, Chelsea, the varieties Mdme. Joseph Vervaene, Vervaeneana, Empress of India, Hexe, and the bright Apollo, being conspicuously good. This firm also set up Boronia megastigma and its variety aurea, oranges, anthuriums, and some intensely blue-flowered plants of Hydrangea japonica. In another part of the hall the Veitchian firm had some beautiful rhododendrons, including Pink Pearl and Ascot Brilliant. Mr. G. Reuthe, Keston, Kent, submitted hepaticas, snowflakes, primulas in variety, Himalayan rhododendrons, saxifragas, irises, and other delightful early flowers. Very fine indeed were the cyclamens staged by the St. George's Nursery Co., Harlington, Middlesex; the flowers were fine, the colours pure, and the plants carried sheaves of bloom. Mr. R. Sydenham, Birmingham, showed daffodils and lily of the valley, finely grown in moss fibre in undrained pots.

The rock garden arranged by Messrs. J. Cheal and Son, Lowfield Nurseries, Crawley, was attractive, by reason of the small shrubs, and a large collection of primulas it contained. We thought the rocks were rather too prominent on this occasion, but there was method in the prominence thus given, as the rock is Sussex sandstone, of special merit for rock gardening. The sweetly-scented Boronia megastigma, and equally fragrant Daphne indica were shown by Messrs. H. B. May and Sons, Edmonton, and this firm had also a selection of elegant hardy ferns.

A beautiful group of Begonia Saturne, a delightful, erect spiked, pink-flowered variety with stout bronzy green leafage, was staged by Messrs. H. Cannell and Sons, Swanley. This is a fine conservatory plant, and it attracted a very great deal of attention and admiration. Perpetual carnations were shown by Messrs. Wm. Cutbush and Son, Highgate. A bright group of well-grown Azalea mollis was set up by Messrs. R. and G. Cuthbert, Southgate, and Messrs. Bakers, Wolverhampton, had a group of alpine flowers.

ORCHID COMMITTEE.

Mr. Alexander, orchid grower to Lieut.-Colonel Holford, Westonbirt, Gloucester, brought up a fine plant of Dendrobium Schneiderianum Westonbirt var. (A.M.), a very handsome yellow and soft purple orchid; Lælio-cattleya Tigris with golden flowers; and magnificent specimens of Cymbidium eburneo-Lowianum, with thirty-two spikes and 155 flowers, and C. Lowio-eburneum Westonbirt variety, with nineteen spikes, carrying a total of 91 flowers. Cultural commendations were awarded. Messrs. A. J. Keeling and Sons, Westgate Hill, Bradford, showed seedling dendrobiums, their D. Chessingtonense var. Richness being especially fine. Messrs. Stanley and Co., Southgate, showed Lycaste Skinneri alba, and other good things. Sophro-lælia Psyche and Sophro-lælio-cattleya Olive (A.M.) were very handsome, and both were shown by Mr. Davis, gardener to J. Gurney Fowler, Esq., The Glebelands, South Woodford.

Mr. Day, gardener to H. S. Goodson, Esq., Putney, had a fine group of orchids, composed largely of odontoglossums, Cymbidium Lowianium, an odontioda, and numerous forms of Cattleya Trianæ. Sophronitis grandiflora and dendrobiums shown by Messrs. J. Cypher and Sons, Cheltenham, made up a handsome display, together with fine forms of Cattleya Trianæ, C. intermedia alba, and a few choice cypripediums. A fine display of odontoglossums was arranged by Messrs. J. and A. McBean, Cooksbridge, Sussex, who made a feature of light varieties.

A handsome group of orchids, set up by Messrs. Hugh Low and Co., Bush Hill Park, Enfield, contained Dendrobium nobile virginale, D. Brymerianum, Cymbidium Holfordianum, the rare Cœlogyne pandurata, Odontoglossum Loochristiense, and other interesting and beautiful kinds. A number of very beautiful odontoglossums, unnamed, were submitted by Mr. M. Mertens, Mont St. Amand, Ghent. Messrs. Moore, Lim., Rawdon, Leeds, showed a collection of dendrobiums, with Odontoglossum Loochristiense, O. triumphans, and other choice things. Mr. A. W. Jensen, Lindfield, Haywards Heath, contributed a bold exhibit of Cattleya Trianæ in great variety, and a number of odontoglossums. Messrs. Sander and Sons, St. Albans, had a small display of orchids, that included several good varieties of Lycaste Skinneri.

DAFFODIL COMMITTEE.

Messrs. Cartwright and Goodwin, Kidderminster, contributed a charming exhibit of early daffodils, arranged in vases, with isolepis between the vases. Among the many delightful varieties so prettily presented we made special note of Queen of Holland, D[illegible]loon, Evangeline, Mdme. de Graaff, Chaucer, Corden, Salamander, Hamlet, White Lady, Beauty, Victoria, Sunset—a pretty variety, Alton Lock, and Autocrat.

A charming display of daffodils, tulips, and violets was well arranged, with a few crocuses, by Messrs. R. H. Bath, Lim., Wisbech, and the great feature of the display was that the tulips and daffodils were all grown in ornamental bowls, in fibre and shell; Vermilion, Brutus, Gris de Lin, Van der Neer, White Joost van Vondel, and Prince of Austria were all fine for this purpose. Marian, a new poet's narcissus, was also a striking feature of this exhibit. Messrs. Barr and Sons, Covent Garden, submitted an exhibit of Darwin tulips, all very beautiful; a selection of early daffodils and a very pretty little group of Iris reticulata, hellebores, crocuses, saxifragas, and other early flowers.

FRUIT AND VEGETABLE COMMITTEE.

There was only one competitive exhibit of vegetables, and this was from Mr. E. Beckett, gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree, who was awarded first prize for the Sutton rhubarb, mushrooms, Perfection asparagus, Canadian Wonder dwarf bean, Sutton's Christmas Salad chicory, and seakale—all finely shown. Mr. A. Poupart, Marsh Farm, Twickenham, showed fine heads of Poupart's Selected seakale.

Mr. J. Poupart, Rainham, Essex, contributed splendid forced asparagus, seakale, and Linnæus, Victoria, and Champagne rhubarb—finely set up. Miss Dixon, Elmcroft, Chichester, showed forced Royal Sovereign strawberries in fairly good condition.

CERTIFICATES AND AWARDS.

First-Class Certificate.—To Pteris aquilina congesta, from Messrs. H. B. May and Sons, Edmonton.

Award of Merit. — To H.T. Rose Rhea Reid, from Mr. G. W. Piper, Uckfield.

To Begonia Saturne, from Messrs. H. Cannell and Sons, Swanley.

To Crocus Sieberi versicolor, from Mr. G. Reuthe, Keston.

To Carnation Rose Doré, from Mr. Lancashire, Guernsey.

To Cineraria stellata, cactus-flowered strain, from Messrs. Sutton and Sons, Reading.

To Brasso-cattleya Digbyano-Mendeli var Perfecta, from Lieut.-Colonel Holford, Westonbirt, Tetbury.

To Dendrobium Schneiderianum Westonbirt variety, from Lieut.-Colonel Holford.

To Sophro-lælio-cattleya Olive, from Gurney Fowler, Esq., Glebelands, Wood

MEDALS.

Silver-Gilt Flora.—Messrs. J. and McBean, Cooksbridge, Sussex, for [illegible]; Messrs. Hugh Low and Co., Enfield, [illegible] nations; Messrs. J. Veitch and Sons, [illegible] for rhododendrons and greenhouse [illegible]

Silver-Gilt Banksian.—Mr. W. H. [illegible] Tangley Nurseries, Hampton, for carnations and liliums; Messrs. Paul and Son, Cheshunt, for lilacs; Messrs. Sutton and Sons, Reading, for cinerarias; St. George's Nursery Co., Harlington, Middlesex, for cyclamens; Mr. H. Burnett, Guernsey, for carnations; Messrs. Cartwright and Goodwin, Kidderminster, for daffodils.

Silver Flora.—Messrs. W. Cutbush and Son, Highgate, for carnations and alpines; Mr. L. R. Russell, Richmond, for azaleas, etc.; Messrs. T. S. Ware, Lim., Feltham, alpines; Mr. H. S. Goodson, Putney, orchids; Messrs. J. Cypher and Sons, tenham, for orchids; Messrs. R. H. Bath, Lim., Wisbech, for tulips and daffodils.

Silver Banksian.—Messrs. R. and G. Cuthbert, Southgate, for azaleas; Mr. W. H. Lancashire, Guernsey, for carnations; Messrs. H. Cannell and Sons, Swanley, for begonias; Messrs. J. Cheal and Son, Crawley, for alpines; Mr. A. W. Jensen, Cuckfield, for orchids; Messrs. Sander and Son, St. Albans, for orchids; Messrs. H. Low and Co., Enfield, for orchids; Mons. M. Mertens, Mont St. Amand, Ghent, for orchids; Messrs. Barr and Sons, Covent Garden, for daffodils and tulips.

Silver Knightian.—Mr. J. Poupart, Twickenham, for seakale.

Bronze Flora.—Messrs. J. Peed and Son, Streatham, for alpines and carnations; Mr. G. Reuthe, Keston, for alpines, etc.

Bronze Banksian.—Messrs. Hopkins, Shepperton, for alpines; Miss Dixon, Chichester, for forced strawberries.

Perpetual Flowering Carnation Society.

There was a very pretty exhibition at the Royal Horticultural Hall on March 24, and the carnation flowers shown were on the whole of very fine size and colour. The competition was rather limited; that is to say, the same prizewinners seemed to score all round, only varying their positions occasionally. The society must in some way increase the number of competitors, if further interest is to be created. There was a good representation of the newer varieties, and almost all the carnation specialists were present

GROUPS AND PLANTS.

There was but one exhibit in the class for a group of cut blooms, arranged on a table space of 10ft. by 3ft., and the exhibitor was Mr. Hayward Mathias, Medstead, who set up beautiful vases of Robert Craig, Winsor, White Lawson, Gwladys, Rose Pink Enchantress, Enchantress, Britannia, Mrs. T. W. Lawson, White Perfection, Harlowarden, and Mrs. H. Burnett. This was a splendid exhibit of first-rate blooms; first prize and gold medal.

There was only one group of carnations in pots, arranged on a space of 25 square feet, and this was Mr. A. Grubb, gardener to C. F. Raphael, Esq., Porter's Park, Shenley, who showed Britannia, Enchantress, Mrs. H. Burnett, and Rose Pink Enchantress, all well grown, and finely flowered. The group was well arranged, and nicely finished off with ferns and moss. To this was awarded first prize, and Lord Howard de Walden's fine silver cup.

The best three plants, distinct varieties, were of White Perfection, Britannia, and Mrs. H. Burnett, shown by Mr. J. Vert, who also led in the class for six plants, in six varieties, showing Winsor, Britannia, Mrs. H. Burnett, White Perfection, Robt. Craig, and Hon. G. Fellowes.

THREE DOZEN BLOOMS.

The leading cut flower class was for three dozen flowers of a variety, and here some grand vases were displayed. In the white class Mr. W. H. Lancashire, Victoria Nursery, Guernsey, won first place with White Perfection; the Newport Carnation Nursery Co., second with White Perfection. For a blush variety Mr. Lancashire led with Enchantress; Mr. W. H. Page, Tangley Nurseries, Hampton, second, and Messrs. Bell and Sheldon third, each with Enchantress. In the light pink, rose, or salmon class, Messrs. Bell and Sheldon scored with Winsor; and Mr. W. H. Lancashire second with Mrs. H. Burnett. Mr. W. H. Lancashire scored in the deep pink or cerise class with Mrs. T. W. Lawson in fine form; Mr. Engelmann second with Afterglow. Mr. C. Engelmann led with a crimson variety with his new Carola, and Mr. W. H. Lancashire second with President in good condition

In the scarlet class, the Newport Carnation Nursery Co. won first place with good blooms of Victory, but the stems were rather slender; Mr. W. H. Lancashire second with Robert Craig, and Mr. C. Engelmann third with Andrew Carnegie. In the fancy class Mr. C. Engelmann was placed first with Jessica, and in the class for a dozen blooms of a variety not in commerce, Mr. Engelmann led with his deep maroon Carola. For three vases, each containing a dozen flowers, and representing three American novelties, Messrs. Bell and Sheldon, Guernsey, led with Afterglow, Aristocrat, and Winsor; Mr. A. F. Dutton second with Winsor, Victory, and Rose Pink Enchantress; Mr. C. Engelmann third with Afterglow, Victory, and White Enchantress.

DENDROBIUM SCHNEIDERIANUM WESTONBIRT VARIETY.

Exhibited by Lieut.-Colonel Holford at R.H.S. Meeting on Tuesday last, when it received an Award of Merit. Flowers large, the petals and sepals soft rose purple, the lip rich orange.

EIGHTEEN BLOOMS.

In the section where the number of blooms required was eighteen in a vase, Mr. C. Engelmann, Saffron Walden, led for a blush carnation with Enchantress, Mr. D. M. Collins, Heathfield Nursery, Swanley, second, and Messrs. B. and V. Haig, Castle Hill Nursery, Maidenhead, third, each with the same variety. For a light pink, rose, or salmon variety Mr. A. F. Dutton, Iver, Bucks, was first with Rose Pink Enchantress in fine form; and Mr. C. Engelmann second with Welcome. For a deep pink or cerise variety Messrs. Bell and Sheldon, Guernsey, gained premier honours with a fine vase of Afterglow; the Newport Carnation Nursery Co., Newport, Essex, second, with Mrs. T. W. Lawson; and Mr. A. F. Dutton third with Pink Imperial. Messrs. Bell and Sheldon scored for a crimson variety with fine flowers of President; Mr. A. F. Dutton second; and Mr. W. H. Page, Hampton, third with Governor Roosevelt.

Messrs. Bell and Sheldon also led for a scarlet variety, with Britannia, and Mr. D. M. Collins second with the same variety. The Newport Carnation Nursery Co. led for a fancy variety with Jessica in fine form, and Mr. A. F. Dutton came second with the bright red-flaked Imperial. Messrs. Bell and Sheldon scored for eighteen flowers of a white variety with wonderfully fine specimens of Lady Bountiful; Mr. C. Engelmann second with White Perfection, and Mr. A. F. Dutton third with Dutton's White Lawson.

GARDENERS AND AMATEURS.

In this section, three flowers of a variety were, in most cases, required. Mr. Vert, gardener to Lord Howard de Walden, Audley End, Saffron Walden, scored for a white variety with White Enchantress; Mr. A. Usher, gardener to Sir Randolf Baker, Bart., Ranston, Blandford, second with Sarah Hill; and Mr. A. T. Paskett, gardener to C. J. Johnstone, Esq., Burs Wood, third with White Perfection. Mr. Vert led for a blush variety with Enchantress; Mr. Usher and Mr. A. F. Paskett, second and third respectively, each with the same variety. In the class for a light pink, rose, or salmon variety, Mr. Vert was again to the fore, with Mrs. H. Burnett, finely shown; Mr. J. G. Weston, gardener to H. J. King, Esq., Ashford, second with Mrs. H. Burnett; Mr. A.

E. Usher third with Winsor. In the deep pink or cerise class Mr. J. G. Weston led with Nelson Fisher; Mr. Paskett second with Pink Imperial; and Mr. J. Vert third.

For a crimson variety Mr. J. Vert scored with Harlowarden; Mr. Usher second with Harlowarden; and Mr. Paskett third with President. In the scarlet class Mr. Usher led with beautiful flowers of Beacon; Mr. Paskett second. In the fancy class Mr. Usher scored with Imperial, and Mr. Vert was second with Marmion, and Mr. Weston third with Jessica.

Dr. Kyffin offered a prize for the best vase of a dozen blooms, in six varieties; there were five entries, Mr. Usher leading, and followed by Mr. Vert and Mr. Paskett in the order of mention. Messrs. Low and Co.'s special prize for four varieties, four blooms of each, in one vase, was won by Mr. A. T. Paskett.

DECORATIVE EXHIBITS.

Premier award for a table decoration was won by Mr. J. Agate, Havant, with pale pink flowers of Fair Maid; Mrs. A. Robinson, Norhyrst, Park Hill, Carshalton, second, using the same variety; and Mrs. F. Robinson, 82, Princes Street, Dunstable, third with Enchantress. For a decorative vase of blooms, Messrs. Bell and Sheldon led with a delightful arrangement of Mrs. H. Burnett; Mr. W. M. Collins second, and Mr. A. F. Dutton third. Mr. Paskett was the only exhibitor of a basket of blooms, and he was awarded a first prize. Messrs. R. F. Felton and Sons, Hanover Square, led for a bouquet of carnations with a very pretty design in flowers of Mrs. H. Burnett; Messrs. Bell and Sheldon second, and Messrs. B. and V. Haig third. Mr. Usher scored for three ladies' sprays, and was followed in order by Messrs. B. and V. Haig and Mr. J. Agate, in order of mention. Mr. Usher and Mr. Agate were first and second respectively for six gentlemen's buttonhole bouquets.

NON-COMPETITIVE.

The fine central exhibit from Messrs. Hugh Low and Co., Enfield, was a great attraction, and among the many fine varieties represented in vases and baskets of various sizes, we made note of the new deep maroon Black Chief, Britannia, Mrs. H. Burnett, Enchantress, Mikado, Autocrat, Mrs. T. W. Lawson, Marmion, Rose Pink Enchantress, Aristocrat, Beacon, Afterglow, and White Perfection (silver-gilt medal).

A large and very interesting display of carnations was set up by Mr. C. Engelmann, The Nurseries, Saffron Walden, who filled the side of one long table with beautiful blooms. The only weak point was the somewhat obtrusive tin tubes the flowers were shown in. Rose Pink Enchantress, White Perfection, Britannia, Winona, Melody, Mrs. T. W. Lawson, Carola—deep crimson, Mrs. H. Burnett, Red Riding Hood, The Marquis, Mikado, and Beacon were the leading varieties. (Gold medal).

Mr. H. Burnett, Guernsey, added to his exhibit of the previous day, and showed grand blooms of Mrs. Burnett, Marmion, the yellow Fortuna, Aurora, Mikado, and the scarlet Defiance. (Gold medal). Messrs. W. Cutbush and Son, also increased their carnation display, and, in addition to popular varieties, they showed the fancy Glendale, the deep maroon purple Lady Nora Brassey, the pink Lady Miller, and a number of interesting new seedlings. (Silver medal).

A group of very finely-grown plants of Britannia, Rose Pink Enchantress, Jessica, White Perfection, etc., was shown by Mr. J. Vert, and a silver medal was awarded.

Several exhibits were kept over from the previous day, notably Messrs. Hugh Low and Co.'s acacias; Messrs. W. Cutbush and Sons' shrubs and alpines; Messrs. A. and J. Clarke's rock garden; Mr. L. R. Russell's forced azaleas, etc.; Messrs. Cartwright and Goodwin's daffodils; Messrs. H. B. May and son's ferns, boronias, and cinerarias; Messrs. J. Cheal and Son's rock garden; Messrs. R. H. Bath, Lim., daffodils and tulips grown in fibre; Mr. W. H. Page's display of liliums and carnations (silver-gilt medal); Messrs. J. Peed and Son's carnations (silver medal); and Mr. W. H. Lancashire's carnations (silver medal).

No new varieties gained certificates or awards, but the committee desired to see Messrs. H. Low and Co.'s Black Chief again.

Beckenham Horticultural Society.

On Friday the 12th inst., before the above society, Councillor James Crease presiding, Mr. J. B. Hunter, of Elmhurst Gardens, Bickley, gave an eminently practical discourse on "Vegetable Culture." The lecturer dealt chiefly with those kinds of vegetables that figure on the exhibition table, but gave excellent advice both for securing prize-winning samples and for home supplies. The preparation of the soil, manuring, etc., was emphasised. A formula given by Mr. Hunter for artificial manures to be mixed at home was: 1 part bonemeal, 1 part superphosphate, 1 part kainit, and a ½ part of basic slag, forking this into the soil, and following later with slight dustings of nitrate of soda. It was stated by Mr. Crease, who is a prominent tradesman of Beckenham, "that it is 25 years since the country was so denuded of green vegetables as now. Even onions are very scarce and making high prices." One member reported a good breadth of asparagus kale practically uninjured by the severe weather. Mr. Hunter thought that winter greens were sown far too early. Discussion was well maintained, and was very instructive.

Croydon Gardeners' Association.

At the recent meeting of this association Mr. P. E. Bunyard, F.Z.S., gave an interesting lecture on his trip to North Uist last summer for the purpose of studying the bird life of this comparatively small island. Mr. Bunyard gave much interesting information on the birds and their nests and eggs that came under his observation, and referred to the great breadth of the double white narcissus that he met with.

A hearty vote of thanks was accorded Mr. Bunyard at the close of his lecture.

Cardiff Gardeners' Association.

The fortnightly meeting of the above association was held at St. John's Schools on the 16th inst. Mr. Mountney, vice-chairman, presided over a good attendance, and an excellent lecture was given by Mr. A. Cobb, The Dyffryn Gardens, Cardiff, on "Summer Bedding." The various methods which are adopted in this class of work was practically explained, and much useful information was given on the subject. The lecturer described the proper way to make the flower garden attractive during the summer, and dealt with carpet, subtropical, and miscellaneous bedding. Mr. Julian proposed, and Mr. Lewis seconded, a hearty vote of thanks to Mr. Cobb for his interesting lecture.

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FARM AND GARDEN

THE DAIRY—POULTRY—PIGS—LIVE STOCK—ALLOTMENTS—MARKET GARDENING, etc.

This week's issue (Mar. 27) contains the following:
FIRST MILK AFTER CALVING.
IMPROVING THE DAIRY HERD.
SOFT CHEESE MAKING.
FOOT-ROT IN SHEEP.
SCOUR IN CALVES.
EXCESSIVE HAIR IN SHIRES.
SOWING PASTURES.
FIELD PEAS.
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RED OR GRIZZLY GRAPES.

I have been especially interested in the discussion that has recently appeared in the GARDENERS' MAGAZINE relative to the merits of the good old Grizzly Frontignan and other grizzly grapes. I have a very vivid recollection of enjoying (some sixty years ago) many a feast of the luscious, rich, and unique flavour of Grizzly Frontignan. [illegible] there is no other grape, so far as I am aware, exactly like it in that respect; in fact, it is a veritable fondant morceau, and, as Mr. Charles E. Pearson significantly observes, "it does not cloy on the palate," as the Muscat does, with its musky aroma. Its comparatively small size, and, with some, its colour, is an objection. To myself, however, the colour was ever attractive.

As another instance of the Grizzly Frontignan's peculiar quality, it was my duty and pleasure, many years ago, to cultivate and furnish the breakfast table every morning while the crop lasted with a dish of "Grizzly," and also of the now rarely-grown Hautbois strawberry when in season. Curiously, however, after the season was over with both the varieties of fruits indicated, no other variety was requisitioned to succeed them at the breakfast table, hence indicating that it was for the sake of the unique flavour alone that they were patronised. In conclusion, I may remark that a comparatively light textured soil, well drained, is necessary for the successful culture of the Grizzly Frontignan, as it is prone to "shank" in a heavy and wet medium.

WILLIAM GARDINER.

Birmingham.

I have read with much interest the remarks of the several writers on the Grizzly Frontignan grape, and I cannot refrain from joining with the majority of your correspondents in speaking in praise of its flavour. I would mention, as a matter of some interest, that last autumn, before the discussion began, I rooted out several of the newer favourites to make room for the Grizzly Frontignan. I readily admit that the bunches are not equal in appearance to those of the Muscat of Alexandria, but I am not the less strongly convinced that the Grizzly Frontignan is one of the best. The exquisite flavour has so greatly impressed me that no friend of long acquaintance will, by heated argument, remove my impression.

Wareham. W. D. POPE.

FORTHCOMING ENGAGEMENTS.

TUESDAY, March 30.—Cornwall Daffodil Show, at Truro; two days.

THURSDAY, April 1.—Linnean Society meets.

FRIDAY, APRIL 2.—Berlin International Horticultural Exhibition; April 2—13.

SATURDAY, April 3.—French Horticultural Society of London.

TUESDAY, April 6.—Royal Horticultural Society: Narcissus Committee, at 11.30 a.m.; Orchid, Floral, and Fruit Committees, at 12 o'clock; lecture at 3 p.m. on "Effects of the [illegible] Growth," by Rev. Professor G. Henslow; Scientific Committee, at 4 o'clock.
British Gardeners' Association, Council Meeting.

WEDNESDAY, April 7.—Royal Caledonian Horticultural Society's Spring Show; two days.
Royal Society of Arts meets.

THURSDAY, April 8.—Liverpool Horticultural Association's Spring Show.

FRIDAY, April 9.—Good Friday.

MONDAY, April 12.—Easter Monday.

SATURDAY, April 17.—[illegible] Spring Show.

TUESDAY, April 20.—Royal Horticultural Society: Narcissus Committee, at 11.30 a.m.; Floral, and Fruit Committees, at 12 [illegible]; lecture at 3 p.m. on "Pansies," by Mr. [illegible] D.Sc.; Scientific Committee, at 4 [illegible].
Devon Daffodil Show, at Plymouth; two days.
Shropshire Horticultural [illegible].
National Auricula and Primula [illegible] Horticultural Hall.

WEDNESDAY, April 21.—Royal Horticultural Society of Ireland, Spring Show, at Dublin.
Ipswich Spring Show.
Royal Meteorological Society.
Royal Horticultural Society's Examination in General Horticulture.

THURSDAY, April 22.—Midland Daffodil Society, Birmingham; two days.

TUESDAY, April 27.—Huntingdon Daffodil Show.

WEDNESDAY, April 28.—Royal Horticultural Society's Examination in Hort[illegible] Teachers.

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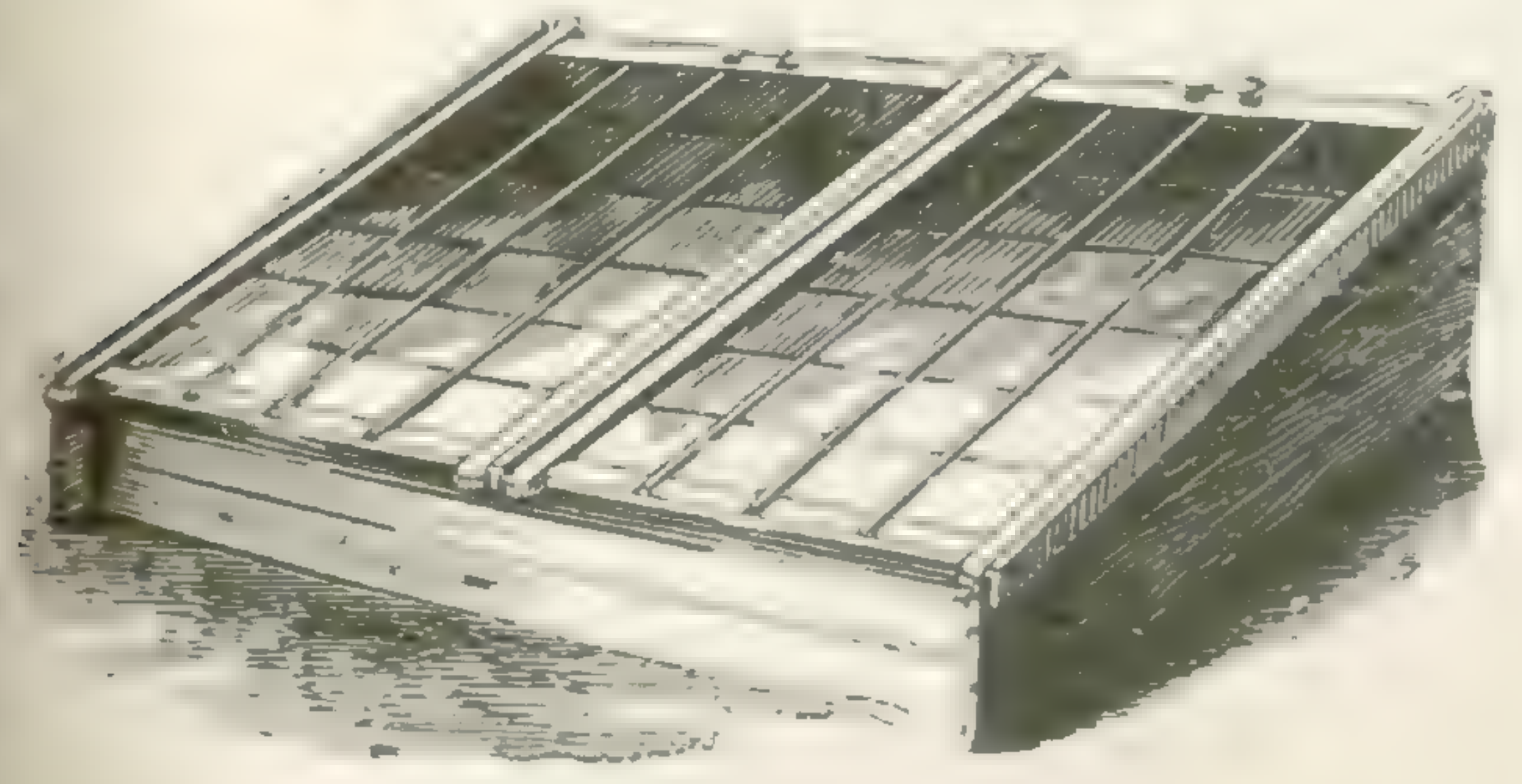

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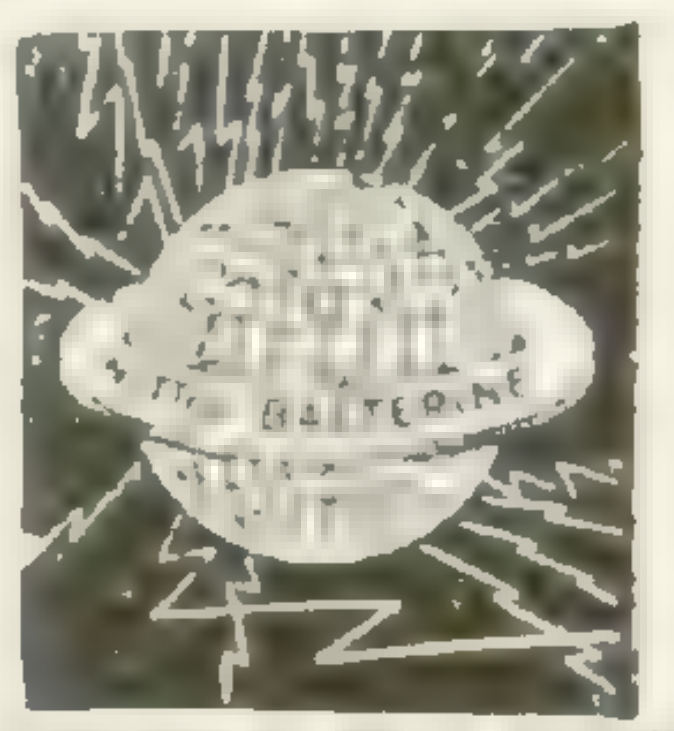

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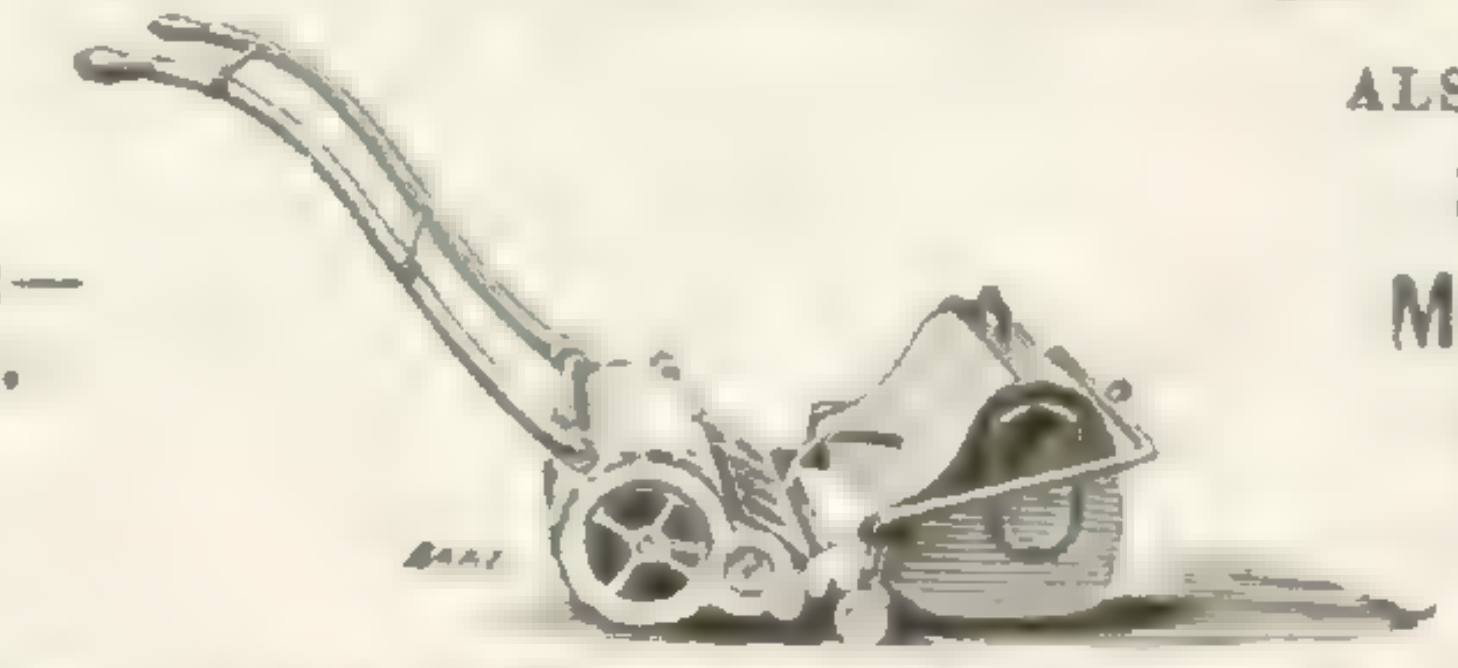

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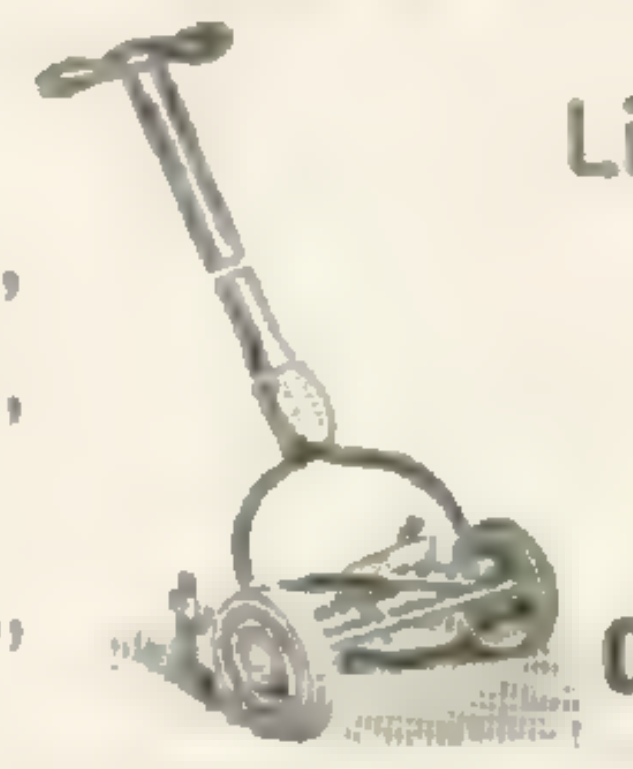

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ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

ROSE ARMOSA.—F. J. C., Poole: This is a Bourbon rose, and its correct name is Hermosa. It is very free-flowering, and has all the freedom of a China rose. It makes a low, spreading bush about 2ft. high, and bears rosy-pink flowers. Prune moderately at the end of March.

TRAPPING MOLES.—A further reply to our correspondent, "C. F. A., Kidderminster, has reached us from Mr. W. Chaffer, of Ealing. He writes that he has never heard of a special bait for mole traps, but he rarely fails to catch a mole when the attempt is made. When a mole is found to be working in the garden Mr. Chaffer buries his mole trap in the soil for a couple of days, and then finds the firmest part of the mole's tunnel; it the ground is not very firm he treads it firm and waits for the mole to burrow through again and then sets the trap in the new run. But before setting the trap he coats his hands and the trap with the wettest soil the mole has worked in; on no account should the trap be touched with the naked hands. When a mole is caught it should be well rubbed over the trap, and hands, before resetting, and be kept for a day or two for the same purpose should the trap be thrown without catching a fresh mole.

GOLDEN TRUMPET DAFFODIL FOR FORCING.—S. T. A., Hexham: The best of the bright golden-yellow trumpet daffodils is Golden Spur. It grows well, and flowers freely, good bulbs bearing two or three handsome flowers. It is a splendid daffodil for pot culture and for forcing, and it is also useful for the garden. Golden Spur and Henry Irving are both daffodils of the Maximus type, but whereas the latter variety is not usually a success in any but heavy moist soils, and a genial climate, the others succeed under ordinary conditions.

THE KING AND KING EDWARD SPENCER SWEET PEAS.—G. H., Bath: We are not in a position to say whether these sweet peas are identical, simply because King Edward Spencer is an American variety that has not yet been tested in this country side by side with The King. Both are described as waved forms of King Edward VII., and Mr. Atlee Burpee told us that his King Edward Spencer appeared to be practically the same as The King. The latter is the prior name, supposing the varieties to prove identical. Grow them both, quite near each other, so that you may the more easily make comparisons.

PROPAGATION OF COLEUS THYRSOIDEUS.—M. M., Oxford: As the plants go out of flower keep them slightly drier at the roots for a week or so, and then cut them back and put them in a warm house, or pit, where, under the influence of heat and moisture, they will soon break into new growth, providing cuttings that will root readily if inserted singly in small pots of sandy soil. After they have rooted and been once potted the young plants must receive cooler treatment.

DESTRUCTION OF VERMIN.—Most gardens are pestered with Rats and Mice. Every effort should be made to exterminate them before seeds are sown. Danysz Virus is first rate stuff for killing these vermin. Single tube, 2s., three tubes, 5s. Post free from DANYSZ VIRUS, LTD., 52, Leadenhall Street, [illegible] Dept. London, E.C.—[Advt.]

SHRUBBY CALCEOLARIAS.—S. R. K., Tewkesbury.—You should at once prepare a bed of pretty rich soil in a frame, and in this plant the young calceolarias from four to six inches apart. Keep them close for a few days and then admit air, quickly increasing the amount so that in all but frosty and wet weather the lights can soon be entirely removed. By following this method you will obtain fine, well-rooted plants for putting out where they are to flower at the end of April or early in May. It may be desirable to pinch out the growing points as soon as the plants have become established in the frames, but this depends upon the size of the plants and the purpose for which they are required. Good loam, mixed with old hotbed material, and sand, provides an excellent compost for the calceolarias. Treated in this way, and planted out of doors early, there will be scarcely a gap in the beds or borders, and you will be free from that dreadful collapse that follows semi-starvation and late planting.

SWEET PEAS.—M. E. M., Yarmouth: Put some twigs in the pots for the plants to cling to. There is no need for hurry in planting, unless the plants are very tall and the pots very full of roots, and even in such a case we should prefer to give weak soot-water, or weak liquid manure once a week rather than plant out now. The second week of April will be early enough for planting.

GRAFTING.—B. B., Winchester: You may proceed with the work of grafting at once, and for your purpose the method known as rind-grafting will be most suitable. About three grafts to each branch will suffice; cut the grafts so that there is a little shoulder to rest upon the top of the stock, and be sure that the inner bark of scion and stock are in contact one with the other.

NUMBER OF FRUITS AND VEGETABLES PER DISH.—As yours is an amateur society we suggest you follow the regulation of the National Amateur Gardeners' Association in this matter. It is as follows: "In exhibiting vegetables and fruits for competition the following regulation as to number must be observed unless otherwise stated in the schedule:—Tomatoes and potatoes, 6 of each; broccoli, cabbage, cauliflower, celery, kale, lettuce, 3 of each; Brussels sprouts, beans, and peas, 25 of each; cucumbers and vegetable marrows, 2 of each; beet, carrots, leeks, onions, parsnips, turnips, 6 of each; melon, 1; grapes, 2 bunches; peaches, nectarines, 3 of each; apples, pears, quinces, 5 of each; apricots, figs, 6 of each; plums, 9; damsons, 15; medlars, 10; strawberries, 15; gooseberries, 20; currants, 20 bunches; cherries, raspberries, blackberries, loganberries, mulberries, and nuts, 25 of each."

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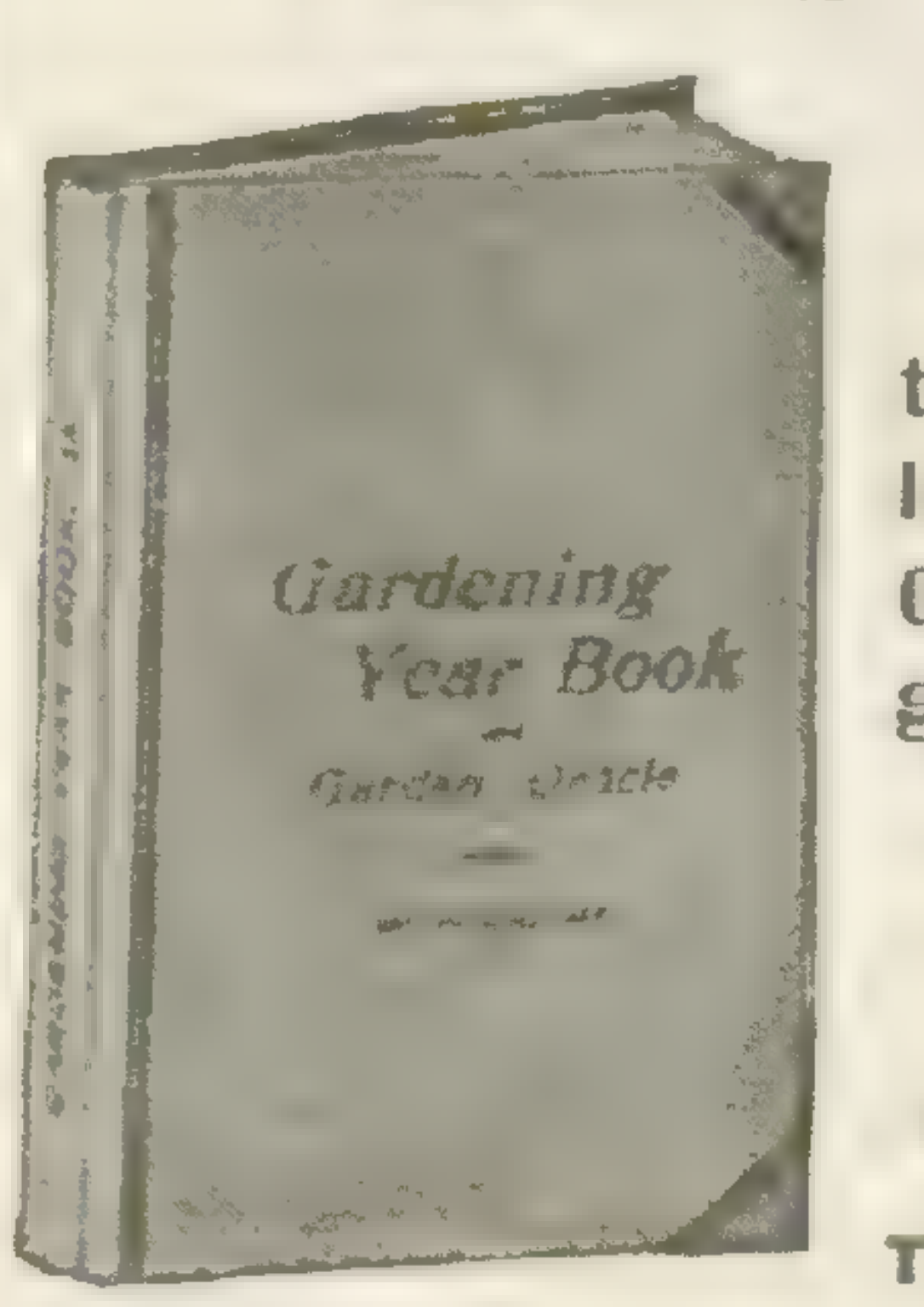

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NAMES OF PLANTS.

Under this heading we can only undertake [illegible] species and well marked varieties of plants [illegible] not florists' flowers. Specimens should be [illegible] in stout boxes with damp (not wet) moss [illegible] leaves, as packing material, to ensure their [illegible] us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that ferns fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any [illegible] correspondent.

G. B. S., Waterford.—1, Berberis Wallichiana; 2, B. stenophylla; 3, Osmanthus ilicifolius.

W. H., Liverpool.—1, Coleus thyrsoideus; 2, Primula verticillata; 3, Odontoglossum Hunnewellianum.

H. W. P., Guildford.—It is quite impossible to tell the species from the roots, and so we can only help you in a general way. 1 is a phlox; 2, a delphinium; 3, a pæony; 4, an edible asparagus; 5, a solidago; 6, dog's-tooth violet; 7, a pyrethrum.

NAMES OF FRUITS.

When sending fruits for naming will our readers be good enough to send good specimens, as without these it is not possible to accurately determine the varieties. Pack firmly, using light tin or wood boxes, and send not more than six varieties at once. Label each specimen and enclose letter with [illegible] fruit, whether a separate notification is sent or not. Address the packages to the Editor, Gardeners' Magazine, as advised in the notice at the head of "Answers to Correspondents."

S. E. C., Keswick.—Bellisime d'Hiver.

W. F. M., Newbury.—Mabbot's Pearmain.

J. E. S., Oxford.—Bedfordshire Foundling.

W. S., Taunton.—Baumann's Red Winter Reinette.

F. E. F., Upminster.—1, Bramley's Seedling; 2, Mère de Ménage.

H. B. W., Surbiton.—1, Hawthornden; 2, Baumann's Red Winter Reinette; 3, Winter Majetin.

METEOROLOGICAL OBSERVATIONS.

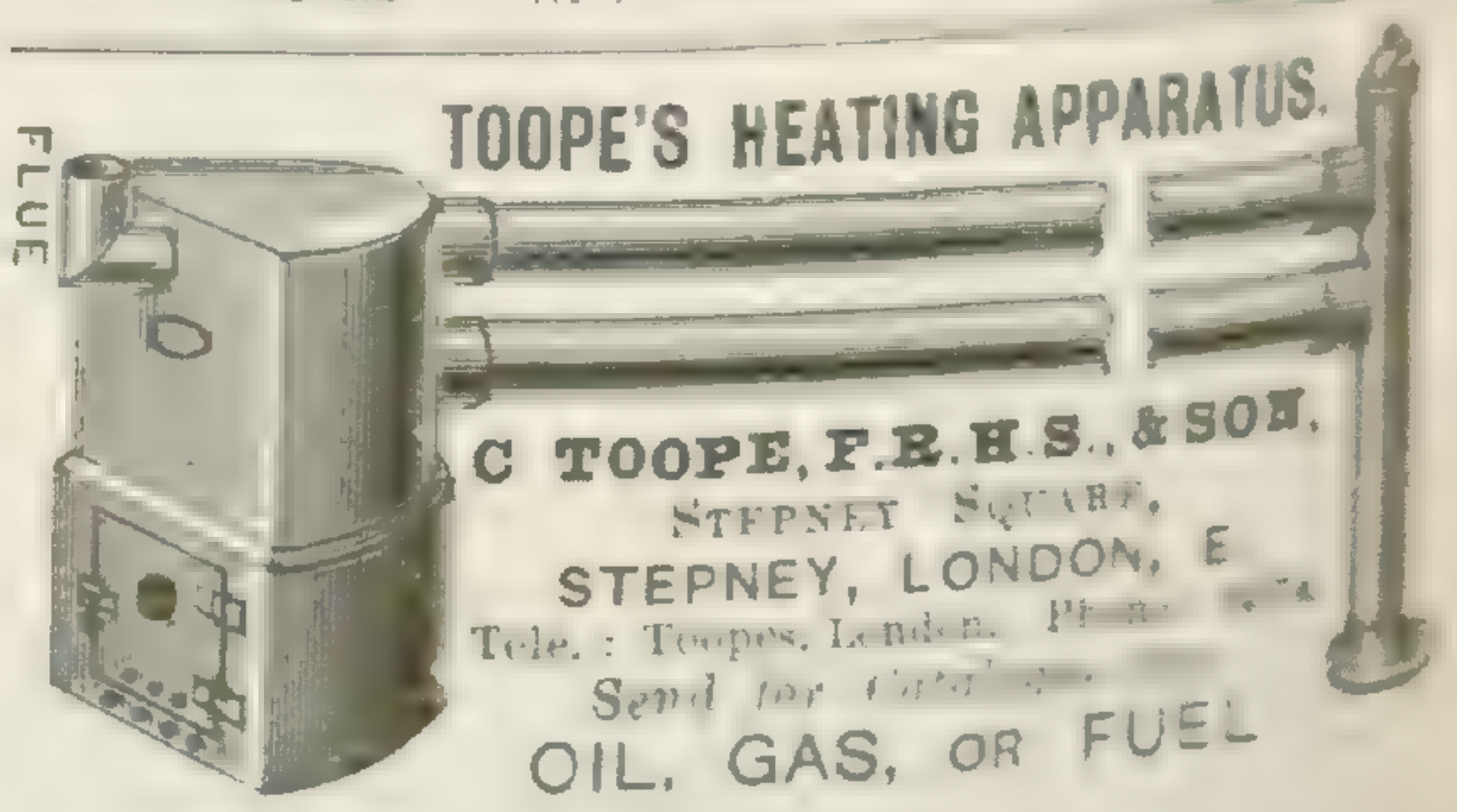
TAKEN BY THE R.H.S. GARDENS AT WISLEY SURREY.

Height above Sea-level, 150 feet.

Date.	Sunshine.	Temperature of the Air.			
1909. March 14 to March 20.		At 9 a.m.		Day	Night
		Dry Bulb	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Mar. 14—Sunday	—	35	34	36	[illegible]
„ 15—Monday	0 24	33	33	36	[illegible]
„ 16—Tuesday ...	6 30	31	31	41	[illegible]
„ 17—Wednesday.	7 18	35	32	45	[illegible]
„ 18—Thursday ..	0 48	43	41	47	[illegible]
„ 19—Friday	2 42	46	45	55	[illegible]
„ 20—Saturday ..	1 30	48	47	53	44
Means	(total) 19 12	39	38	45	31

Date.	Rain.	Temperature of the Soil. At 9 a.m.			[illegible]
1909. March 14 to March 20.		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
Mar. 14—Sunday	0·01	37	38	40	[illegible]
„ 15—Monday	—	36	38	40	[illegible]
„ 16—Tuesday ...	—	35	37	40	[illegible]
„ 17—Wednesday.	0·02	36	38	40	[illegible]
„ 18—Thursday ..	0·24	37	38	40	[illegible]
„ 19—Friday	0·15	40	39	40	[illegible]
„ 20—Saturday ...	—	42	40	40	[illegible]
Means ...	(total) 0·42	38	38	40	29

TOOPE'S HEATING APPARATUS.



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MARKETS.

COVENT GARDEN.

Flowers.

Although supplies are fairly good prices are firm, and this is due to the lateness of outdoor daffodils, etc.

		s.	d.		s.	d.
Acacia	per doz. bun.	8	6	to	12	0
Adiantum cuneatum	per doz. bun.	5	0		9	0
Anemones	per doz. bun.	1	6		2	6
Arums	per doz.	3	0		4	0
Asparagus	per doz. bun.	1	6		6	0
Azaleas	per doz. bun.	4	0		5	0
Bouvardias	per doz. bun.	6	0		8	0
Camellias	per doz.	1	6		2	0
Carnations	per doz. blms.	2	0		4	0
,,	per doz. bun.	9	0		12	0
Cattleyas	per doz.	10	0		15	0
Croton leaves	per bun.	1	0		1	6
Cypripediums	per doz. blms.	1	6		3	0
Daffodils	per doz. bun.	3	0		7	0
Dendrobiums	per doz.	2	0		3	0
Eucharis	per doz.	2	6		3	6
French fern	per doz. bun.	1	0		3	0
Freesias	per doz. bun.	2	6		3	6
Gardenias	per doz.	3	0		5	0
Hyacinths, Roman	per doz. bun.	7	6		12	0
Lilac, white	per bun.	3	0		5	0
,, mauve	per bun.	4	0		6	0
Lilium auratum	per bun.	2	0		3	0
,, speciosum	per bun.	2	0		3	0
,, longiflorum	per bun.	4	0		5	0
Lily of the Valley	per doz.	7	0		14	0
Marguerites, white	per doz. bun.	2	0		4	0
,, yellow	per doz. bun.	2	0		3	0
Mignonette	per doz. bun.	2	0		4	0
Narcissi	per doz. bun.	1	6		2	6
Odontoglossums	per doz. blms.	2	0		3	0
Pelargoniums	per doz. bun.	5	0		9	0
Roses	per doz.	2	0		9	0
Snowdrops	per doz. bun.	1	0		2	0
Spiræas	per doz. bun.	5	0		7	6
Stocks	per doz. bun.	2	6		4	0
Tulips	per doz. bun.	5	0		20	0
Tuberoses	per doz. blms.	0	3		0	6
Violets	per doz. bun.	1	6		3	0
,, Parmas	per bun.	3	0		4	6

Fruits.

A steady business continues; Cape fruits are in good demand and oranges sell well.

		s.	d.		s.	d.
Apples, American	per barrel	13	0	to	27	0
,, English	per bush.	7	0		10	0
,, Nova Scotian	per barrel	17	0		27	0
,, Californian	per case	8	0		10	6
,, French Russets	per case	9	0		10	6
Apricots, Cape	per case	6	0		8	0
Bananas	per bun.	3	0		10	6
Chestnuts	per bag	7	0		16	0
Cranberries	per case	8	0		12	0
Figs	per box	0	10		1	6
Grapes, English	per lb.	1	0		4	0
,, Almeria	per bar.	12	6		23	0
,, Guernsey	per lb.	0	10		1	2
,, Cape	per case	5	0		6	0
Lemons	per case	6	0		18	0
Medlars	per case	4	0		5	6
Oranges, Jamaica	per case	6	0		10	0
,, Denia	per case	10	0		27	0
,, Jaffa	per case	8	0		10	6
,, California	per case	12	0		14	0
Peaches, Cape	per case	6	0		10	0
Pears, Californian	per case	8	0		12	0
,, Cape	per box	3	0		7	0
,, Catillac	per crate	8	0		10	0
Pineapples	each	2	0		6	0
Plums, Cape	per case	5	0		10	0
Strawberries	per lb.	6	0		12	6

Vegetables.

The scarcity of greenstuffs is reacting on root crops and good samples realise high prices.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	2	6	to	4	0
,, Jerusalem	per bush.	1	9		2	6
Asparagus	per bundle	3	6		6	6
,, Sprue	per bun.	0	8		1	0
Beet	per bush.	1	0		2	0
Beans (French)	per lb.	1	6		2	6
Broccoli, Sprouting	per bag	4	0		4	6
Brussels Sprouts	per ½-bush.	2	0		4	0
Cabbage	per tally	4	0		8	0
Carrots	per doz. bun.	1	0		3	6
Cauliflowers, Cornish	per crate	6	0		9	0
,, Italian	per basket	3	0		4	0
Celery	per doz. rolls	7	6		12	6
Celeriac	per doz.	1	6		3	6
Chicory	per lb.	0	4		0	6
Cucumbers	per doz.	3	0		7	0
Endive	per doz.	1	6		2	0
Horseradish	per doz. bun.	8	0		12	0
Kale	per bush.	3	0		4	0
Leeks	per doz. bun.	1	0		2	0
Lettuce, French	per crate	3	0		4	6
Mint	per doz. bun.	3	0		6	0
Mushrooms	per doz. lb.	7	0		12	0
Onions, Pickling	per bush.	3	6		4	6
,, Valencia	per case	10	0		12	0
Parsley	per doz. bun.	3	0		7	6
Parsnips	per bag	2	0		3	0
Radishes	per doz. bun.	1	3		2	6
Rhubarb	per doz. bun.	0	9		1	0
Savoys	per tally	7	0		10	6
Seakale	per doz. pun.	10	0		15	0
Spinach	per basket	2	6		3	6
Tomatoes	per doz. lbs.	4	0		6	0
,, Canary	per pack.	10	0		15	0
Turnips	per bag	3	0		4	0

LONDON POTATO MARKETS.

There is a little improvement in trade, but the advance in price is very slight.

		s.	d.		s.	d.
British Queen	per ton	50	0	to	60	0
Epicure	per ton	50	0		65	0
Evergood	per ton	45	0		55	0
Sharpe's Express	per ton	60	0		65	0
Maincrop	per ton	65	0		70	0
Royal Kidney	per ton	45	0		55	0
Up-to-Date	per ton	60	0		65	0
,, Blacklands	per ton	50	0		55	0
Canary, new	per cwt.	10	0		12	6

CATALOGUES RECEIVED.

HUGH LOW AND CO., BUSH HILL PARK, ENFIELD.—A useful and illustrated catalogue of perpetual, Malmaison, and border carnations, the first-named section receiving chief attention.

WM. SYDENHAM, MELBOURNE, DERBYSHIRE.—Four little lists, briefly descriptive of carnations, early-flowering chrysanthemums, violas, and Michaelmas daisies.

CRAVEN NURSERY, CLAPHAM, LANCASTER.—A well-arranged and finely-illustrated catalogue of Alpine and bog and water plants.

WM. COOPER, LIM., OLD KENT ROAD, S.E.—Although the advertisements of this firm's spring clearance sale are wonderful, they only include the leading bargains obtainable. The catalogue shows many more and will be sent on application.

THE PIERSTON GARDEN COMPANY, PIERSTON, GILLINGHAM, DORSET.—A full and interesting catalogue of sweet violets, in which the numerous varieties now in cultivation are concisely described.

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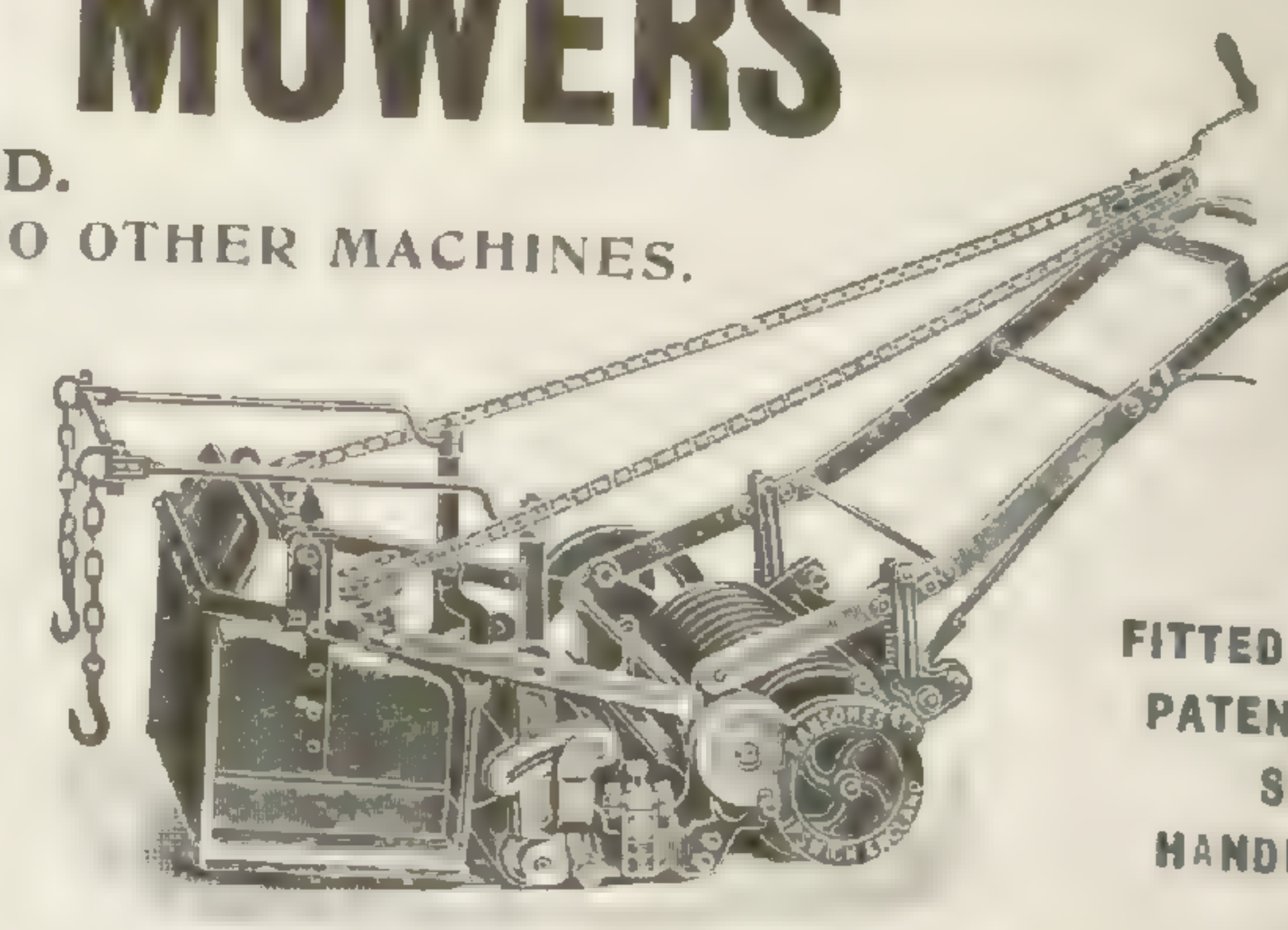

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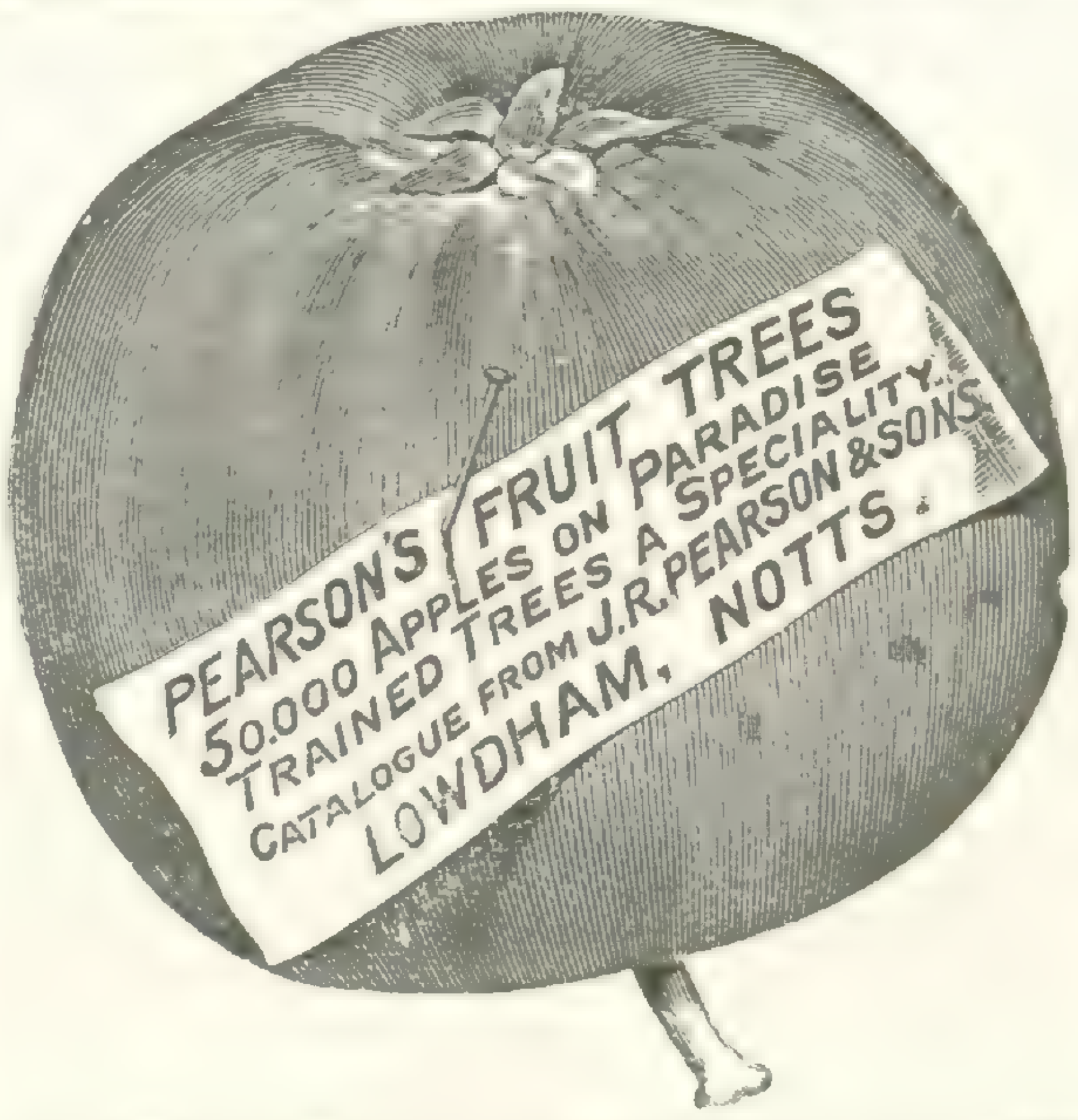
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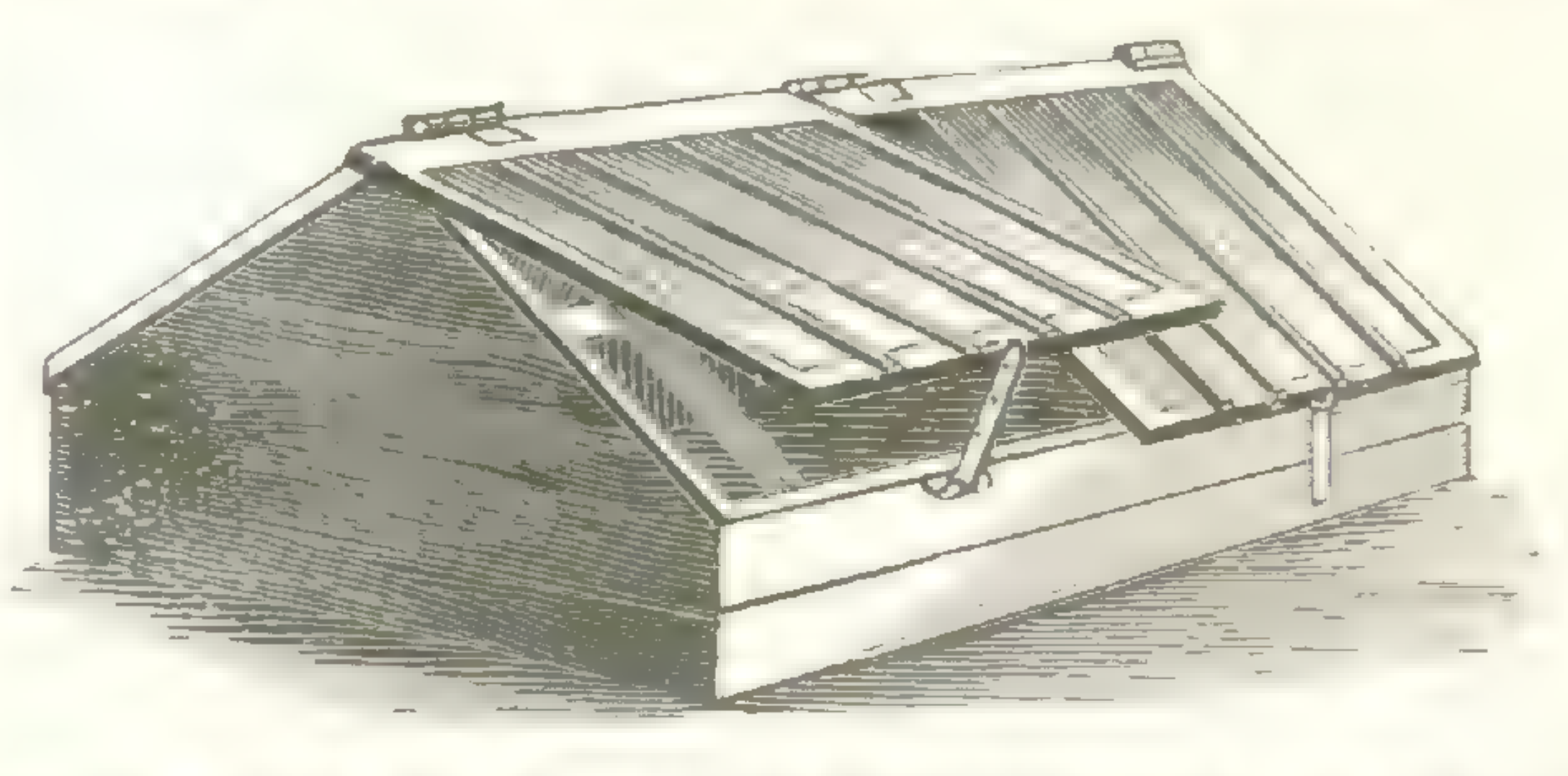

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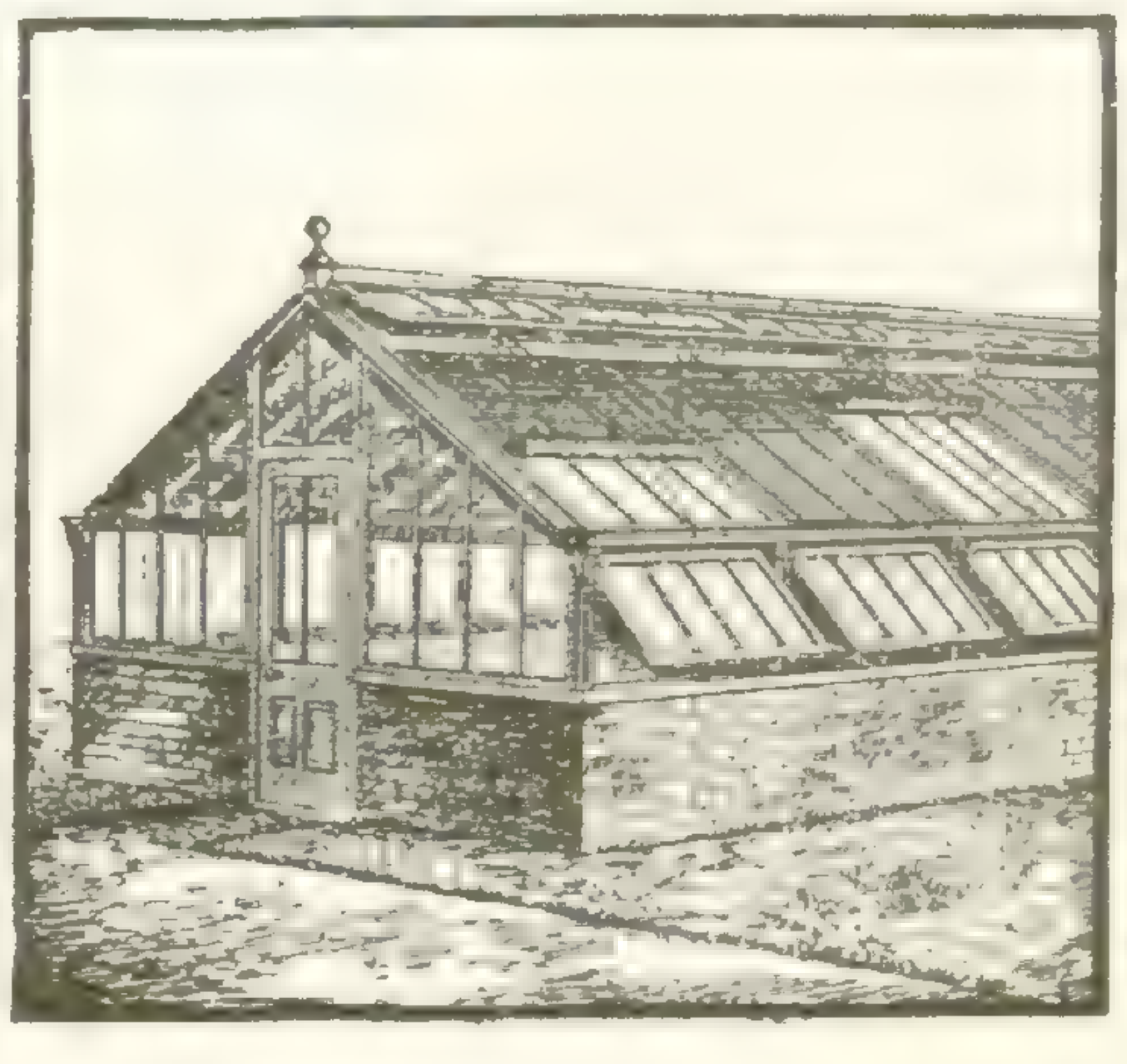

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GARDENER (Head Working, where two or more are kept), thoroughly experienced in vines, peaches, melons, stove, and greenhouse plants, flower and kitchen garden; leaving through employer giving up place; age 30; single. EDWARDS, Gardens, New Park, Brockenhurst, Hants.

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GARDENER (Head Working), age 32, married; life experience in good establishments, including Syon House, Mereworth Castle, and Old Warden Park; highest references. F. FRENCH, Covent Garden, Barming, Kent.

GARDENER (Head Working or good Single-handed); age 38; married, 2 children; thoroughly experienced in all branches, Inside and Out; understands cows; good references. Disengaged. A. GOODFELLOW, 94, Sherrard Road, Forest Gate, Essex.

GARDENER (Head Working); life experience in all branches, Inside and Out; married; good references; disengaged when suited. W. CANE, Sparrows Green, Wadhurst, Sussex.

GARDENER (Head Working), thoroughly experienced in all branches, both indoor and outdoor, highest references from present and previous employer, three years present situation; married, age 40. STEADMAN, Drayton Lane, Cosham, Hants.

GARDENER (Head Working), age 40, son 16, require SITUATIONS (together or separate); 25 years' practical all-round experience, including glass, excellent references; disengaged when suited; some experience in the care of poultry, bees, etc. H. W., 32, Alexandra Road, Chislehurst, Kent.

GARDENER (Head, or Single-handed); age 31; married, no family; good, all-round Man; highly recommended; 6 years in last place; left through gentleman giving up garden. Apply J. MANNING, 73, Thayer's Farm Rd., Beckenham, Kent.

HEAD GARDENER to Sir Alfred Reynolds, life experience in all branches, seeks SITUATION where three or more are kept; excellent references. H. PARCELL, 15, Warren Terrace, Bengeo, Hertford

J. J. PARKER, Oakleigh Road, Whetst N., wishes to recommend a hard-work liable Man as HEAD; age 40; married, 2 life experience cultivating Fruit, Flowers Vege Grapes, Chrysanthemums; 9 years present

LADY MALCOLM, of Poltalloch, highly recommends her HEAD GARDENER, years in present place, Head of three; life experience in all branches; age 36; married, one seven years. W. BASTIN, Barnardiston Hall Gardens, Haverhill, Suffolk.

ROBERT ROGERS, Head Gardener to late Thomas Arnall, Esq., Brookside, Headington, can be well recommended to anyone requiring the services of an efficient, practical man, with round experience; age 38; married, three Address Brookside Gardens, Headington Hill Ox

THE HONBLE. R. P. STANHOPE, Revesby Abbey, Boston, will be pleased to recommend good Man as HEAD GARDENER; thoroughly practical and reliable; experienced all branches; here as Foreman; age 33; married when W. EDWORTHY, Revesby Abbey Gardens, B Lincs.

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GARDENER seeks SITUATION as Single-handed; understands poultry, and jection to cow; married; age 39; now 3 and 6 years good character; Berks or Oxon ferred. Apply W. DEARLOVE, Dorchester W lingford, Oxon.

GARDENER (Single-handed, or with all-round experience, Inside and Out lent references; age 26; single. H. COLL Crouch Hill, Hornsey, N.

GARDENER (Single-handed, or with good all-round experience in all bran 35; married, two children; good VINALL, c/o Mr. Buckland, Lambs Green, Sussex.

GARDENER (Single-handed or otherwise eight years' practical experience, Out; married, one child; highest WEBLEY, Adlestrop Gardens, Chipping Norton

GARDENER (Single-handed or with nine years' experience; Inside and Out; good references. L. LAMBERT, 11, Chapel Road, Pimperne, Blandford, Dorset.

GARDENER (Single-handed, or with Vines, Stove, Greenhouse Plants; Inside and Out; good character by me, ried (boy 5 years); willing to be useful. C. H. SMITH, 44, Ravenbourne Road, Disengaged when suited.

GARDENER (Single-handed or with good second's place not objected age 36; tall; one child; life experience Out; good references. H. WARNER, 17 Road, Margate, Kent.

GARDENER seeks SITUATION, handed or where help is given; life experience in all branches; good ATTWATER, Ivy Cottage, Horsmonden, Kent

GARDENER (Single-handed or Und life experience all round, 25; single; disengaged when The Gardens, Beachborough, near

GARDENER (Single-handed or Under years' good experience Inside and Out well recommended; age 24. C KIMBERLEY ingbury, Rugby, Warwickshire.

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Please Repeat my Advertisement.

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Situations Wanted—*continued.*

GARDENER (Single-handed, with help), or good Second; 10 years' experience in good establishments; well up Inside and Out; good reference; age 25. Apply H. WOODHOUSE, 1, Merryhill Terrace, Belmont, Hereford.

FOREMAN (Inside), age 26; 12 years' experience; fruit and plants, house and table decoration; good references, including Waddesdon Manor and Worth Park. G. JOHNSON, Stansted Hall Gardens, Stansted, Essex.

MANAGER-FOREMAN (Working), age 40; married; abstainer; life experience, Trade, Market Nurseries; well up Propagating, Fern Growing, Palms, Bedding Plants, Pot Plants, Annuals, Biennials, Bulb, Valley, Chrysanthemums, Tomatoes, Cucumbers, Grapes, Book-keeping. A. E., Turnditch, near Derby.

MANAGER-FOREMAN or SALESMAN to Market Gardener or Fruit Grower; capable, energetic Man; whole life experience in every branch; accustomed to entire Charge of large Farm and to Sell at Covent Garden; excellent testimonials; 15 years with last employer, who has just given up business; moderate wages if with prospect of permanency. HY. BAGLEY, 61, High Street, Brentford.

GARDENER (Second, Inside and Out), nine years' experience; good references; age 25. Berks or counties joining preferred. W. SMITH, The Bothy, Epping House, nr. Hertford, Herts.

GARDENER (Second) seeks SITUATION; experience, Inside and Out; good reference; age 25; married. OVALL, Angel Cottage, South Weald, near Brentwood, Essex.

GARDENER (Second, Inside and Out); 6 years' experience; good characters; country, near London preferred; age 23. J. TOKINS, Stones House, Todmorden, Lancs.

GARDENER (Under or Single-handed) or CARETAKER; 14 years' experience, chiefly Outside; good references; married; abstainer. PEGG, The Lodge, West Hatch, Chigwell, Essex.

GARDENER seeks SITUATION as Under or Single-handed; odd jobs not objected; used to kitchen garden and lawns; good ref.; abstainer; age 24; 3½ years in the last place; left through gentleman giving up place. Apply E. DOW, St. Mary Cray, Kent.

JOURNEYMAN (First, Inside); Fruit and Plant Houses, Table Decorations; age 24; eight years' experience; good references. H. COX, Sunny Side, Kingsthorpe Northampton.

JOURNEYMAN (Inside).—W. HEADINGTON will be pleased to recommend S. WEBB. age 23, to any Gardener requiring a willing Hand; seven years' experience; Bothy preferred. The Gardens, Waltham Place, Maidenhead, Berks.

JOURNEYMAN (Inside), age 21.—A. BAKER, Hapstead Gardens, Ardingly, Sussex, wishes to recommend W. MEADS; eight years' experience in Plant, Fruit, Kitchen, Flower Gardens; Bothy preferred.

JOURNEYMAN (Inside and out); age 22; 7 years' experience; 2 years' present place. Apply JOHN HUGHES, The Gardens, Gwrych Castle, Abergele, N. Wales. (No circulars.)

YOUNG MAN, age 22, seeks SITUATION in good establishment as JOURNEYMAN; can be well recommended; seven years' experience. W. DREWRY, Postwick Rectory, Norwich.

GARDENER seeks SITUATION in Kitchen Garden and Pleasure Grounds; 12 years' experience; married, one child; can be well recommended. H. PORTER, 15, Barnfield Road, Belvedere, Kent.

GARDENER or GROOM-GARDENER, willing, trustworthy, abstainer; age 26; life experience; 12 months last place; 5 years' previous. S., 99, Fortess Road, Kentish Town, N. (No circulars.)

IMPROVER (Inside, or Inside and Out); age 17.—H. BURNELL, The Gardens, Kingsmead, Matfield, Kent, highly recommends a strong, willing, and industrious Youth as above; 18 months' experience in present place. Bothy preferred.

IMPROVER seeks SITUATION in good establishment, Inside; four years' experience; good reference; age 18; Bothy preferred. W. WALLER, Labourne Lane, Hascombe, near Godalming, Surrey.

J. COWIE, Gardener to the Honourable Stuart Bouverie, High Barn, Godalming, wishes to recommend his Son, age 17½, as IMPROVER (Inside:) two years' experience in the Gardens of Sir Chas. Metcalfe; strong and willing. Bothy preferred.

WANTED, SITUATION as an IMPROVER, age 17; strong and willing; has had three years and ten months' general experience Inside and Out: total abstainer. Bothy preferred. A. HYLAND, Woodlands, Ticehurst, Sussex.

LADY can highly recommend Gardener to any Lady or Gentleman requiring a good practical, hard-working MAN; thoroughly understands his work, Inside and Out; life experience; leaving through death; 10 years' excellent character; age 34; married, one child, 8 years. W. HIGGINS, The Lodge, Darrington, Camberley, Surrey.

MARRIED MAN (29), one child, seeks SITUATION as KITCHEN GARDENER, used to cows and poultry; good references; also slight knowledge of greenhouse work; willing and obliging. Apply ARTHUR WILLIAMS, Bisbrooke, Nr. Uppingham, Rutland.

MR. COLLINS, Stud House, Hampton Court, wishes to recommend F. COOLING, age 19, as Inside and Out or Kitchen Garden and Pleasure Grounds; 2 years present situation.

MR. M. FEAKES, Lilley, Luton, Beds, will be pleased to recommend H. DAVIS to any Lady or Gentleman requiring a steady, hard-working YOUNG MAN for Kitchen Garden and Lawns; 11 years' experience, Inside and Out; good refs.; abstainer; age 30. H. DAVIS, 42, Lilley, Luton, Beds.

MR. J. SALTER wishes to recommend G. ODDY (27), as a trustworthy and reliable Man; life experience; has been here three years as leading man; Inside and Out; good ref.; abstainer; married, no children. The Gardens, Avenue House, Finchley, N.

THOS. MORRIS, Gardener, Dytchleys, Brentwood, Essex, would be pleased to recommend ALFRED RAINBIRD, age 18½, Inside and Out; 4½ years' experience. Bothy preferred.

YOUNG MAN seeks SITUATION as under Gardener; age 19; Inside and Out; strong and willing. G. LUFF, 18, Prospect Place, Maidstone, Kent.

YOUNG MAN (23), Farmer's Son, seeks SITUATION as UNDER GARDENER, with a good chance for improvement. Good knowledge of kitchen gardening; abstainer; excellent reference. G. SEAR, Hardham, Pulboro, Sussex.

YOUNG MAN (25) seeks SITUATION as UNDER GARDENER (Inside and Out); six years in present place; good references. W. SMITH, Egerton House, Egerton, Ashford, Kent.

YOUNG MAN seeks SITUATION in the Houses under Foreman, in good establishment; age 22; six years' experience; good references and well recommended; Bothy preferred. Apply, A. CHANT, Darby Lodge, Sunbury-on-Thames.

YOUNG MAN (19) seeks SITUATION in Kitchen Garden and Pleasure Grounds; three years present place; well recommended; Bothy preferred. W. DUNK, Great South Hawke, Woldingham, Surrey.

YOUNG GERMAN, 19, experienced in pot Planting, Forcing House, some Agriculture and Vegetable Garden, wants permanent Situation. Could enter any time. Does not know English. Address E. SQUAR GARTNEREI GEBR, Niermann Altrahlstedt, Hamburg.

YOUNG MAN seeks SITUATION; small Nursery, Inside; experience in Chrysanthemums, Tomatoes; Hampshire or near London; low wages for permanency. CHAS. COLES, 199, Camberwell New Road, S.E.

YOUTH, 18, seeks RE-ENGAGEMENT as Third or Fourth, Indoors; or help Out; 4 years outside. Address, Mr. G. FARMER, Head Gardener, Beckford Hall, Tewkesbury.

YOUTH, age 18, seeks SITUATION in good Garden; slight experience; strong and willing; Bothy preferred. H., 138, Silvermere Road, Catford, S.E.

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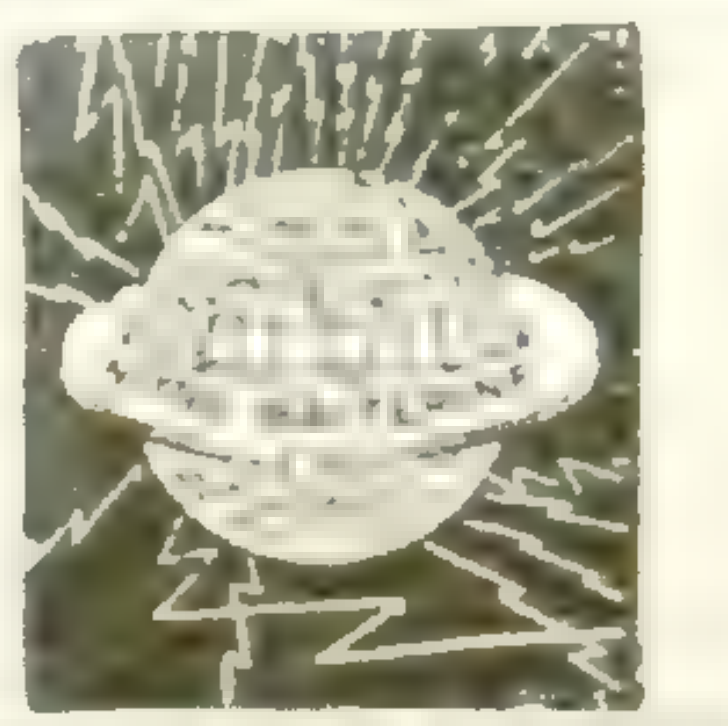

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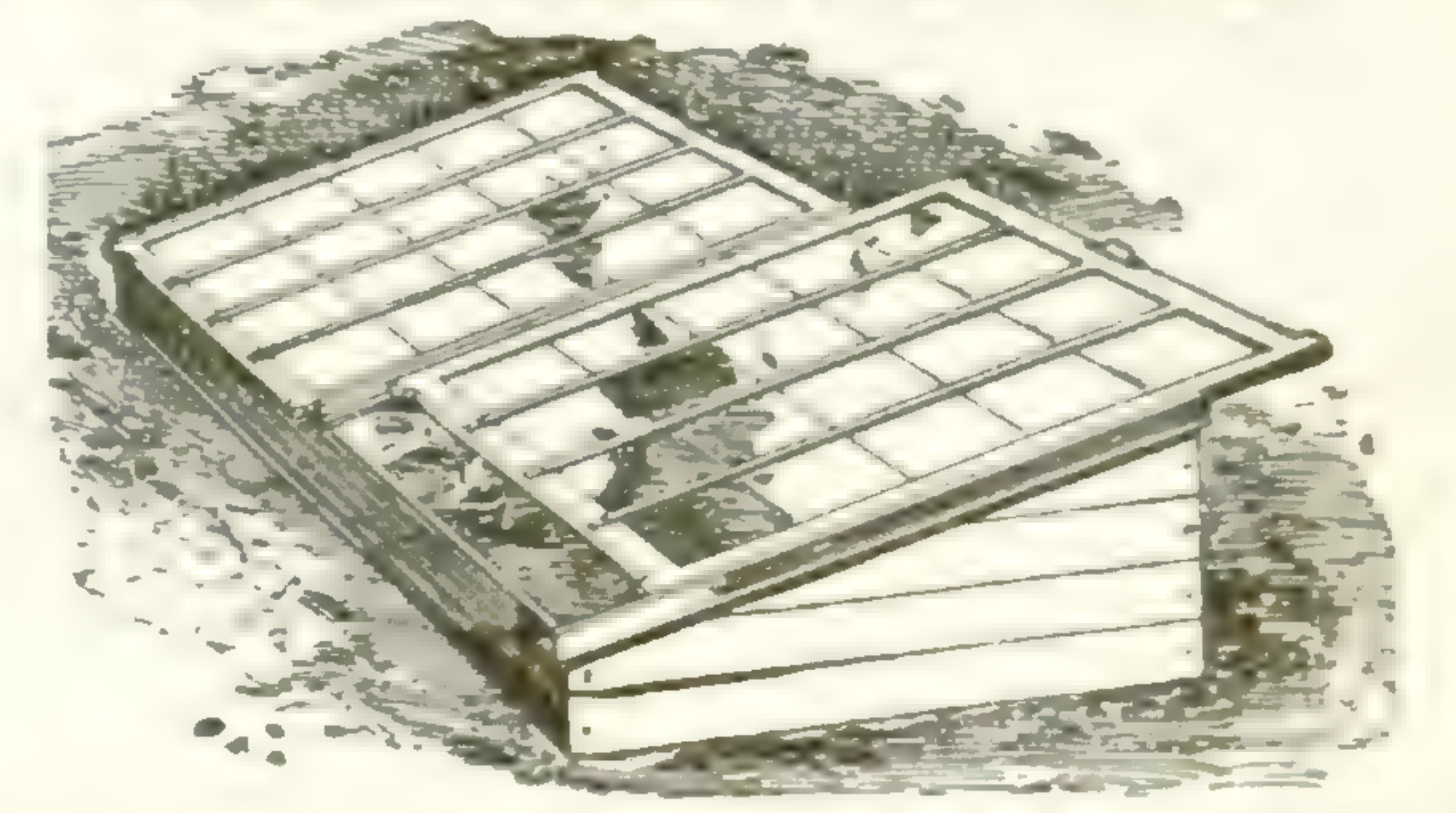

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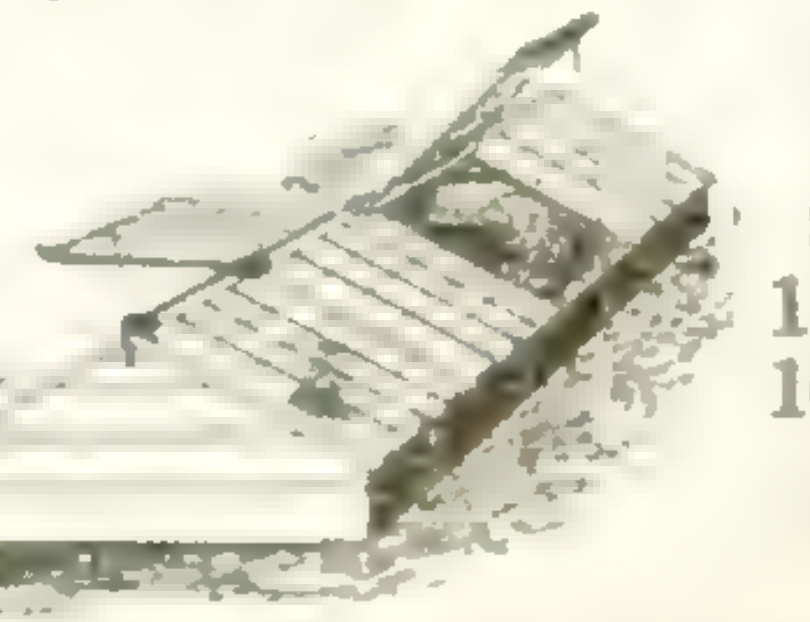

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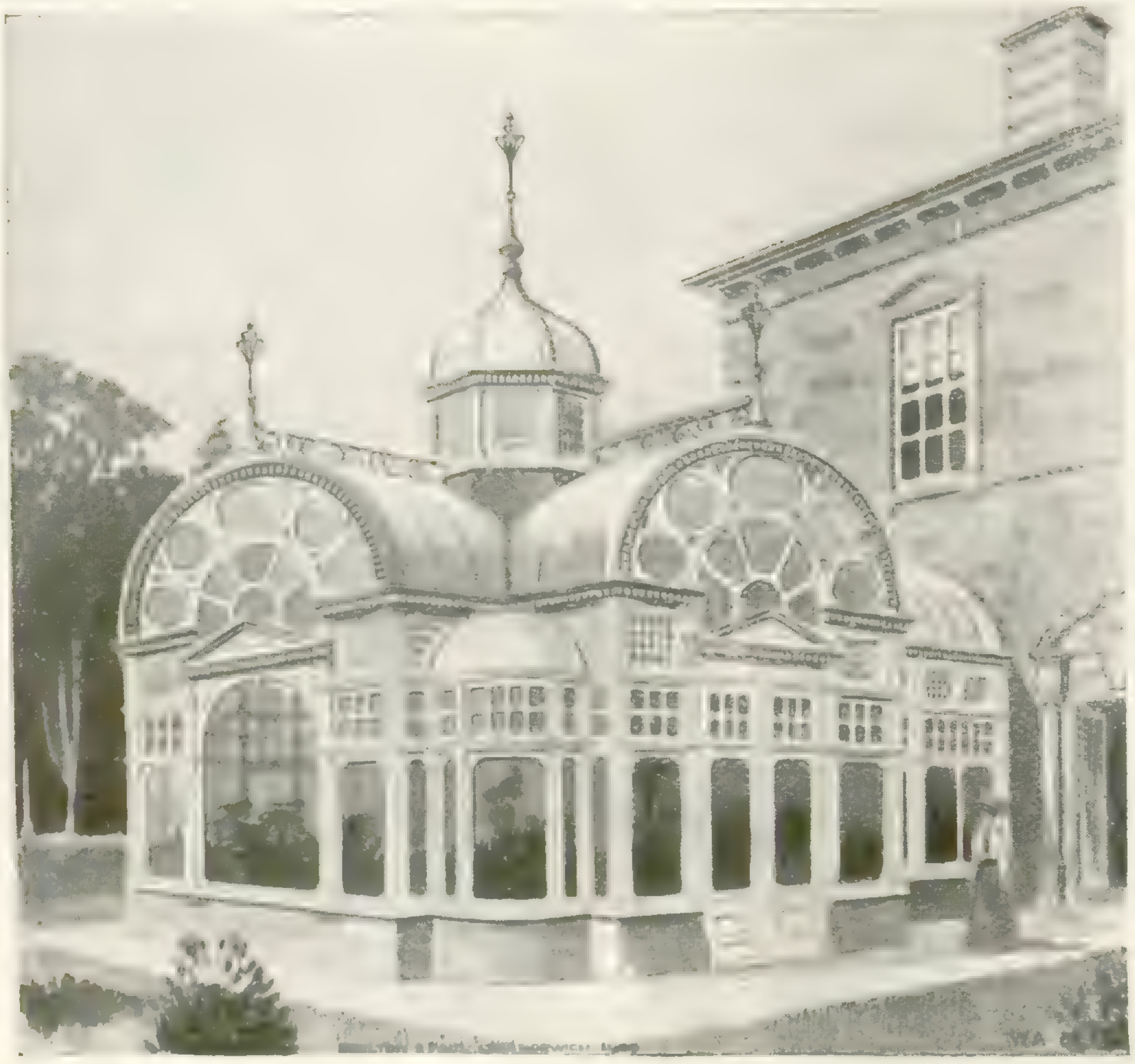

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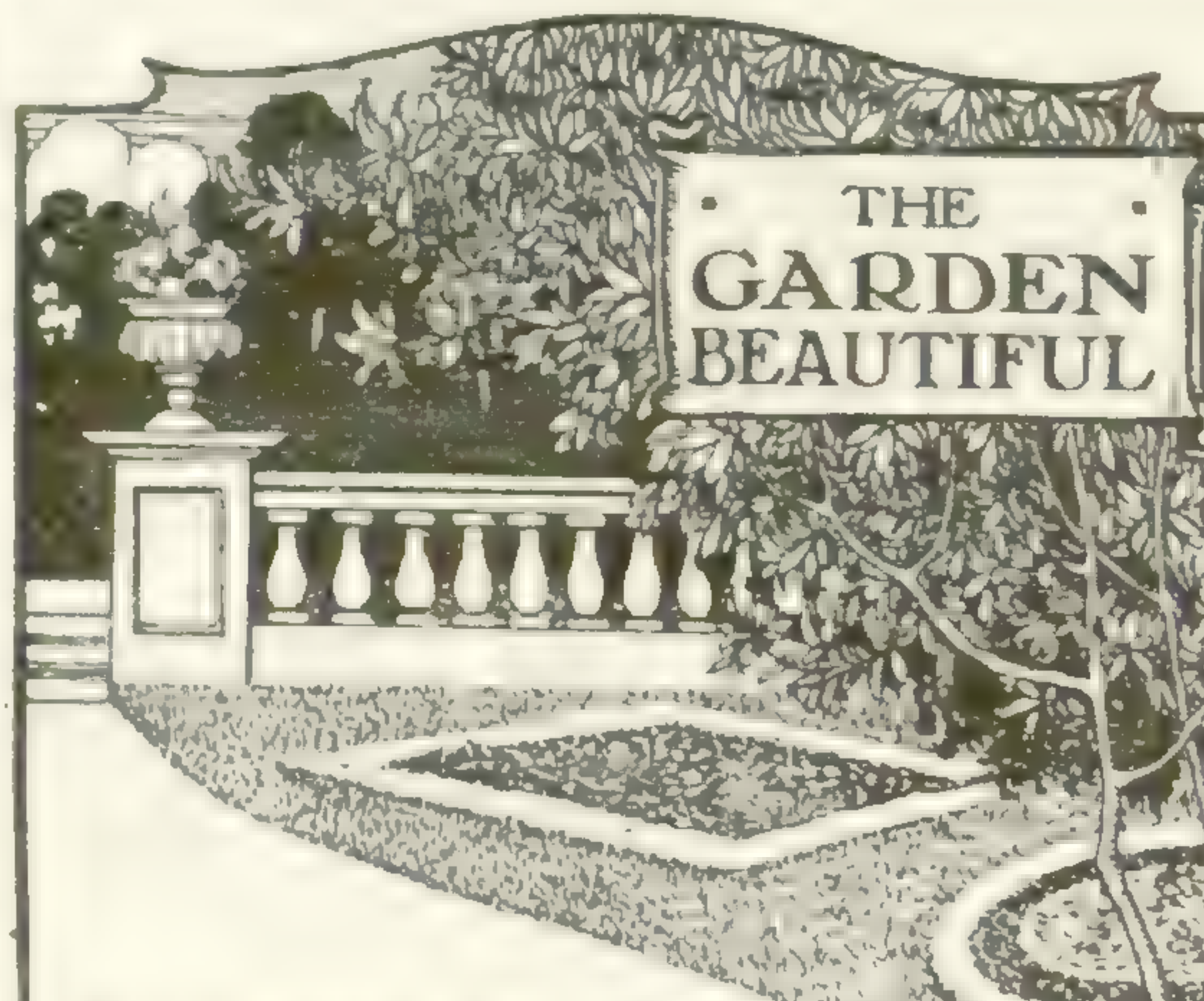

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VOL. LII.—No. 2,892. SATURDAY, APRIL 3, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Water Gardening.

Time is not yet when the plant lover is likely to be possessed with a strong desire to hasten to the banks of the silent pool or babbling brook to enjoy the exquisite form and colouring of the flowers of water lilies, or to inhale the fragrance of the water hawthorn, or, it may be, to admire the graceful growths of the water flags, or the massive wide-spreading leaves of the gunneras. As we write, the weather is too cold and damp to enable one to become enthusiastic about nymphæas, or indeed, other of the hardy moisture-loving plants; but there are signs of a change in the atmospheric conditions that will be more conducive to the enjoyment of the garden. In any case, it is necessary to remember that, if not now possible to become enthusiastic about the water garden, the time is not far distant when we must give our careful consideration to some at least of the practical details that require attention thus early in the season. If alterations in the formation or the furnishing of the garden are contemplated, plans must be prepared and carried out without delay, so that planting may be done sufficiently early for the several subjects to make their growth in due season. It should not be forgotten that a very decided change in the weather is now due, and that, as in other late seasons, it may be so great as to give an immense stimulus to vegetative activity, and thus render it difficult for those who have fallen behind with their preparatory work to bring up arrears in time for their plants to derive the fullest advantage from warmer conditions. We have now four or five weeks before water lilies need be planted, but not a few of the semi-aquatics which so greatly enhance the charm of a lily pool when tastefully grouped on the margin should be put in their positions before any considerable period has elapsed. Moreover, if it is not desirable to plant the hardy nymphæas until the month of May has given us a foretaste of its delights, it is important to bear in mind that a selection of varieties should soon be made, and everything put in order for planting when the time arrives. We are anxious at the present time to impress upon our readers the desirability of thinking out the various details well in advance, and thus avoid mistakes of a serious character being made, or the risk of delays being incurred that may materially affect the flower production of the water lilies, and, indeed, the general attractions of the water garden for the current year. Water gardening is no longer in its infancy; but much has yet to be accomplished before it can be regarded as a whole quite satisfactory. Many are the gardens in which water lilies and their associates are grown to a high degree of perfection, and so arranged as to produce effects in colour and form that at once appeal to those who are liberally endowed with artistic perceptions. There are also some wherein the accomplishment has fallen short of expectations, owing, it may be, to overlooking some detail seemingly unimportant, but really essential to success. To obtain the fullest enjoyment from the plants under consideration, it is essential the water garden should, both in design and planting, be in full agreement with the environment. This proposition will, to not a few of our readers, appear self-evident; yet, judging from our experience and observation, it is one that cannot well be given too great a prominence whenever water gardening is under consideration. Not only is it necessary that aquatics should be successfully cultivated, but they should be so arranged that they appear to be an essential part of the general scheme. For our present purpose water lily pools and ponds may be arranged in two groups, one natural and the other formal. Both types have their merits and admirers, and which should be selected must be determined by the position the garden will occupy. The natural pool, with its undulating margin and fringe of free-growing plants should certainly not have a place near the house, and especially on a severely formal terrace, for it is so out of keeping with its surroundings as to detract from the general effect and to fail to obtain for its occupants the attention they merit. On the other hand, a formal pond, with architectural embellishments, is wholly out of place when, as in some cases, it is located in the wild garden. It is desirable these incongruities should be avoided, and it may be helpful to state as a general proposition, that formal pools should be near the house and natural water gardens be in a position in the pleasure grounds where a free natural growth is permissible on all sides. Another point is to give full consideration to the fact when making selections, that the nymphæas in cultivation differ materially in growth as well as in the colours of the flowers, and to endeavour to maintain a proper balance between the plants and the pool in which they are grown. In other words furnish pools and ponds of limited area with the smaller forms, and in the furnishing of large ponds and lakes freely utilise the more robust growing kinds. There are some other points to which attention might well be directed, but, in an early issue we shall give special attention to water lilies and other aquatics, when they can be more fully dealt with than is now possible.

MR. JAMES GIBSON.

Mr. James Gibson, head gardener to His Grace the Duke of Portland, at Welbeck Abbey, is a young man who has attained eminence in his chosen profession as a result of whole-hearted attention to business. Mr. James Gibson has some natural advantages over many of his fellows, he is tall and of fine presence, and unfailing good humour. This latter quality has stood him in good stead in the years that have gone, when he was struggling to win name and fame, and when, like others before him, he had to suffer defeat at exhibitions. He smiled at defeat, learned his lesson, and made a braver show next time. It was "over the garden wall" at the Royal Horticultural Society's old gardens at Chiswick that we first made Mr. Gibson's acquaintance; he was then head gardener to Mr. Watts, at Devonhurst, and the garden he had charge of backed on to the R.H.S. Gardens. While not forgetting the ornamental side of gardening, Mr. Gibson was very successful in those days with fruits and vegetables, and his orchard house fruits, in pots, were very fine. Later, Mr. Gibson went to Danesfield, Marlow, the residence of R. H. Hudson, Esq., where he had a large establishment to control, and consequently wider opportunities, all of which he took advantage of. But his great opportunity came when the Duke of Portland needed a head gardener, and Mr. Gibson was selected for the post. We have not seen the Welbeck Gardens since Mr. Gibson took charge, but from many sources we learn of their splendid management under his care. As a competitor Mr. Gibson always tackles the big things, and few who saw it will forget the magnificent fight for supremacy in the great vegetable competition at Edinburgh in 1905, when he was second to Mr. E. Beckett, with 139½ points against 142½, and this when he had been at Welbeck only twelve months. He has turned the scales sometimes since then, but, undoubtedly, Mr. Gibson stands with Mr. Beckett in a class alone, for vegetable culture. Hardy fruits, chrysanthemums, and carnations are other things Mr. Gibson grows superlatively well, but he is a fine all-round gardener with, we hope, long years of success still before him.

Noteworthy Gardens Round Reading.—The district of which Reading is the centre has so long been famous for the number, the importance, the diversity, and the attractions of its gardens, that a sketch of its horticultural aspects cannot fail to prove of much interest to all who are interested in gardening. We have therefore much pleasure in announcing that in our issues for the 10th and 17th inst., we shall give a fully-illustrated account of the more noteworthy of the great gardening establishments in the neighbourhood of Reading. The gardens that will be illustrated and described comprise Aldermaston Court, Bere Court, Caversham Park, Englefield House, Foxhill, Hardwicke House, Hillside, Maple-Durham House, Whiteknights Park, and Wokefield Park.

A Bank of Cyclamen Coum is a novelty, and a very pretty one, though not very strikingly effective. At Kew there is a low bank, near the Orchid Houses, between the head of the T Range and the path that leads past the Cumberland Mound to the collection of hardy ferns. On this low bank some five thousand Cyclamen Coum have been planted, and these are now dotting the grass with their little rosy flowers. They make a pretty scene, and one that the lovers of the rarer, choicer, hardy plants will delight in, but, as an item of garden scenery, they scarcely count. We watched hundreds of people pass within a few yards of the bank without noticing the dainty little flowers of this delightful plant. If the white form were freely associated with the type, and was a success, the effect would be much finer. We hope the experiment, now so promising, will succeed, because we do not want to limit our early spring displays to snowdrops, aconites, crocuses, scillas, and chionodoxas, all of which are very beautiful now in the Royal Gardens.

Gummosis in Lemon.—At the recent meeting of the R.H.S. Scientific Committee, Mr. Worsley showed a branch of a lemon with leaves beginning to shrivel, attacked in a lower portion by gummosis, a considerable mass of gum exuding from the stem, and the bark being browned all round for a considerable distance. It was remarked that, in some cases gumming of trees had been found to be associated with the presence of a fungus, and often appeared to start at a wound, but in the present case no wound could be discerned. In the course of the discussion Sir Daniel Morris said that in Florida the gumming usually occurred in the trees where they had been budded, and Mr. Fawcett said he had seen trees affected in a manner similar to that shown by Mr. Worsley's example in the West Indies, where the disease was thought to be associated with too liberal manuring with nitrogenous manures, or with heaping earth round trees. The disease was treated by cutting out the diseased portion and dressing the wound with tar.

Mr. H. E. Gribble, who has for so many years had charge of the Wynyard Park Gardens, has, we are informed, at the request of the Marquis of Londonderry, taken charge of his lordship's gardens at Seaham Hall also, which he will manage in conjunction with those of Wynyard Park.

Weather in Glasgow. — The meteorological notes and remarks on the weather with reference to its effects upon vegetation that are annually prepared by Mr. James Whitton, superintendent of the Glasgow public parks, are invariably of much interest, and those relating to last year's weather are no exception to the rule. From the notes and remarks on the weather conditions of 1908, which occupy twenty-four 8vo. pages, we learn that during the year there was an absence of very severe frosts and an undue preponderance of easterly winds. The rainfall was considerably below the average, and there was more sunshine and greater warmth, especially in the midsummer months. As the weather of the previous season was not conducive to thorough maturation of growth, there was not the tendency to early growth in the greater proportion of the plants, even had the weather been favourable for early development. Excepting in the case of those plants which are easily excited to growth, and generally regarded as precocious subjects, there was, on account of the dry, cold weather in spring, a slow movement in growth, and, until the third week in May, vegetation was regarded as being about ten days behind the usual time. With the improved weather conditions, however, after that period there was a remarkable development in vegetation, and by the middle of July, it was more forward than it was at the same time of the previous year. Trees and shrubs did not come up to the average in flower production, and the blooming was very erratic and short lived. The later development as to the growth of shoot and foliage was in every sense satisfactory, and as the weather conditions proved favourable for the maturation of growth, trees and shrubs give every promise for a brilliant display in the coming season. Rhododendrons are specially noticeable, they being literally studded with flower buds. The fruit crops in the Glasgow district were considerably below the average, the disastrous frosts on April 24 and 25 having ruined the bush fruits in most places.

National Rose Society.—The high degree of popularity which this society enjoys at the present time is evidenced by the fact that during the past month 126 new members have been added to the list.

Nature Study for Women at Swanley.—At the Swanley Horticultural College for Women a short Nature Study course is being arranged for the period from July 31 to August 14, 1909. Most of the instruction will be given out of doors, under the guidance of experienced teachers. The chief features of the course will be studies in plant life and plant geography, studies in pond life, of insects and birds, and garden lectures and demonstrations, the latter to include such subjects as seed sowing, temperature, propagation, budding, and pruning. For teachers and those training for teachers the fees are materially reduced.

The Alpine House at Kew is at present one of the chief attractions of the Royal Gardens. This span-roofed, unheated house contains early alpine plants in pots and pans, and these are now flowering beautifully, their dainty form and bright colours attracting everyone. Saxifraga apiculata, S. Griesbachi, various muscaris, scillas in variety, Bulbocodium vernum, Iris reticulata, Cyclamen Coum and its white variety, drabas, chionodoxas, corydalis, crocuses, etc., etc., are among the subjects in flower, all anticipating by a little the plants out of doors.

Seakale on the Seashore.—Mr. G. Garner writes: On the seashore near Calshot Castle, and directly opposite the Isle of Wight, seakale grows most luxuriantly without any further attention than that of covering the crowns for blanching purposes early in the spring. The plants grow in the shingle close to the tidal watermark. The roots permeate the shingle and sand below to a depth of from 4ft. to 6ft. In winter time, and during high tides, many plants are quite submerged. There are several acres of shingle covered with seakale, and the flavour of the blanched heads is very much better than that of any garden produce. Very few plants run to seed in summer time.

No Florists There.—The "Weekly Florists' Review" tells the following good story from Mr. W. N. Rudd: "Once upon a time, and not so long ago," says Mr. Rudd, "a party of visitors was being shown through one of the great penitentiaries. Everywhere was spotless cleanliness—not a speck of dirt anywhere; floors [illegible] scrubbed, hand rails polished till they shone, nothing out of place, lawn close cut, great stone buildings one unbroken expanse of gray, and at last the bareness of it all got upon the nerves of the visitors. 'Don't the monotony oppress you?' asked one of the guests. 'Wouldn't it take away the grimness to have some flowers? Why don't you have some window-boxes, and flowers on the lawn? Wouldn't they have an elevating influence on the prisoners, and make your own life less dreary?' 'Yes, they would,' replied the warden, 'and we have often wished we had some flowers, but, you see, while we have men here of almost every occupation and profession, we haven't [illegible] one florist.' "

PRIMROSES AND POLYANTHUSES.

The finer strains of polyanthuses are particularly suitable for large, bold beds, either alone or in conjunction with daffodils or tulips, as one may see each spring at Hampton Court, Kew, Belvoir Castle, and other places where spring displays are a great feature. But this notwithstanding, these delightful spring flowers seem at their best when planted freely along the margins of woodland walks, in great drifts under thinly planted trees, or in irregular masses in the grass along the borders of the pleasure grounds. We have a vivid recollection of splendid breadths of polyanthuses, primroses, and daffodils in the woodland garden at Pridéaux Place, in North Cornwall, and of the wonderful effects produced at Belvoir Castle, and the accompanying illustration shows fine masses of primroses and polyanthuses at Hanley Court, Tenbury, Worcestershire, the residence of Mrs. Wakeman-Newport, who very kindly sent us the photograph from which the illustration was made. It is more than half the battle to obtain a fine strain of these flowers to begin with, and, as there are several excellent strains on the market, no difficulty need arise in this respect. Good plants for putting into their flowering quarters should be secured, and, where the plants are allowed to remain, an annual top-dressing of leaf-mould and old decayed manure works wonders. Where polyanthuses are allowed to remain and naturalise themselves, a sharp look-out should be kept each spring for plants that revert to a poor type in either form, freedom, and colour, and these should be ruthlessly destroyed, or the strain will suffer, and the beauty of the spring display be materially reduced in a few years. Of course, right out in the woods, this matter is of less importance, but it certainly should not be forgotten where the display is near the house or close to much frequented walks.

[Photo: Mrs Wakeman-Newport.

THE "PRIMROSE" GARDEN AT HANLEY COURT, TENBURY.

THE NEW HYBRID TEA ROSE, RHEA REID.

For a long time there was a demand for a really good dark red hybrid tea or tea-scented rose, and when Liberty was introduced in 1900 we thought we had the right thing. Good as Liberty is, it has not the grand habit of Rhea Reid. I grant that Liberty is a deeper and clearer red—almost scarlet in intensity of colour, an exquisite shape, very fragrant, and a free grower under glass, but it is too tender and erratic in growth to become a popular rose in the open.

Five years later (1905) Richmond was sent out. This is decidedly better in growth, but with us it is not so good and deep in colour as Liberty. Its better and more vigorous habit, however, has enabled it to push Liberty on one side, and to quite surpass it as a forcing rose. You can cut Richmond with a much more useful stem than is possible with Liberty, and not feel grieved that so much of the plant is gone.

Rhea Reid was sent out last year by Messrs. E. G. Hill and Co. (the introducers of Richmond), and they gave it a most glowing description: "As large as American Beauty, as double as Bridesmaid, as fragrant as La France, as red as Richmond in winter," etc. American Beauty is not much grown over this side, but Rhea Reid has a decided likeness to it in shape. Rhea Reid is a grand rose, and is almost all that is claimed for it by the raisers, but I think they go a trifle too far when they claim for it the fragrance of La France, although it has much of the sweet perfume found in General Jacqueminot.

Rhea Reid has done well with us. We had plants over early in the spring of 1908, full of growth when they arrived: so much so that buds were taken off and worked upon a few early stocks in the open. These grew, and flowered during the same summer, while the plants that were put in the open border continued in flower almost as late as the dwarfer forms of polyanthas. Under glass, too, it was constant, and it is here, I feel sure, it will be most welcome. It stands remarkably well. As a matter of fact, the fullest blown flower shown at the R.H.S. (when it gained an Award of Merit last week) was a fortnight old.

Earlier in this note I mentioned that Richmond produced good growth for cutting from, but Rhea Reid is much more vigorous. A friend of mine has a quantity under glass—some 4,000 plants—and thinks much of it, but it does not oust Richmond, in his opinion, under glass. It is a little too double, and long in opening for his purpose, nor is it so finely formed in the bud stage as Richmond.

After only one season's growth in the open it is hardly fair to say too much of this rose, but it is a remarkably free and vigorous grower, very floriferous, stands the sun, and lasts well, while that it is very hardy is proved by the way our plants and dormant buds have passed through the late severe weather, and I must say they have stood as well as the most hardy of the hybrid perpetuals.

It is of ideal habit, vigorous, and yet free, not throwing up a few long growths and unbalancing the plants, as so many do, and this will be in its favour as a permanent bedding rose. A. Piper.

Uckfield.

THE CULTURE OF STOCKS IN POTS.

These exquisitely fragrant flowers lend themselves to, and are admirably adapted for pot culture, and they are very desirable subjects for the decoration of the greenhouse or dwelling-rooms in early summer, and by making sowings of the various selections at the proper time we can enjoy their beauty over many months of the year.

The method adopted by the writer with respect to the Ten-week varieties that are usually sown in warmth in early March, is to grow them in rather deep boxes filled with loamy soil, with a liberal addition of cocoa-nut fibre refuse and manure, until they are good and sturdy plants. They are given four or five inches of space in the boxes, and when the plants meet they are lifted with a good ball of roots and transferred to four-and-half-inch and six-inch pots. They are then put in a cold frame, kept close and syringed for about ten days, when the ventilation is gradually increased until the plants are thoroughly hardened. The whole batch is then plunged to the rims of the pots in a warm border, and by keeping them well supplied with water, and giving an occasional dose of nitrate of soda, really splendid plants are produced.

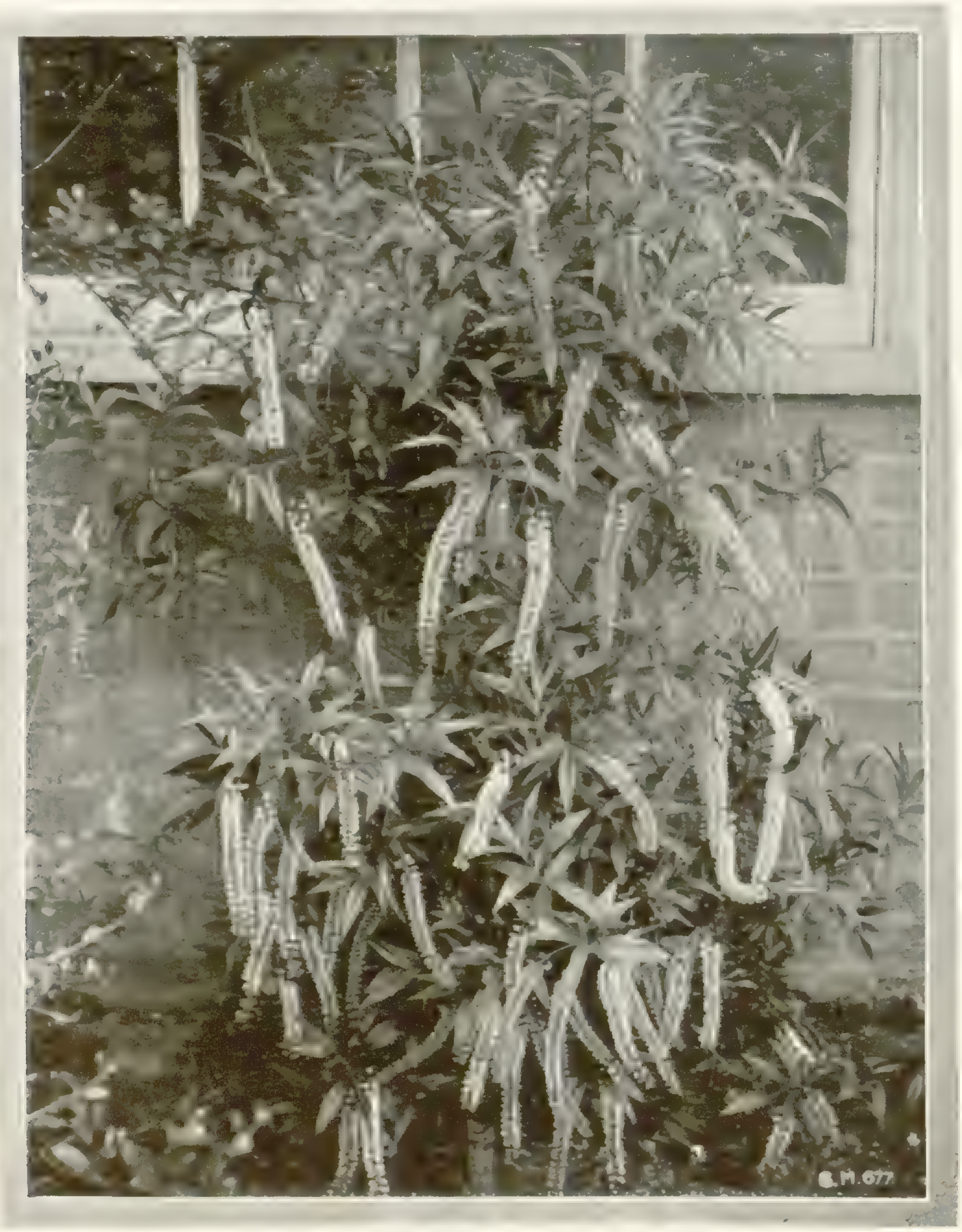
One hardly knows which to recommend as all the varieties are very beautiful. The Dwarf German Ten-week becomes a dense mass of large blossoms. Very fine, indeed, is Carter's Monarch, which throws up a single spike quite two-feet in length, and is clothed with enormous snowy white flowers. Giant Branching is a tall variety with rather thinly arranged branchlets, and, certainly, is second to none either for fragrance or effect.

A sowing of the Intermediate stocks is made early in May in nursery quarters, and as soon as the rough leaf is formed a sufficient quantity is potted into 60-sized pots and placed in a cold frame until established, when they are plunged in narrow beds of ashes. When a fair amount of growth has been made and the roots reach the sides of the pots the plants are transferred to six and seven-inch pots and again plunged in the ashes, where they remain until the end of September. The whole stock is then placed under cover to be drawn upon as desired, and it will be found that if introduced to a genial warmth, say 50 degs., they will hasten into bloom. Beauty of Nice is very fine for this purpose.

Then we have to consider the indispensable Brompton and East Lothian stocks, which are so exceedingly welcome in the early spring, and the same treatment is required, with the exception that the batch is wintered in cold frames, abundance of air being admitted whenever the weather is open. They readily respond to the warmth of an ordinary greenhouse, and should receive liquid manure as soon as growth becomes active. This remark applies to the other sections, and it may be pointed out that it is a huge mistake to select the largest seedlings for any purpose, as the most forward almost invariably turn out to be single, while the (at first) despised weaklings can generally be relied upon to produce double flowers.

Reverting to varieties for a moment, Princess Alice forms a splendid pot plant of somewhat slender growth, the inflorescence being of the purest white, and, further, it is a continuous bloomer. Those who have not yet given it a trial in the open garden and as a bedder, should do so this season. A word as to soil. Good turfy loam with short manure, sand, and a small quantity of lime rubble, will meet their requirements, and fairly firm potting is an essential point in their management.

Walter H. Aggett.



VERONICA SALICIFOLIA IN THE CAMBRIDGE BOTANIC GARDENS.
Flowers bluish-purple, or white.

VERONICA SALICIFOLIA.

In the Cambridge Botanic Garden about forty species of the New Zealand veronicas are grown in a sheltered position, where, with a little extra protection, they withstand our ordinary winters without injury. They are a most interesting set of plants as a collection, varying in form from the curious V. cupressoides and V. lycopodioides to the larger and commoner kinds, such as V. Colensoi and V. Traversi.

Amongst those which prove themselves worthy of being more often seen (at least in the Midlands and South) are V. parviflora, which flowers early in summer, and also during October and November; and V. salicifolia, of which I send a photograph. This plant is about four feet high, and, as the name implies, possesses leaves which much resemble those of the willow. The flowers are produced in great profusion during early summer, in long, catkin-like, drooping spikes of a pale purple colour, these rendering the plant most attractive for a month or six weeks. It is also one of the strongest growing species which recommends it for a trial where a sheltered sunny corner can be found for it. This is the only special consideration it demands in its cultivation, but all of the species stand the winter best in light, well-drained soil.

E J Allard.

CORNUS MAS.

This tall-growing deciduous shrub, which is known in some places under the common name of cornelian cherry and cornel, is less frequently met with in shrubberies and plantations than it ought to be, as it has several qualifications which commend it for general cultivation, especially in the wilder parts of the garden. It is a native of Europe, and will thrive almost anywhere, growing to perfection in both good and poor soil. Under favourable conditions, as regards space, it grows into a large bush 18 to 20 feet high, and upwards of 12 feet through. Its most interesting period is early spring, February or March, according to the mildness or severity of the season, for at that period its branches are starred all over with small heads of tiny yellow blossoms, which make a very pleasing picture on a sunny day. In the case of plants which produce female flowers a further period of interest occurs in summer, when the red, cherry-like fruits are ripe.

In addition to the type there are several well-marked varieties, such as variegata, with silver variegated foliage; aurea elegantissima, with golden-marked leaves; fructa violacea and xanthocarpa, with violet and yellow fruit respectively; and nana of dwarf, compact habit. The appearance of a bush in full flower reminds one of a hamamelis, but the cornus has the advantages of being more easily grown, and of being of value for positions where hamamelis would be out of place.

W. Dallimore.

CACTUS-FLOWERED CINERARIAS.

The florist is always ready to take advantage of any peculiarity presented by flower or plant in a collection of varieties of a recognised type of some popular flower. If the peculiarity suggests a development that is likely to become popular, or, at least, appeal to a considerable number of plant lovers, the florist proceeds to perpetuate the peculiarity. Further, by self-fertilisation, and selection, he will modify or accentuate the peculiarity, as seems most desirable. The frilled begonia recently figured in these pages is one instance of patient work on the part of a florist, and the cactus-flowered cineraria herewith presented is another. In this case Messrs. Sutton and Sons have secured a fine race of elegant cinerarias, of good habit, and in a great variety of colours, but instead of the flowers being regular, and with broad florets, as in the florist's or show type, or producing small, starry blossoms, as in the case of the tall, graceful, and useful Star cinerarias, the flowers are of considerable size, and the florets have their margins rolled, after the fashion of cactus dahlias. There is a peculiar elegance about this race of cinerarias, and as it has become fixed in character there are now three distinct races, or strains, from which to make selection for conservatory decoration. The plant figured was one of several dozens exhibited by Messrs. Sutton and Sons, of Reading, at the recent meeting of the Royal Horticultural Society.

BAMBOOS AND THE PAST WINTER.

Not for many years have bamboos suffered to such an extent as they have since Christmas, and many bamboo gardens about London, and in other places, which at Christmas time could be pointed out as the principal attraction out of doors, became, by the middle of January, possibly the most melancholy feature. This was chiefly due to the blizzard which made its appearance during the latter days of 1908, and to the subsequent frost and cold winds. All kinds have suffered more or less, even such old, well-tried sorts as Arundinaria japonica, or Metake, as it is sometimes called, and Phyllostachys viridi-glaucescens. Some plants look as if a fire had passed over them, drying up all the foliage, for, instead of green leaves, brown, shrivelled foliage is all that remains.

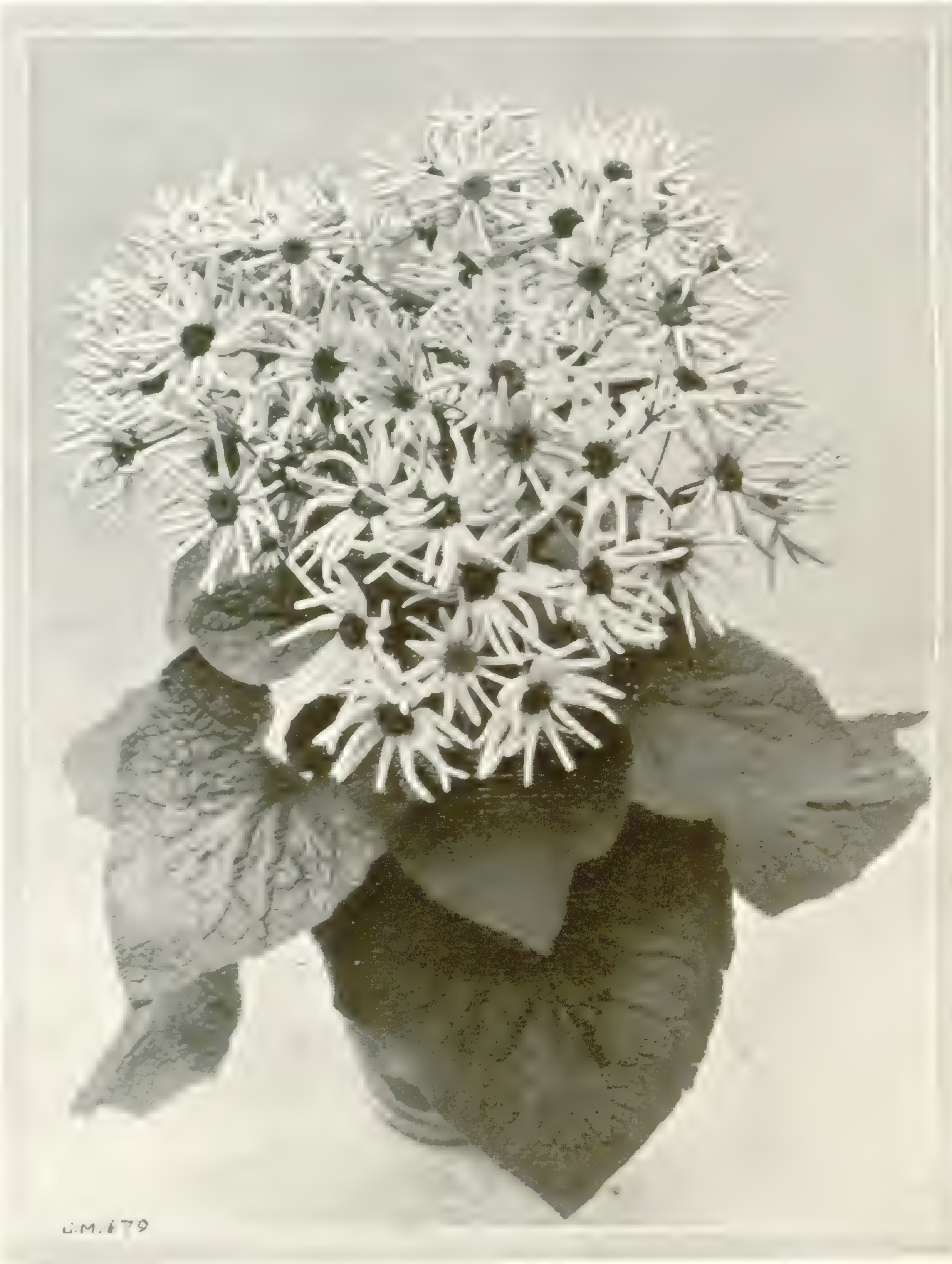
In this devastation one sort stands out as being less seriously damaged than the remainder, that one being Phyllostachys fastuosa. On this the leaves are still green, though they have suffered to some extent; compared, however, with Arundinaria Hindsi, of which every leaf is brown; A. anceps, which has lost all its leaves; or A. japonica, with about half its branches spoilt: it is a column of greenery. Unless a very favourable April and May occur, with warm, moist weather, bamboos will look pitiable objects until midsummer. Such an occurrence as this emphasises the fact that bamboos, which, at their best, are the ideal of all that is graceful and beautiful, are not suitable subjects for indiscriminate planting, and that they should be allotted a corner to themselves, rather than be mixed up with ordinary shrubs, or occupy prominent positions on lawns and in other places. D. K.

ECCREMOCARPUS SCABER.

The Chilian Glory flower is one of the most rapidly-growing of all our out-door climbers, and at the same time it is one of the most delicately graceful. In the South of England it is fairly hardy in a normal winter, while in the South-west of England and Ireland it will continue to keep on growing throughout the winter and even produce a few flowers. Where it succeeds as a perennial it develops thick, woody branches, and may be kept nailed up to a wall like other wall shrubs, some protection being given in the winter, or at least during severe weather. Generally, however, unless the situation is a favourable one, it dies nearly or quite down to the ground in the winter, and in such circumstances it is advisable to put a heap of coal ashes over the roots in November, so that, if cut down to the ground, it may grow up again from the roots in the spring. Slugs are very fond of the young growth and will devour the young shoots from the base before one is aware any have appeared.

In cold and damp gardens, therefore, where this climber not only dies down but slugs molest it, it is better to grow it as an annual. It is an abundant seeder, and seed can be bought very cheaply. If sown in gentle heat in late February or early March, or even in a cold frame in the latter month, the raising of good plants for flowering from July onwards is very simple. They should be pricked out into pans as soon as they are in the third or fourth leaf, and, when an inch or two high, potted off into sixties. If doing well they will soon be a foot high, and should then be planted out in deep, rich soil in a sunny situation—against a wall or arch, or where they can run over shrubs, tree stumps, out-houses, etc. When fairly established it is surprising how quickly they grow—several inches a night in hot weather—while the finely divided foliage and tendrils make it remarkably handsome even without its delicate orange-red racemes of blossom. Though a rich deep soil with plenty of moisture aids its rapid growth, and so enables it to cover a large space quickly, yet, if its establishment as a perennial is the main object, doubtless a firmer, poorer, and drier soil would conduce to that greater hardness and wiriness of growth which is such an important factor in enabling plants to withstand the cold and damp of the winter.

Alger Petts.



CACTUS-FLOWERED CINERARIA.

Colours various. A.M., R.H.S., March 23. Messrs. Sutton and Sons, Reading.

A Good Hardy Kale.—A new kale sent me last year for trial from Messrs. Sutton and Sons, has proved to be of exceptional merit: it has stood the terrible winter wonderfully well. It was sent as Sutton's Hardy Branching Kale. Other good varieties that have done well through the cold weather are Hardy Sprouting Kale, Sutton's A1, Extra Curled Scotch, and Asparagus Kale.—W. A. C.

HOW TO GROW BIG CROPS OF TOMATOES.

The largest tomato plants do not always bear the heaviest crop of fruit. Experienced cultivators know this to be a fact, but persons who have not had much experience in growing the popular tomato plant may be led astray in the matter. I have seen many very fine ranges of glass houses filled with large plants, but the crop of fruit was not in proportion. It is quite possible to obtain as much fruit from a plant three feet high as from one twice that height, when the latter has been grown in loose soil and the former in firm. Of course some varieties are naturally dwarfer than others, they make short-jointed growth. But if we plant examples of the same variety in both kinds of compost, namely, loose and firm, the advantage will be with the latter.

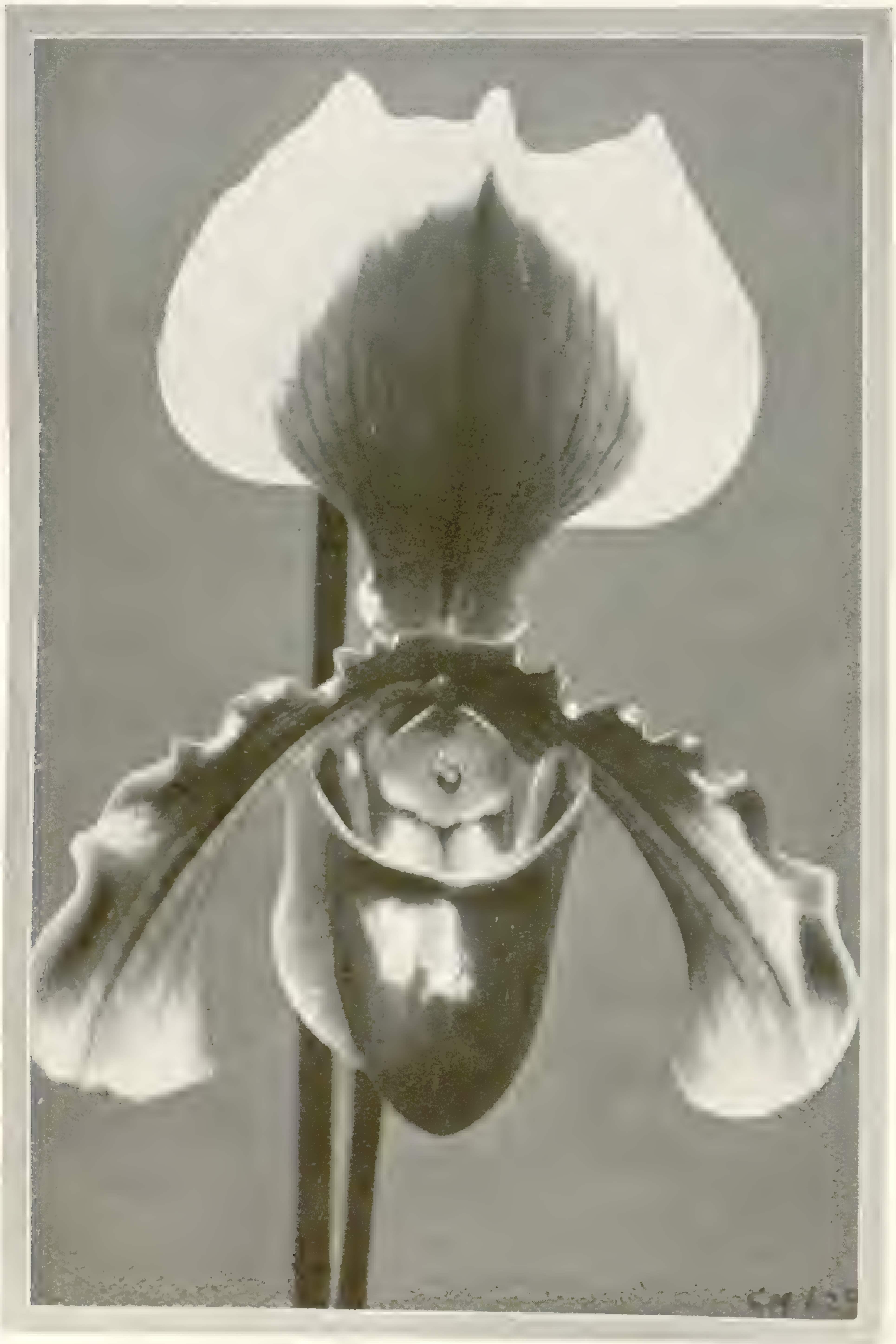
I have experimented for a number of years with tomato plants, and have come to the conclusion that the best policy is to refrain from using any manure in the soil, but to feed the plants—chiefly with superphosphate—after three trusses of fruits have set.

Pot-grown plants, well looked after, always make shorter-jointed growth than those planted out in open borders; and, moreover, the former generally set trusses of fruits first, too. This proves that there is some advantage from root restriction. I do not mean that the number of roots must be lessened, but that their rambling proclivities must be restricted. This objective point can be gained by making the rooting medium very firm.

Procure some good fibrous turves which have been cut about two months. Reduce these to fragments, and, if they are to be used in pots or boxes, make the mass very firm, but do not use any leaf-soil or manure, simply a quantity of coarse sand to ensure porosity. Very efficient drainage is essential. If the plants are to be grown in the border, whether inside, or outside of a glass structure, be equally determined to make the soil firm, and do so while it is in a fit condition to handle, neither too dry nor moist.

The plants will grow quite fast enough, be short jointed, form flower trusses early and not produce very big leaves. Ventilate freely in fine weather, maintain a buoyant atmosphere, and gently tap the flowers at noon every day to ensure a free "set" One ounce of superphosphate, dissolved in two gallons of water applied once a week after the first three trusses of fruits have set, will ensure the swelling of the tomatoes, and produce a big crop on dwarf plants.

GEO. GARNER.



CYPRIPEDIUM TRACYANUM.
Flowers white, yellow-green, and purple.

THE LESSER KNOWN PENTSTEMONS.

Apart from the large-flowered garden pentstemons, there is a valuable group having medium-sized trumpets, which are generally less exacting in their requirements than those highly-developed florists' flowers. On this account they are valuable for extended planting, and as they flower over a long period they can be used to good purpose in the front of mixed borders; some of them will even succeed in ordinary shrubberies, while I have found several species most useful for the rock garden in autumn, and, provided the position is well drained and partly sheltered, they will often survive for two or three years. On the whole it is perhaps safest to regard them as tender perennials and propagate by seed or cuttings, the latter in autumn after flowering, the former by sowing in spring.

Pentstemon Newbury Gem is a fine form of P. campanulatus, and is largely employed for bedding purposes in summer, the freedom with which it flowers, combined with the attractive carmine-red colour of the blooms, which remain effective for months, accounts for its position in many gardens; there is also a white form of Newbury Gem having all the good points of the type, and in some respects it is a much more useful flower for grouping.

P. heterophylla is a good subject for the rock garden. It is fairly hardy, producing pale blue flowers, with just a suspicion of magenta at times; these are at their best from midsummer till autumn, and when planted in company with Œnothera riparia they brighten the rock garden at a season when its beauty is decidedly on the wane. P. cæruleus is less compact in growth but a much finer blue, and one of the best for the rock garden. It flowers in summer.

P. Hartwegii is a good species, but for garden purposes Newbury Gem surpasses it. P. barbatus Torreyi is the tallest grower, the flowering stems reaching a height of over 4ft.; the flowers are tubular, but more contracted at the mouth than in the others, and are coloured bright scarlet. They are borne freely upon branched stems of a soft grey colour, which add somewhat to the effect. It is a plant of great beauty in the autumn border, and the best results follow early planting.

THOMAS SMITH.

Walmsgate Gardens.

CYPRIPEDIUM TRACYANUM.

This striking Lady's Slipper orchid belongs to the cool section, and is one that is of sufficiently high merit to warrant inclusion in the choicest of collections. It has a very bold flower, the white band of the dorsal sepal serving to bring out the rich yellow-green colouring of the base, and of the petals and lip. These latter have also some purple and brown shading. The parents of C. Tracyanum are C. aureum and C. Leeanum giganteum; the first-named is derived from C. Sallieri Hyeanum and C. Spicerianum, while C. Leeanum giganteum came from C. Spicerianum and C. insigne. Further, C. Sallieri is the result of crossing C. insigne with C. villosum. In C. Tracyanum the influence of the two fine old species, C. Spicerianum and C. villosum is very obvious. Our illustration of C. Tracyanum represents a fine flower shown some little while ago by Messrs. Moore and Co., Rawdon, Leeds.

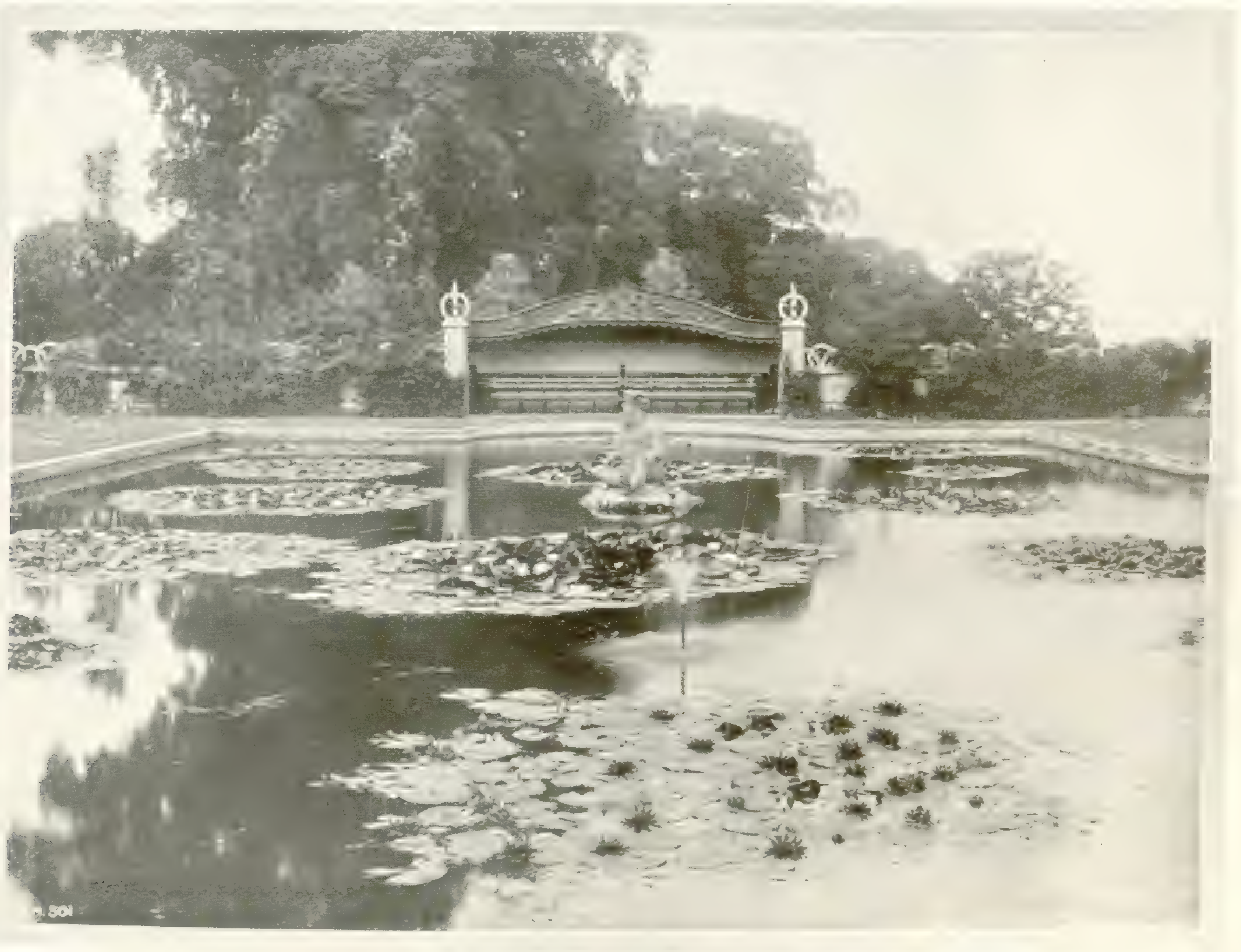
CROCUS VERSICOLOR.

An old and once well-known Crocus, C. versicolor, has gone largely out of favour within past years, and is now but little seen in British gardens. This is doubtless due to the superior value of the varieties of Crocus vernus, whose more opulent beauties have justly given them greater favour in the eyes of the gardener, as being more useful for general decoration in spring. Yet one comes across it in some old gardens, as well as in those of the crocus specialist, who is attracted by its pretty flowers for they are pretty, although neither so large nor so rich in colouring as the varieties of Crocus vernus.

This species is sometimes sold on the Continent as the Cloth of Silver crocus, although this name is also applied to one or more of the forms of the Scotch Crocus, C. biflorua. As procurable from Continental sources, C. versicolor is a comparatively small flower, with pointed segments, which are variously coloured, varying, as they do, from purple to white, and at times striped or feathered with purple outside, and in other examples quite plain. A good group will often present much variety, and will thus be an object of interest, especially when the flowers open out nearly flat in the sun, as they do when it shines brightly upon them. The plants, however, make little effect as a mass, compared with the varieties of Crocus vernus, not only because of the variation in their colouring and their smaller size, but also because the various-coloured crocus is not such a free bloomer.

Yet C. versicolor is an interesting and pretty little crocus, not to be despised, but worthy of a place on some sunny bank or border, where it can remain undisturbed for years. In a grassy bank, where the grass is left untouched until the leaves of the crocus wither, it may remain for several years, and will there give an annual crop of flowers. It comes from the neighbourhood of Mentone and Nice, and adjoining regions.

S. Arnott.



THE LILY POND AT HILLINGDON COURT, UXBRIDGE. [Photo: H. N. King.

THE LILY POND AT HILLINGDON COURT.

The great beauty and usefulness of the finer water lilies has been the subject of many articles in these pages, and numerous have been the illustrations of lily ponds and water gardens that have been presented. These latter have served to show how widely different are the tastes of garden owners, and, also, whether the taste be for the formal or the informal or natural pond, how wide is the range of design in each case. There are many features of great beauty and interest in Lord Hillingdon's garden at Hillingdon Court, Uxbridge, and one of these, the lily pond, is figured in the present issue. It is a formal pond, with architectural features, including a handsome arbour at one end, and a fine central figure. All the best of the nymphæas, including Marliac's varieties, are in the collection, and they make a magnificent display under Mr. A. Allan's care.

As it is at this season of the year that water lilies should be planted, the illustration is purposely suggestive. In many gardens the lovely nymphæas are to be installed for the first time, and in others the question of introducing novelties may be under consideration. It is a good plan to place the substantial soil in a wicker basket for nymphæas, and sink these so that they are about a foot or so below the water level. Another method of planting is that of making brick or cement receptacles, and this is sometimes followed in formal water gardens, but something should be done to prevent the soil from being carried away from the roots of the lilies by the movement of the water. Wicker baskets offer the easiest method, but brick burrs or stones placed round and partly over the mound of soil will also answer the purpose.

A good dozen water lilies are Nymphæa Marliacea albida, white; N. M. carnea, flesh; N. M. Chromatella, yellow; N. M. ignea, crimson and rose; N. M. rosea, rose and pink: N. M. flammea, white and red-purple; N. Laydekeri fulgens, crimson: N. L. lilacea, rose-pink; N. L. fulva, yellow and red; N. Robinsoni, deep rose-red, with orange stamens; N. sanguinea, rich carmine; and N. gloriosa, bright red.

Broccoli.—We have been potting up broccoli for some few weeks past, taking them up with a good ball of earth attached, putting them in 9in. and 10in. pots, and placing them in gentle heat. These have come along beautifully, and stopped what otherwise would have been a gap in the supply. Cabbages of the early type, if stress of circumstances warrant its being done, may be brought along in the same manner. Asparagus, seakale, and French beans are all in extra demand this year, and parsnips, carrots, and artichokes have been in great request.—W. A. Cook.

FLOWER BED SHAPES.

The shapes of flower beds are so important that it is surprising how little this fact is insisted upon by writers on gardening subjects; unless a bed is given up to tall shrubs or plants, so that its outlines are not all visible from the same point of view, it lies upon turf or gravel as a design itself, the effect of which is, of course, extra noticeable if the flowers in it are self-coloured. A round bed of scarlet begonias, for example, looks like a round disc of red from a little distance. A half moon bed of white blossoms or white foliage appears from not very far as a silver crescent. Yet year after year bedding out is done elaborately, without any regard to the landscape result, and frequently in beds the contours of which are hopelessly inaccurate, even if the shapes are not actually ill-suited to their environment. Edges of stars, octagons, diamonds, etc., become encroached upon by turf, or partly cut away by the shears or clippers until the mathematical proportions are all wrong, and offensive, therefore, to the artistic eye.

Before the tender plants are put out this May, or before hardy annuals are sown in March and April, let the gardener go the round of the beds and test them by measurement, putting in corners and sides that have been lost, and cutting away all excrescences. Perhaps it is the simple round bed that is most likely to have parted with its correct shape, a truth that may be seen witnessed to in dozens of front gardens viewed from suburban roads.

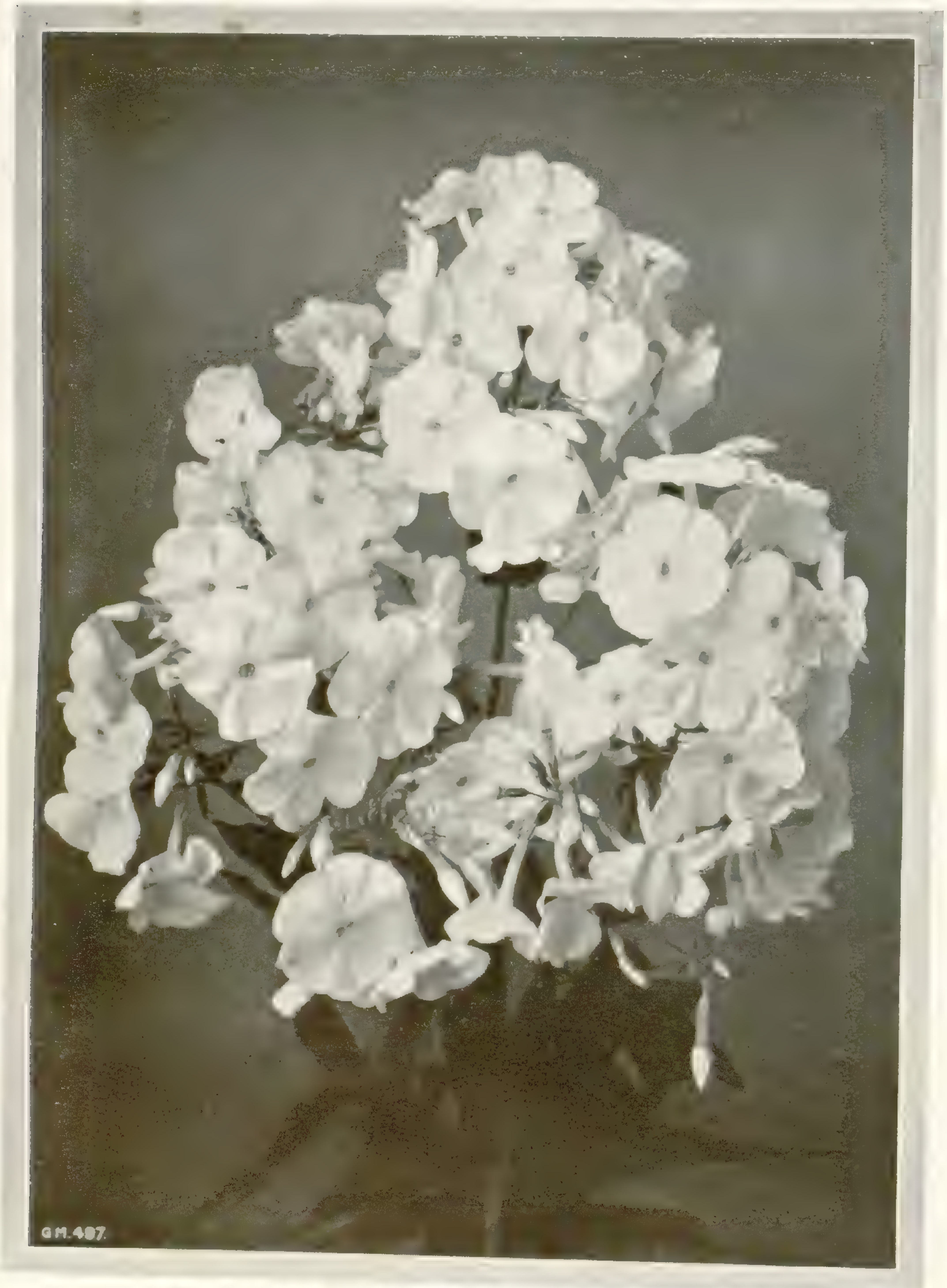
Lawn beds are often too large, that is to say, of too uniform a greatness. The practice of ending a lawn by a wide, waved border bed, split in two to make an exit to a path beyond, is admirable, since in this ample breadth of ground there is room for the culture of roses, or handsome as well as lesser perennials, a bold colour and group effect being thereby gained. It is customary, too, to arch over the turf exit path, which adds considerably to the charm of the scene. Sometimes this method is not chosen, and a trio of large beds is made instead; if these are of similar width and length, also of similar shape, the result is never good; three big rounds, squares, oblongs, or diamonds pall upon the vision, and the evil can only be remedied by making either the centre bed, or the two end ones flat as to flower, and employing tall growers in the others, or other. If the centre bed is a large round, the neighbouring ones may be equally large star shapes without as much harm being done, however, because the in-and-out lines of the stars will detract from their heavy appearance.

A fine round bed, given up to roses, with a viola carpet, always looks well upon a lawn; it is perhaps best situated well to one side, at the end facing the house windows; if placed too much in the corner it looks somewhat overwhelming. The fashion of almost outlining a lawn with the narrowest of border beds is an exceedingly useful and pretty one; novelty of effect is gained by cultivating espalier roses along these edges, with pinks, violas, aubrietias, primroses, and a host of the hardy dwarf plants for a carpet; a collection of tall perennials, well separated by stretches of lesser plants, will better please some flower lovers. When the lawn is curved or waved, and the border beds reproduce this the elegance is most noteworthy.

Scroll-shaped beds are seldom seen, yet are graceful in most positions, and may be either wide or narrow, according to the demands of the ground; a ring of scrolls, placed slantingly around a large round bed forms a group of real beauty. Those who need a suggestion or two for mingling shapes need not be ashamed to study the pattern books of modern wallpapers; he will find ovals set in crescents, octagons ringed round by quaint fans, stars accentuated by additional points, a whole gallery of clever mathematical combinations, in fact, that can be carried out in flower bed fillings as well as outside shapes.

Lawn corners often need softening in appearance, for the day when acute angles and hard, straight lines were generally demanded has given place to a time that better appreciates the value of the curve. It is seldom advisable to treat two corners of a lawn alike, which gives the opportunity for varying the heights of the scene; one corner may possess three quite small rounds with a pillar rose, delphinium, hollyhock, or ornamental shrub in each; the second can be given up to a rockery mound, stump of a tree hollowed out to form an urn, or a raised bed, or sun-dial; the third, perhaps, is selected for a moderate-sized diamond bed for dwarf roses, or a flat display of bedding plants; the fourth will be sufficiently adorned by a clump of pampas or one of the other noble grasses. If two or more corners of a lawn are, however, to have beds cut in them of similar shape, there is no better one to imitate than that of a fan, with the point facing the point of the grass. A diamond fits into the angle as well, but it will be found that four round hearts, or octagons, which necessarily leave awkward shaped strips of turf partly surrounding them, have a clumsy appearance.

M. H.



NEW PHLOX FREIFRAULEIN VON LASSBERG.
Flowers pure white. A.M., R.H.S., September 1, 1908. Messrs. Gunn and Sons, Olton.

PHLOX FREIFRAULEIN VON LASSBERG.

One of the very finest of the newer phloxes is the pure white variety bearing the rather weighty title of Freifraulein von Lassberg. This belongs to the late-flowering, or decussata section, and grows about two feet high. The blooms are of fine size and form, and are borne in [illegible] branching spikes. So free and beautiful is this phlox that many lovers of these beautiful flowers regard it as the best and purest white variety in cultivation. Messrs. Gunn and sons, of Olton, Birmingham, showed Freifraulein von Lassberg finely on several occasions last autumn, and on September 1, the variety received an Award of Merit from the Royal Horticultural Society, when exhibited by them.

THE HOLBORN PRIMULAS.

The Holborn primulas are not to be found at High Holborn, at least not the plants, though flowers may sometimes be seen at Messrs. James Carter and Co.'s extensive premises in that famous old thoroughfare. You go or send to Holborn for the seeds; you go to Houston Road, Forest Hill, to see the plants, and a very fine sight they are.

Everyone is as busy as a bee at these nurseries, both literally and metaphorically, for though they may not be exactly "gathering honey all the day," they are pollinating the primula blooms by means of small camel-hair brushes. Six or more times during the flowering season do the big batches have to be worked over, and every open flower dealt with. What this all means will appear when we say that there are nearly 17,000 primula plants in bloom at Messrs. Carter's Forest Hill Nursery. Some varieties do not seed so freely as others, and so larger batches have to be grown to meet the demand. This is especially the case with the giant forms, and with the wonderful Bouquet variety, in which the calyx has become leafy and fringed, making a novel and pretty setting for the bold pure white blossoms. The older type, the stellata varieties, and even the majority of the doubles seed freely at Forest Hill, and the various colours and types are kept very true. The utmost care is taken to maintain this fixity of colour and form, and the care is well repaid by the popularity of the Holborn varieties. The brushes used to convey the pollen from anthers to stigma are carefully labelled with the name or number of the variety they are used for, so that there is no fear of "mixing" the varieties, as would be the case if a brush used to pollinate say the beautiful new Holborn Coral were also used one day for pollinating the very fine white King Edward.

VIEW OF PART OF A HOUSE OF PRIMULAS BEING GROWN FOR SEED AT MESSRS. J. CARTER AND CO.'S NURSERIES, FOREST HILL.

One of the greatest wonders of the floricultural world is this Chinese primula, for, in the hands of many and without the intervention of any other species, it has given a very wide range of colours, various kinds of leafage, and several quite distinct strains or races of plants. There are the fern-leaved and plain-leaved families of the popular florists' form; there is the giant race with bold trusses of unusually large and substantial flowers; there is the elegant and useful stellata race, with its tall, tiered spikes of graceful flowers; the Bouquet variety provides another race or strain; the double varieties yet another group; and now there is a new race of ivy-leaved varieties in course of formation. One might even further subdivide the Chinese primulas, but these instances will suffice to emphasise the fact that Primula sinensis has proved extraordinarily variable, and yet, on the other hand, hardly any popular plant is so easily kept true to colour, once the variety has been fixed.

Messrs. J. Carter and Co. annually test their own productions, and one house is now full of plants representing the whole range of their primula varieties. There are from six to twelve plants of each, and these have been raised from seeds sent down from Holborn in the ordinary packets as sold to customers. In another house the process of evolution is being carried on. Here are to be found little batches of new cross-bred varieties, some giving promise of progress in new shades or in depth or purity of colour. Not a few are soon consigned to the rubbish heap after a note has been made of their character in the stock book. If a plant in any of the popular varieties shows a tendency to break from the recognised character, it is brought to this house, self pollinated, and, it may be, the progeny will, in a few years, provide a new variety.

Several years ago the Messrs. Carter used to have their primulas in bloom at the New Year, and even nowadays a few early-sown plants are brought into flower early, but the increasing demand for seeds of these fine Holborn strains has led to later sowing, and consequent later flowering. The brighter light, and the sunshine of March are found far more favourable to fertilisation than the duller days of January, and it has been found that this later blooming and seeding does not in any degree affect the time of flowering in the progeny. The flowering time is all a matter of sowing and cultivation. Man's genius to bring out the latent forces of Nature is very amply demonstrated at Forest Hill, where, for over half a century Messrs. Carter and Co.'s experts have made Primula sinensis tall or dwarf, double or single, white or scarlet, pink or blue, coral or crimson, salmon or ruby, plain or crested, large or small.

Turning to the brilliant and beautiful picture presented by the thousands of well-grown and finely flowered plants, in their many varieties, one is compelled to admire the cultural as well as the creative skill they represent. Holborn Crested, and Holborn Coral, the former a prettily frilled or crested pink variety, and the latter a giant coral-pink flower of great substance and beauty, strike one as great advances. King Edward maintains its place as a foremost white, its bold heads of white, orange-eyed flowers compelling admiration. Elaine also keeps its place as a fine white of the ordinary type; it is especially free blooming. Holborn Scarlet, Holborn Vermilion, and Carter's Ruby provide a blaze of colouring, while Princess May gives a dainty pink, and Orange King is orange-pink, the orange shade being most evident in the half-opened flowers. Among the doubles our favourites are Snowflake, white; Lilac Queen, a buish lilac shade; Daybreak, rose, shading to terra cotta; Carmine Empress, deep carmine; and Prince of Wales, deep rose. The Star primulas have not received fanciful names, but are grown and catalogued according to their colours, as white, pink, lilac, blue, salmon, and crimson. We may add that the ivy-leaved primula is quite fixed at Forest Hill, but there is some doubt as to its commercial value as yet. Here, as in other places, the pure yellow primula is being worked for, and efforts are being made continually to secure a blue primula, bright sky-blue or deep navy-blue, and, remembering the slatey colouring of only a few years ago, and the advance made since then, there seems a fair prospect of success in the near future. One very distinct variety that will soon be obtainable is at present named Late White. Sown at the same time as the other varieties it was not in bloom by the middle of March, so that where primulas are great favourites this variety will provide a display for Easter time.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

THE CATTLEYA HOUSE.—At the present season of the year there are many species and hybrids of cattleyas and allied genera that are emitting new roots. I think if there is one general rule that may be followed in respect to the best time at which to repot our orchids, it is to pot when the new roots make their appearance. Any repotting or top dressing necessary should therefore be done as far as possible when the plants are in this state, the only exception being in cases where the plants are about to produce their flowers, or will be flowering within a reasonable time. Such plants should wait until after the flowers have been removed, and where plants have to be repotted after flowering, the flowers should be removed within a reasonable time after they have become fully expanded. Care should be observed to protect newly-potted plants from much light until the new roots have become established in the fresh compost. The temperature should also be kept as even as possible, and the atmosphere reasonably humid.

CONDITIONS.—It should always be borne in mind that the successful cultivation of orchids depends chiefly on the conditions under which the plants live. Potting material used is a secondary matter. No better illustration of this can be found than in visiting gardens where there is no pretence to cultivate orchids, and yet where we find some one or another of our most difficult plants growing luxuriantly under anything but orthodox methods. This, I think, bears out the contention that if we find the right position and conditions it is of far more importance than the question of what a plant should be potted in. I very much doubt if there are two gardens in the country in which the same facilities are provided for the cultivation of the same class of plants, and even if it were so, there are the conditions to be considered. There is the smoky atmosphere of larger towns and manufacturing districts, and the pure atmosphere of some country districts; and as light is one of the most essential factors in successful cultivation under artificial conditions, it will be at once obvious how impossible it is to apply the same rule all round. It is those who are in charge of the plants who must determine the best local conditions. This knowledge cannot be obtained unless the worker has the interest of his charge at heart, and some experience with his facilities and surroundings. Cattleyas, to those who know the least about their cultivation, are most attractive, and often, when they find the culture difficult, they give up growing orchids as a hopeless case, and frequently blame those in charge for improper treatment. It is for the purpose of removing to some extent wrong impressions that this note has been written.—H. J. CHAPMAN, Oakwood Gardens.

STOVE PLANTS.

STOVE CLIMBERS. Upon walls and pillars climber growth will now be rapid, and require frequent attention. When young shoots are produced too freely remove the surplus in the same way as from the peach and vine. In such positions evenly-balanced plants are by far the most beautiful, and at the same time do not exclude light from the plants underneath, as is the case when allowed to become overcrowded.

CISSUS DISCOLOR, as a foliage climber, is one of the prettiest, and it is easily propagated, if at the time of pruning cuttings a few inches in length are inserted; these will soon root, and make growth, and, if carefully handled, they may with advantage be utilised for table decoration, for which they are remarkably well suited. Suspended in small pots, when each growth hangs clear, with foliage and tendrils complete, they form suitable subjects for draping vases on the dinner table, or the growths provide a tracing upon the cloth. In each small pot three or four cuttings should be put, which will produce six or eight growths.

DIPLADENIAS.—When starting into growth a good portion of the soil should be removed, and the plants be repotted in rough fibrous peat, with silver sand freely intermixed. While the plants were resting all weak growth should have been removed to make room for the new and more vigorous flowering shoots. When such kinds as D. insignis, D. amabilis, D. boliviensis, and D. Elliotti are grown for training under rafters and over trellises, their habit of growth and beauty of flower are unsurpassed.

FICUS ELASTICA.—In a stove temperature the stock of this plant is easily increased by cuttings, or eyes with a leaf attached, and when well grown, properly hardened, and established, these are unsurpassed among stove plants for standing changes of temperature and atmosphere, and are not at all fastidious, when well rooted, as to soil; three parts turfy loam and one of peat, with sand added, answers well.

JASMINES.—Where space is available these should be included, for the large, sweet-scented flowers of J. gracillimum and J. Duchess d'Orleans resemble small gardenias. The flowers are produced more freely when the roots are somewhat confined in a compost of loam, leaf-soil, and sand. The flowering season is during the autumn and winter months.

GENERAL REMARKS.—On bright days it will be necessary to lower the blinds for a while in the middle of the day, yet I think the practice of shading is in many cases a little overdone. Recently potted plants now rooting freely will require more frequent watering, plenty of moisture and heat being absolutely necessary. Give top ventilation when the temperature reaches 75 degrees, and close before syringing in the afternoon. To keep insects in check use the syringe freely, and fumigate lightly and frequently.—WM. FYFE, Lockinge Gardens.

FRUITS UNDER GLASS.

PLANTING VINES.—The present will be a suitable time for planting new vines. One-year or two-year old plants should have been selected, or young plants raised from eyes this spring might be used, as these will be now making rapid growth. They will require very careful handling, so as not to disturb the roots, which are, of course, very tender at this early stage. If the older plants are used they should be turned out of the pot and have the ball of roots immersed in a tub of tepid water. Then shake out most, if not all the soil, and disentangle the roots. Spread the roots carefully all around, and work some moderately fine soil in and about them; do not plant deeply, as surface roots can be fed and nourished better than those which are low. The border, for the first year, need not be more than 3ft. wide, but it is advisable to make the drainage of the whole border properly at the outset, and the drainage for the vine roots needs to be perfect. Muscat of Alexandria, Black Hamburgh, Muscat Hamburgh, and Madresfield Court are hard grapes to beat for flavour.

TEMPERATURE.—If young plants of this season's growth are planted, the house must of necessity be kept close and warm, say 60 to 65 deg., and 70 deg. with sunshine; but if cut-backs are used, they may be grown along steadily, damping the house down and spraying the vines at closing time, which should be about 2.30 to 3 p.m., according to the weather.

DISTANCE APART.—The distance at which to plant vines from each other depends a good deal upon the plan to be adopted. If single canes they should be quite 4ft. 6in. apart, though 5ft. would be better, as this allows plenty of room for lateral development, and vines planted this distance apart will continue to produce good fruit for a longer period.

EARLY VINERY.—Continue to tie down and pinch out laterals, and thin the berries. Be careful with the ventilation, as, after the sunless weather we have experienced, a sudden burst of sunshine may do irreparable damage. On fine mornings it will be [illegible] to give a little ventilation quite early. Maintain a gradually increasing temperature as the berries increase in size, and according to the state of the weather outside. In succession houses disbud as soon as one is able to discern the best placed shoots and bunches, and syringe the rods twice daily in [illegible] weather.

EARLY PEACHES AND NECTARINES.—Tie in the shoots as they grow, and fill any blank spaces, training shoots in from the base as much as possible. Thin the fruit where unduly plentiful, and have the foliage syringed twice daily. The late house will now be in flower, and should be treated similarly to the preceding one, as regards setting, etc.

STRAWBERRIES.—Continue to introduce fresh batches in order to keep up a succession. Clean plants and pots before housing them, and as soon as the roots are extending freely feed with liquid manure, and syringe well on all favourable occasions. Should aphis make its appearance, fumigate at once.

MELONS.—Successional plants should be shifted into larger pots if the house is not ready, as a few days too long in small pots may easily ruin the prospects of the crop. A good sowing should now be made for the summer crop. This will provide good strong plants to be put out in frames, etc., when these latter are emptied of bedding plants. Sutton's Scarlet and Windsor Castle, H[illegible] born Favourite and Carter's Hardy [illegible] are good varieties; the latter can be grown quite nicely in almost cold frames, and to growers who have not much room I recommend it strongly, as it is a free setter and grows fair-sized fruits.

CUCUMBERS.—Top-dress these as often as the roots show through the soil, and at this stage cut the fruits as soon as they are large enough. Root out old plants, and give the house a good cleaning, giving the [illegible] and wood and iron work a dressing of petroleum to make sure that no pests are left before making use of the house again.—W. [illegible] COOK, Leonardslee Gardens.

THE KITCHEN GARDEN.

POTATOES.—When the ground is in a dry, workable condition, proceed with the planting of the main crop of potatoes. The penetrating frosts of March will have had a good effect upon land, and, given a genial temperature, growth should be soon [illegible] and satisfactory. Unless the soil has been amply prepared, a dressing of bonemeal and wood ashes, spread along the rows [illegible] planting, will be of advantage to the [illegible]. Robust growers, such as Up-to-Date, Duchess of Cornwall, and Triumph, should not be placed nearer than 2ft. 6in. from row to row to ensure a strong top growth.

CARROTS.—The principal sowing of [illegible] crop may now be made. If possible select a rather sandy site that was trenched and manured early. In many gardens the [illegible] falls a prey to wireworm and other [illegible], and it is important to grow the young plants vigorously from the start. Apply a dressing of wood ashes or soot to the surface of the bed, and work it in during the [illegible] for sowing by lightly forking or raking [illegible] soil down to a fine condition. [illegible] should be drawn out from 12 to [illegible] apart, and the seed sown about [illegible] thicker than the plants will stand, [illegible] for failures. For supplying a private [illegible] lishment the intermediate type [illegible] more suitable than the larger and [illegible] kinds.

TOMATOES.—Where the [illegible] well out of doors pot on a batch of [illegible] readiness to put out along south [illegible] walls at the end of May. Two plants [illegible] pricked out into each 60-sized pot, and the pair potted on as required into [illegible]. These, if grown sturdily in an [illegible] temperature until well established, [illegible] afterwards given a light, cool [illegible] will [illegible] gradually harden them off. [illegible] able condition for planting. M[illegible] Sunrise, and The Cropper were the [illegible] lific with us last year, especially the two first-named.

BEET.—This is not hardy enough to stand much frost. To produce the earliest roots for the salad bowl, make a small sowing of the turnip-rooted variety on a high and sheltered border.

CAULIFLOWERS.—The plants that were raised under glass, and have been duly pricked out and hardened off, may now be planted out in prepared ground. If a sunny border can be given them this position is to be preferred, and early heads of cauliflowers will undoubtedly be appreciated this season. Avoid unnecessary check to the plants in transferring them, by giving a thorough soaking of water before removal, and taking out each plant with the trowel, with a ball of earth adhering to the roots. Neglect in carrying out this detail may result in the plants prematurely buttoning, and they are then of comparatively little value. A distance of about 18 inches apart will be sufficient for this planting. Water should be given according to the condition of the ground.

VARIOUS.—Owing to the ground being in a frozen state during last month, the usual amount of progress with seed sowing has not been made in the kitchen garden. Therefore it will be found necessary to push on with the arrears of work, as time will permit. Make sowings of Brussels sprouts, broccoli, kales, and other winter greens, in the open. Plants of lettuce that have been pricked out in cool frames should be planted outside. Seakale throngs may now be put in. Sowings of radishes, mustard and cress, etc., may from this date be made in sunny positions under the protection of a wall or handlights. — Chas. Flack, Cholmondeley Castle Gardens.

LEONARD'S WATER AVENS.

Almost every one acquainted with our native wild flowers knows well the Water Avens (Geum rivale), which, with its drooping flowers and ornamental leaves, adorns many a brookside and moist place throughout our country-side. Ornamental as it is, however, there is a variety which is more beautiful still, and which, from its colour, is more suited to the decoration of the garden. It is called in nurseries and gardens Leonard's variety, from the fact that it was introduced by the late Mr. H. Selfe-Leonard, of Guildford, a keen amateur grower of hardy flowers, who afterwards founded the Guildford Hardy Plant Nursery, still carried on in other hands. Mr. Leonard found this variety in Norway, I believe, and it has attained considerable favour in the eyes of hardy plantsmen.

When in leaf only it does not differ from our own wild Water Avens, but when the flowers appear and open the difference is quite apparent. Like the native, it has many flowers drooping from stems of some length in considerable numbers, such as are fairly well described, so far as quantity is concerned, by the term "sheaves of flowers." The blooms, however, are of a bright red, and are much more effective than those of the ordinary G. rivale. To see the full beauty of the flower itself it must be turned up, but the value of this avens does not lie so much in the individual flowers as in the whole effect of the plant, with its pendulous red blossoms. The height of Leonard's Avens is from a foot to a foot and a-half, this depending upon the soil and the amount of moisture. Although evincing a preference for moisture, the Water Avens grows in dry soil as well, and Leonard's variety is quite as suitable for rockeries and borders as for the stream or the pond-side in wild gardens. It is thoroughly hardy, and is increased by division.

S. Arnott.

GRAFTERS AND GRAFTING.

In the orchard counties in the West of England the local grafter is a man of some importance. For the greater part of the year he is a commonplace individual, and gets his living in varying ways, but, like the Kentish hop dryer in September, he rises above the level of his fellows, with the exception that his season of importance is the spring, when Farmer Jones has headed some apple or pear trees back in his orchard, and wants them grafted. He sends for the local grafter, and, when engaged in his favourite occupation, the man ceases, for the time being, to be a labourer, if that is his regular occupation, and assumes the air of an individual who is in possession of certain expert knowledge, and is aware of the fact. In short, he becomes a craftsman, and goes about his work in a slow, measured way, that will not brook interference or hurrying. He accepts responsibility cheerfully, puts on the grafts with confidence that he is doing it in the right way to ensure them growing, and if they don't he is quite prepared to be grumbled at.

Grafting, like mole catching, seems to run in the blood, and, generally speaking, the local experts are sons of fathers who were master hands at the work in their young days. As a rule, the local grafter is not a man of many words, and is reticent as to when and where he acquired his skill. Apparently it grew with him, and, unless he has a son to follow in his steps, the countryside is a grafter the less when he is called upon to lay aside his tools. He boasts of no scientific knowledge, and, indeed, he looks on horticultural teachers and lecturers with a critical eye, having no faith in them or their ways. He may have reasons for his aspect of antagonism, fearing, maybe, that if every youth in the village learnt to graft his occupation would be gone. Without knowing it, however, the man is scientific, for though any talk about cambium layers is so much Dutch to him, he has learnt by experience and observation the conditions that are essential for the union of stock and scion, and where he scores is that his grafts invariably grow. If he had all the scientific knowledge about fruit that the world possesses his success in grafting could hardly be greater than it is, and, without knowing it, he has learnt the very lessons that science would teach him.

The principle of grafting must, of course, be always the same, but methods vary considerably, and every local grafter has a way of his own, and it would be a strong power indeed that would ever induce him to alter it. One man believes in cleft grafting, and, without wasting time in argument as to why it is the best method, simply informs you that it is his way, and there's an end of it. Another believes in rind grafting, and assumes just the same firm standpoint of a man who is convinced, and, whether you agree with him or not is not a matter that troubles him. The strong point of the local grafter, however, is workmanship. Watch him amongst the branches of a tree, see how carefully he saws the limbs and smooths the cut ends, with what neatness and precision he makes the incisions, prepares the grafts, and inserts them so that they make a perfect fit, and the inner barks are brought into close contact with each other. This is where the non-scientific local expert scores his triumphs, and after the scions are in place he is careful to exclude air, and keep them moist. For this purpose he not infrequently scouts the idea of wax as being a new-fangled idea, and sticks to the time-honoured clay ball, but he has a knack of kneading up the material in such a way that it does not crack or fall away. Wax may be handier, quicker to apply, and cleaner, he does not gainsay it or argue the point, but clay is good enough for him, and there's an end of it. His conditions of employment vary, and, whereas he is sometimes engaged by the day, he prefers, on the whole, to put on grafts at so much a score, and accept the responsibility of their growing. He brings his own tools, heirlooms most of them, that have been in the family for a long time, but his knife and chisels have the merit of being made of steel. Indeed, it may be said of the local grafter that he is an extremely useful individual, and there are few orchards in his district that he has not had a hand in making. During the spring he is important, and has many calls on him, and when the grafting season is over he sinks back to the level of his fellows, and takes up the occupation which keeps him for the rest of the year, having earned a few extra shillings while engaged on expert labour.

In reference to this man and his work, I say, would that there were more of his kind about, and would that farmers and fruit growers were more ready to employ them. In British orchards to-day there are hundreds of trees that are simply encumbering the earth; sturdy, stout specimens many of them are, as trees, but the varieties are useless, being small, insignificant, of no commercial value, and little good in the cider mill. What is the good of keeping such trees? What, indeed, and yet there is some unexplainable sentiment which seems to protect them, and they are allowed to live on. Cut them down (did someone say), and plant fresh ones? Not a bit of it: such a course would be a waste of time and material, so long as there is a man in the parish who knows how to graft. By cutting down the sturdy useless tree and planting a fresh one the grower must wait ten or more years perhaps before he sees a return on his outlay, but by heading back the existing tree and grafting it with a good variety he gets a fine spreading and bearing tree in half the time. "This is an art," said the Bard of Avon, "that doth mend Nature, change it rather, for the art itself is Nature." It is quite true, and the way to alter the character of a tree and turn an unprofitable specimen into one that will help to pay the rent or fill the cider casks is to graft it. Why is the art of grafting then not taken more advantage of? Why, indeed? It is owing, perhaps, to that spirit of letting things go which prevails so much in the orchard counties of England. When many of the old orchards were established it did not matter so much. The apples were chiefly grown for domestic use or to make cider for the men, and the trees were chiefly raised from seeds. This accounts for the presence of so many local and inferior varieties, which have no value to-day, or next to none. But we have grand apples of the Bramley's Seedling type that seem to have the power of rejuvenating the trees they are worked on, and if scions of the above were used, profitless trees in scores of orchards could be changed into rent-paying institutions. We have evidence before us of what has been done, and realise what might be done by practice of the art which Shakespeare wrote about, and employment, if necessary, of the local grafter.

H.

NEW PLANTS, ETC.

DENDROBIUM SCHNEIDERIANUM WESTONBIRT VAR.

This is a very attractive form of the hybrid derived from D. aureum and D. Findlayanum. It grows and flowers very freely. The sepals and petals are white, shading to rosy-purple at the tips, and the lip is white with a rosy-purple margin and a rich orange disk and throat. A.M., R.H.S., March 23. Mr. Alexander, orchid grower to Lieut.-Colonel Holford, Westonbirt, Tetbury, Gloucester. (See illustration p. 251.)

BRASSO-CATTLEYA DIGBYANO-MENDELI PERFECTA.

In this beautiful variety the fine sepals, petals, and lip are all of a delightful silvery pink or blush colour, the labellum having a pale yellow disk and requisite marginal fringing. A.M., R.H.S., March 23. Lieut.-Col. Holford.

SOPHRO-LÆLIO-CATTLEYA OLIVE.

This very handsome orchid has been obtained by crossing Sophro-lælia Psyche with Cattleya Enid. The flowers are of fair size, and borne three together, on an erect spike. The colour is rich rose-tinted crimson, with golden-yellow markings in the throat. A.M., R.H.S., March 23. Mr. Davis, gardener to J. Gurney Fowler, Esq., Glebelands, South Woodford.

BEGONIA SATURNE.

A fine begonia for conservatory decoration at this season of the year. It is probably a form of or descendant from B. hydrocotylifolia. The leaves are very deep green, thick, lobed, and rather large, but they make up a very handsome plant. The flower spikes rise erect, from 15 inches to two feet high, and the red stems carry large clusters of soft pink flowers. In many cases the plants carried upwards of a dozen spikes. This very novel, attractive, and useful begonia can be easily grown in an intermediate house. A.M., R.H.S., March 23. Messrs. H. Cannell and Sons, Swanley.

CARNATION ROSE DORE.

We figured and described this handsome rosy-scarlet perpetual flowering carnation towards the end of last year, when it gained a certificate from the Perpetual Flowering Carnation Society. It is a variety of bright colour, and has fine long stems. A.M., R.H.S., March 23. Mr. W. H. Lancashire, Guernsey.

ROSE RHEA REID.

As already indicated in these columns this new hybrid tea rose, introduced by the American firm of E. G. Hill and Co., was the best rose in the trials held in the Bagatelle Gardens, Paris, last year. It is a fine grower, and produces handsome deep rosy-crimson flowers with a purple tinge. The buds are rounder than those of Liberty, a variety to which it has been likened. A.M., R.H.S., March 23. Mr. G. W. Piper, Uckfield, Sussex.

PTERIS AQUILINA CONGESTA.

This is an attractive and very distinct form of the common bracken. As shown it was about a foot high, and, at a short distance, it suggested a selaginella. The fronds are very dense and compacted, and set in no sense inelegant. Being dwarf, compact, and of a rich green hue, this new comer is likely to be popular with lovers of hardy ferns. F.C.C., R.H.S., March 23. Messrs. H. B. May and Sons, Edmonton.

CINERARIA STELLATA, CACTUS-FLOWERED STRAIN.

This strain produces very handsome plants and grand heads of starry flowers, of various colours. The blooms have ray florets with rolled margins, that suggest tiny cactus dahlias, so far as shape is concerned. In the present issue we figure a plant of this strain. A.M., R.H.S., March 23. Messrs. Sutton and Sons, Reading

CROCUS SIEBERI VERSICOLOR.

A charming variety of this beautiful crocus, with a yellow base and three white inner segments. The large outer segments are white, finely feathered with bright purple. The orange-coloured stigma is very attractive against the white and purple. A.M., R.H.S., March 23. Mr. G. Reuthe, Keston, Kent.

MAINCROP PEAS.

The production of first-class peas during the summer and autumn months is of such importance that one may be pardoned for giving further details as to their cultivation, which, of course, are intended for the less experienced. It is quite easy for anyone possessing a garden to sow a row or two of peas, and to have a certain amount when everyone else has them, but it is quite another matter to keep up a continuous supply all through the season. It therefore behoves every gardener to do his utmost to supply this want, as good, fresh green peas are certain to be appreciated.

Preparation of the Soil.

The first and most important point in relation to success is the deep working of the ground, and this is best done during the winter months. Garden peas delight in a good deep root run, and when the soil is properly prepared and plenty of manure added it is surprising to what a great depth the roots will travel, especially during long spells of drought. It is most essential that this crop should not be grown two years in succession on the same site, and, indeed, it is advisable, if possible, to allow a break of two years between the pea crops on any particular quarter. The more open the position for peas the better. It is a capital plan, and is now practised by very many, to prepare trenches to a good depth, much in the same way as for celery, the bottom of which should be deeply forked up, and a good quantity of partly decayed manure placed in the bottom. And the soil excavated should be left until the time of planting or sowing the seeds. These trenches should be taken out, if not already done, without further delay. The distance of the rows will, of course, very much depend on the space at command, but, wherever possible, it is advisable to allow a good distance, and cultivate some other low-growing crop between them.

Raising the Plants.

I have for many years practised raising peas in boxes under glass, thoroughly hardening them off, and planting them out singly when about three inches in height. I have found this to be a great gain, especially on wet, cold soils, as well as having them under better control, and I have found them to bear much more prolific. We raise the plants in this manner till about the first week in April. After that date the seed should be sown just about as thick again, as these sowings are intended to remain, and be thinned out to the proper distance when quite small. Here it may be well to point out that in far too many cases maincrop peas are grown much too closely together. As the result, the plants do not have room for their development, and the pods fail to reach their full size. Moreover, the plants rapidly decline in vigour, and fail to continue in bearing for so long a period as could be desired. Naturally, the more robust the variety the greater should be the distance between the plants in the rows.

Staking.

I know of no better method for supporting the plants than good ordinary brush sticks, hazel for choice, and these should be new each year if possible. The sticks should be thrust well into the ground close to the rows, and be quite straight. The tops should be taken off and placed between the stakes to support the young growth in its first stages. Soot is an excellent stimulant, and should be applied at frequent intervals during showery weather. Where slugs abound give a good surface dressing of finely sifted cinder ashes; and where sparrows are likely to injure the young growths protect with garden netting at the time of staking.

Mulching and Watering.

No crop pays better than peas for applying a good quantity of stable litter between the rows, especially during the hottest [illegible] of the year, and water should be given [illegible] abundance, both clear and liquid manure. During hot weather spray the haulm freely the best time being late in the afternoon and use clean, tepid water.

Stopping and Thinning.

When extra large pods are required, whether for exhibition or other purposes, it is most essential to stop the points of the growths after a reasonable amount of pods have set, and all lateral growths should be removed also. During wet seasons it is often advisable to practice this to induce the pods to fill rapidly.

Varieties.

If one were asked to name the very best varieties in cultivation it would be a difficult matter to do so to please everyone. It frequently happens that a variety which does exceedingly well in one particular district is anything but satisfactory in another. Nevertheless, there are some which seldom fail in any locality, but with so many first-class peas now in commerce none should be cultivated unless they are of the highest quality. As I am dealing only with maincrop varieties, I will [illegible] out those which are generally classed [illegible] early ones entirely. Duke of Albany [illegible] first-class pea, and worthy a position [illegible] any garden. To follow this Prodigy is excellent. Then Alderman and Quite Content, the latter being a grand pea for any purpose, and continues to bear longer than any other variety I know, providing [illegible] allowed plenty of room, and the ground [illegible] good. Essex Wonder and Essex Rival [illegible] both grand peas of medium height. Masterpiece and Autocrat are still hard to [illegible] pass for late supplies, as each [illegible] fine constitution, and seldom mildew, [illegible] not overcrowded, and plenty of [illegible] given. These will frequently [illegible] bear good crops till quite late in November.

E. BECKETT

Aldenham House Gardens.

SUPPORT FOR SWEET PEAS.

Mr. Curtis mentions various forms of [illegible]ports for sweet peas on p. 231, but he does not mention larch tops, possibly because he thinks they are not easily obtainable. That may be so in many cases, but they form a capital method of supporting the haulm [illegible] the plants. Here, these tops can be had [illegible] any length to suit varieties and growth, from 6 feet to 12 feet, or even higher. [illegible] during the winter, before the buds burst, they have a distinct rustic appearance, and with the side branches cut back to [illegible] foot of the main stem all round, [illegible] vide ample space for the most robust growing varieties.

Before sowing in the open, or putting out the plants from pots, these supports should be fixed by boring a hole in the ground with an iron bar, into which the pointed base [illegible] support should be thrust and made [illegible] the sweet peas commence to climb [illegible] should be evenly spread out, covering the whole of the support eventually, and when this complete, an almost perfect clump is thus obtained.

E. MOLYNEUX

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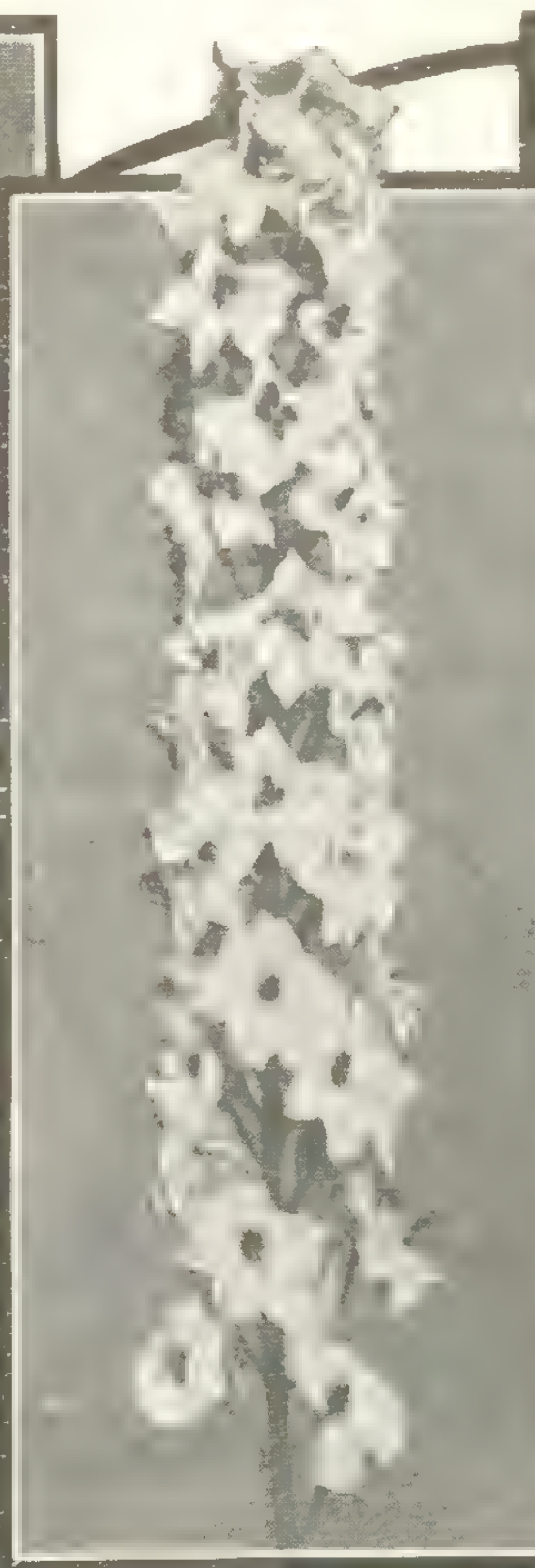

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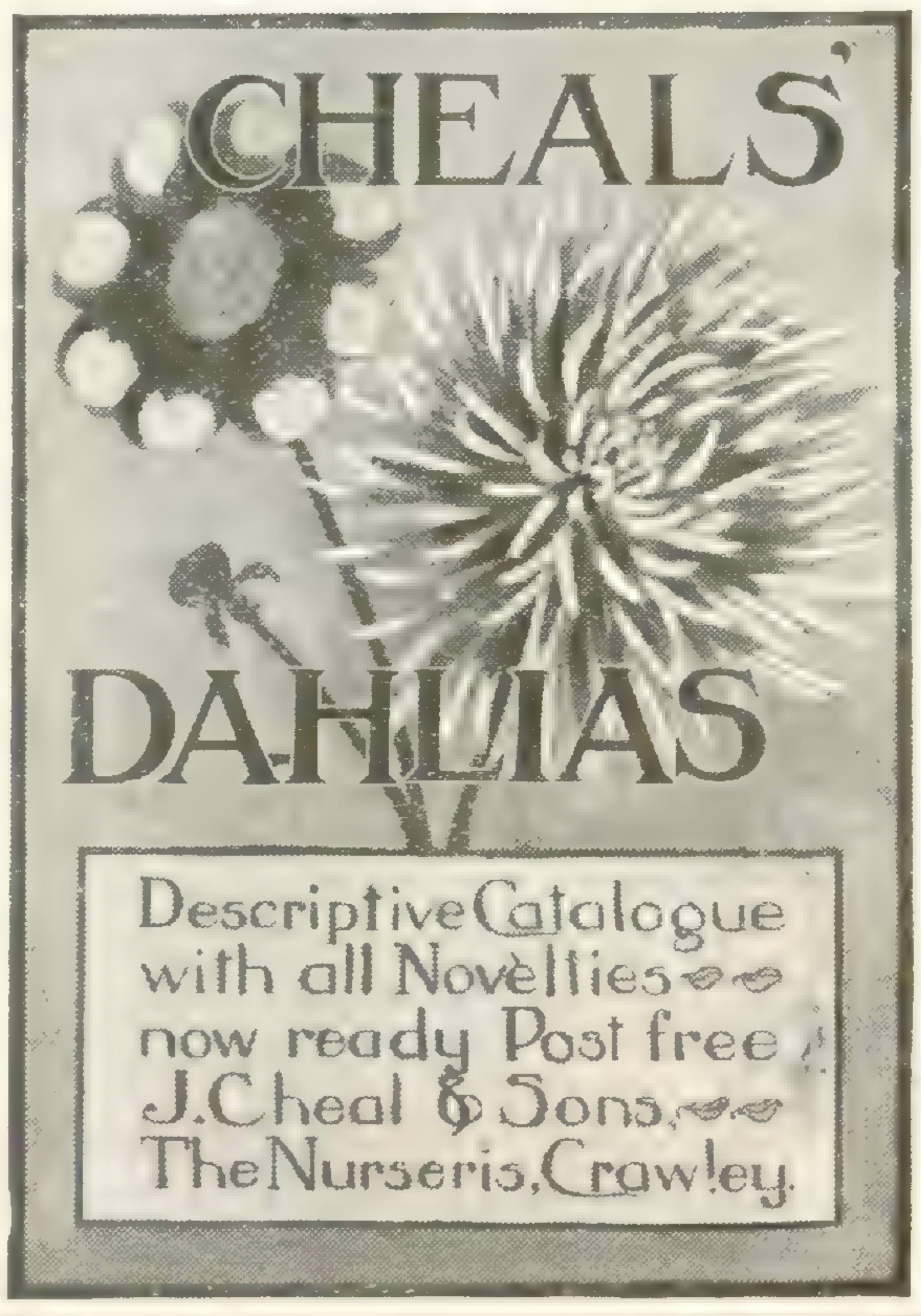

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EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, March 23.

Present: Mr. E. A. Bowles, M.A., F.L.S., F.E.S. (in the chair); Sir Daniel Morris, K.C.M.G., Dr. Rendle, Messrs. R. H. Curtis, G. Massee, J. Douglas, H. T. Güssow, J. T. Bennett-Poë, W. Fawcett, A. Worsley, F. J. Baker, G. Saunders, and F. J. Chittenden (hon. secretary). Visitors: Messrs. F. W. Smith and G. Wilson, F.L.S.

ROOTS OF SWEET PEAS DYING.—Mr. Massee reported that he had examined the roots of the sweet peas sent to the last meeting, and had found that the cortical cells and root hairs were all killed and browned. He thought they were perfectly free from any disease due to insects or fungi, but had probably been injured by some injurious substance in the soil, or by some fertiliser. Possibly peaty soil with sphagnum had been used, and humic acid had caused the damage.

PARSNIPS FROM WILD STOCK.—Mr. F. J. Baker showed some roots of parsnips of the sixth generation from the wild plants. The roots were of good size, although grown on poor land, and had lost the greater part of the tough woody fibre of the original stock. In form they showed a near approach to the well-known "Hollow-crown" type of parsnip. Mr. Baker said there was just a possibility that the plants had in one generation been crossed with pollen from cultivated plants. He found the roots far less liable to rust than the ordinary plants, though they were not entirely free from it.

ORCHID MALFORMATIONS.—Mr. Gurney Wilson showed malformed flowers of Odontoglossum Harryano-crispum on behalf of Mr. W. Bolton, of Warrington. There appeared to be symmetry about the multiplication of parts in these flowers, and Mr. Wilson remarked that, as in the present case, when a portion is removed from an established plant, in the next season it is not very unusual for the older portion to bear malformed flowers, while the portions removed bear normal flowers. He also showed a flower of Selenipedium caudatum var. Lindeni, from Messrs. Charlesworth. In this variety the labellum is not slipper-shaped as in the type, but is replaced by a very long and tapering petal entirely similar to the two lateral petals; there are also three fertile stamens. The variety was figured by Reichenbach (Lindl. Orchid, Linden, 28, 1846), under the name of Uropedium Lindeni. The form occurs wild.

EUCROSIA BICOLOR.—Mr. J. T. Bennett-Poë showed flowers of this peculiar plant from Miss Willmott's garden. The plant was figured in 1817 in the Bot. Reg. t. 207.

GREASE BANDS.—Mr. Walter Voss reported that no winter moths of any kind had been caught on the grease bands placed on the fruit trees at Enfield since the end of November.

DISEASED PLANTS.—Mr. Massee showed a piece of a rose stock attacked by the fungus Leptosphæria diplodia, a well-known fungus on the stems of the Dog Rose, and rarely attacking the cultivated varieties. In this case 15,000 bushes had been affected. Mr. Massee also showed shoots of apple affected by the winter stage of the apple scab, Fusicladium dendriticium. Mr. Massee also showed a branch of pear which had been damaged by hailstones in the summer. The wounds had healed, and were now free from danger of attack from fungi, but the circular places which had been hit by the stones had dried, and were sunken and black.

DAMAGE TO PLANTS BY FROST.—The desirability of drawing up a report upon the damage done by the frosts of the past winter was discussed, and some points upon which it seemed desirable to obtain information were decided upon.

Beckenham Horticultural Society.

On Friday, the 26th ult., Mr. Alexander Dean, V.M.H., lectured before the above society on "Auriculas and Polyanthuses." Mr. Sherley-Price, one of the vice-presidents, occupied the chair. There was a capital attendance, and the lecturer was very attentively followed as he gave the history of the auricula, and explained the various points that go to make up perfect flowers and plants. Mr. Dean appealed for an extended use of the alpine auricula and polyanthus for beautifying the flower borders in spring, and also showing that there was plenty of room for workers to take up the improving of the garden section of these plants by cross-breeding and selection. The compost for the show auricula given by the lecturer was good fibrous loam four parts, one part of old hot-bed manure, one of good leaf-soil, and a good sprinkling of coarse sand. The best time to sow seed of polyanthus is soon after it is ripe, and to sow outside. These form finer plants at flowering time than those sown at this season of the year.

Very hearty thanks were accorded Mr. Dean for his most entertaining and instructive lecture. This being the last lecture of the session, the Chairman kindly distributed the various certificates awarded during the session, and was warmly thanked for presiding over the meeting.

Birmingham Gardeners' Association.

A more than ordinary interest was aroused amongst the members of this association on March 22, in view of the subject, as evidenced by the well-filled lecture-room at the Athletic Institution, John Bright Street, when Mr. C. B. Bick, Bickenall Nurseries, Olton, brought a most interesting set of lantern pictures, and accompanied these with graphic and instructive remarks. His subject was "The Embellishment of Suburban Gardens." Mr. Thos. Humphreys presided.

Mr. Bick, who has been a most useful member of the association from its inauguration upwards of twenty years ago, was for a period of at least twenty-five years gardener to Walter Chamberlain, Esq., then at Harborne Hall, Harborne [Harborne Hall Gardens were described and illustrated in our issue of March 13.—ED.] and where he effected great improvements and additions to the pleasure grounds, including the transplanting of very large and fine specimen evergreens, including hollies, yews and other conifers, rhododendrons, and ornamental deciduous trees. The larger specimens of hollies and yews were transported from several miles distant by a transplanting machine, and all with uniform success. The formation of two large ornamental ponds were included in the repertory of Mr. Bick's undertakings. Some four years ago, on the death of his father, Mr. Bick resigned the charge of the gardens and estate to assume possession of the old family nursery at Olton. While at Harborne Hall he developed a penchant to photography, one of the results being the fine set of lantern slides with which his lecture was illustrated.

In the course of his remarks, Mr Bick strongly advised prospective photographists always to keep in view the propriety of keeping to a special object, instead of desultory and unprofitable snap-shotting of every object that might casually arrest attention. It may be added that, in addition to Harborne Hall views, Mr. Bick threw upon the screen several other garden scenes, chiefly shrubberies, rockeries, etc., constructed by himself and brothers for various patrons around Birmingham. In the ensuing interesting discussion, in which Messrs. T. Humphreys, C. H. Herbert, W. Gardiner, Geo. Giles, W. L. Deedman, and James Webb took part, warm eulogiums were tendered to Mr. Bick for his interesting entertainment.

Bristol Gardeners' Association.

The usual fortnightly meeting was held on March 25, at St. John's Parish Rooms, Mr. W. E. Budgett in the chair. The representative of the Reading Association, in the person of Mr. Bailey, gave a lecture upon "Propagation by Layering," with practical demonstration, which, from an educational standpoint, was much appreciated by the members. Mr. Bailey said ampelopsis, aristolochia, clematis, bignonia, honeysuckle, wistaria, aucuba, ceanothus, weigela, cotoneaster, garrya, ivy, and ilex, all root readily if layered, and make good plants in from three to eighteen months; root action is accelerated by tongueing. Heaths, magnolias, rhododendrons, and azaleas require peat as a rooting medium, otherwise there is no difficulty in raising plants from layers.

Numerous questions were asked and satisfactorily answered, and the Chairman's remarks added interest because of his knowledge of hardy shrubs. Mr. Shaddick proposed, and Mr. Binfield seconded, that the secretary write to Mr. J. Attwell (the first chairman) assuring him of the members' high appreciation of his interest and help since the society was first inaugurated, and wish him continued success in his new place, as gardener to the Misses Brain (with whom he has been for many years) at Brent Knoll, Somerset.

For "spray and button-hole" (under-gardeners only), Messrs. Dainton, Whiting, and Isaac won in the order given. Ordinary certificates were awarded to Messrs. Holt and Young, the former for Stanhopea oculata, the latter for a grand star cineraria.

Reading Gardeners' Association.

There was again a very large attendance of members of this society in the Abbey Hall on Monday, March 22, when Mr. T. J. Powell, of The Gardens, Park Place, Henley-on-Thames, a popular member of the association, was the lecturer, and his subject, "The Value of System in the Cultivation of Fruit." The President (Mr. Alderman Parfitt) [illegible] the chair. Mr. Powell announced that he did not propose to give a lengthy paper, his remarks would rather be directed to provoke an instructive discussion. He then proceeded to demonstrate how without [illegible] system the successful cultivation of [illegible] trees would be altogether impossible, [illegible] out that system must be observed at the [illegible] set, even in the selection and [illegible] trees, afterwards rigidly adhered to [illegible] ing, manuring, spraying, pruning, [illegible] gathering, grading, storing, etc. Mr. Powell certainly had no reason to be disappointed in the avowed object of his paper, for one of the best discussions that has [illegible] taken place in the Abbey Hall followed his remarks, a very large number of [illegible] taking part.

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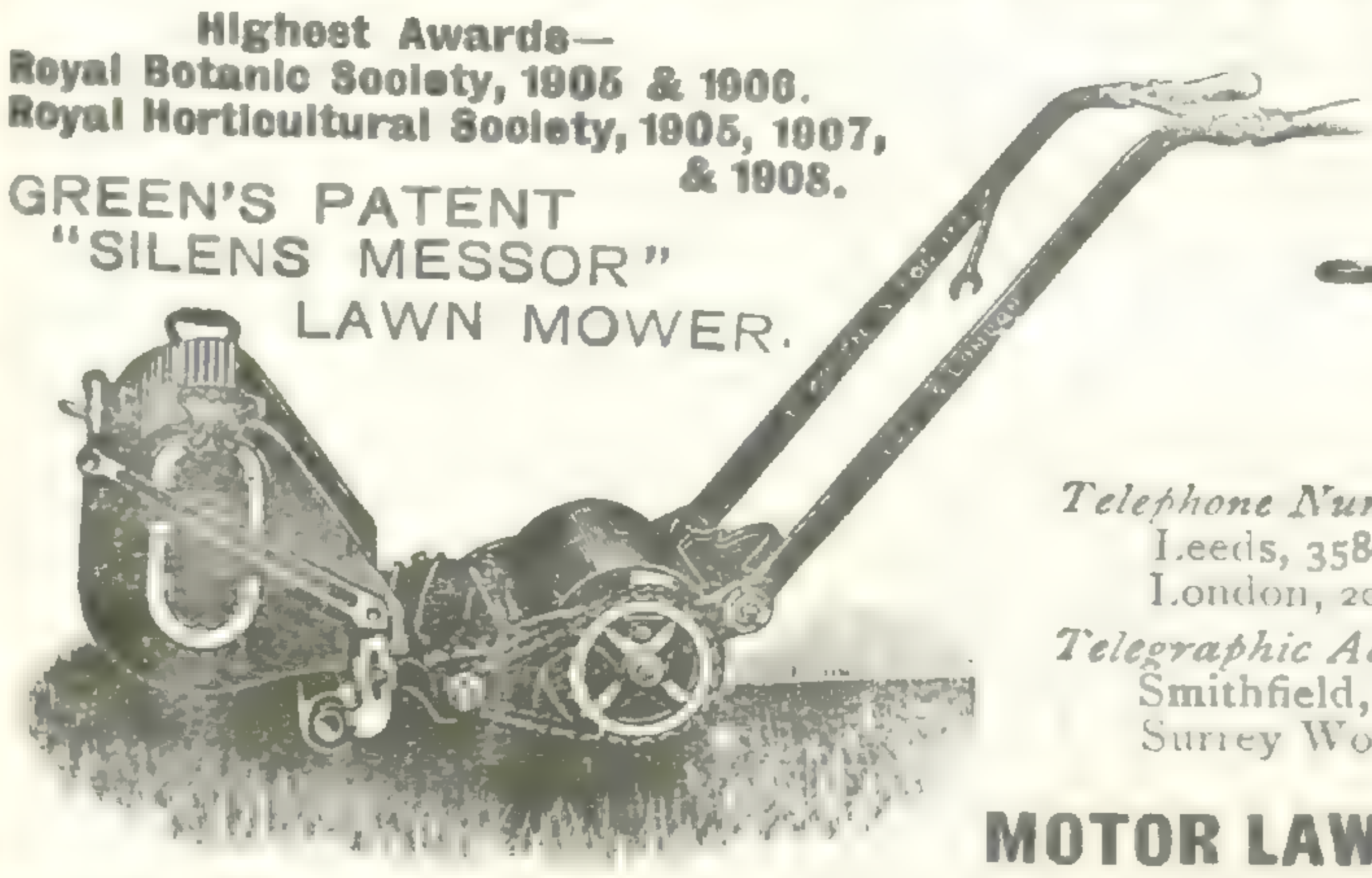

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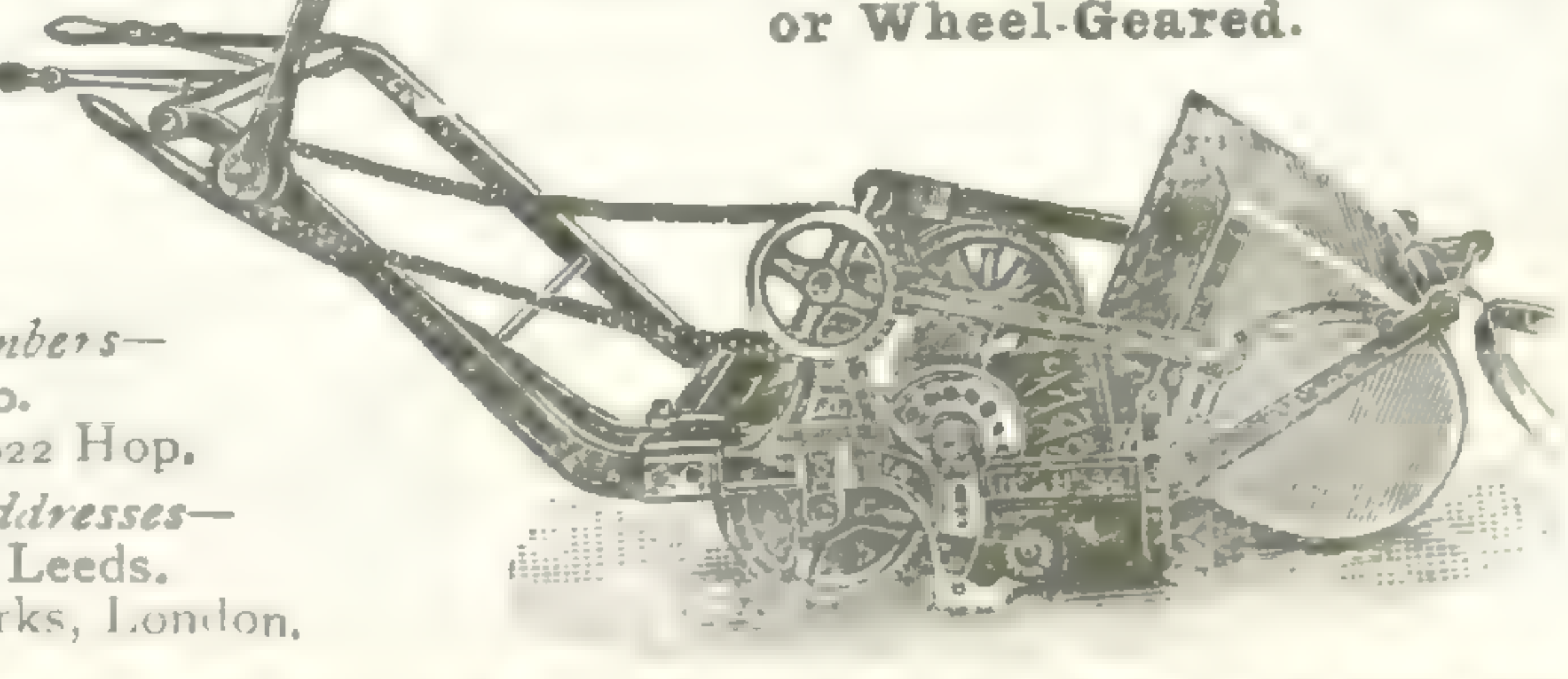

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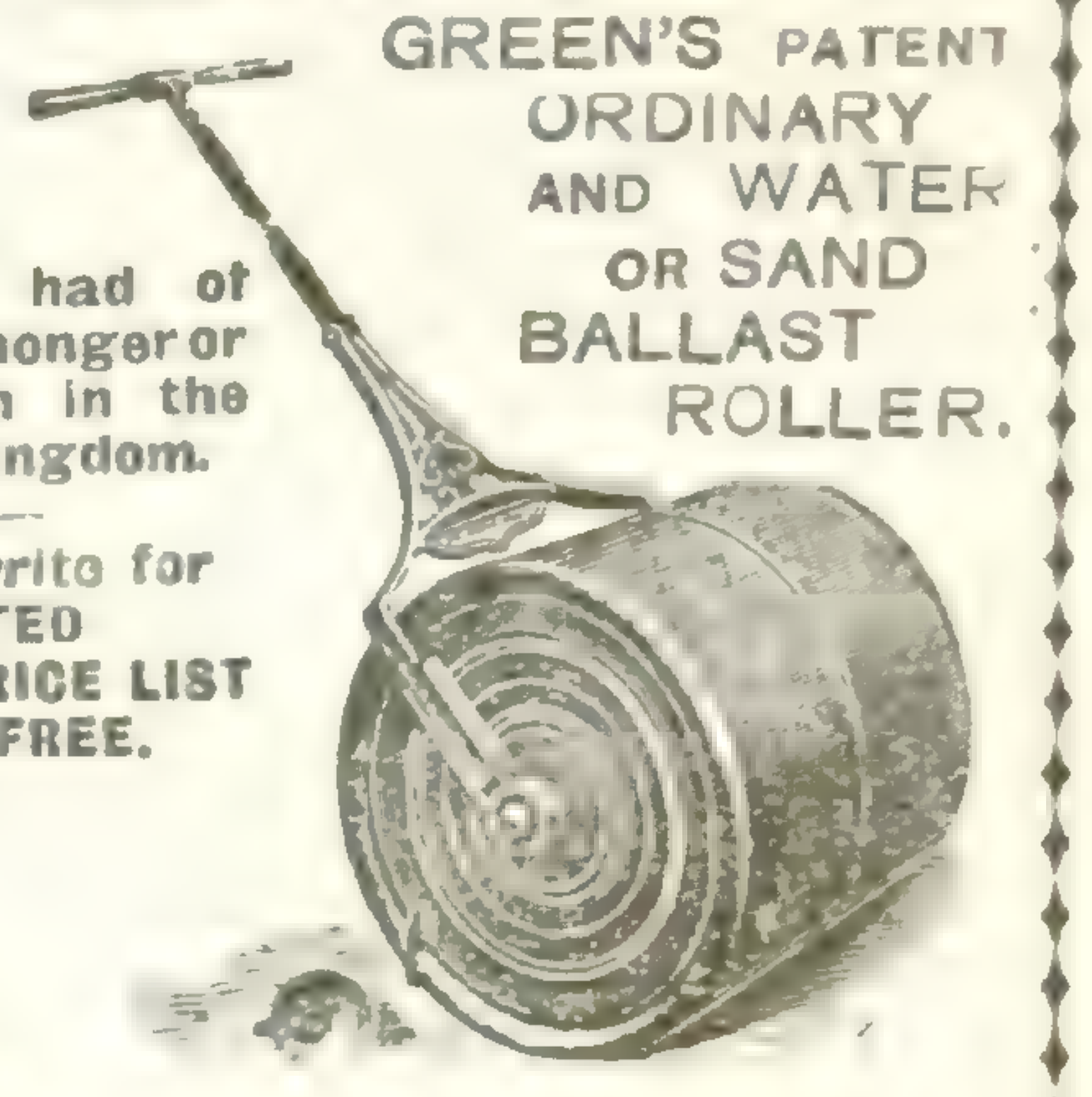

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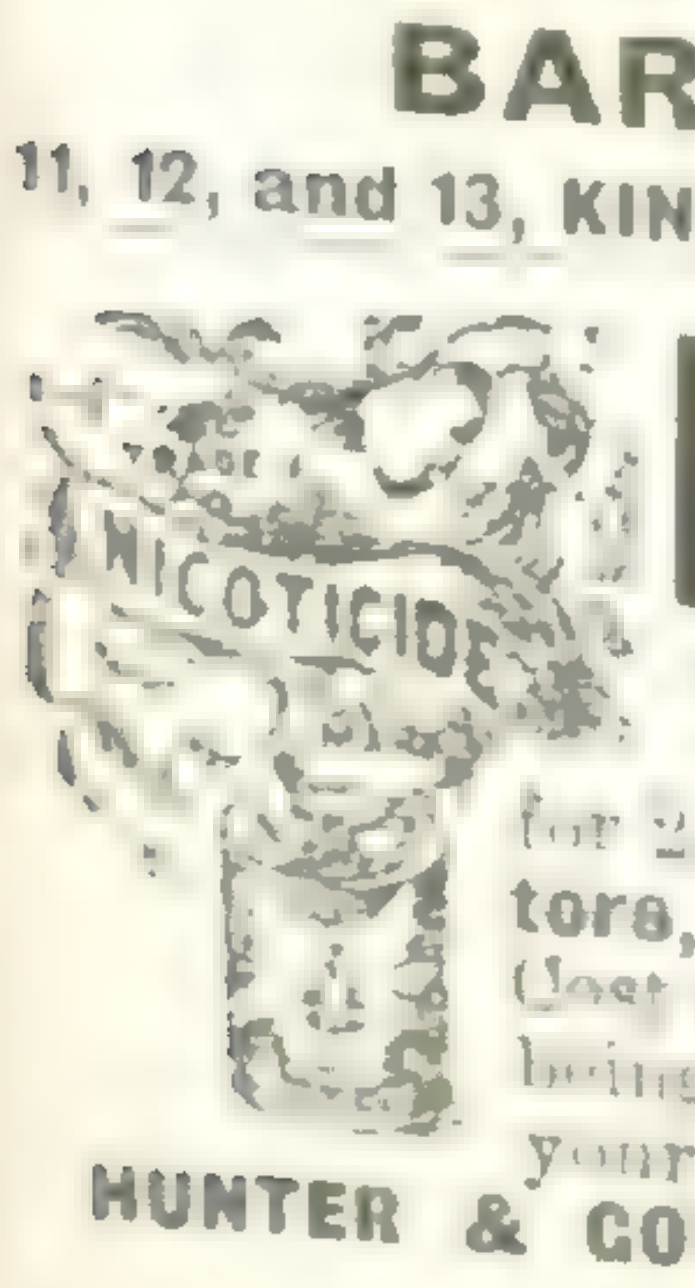

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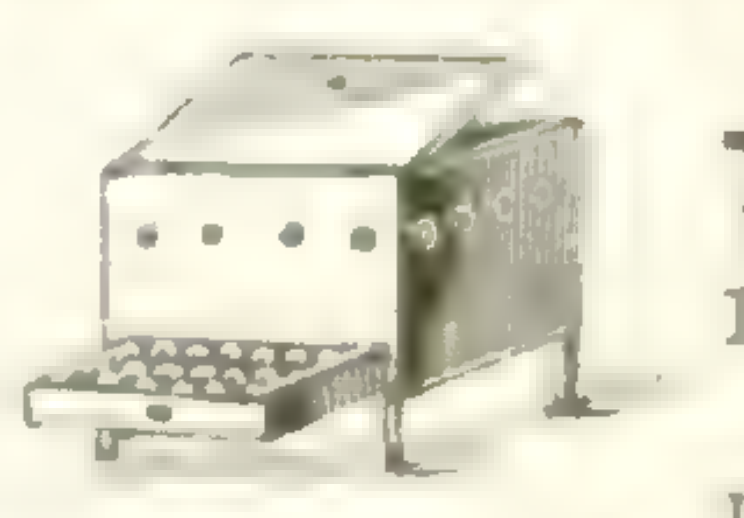

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As an object lesson, too, Mr. Powell staged 42 dishes of apples in perfect condition, a truly remarkable exhibition at this period of the year (March 22), showing that the system of storing at Park Place is such that all gardeners might envy.

The following were the varieties exhibited: Annie Elizabeth, Duke of Beaufort, Court of Wick, Blenheim Orange, Baddow Pippin, Winter Majetin, Worcester Pearmain, Dr. Eclat, Mother Apple, New Ribston Pippin, Adams' Pearmain, Cockle Pippin, Striped Pearmain, Margil, Winter Greening, Winter Hawthornden, Late Nonpareil, Alfriston, Hoary Morning, Lord Derby, Wellington, Alexander, Bismarck, Flower of Kent, Cox's Orange Pippin, Lane's Prince Albert, Tower of Glamis, Teddington Seedling, Old Ribston Pippin, Golden Russet, French Crab, Gloria Mundi, Scarlet Nonpareil, Cox's Pomona, Striped Beefing, Sandringham, Kedleston Pippin, Strawberry Pippin, and others.

At the conclusion of the meeting a vote of thanks to Mr. Powell was carried with acclamation.

Mr. J. Wynn, head gardener to Lady Cooke, East Thorpe, Reading, staged a really magnificent group of amaryllis from seed sown in 1905 and flowered now for the first time. The exhibit was awarded the association's certificate.

Mr. G. Carter, gardener to S. Griffith, Esq., showed some very fine blooms of Sutton's Giant primulas, and Mr. A. F. Bailey, gardener to H. Collins, Esq., exhibited a dish of pears, which showed that his system of storing fruit was of the correct order. Seven new members were elected.

British Gardeners' Association.

At the recent monthly meeting of this association, Mr. E. F. Hawes in the chair, 41 new members were elected, bringing the total up to 1,473. Mr. Chas. Foster was congratulated on his new appointment to Lord Northcliffe. It was decided that the annual general meeting of the association should be held at Essex Hall, Essex Street, Strand, W.C., on Wednesday, May 26, at 7 p.m., the second day of the Temple Show.

METEOROLOGICAL OBSERVATIONS.

TAKEN BY THE R.H.S. GARDENS AT WISLEY SURREY.

Height above Sea-level, 150 feet.

Date. 1909. March 21 to March 27.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	br. m.	deg.	deg.	deg.	deg.
Mar. 21—Sunday	3 12	45	43	48	38
„ 22—Monday	—	44	44	50	41
„ 23—Tuesday ..	0 30	44	45	52	44
„ 24—Wednesday.	0 6	46	45	50	39
„ 25—Thursday ..	5 6	48	44	53	45
„ 26—Friday	4 54	41	37	48	38
„ 27—Saturday ..	5 42	42	38	51	32
Means	(total) 19 30	44	42	50	39

Date. 1909. March 21 to March 27.	Rain.	Temperature of the Soil. At 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
Mar. 21—Sunday	0·06	42	42	40	33
„ 22—Monday	0·07	42	42	41	37
„ 23—Tuesday ...	0·01	44	43	41	43
„ 24—Wednesday.	0·20	43	43	42	32
„ 25—Thursday ..	0·01	44	43	42	41
„ 26—Friday	—	43	44	42	33
„ 27—Saturday ...	0·05	41	43	42	27
Means ...	(total) 0·40	43	43	41	35

DESTRUCTION OF VERMIN.—Most gardens are pestered with Rats and Mice. Every effort should be made to exterminate them before seeds are sown. Danysz Virus is first rate stuff for killing these vermin. Single tube, 2s.; three tubes, 5s. Post free from DANYSZ VIRUS, LTD., 52, Leadenhall Street, Garden Dept. London, E.C.—[Advt.]

ANSWERS TO CORRESPONDENTS.

DEAD TEA ROSE.—N. T. H., Hertford: The specimen sent is quite dead, and if all the others are like it you must pull them out, because they are useless. Later on you may plant out roses that have been grown in pots, propagated early under glass.

DAMAGED H.T. ROSES.—C. S. D., Lincoln: Where tea and hybrid tea roses were not protected during the long and severe winter of 1908-9, there will be many losses to record. We cannot tell how severely your plants have suffered without seeing them. About the end of next week examine the plants carefully, and probably you will find sound wood and live eyes quite at the base of the growths; if so, prune right back to a live eye; if not, then root out the plants; because, while the stock may be alive, the rose will be dead.

RUSTY CYCLAMEN LEAVES.—A. B., Ashbourne: We find no trace of mite on the little leaves sent, but there was a suggestion of thrip on the smallest leaf. There is something about the substance of the leaves that is not pleasing, and it suggests an unhappy condition of the roots. Make a careful examination, and, if necessary, wash the roots clean and repot in sterilised light soil. Use tobacco powder on the leaves.

FAILURE WITH PELARGONIUMS.—G., Royston: The failure appears to be due to a rather sudden change of conditions. No doubt the cuttings in the store pots were kept fairly dry all through the winter, and, when potted off singly, were at once subjected to warmer and moister conditions. This, coupled with the dull, cold weather prevailing, acted as a severe check. It would have been better had the plants been given rather warmer and moister conditions for a little while before repotting, so that new growth and new root action would have commenced. The constitutional vigour of some varieties is much greater than that of others, even though in some instances the variety may not be nearly so strong in growth. The size to which a variety will grow is no criterion of its vitality or its ability to resist disease; indeed, some of the strongest, rankest growers among florists' flowers are among the first to succumb to checks. Obtain your cuttings from a new stock in the autumn from a considerable distance, if possible. We are persuaded the difficulty is a physiological one, and not due in the first place to either fungus or insect attack.

WHITE SPOT ON CUCUMBER LEAVES.—S. S., Hendon: Without specimens we cannot be certain what the disease is, but it is probable that the white spots are caused by a fungus known as Cercospora Melonis. Cut off and burn the affected leaves, and spray the plants with weak Bordeaux mixture.

WEED IN ASPARAGUS BED.—T. H., Corbridge: Unfortunately, or, perhaps, fortunately, we cannot persuade the roots to grow, and therefore we cannot identify the plant that is a weed in your asparagus bed. It is possible the weeds were in the asparagus roots at planting time, but it is still more probable that the bed contained the weed seeds, and though weeds were pulled up between the plants, the desire to avoid damage to the asparagus crowns gave some of the weeds a chance to make their long roots, and establish themselves. You have done the right thing in trenching out, cleaning, and replanting the asparagus, and if you have not allowed the weed to seed during the last two years, then you should find little difficulty in future. If a weed should escape your vigilance, please send it to us when in flower.

FRAU KARL DRUSCHKI ROSE.—F. W., Stourbridge: Remove the few thin weak growths entirely, then take the strongest shoots, and, after shortening them a little, arch them over and secure them to pegs about a foot high. Arch over as many of these shoots as there is room for in the bed, allowing fair space between them, and then shorten the remainder back to about fifteen inches. By this means you will secure a good effect when the roses bloom. "Pegging down," as applied to roses, does not mean laying the growths flat upon the ground and keeping them there by means of pegs, but consists of bending over the growths, as suggested, and keeping them in position by tying them to stout pegs or sticks; or, if hooked sticks are obtainable, by putting the end of the growth under the hook, so as to keep it about a foot from the ground.

NAMES OF PLANTS.

N. T., Salisbury.—1, Cornus mas; 2, Lonicera Standishi.

W. S., Trowbridge.—We believe your specimen represents the true Eupatorium petiolare.

F. S. E., Wallingford.—1, Eupatorium ianthinum; 2, Hibbertia dentata; 3, Acacia armata.

A. S. R., Richmond.—1, Bulbocodium vernum; 2, Saxifraga apiculata; 3, Cyclamen coum; 4, Chionodoxa Luciliæ.

M. E. M., Cardigan.—1, Rhododendron arboreum; 2, apparently Campanula persicifolia, send when in flower; 3, Desfontainea spinosa.

T. C., Greenwich.—1, Dracæna indivisa; 2, Francoa ramosa; 3, Cœlogyne cristata; 4, Anthericum variegatum; 5, Ophiopogon jaburan.

OBITUARY.

MR. WILLIAM ROUPELL.

We have to record the death of Mr. William Roupell, which occurred at his residence in Christchurch Road, Streatham, on the 25th ult. Mr. Roupell, who was in his 80th year, was, at the time of his death, president of the Brixton Horticultural Society, and a member of the committee of the Royal Gardeners' Orphan Fund.

FORTHCOMING ENGAGEMENTS.

TUESDAY, April 6.—Royal Horticultural Society; Narcissus Committee, at 11.30 a.m.; Orchid, Floral, and Fruit Committees, at 12 o'clock; lecture at 3 p.m. on "Effects of the Forces of Growth," by Rev. Professor G. Henslow; Scientific Committee, at 4 o'clock.

British Gardeners' Association, Council Meeting.

WEDNESDAY, April 7.—Royal Caledonian Horticultural Society's Spring Show; two days.

Royal Society of Arts meets.

THURSDAY, April 8.—Liverpool Horticultural Association's Spring Show.

FRIDAY, April 9.—Good Friday.

. Owing to great pressure on our space, our usual Market Report is unavoidably held over.

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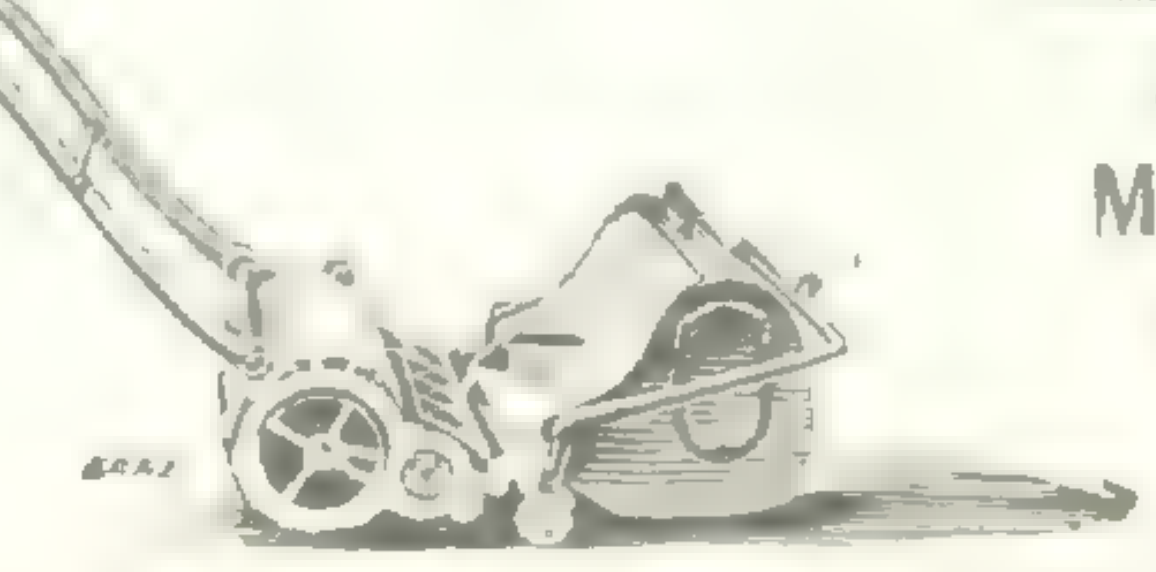

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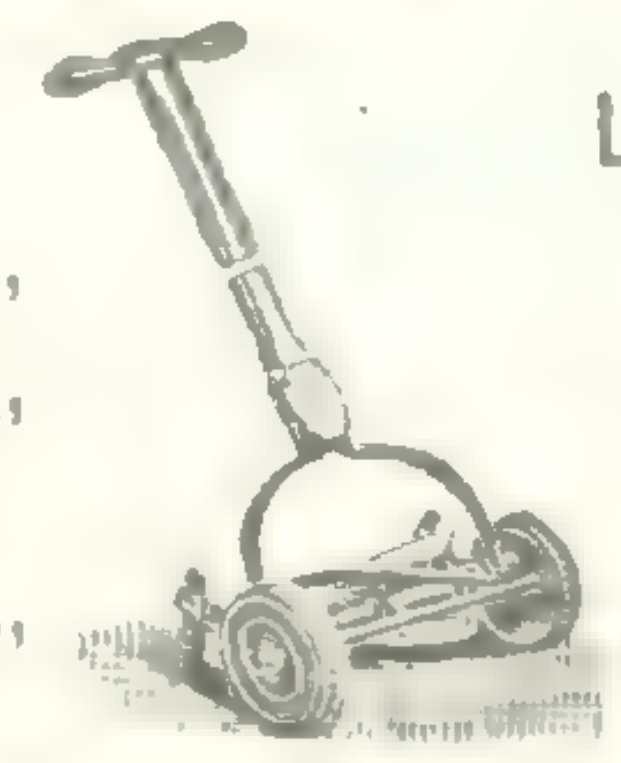

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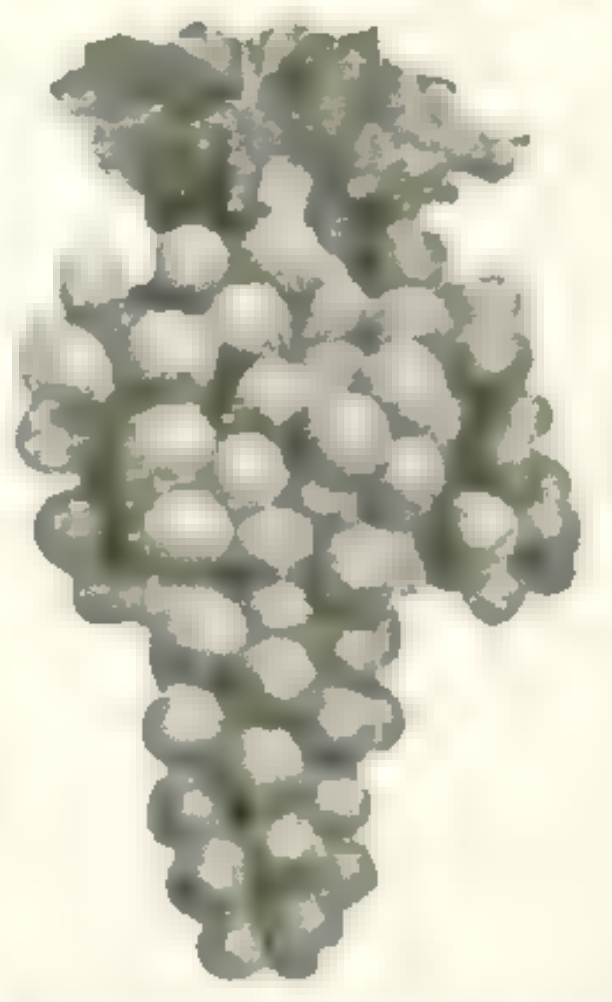

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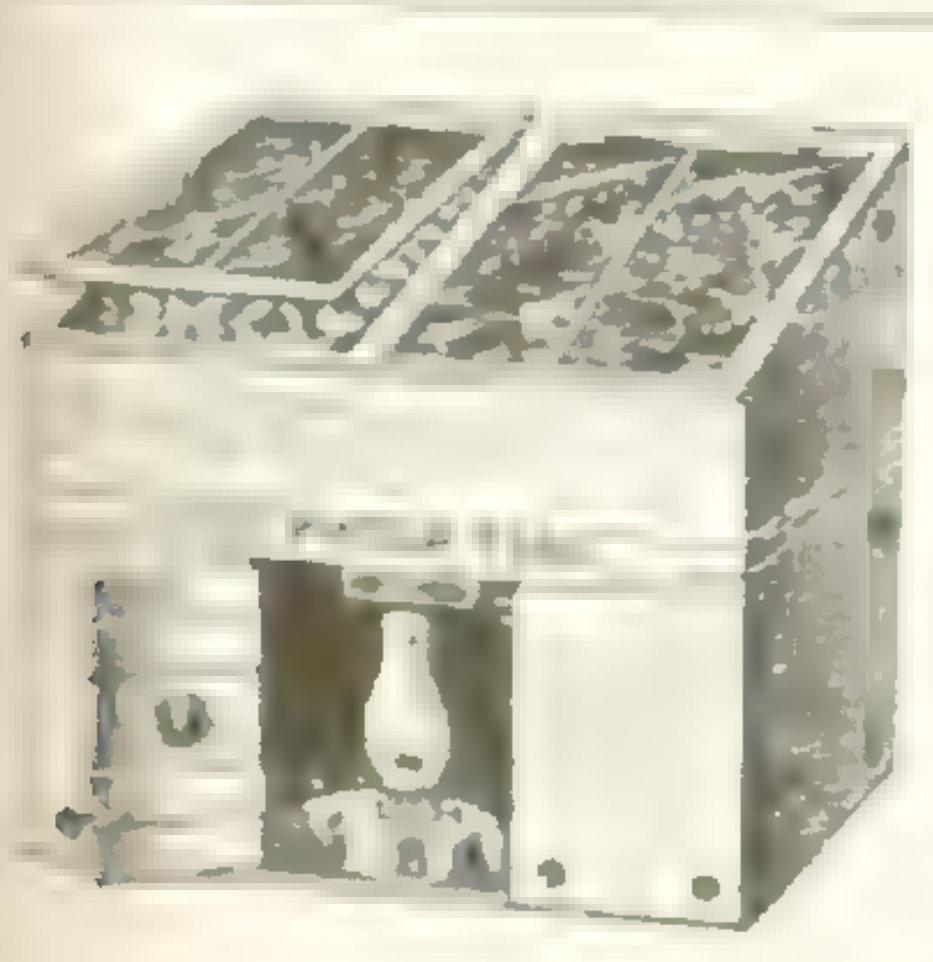

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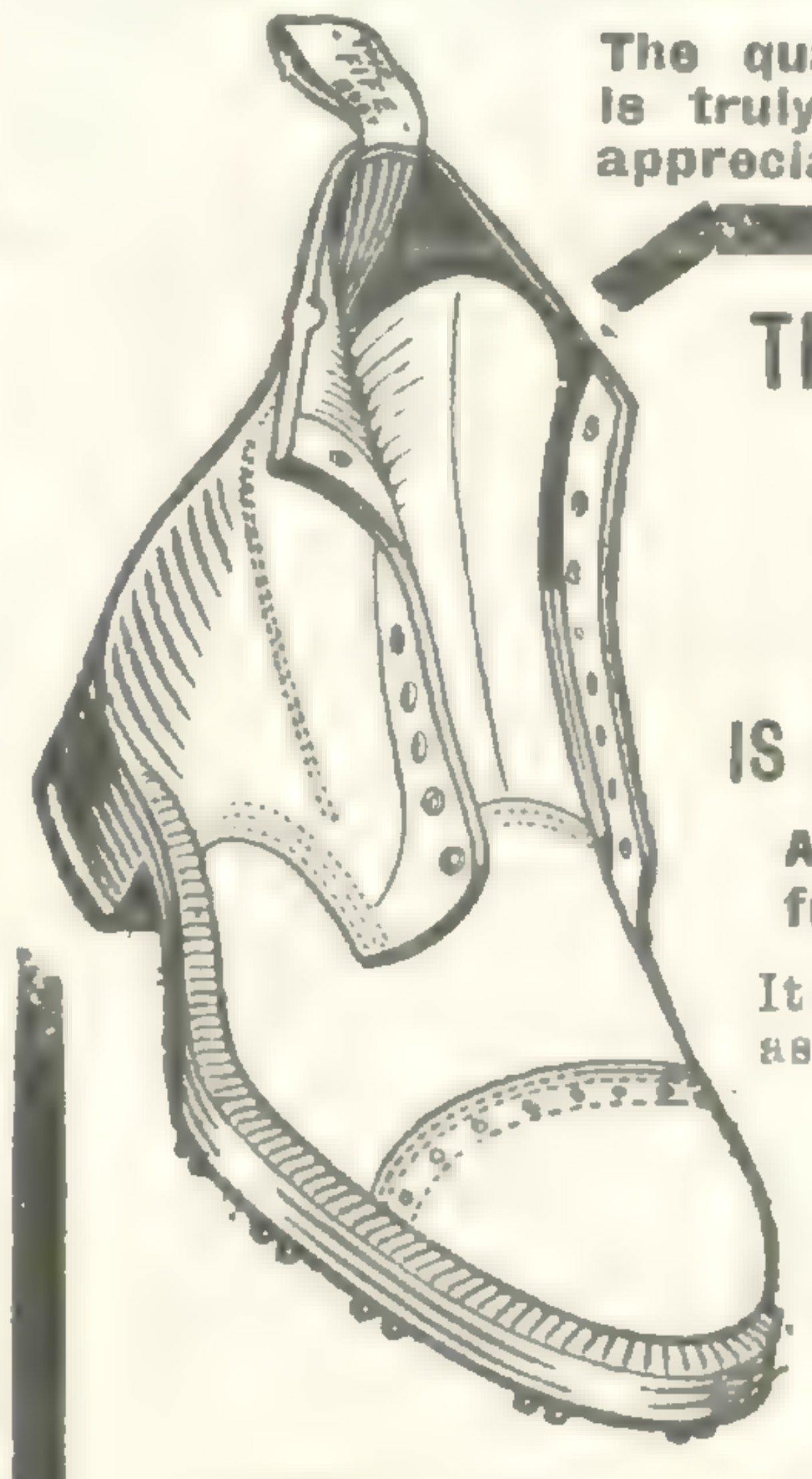

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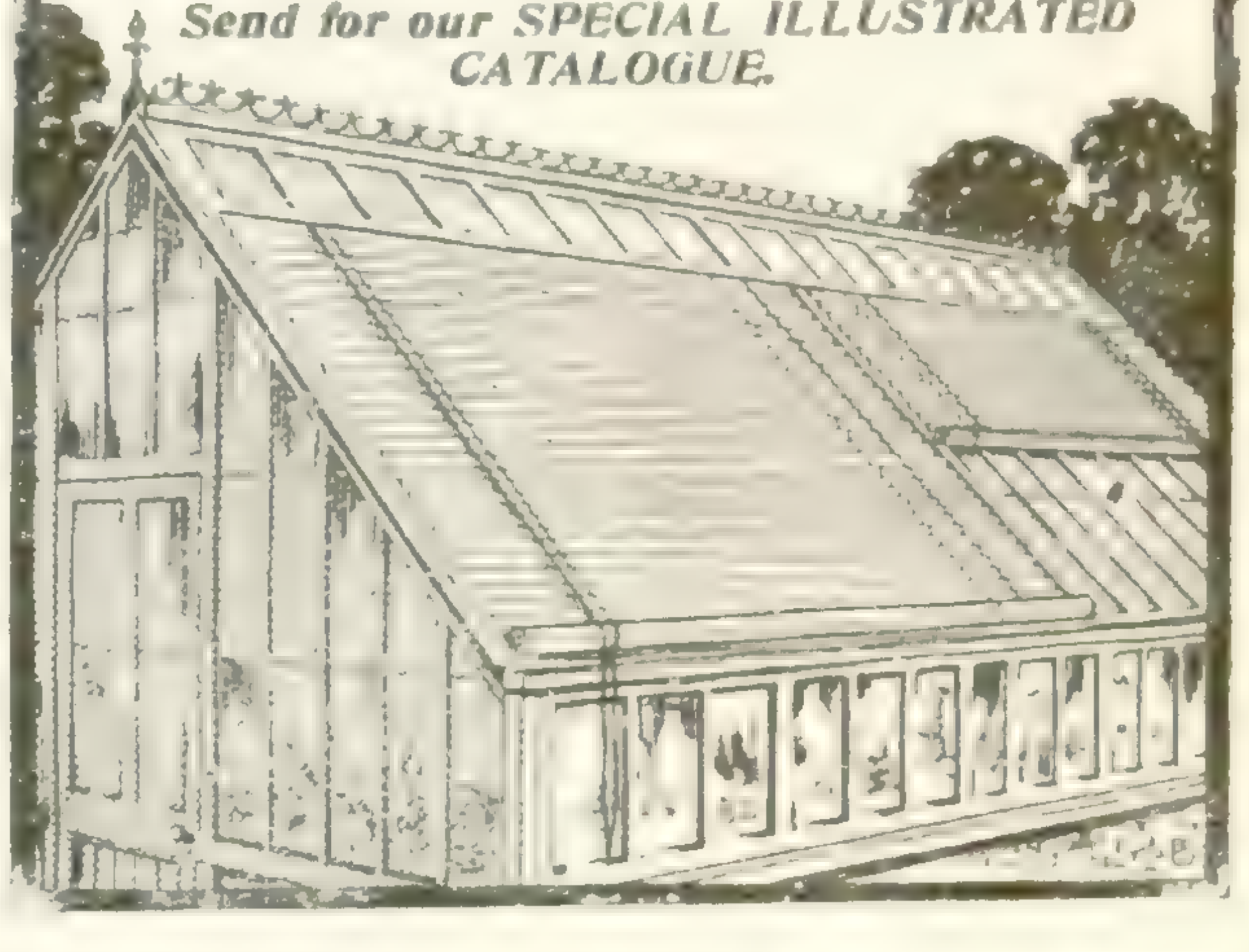

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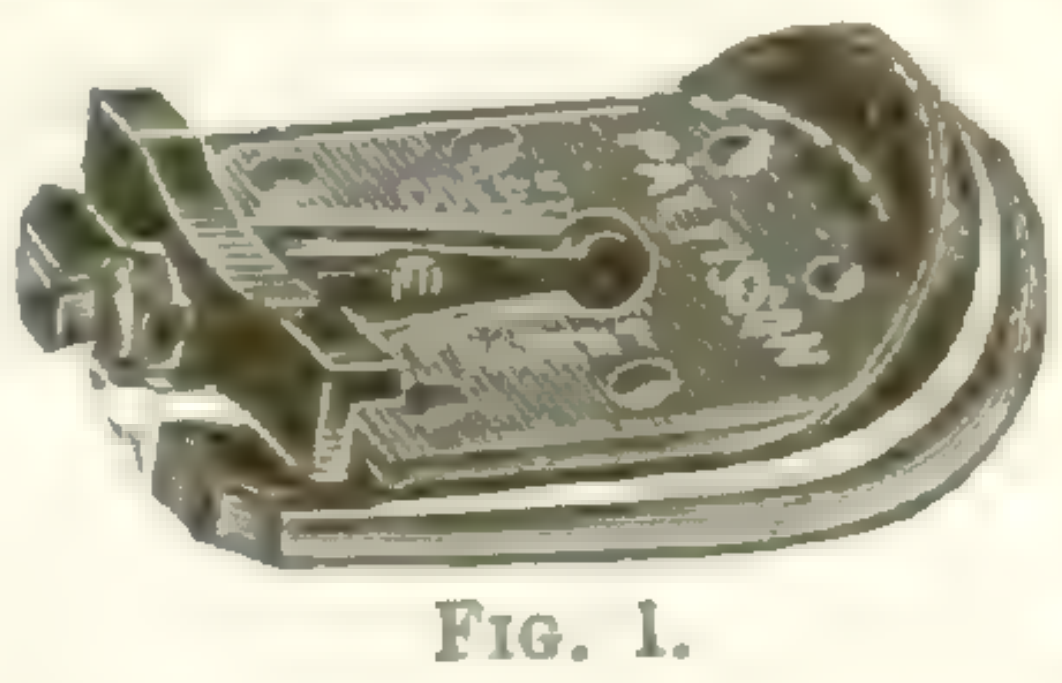

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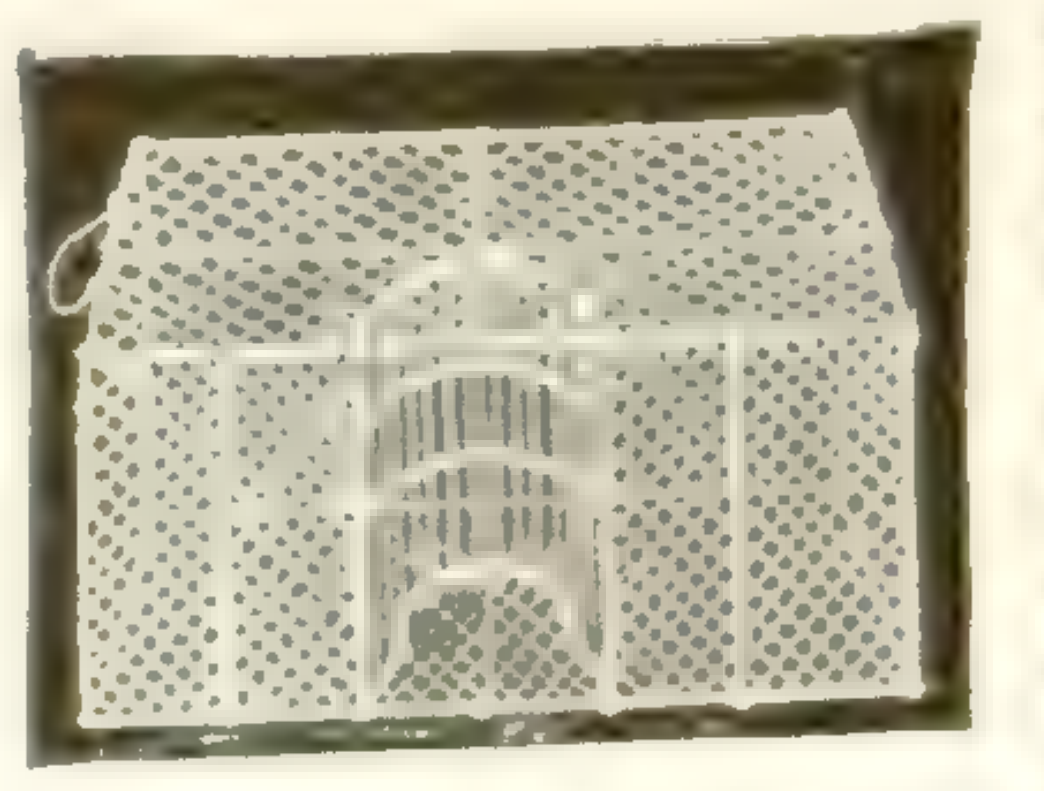

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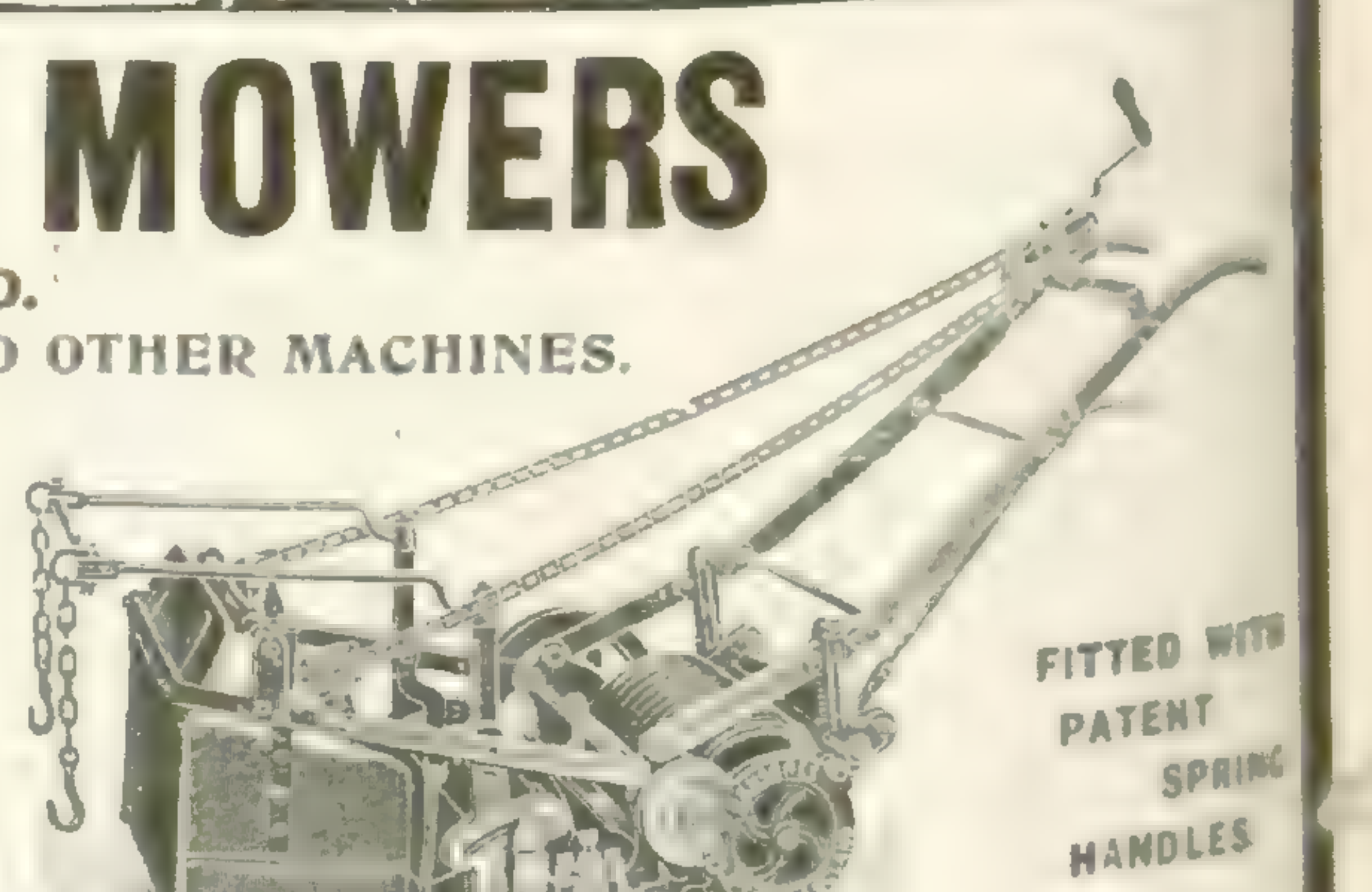

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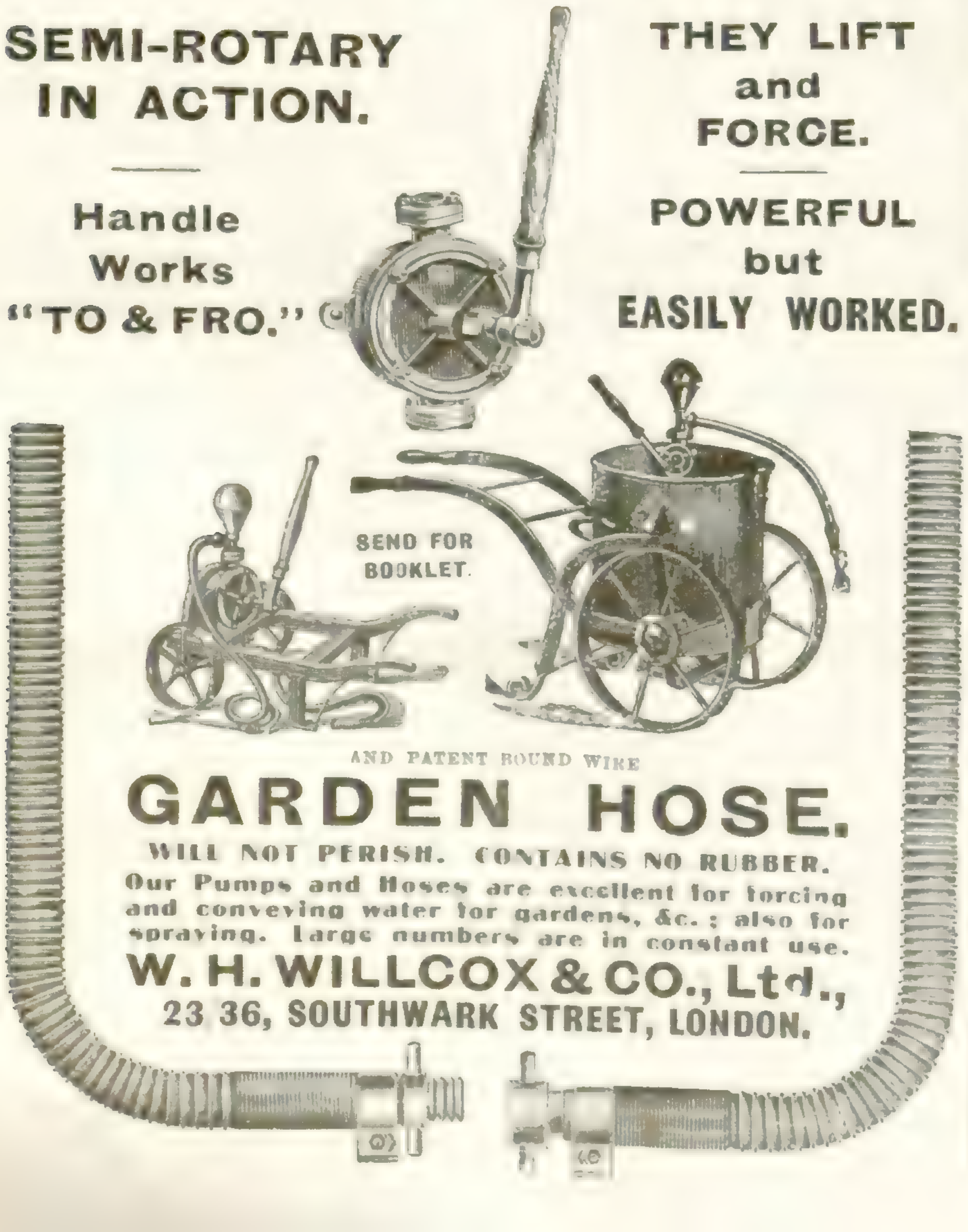
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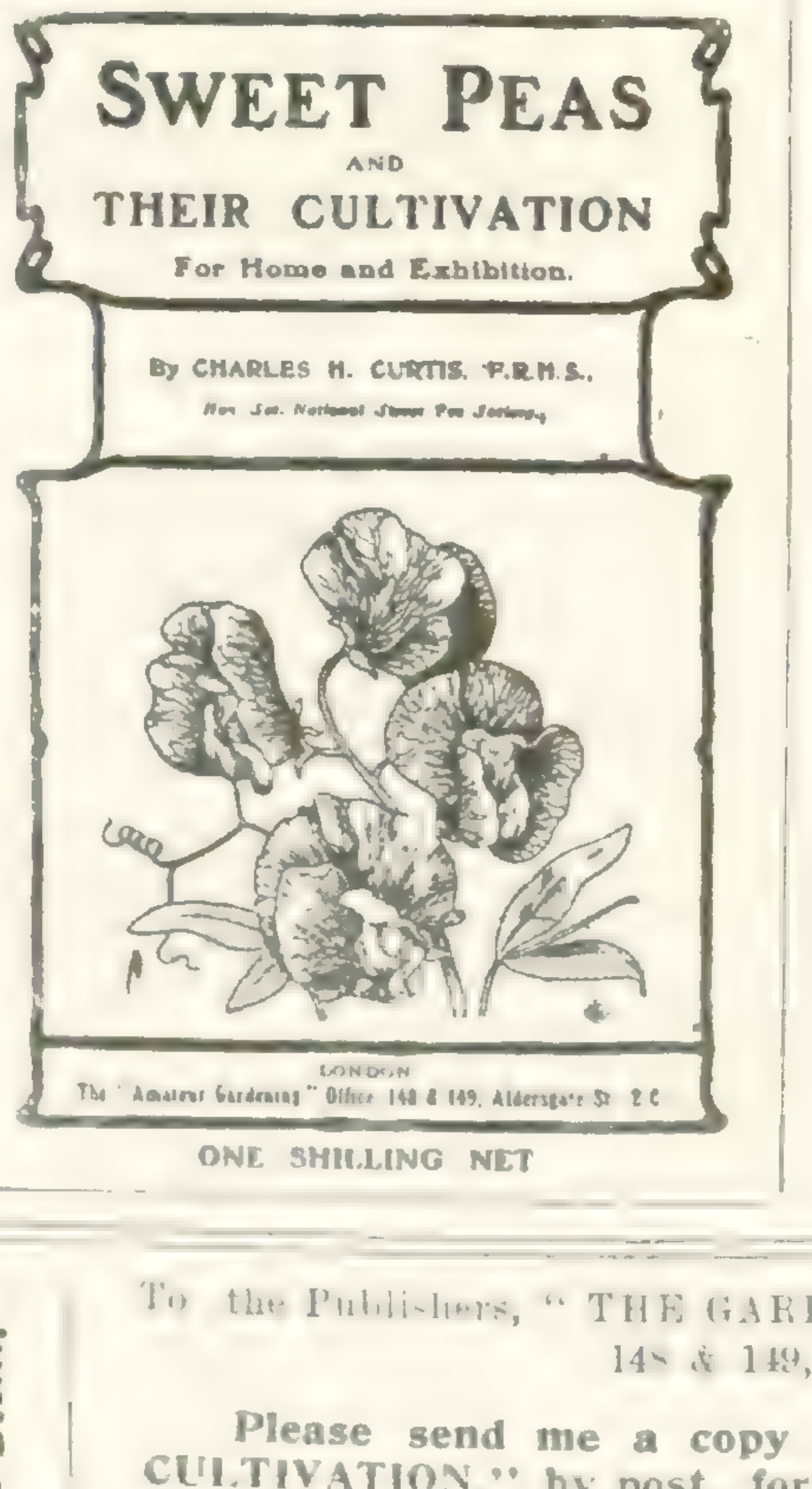
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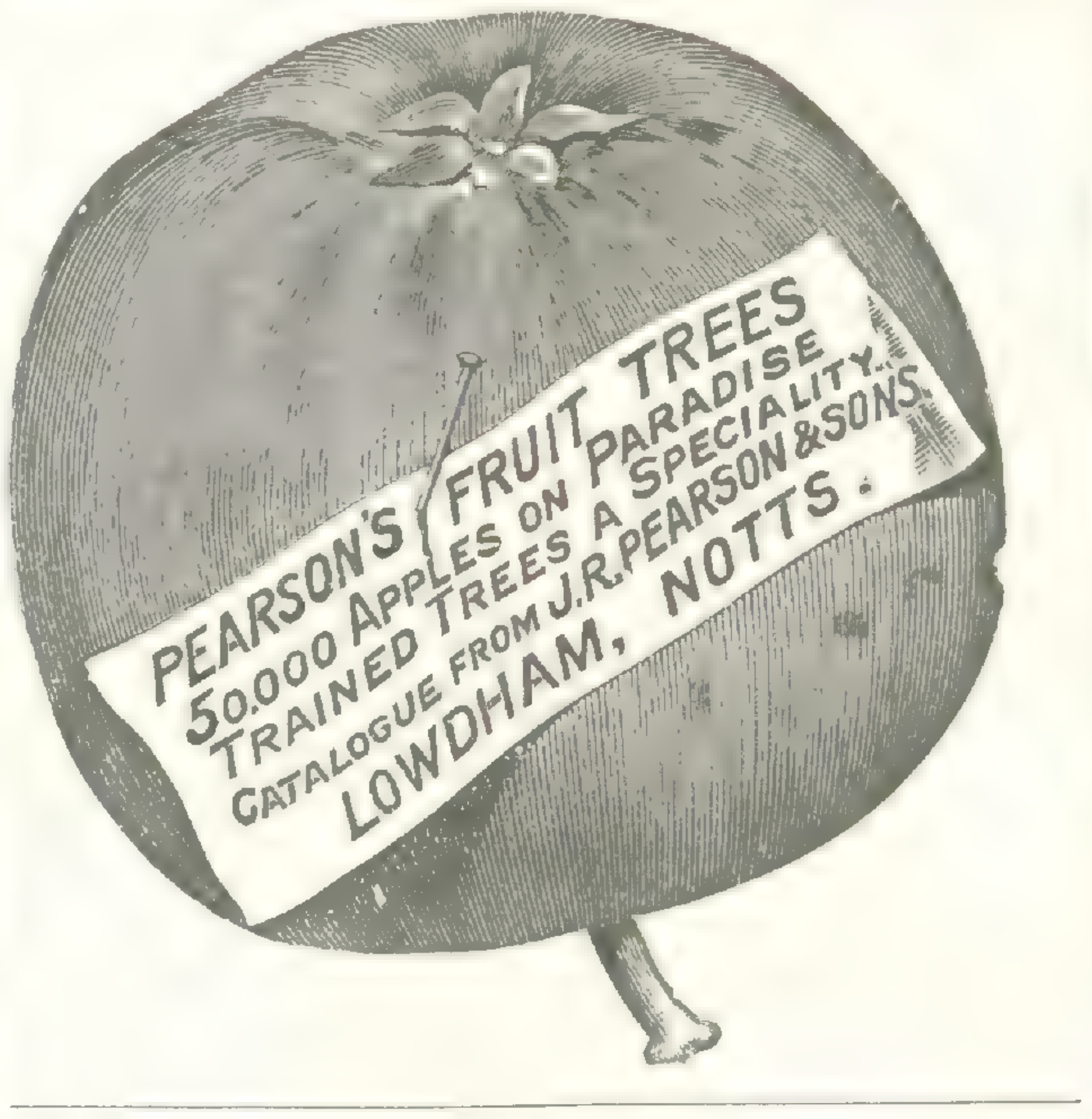
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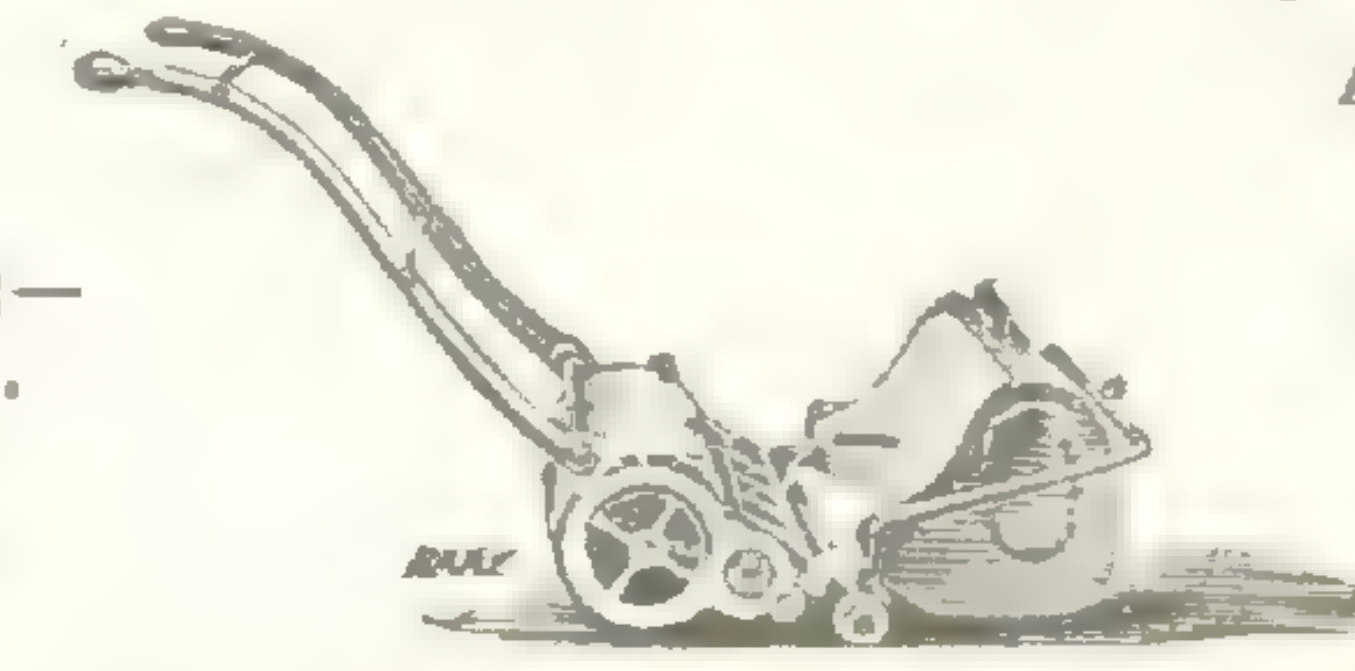

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Employment THE GARDENERS' MAGAZINE Register.

The charge for an Advertisement INCLUDES A FREE ENTRY ON THE REGISTER. Immediate Notice must be given when an engagement is secured.

A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

ADVERTISER seeks RE-ENGAGEMENT as HEAD WORKING GARDENER to any Lady or Nobleman requiring the services of a good practical Man, who has had 20 years' experience in all branches (Inside and Out); excellent testimonials; personally recommended if desired; married; age 35. Apply, W. GUNSTON, c/o Mrs. Knowlton, Brook, nr. Lyndhurst, Hants.

GARDENER.—BARON NUGENT wishes to highly recommend his late father's HEAD GARDENER, W. GOAD, as being thoroughly hard-working and efficient in all departments, table and other decorations; he can give W. Goad, who has been at Beacon Lodge for 11 years, an excellent character; age 39. Address W. GOAD, Beacon Lodge, Christchurch, Hants.

GARDENER (Head) where two or three are kept or good Single-handed; life experience; good references; age 29; married, no family; in or near Reading preferred.—H. MARSHALL, Manor House Gardens, Cookham Dean, Berks.

GARDENER (Head) seeks SITUATION where three or more are kept; age 30; married, two children; six years Escrick Park, five years Campsall Hall; three years as Head at present situation. SKILBECK, Nunthorpe Hall, York.

LADY MALCOLM, of Poltalloch, highly recommends her HEAD GARDENER; eight years in present place, Head of three; life experience in all branches; age 36; married, one child, seven years. W. BASTIN, Barnardiston Hall Gardens, Haverhill, Suffolk.

J. J. PARKER, Oakleigh Road, Whetstone, N., wishes to recommend a hard-working, reliable Man as HEAD; age 40; married, 2 children; life experience, cultivating Fruit, Flowers, Vegetables, Grapes, Chrysanthemums; nine years' present situation.

GARDENER (Head of two or three); all-round experience in all branches, including all kinds of Fruits and Flowers under Glass; age 35; married; good references; last 6 years Head. S. BUTLER, 4, Alexander Road, Chislehurst West.

GARDENER (Head Working, or good Single-handed); good practical experience in all branches, including Bees; seven years as Head; age 37; abstainer; married, two children; good references. J. ELLIS, Lodge, Springhurst, Surrey.

GARDENER (Head Working), where more are kept; 25 years' practical experience in all branches, Inside and Out, early and late Forcing, Vines, Cucumbers, Melons, Stove, and Greenhouse Plants, Herbaceous Borders; thoroughly reliable; highly recommended; married, without encumbrance. WOODHOUSE, Eastwood Road, Bramley, Surrey.

GARDENER (Head Working).—Sir WILLIAM CHANCE, Bart., Orchards, Godalming, highly recommends G. DOE; good, practical experience; all-round man Inside and Out; married, two boys, 10 and 11.—Care of SARGOOD, Millmead Terrace, Guildford.

GARDENER (Head Working), age 47; good practical experience in all branches; Inside and Out; many years as Head; can have good references. H. TURNER, Fineshade, Stamford.

GARDENER (Head Working), age 32, married; life experience in good establishments, including Syon House, Mereworth Castle, and Old Warden Park; highest references. F. FRENCH, Covent Garden, Barming, Kent.

GARDENER (Head Working), thoroughly experienced in all branches, both indoor and outdoor; highest references from present and previous employer; three years present situation; married, age 40. STEADMAN, Drayton Lane, Cosham, Hants.

GARDENER (Head working, where 3 or more are kept); first-class experience, both under Glass and Outside; excellent character from present and previous employers; married, no children. J. LIDDICOAT, 20, Carnarvon Road, Barnet.

GARDENER (Head Working), age 40, son 16, require SITUATIONS (together or separate); 25 years' practical all-round experience, including glass; excellent references; disengaged when suited; some experience in the care of poultry, bees, etc. H. W., 32, Alexandra Road, Chislehurst, Kent.

GARDENER (Head or good Single-handed with help); 16 years' experience private and public, Inside and Out; highest references; Lancashire or Yorkshire preferred; disengaged April 17. DICKSON, 17, Balmoral Road, Failowfield, Manchester.

GARDENER (Head or good Second); 11 years' experience; 6 years' reference; age 28 years; married when suited; or would pay commission to learn Motoring if offered a permanent situation. N. COUCHMAN, Petham, near Canterbury.

ROBERT ROGERS, Head Gardener to the late Thomas Arnall, Esq., Brookside, Headington, can be well recommended to anyone requiring the services of an efficient, practical man, with good all-round experience; age 38; married, three children. Address Brookside Gardens, Headington Hill, Oxford.

GARDENER (Kitchen and Pleasure Ground, or small Single-handed) seeks SITUATION; life experience; good reference; married, no family. A. GARWOOD, 65, School Lane, Bushey, Herts.

AS GARDENER (Single-handed with help, or Second); thoroughly recommended by Head Gardener here; Inside and Out. Near London preferred; married when suited; age 26. J. CLARKE, Eastcourt Gardens, Malmesbury, Wilts.

GARDENER seeks SITUATION as good Single-handed; understands poultry, and no objection to cow; married; age 39; now disengaged; 3 and 6 years good character; Berks or Oxon preferred. Apply W. DEARLOVE, Dorchester, nr. Wallingford, Oxon.

GARDENER (Single-handed, or with help), all-round experience, Inside and Out; excellent references; age 26; single. H. COLE, 134, Crouch Hill, Hornsey, N.

GARDENER (Single-handed or otherwise); eight years' practical experience, Inside and Out; married, one child; highest reference. F. WEBLEY, Adlestrop Gardens, Chipping Norton.

GARDENER (Single-handed or with help), nine years' experience; Inside and Out; good references. L. LAMBERT, 11, Chapel Road, Pimperne, Blandford, Dorset.

GARDENER (Single-handed or with help); good Second's place not objected to; married. age 36; tall; one child; life experience Inside and Out; good references. H. WARNER, 17, Salmestone Road, Margate, Kent.

GARDENER seeks SITUATION, single-handed, or where help is given; age 28; single: life experience in all branches; good references. H. ATTWATER, Ivy Cottage, Horsmonden, Kent.

GARDENER (Single-handed or Under); life experience all round; good reference; age 25; single; disengaged when suited. W. BUTTON, The Gardens, Beachborough, near Folkestone, Kent.

GARDENER (Single-handed, or with help); Vines, Stove, Greenhouse Plants; experienced Inside and Out; good character by me; age 35; married (boy 5 years); willing to be useful. State terms. C. H. SMITH, 44, Ravenbourne Road, Catford, S.E. Disengaged when suited.

GARDENER (good Single-handed), or Kitchen Garden or Pleasure Ground; Single-handed preferred; age 26; nine years' experience; three years in present situation; total abstainer; good references. Address J. ROBERTS, 1, Albert Road, Englefield Green, Surrey.

GARDENER (Single-handed, with help), or good Second; 10 years' experience in good establishments; well up Inside and Out; good reference; age 25. Apply H. WOODHOUSE, 1, Merryhill Terrace, Belmont, Hereford.

W. G. COLLINGWOOD, Esq., will be pleased to recommend his Gardener as Single-handed, or with help; 10 years' experience, Inside and Out; 2 years present place and 5 previous; age 26; married; leaving through place being let. S. PERRY, 6, Station Road, Linslade, Leighton Buzzard.

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FOREMAN (Inside); age 25; 11 years' practical experience in Vines, Peaches, Melons, Cucumbers, and Plants; life abstainer; good references. E. CARTER, Stanley House, Eastern Road, Plaistow.

FOREMAN (Inside); 12 years' experience in Fruit and Plant houses, including Waddesdon Manor and Worth Park; good references; age [illegible] G. JOHNSON, Stansted Hall Gardens, Stansted, Essex.

FOREMAN (Inside).—Mr. LLOYD, Yeaton Peverey Gardens, Shrewsbury, can confidently recommend A. MORPHETT, his present Foreman, to any Gardener requiring a good Foreman; 12 years' practical experience in Plants and Fruit Houses; [illegible] years in present place; age 26.

FOREMAN (Inside or Second); 11 years' good practical experience in Fruit and Plant Houses; last 2½ years as Second of six; age 26; good references. H. TALBOT, Myrtle Cottage, White Post, Bletchingley, Surrey.

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MARRIED MAN, age 32, seeks SITUATION as FOREMAN; life experience in general Pot Stuff; Carnations and Cyclamen a speciality. [illegible] GROENEKAN, 36, Ladysmith Road, Upper Edmon

GARDENER (Second; Inside or Inside [illegible] Out, where several are kept; 10 [illegible] ence, gained in good establishments; age 25. C. GOULD, The Gardens, Hawley Hill, Blackwater, Hants.

GARDENER (Second, Inside and Out), nine years' experience; good references; age [illegible] Berks or counties joining preferred. W. SMITH, The Bothy, Epping House, nr. Hertford, Herts.

SITUATION COUPON

To the Advertisement Manager of "The Gardeners' Magazine,"
148 & 149, Aldersgate Street, London, E.C.

For APRIL 17, 1909.

Please Repeat my Advertisement.

Name..

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Date..............................

THIS COUPON, duly filled up, should be forwarded not later than Tuesday for the next issue.

Situations Wanted—*continued.*

GARDENER (Under).—Advertiser strongly recommends JAMES CAPON, Offham, Malling, Kent, as above; age 18; strong, active, willing; 3½ years' Outside experience; quick to learn; excellent character.

GARDENER (Under or Single-handed) or CARETAKER; 14 years' experience, chiefly Outside; good references; married; abstainer. PEGG, The Lodge, West Hatch, Chigwell, Essex.

GARDENER (Second); Inside, or Inside and out, where several are kept; age 26; 11 years' practical experience. Midlands, and bothy preferred. W. R. PHILLIPS, Rose Cottage, Kingscote, Wotton-under-Edge, Gloucestershire.

JOURNEYMAN (First, Inside); Fruit and Plant Houses, Table Decorations; age 24; eight years' experience; good references. H. COX, Sunny Side, Kingsthorpe, Northampton.

JOURNEYMAN (First, Inside, or Inside and Out, or Second of four); 8½ years' experience in all-round work, 1 year 9 months present situation. H. BELFIELD, 21, Lindum Road, Hampton Wick, Middlesex.

JOURNEYMAN (First, Inside), age 23; eight years' experience; can be highly recommended; Bothy preferred. J. WESTBURY, Kenfield Gardens, Petham, Canterbury.

JOURNEYMAN (Inside); age 22; 8 years' experience; good references and well recommended; Bothy preferred. S. HIGH, Vine House, Acle, Norwich.

JOURNEYMAN (Inside and Out); age 25; 10 years' experience; three years' present situation; good references. R. YOUNG, 4, Sunningdale Cottages, Hillingdon, near Uxbridge, Middlesex.

JOURNEYMAN (Inside).—W. HEADINGTON will be pleased to recommend S. WEBB, age 23, to any Gardener requiring a willing Hand; seven years' experience; Bothy preferred. The Gardens, Waltham Place, Maidenhead, Berks.

JOURNEYMAN (Inside), age 21.—A. BAKER, Hapstead Gardens, Ardingly, Sussex, wishes to recommend W. MEADS; eight years' experience in Plant, Fruit, Kitchen, Flower Gardens; Bothy preferred.

JOURNEYMAN (Inside), under a Foreman; age 22; 8 years' experience Inside and Out; good references. W. BAIGENT, 38, Richmond Grove, Surbiton Hill, Surrey.

JOURNEYMAN (Inside and out); age 22; 7 years' experience; 2 years' present place. Apply JOHN HUGHES, The Gardens, Gwrych Castle, Abergele, N. Wales. (No circulars.)

YOUNG MAN, age 22, seeks SITUATION in good establishment as JOURNEYMAN; can be well recommended; seven years' experience. W. DREWRY, Postwick Rectory, Norwich.

IMPROVER (Inside, or Inside and Out); age 17.—H. BURNELL, The Gardens, Kingsmead, Matfield, Kent, highly recommends a strong, willing, and industrious Youth as above; 18 months' experience in present place. Bothy preferred.

WANTED, SITUATION as an IMPROVER, age 17; strong and willing; has had three years and ten months' general experience Inside and Out; total abstainer. Bothy preferred. A. HYLAND, Woodlands, Ticehurst, Sussex.

LADY can highly recommend Gardener to any Lady or Gentleman requiring a good practical, hard-working MAN; thoroughly understands his work, Inside and Out; life experience; leaving through death; 10 years' excellent character; age 34; married, one child, 8 years. W. HIGGINS, The Lodge, Darrington, Camberley, Surrey.

MR. KEATES, Head Gardener, Stanley Hall, Stroud, Glos., will be pleased to recommend a YOUNG MAN, age 21, for Inside, or Inside and Out, Under Foreman or Head; six years' experience.

ADVERTISER seeks SITUATION in Nursery; 12 years' experience, Inside and Out; three years with a well-known firm and private; age 30, married; good reference. Apply A., care of Mrs. Downard, Walstead Cottage, Lindfield, Sussex.

ALPINES.—Specially experienced in Herbaceous and Alpine Plants, and in Rock, Wall, and Bog Gardening; successful grower of choice and difficult Alpines; could take charge of first-class collection; well recommended; age 33; married, one child. A. B., Wallace and Co., Kilnfield Gardens, Colchester.

LADY GARDENER seeks SITUATION in Private or Market Garden; R.H.S. First-class Certificate, and practical experience. M. MARTIN, The Wilderness, Tunbridge Wells.

MARRIED MAN (29), one child, seeks SITUATION as KITCHEN GARDENER, used to cows and poultry; good references; also slight knowledge of greenhouse work; willing and obliging. Apply ARTHUR WILLIAMS, Bisbrooke, Nr. Uppingham, Rutland.

MR. COLLINS, Stud House, Hampton Court, wishes to recommend F. COOLING, age 19, as Inside and Out or Kitchen Garden and Pleasure Grounds; 2 years present situation.

MR. M. FEAKES, Lilley, Luton, Beds, will be pleased to recommend H. DAVIS to any Lady or Gentleman requiring a steady, hard-working YOUNG MAN for Kitchen Garden and Lawns; 11 years' experience, Inside and Out; good refs.; abstainer; age 30. H. DAVIS, 42, Lilley, Luton, Beds.

MR. J. SALTER wishes to recommend G. ODDY (27), as a trustworthy and reliable Man; life experience; has been here three years as leading man; Inside and Out; good ref.; abstainer; married, no children. The Gardens, Avenue House, Finchley, N.

ON Gentleman's or Nobleman's Estate, as PAINTER, PAPERHANGER, and GENERAL HAND; age 33; thoroughly competent; 16 years' experience; good reference. A. ELLIS, 45, Shakespeare Street, Watford, Herts.

YOUNG MAN seeks SITUATION as under Gardener; age 19; Inside and Out; strong and willing. G. LUFF, 18, Prospect Place, Maidstone, Kent.

YOUNG MAN seeks SITUATION in the Houses under Foreman, in good establishment; age 22; six years' experience; good references and well recommended; Bothy preferred. Apply, A. CHANT, Darby Lodge, Sunbury-on-Thames.

YOUNG MAN (19) seeks SITUATION in Kitchen Garden and Pleasure Grounds; three years present place; well recommended; Bothy preferred. W. DUNK, Great South Hawke, Woldingham, Surrey.

YOUNG MAN seeks SITUATION as Under gardener, where 3 or 4 are kept; age 22; 7 years' experience; good reference. A. PIKE, Dun-Stall Gardens, Shoreham, Kent.

YOUNG MAN, age 22, seeks SITUATION, Inside and Inside and Out; have had previous experience and good references. Apply, G. W. J., 42, Harpsden Road, Henley-on-Thames.

YOUNG MAN seeks SITUATION, Inside and Out; five years' experience; good references; age 23. FOWLE, Station Road, Bentley, Farnham, Surrey.

YOUNG MAN, age 24, requires SITUATION, Kitchen Garden or Pleasure Grounds; two years' present place; married when suited. A. HOWARD, Gayton Hall Gardens, King's Lynn, Norfolk.

YOUNG MAN, age 23, seeks SITUATION in Nursery; experience in Tomatoes and General Pot Stuff; good reference; abstainer. G. MOCKETT, 6, Vicarage Road, Old Town, Eastbourne.

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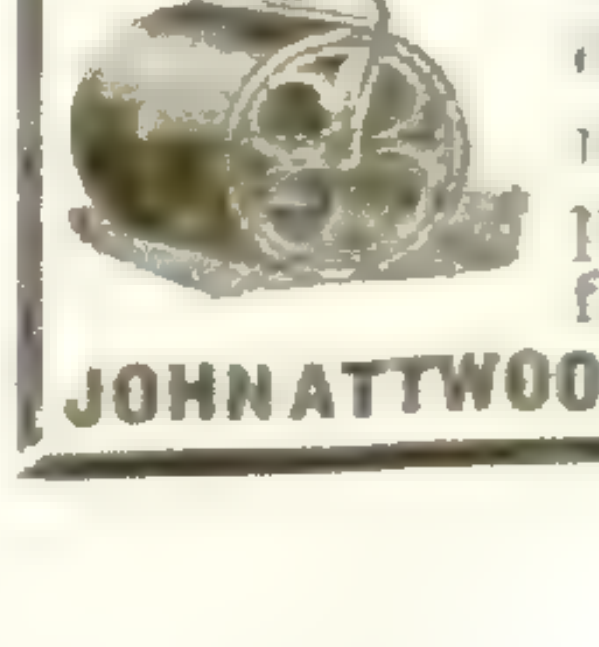

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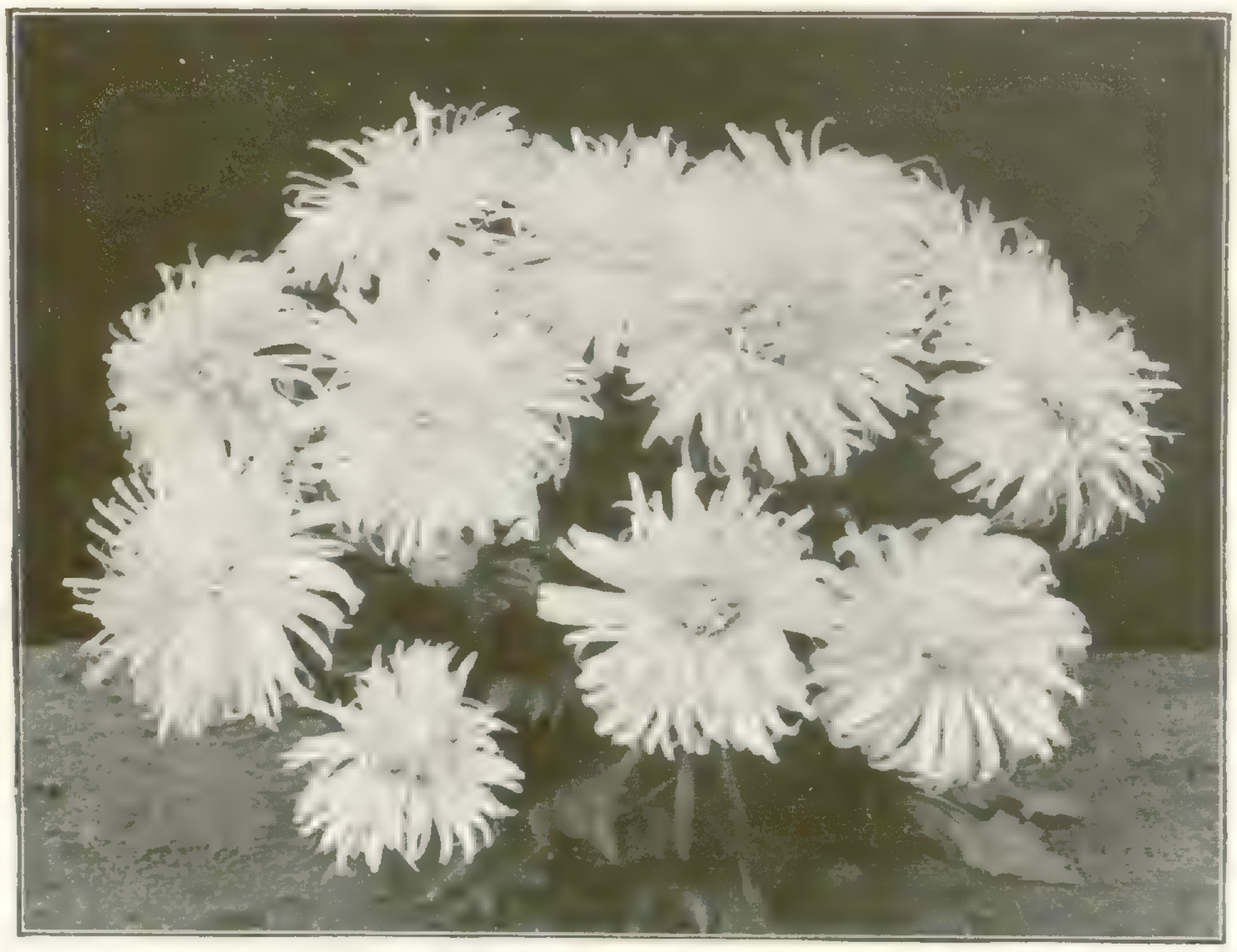

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VOL. LII.—No. 2,893. SATURDAY, APRIL 10, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

The Value of Glass Protection.

The value of glass in the cultivation of ornamental plants from tropical and temperate regions, and in the production of crops of choice fruits, is fully recognised both by owners of gardens and those responsible for their management. Hence we see in gardens of any considerable size plant and fruit houses, not always, perhaps, equal to the demands made upon them, but sufficient to show that the aid they are so well able to give is being taken advantage of. This being the case, there is no occasion to discuss the value of glass in the garden in general terms, but there is one aspect of the question that might with advantage be carefully considered at the present time, when, owing to the severe frosts and long period of low temperatures, there is a shortage of seasonable vegetables and salading. This aspect, briefly stated, is the utility of glass appliances of a simple and inexpensive description, and the place they should occupy in the economy of the garden. There cannot be any question as to their being of immense value, or of the necessity of more freely utilising them in sheltering ornamental plants and useful crops. In bygone days, when, for various reasons, plant and fruit houses were but few, except in the principal gardening establishments, the frame ground, with its long lines of low pits and great heaps of fermenting materials, would appear to have been regarded as an important department. We have only to turn to the older books dealing with the practical work of the garden for evidence in support of this view, for we find prominence given to this department, and a number of contrivances described as useful for supplementing the ordinary frames. The most popular of these makeshifts were "turf pits," which differed from those of the ordinary type in having turf walls, for the support of the glass lights. These served a useful purpose in the absence of a sufficiency of properly made frames, and the gardeners of the present day would be able to utilise them not less successfully than did past generations of members of the craft; but we do not suggest the revival of makeshift contrivances, in view of the inexpensiveness of properly made appliances. Many are the choice alpine plants that can be successfully grown with the aid of the shelter that unheated frames so efficiently give; and with a range of frames and a small span-roof house in which to place the plants when in bloom, the lovers of these floral gems may enjoy a succession of their flowers for a considerable period during the earlier months of the year. The usefulness of frames in the preparation of stocks of flowering and fine foliage plants for beautifying the flower garden during the summer months is so well known to those who have had experience in garden management, that we need not do more than refer to it for the purpose of pointing to the great advantage of being able to do this preparatory work without taxing fruit and plant houses. Not only is it advisable that the occupants of such structures should not be crowded up with bedding plants when growth should be most active, but the latter are invariably more healthy and in better condition for making a vigorous growth when transferred to their summer quarters than are those grown for a time in a temperature in excess of their requirements, and then removed outside and protected from unfavourable weather with extemporised contrivances. Useful as are frames, both heated and unheated, in the preparation and the cultivation of various ornamental plants, they are even more valuable in the production of early vegetables and salading. There is no occasion for British gardeners to undergo an apprenticeship in the French market gardens in the neighbourhood of Paris to learn how to produce juicy peas, delicately flavoured cauliflowers, tender carrots, succulent radishes, and crisp lettuce, with the aid of simple appliances. They are more or less acquainted with the details by which the best possible results may be obtained; but, with the aid of the frame room usually provided, but little can be accomplished in giving practical effect to their knowledge. Such frames as are used by the French market gardeners in the production of early vegetables and salading, may undoubtedly be used with excellent results in private gardens; but we do not consider them so suitable as those in general use in this country. Frames wholly of wood and of moderate depth have the advantage of portability, and may at one time be placed on a ridge of fermenting materials and devoted to the production of a crop of some kind that derives advantage from a mild bottom heat, and at another be placed on the north side of a wall and utilised in the raising of seedlings, or the preparation of stocks of plants that are benefited by shade during the earlier stages of growth. If we put on one side the question of portability, frames with brick walls and a depth of thirty inches or three feet are the best. They are neat in appearance and the space about them can be kept tidy, two points of im-

MR. N. MOLYNEUX.
A famous raiser of New Chrysanthemums.

portance in the private garden. With the depths mentioned, it will be possible to make up a bed of leaves or a mixture of these that will yield sufficient warmth to ensure the quick germination of seeds and maintain a steady growth of the resulting plants. Two or three dozen lights of the usual size would provide space in which to produce large supplies of early vegetables and of salading of high quality, and thereby enable those in charge to tide over periods of scarcity. With reference to lettuces it may be said that with the shelter of glass without bottom heat, an abundance of lettuces of high quality can be obtained during the early spring months, and this fact is alone sufficient to justify a considerable addition of the appliances under consideration to the garden.

Mr. N. Molyneux, whose portrait we have the pleasure of giving in this issue, has accomplished so much excellent work in the improvement of large-flowered chrysanthemums that for some years past he has occupied a prominent position amongst raisers of these flowers in this country. It was in the year 1896 that Mr. Molyneux first obtained prominent attention as a raiser by introducing the richly-coloured pink Japanese, Mary Molyneux. This variety he submitted to the National Chrysanthemum Society, and a First Class Certificate was conferred upon the variety, and the award of a silver medal made for twelve blooms. His next success was the pure white Florence Molyneux, which, by reason of the noble proportions, the distinct build, and the great beauty of the blooms, at once attracted the attention of those who take an interest in chrysanthemums. Other noteworthy Japanese varieties raised by Mr. Molyneux are Mrs. Pilkington, Mrs. A. H. Lee, Mrs. T. Dalton, and J. W. Molyneux. The last-named, which was presented to public notice for the first time last autumn, is a crimson variety, that marks a distinct advance in its colour. Mr. Molyneux has raised several excellent incurved varieties, notably Frank Hammond and Nellie Threfall, and some valuable decorative varieties, of which Lady Beaumont and Maud Allan are well deserving special mention. Mr. Molyneux has also had much experience as a cultivator of chrysanthemums, for in the early part of his career he was for several years with his brother at Swanmore Park, and assisted him in winning the many challenge cups that were awarded for blooms grown in these famous gardens. Mr. N. Molyneux enjoys the reputation of being one of the best "dressers" of incurved chrysanthemums of his day. Mr. Molyneux's first charge was as head gardener at Burton Hill, Petworth, where he remained two years, when he went to Rookesbury Park, Wickham, now the residence of A. H. Lee, Esq., M.P. During the twenty-one years Mr. Molyneux has had charge of those gardens he has achieved much success as a cultivator, not only of chrysanthemums, but of fruit, and the many other objects that come under the gardener's care.

March Weather is proverbial for its unpleasant character, but we should have to go back several years to find a corresponding month so thoroughly unpleasant as that through which we have just passed. The sunshine was deficient, the temperature very low, and the rainfall considerably above the average. The total sunshine registered in London during the month was 51.5 hours, or 17 hours below the average. The mean temperature of the month was considerably below the average, and this was largely due to the low temperature that was experienced during the day. The highest temperature recorded was 59 degrees on the 29th, which was two degrees higher than in the corresponding month of last year; but in six of the past 38 years only has the maximum temperature of March been below 60 degrees.

Dry Rot of Potatoes.—In a paper by Miss Sibyl Longman, read before the Linnean Society, the author stated, as the result of her investigations, that the disease of the potato tuber, known as "dry-rot," due to the fungus Fusarium Solani, is not necessarily preceded by "wet-rot," but may be set up in sound tubers by inoculation with spores or mycelium of Fusarium Solani, which species is not a parasite of the resting tuber only; it may also attack and kill the shoots of potato plants. The fungus, which probably exists as a widely distributed saprophyte in the soil, infects the growing potato plant through the root; it also spreads from tuber to tuber during storage, and diseased tubers may produce diseased plants. Heat sterilisation of the resting potato tuber, with respect to Fusarium Solani, is impracticable, for a higher temperature is required to kill the fungus than to destroy the potato. A pycnidial stage occurs in the life-history of Fusarium Solani, which should therefore be placed in the Sphæropsidaceæ, and not, as is the case at present, in the Hyphomycetes.

Trees on Carlton House Terrace.—In reply to a question asked in the House of Commons whether it was proposed to cut down any trees on Carlton House Terrace other than those near the Duke of York's column which had fell, the Secretary to the Treasury stated that two poplar trees in the garden of the German Embassy and one in Lord Ridley's garden were felled by order of the Crown Estates Paving Commission, having been condemned as dangerous after consultation with an expert from the Office of Works. They were old and decayed and were unsafe to persons passing up or down the steps or along Carlton House Terrace outside the garden of the German Embassy. They are to be replaced by two plane trees, one on each side of the steps. There is no present intention of cutting down any further trees, such cutting taking place only when trees become dangerous.

American Gooseberry Mildew in Norfolk.—This destructive disease has been developed to so serious an extent in the Eaton district as to give rise to considerable anxiety, both to growers and the local authorities. It is reported that several acres of gooseberries are affected by the disease. Mr. Garnsey, the chief inspector of the Board of Agriculture, has made several visits to Norwich, and has been in consultation with Mr. J. Ward, the local inspector, who has traced one case to its source. A workman employed in the garden of a private owner, took some cuttings which he reared in his own garden. These developed mildew, and, on enquiry of the owner of the bushes, it was found that he had obtained them from Essex.

The Red Spider (Tetranychus bimaculatus), so well known as one of the most troublesome of the many pests that have to be contended with in the cultivation of plants under glass, is the subject of a bulletin issued by the United States Bureau of Entomology. According to the experiments conducted by Dr. Chittenden, the pest is better able to resist the effects of fumigation with tobacco and hydrocyanic gas than most other insects, but is readily destroyed by sulphur or soap solution.

Honour to Mr. J. S. Dickson. The other evening the committee of the Liverpool Auxiliary of the Gardeners' Royal Benevolent Institution entertained Mr. J. S. Dickson, of Messrs. Dickson, Chester, who is leaving Chester to enter upon a new nursery business in Oxford. Mr. C. A. Young presided, and, in proposing the health of Mr. Dickson, expressed the regret the members of the committee felt in losing so able and courteous a colleague, and testified to the splendid services he had rendered in connection with Liverpool Auxiliary, and said they all wished him every success in his new undertaking. Mr. Young at the conclusion of his remarks, presented Mr. Dickson with a token expressive of the high estimation in which he was held by those with whom he had been associated in the management of the local branch of the charity, which has done so much for gardeners no longer able to follow their vocation, and for their widows. Mr. Dickson suitably acknowledged the honour done him, and expressed his regret in parting from so many friends.

Reading University College Gardens.—Mr. F. G. Drew, head gardener to Ivor Guest, Esq., Ashby St. Ledgers, Rugby, has been appointed assistant director of horticulture at these gardens in succession to Mr. Charles Foster, who, as we announced some time since, has been appointed director of Lord Northcliffe's model farm at Guildford. Mr. Drew is well-known for his skill and administrative ability, and his training and experience have been such as to admirably fit him for his new sphere of activity.

Mr. J. Jacques, who had charge of the horticultural department of the Franco-British Exhibition last year, has been appointed head of the department this year.

Amaryllis at Chelsea.—The collection of amaryllis at Messrs. J. Veitch and Sons', Chelsea, are now coming rapidly into bloom, and may be expected to be at their best during the coming week. The high quality of the newer forms in the collection was indicated by the remarkably fine varieties exhibited by the firm at the Royal Horticultural Society's meeting on Tuesday last.

A Tea House for Hyde Park.—In response to the public demand that has been expressed from time to time during the past ten years, His Majesty's Office of Works has built a handsome tea house in Hyde Park. The building is located among some trees near the Serpentine, and in addition to the large room indoors, the wide verandah will afford accommodation for about two hundred persons.

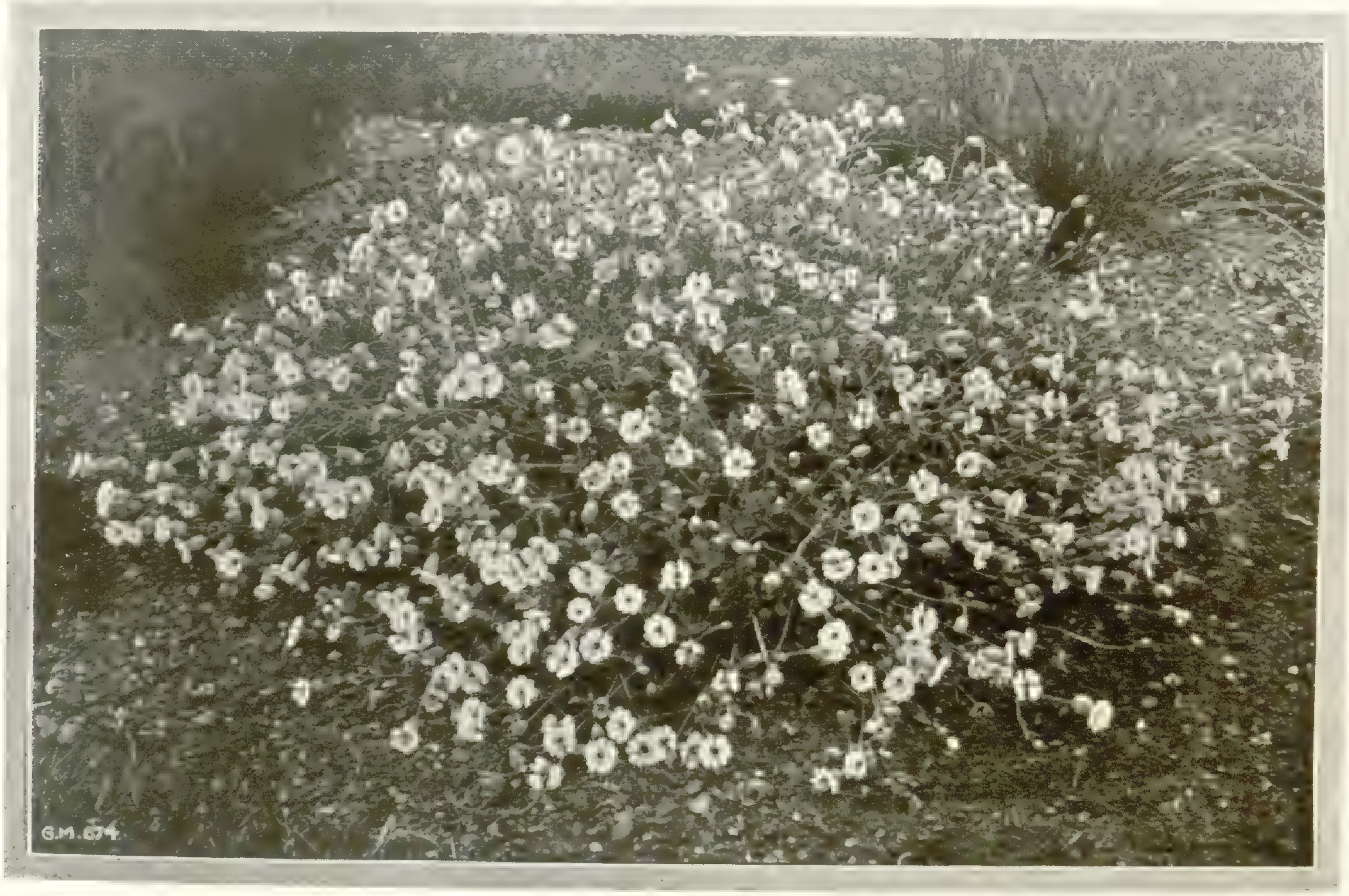
Reafforestation in Dorset.—A somewhat comprehensive scheme of tree planting was commenced during the past winter on Lord Shaftesbury's estate in Dorset. The trees have for the most part been planted on waste land which could not profitably be converted into a state suitable for tillage. The trees that have been planted comprise beech, elm, firs, and pines. Not only have new woodlands been created, but several belts, each [illegible] of five rows of trees, have been placed on the more exposed parts of the estate to afford shelter from the wind.

Mendelism.—A new work by Professor W. Bateson on "Mendel's Principles of Heredity" with illustrations, is announced for publication by the Cambridge University Press. A translation of Mendel's two papers on Hybridisation and H[illegible] appended, together with a biographical note. The author gives an account of the discoveries made by the application of Mendel's methods.

Influence of Forests on Climate.—With reference to this subject, which was recently discussed in these pages, "Nature" observes: The "National Geographic Magazine" for January continues its campaign against the destruction of the State forests of America by lessons drawn from two countries of the old continent. Mr. E. L. Harris, in his notes on the buried cities of Asia Minor, shows that in the neighbourhood of Pergamus the ruin has been so widespread that it is doubtful if any rational system of forestry can now restore the trees which once covered the higher grounds, and permitted a flourishing agriculture in that region. Mr. F. N. Meyer points out that in a large part of Northern China, which in the time of Marco Polo was the seat of extensive silk culture, the mulberry trees have disappeared, the rivers once used for carriage of goods have shrunk in volume, and the deserted wells bear witness to the shameful destruction of the forests. The denudation of the hillsides is said to have diminished the rainfall, the soil on the slopes has disappeared, and disastrous floods result from the rapid dissipation of the water in the rainy season. Here, too, the mischief seems to be almost past remedy, and unless the Chinese Government takes immediate and active measures the eastern extension of the Mongolian desert is inevitable.

Limousin Fruit Trade.—Mr. Vice-Consul de Luze gives in a report recently sent to the Foreign Office some interesting particulars of the cultivation of, and the trade in, fruit in the district of which Limousin is the centre. The fruit industry in this district is of interest to growers in England because a large proportion of the produce is sent to London. The principal valley in which the fruit is grown extends from the granite hills of Le Saillant to the Causses, passing by Brive and Beaulieu, and is about sixty miles in length. The whole of the area is planted with fruit trees, and presents the appearance of one vast orchard. There are also large areas under fruit from Limoges to Brive, by way of Objat, which are two of the most flourishing and important centres of fruit exportation. Plums are largely grown, and of Reine Claude (greengage) about 4,000 tons are annually gathered, the principal orchards being at Brive, Objat, and Les Quartres Routes. St. Anthony's and Royal plums are also largely grown. The variety known as the Red Bigarreau is the most prominent of the cherries, and of this upwards of 2,500 tons are annually exported to England from Brive and Objat. The soil of the district is a deep red fertile loam, and the peasants are described as strong, hard-working, and highly-skilled in fruit culture. Fruit reaches London in about thirty-six hours from the time of its despatch, and the cost of transit from Objat to London (464 miles), viâ Boulogne, is £6 5s. 5d. per ton for small lots, and £5 18s. 2d. for five ton lots.

A Mawdesley Willow Farm, as was briefly mentioned in a recent issue, is the subject of an interesting contribution to the "Kew Bulletin, by Mr. W. Dallimore. In the introductory remarks it is stated that for upwards of half a century the village of Mawdesley, which is situate in South-west Lancashire, has been famous for its willow beds and basket-making industry, and Mawdesley-grown rods have acquired a considerable reputation in the willow trade for strength and durability. Mawdesley differs from most willow-growing centres in possessing very little wet or marshy land, and willows are grown under similar conditions to such farm crops as potatoes, cabbages, corn, etc. It is to this comparatively dry method of culture that the special toughness of the rods grown in the district is attributed. According to Mr. Dallimore, the pioneer of willow culture in Mawdesley was the father of Mr. Cowley, who is the largest grower in the district, and his first venture was with a farm of eleven Cheshire acres (= about 23¼ English acres). As he had learnt from old growers that willow beds were only remunerative up to fourteen years of age, he obtained a lease for that period. His methods of culture, however, proved so effective, that at the time his lease ran out the beds were more productive than they had ever been, and he was glad to renew his lease at an increased annual rental of £30. For many years the business proved highly satisfactory, and more land was continually required, until he and his sons had about 500 acres under cultivation. Other farmers also planted largely when the trade was at its best, but of late years, owing principally to depression in trade and foreign competition, a considerable amount of land has been reclaimed for ordinary farm crops. According to Mr. Cowley, however, taking good and bad years together, willows pay at least as well as other farm crops. The methods of culture and the characteristics of the several willows grown at Mawdesley are fully dealt with, and the information should prove useful to those interested in the basket-making industry.



COMMON BLADDER CAMPION (SILENE MARITIMA), IN THE CAMBRIDGE BOTANIC GARDENS.
Flowers, white.

SILENE MARITIMA.

By some authorities this plant is considered to be a coastal form of our common "Bladder Campion," and like many of our native plants it is well worthy of cultivation, especially in light sandy soils. It is a perennial, and, if undisturbed, forms a compact clump a yard in diameter, yielding an abundance of its white flowers on stems about a foot high during the whole summer. There are two other forms of this plant, one with pink or rose-coloured flowers, and another with double white flowers. They are both desirable plants for the border, but the heads of the latter are rather heavy and require the support of some small twigs to show the flowers off to the best advantage.

E. J. Allard.

NITRO-BACTERINE AND MANURES.

A good deal has been said and written since last autumn about nitro-bacterine and the effects it has upon garden legumes when applied according to the directions which accompany each package. I have received cultures from Germany, America, and those prepared at home, and in the case of broad beans, sweet peas, and edible peas that were treated, no apparent difference could be detected from others growing in the same plots untreated. My legume crops are always grown upon ground well manured the previous year, and are usually noted for their general excellence. The soil is of a sandy character, overlying coarse red gravel, but the whole of the garden has received a dressing of chalk within the last five years, which, in every case was applied in the autumn and early in winter upon the surface, after digging or trenching, as the case might be. My observations leave me to think that nitro-bacterine, up to the present, is not virulent enough to give that decided hall-mark to crops that must necessarily be the case if the practical man is to be convinced of its virtues. To impress the commercial man the differences must not be so minute; if they may be detected at a glance by the use of these cultures, then their future is assured. Personally, I think it possible that further investigation will lead to more useful results.

I do not attach any importance in the case of stray information that is occasionally heard with regard to its value, and personally know of one case where it was tried in sterilised material, the seeds being well moistened with the bacteria solution, and the others, of course, were sown in the usual way. In the first case, the seeds germinated a week before those not so treated, and, although further applications were given in solution, eventually no difference was seen in the plants. It has occurred to me that in those cases in gardens where the plants have, upon treatment, germinated first, it has been solely due to the moistening of the seed coat. It is a well-known fact that such moistening is very helpful to tough-skinned legumes, more especially as the season advances.

In some cases, what would the advantages of earlier germination lead to? Possibly to deeper rooting, and deeper rooting during a dry season would be helpful, as growth would be more prolonged. Every cultivator knows the full value of a deeply-worked soil, and from practical experience in a cold, backward spring, knows the value of a sprinkling of nitrate of soda down either side of his pea rows. Why give it? Because it stimulates further root action, and the rootlets can absorb a greater quantity of the food in the soil. There must, however, be food in the soil, and I am firmly convinced that crops of legumes of any kind will never be grown in English gardens and fields unless the land contains organic remains in sufficient quantity to retain moisture. What good are chemical manures to growers if the soil is dry? They are so much waste; and, if organic manures cannot be obtained for maintaining the necessary soil texture well, we must organise some system of irrigation. Sure it is that we cannot allow the land in England to lie idle because motor and other traffic do not supply horse manure. So long however, as we people this earth, animal food we must have, and, while those immediately near large towns suffer, farms will continue to make this needful article for their own requirements.

We can imagine that some of the rich market gardens might well like a rest from the fifty up to two hundred loads of manure they are said to receive per acre. We know full well that fine crops are taken from land so treated, and know that such manurings serve more purposes than one. When all is said and done, the maximum crops grown are best reached by giving sufficient natural manures to maintain texture and friability, and by giving artificial soluble stimulants during the time rapid growth is being made. It is at this time that the food is best distributed over the plants's system to result in the largest possible crop afterwards. The art of giving manures, especially soluble stimulants, is not mastered in a day, but we are fully convinced that it is waste to apply more than can be made use of, and that the more immediately soluble the manure given may be, so much the more is it necessary to exercise care and judgment in its application.

When nitro-bacterine is more active to give that send-off to legumes in good soils that already contain the bacteria, then we shall see the improved results that we are at present waiting for; but if the living organisms placed by these cultures are not going to exercise their superiority when placed in soils already capable of producing good returns, we fail to see of what advantage they are likely to be. Poor soil is of no value to anyone, it costs as much to cultivate as rich, and takes as much or more good seed to sow it; therefore, no one in his senses would expect to obtain good returns from such soils unless the summer was a cold and wet one, when the moisture so necessary would make all the difference.

Although legumes are of value to succeeding crops owing to the nitrogen collected and stored by them, succeeding in the case of garden crops is different to field crops, which may not be sown until the following year. Take, for instance, a batch of early peas, sown late in February or early in March. The soil between the rows may be cropped with early potatoes, early cauliflowers, spring-sown spinach, early turnips, or other what are termed suitable catch crops may be had. When these crops are removed along with the peas, the latter not pulled, but cut just above the ground, it matters not whether the soil is dug or merely levelled over before being sown or planted with a crop for late summer or autumn use. It will be very noticeable all through, that the growth of the succeeding crops, whatever they may be, will be much inferior immediately where the pea lines were. When early peas are cleared off at the end of June or early in July, the soil more resembles the ashes taken from under a fire-grate, and, unless heavy rains occur or artificial watering is given, it is impossible for seedlings to germinate or plants to grow, so that it is necessary for some time to lapse before the nitrogen collected by these plants becomes available for crops which follow.

Frequently in gardens early peas are grown in the same positions every year, but, being cleared off early, the soil is not occupied again with peas until the following spring, and in the meantime has been moved by digging, which action always changes the position of the top portion. There is one outstanding feature about nitro-bacterine cultures, and it is that they have done no harm to the soil or plants upon which they have been tried. Caustic manures ought never to be sown with any seeds, and we cannot understand a good cultivator, who knows his business, applying them so that the young rootlets would immediately come in contact with them so soon as growth started. Lime or chalk has for ages been known to exercise a wonderful influence upon rich soils intended for legumes, just as their value is recognised when superphosphate of lime, ammonia sulphate, and potassic sulphate are applied. If soil is in good condition from the previous year and the organic manure applied at that time is now in a decomposed state of black mould, it will grow good peas or any other garden legumes and will produce shorter internodes than would be the case if lighter fresh materials were applied when sowing. I hope those testing these cultures this year will do so with the same number of seeds, under the same soil conditions, and if they moisten with the culture solutions and sow immediately, I trust they will moisten in the same proportion of pure water for other trials they propose testing with them. All the points connected with trials do not come to the surface at once, and what appears of small account is often of great value. It is best not to attempt too much, but select one variety and have two or three repeat trials of it; and do not select early peas for such trials to sow so late as May, but a type suited for producing a good maincrop. Test on various grades of soil if you wish, but, as before stated, starved deserts are not to be converted into fruitful lands, even by stimulants of an unseen nature. Plants, like animals, must have something solid as well as liquid; if they do not eat the soil it must be there to give up the food in soluble form for their nutrition, and the whole thing ends there, unless, as previously remarked, some system of irrigation for supplying moisture is resorted to. Moisture, moisture, and moisture is the legume's cry.

C. Foster.

TEA ROSE LADY ROBERTS.

One of the most charming of the more recently introduced roses is Lady Roberts, the beautiful reddish-apricot variety sent out by Messrs. Frank Cant and Co., of the Braiswick Nurseries, Colchester, in 1902. The flowers are exquisite in the bud state, indeed, few roses are as pretty, and still fewer are prettier. The form and colour are both so beautiful that the combination is delightful. The stems, too, are [illegible] without being coarse, consequently [illegible] table decoration, for bouquets, and personal adornment it is peculiarly well adapted, and, further, as the plants are very continuous bloomers, one may cut and come again. The colouring of this pretty tea-scented rose varies a little with the atmospheric conditions that prevail at the time the blooms form; in the heat of summer, under the influence of [illegible] sunshine and dry weather, the [illegible] is paler, and it is in early summer [illegible] during the whole autumn period [illegible] intensity of the deep apricot colour [illegible] the vividness of the orange tints [illegible] most pronounced. As an indoor [illegible] early blooming, Lady Roberts [illegible] become increasingly popular in [illegible] gardens, because of its beauty and [illegible]dom, and these early flowers, [illegible] glasses or in stands are very attractive. [illegible] word of caution is necessary in co[illegible] with this rose, and it is that though a vigorous grower, moderate or light pruning are better than hard pruning

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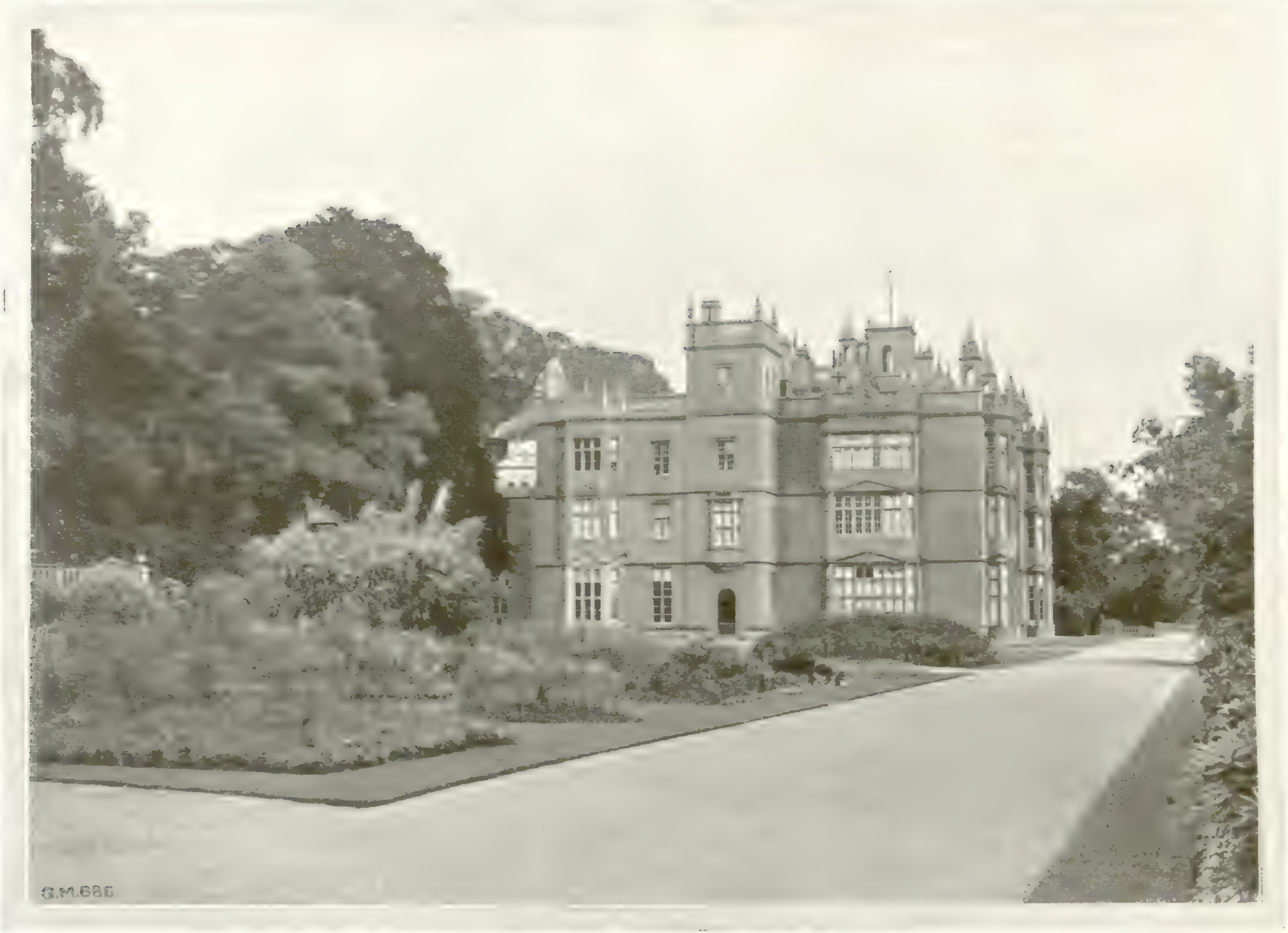


ENGLEFIELD HOUSE WITH TERRACE GARDEN.

SOME GARDENS ROUND READING—I.

For a century or so Reading has been famous for its biscuits, and its garden and farm seeds; and for a long period it has been recognised as one of the most important of the many great gardening centres in England. Around it are a considerable number of gardens equally remarkable for their extent, their distinctive beauty, and for their high keeping, some being the property of great country families, while others have as their owners men who have achieved success in commerce or the professions, and take a keen interest in gardening and other aspects of country life. If the town enjoys fame, as it unquestionably does for two of the most important of its industrial enterprises, and for its horticultural associations, this is only in accordance with the fitness of things, as exemplified by its tradition. It would not be an easy matter to name a period anterior to that in which Reading occupied an important position in the annals of the country. If we turn back a thousand years, and this is not a short period, we shall find the town highly fortified, and the centre of a strenuous conflict between the Saxons and Danes, the latter eventually becoming the victors. Two hundred and fifty years later we find Henry I. founding a monastery for monks of the Benedictine order on a scale of exceptional magnificence, and endowing it with an ample revenue. This quickly obtained prominence, and continued to occupy a leading position among monastic establishments until their dissolution, when Henry VIII. converted the abbey into a palace. The core of some portions of the walls of the great hall still remain, and within these large numbers of horticultural exhibitions have been held that have amply testified to the remarkable skill with which all classes of ornamental plants and useful crops are cultivated in the district.

At a quite early period Reading became a place of commercial importance. In the reign of Edward II. the manufacture of woollen cloth was commenced, and carried on with more or less success for several centuries. Other industries have been introduced since the weaving of woollen cloth fell into decay—so far as Reading is concerned—but none, it would appear, attained to any considerable degree of importance until the foundation of the houses of Messrs. Huntley and Palmer, of biscuit fame, and Messrs. Sutton and Sons, who enjoy a world-wide reputation for their garden and farm seeds. The splendid work that has been accomplished by Messrs. Sutton and Sons during the past hundred years is well known to all who take an active interest in horticulture and agriculture, and therefore need not here be recapitulated.

Reading, it must be said to its credit, has taken a leading part in the development of educational work associated with farming and gardening. It was within the boundaries of the town that Lady Warwick established her hostel, and thereby gave an impetus to the training of women in gardening and agricultural pursuits. This hostel has been removed to Studley Castle, where, with the advantage of greater space, the work is continued; but Reading has in association with its University College a splendidly equipped school garden open to both male and female students, and here educational work of the highest value is being done. This garden, is in charge of Mr. Charles Foster the Assistant Director of Horticulture, and in the training of students science and practice is so happily combined that they are taught to regard science as of direct assistance to them in practical work, instead of being something apart from, and superior to, practice. Hence the success of the school, and the rapid progress made by students. The garden has also acquired considerable importance as a trial ground, more particularly in association with sweet peas, and this is largely due to the fact that Mr. Foster considers good cultivation essential in the making of comparative tests between new and old varieties. At all events, they are so grown that there is no difficulty in formulating an opinion as to the merits of novelties when compared with kinds in general cultivation.

Englefield House.

Long the home of one of the oldest of the great families intimately connected with the history of Berkshire, Englefield House, the residence of T. H. Benyon, Esq., is rich in historical associations, and of special interest to horticulturists from the fact that its gardens have from time immemorial occupied a foremost position among the leading establishments within some miles of Reading. The estate is situate between five and six miles to the west of the town, and is about one mile to the north-west of Theale. The village of Englefield is a model of what country villages should be, and, as one admires trim cottages nestling amid the trees, and their gardens aglow with flowers of the season, it is somewhat difficult to realise the fact that this peaceful spot has been the scene of more than one hard-fought fight, the most important being the battle between the Saxons under Ethelwulf and the Danes, in 871, which resulted in the victory of the former. The mansion occupies a prominent position on the higher ground in the large, finely timbered park, and commands views of surpassing beauty, and is approached by a drive that affords many a delightful peep of sylvan scenery. It may be interesting to note in passing that the church is within the park, and that, although the ancient edifice has been restored two or three times, it contains much of interest, notably, the fine tombs of some previous owners of the seat.

A FRAGRANT CORNER IN THE ENGLEFIELD HOUSE GARDENS.

The mansion, originally Tudor, stands at the eastern end of a terrace of so great a length and breadth that it might well be described as a broad plateau; and extending the whole length of the mansion and the terrace is a sharply rising slope, richly clothed with trees diversified in character and large in size. These form an excellent background, and afford an efficient shelter from the north and north-easterly winds, which greatly minimise the enjoyment of the garden when they are allowed to sweep across it without some check being imposed upon their force. The principal flower garden is that which gives so great a charm and interest to the terrace, and here is annually found a delightful display, in which tender and hardy plants are represented, and to which roses contribute their full share. As two illustrations of the terrace are given herewith, one including the mansion, there is no occasion for a lengthy description. It will be seen that the beds have been formed in the turf, and that the latter is intersected by gravel walks of sufficient breadth to give dignity to the design. There are bold groups of rhododendrons and other shrubs alongside the balustrade, and on the other side are masses of trees and shrubs that clothe the rising ground, and standing out boldly from among them is the handsome and spacious conservatory or winter garden. The groups of beds contiguous to the mansion are mostly embellished with ornamental-leaved and flowering plants that are more or less tender, and associated with them are bold groups of bamboos, which here grow vigorously, and appear to suffer less than usual from unfavourable climatic conditions. The scope of these notes will not permit of details being given, but it must be mentioned that the bedding arrangements reflect much taste and judgment.

Roses form a glorious feature of the terrace garden when the summer-flowering varieties are in full bloom, for there are numerous beds in which but one variety only is planted, and a still greater number of devices for the display of the charms of rambling and other roses of scandent habit to the best possible advantage. All the designs are admirably adapted to the use to which they are put, but one appeared to be well deserving of special mention, inasmuch as with its aid standard specimens, with finely developed heads, may be obtained with comparatively little trouble. This support consists of a stout rod some seven or eight feet high, provided with prongs at the base to firmly fix it into the ground, and surmounted with four or five curved rods, not unlike the ribs of an umbrella. With such a support as this dwarf plants can be utilised in the production of fountains of roses, which is perhaps a better term than weeping standards, and results of a most satisfactory character obtained. One of these supports, partly clothed with roses, is shown in the illustration of the part of the terrace devoted to roses, and the reader who is interested in the matter will do well to examine it.

On the slope at the western end of the terrace are some bold groups of golden-leaved shrubs, which produce a pleasing effect in contrast with the more sombre hue of the trees that form the background. In an open space, amid the trees that clothe the slope on the north side of the terrace, a water and alpine garden has been formed, and the progress made has been so satisfactory that at no distant date it will form a feature at once distinct and delightful. One might write at length on the manifold attractions of the handsome conservatory, but it must suffice to say that here, as elsewhere, the skill of Mr. James Coombes, the gardener, is evident, and that a very distinct and attractive effect has been obtained by planting out the richly coloured Streptosolen Jamesoni. A side border, extending about half the length of the structure, has been planted with this shrub, and the specimens are about five feet high, and as much through, and produce their brilliant orange-coloured flowers in great profusion throughout the summer months. Those whose experience with this shrub is limited to examples in pots will have but an inadequate idea of its capacity for flower production when the plants have a free root run, as in this case.

The plant and fruit houses are fully commensurate with the requirements of an establishment of the highest class, and it need hardly be said that Mr. Coombes utilises them to the fullest extent, as is the large area devoted to vegetables. Contiguous to the glass structures are two well-stocked herbaceous borders, and these are intersected by a broad walk spanned by one of the finest arches of Blush Rambler rose that has yet come under my notice. A glimpse is caught of the arch in the illustration entitled "A Fragrant Corner," but it is not there seen at its best, although it contributes its share to the delightful picture produced by the association of lavender, Madonna lilies, and roses, in which fragrance and pleasing colours are so happily combined.

Hillside.

Hillside, the residence of Leonard [illegible] Sutton, Esq., occupies a charming position on the high ground some distance to the south-east of Reading, and commands a wide prospect, including the town and richly diversified scenery that forms so admirable a setting to it. Those who are acquainted with the active interest Mr. Sutton takes in the many beautiful [illegible] of plants available for the embellishment of the garden will not need to be told that the gardens of Hillside are remarkable for their interest, their varied attractions, and high keeping.

Flowers are plentiful at Hillside, but the feature that commands more attention than any other is the fine breadth of lawn, that not only presents a pleasing contrast to the roses and other subjects that yield freely of their varied hues and fragrance but conveys a feeling of restfulness that one so greatly appreciates in the garden, and thereby affords an object lesson certainly not wanting in importance. The flower beds are proportionate in number to the area, and are so placed that they do not interfere with an uninterrupted view which constitutes so great a charm of a fine breadth of turf.

A short distance from the pleasure grounds, contiguous to the house, is a comparatively young orchard, and this is of much interest, apart from its value as the source of abundant supplies of fruits of high quality. Associated with the fruit trees are great breadths of the choice daffodils suitable for grass culture, and as these grow vigorously and flower freely the thousands of golden flowers produce a glorious effect that extends over a considerable period during the season of spring. Probably nowhere do daffodils, when grown in the grass, appear to greater advantage than when in association with apple trees, and, as exemplified in the Hillside orchard, there is no occasion to wait until the trees have grown old to obtain displays of bloom that will strongly appeal to those who are naturally endowed with artistic perceptions. On one side of the orchard was a broad border devoted to annual flowers, and this was of much value as evidence of the attractiveness of these flowers when the plants are arranged with due regard to the harmony of colour, and given sufficient space to attain to their full development of growth and flower production. On the way to the orchard note was made, and a photograph taken, of a tall standard of that well-known white rose Climbing Aimée Vibert. This specimen was of special interest from the fact that although it is one of the best of the white roses of pendent habit for tall standards, it is not a common occurrence to meet with one so grown.

CONSERVATORY AND ROSES, ENGLEFIELD HOUSE.

Arranged along the east side of the principal lawn are several plant houses, which are sufficiently ornate in design to contribute to the charm of the gardens, without being so elaborate as to interfere with the growth of the plants used in beautifying them. Here the judgment and skill of Mr. Townsend, the head gardener, appears to advantage. The importance of a frequent change in the plants used is fully recognised, and one would probably have to visit the gardens at rather short intervals to find precisely the same kinds of plants in any one of them on the occasion of a second visit. When these notes were made gesneras were in the ascendant, and the effect produced by the large array of splendidly flowered plants was so good that a photograph was taken of a group at one end, and it is herewith reproduced. This group deserves attention for the evidence it affords, not only of the success achieved in the production of the specimens, but of the great value of this section of the gesneras for the ornamentation of conservatory and greenhouse during the summer months. Their flowers may not be so rich in colouring as the flowers of the gloxinias and begonias, which may be had in bloom at the same season, but their flowers are attractively coloured, and lightly arranged on slender flower stems, and the velvety leaves are so rich in colour as to present a most pleasing contrast to the elegant flower spikes.

Foxhill.

Returning to Reading, and proceeding between one and two miles in the direction of Earley, which lays to the south-east of the town, Foxhill, the charming residence of Rufus D. Isaacs, Esq., M.P., is reached, and ample return for the walk is found in the beautiful gardens. Here the horticulturist, whatever may be the trend of his taste, finds much to stimulate his interest, and afford abundant pleasure; but there can be no question as to the gardens appealing the most strongly to the rosarian, who derives the greatest pleasure from his favourite flowers when he sees them displaying their charms in the garden.

Without the roses, which are grown in immense numbers, and with a high degree of success, the gardens of Foxhill would be found rich in attractions, and afford abundant evidence of the keen interest that is taken in gardening by Mr. and Mrs. Rufus Isaacs. With them the gardens are quite unique, not only among the many interesting gardens around Reading, but among those of the whole of England. With a full knowledge of the many gardens in which roses are largely grown and displayed with much taste, not one can be called to mind in which they constitute a more glorious feature than they do at Foxhill. The writer is not in a position to say whether Mrs. Rufus Isaacs takes a greater interest in roses than does Mr. Rufus Isaacs, but the high estimation in which that lady is held as a rosarian has been exemplified in a striking manner. The other day the Reading Rose Society held its annual meeting, and the members unanimously elected Mrs. Rufus Isaacs as its president for the current year. This meeting was of interest also in this connection for the proof that was given of the appreciation in the district of the great charms of the rose garden at Foxhill. The exhibitions of the society have hitherto been held in the town, and, notwithstanding the large and beautiful displays that have been produced, the general public have not participated in the feast of flowers so freely as might have been expected. Hence it was suggested that permission be sought to hold the exhibition in the Foxhill gardens, and, this having been obtained, the executive is looking forward to the financial results of this year's show being more satisfactory than for some years past. There can be little, if any, doubt that these anticipations will be fully realised, provided, of course, the weather conditions are favourable.

To convey anything approaching an adequate idea of the varied and beautiful effects that are annually produced by the roses with no aid other than that afforded by the pen would be extremely difficult, if not utterly impossible. The two illustrations herewith are of considerable value in the elucidation of the written description, but I should have preferred at least three times that number. Much perplexity would have been escaped by the use of the larger number, for it was not an easy task to select two from twelve photographs of as many distinct features, and all more or less beautiful.

The reader might well be asked to carefully examine the view of the arrangements to which the mansion forms so excellent a background. If this be done, it will be seen that roses are grown in well nigh every conceivable form, and with a degree of success that is beyond praise. It will not perhaps be so readily seen that the whole of the beds and borders, the groups and arches, and the single specimens, are arranged in accordance with a carefully prepared plan. But this is plainly evident in walking through the garden and enjoying the varied hues and the delightful fragrance of the thousands of blossoms that so freely display their charms, and the visitor can hardly fail to be impressed by the judgment evinced in the conception and execution of the design.

FINELY-GROWN GESNERAS AT HILLSIDE.

Within these delightful gardens there are beds and borders of roses, arches and trellises of roses, pillars and pergolas of roses, and there are roses in groups and roses grown as single specimens. Some of the latter would, in popular language, be described as "weeping" roses, but I confess to not having a liking for the term, however convenient it may be for descriptive purposes, for of all the blossoms entwined in Flora's garland I know of none so liberally endowed with the power of bringing delight to the mind and gladness to the heart as the rose in its many attributes of beauty. The tall standards, bearing aloft the most beautiful of the free-growing and graceful ramblers and Wichuraianas, are remarkably attractive, and contribute liberally to the general effect, and it would appear from the healthy state of their growth that due attention had been paid to the condition of the stems in making a selection, a point of some importance in the life of a tall standard rose. It was gratifying to see that while such beautiful varieties of recent introduction as Dorothy Perkins, Lady Gay, and Alberic Barbier are fully represented trained in elegant festoons, the best of the Ayrshires and other ramblers that were introduced in the early part of the last century have not been overlooked. The specimens of the Dundee Rambler in the central grouping in the rose garden are probably unsurpassed both in shapeliness and in flower production. There is a separate bed devoted to the newest of the Wichuraianas, and these, trained over logs of wood, produce a charming effect and one rich in interest.

The dwarfs and standards comprise hybrid perpetuals, hybrid teas, teas, noisettes, and other of the more important sections, and these are arranged in comparatively large beds in such manner as to produce bold masses of bloom. Some of the smaller beds are wholly devoted to one variety, but the larger beds contain two or more varieties, each of which is arranged in a group by itself. This is certainly much to be preferred to the practice adopted in many instances of distributing all the colours over the bed cially when, as in this case, it fo of a general plan. As a course, where several varieties planted in the same bed they were with due regard to habit, and harmony. In some of the beds have been associated with the roses in the central grouping of climbing and standard roses there is a cir of lavender, which, with its growth, quiet colouring, and frag contributes materially to the charms garden.

On the other side of the mansion is a pergola of considerable length. with larch poles and clothed wi and alongside it are numerous dwarf roses, and here, as in the garden, growth and bloom pro such as to surprise even those well acquainted with the results when cultural skill of a high brought to bear upon them.

If nothing is said of the fru tions, the vegetable quarters, and structures, it is not because they ing in interest. Mr. F. W. gardener, is not less successfu management of these than he is in tivation of roses, but it is not to do these features justice.

Whiteknights Park.

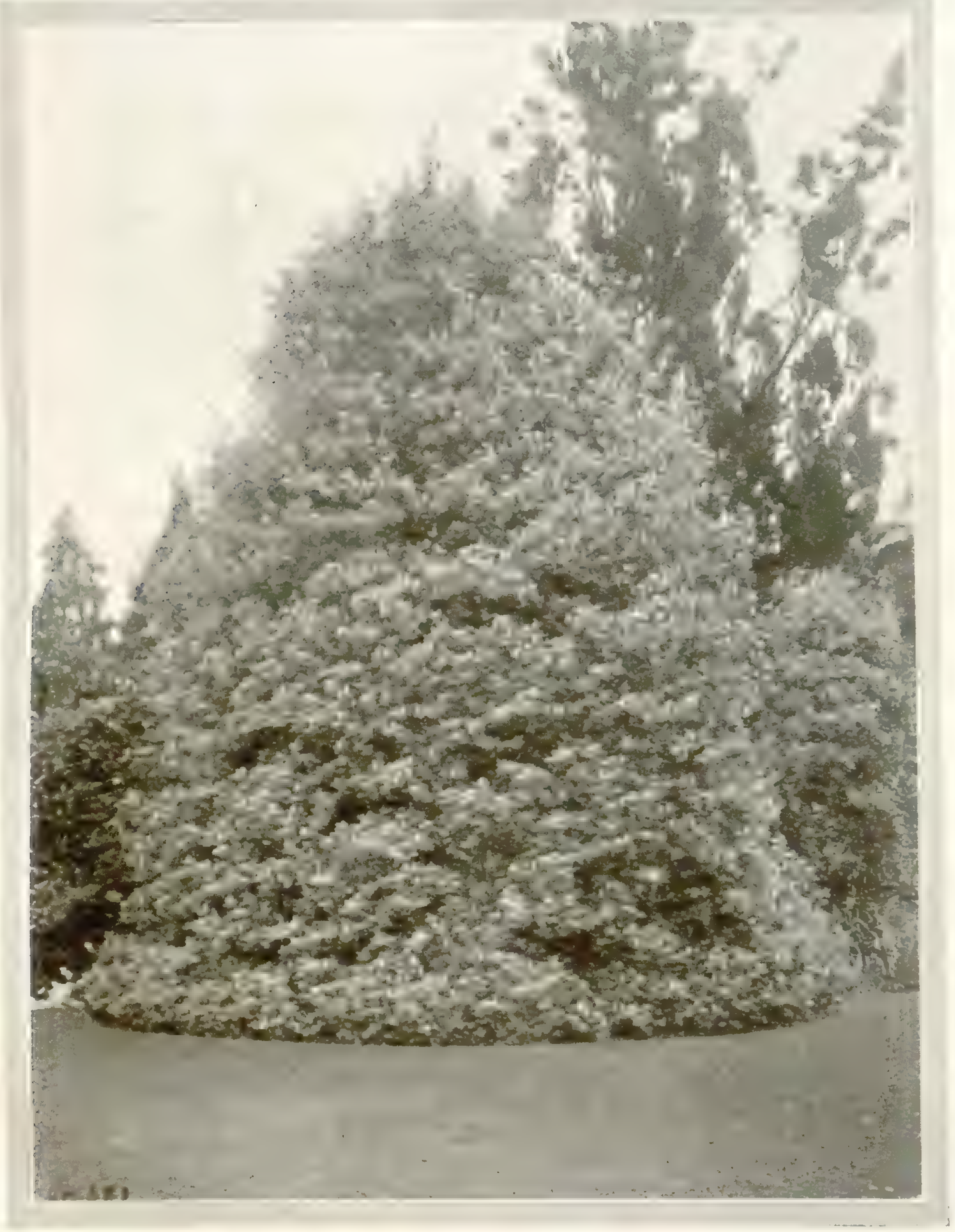
The gardens of Whiteknights Pa seat of Julius Friedlander, Esq., occupied an important position kindred establishments in the dis for upwards of a century they regarded with much interest for numbers of rare trees that have home within their boundaries. knights Park is situate a short the south-east of the town of and its gardens began to obtain towards the close of the eight

MANSION AND ROSE GARDEN, FOXHILL.

PERGOLA AND STANDARD ROSES, FOXHILL.

tury, and the interest they then evoked was maintained for thirty or forty years in the nineteenth century, when there was a change of ownership. They again became prominent, and this prominence has been well maintained until the present time, as the result of the great interest taken in his beautiful domain by Mr. Friedlander, and the skill of Mr. F. Bright, his gardener.

From about the middle of the eighteenth century to the end of the first quarter of the nineteenth, Whiteknights Park was in the possession of the third Duke of Marlborough and his son, the Marquis of Blandford, both of whom planted largely, and gave special attention to the choicest trees and shrubs that were then in commerce. The greater number of the latter were planted between the years 1790 and 1810, and possibly the greatest proportion of these were planted in 1804, when the bill of one firm alone for rare trees amounted to the goodly sum of £15,000. In those days from five to twenty guineas were considered ordinary prices to pay for nicely developed examples of rare kinds, and consequently the planting of these on a large scale was a very costly matter. At that time the Yulan (Magnolia conspicua) was regarded as a tender tree, and assigned a position in the conservatory, where it bloomed freely and ripened seeds. From these seeds plants were raised, and as these were the first seedlings obtained from home-saved seeds they created a considerable amount of interest.



SPECIMEN OF SILVER QUEEN HOLLY, WHITEKNIGHTS PARK.

In the clearings of the wood contiguous to the pleasure grounds the finest of the deciduous magnolias in commerce, and known to be hardy, such as M. glauca, M. macrophylla, and M. tripetala were planted in considerable numbers.

It is interesting to mention in this connection that among the many trees planted which were then rare were the variegated Turkey, Clethera paniculata, Laurus sassafras, Photina serrulata, Cratægus salicifolius, several fine forms of the American and European limes, Pavia macrostachya, the noble Ulmus effusa, and a range of forms of the Cockspur Thorn (Cratægus crus-galli). It would require much space to enumerate any considerable proportion of the specimen trees that now contribute so liberally to the attractions and interest of the gardens, and to give such particulars relating to them as would distinguish the list from a mere catalogue. Specially noteworthy are the specimens of the choicer oaks, and the Cedar of Lebanon, for, notwithstanding their great age, they are perfect in their proportions, or as nearly so as one could hope to see, and their wide-spreading branches sweep the ground.

On a wide stretch of lawn, that is bounded by a wall and a fine herbaceous border on one side, and a belt of trees and shrubs on the other, are numerous specimens quite exceptional in their development. Of one of these, a magnificent variegated holly, an illustration is given herewith. There are examples of other trees and shrubs not less noteworthy in their way, and some that interested the writer greatly were the clipped yews that are credited with a great age, and as having throughout their long lives sheltered a well whose history extends back to the year 1798. These interesting yews, which are supposed to be much older than the well, have been cut to resemble a square summer house, and doubtless form a cool retreat in the hot summer days. This old well, with its ancient yews occupies a position at one end of the enclosed lawn, and in association with it are numerous coniferous trees, notably species of thuia and cupressus. Here Mr. Bright, who is a past master in the art of fuchsia culture, groups numerous specimen fuchsias with singularly good effect, the quietly coloured flowers being admirably adapted to their surroundings. The specimens, which range from six to nine feet in height, have their pots plunged to about one-half their depth in the turf, and facility is thus afforded for giving proper attention to watering.

In the spacious kitchen garden also numerous splendidly grown fuchsias of immense size were met with, as were many other notable objects, the fine crops of vegetables being particularly noteworthy. Of special interest in this department is the comparatively large tree of Cox's Orange Pippin apple, which, if not the largest, is certainly one of the largest in the country. Its productiveness is equal to its size, and an orchard of some size formed with such trees as this would not fail to give a good return for both rent and labour.

Bere Court.

Pangbourne has long obtained recognition as one of the most picturesque villages on the Thames, and been the resort of the angler and the artist, and, indeed, of many who do not handle the rod or the brush, but can enjoy to the full beautiful scenery. Theretore, when it is stated that Bere Court, the residence of C. B. Tate, Esq., is situate within a short distance of this favoured village, and in one of the most beautiful spots in the neighbourhood thereof, it will be readily understood that its scenic advantages are great. From within a short period of the foundation of the monastery at Reading till its dissolution in the reign of Henry VIII., Bere Court, or "the fair manor place of brick," as Leland describes it, was the residence of the Abbots, the last of whom was Hugh Faringdon. The mansion has, of course, undergone considerable alterations since the last of the Reading Abbots resided under its roof, and it may be assumed that it has been greatly modernised. However this may be, the grand old house, standing at the head of a narrow valley, rich in arboreal features, presents a stately appearance amid its leafy surroundings.

The weather was especially unkind on the day in which Bere Court had a place in the programme, and it was far from pleasant to make a journey of five or six miles and then to be unable, owing to a continuous rain, to enjoy the pleasure the gardens and grounds are so well able to afford. It, however, was not difficult to see that the view down the valley was extremely beautiful, that the sides had been planted with much taste and judgment, and that Mr. E. Fry, the gardener, had provided an attractive display of hardy and other flowers, and that in other directions also he had displayed much skill. On the west side of the valley a large area is devoted to coniferous and other trees, all of which are in the most robust health, and include many noble specimens. The firs, the pines, and the cupressus were especially noteworthy, and prominent among the deciduous trees was a magnificent example of the cut-leaved beech. The tree is about fifty feet high, finely proportioned throughout, and the branches sweep the ground

This handsome beech has on several occasions been strongly recommended in these pages for planting in the pleasure grounds, and no better proof of the soundness of the advice could be desired than was thus afforded. Hence the regret that the climatic conditions were such as to render it practically impossible to obtain a photograph of this, and, indeed, of some other of the unique specimens.

George Gordon.

⁂ The second article on "Some Gardens Round Reading" will appear in our next issue.

OUTDOOR FIGS.

In some gardens figs grow freely and fruit abundantly, without more attention than the merest routine of pruning and gathering the fruit, while in other gardens the greatest difficulty is experienced in obtaining even a small crop. In the former case the soil is of a light, porous character, thus naturally warm; in the latter the soil is of an opposite nature, being heavy and retentive of moisture, and is cold in the spring, and therefore unfavourable to growth.

HERBACEOUS BORDER WITH ROSES, WHITEKNIGHTS PARK.

These are the principal reasons, briefly summarised, why success is obtained on the one hand, and failure on the other. In some gardens on the South Coast immense bushes may be seen growing in the open and carrying annually a heavy crop of extremely fine fruits. I need hardly say these are exceptional, and hardly to be equalled, except under very favourable conditions of site. The south or west aspect of walls is the proper place for the fig in the open, and there are many walls and gables of buildings that might be profitably occupied with fig trees. If such a wall happens to have a chimney passing through it, so much better for the fig trees, as warmth is a great factor to success. On suitable walls we often see fig trees growing in such an unsatisfactory manner that few fruits are produced, and these of a small size and poor in quality. The chief fault lies in the tree making too much growth, owing to the unlimited space allowed the roots. Where the soil is heavy, the roots are fibreless and ramble away no one knows where.

To ensure success in fig culture a full command of both root and branch is absolutely necessary, and, if the branches are not far enough apart for the shoots to become fully matured, a full crop of fruit is impossible.

As to varieties, two are quite sufficient—one might suffice, but variety is at times useful. Much the best is Brown Turkey, which is sometimes known as Osborne's, and Dwarf Prolific, and also Lee's Perpetual. The tree is prolific, the fruit is large and richly flavoured, and the skin is brownish red or tawny brown. Brunswick is of stronger growth, and well adapted for high walls, but its roots must be under control to induce it to fruit freely. The fruit is larger than that of Brown Turkey, the skin is tawny brown on the sunny side, the flesh is tinged with red, and of excellent flavour.

The question of soil is an important one. In a loose, deep rich soil, the roots are much too freely made, and this induces a strong growth that fails to mature. Calcareous loam intermixed with lime rubble, broken bricks, or flints, made quite firm, and resting on a fairly dry base is the best. Efficient drainage is essential to ensure maturity. A small border, 3ft. wide and 6ft. in length, will suffice for a tree several years if the supply of liquid stimulants is attended to when the fruit is swelling.

If the trees are taken from the open planting is best done as the leaves are turning yellow, but very often they are received in pots, then April is a good time to plant. Remove all the soil from the roots, and disentangle them, as they will be curled around the sides of the pot, spread them out quite straight, covering with a few inches of soil. Be careful to remove all suckers, and any buds below the soil line from which suckers would spring, as these are of no value and will become a nuisance as they increase. If the trees are, as they should be, on single stems, fan training is the best to adopt. Prune the trees tolerably hard back to induce base branches to push from the main stem if the tree requires further furnishing there. At no time should the branches be crowded. The bulk of the pruning is best done directly after the fruit is gathered in September or October, as the case may be. Remove all weakly growths, and those that have borne fruit, making room for the shoots for next season's crop, which is from wood of the previous season's formation. It is quite an exception to obtain a second crop of fruit from trees against open walls, except it be a particularly warm autumn.

If trees grow too freely, the result of an unlimited rooting space, they will not produce fruit, recourse must then be had to root pruning to check exuberance of growth. This is best done at the end of September, as the roots have then time to heal while the soil is warm.

It is wise to give some protection to fig trees upon walls in winter, especially after a wet summer. The most effective, and the easiest method of protection, is to place a layer of straight wheat straw 6in. thick, or bracken, over the branches, as they are closely fastened to the wall, and cover the straw with mats. This is a simple and effective method of protection; the main stem should be carefully covered, as well as the branches.

S. P.

FREESIAS.

Prominent among the bulbous plants that serve to embellish the conservatory are the freesias, of which F. refracta alba is a universal favourite. It is an exceedingly beautiful kind, whose exquisite pure white blossoms are delicately poised on slender stems. Charming as they are to the eye, there is no doubt that they owe a good deal of their popularity to their delicious fragrance. It is not the heavy overpowering smell of the hyacinth or some lilies, but just such a perfume as pleases even the most fastidious. A few pots of this freesia in a greenhouse will, in this respect, make their presence manifest throughout the entire structure.

One respect in which Freesia refracta alba differs from many other bulbous plants is that the bulbs can be readily grown, and depended upon to flower year after year, that is if a little ordinary care is taken in their cultivation. Full information as to their treatment has before now been given in the pages of the GARDENERS' MAGAZINE, therefore it will suffice to say that the main point is, after flowering, to assist growth by giving them a good position in the greenhouse, and to water occasionally with weak liquid manure. After this, when the resting period occurs, the pots of bulbs must be fully exposed to the sun. Then, towards the end of July or in August, the bulbs must be shaken clear of the old soil, graded according to size, and potted. In potting they may be grouped in any way that fancy dictates.

Notwithstanding the fact that freesias increase readily under cultivation, great numbers are imported into this country every summer. These are drawn from different sources, but the major portion of our supplies come from Italy, the South of France, and the Channel Islands. These imported bulbs are by no means all of equal merit, for among those sent as F. refracta alba flowers wanting in the purity of the best type often occur.

It was in 1881 that Freesia refracta alba was first brought forward, and, as might be expected, it quickly became popular. For many years this and the yellowish-tinted form, known as F. Leichtlini, were the only two kinds in general cultivation.

Within the last few years, however, visitors to the spring meetings of the Royal Horticultural Society have had many opportunities of seeing different hybrid freesias, some of which are undoubtedly destined to become favourites. Among the raisers is Mr. H. Chapman, and one of his raising, known as F. Chapmani, was, two years ago, given an Award of Merit. It is, I believe, of somewhat mixed parentage, viz., the product of a cross between F. refracta alba and F. aurea, crossed again with the first-named parent. The rich orange blotch in the interior of the flower is a very notable feature of F. Chapmani. F. aurea is, I believe, a quite old species, but only brought prominently forward within the last few years. It is dwarfer than F. refracta alba, while the flowers are of a rich orange-yellow colour. A decided drawback is that the blooms are quite scentless, but as F. Chapmani has only one-fourth of F. aurea in its composition it has not been much influenced in this respect. A second variety is F. alba citrina, and described as a seedling from F. refracta alba, similar to the latter, but with a shade of green in the flower, quite distinct, finely substantial, slightly campanulate blooms, most beautifully perfumed.

Another race of hybrids has been obtained, principally in Holland, from F. Armstrongi, which, sent from Humansdorp, Cape Colony, first flowered at Kew about ten years ago. This differs from F. refracta alba in its more slender, grass-like foliage, and the colour of its scentless flowers. Those of F. Armstrongi are of a lilac-pink tint, the tint being deeper towards the edges, while the lighter-coloured throat is tinged inside with yellow. The first hybrid of this section was F. Tubergeni. The parents of this are said to be F. Armstrongi and F. refracta alba. A second form from Holland was given an Award of Merit two years ago under the name of F. Tubergeni Amethyst. This shows a more pronounced leaning towards F. refracta alba than does F. Tubergeni itself. Quite recently we have had Rose Queen, a new member of this group.

Now that the different freesias have been thoroughly taken in hand, and their possibilities clearly demonstrated as in the case of so many other plants, some marked departures, with even an increased popularity, may in time occur.

W. T.

FACTS ABOUT GARDENIAS.

The interesting article by Mr. G. Garner, in your issue for February 27, recalls some incidents in support of his experience. It is true, as Mr. Garner says, that the successful growth of these shrubs requires that "new shoots must be produced each year, duly matured, and buds formed." To bring about these desirable ends is what every grower strives to do, but not always with the fullest satisfaction, yet there are instances on record where the finest possible results follow the simplest rules of procedure.

One such case that occurs to the mind at the moment, where a deep pit was devoted to a fairly large collection of specimen plants in pots. These had produced during the flowering season myriads of fragrant blooms at a tithe of the labour and anxiety many gardeners spend on them. Beyond the daily attention to watering, practically no labour was expended on them. The lights were never opened for the direct purpose of admitting air, not even in the most tropical of summer weather, and no shade was afforded the whole summer through, yet there was the deepest of green foliage and the purest of white flowers given in plenty, even with this scant attention. Needless to say, water was given copiously, for the pots were full of thirsty roots, but they gained some assistance from being plunged in a leaf-bed—one not often renewed. It would seem, judging both from observation and experience, that the gardenia does best when the structure, whether it be house or pit, is given up entirely to them. It is quite easy to recall instances where all the commonly practised methods of culture are present, the requisite heat, apparently suitable structure and soil provided, and yet there is the sickly-hued productions which the otherwise ambitious gardener would like to burn in order to be relieved of the unsatisfactory endeavour.

The plants already referred to were specimens, perhaps, 7ft to 8ft. high, with proportional breadth of leafy branches, and, as already stated, they gave blooms almost without limit. Quite as much success has been gained by others under methods quite different from this one. At Longford Castle, Salisbury, some years ago it was my privilege to inspect a large, healthy collection of plants then under the charge of Mr. Hazelton, now of Knowsley, occupying sunk pits, and grown fresh from [illegible] each year. They were treated in pots, [illegible] the size which they attained to in [illegible] was really remarkable, and we may [illegible] that flowers were produced in that [illegible]sive abundance which every grower [illegible] for, but does not always obtain. [illegible] Hazelton, we believe, plunged his plants [illegible] tree leaves, and plenty of heat was [illegible] their service from hot-water pipes. By [illegible] system of successive propagation, we [illegible] we are right in saying that blooms for [illegible]ton-hole purposes were available at [illegible] times of the year. The gardenia was [illegible] special favourite coat flower of the [illegible] Earl of Radnor, and naturally his gardener's desire was to supply this daily [illegible] over the greatest possible length of season. More recently I saw gardenias occupying stoves in which were mixed collections of plants, and, though the gardener in charge and the gardens themselves were reputed for high-class culture, the gardenias [illegible]guished, while their co-partners revelled [illegible] the apparently ideal surroundings. They had the sickly caste of leaf which is familiar to many cultivators, and [illegible] reflections which one would rather forget. The question that arises in the minds of the reader and reviewer is "Why should these things be?" The effort in [illegible] is made subservient to the demands of the subject as far as local conditions provide, and yet the issues are so adverse. It would seem to the careful observer that gardenias demand monopoly, and appreciate only their own society.

W. STRUGNELL.

Rood Ashton Gardens.

MECONOPSIS HETEROPHYLLA.

Notwithstanding the frailty which is characteristic of the Meconopsis family, almost without exception, there runs concurrently with this weakness a singular beauty of leaf and flower that invests each with an individuality of its own, and always commands our admiration. Although we may never be able to claim unqualified success in the cultivation of even the commonest species, yet the genera will always be looked upon as one of the noblest and [illegible] among hardy plants, and worthy of the cultivator's time and skill.

One of the easiest to grow is the American species, M. heterophylla. It is a brave little annual, carrying well-poised, maroon-blotched orange flowers on slender, wiry stems. It forms a small bush some 15in. in height, and each lateral branch terminates in a flower. It is less leafy in its parts than M. cambrica, yet in a [illegible] way the flowers somewhat resemble that species, although in the substance of the petals and lasting qualities of the flowers M. heterophylla is superior to the Welsh plant. It makes good specimens if grown in an unheated frame in pots, and by this system we are able more fully to appreciate the rich colour of the flowers, which are remarkable for their size and the slender, fairy-like stems upon which they are supported.

M. heterophylla is readily raised from seed sown in pots during March or in the open ground during April, the soil should be rendered light and porous by the addition of sand, particularly so when grown in pots. It flowers during July and August. It [illegible] ripening seed in great abundance. It succeeds in positions fully exposed to sun, but some shelter from wind is advisable, as the plants are exceedingly brittle at the ground line.

THOMAS SMITH.

Walmsgate Gardens, Louth.

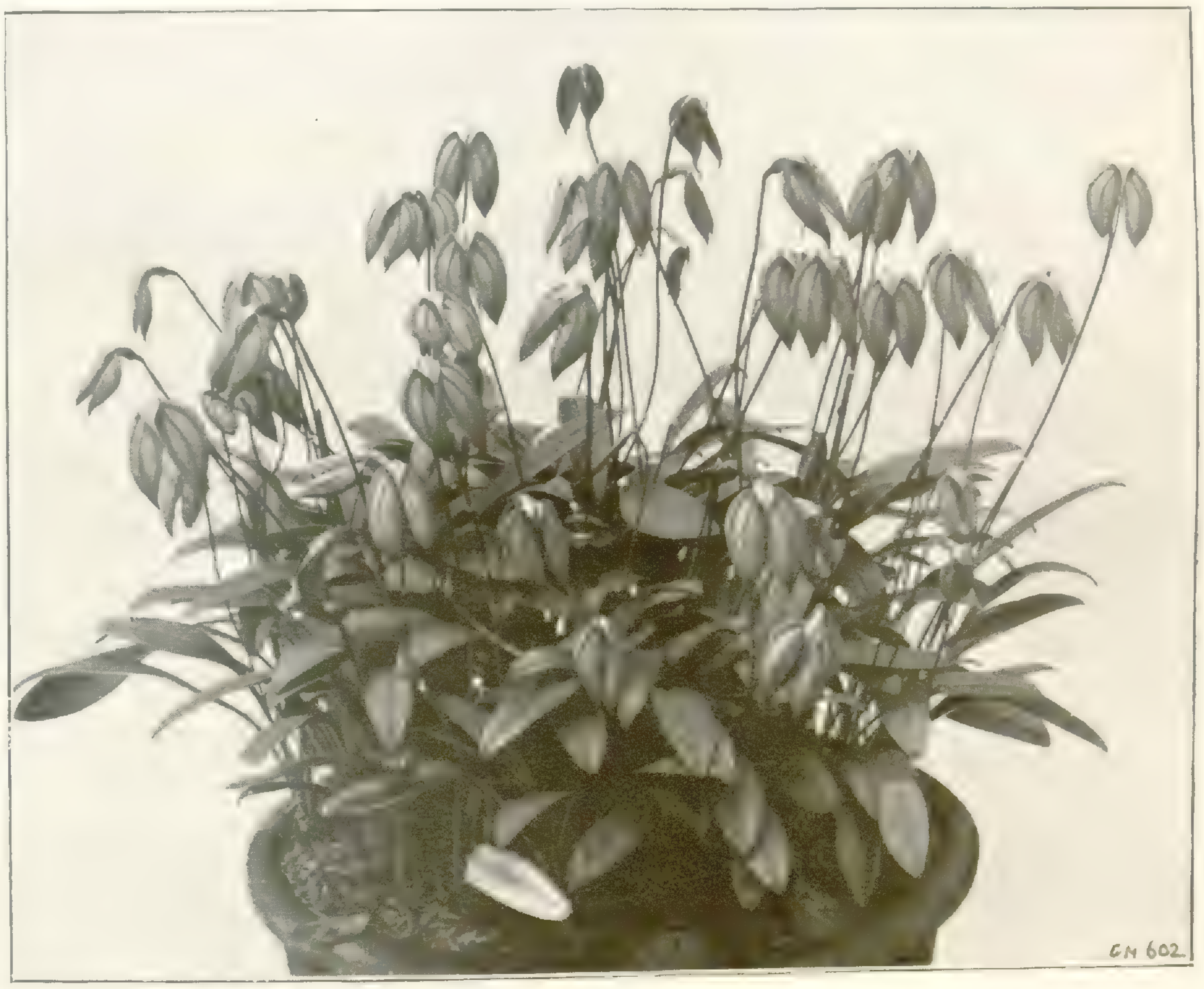
MASDEVALLIAS.

The illustration that is given herewith of the finely-flowered specimen of Masdevallia ignea testifies in no uncertain manner to the skill of Mr. H. J. Chapman in the cultivation of these as of other orchids, and suggests that the masdevallias might with advantage have their culture considerably extended. There may not be the same speculative interest in growing the several species or their distinct forms as in watching the flowering of imported plants of certain of the odontoglossums, or in anticipating the production of flowers by home-raised seedlings from crosses that have the promise of yielding quite exceptional results. Yet there is much that is of interest associated with them, and a considerable number bear flowers that at once attract attention by reason of their elegance and effective colouring. The cultivation of the finer of the masdevallias ought not, as is so frequently the case, to be confined to gardens wherein orchids constitute a strong feature, but should have a place in gardens generally, where the provisions for their successful cultivation can be made. They are all of moderate growth, and a lean-to house of quite limited dimensions would suffice for the accommodation of a collection sufficiently representative to give a large amount of pleasure to those who are able to appreciate quaint form and colouring, as well as to admire elegance of form and attractive colours.

Many amateurs who have the necessary time at their disposal, or whose gardens are under the charge of a practical cultivator, would derive much pleasure from a collection comprising the greater proportion of the forms in cultivation. But in gardens where decorative effect has to be given full consideration, in adding to collections, the growth of a few of the most beautiful kinds will be preferable. M. ignea, herewith illustrated, should be one of the first to be selected, and to indicate its charm and effectiveness it will suffice to say that the flowers are brilliant cinnabar-red tinted crimson. M. coccinea is not less desirable, and of its numerous forms, that known as Harryana is the best. This beautiful variety differs materially in colour, and all the shades are more or less attractive, but the rich crimson-purple hues are the most effective. Of exceptional excellence also is the brilliant orange-scarlet M. Veitchiana, which has relatively large flowers, borne on long, slender scapes. M. rosea is a beautiful species, with medium-sized flowers of a rich carmine-rose hue. These and their varieties form a small but fine group, and to them might be added such attractive hybrids as M. Chelsoni, M. Elli[illegible] and M. Gairiana. M. tovarensis is a dwarf-growing species, perfectly distinct from the foregoing, and bearing pure white flowers that range from three to five on a scape. This requires rather more warmth than the other species, and should have a place at the coolest end of the cattleya house during the winter months, and a position near the glass.

Usually growing at high altitudes, the masdevallias require under cultivation a moderate temperature throughout the year, with an abundance of atmospheric moisture. Speaking in general terms, the day temperature should be about 55 degrees during the autumn and winter months, and [illegible] degrees in spring and summer, [illegible] each period, a night temperature [illegible] degrees lower. It will not be possible to maintain so low a temperature as [illegible] degrees during hot weather in summer, but much may be accomplished in that direction by judicious ventilation, shading, and pouring water freely about the paths, walls, and stages, at rather frequent intervals. The damping down of the stages, floor, etc., for the maintenance of a liberal degree of humidity will be necessary throughout the year, but the frequency will be determined by the conditions that obtain outside. Careful attention must be paid to the watering of the plants; the supplies should be liberal than otherwise, but they must be adapted to the season and the individual requirements of the plants.

Fibrous loam and sphagnum moss, in equal proportions, make an excellent potting mixture, and the end of January is as good a time as any for repotting and surfacing the plants. It is not advisable to have a large mass of material about the roots, and the practice adopted of filling the pots to about two-thirds of their depth with clean crocks and the remaining space with the potting mixture is a good one. In repotting the base of the plant should be level with the rim of the pot, and the material be pressed rather firm G.



MASDEVALLIA IGNEA.
A finely-developed specimen of this brilliant scarlet-flowered species in Mr. Norman Cookson's Collection.

Viola Rydbergi.—The American violets are by no means too widely cultivated, and their merits ought to be brought into greater prominence than they have hitherto been. Some have been in cultivation for a considerable time, but others are of recent date in our gardens, especially those from Colorado and the Rockies in general. To these belongs the subject of the present note, Viola Rydbergi, which is of somewhat bolder and more vigorous habit of growth than the majority of the violets now in our gardens. I see that its height is given in some catalogues as four, and in others as six inches. Whatever it may be in pots, and I have not grown any in this way, on the rockery it is certainly taller than either of these heights, and I have had plants from nine inches to a foot high. It makes a good-sized, bushy plant, liberally supplied with a number of large white flowers, which are tinged slightly with purple. These flowers are of the characteristic shape of the violet family, and are, combined with the plant itself, highly ornamental, although not showy. This violet is quite hardy with me, and so far as one can ascertain, is so throughout the United Kingdom.—S. Arnott.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

CALANTHES.—The deciduous calanthes will now be commencing their new growths, and as the young roots make their appearance, the plants should be attended to for repotting purposes. Where the plants have been turned out of their pots, and have been laying close together in boxes, some care is necessary in moving them, to avoid damaging the growth or injury to the new roots which may have run into the moss on which they have been standing. In dealing with these preserve as much of the moss about the roots as possible, as this will to some extent protect them in the process of repotting. Where the plants have been standing in the pots during the resting season they should be given a thorough watering a few hours before, or the day previously, to their being repotted. This will soften the old compost, and reduce the risk of damaging the new roots. Cut the old roots off to within an inch or two of the base of the bulb, and remove the old pseudo-bulb before repotting. Careful examination of the pseudo-bulbs for scale or other insect pests should also be made, for if the plants are carefully cleaned at this period, much trouble will be avoided afterwards. Five or six-inch pots, according to the size of the pseudo-bulbs, are large enough when the plants are grown singly, and they should be well and carefully drained. Where it is desirable to grow several plants together in each pot, suitable sizes should be selected, according to the varieties and the relative strength of the pseudo-bulbs.

SUITABLE POTTING COMPOSTS.—There can be no doubt that the selection of suitable potting compost is a great factor in the successful cultivation of calanthes. I have had some varied and very distinct experiences in the cultivation of calanthes in different parts of the country, and have come to the conclusion that it is desirable to ascertain by experience the exact treatment and potting composts suitable for the plants under the particular conditions and situation in which they have to be grown. It is generally considered that good turfy loam, fibrous peat, and chopped sphagnum, with perhaps a little dried cow manure intermixed, and sufficient sand or broken crocks added to keep the compost porous is the most suitable. There can be no question but that turfy loam is a most suitable medium under certain conditions, but there are numbers of districts in which the inclusion of loam is detrimental to successful cultivation, and a compost of chopped sphagnum, fibrous peat, or osmunda fibre, or a mixture of osmunda and peat, is by far preferable. Especially is this the case when the hybrids of weak constitution are dealt with. I would advise those who have been at all troubled with the disfiguring black spots on the foliage, pseudo-bulbs, and flower spikes, to discontinue the use of loam.

CALANTHE HYBRIDS AND VARIETIES.—There have been considerable additions to the hybrids and varieties, and some most remarkable coloured forms have recently appeared among the hybrids. C. W. Murray, C. Bryan, C. Harrisi, C. Gildeni, C. Victoria Regina, C. Clive, C. Oakwood Ruby, C. Chapmani, C. Norman, C. Angela, and many others, when they come to be better known, will be found of much value in gardens where calanthes are extensively grown. Some of them are only to be found in limited numbers, but the majority of those mentioned are in general commerce; all are worthy of consideration where these plants are appreciated.—H. J. CHAPMAN, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

CONSERVATORY. — With the warm weather the climbing and other plants in the conservatory will be making rapid growth, and tying and training must be regularly attended to. Where camellias are planted out in beds, whether used as a covering to walls or not, they may, if necessary, be now pruned back, as most of them will be out of flower. If this is done at once it will not at all detract from their flowering next season, as fairly strong young growths, well ripened, produce by far the best flowers. If the structure is shaded by means of blinds it will be as well to have these fixed at once, although there may be no danger from burning by the sun's rays. Yet, if they are let down for an hour or two in the middle of the day the flowering period of various classes of plants will be prolonged; where blinds are not used a very good mixture for shading may be made up with starch and whiting, to which may be added a little green; this mixture, if carefully applied when freshly made, will have a pleasing appearance, and last the whole season. I prefer this to any other shading wash, as it comes off quite easy in the autumn, and does not injure the paint.

GREENHOUSES.—The above remarks as to blinds and shading also applies to the greenhouses, although, in the latter case, they may be more necessary. All newly-potted plants are the better for a little shade for a few days after potting. Begonias, calceolarias, and other soft-leaved plants, will also benefit by moderate shade during the middle of the day, as will also all plants that are in bloom.

CARNATIONS.—Young plants of winter-blooming varieties, whether struck late in the autumn or early in the spring, and kept steadily growing, should now be shifted into 3½in. pots, using a nice light compost for potting. With some loams it is not necessary to add nearly so much leaf-soil as to others, but it is better to err in too little than too much. Pot fairly firm, and transfer the young plants to a nice light house or heated pit, and maintain a steady temperature of about 50 degrees. Do not overwater, but on all fine days give a good syringing with well-diluted soot water.

MALMAISON CARNATIONS. — These should now have stakes put to them, so that the flower stems and young shoots may be tied as they increase in development. If the pots are full of roots a little weak soot water or liquid manure will help them, to be followed a little later with a dressing or two of some other good carnation manure. Give the plants all the light and air possible, with an occasional good syringing overhead, but if the plants are troubled much with rust this must not be overdone. An occasional dip or syringe with a suitable fungicide will help to keep the disease under.

GENERAL REMARKS.—As a good many of the bedding plants will now be drafted into unheated frames the houses will be less fully furnished. All the stages and the woodwork generally should be thoroughly cleaned, and the permanent occupants of the houses be given more room. At the same time, giving such plants as require it a slight surfacing over, and, in many cases, a sprinkling of some good fertiliser will help the plants. As far as possible keep the freshly potted plants together, so that they may receive the necessary attention as to syringing and shading. Keep the growth of such plants as ivy-leaved pelargoniums regularly tied in, pinching all the strongest shoots to ensure an evenly-balanced specimen. —THOMAS STEVENSON, Woburn Place Gardens, Addlestone.

THE FLOWER GARDEN.

GLADIOLI.—These extremely effective subjects are well fitted for planting largely both in beds and borders separately; also for planting in large masses in the shrubberies and herbaceous borders. Few summer flowers are more effective than a large, bold mass of G. Brenchleyensis when suitably associated with other flowering and foliage plants. Allow a distance of from twelve to fifteen inches between the corms. The ground should have been deeply worked and the corms planted to the depth of from three to four inches. On very stiff soils it is well to add some light material, and a liberal amount of powdered charcoal at the same time.

MONTBRETIAS.—Owing to the improved forms that have been lately introduced, these are enjoying, and rightly so, a large share of popularity. Beautiful shades of colour and graceful forms render them most useful both in mixed borders and for the supply of cut flowers for the decoration of rooms. Only in a few favoured localities is it safe to risk them in the open ground during the winter months, and, like many other things, the most beautiful varieties are the most tender. They should be lifted in the autumn and wintered in cold frames in boxes. The best time for planting these out is from the beginning to the middle of the present month; and, although beds may be devoted to them, they are very effective when arranged in groups in the herbaceous border. After planting, strew the surface with finely sifted cinder ashes.

SEED SOWING.—This may now be largely practised in the open ground. Among the annuals that may be sown include: Godetias, tropæolums, mignonette, larkspurs, love-lies-bleeding, annual chrysanthemums, candytuft, sweet sultan, poppies of sorts, etc. Attend to the pricking off of all annuals raised in heat, as this should be done when they are quite young. A cold frame with a bed of soil near to the glass is an ideal place for them. Sow now under glass nicotiana of sorts, cosmos, sunflowers, Chilian beet, commelina, etc.

SWEET PEAS.—Plants that were raised in pots and have been properly hardened off, ought now to be planted on well prepared ground, either in rows or clumps. To grow these successfully, plenty of room must be allowed them, and two years ought at least to elapse before growing them again in the same site. Care must be taken to protect them against birds and slugs, either of which, if allowed to attack them, will do much damage. Staking should be carried out at the same time as planting, and where sparrows are much in evidence, nothing is better than garden netting to prevent their ravages, and plenty of finely sifted cinder ashes should be placed round the young plants to ward off slugs.

EVERGREENS.—The majority of evergreens will move much better now than at any other season of the year, providing they are carefully moved and well looked after, and it will be quite safe to move all kinds of hollies any time during the present month. These should be well mulched and thoroughly syringed during dry weather.—E. BECKETT, Aldenham House Gardens.

HARDY FRUITS.

FRUIT QUARTERS.—The work pertaining to planting, pruning, spraying, etc., being now finished, an opportunity is given for manuring and digging the fruit borders. This work must not be carried out in a haphazard fashion, or more harm than good to the trees may be done. Trees which are growing moderately, and are in a fruitful condition by being well furnished with fruit buds, will be benefited by a dressing over the surface, as far as the roots extend, of some well-decomposed farmyard manure. This may be lightly pointed in with a garden fork, at the same time being careful not to disturb or damage the young roots near the surface. Trees which are growing strongly, and that make growths suitable for flower stakes instead of fruit spurs, should on no account have any manurial matter placed within reach of their roots. For currants and gooseberries, whose roots are usually near the surface, the manure may be left as a mulching, and not dug in, as the fertilising properties will be carried down to the roots by rain. Raspberries, blackberries and loganberries are other fruits to which it is better to apply the manure to the surface than to dig it in. The intervening spaces between the trees may be broken up by the spade more deeply. Finish off the work as neatly as possible, as the fruit quarters during the next few months will come more under observation than is the case during the winter season.

OLD STRAWBERRY BEDS.—Remove all the dead leaves from the crowns, and well dust around and among the latter some lime and soot in equal proportions, for the destruction of slugs and other insects. Be careful that as little as possible of the dressing be thrown on the young foliage. If the space between the plants were dressed with some manure during the past autumn what remains now may be lightly forked in. Newly-planted beds should be kept free from weeds, and the surface soil well open by the frequent use of the Dutch hoe.

PROTECTION.—The general outlook up to date is very promising for an abundance of fruit of all kinds, but nothing should be neglected in the protection of the blossoms should any necessity arise. All materials that can be utilised for this purpose should be kept ready at hand, and used on every occasion when frost is imminent.

VINES. — It would certainly not be wise to advocate the planting of these out of doors with the idea of their producing fruit fit for use, as excepting on very rare occasions, when we experience a summer of unusual length, and when the temperature has been above the normal do we see this. But there are a few odd wall spaces in most gardens on which a vine might well be trained, and which would amply repay the labour bestowed on it, and the space occupied, by furnishing leaves throughout the summer and autumn for use either for packing or for dishing up dessert fruits. Such leaves, when gathered from vines grown in the open, are of firmer texture, and are more lasting than those grown under glass. Borders for them need not be very elaborate; thorough drainage is essential, and may be secured by placing from nine inches to a foot of brick rubble at the bottom, on which should be placed some turves, laying them closely together, grass downwards, to prevent the soil from working through to the drainage. A border two yards long, one yard wide, and two feet deep, will be ample for many years. The staple of the border should be good turfy loam, in which some lime rubble, stick charcoal, and a little bonemeal has been incorporated.—GEO. WOODGATE, Rolleston Hall Gardens.

PROTECTION OF FRUIT TREE BLOSSOMS.

Not the least of the many vexatious trials that naturally fall to the lot of the gardener is that of the destruction wrought by cold winds and spring frosts to the blooms of early-flowering fruit trees, and this happens after much labour has been bestowed upon the trees. This is unfortunately a very common occurrence, though certainly some cultivators in this respect, owing to their trees being placed in favourable situations, are less exposed to these disheartening conditions than are others. In some instances, it is almost useless to go to the trouble and expense of planting and cultivating trees, unless some artificial means of protection is provided to contravene the evil effects of frost. In the case of such early-flowering fruits as apricots, peaches, and nectarines, this is especially necessary, while similar precautions have to be taken under some circumstances to insure success with more hardy fruits, such as pears, plums, and strawberries.

At the present time, the buds of trees are considerably later in development than is often the case at this season of the year, but we can scarcely expect, unless some kind of efficient protection is given, the blossoms of early-flowering trees that are placed in exposed positions, to escape being damaged by late frosts. Not even are they likely to escape where the branches during the winter have been loosened and drawn away from the walls, as is sometimes recommended and practised. This practise, provided the branches are not again secured to the walls until the flower buds are well advanced, undoubtedly retards to an appreciable degree flower development, though not, in ordinary cases, to an extent to make artificial protection unnecessary.

For reasons well understood, spring frosts are much more prevalent and severe in some places than they are in others, and therefore the kinds of protectors that are usually efficient in some cases are next to useless in others. For instance, the blossoms of peaches and nectarines, in an unheated house, especially if retarded by the house being kept open, and cool, to as late a period as can be safely done, are, in most cases, safe. Here, however, we found it necessary to heat a house of 100ft. in length, by 14ft. in width, in order to prevent the blossoms being destroyed by frost. A crop was almost totally ruined at the end of March some years ago, and we have since used artificial heat. Removable glass copings have here proved to be of no material value in the protection of apricots, peaches, and nectarines. They keep the blossoms dry, and therefore render them less susceptible to injury from frost, and to a degree hinder radiation, these benefits are not efficient. If used in summer and autumn, particularly in cold, damp seasons, these appliances do beneficial service in accelerating the ripening of fruit and wood, but, unless the trees are properly syringed, they suffer, as they are deprived of dew and rain.

For trees upon walls woollen, canvas, and tiffany blinds are good protectors, and are most expeditiously lowered or raised by means of suitable pulleys. They must be kept away from the trees by the aid of poles. Woollen and fish nettings are used with success in some instances, but the latter must be doubled or trebled in thickness. An advantage to be gained in using these is, they need not be removed by day. The above appliances can also be employed for bush, pyramid, and espalier trees in the open, but when this is done light frames of wood should be erected to keep them away from the trees: branches of suitable evergreen trees or shrubs, if carefully secured, so as to avoid their injuring the blossoms in windy weather, may be used for wall trees with excellent effect.

I know of nothing so suitable for strawberries as are strips of tiffany. If they are of the same length as the rows of plants they can be readily placed in position over the rows in the evening, and removed and laid between the rows in the morning, by two individuals, one being placed at each end. In our low, moist situation, it is every spring necessary to protect the blossoms of strawberries, otherwise at least the crown blossoms, even of the latest flowering varieties, would be destroyed. The tiffany will last many years if carefully dried and stored while not in use. I can imagine a grower of strawberries for market passing a not very flattering opinion about this method, but then, such a grower would not select for his plantations positions of the description that we have to deal with.

T. Coomber.

The Hendre Gardens.

SEASONABLE WORK AMONG HARDY FERNS.

As hardy ferns commence, as a rule, to throw up their new crop of fronds in April, and, in point of fact, commence root action some time before, as may be seen by the swelling crowns of Shield Ferns, Lastreas, and others of the crown forming group, it is well to anticipate this by doing any shifting, dividing, or repotting which may be necessary in the early part of April.

Thanks to the long winter rest, the ferns at this time are full of energy and in the best condition to withstand the shock of removal or division, while the future fronds, being still snugly ensconced within the crown, are not liable to damage, and the drain upon the root resources is far less than it would be later on, when the new set of fronds are lifting and expanding vigorously. In this connection, it may be pointed out that every individual fern frond has its own independent bundle of roots, and even before they rise these may be seen creeping down from the frond bases into the soil with tender, whitish growing points well in evidence. Hence, it is essential in the operations which we have in view that these should be injured as little as possible, as, if damaged, the fronds are sure to suffer.

The deciduous ferns, which die completely down in the autumn, are the easiest to deal with. These are the Lady Ferns and most of the Lastreas or Buckler Ferns, of which nothing is seen during the winter but the crowns themselves, covered possibly with the débris of dead fronds of the last season. It is not wise to clear this débris away too soon, as it forms a natural protection, and to remove it for neatness' sake without replacing it with a mulching of dead leaves is apt to lead to impoverishment by dry March winds through the checking of growth of the new young roots aforesaid. Where ferns grow naturally, and most robustly, we usually find the crowns buried in shed leaves and fronds, and Nature is always the best guide. The evergreen ferns, such as the Shield Ferns, Polypodium vulgare, Blechnum spicant, and Hartstongue, retain their frondage until a fresh crop arises, and, with these, any fronds which are green are best left, only dead or obviously dying ones being removed.

In the case of the crown-forming ferns, the Shuttlecock type, as we may term it, in which the fronds arise in a circle round a definite centre, it is very beneficial to the development of full character (we are speaking here of the beautiful varieties which we have always in view as being the only ferns which should be in collections proper) that single, i.e., separate crowns be grown. In time a single crown is apt to produce lateral offsets, or may itself split up into several, and, if not separated, the result is a bush of much smaller plants than is the case where separation is effected, owing to competition in the soil of the several sets of roots, and in the air of the sets of fronds, which thus become mixed together, to the detriment of their graceful individual habits.

The lateral offsets are easily removed, as they are only attached to the parent plant by a small ligament, the neck of the original bud, and can thus be prised off with a blunt instrument, when each will be found to be furnished with its own root system, and thus be in a condition to establish itself easily as an independent plant. Where the original crown has multiplied itself by fission, as is often the case with the Lady Fern, separation can only be safely effected when each crown has a definite neck, due to its own upward extension. They can then be divided by making a shallow cut in the indentation and pulling them apart, taking care not to squeeze the upper part of the crown, in which the future fronds are packed. As with the offsets, each division will then came away with its own roots, and needs only potting up or replanting to become an independent specimen.

Ferns with creeping root-stocks, like the Polypodies, are best left alone unless propagation be desired, in which case each piece of rootstock bearing a frond or two and a growing point, will establish itself if planted in a loose open compost near the surface. The Hartstongue is apt to form a number of small crowns, and is difficult to treat on single crown lines; but for propagating purposes, it is easy to see how the crowns can be separated and treated as described. Every bit of the caudex will produce buds if cut up and kept close.

Nearly all British ferns do quite well in the open in shady, sheltered spots in ordinary garden soil, but in pots they need a compost of leaf-mould or peat mould, mixed with an equal amount of good loam, with a good dash of silver sand. Pots and pans should be well drained, and not stood in saucers, especially with newly-potted plants, since much as ferns like damp positions few are capable of holding their own in constantly saturated soil. If a fern is doing well in a pot it is best left alone, since, when once well rooted and established in a pot or pan large enough for a full-sized specimen, they will hold their own for years undisturbed. Young plants, however, must naturally be shifted into somewhat larger pots from time to time until they attain full size.

Many of the Shield Fern varieties produce bulbils on the fronds near the base, and some of them in profusion all the way up. In clearing away the dead fronds, the basal buds are worth looking after, as affording a means of propagating some of the rarer forms. They only need detaching with a short piece of stalk and inserting in good compost just level with the soil, preferably at the edges of the pot or pan.

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EXHIBITIONS AND MEETINGS.

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Royal Horticultural Society.

There was a grand show on April 6, consisting largely of orchids, alpines, daffodils, and forced shrubs, and, as the day was a bright spring one, there was a great crowd of Fellows and visitors to see the splendid display.

FLORAL COMMITTEE.

The exhibit of pink cinerarias of the florists' type, shown by Messrs. Sutton and Sons, Reading, proved a great attraction for the ladies because the range of colour shades from light silvery-pink to deep old rose-pink was very wide and beautiful. Needless to say, the plants were all well grown and finely flowered. Mr. F. Anderson, gardener to Mrs. Bischoffsheim, The Warren House, Stanmore, contributed a pyramidal group of Lachenalia tricolor. A glorious lot of Himalayan rhododendrons were brought up by Mr. R. E. Gill, from Falmouth, all the blooms cut from the open, without protection; R. Shilsoni, R. barbatum, R. Harrisi, R. arboreum, and R. giganteum were all specially beautiful.

Very bright was the corner group of Ceanothus Veitchianus, Pyrus angustifolia fl.-pl., camellias, Pyrus Scheideckeri, and P. malus floribunda, arranged by Messrs. William Paul and Son, Waltham Cross. Messrs. G. Jackman and Son, Woking, were represented by charming groups of single blue primroses, Primula denticulata alba, Scilla siberica and its white variety, and single blue hepaticas. Messrs. H. B. May and Sons, Edmonton, brought up the new Nephrolepis Amerpohli, dwarf roses, and pot clematis. Messrs. Paul and Son, Chesnunt, showed a few interesting flowering shrubs, including Cytisus Butterfly, Deutzia discolor arcuata, and Viburnum plicatum tomentosum.

Mr. G. Reuthe, Keston, was represented by a large group of lovely hepaticas, daphnes, rhododendrons, primulas in variety, camellias, and other early flowers. A bold display of forced shrubs, hepaticas, hardy primulas, etc., was made by Messrs. W. Cutbush and Son, Highgate, this firm also contributing a display of perpetual carnations. The beautiful and useful Primula verticillata, clothed with multitudes of yellow flowers on mealy stems, was splendidly shown by Mr. Cransfield, gardener to Sir Everard Hambro, K.C.V.O., Hayes Place, Hayes, Kent, who set up a big group of beautiful plants.

Beautiful roses were shown by Mr. G. Prince, Longworth, Berks, the features of the group being Marechal Niel, Prince de Bulgarie, and the charming Madame Jules Gravereaux. Some well-grown amaryllis, fine in colour, but rather lacking in form, were shown by Mr. F. Baker, gardener to Major Lister, Warminglid Grange, Haywards Heath, who can grow these bulbs finely. Messrs. G. and A. Clark, The Nurseries, Dover, had a small rockwork group and a tiny pool of water, the whole furnished with primulas, primroses, irises, clematis, and dwarf shrubs.

A magnificent group of forced Azalea mollis in variety, beautiful and fragrant lilies, magnolias, wistarias, pyruses, laburnums, and guelder roses, was very pleasingly set up, and prettily arranged with ferns and palms, by Messrs. R. and G. Cuthbert, Southgate, who are adepts at this particular culture. A good strain of cyclamens was presented by Messrs. Whitelegge and Page, Chislehurst, Kent. Acacias were largely shown by Messrs. Hugh Low and Co., Bush Hill Park, Enfield, and their yellow, fragrant flowers were very much admired; these with roses and perpetual carnations made up a large display.

Indian azaleas were beautifully shown by Messrs. James Veitch and Son, Chelsea, with fragrant Boronias megastigma and heterophylla, clivias, blue hydrangeas, beautifully formed and richly hued amaryllis, seedling gerberas, and a grand bank of Mons. Thiers and other early rhododendrons. Rock plants and early hardy flowers in great variety and beauty were largely shown by Messrs. T. S. Ware, Lim., Feltham; Anemone fulgens, Tulipa Greigi, Androsace carnea eximia, and gold-laced polyanthuses were particularly striking. Messrs. H. Cannell and Sons sent cactus-flowered cinerarias, interesting cacti, and the free flowering Begonias manicata, nitida, and Verschaffelti. Rambling roses such as Trier, Gruss an Zabern, Mrs. F. W. Flight, Leuchtstern, and Thalia were well shown by Messrs. Frank Cant and Co., Colchester, who also had the new single variety Joseph Billard, yellow and rose, and sweetly scented.

Some charming rosy-hued amaryllis were shown by Messrs. R. P. Ker and Son, Aigburth, Liverpool, and one of these, a beautifully formed flower with deep crimson centre, shading to old rose margins, named Magnificent, gained an A.M. Beautiful carnations, liliums, roses, and daffodils, all set up boldly in big vases, by Mr. W. H. Page, Tangley Nurseries, Hampton, made a grand exhibit.

A beautiful bank of grand carnation blooms, from Mr. H. Burnett, Guernsey, was greatly admired, especially the vases of Enchantress, Marmion, Mikado, and Fortuna. Messrs. Bakers, Wolverhampton, had beautiful groups of Primula denticulata, the double Welsh poppy, Saxifraga apiculata, S. Burseriana, polyanthuses, Cypripedium pubescens, and other charming flowers.

A fine group of carnations was arranged in the annexe by Mr. Paskett, gardener to E. J. Johnstone, Esq., Burr Woods, Groombridge, Kent. It was a great attraction—it consisted of growing plants, as well as cut blooms. Enchantress, Britannia, Rose-pink Enchantress, Aristocrat, and Sarah Hill were the varieties most largely shown. Messrs. R. Wallace and Co., Colchester, arranged a pretty and low rock garden arrangement on the central table in one of the annexes, and filled it daintily with tulips, gentians, muscaris, crocuses, the beautiful Primula viscosa Mrs. J. H. Wilson, fritillarias, daphnes, Anemone pulsatilla, and Iris reticulata.

ORCHID COMMITTEE.

The finest feature of the whole meeting—and it was a magnificent one—was the superb group of orchids arranged along the end of the hall by Messrs. Armstrong and Brown, Tunbridge Wells. It was a grand effort on the part of one firm, and it was admired, as its merits deserved. In the centre was a raised group of Cymbidium Lowianum and odontoglossums, the latter throwing their beautiful spikes of bloom out in a graceful manner from the groundwork of moss and ferns. On either side of these were big groups of the exquisite Dendrobium nobile virginale, and one may safely say that such masses of finely grown plants of this choice orchid have never before been seen. At the extreme ends were coloured dendrobiums of very many kinds, all superbly grown, and in the valleys between these bold groups were small colonies of Cypripedium glaucophyllum, etc., and specimen plants of Odontiodas, Brasso-cattleya Thorntoni var. Boydæ, and Dendrobium formosum giganteum. Unquestionably the Tunbridge Wells firm has come to the forefront with a bound.

Messrs. Hugh Low and Co., Bush Hill Park, had in their orchid group good forms of Cattleya Trianæ, Cypripedium Wm. Lloyd, C. Rossetti, Cœlogyne pandurata, and Cymbidium Holfordianum. Messrs. Charlesworth and Co., Haywards Heath, showed Cœlogyne pandurata, the vivid orange-coloured L.-c. Elinor, Angræcum sesquipedale, and a fine spike of Odontoglossum Ossulstoni. A bold group of orchids was set up by Messrs. Jas. Veitch and Sons, Chelsea, who contributed Cattleya Schroderæ, Brasso-cattleya Elatior, the beautiful Cymbidium insigne Sanderi, C. Lowianum, and odontoglossums in variety. Mr. Day, gardener to H. S. Goodson, Esq., Fairlawn, Putney, showed the dark Odontioda Ernest Henry (F.C.C.), in a group of odontoglossums, cattleyas, and other choice orchids.

Messrs. J. and A. McBean, Cooksbridge, showed odontoglossums superbly, with some cattleyas. Mr. A. W. Jensen, Haywards Heath, showed Cattleya Schroderæ Irene (F.C.C.), and a few other pretty varieties of this species. From Messrs. Sander and Sons, St. Albans, came Odontoglossum Dreadnought (A.M.), several Brasso-cattleyas, odontoglossums, and Cattleya Schroderæ. Mr H. J. Chapman, gardener to N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne, brought up Odontoglossum percultum Cookson's var., very deeply coloured (F.C.C.), O. crispum Angela, finely marked (A.M.), and O. Harryanum-crispum album. Some charming dendrobiums, chiefly yellowish hybrids, were submitted by Mr. R. G. Thwaites, Christchurch Road, Streatham. Mr. M. Mertens, Mont St. Amand, Ghent, brought over a small group of beautiful unnamed odontoglossums. From the Westonbirt collection, Mr. H. Alexander, orchid grower to Lieut.-Colonel Holford, brought Cattleya Schroderæ The Baron (F.C.C.), C. Ro[illegible] Wavrin, and Odontoglossum Sylvia Westonbirt var. (A.M.).

Mr. W. Thompson, Walton Grange, Stone, and Mr. De Barri Crawshay, Sevenoaks, showed odontoglossums, the latter bringing up the renowned O. triumphans L[illegible] Crawshay. Messrs. J. Cypher and Son, [illegible]tenham, exhibited a charming little group of dendrobiums.

DAFFODIL COMMITTEE.

Messrs. Barr and Sons, Covent Garden, set up a collection of early daffodils, setting up the flowers lightly over small [illegible]. A few of the more notable varieties [illegible] J. B. M. Camm, Henry Irving, Mdme. [illegible] Graaff, King Alfred, Lucifer, Mrs. B[illegible]ridge, Sunrise—very pretty, Chas. H. C[illegible] Sabrina, Albatross, Ard Righ, and F

Queen. Mr. R. Sydenham, Birmingham, showed daffodils, tulips, and lily of the valley, grown in undrained pans and pots in moss fibre. An interesting display of bulbous flowers was contributed by Messrs. R. H. Bath, Lim., Wisbech, who showed a large number of tulips in fancy bowls in moss fibre, and associated with these a few daffodils, and a large number of vases of Chionodoxa Luciliæ.

Mr. Frank Lilley, Guernsey, showed a bright group of daffodils, set up in vases and bamboo stands; popular trumpet and incomparabilis varieties were grouped with tazetta varieties, and vases of St. Brigid anemones, scillas, chionodoxas, and tulips. Messrs. Jas. Carter and Co., Holborn, displayed daffodils and tulips in a novel and interesting way; the great feature of the group was the central mound or slope filled with scores of fine flowers of the bold King Alfred daffodil. Around this the tulips were grouped, and the whole effective and imposing exhibit was greatly admired. Some delightful daffodils were displayed prettily by Messrs. Cartwright and Goodwin, Kidderminster, whose choice collection included King Alfred, Mdme. de Graaf, Orangeman, Brigadier, Beacon, Outpost, Armorel, Castile, Evangeline, Mariette, Duke of Bedford, and Crown Prince.

Mr. Charles Dawson, Rosemorran, Gulval, Cornwall, contributed several dozen beautiful new daffodils, including such lovely things as Homespun, Cicero, Waxwing, Binda, Pilgrim, Punch, Diogenes, and Macebearer. Miss F. W. Currey, Lismore, Ireland, showed Daffodils Sir Watkin, King Alfred, Mrs. Elwes, Sunrise, Sirius, Empress, Artemis, and other good varieties.

FRUIT COMMITTEE.

A dozen dishes of excellent apples came from Mr. F. Harvey, gardener to Lord Monson, Burton Hall, Lincoln, the varieties being Newton Wonder, Alfriston, Bramley's Seedling, Lane's Prince Albert, Cox's Orange Pippin, Allington Pippin, Blenheim Pippin, The Queen, Beauty of Kent, and King of the Pippins. Splendid stems of Dawes' Challenge rhubarb (A.M.), a grand variety, very free and of rich colour, were exhibited by Mr. T. E. Dawes, Syderstone, Norfolk, the raiser.

Boxes of excellent Black Crepe and Golden Queen lettuces, and Early Gem, French Breakfast, and Early Forcing Turnip radishes came from Messrs. James Veitch and Sons, Chelsea: all these were grown under the French system. Oranges were again finely shown by Messrs. T. Rivers and Son, Sawbridgeworth, the firm showing some large branches, trained like peaches on wires, to show how these may be grown under glass. St. Michaels orange was grandly shown among numerous other excellent varieties.

A splendid lot of frame-grown lettuces was exhibited by Messrs. Sutton and Sons, showing the value of certain varieties for early salading. The varieties were Golden Ball, Tom Thumb, French Tom Thumb, Early Paris, Commodore Nutt, and Fringed, all cabbage varieties; and Little Gem and Sutton's Nonsuch Cos lettuces, all very fresh and appetising. Mr. E. Beckett, V.M.H., gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree, won first prize for six kinds of salading, with fine samples of Sutton's Christmas Salad Chicory, Curled Cress, and White Mustard, Sutton's Forcing Lettuce, and Golden Ball French Breakfast radish, Peerless cucumbers, and spring onions.

CERTIFICATES AND AWARDS.

First-class Certificate.—To Cattleya Schroderæ The Baron, from Lieut.-Colonel Holford, Westonbirt.

Odontoglossum percultum Cookson's var., from N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne.

Odontioda Ernest Henry, from H. S. Goodson, Esq., Putney.

Odontoglossum Sylvia Westonbirt var., from Lieut.-Colonel Holford.

Award of Merit.—To Odontoglossum Dreadnought, from Messrs. Sander and Sons, St. Albans.

Cattleya Schroderæ Irene, from Mr. A. W. Jensen, Haywards Heath.

Odontoglossum crispum Angela, from N. C. Cookson, Esq.

Lælio-cattleya Frederick Boyle var. Kerchovæ, from Sir Trevor Lawrence, Bart., Dorking.

Cattleya Schroderæ var. Alexander James, from Mr. W. James.

Hippeastrum Magnificent, from Messrs. R. P. Ker and Son, Liverpool.

Hippeastrum Marcus, from Messrs. J. Veitch and Sons, Chelsea.

Saxifraga apiculata alba, from the Guildford Hardy Plant Company, Guildford.

Rhubarb Dawes' Challenge, from Mr. T. E. Dawes, Syderstone, Norfolk.

MEDALS.

Gold.—Messrs. Armstrong and Brown, Tunbridge Wells, for orchids.

Silver-gilt Flora.—Messrs. R. and G. Cuthbert, Southgate, for forced shrubs; Messrs. James Veitch and Sons, Chelsea, for flowering plants.

Silver-gilt Banksian.—Messrs. William Cutbush and Son, Highgate, for forced shrubs and carnations.

Silver-gilt Knightian.—Messrs. T. Rivers and Son, Sawbridgeworth, for oranges.

Silver Flora.—Mr. H. Burnett, Guernsey, for carnations; Messrs. H. Low and Co., Enfield, for acacias and carnations; Messrs. H. B. May and Sons, Edmonton, for ferns, etc.; Mr. W. H. Page, Hampton, for carnations and lilies; Mr. G. Prince, Longworth, for roses; Messrs. R. W. Wallace and Co., Colchester, for alpines; Messrs. Charlesworth and Co., Haywards Heath, for orchids; Messrs. J. and A. McBean, Cooksbridge, for orchids; Messrs. J. Veitch and Sons, Chelsea, for orchids; Messrs. Cartwright and Goodwin, Kidderminster, for daffodils.

Silver Banksian.—Mr. M. Mertens, Ghent, for orchids; Mr. A. W. Jensen, Haywards Heath, for orchids; Messrs. Hugh Low and Co., Enfield, for orchids; Major Lister, for amaryllis; Messrs. H. Cannell and Sons, Swanley, for begonias; Misses Hopkins, Shepperton, for alpines; Messrs. G. Jackman and Son, Woking, for alpines; Messrs. J. Peed and Son, West Norwood, for caladiums and alpines; Mr. E. J. Johnstone, Burr Woods, for carnations; Mr. G. Reuthe, Keston, for alpines and shrubs; Mr. L. R. Russell, Richmond, for forc'd shrubs; Messrs. Sutton and Sons, Reading, for cinerarias, and for lettuces; Miss Alexander, for violets; Messrs. T. S. Ware, Lim., Feltham, for alpines; Messrs. Barr and Sons, Covent Garden, for daffodils; Mr. Charles Dawson, Penzance, for daffodils.

Bronze Flora.—Messrs. Bakers, Codsall, for alpines.

Bronze Banksian.—Mrs. Bischoffsheim, Stanmore, for lachenalias.

Bournemouth, MARCH 30 and 31.

On the above dates a most successful exhibition of spring-flowering plants and cut blooms was held in the spacious pavilion at the winter gardens. The building lends itself to the artistic arrangements of plants in groups and flowers of all kinds, admirably. This was the second spring show held by the Bournemouth Horticultural Society, but last autumn saw the twenty-second annual chrysanthemum show. The committee hope to hold spring shows every year in future, in addition to the autumn exhibition.

The entries were on this occasion more numerous than last year, and the quality of the exhibits superb. Six charming groups of miscellaneous plants were arranged. Messrs. G. Watts and Sons, of Bournemouth, were the winners with a very pretty group, in which cinerarias and hydrangeas were notable plants. Second honours were won by Mr. T. K. Ingram, nurseryman, Parkstone, Dorset, the azaleas, wistarias, and genistas in this group were most attractive. Mr. Slark, gardener to G. T. Fenwick, Esq., J.P., who was placed third, also had a lovely group.

Dinner-table decorations were tastefully arranged. Narcissus blooms only were used, but any kind of foliage allowed. Mr. C. S. Wadey, Broadstone, Dorset, won premier honours; Mr. Usher, gardener to Sir Randolph Baker, Bart., gained second place, and Mr. W. Shave, gardener to Lady de Tabley the third, all the arrangements were light and graceful. Azaleas made a fine display. Mr. T. K. Ingram, nurseryman, Parkstone, was first prizeman in the classes for six plants of A. mollis and A. indica, with specimens loaded with blossom.

For twelve pots of narcissi, Mr. Usher was first, and Messrs. Ingram and G. Watts and Sons were second and third. Messrs. Watts and Sons had the best six pots of Polyanthus narcissus, Mr. Ingram being second. For twelve pans of tulips Messrs. Watts were first, and Mr. Ingram second. The plants were grand ones. The class for eighteen varieties of narcissi was magnificently filled. Mr. Usher was placed first, Mdme. de Graaff, Golden Spur, and Sir Watkin being staged in grand form. Messrs. Watts and Sons secured second position, and Glory of Leiden, Victoria, and Maximus were their most prominent vases of blooms. Mr. Ingram was awarded third prize. Mr. Usher again scored in class eleven for five blooms of large trumpets, Mr. Wadey being second. Mr. Wadey was successful in the class for five blooms of medium trumpet daffodils. Messrs. G. Watts and Sons, Messrs. Thurston and Prichard, and Mr. Wadey were the prizewinners for shower bouquets in the above order. For a circular table of floral decorations, Mrs. W. Shave was placed second, but she had the best display.

Mr. Usher had the best collection of twenty-five distinct varieties of daffodils—they were well staged—Golden Spur, Glory of Leiden, and Mdme. de Graaff being very fine. Mr. R. F. Northway, Broadstone, Dorset, was second; his blooms were much smaller, and were lacking in length of stem. Mr. C. Barrett, gardener to Mr. E. Howard May, J.P., Colonel Churchill, Mrs. Ormond, Mr. Sprackling, and Mr. Heath were also prominent prizewinners.

Some charming trade exhibits were staged. Mr. Chamberlain, treasurer of the society, had floral designs; Messrs. Cypher and Sons, Cheltenham, orchids in grand form; Mr. Maurice Prichard, Riverslea Nursery, Christchurch, rockery complete with lovely plants; Messrs. Sutton and Sons, Reading, a grand group of cinerarias; and Mr. Hayward Mathias, tree carnations. Gold medals were awarded to each of the above-named firms, and silver medals to Mr. G. H. Rolls, J.P., chairman of the committee, for orchids; Messrs. Heath and Sons, Cheltenham, for alpines and tree carnations; Mr. E. Gill, Falmouth, cut rhododendron blooms; Miss Jessie Kent, floral designs; and Messrs. Barr and Sons, Surbiton, alpines, narcissi, and tulips.

Fig Brown Ischia.—I do not think this fig is grown as much as its merits deserve. The fruit is handsome, and the flesh is purple, sweet, and highly-flavoured. If, however, the tree has too much moisture, the fruit is apt to split. Therefore, it is better suited for indoor culture than for positions outside, except it can be protected by coping of some sort at a time when the fruit is approaching the ripening stage. The tree is an excellent bearer, and the fruit has a light brown or chestnut-coloured skin.—E.

Scutellaria Ventananti.—The Mexican Scutellaria Mociniana is deservedly very popular for the embellishment of the greenhouse during the summer months, but S. Ventenanti, though introduced from Colombia about sixty years ago, is but little known. It is a soft-growing, freely-branched plant, in general appearance somewhat suggesting a salvia. The flowers, borne in erect racemes about six inches long, are tubular, and individually small, but borne in great profusion. The colour is a deep, bright scarlet. It is of easy culture, and certainly merits more extended cultivation.—W. T.

NARCISSUS CULTIVATION.

In a very interesting article on "Narcissus Cultivation," by Mr. James Waugh, published in the "Journal of the Board of Agriculture," the writer, previous to dealing with the cost of varieties and production and sale of blubs and flowers, points out that:—

Until ten or twelve years ago the Dutch had almost a monopoly of the bulb trade of this country, but recently bulb cultivation has been successfully undertaken in various parts of the British Isles, and the new industry thus created has brought prosperity to several districts.

Districts where Bulbs are Grown.

In the Channel Islands bulb culture is one of the chief industries, and during the spring months tons of bloom are daily despatched to London and other large centres, to be followed in summer by the further despatch of tons of bulbs. In the South Lincoln and Cambridgeshire Fens many acres of bulbs are now grown, several of the larger growers having from twenty to fifty acres under cultivation. An ideal bulb soil is found here, which, with good culture, will produce bulbs equal to those grown in Holland, and, in addition to supplying a home demand, a considerable export trade is now being conducted from this centre.

In the South of England narcissus cultivation has been receiving the attention of enthusiasts for many years, and from this source many of the newer and more expensive introductions of recent years have been sent. In the Midland Counties several nurserymen and amateur specialists are successful cultivators, and this year bulb-growing is being tried on commercial lines at Portmadoc, in North Wales. In Ireland also narcissi are now successfully and extensively grown in localities so far apart as County Down in the north, Cork in the south, Dublin in the east, and Sligo in the west.

From this it will be gathered that, given suitable soil and cultural knowledge, narcissi can be grown successfully in almost any part of the British Isles. Their culture may be undertaken by those occupying small holdings and allotments, and in conjunction with other crops they may be grown with every prospect of yielding the grower a profitable return on his capital. The present article is intended to give such holders an indication of the elementary principles of bulb culture, dealing first with the growth of bulbs for sale as bulbs, and secondly as blooms.

Growing Bulbs for Sale.

The soil best suited for narcissus cultivation is a deep, friable loam. Stagnant moisture is detrimental to the plants, and where such a condition exists it must be remedied by draining and raising the beds above the level of the paths. All the varieties recommended below will flourish in loam, and some few will succeed in somewhat stiffer soil.

Land from which an early crop of potatoes has been lifted furnishes a very suitable soil for narcissi. When preparing it for the potato crop, the land ought to receive a heavy dressing of farmyard manure, from fifty to sixty tons per acre, according to the condition of the soil. As soon as the potatoes are cleared off, at the end of July or beginning of August, the land should be deeply ploughed or dug so that the enriched top spit is placed in a position to allow the roots of the narcissi to penetrate freely. If it is infested by weeds such as twitch, bindweed, thistles, docks, etc., these ought to be removed as the work proceeds, as it is impossible to eradicate such pests once the bulbs are planted; a determined effort must therefore be made to remove them before the bulbs are put in the soil. If the work has been done by the plough, the ground should be broken up by harrowing and rolling; but if dug by the spade it should be broken up as digging proceeds. This accomplished, and a good tilth obtained, the land is then ready for planting. The soil should be uniformly level, as hollows in which water stands injuriously affect the bulbs.

Fresh farmyard manure must never be used in connection with narcissus cultivation; its ammoniacal constituents have an injurious effect upon the plants, and this is the chief reason for recommending that they should follow such a crop as potatoes, where the rankness of a heavy manuring has already expended itself. Some may think sixty tons of farmyard manure per acre an unnecessarily large amount, but unless the ground is in good condition this is no excessive quantity. Good bulbs, like most other crops, cannot be grown on poor land. If it becomes necessary to plant on land which has not recently been well manured, bone-meal is probably the best artificial manure to use at time of planting. This should be applied at the rate of ten to fifteen cwt. per acre, and can either be harrowed and raked in before planting commences, or worked in as planting proceeds.

Planting.

As a general rule, the shorter the period the bulbs are out of the ground the better. In some cases, such as the Poeticus section, new roots are formed simultaneously with the drying of the old, and a decided injury is done by keeping such varieties out of the ground for a lengthened period. Nevertheless, narcissi, with few exceptions, may be planted as late as Christmas, and still give fair results; but the best time for general planting is during August and September, and all planting should certainly be finished during October. The ground should be dry and friable at the time of planting, which should be done at a depth of two to four inches—the larger bulbs at the greater depth and the smaller ones proportionately shallower.

Various methods of planting are adopted, and the amount of space to be planted will influence the method decided upon. Many large growers use a one-horse plough, to which is fixed a special share that works in the bottom of the furrow and makes the necessary impression for the reception of the bulbs; and on large establishments the work is expeditiously performed in this way. From twenty-four to thirty planters are necessary to keep the plough constantly at work, and an acre a day may be planted. The cost would be: Man and horse per day, 8s.; thirty planters at 2s., £3; man in charge, 4s.; total, £3 12s. per acre.

The above method is suitable where any one variety of bulb is being planted in large quantities. The work proceeds in the ordinary way of ploughing, one furrow covering the already planted bulbs in the furrow previously made. The furrows are about nine or ten inches wide, and every seventh furrow is left unplanted, and this forms a path, which is necessary for getting among the bulbs when bloom-gathering, cleaning, etc.

Where smaller areas are being planted, a different method must be adopted. First divide the land into suitable divisions, say, fifty feet wide, with eighteen-inch paths between. Then stretch a line across the end of the first division, and with a spade throw out a shallow opening in which to plant the first row of bulbs. This done, shift the line the width of the rows, say, nine inches; then proceed to open the second furrow, covering the first and already planted row with the soil from the second. Proceed thus with succeeding rows, again leaving every seventh unplanted to form a path. By this method one man with a spade will keep two planters busy, and the cost will be about £6 per acre.

Another method for the small grower, after he has marked his land into fifty-foot divisions with eighteen-inch paths, is to mark each division across with beds 3 feet 6 inches wide, and with paths 12 inches wide. The soil from the first bed is taken out to a depth of 3 inches and wheeled to the far end of the division; this first bed is then carefully raked, and marked across in rows 6 inches apart. The bulbs are then planted, and this bed is covered with soil taken from the second bed, and so the work proceeds to the end of the division. This [illegible] although a little more expensive [illegible] preceding, has advantages, especially [illegible] handling a considerable number of varieties in small quantities, as the danger of mixing sorts is less likely to arise.

The quantity of bulbs necessary to [illegible] given area will vary considerably, [illegible] ing to the size of bulb produced by the particular variety. From five to six tons may be taken as an average weight to plant an acre.

(To be continued.)

OBITUARY.

◆

MR. BEN SIMONITE.

With much regret we record the death of Mr. Ben Simonite, which occurred at his residence, Sheffield, a few days since. Mr. Simonite, who was in his 76th year, was one of the keenest of florists, and most [illegible] of men, and devoted his spare time chiefly to show auriculas, and both as a grower and a raiser he achieved considerable distinction. Mr. Simonite was long a familiar [illegible] the various exhibitions held in the [illegible] and midland counties, for he was so [illegible] esteemed by those who were keenly [illegible] ested in florists' flowers that if he was not an exhibitor his services were in request as a judge.

MR. C. JEFFRIES.

We regret to have to record the sudden death of Mr. Charles Jeffries, of Brentford, on Tuesday, April 6. Mr. Jeffries was for many years gardener to Colonel Cli[illegible] at Boston House, Brentford, and was [illegible] known and respected in the old M[illegible] county town. He was for several [illegible] member of the Royal Horticultural [illegible] Floral Committee, and he interested [illegible] in the work of the Gardeners' Orphan [illegible] He retired from the charge of the [illegible] House gardens on the death of Col[illegible] Clitheroe, and had latterly acted as adviser and superintendent of several gardens in the district. Mr. Jeffries was twice married, and he leaves a widow and little son to mourn their loss.

MR. W. BURTON.

Mr. Burton, who recently died at [illegible] vanced age, at Highgate, was at [illegible] very well known in horticultural circles [illegible] ticularly during the period when [illegible] manager of Messrs. B. S. Williams and [illegible] Paradise Nurseries. In recent years [illegible] acted as traveller for several firms, and latterly for Mr. L. R. Russell, of Richmond.

FORTHCOMING ENGAGEMENTS.

MONDAY, April 12.—Easter Monday.

SATURDAY, April 17.—Seascale Spring Show.

TUESDAY, April 20.—Royal Horticultural Society Orchid, Narcissus Committee, at 11.30 a.m.; [illegible] Floral, and Fruit Committees, at 12 [illegible] ture at 3 p.m. on "Pansies," by Mr. [illegible] D.Sc.; Scientific Committee, at 4 o'clock. Devon Daffodil Show, at Plymouth; two d[illegible] Shropshire Horticultural Society's Spring Show. National Auricula and Primula Show, at [illegible] Horticultural Hall.

CATALOGUES RECEIVED.

G. REUTHE, FOX HILL NURSERY, KESTON.—An illustrated and interesting catalogue of [illegible] and especially choice hardy plants suitable [illegible] gardens, bulb borders, water [illegible] etc.

BARR AND SONS, KING STREET, [illegible] DEN.—This new catalogue [illegible] bedding plants, alpines, aquatics, climbers, bedding plants, it [illegible] well arranged, and, besides descriptions, it [illegible] many suggestions for planting, and cultural [illegible] that will be of service to amateurs.

HERBERT'S PARK POTTERY CO., DARLASTON, STAFFS.—A useful catalogue of flower pots, seakale and rhubarb pots, seed pans, ornamental garden pottery in great variety, and window boxes.

DESTRUCTION OF VERMIN.—[illegible] are pestered with Rats and M[illegible] should be made to exterminate [illegible] are sown. Danysz Virus is first rate stuff for [illegible] these vermin. Single tube, 2s.; three tubes, [illegible] free from DANYSZ VIRUS, LTD., 52, Lea[illegible] Street, Garden Dept. London, E.C.—[Advt.]

ANSWERS TO CORRESPONDENTS.

PRIMULA FORBESI.—C. H. E., Leamington: This delightful primula is almost hardy, but for greenhouse and conservatory decoration it may be conveniently treated as an annual. Seeds should be sown in September, and the seedlings grown cool, in a mixture of loam, leaf-mould, sand, and a very little rotten cow manure. Some growers place the plants singly in small pots; others grow several plants together in pans. Both methods are suitable.

PLANTING OUT SWEET PEAS.—G. W. B., Effingham: So much depends upon the position to be filled, and the condition of the soil. At the time of writing the wind is dead east, and blowing strongly, and the sun is shining brightly. These conditions are so drying, and altogether so unkind for newly-planted subjects of any kind, that we advise waiting a week or two, if necessary, for more favourable ones. If the pots are very full of roots, give a little very weak liquid manure twice a week to keep the plants growing steadily.

PRUNING TRANSPLANTED PEAR TREE.—J. T. E., Montgomery: It is unfortunate that the new division and its wall compelled you to transplant the pear tree at so late a date. The case would have been quite different had the tree been a young one. However, now that it has been transplanted, you must do the best you can. If the tree was not severely pruned during the winter, the knife may be used rather freely at once, thus reducing the area of evaporating surface. Three wires, guyed to stout posts, and carefully fastened round the central stem at about two-thirds its height, will serve to keep the tree steady. Make a basin-like depression around the stem, because water will be needed throughout the season; in a month's time a mulching of short manure over the root area will further help in keeping the roots moist. When the tree is in leaf, and the nights are warm, give a hosing or syringing late in the afternoon. By these means the tree may be preserved, and in a couple of seasons it will be as good as ever, and possibly be even more fruitful.

MEDINILLA MAGNIFICA. — P. P., March: This handsome plant may be propagated by means of cuttings of the young growth. These, about three inches long, should be soon available, and they root best when removed from the parent plant with a little ball of old wood attached. Insert them singly, in small 60-sized pots, in a sandy compost, and plunge the pots in a propagating case, where the bottom heat is brisk. A fair amount of root room, plenty of heat and moisture, and weak liquid manure when the pots are well filled with roots, are the chief points to remember in the culture of Medinilla magnifica.

GARDENERS' ORPHAN FUND. — E. G. H., Godmanchester: You are labouring under a grave misapprehension as to the method followed by the committee of the Gardeners' Orphan Fund in respect of the children that come under its care. The following extract from the rules will show you are quite wrong: "The allowances shall consist of any sum not exceeding five shillings per week, to children under the age of fourteen years, who, within the knowledge of the Executive Committee, may be placed with relatives or other responsible persons acting as guardians. Allowances shall be paid quarterly, in advance, except when the committee may consider it desirable to make other arrangements. No child shall receive annual support after having attained the age of fourteen years; but the committee may, at their discretion, in exceptional circumstances, continue the usual allowance for a further period not exceeding two years. Further, the Executive Committee, at their discretion, shall have power to grant a sum, not exceeding £10, towards apprenticing or otherwise promoting the start in life of any orphan on whose behalf application shall have been made to the committee. The committee shall also have power to grant, on application, a sum not exceeding £10 to any orphan who may have ceased to be chargeable to the fund, and who shall have given evidence of his or her satisfactory conduct during the subsequent twelve months. The Executive Committee shall have power to suspend allowances where the circumstances of candidates have been misrepresented, or have since altered so as to render further assistance unnecessary." You can obtain a copy of the rules on application to the secretary, Mr. Brian Wynne, Milton House, 35, Surrey Street, Strand, W.C.

HARDY FLOWERS FOR CUTTING. — F. G. H., Epsom: We have not included bulbous plants, but these are, of course, very useful in spring time for providing flowers for cutting. The annuals and biennials of exceptional value for the supply of cut flowers comprise aquilegias, the Californian and cærulea hybrids being especially useful. Asters in variety, the best types being the Comet, chrysanthemum-flowered, and Victoria, and the best colours crimson, pink, purple, and white. Chrysanthemums, annual, in variety, Coreopsis atrosanguinea, and C. hybrida floribunda, Canterbury Bells in variety, Helianthus cucumerifolius Stella, and the miniature sunflower, Centaurea minor, or cornflower in variety, larkspurs in variety, Blue Butterfly being one of the best, lupins, mignonette, stocks Ten Week, and sweet peas in variety. The latter should be grown in separate colours, and the most useful colours are blue, crimson, pink, rose, salmon, scarlet, and white. To ensure a continuous supply of flowers, nip off the seed pods immediately they begin to form, salpiglossis, sweet sul-

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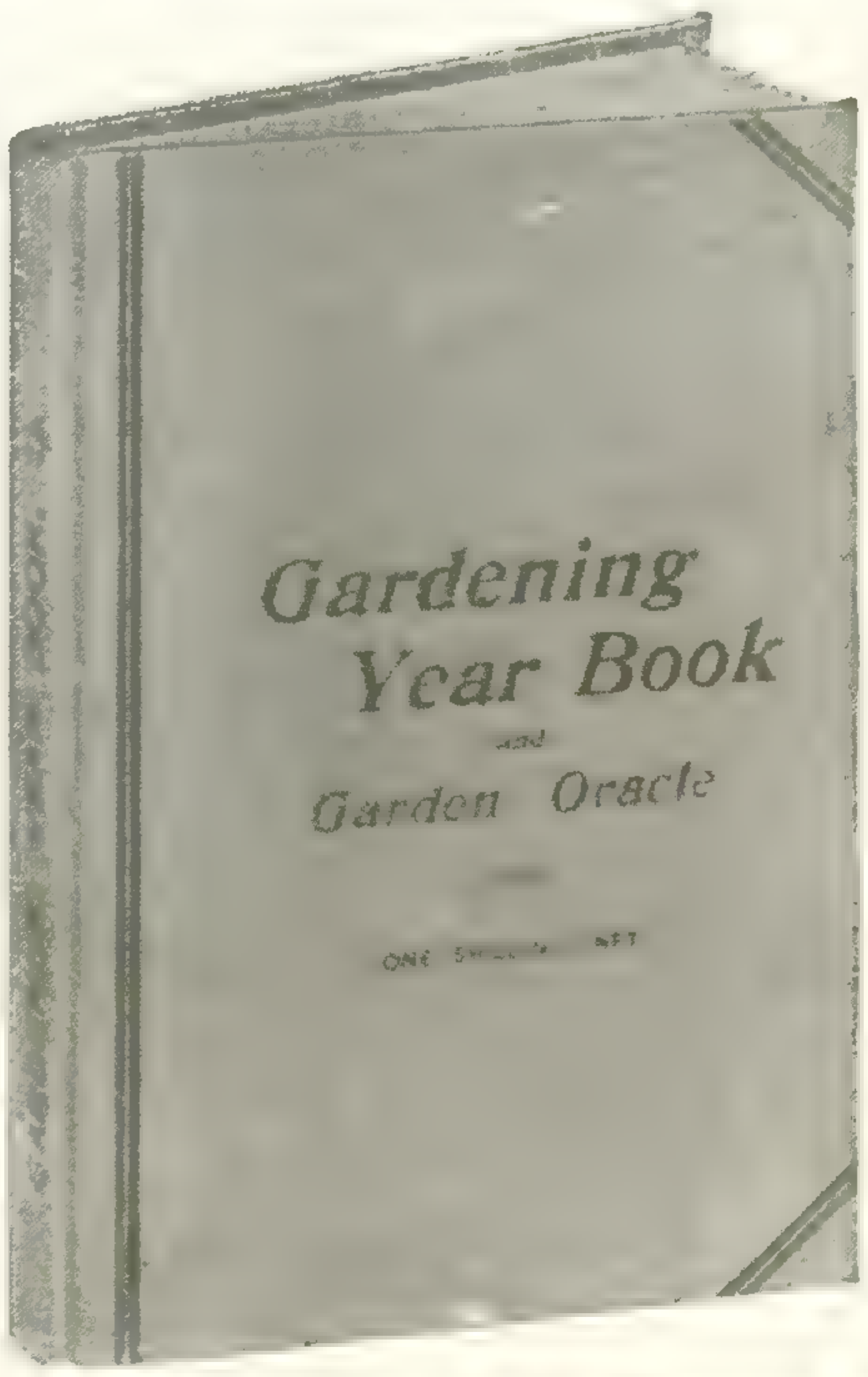

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* * *

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The Horticultural and Botanical Societies, with the Names and Addresses of the Secretaries, &c.
The Public Parks and Gardens of the United Kingdom, Area, Superintendent, &c.

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tan, and Shirley poppies. From the hardy perennials may be selected Achillea millefolium roseum, A. Ptarmica The Pearl, and A. serrata fl.-pl.; Anemone japonica in variety; asters or Michaelmas daisies in variety, those with white, bright blue, and rose-coloured flowers being the most useful; campanulas in variety, the erect-growing forms, such as C. persicifolia and C. pyramidalis being the most useful; carnations in great variety; Centaurea montana in variety; Chrysanthemum maximum in variety; doronicums, Harper Crew being the best; francoas, Gypsophila paniculata, heleniums, Helianthus Golden Bouquet, H. multiflorus plenus, H. rigidus semi-plenus, H. Soleil d'Or; heuchera, iris in variety, the English, German, and Spanish being particularly useful. Perennial peas, the white form being especially desirable. Lupinus arboreus Snow Queen, Lychnis vespertina, montbretias; pyrethrums, single and double; pinks in variety, Iceland and Oriental Poppies, Rudbeckia Golden Glow, and R. speciosa; spiræas in variety; trollius in variety. For bold decorations the herbaceous pæonies are simply invaluable, and they provide a good range of colouring. These are among the best and hardiest of free-flowering plants, and you cannot do wrong in planting them freely.

CHOICE HARDY FLOWERS.—L. L. E., Amersham: You will find just the sort of information you require in the issue of the "Gardening Year Book" for 1909, where the various kinds of hardy flowers of greatest value for borders are described, and the several most suitable species and varieties enumerated, as well as cultural advice given. The book can be obtained from the GARDENERS' MAGAZINE office, 148, 149, Aldersgate Street, E.C., 1s. 2d. post free.

POTATO TO NAME.—J. G., King's Lynn: It is practically impossible to name a potato from a single tuber, unless it be one of the very distinct coloured varieties. The specimen sent looks like a good example of Satisfaction, but this is merely an opinion, and must not be regarded as a correct title.

NAMES OF PLANTS.

F. W., Carnarvon.—Next week.

M. E. L., Derby.—Odontoglossum Adrianæ.

W. W. W., Tamworth.—1, Asplenium lucidum; 2, Lomaria magellanica.

S. O., Southampton.—1, Forsythia suspensa; 2, Cornus Mas; 3, Ribes sanguinea.

W. I., Bolton.—1, Spiræa Van Houttei; 2, S. prunifolia fl.-pl.; 3, the old Sparmannia africana.

G. T. H., Ipswich.—1, Acacia Riceana; 2, A. dealbata; 3, Franciscea calycina; 4, Strelitzia regina.

A. R. R., St. Ives: 1, Crocus Sieberi; 2, Cypripedium longifolium; 3, Cœlogyne cristata; 4, Leucadendron argenteum; 5, Rhododendron dauricum.

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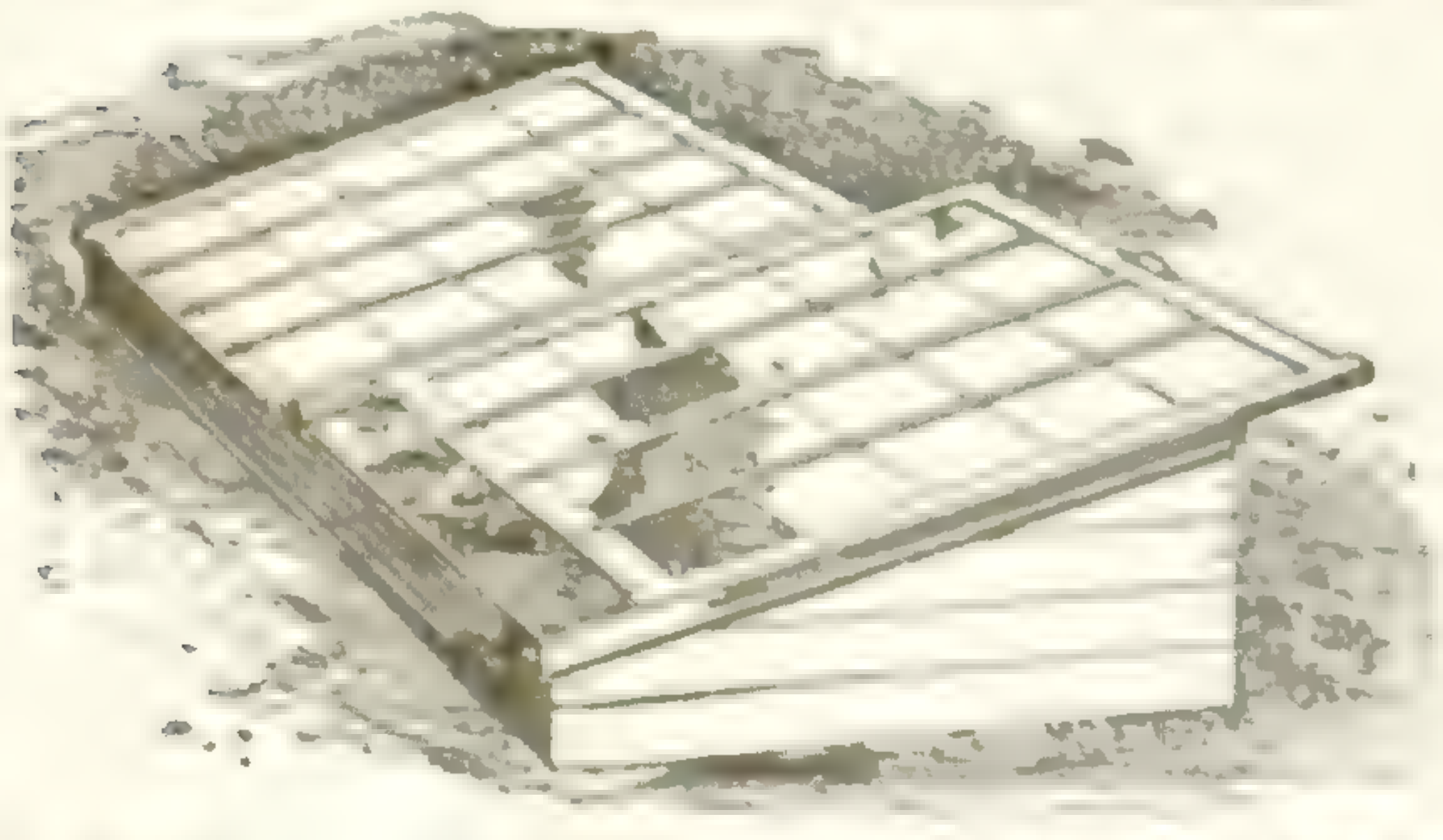

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,,	per doz. bun.	9 0		12 0
Cattleyas	per doz.	10 0		15 0
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Daffodils	per doz. bun.	3 0		7 0
Dendrobiums	per doz.	2 0		3 6
Eucharis	per doz.	2 6		3 6
French fern	per doz. bun.	1 0		3 0
Freesias	per doz. bun.	2 6		3 6
Gardenias	per doz.	3 0		5 0
Lilac, white	per bun.	3 0		5 0
,, mauve	per bun.	4 0		5 0
Lilium auratum	per bun.	2 0		3 0
,, speciosum	per bun.	2 0		3 6
,, longiflorum	per bun.	4 0		5 0
Lily of the Valley	per doz.	7 0		14 0
Marguerites, white	per doz. bun.	2 0		4 0
,, yellow	per doz. bun.	2 0		3 0
Mignonette	per doz. bun.	2 0		4 0
Narcissi	per doz. bun.	1 6		2 6
Odontoglossums	per doz. blms.	2 0		3 0
Pelargoniums	per doz. bun.	5 0		9 0
Roses	per doz.	2 0		9 0
Snowdrops	per doz. bun.	1 0		2 0
Spiræas	per doz. bun.	5 0		7 6
Stocks	per doz. bun.	2 6		4 0
Tulips	per doz. bun.	5 0		20 0
Tuberoses	per doz. blms.	0 3		0 6
Violets	per doz. bun.	1 6		3 0
,, Parma	per bun.	3 0		4 6

Fruits.

The selection of fruits is small just now, but there is a good demand for bananas, oranges, and apples.

		s. d.		s. d.
Apples, American	per barrel	15 0	to	28 0
,, English	per bush.	7 0		10 0
,, Nova Scotian	per barrel	17 0		28 0
,, Californian	per case	8 0		10 6
,, French Russets	per case	9 0		10 6
Apricots, Cape	per case	6 0		8 0
Bananas	per bun.	4 0		10 6
Chestnuts	per bag	7 0		16 0
Cranberries	per case	8 0		12 0
Figs	per box	0 10		1 6
Grapes, English	per lb.	1 0		4 0
,, Almeria	per bar.	12 6		23 0
,, Guernsey	per lb.	0 10		1 2
,, Cape	per case	5 0		6 0
Lemons	per case	8 0		20 0
Medlars	per case	4 0		5 6
Oranges, Jamaica	per case	6 0		10 0
,, Denia	per case	10 0		27 6
,, Jaffa	per case	8 0		10 6
,, California	per case	12 0		14 0
Peaches, Cape	per case	6 0		10 0
Pears, Californian	per case	8 0		12 0
,, Cape	per box	3 0		7 0
,, Catillac	per crate	8 0		10 0
Pineapples	each	2 0		6 0
Plums, Cape	per case	5 0		10 0
Strawberries	per lb.	6 0		12 6

Vegetables.

Supplies are rather limited, but business is brisk and prices firm.

		s. d.		s. d.
Artichokes, Globe	per doz.	2 6	to	4 0
,, Jerusalem	per bush.	1 9		2 6
Asparagus	per bundle	3 6		7 0
,, Sprue	per bun.	0 8		1 0
Beet	per bush.	1 0		2 0
Beans (French)	per lb.	1 6		2 6
Broccoli, Sprouting	per bag	4 0		4 6
Brussels Sprouts	per ½-bush.	2 0		4 0
Cabbage	per tally	4 0		8 0
Carrots	per doz. bun.	1 0		3 6
Cauliflowers, Cornish	per crate	6 0		10 0
,, Italian	per basket	3 0		4 0
Celery	per doz. [illegible]	7 6		12 0
[illegible]	per doz.	1 6		3 6
[illegible]	per lb.	0 4		0 6
[illegible]	per doz.	3 0		7 0
[illegible]	per doz.	1 6		2 0
[illegible]	per doz. bun.	8 0		12 0
[illegible]	per bush.	3 0		4 0
Leeks	per doz. bun.	1 0		2 0
Lettuce, French	per crate	3 0		4 6
Mint	per doz. bun.	3 0		6 0
Mushrooms	per doz. lb.	7 0		12 0
Onions, Pickling	per bush.	3 6		4 6
,, Valencia	per case	10 0		12 0
Parsley	per doz. bun.	3 0		7 6
Parsnips	per bag	2 0		3 0
Radishes	per doz. bun.	1 3		2 6
Rhubarb	per doz. bun.	0 9		1 0
Savoys	per tally	7 0		10 6
Seakale	per doz. pun.	10 0		15 0
Spinach	per basket	2 6		3 6
Tomatoes	per doz. lbs.	4 0		6 0
,, Canary	per pack.	10 0		15 0
Turnips	per bag	3 0		4 0

METEOROLOGICAL OBSERVATIONS.

TAKEN BY THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1909. MARCH 28 TO APRIL 3.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.
	hr. m.	deg.	deg.
Mar. 28—Sunday	—	45	44
,, 29—Monday	1 36	53	49
,, 30—Tuesday ..	0 6	48	47
,, 31—Wednesday.	1 30	46	44
April 1—Thursday ...	0 54	42	41
,, 2—Friday	6 18	38	36
,, 3—Saturday ...	7 6	40	[illegible]
Means	(total) 17 30	45	42

DATE. 1909. MARCH 28 TO APRIL 3.	RAIN.	TEMPERATURE OF THE SOIL. AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.
	ins.	deg.	deg.	deg.
Mar. 28—Sunday	0·16	43	43	[illegible]
,, 29—Monday	0·23	45	44	[illegible]
,, 30—Tuesday ...	0·24	46	45	[illegible]
,, 31—Wednesday.	0·01	[illegible]	45	[illegible]
April 1—Thursday ...	—	45	45	[illegible]
,, 2—Friday	—	42	44	[illegible]
,, 3—Saturday ...	—	41	44	[illegible]
Means ...	(total) 0·64	44	44	43

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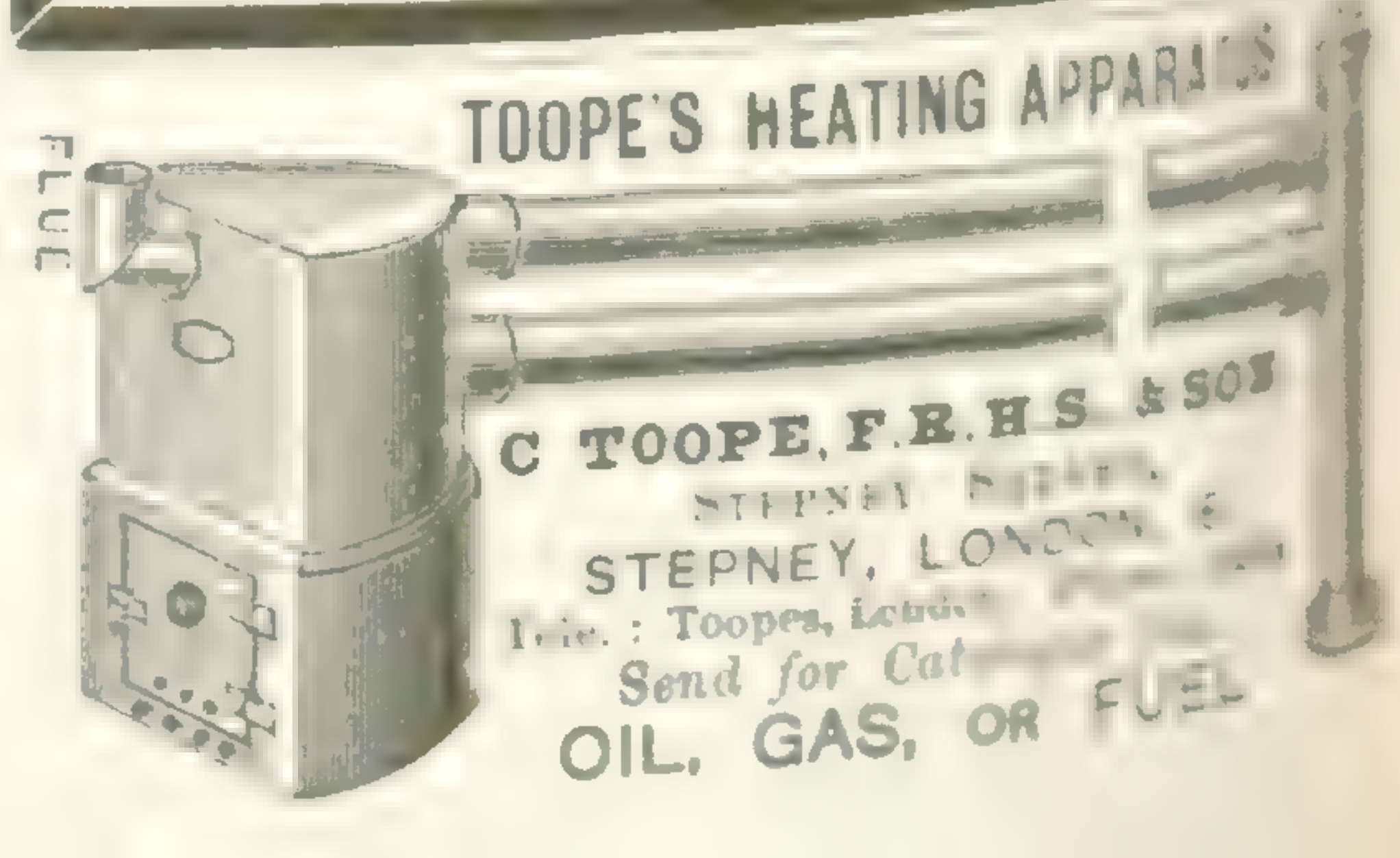

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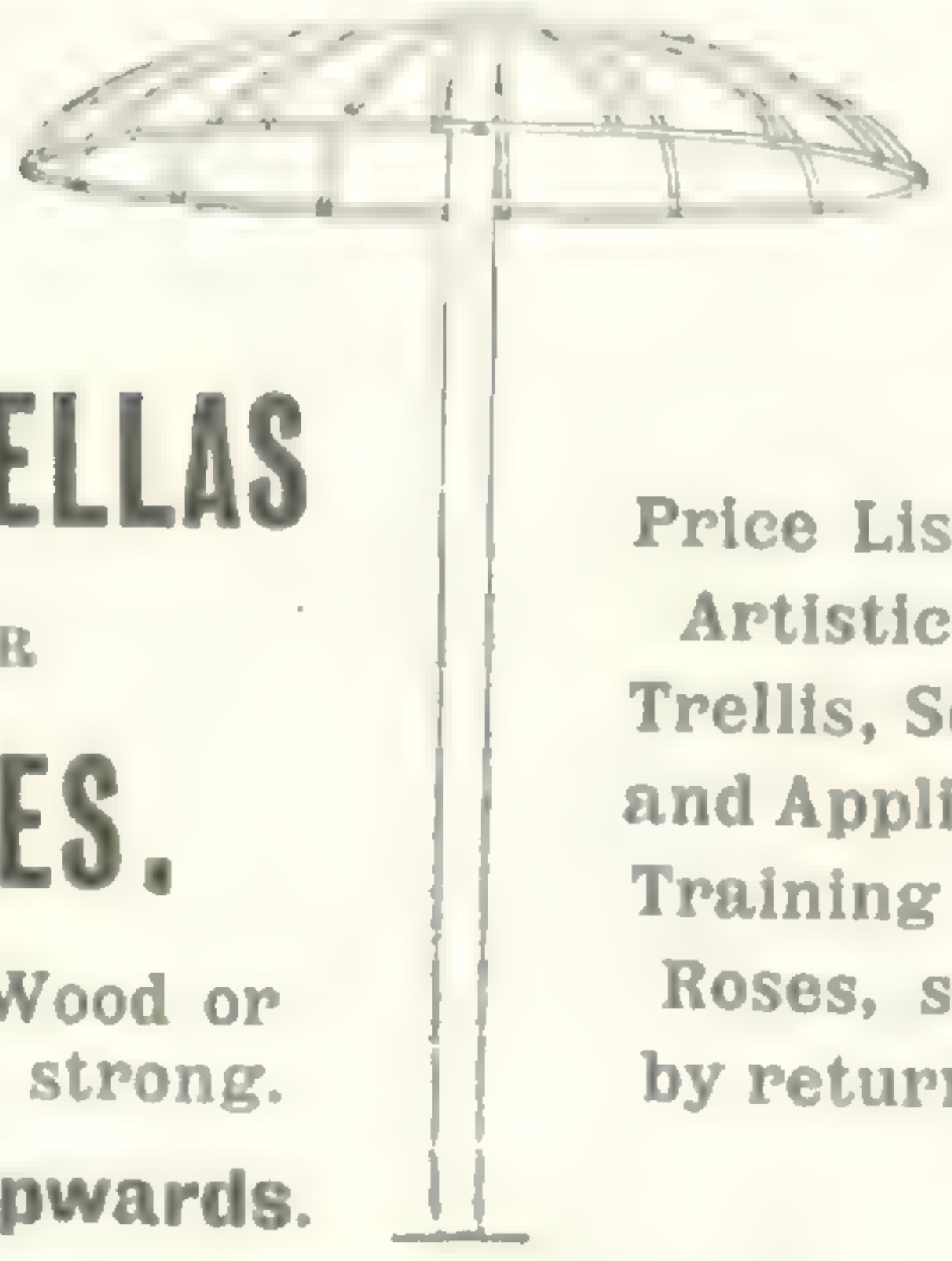

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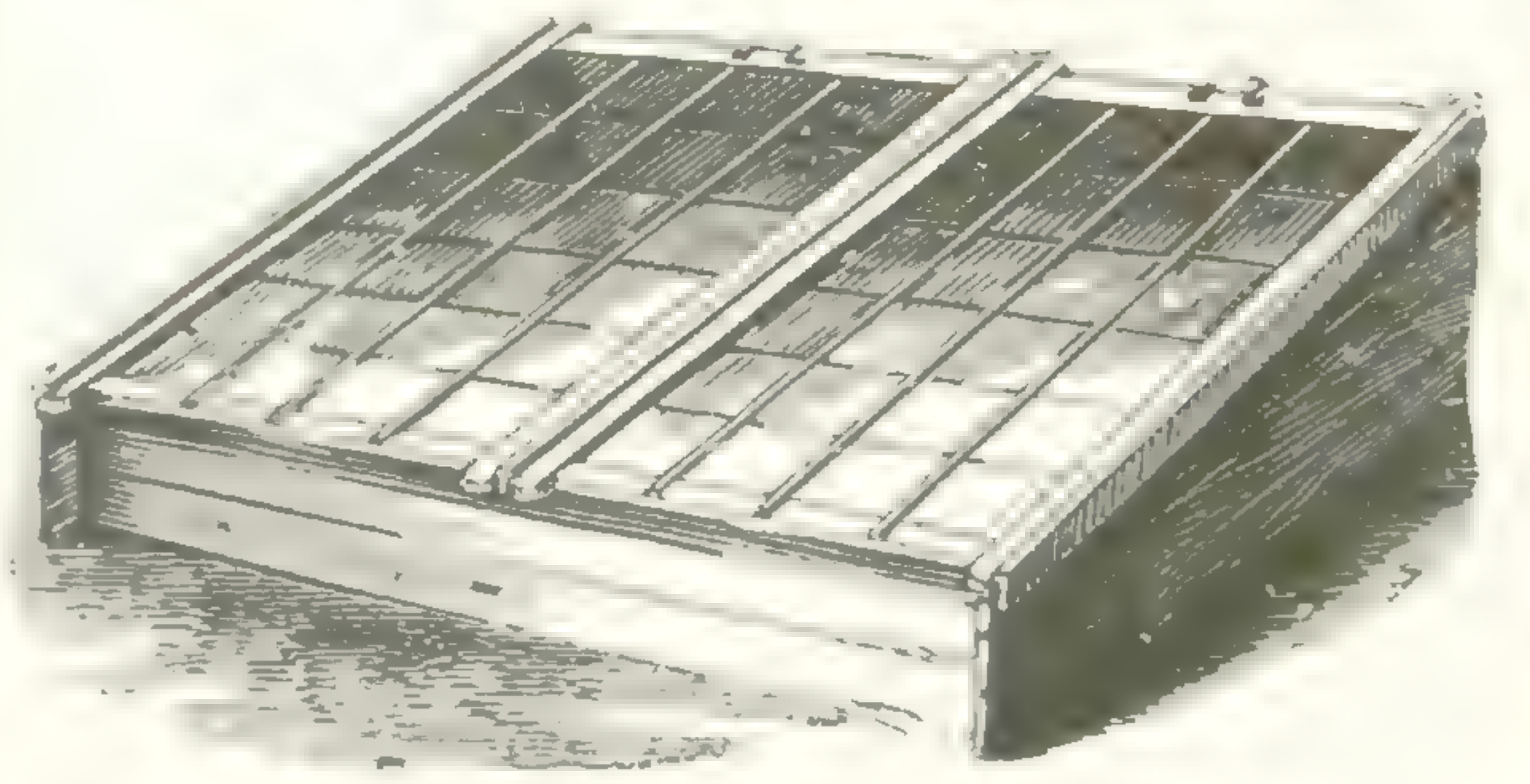

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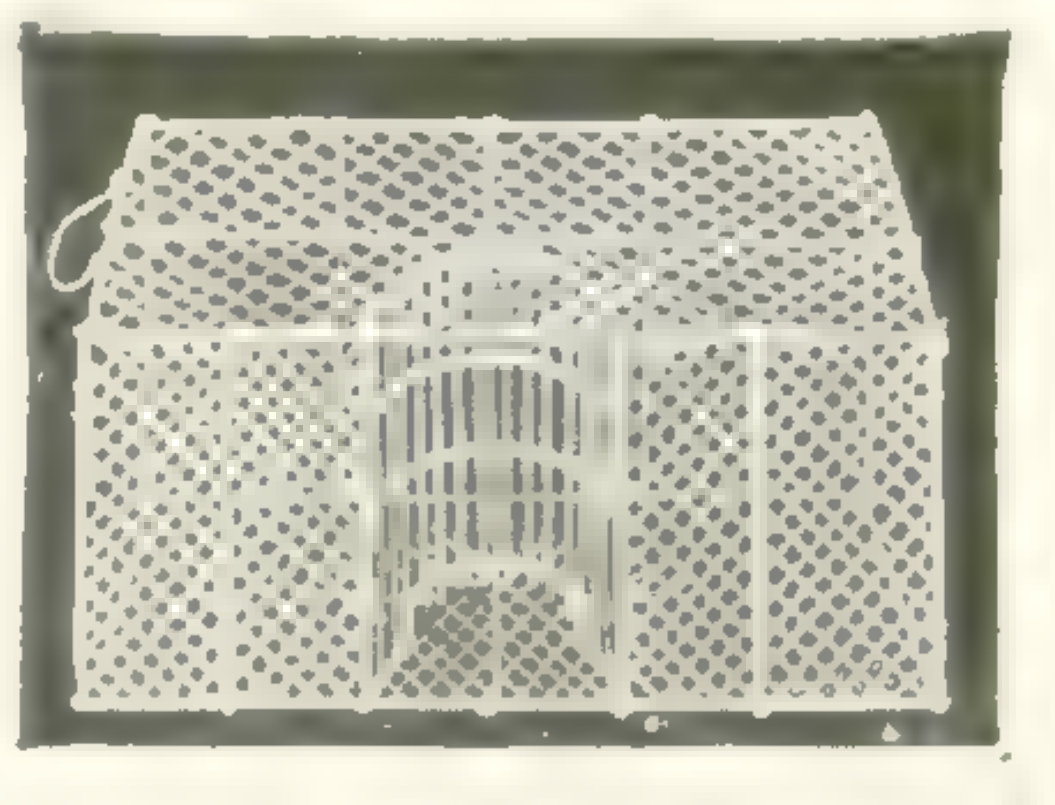

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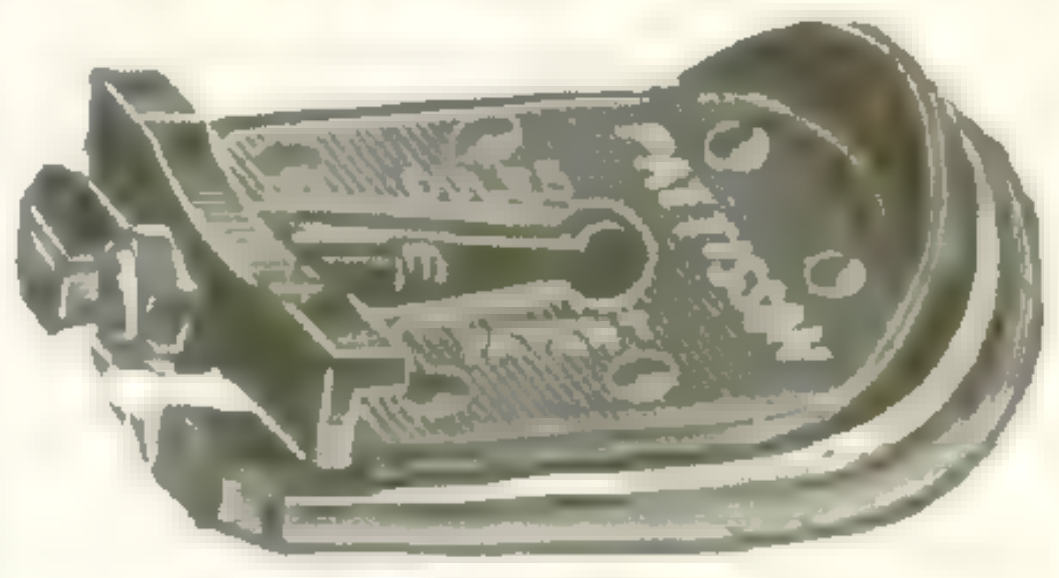

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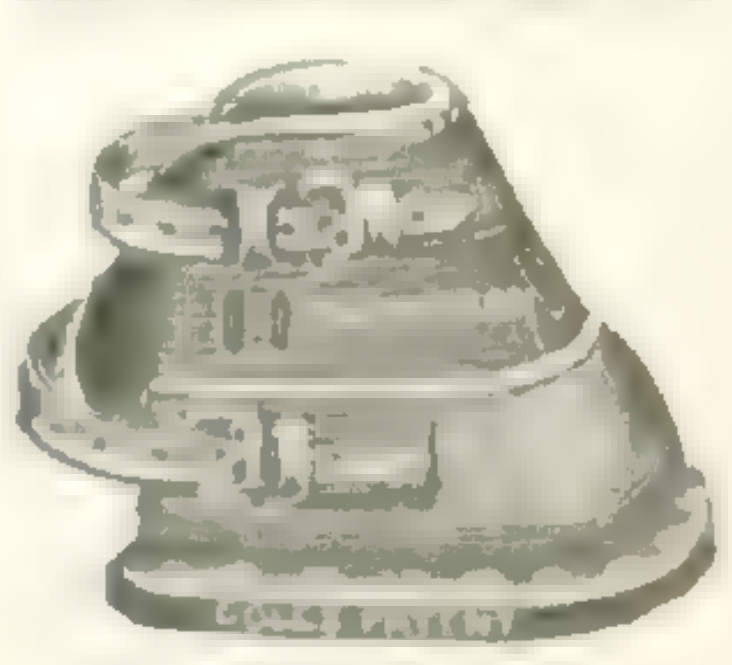

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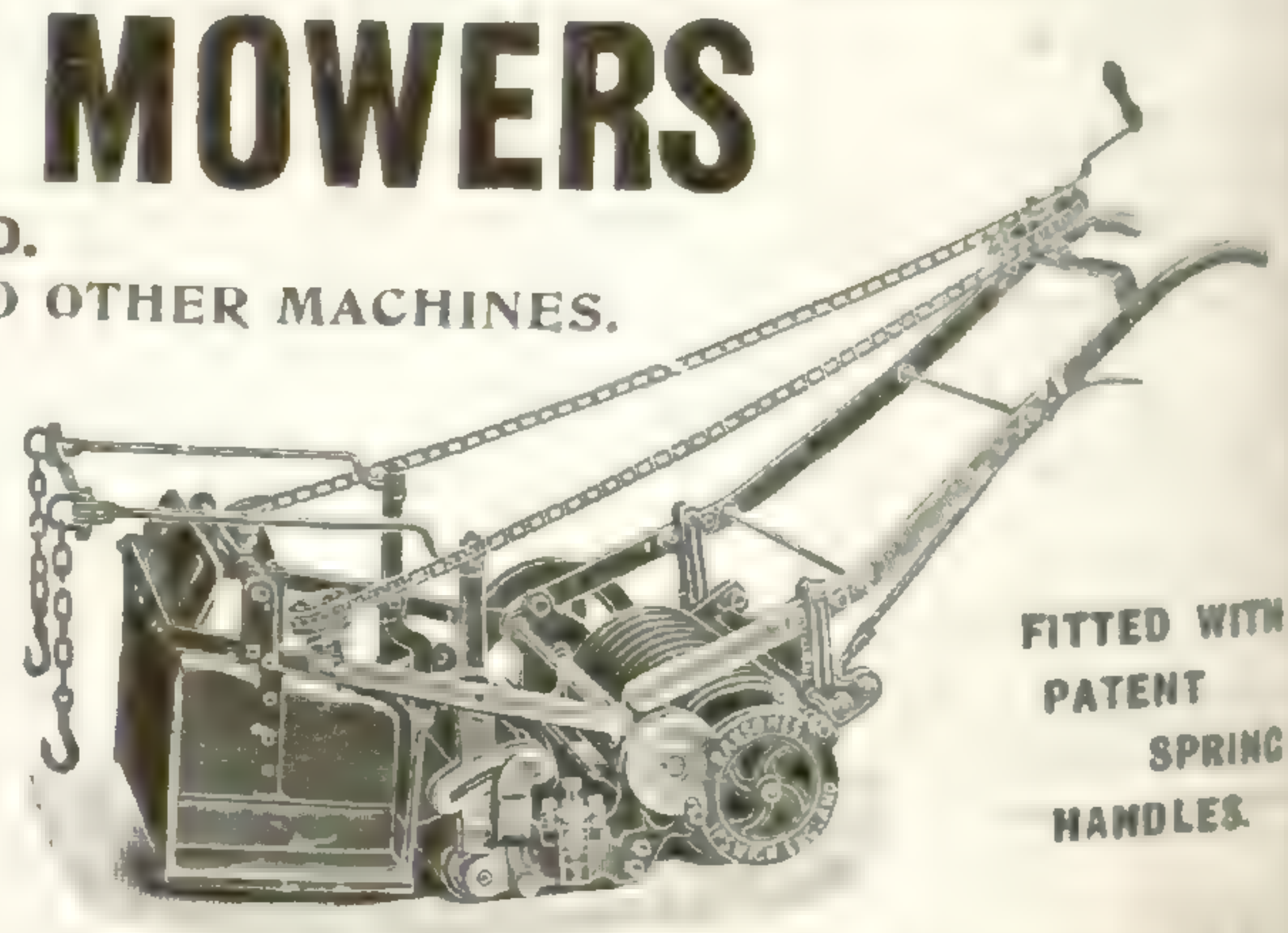

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GARDENER (Kitchen and Pleasure Ground, or small Single-handed) seeks SITUATION; life experience, good reference; married, no family. A. GARWOOD, 65, School Lane, Bushey, Herts.

GARDENER seeks SITUATION as Under or Single-handed; odd jobs not objected; used to kitchen garden and lawns; good ref.; abstainer; age 24, 3½ years in the last place; left through gentleman giving up place. Apply E. DOW, St. Mary Cray, Kent.

GARDENER (Second, Inside and Out); 6 years' experience; good characters; country, near London preferred; age 23. J. TOKINS, Stones House, Todmorden, Lancs.

GARDENER (Second, Inside and Out), nine years' experience, good references; age 25. Berks or counties joining preferred. W. SMITH, The Bothy, Epping House, nr. Hertford, Herts.

FOREMAN (Inside), age 27; 14 years' experience in good establishments; four years [illegible] last situation as Foreman; excellent references. G. MORRIS, Hackmans Gate, Broome, nr. [illegible]bridge, Worc.

FOREMAN (Inside); age 25; 11 years' practical experience in Vines, Peaches, Melons, Cucumbers, and Plants; life abstainer; good references. E. CARTER, Stanley House, Eastern [illegible], Plaistow.

FOREMAN (Inside or Second); 11 years' [illegible] practical experience in Fruit and Plant Houses; last 2½ years as Second of six; age 2[illegible]; good references. H. TALBOT, Myrtle Cottage, White [illegible], Bletchingley, Surrey.

FOREMAN (Inside), age 26; good experience in Vines, Peaches, Melons, Stove and [illegible] house plants, Carnations, etc.; 13 years' experience; good references. BERRY, The Cottage, [illegible], Middlesex.

MARRIED MAN, age 32, seeks SITUATION as FOREMAN; life experience in general [illegible] Stuff; Carnations and Cyclamen a speciality. [illegible] GROENEKAN, 36, Ladysmith Road, Upper [illegible]

GARDENER requires SITUATION as KITCHEN GARDEN FOREMAN or good SINGLE-HANDED; age 31; married, one child [illegible] eight; excellent references; wife willing to [illegible] any Light Duties. F. THATCHER, [illegible], Crawley, Sussex.

MR. E. CLIFTON BROWN wishes to highly recommend G. HARRIS as FOREMAN [illegible] single; has been his Second Gardener for [illegible] with good experience Inside and Out; excellent character. Burnham Grove, Burnham, Bucks.

GARDENER.—Young Man, age 22, [illegible] RE-ENGAGEMENT as SECOND or SINGLE-HANDED; Vines, Stove, Greenhouse Plants; experienced Inside and Out; tall, strong and [illegible]; good references; disengaged when suited. [illegible] c/o Mrs. Austin, Park Lane, Stonor, [illegible] Thames.

GARDENER (Second); Inside, or Inside and out, where several are kept; age 2[illegible], [illegible] practical experience. Midlands, and bothy preferred. W. R. PHILLIPS, Rose Cottage, Kings[illegible], W[illegible] under-Edge, Gloucestershire.

MR. W. J. SHORT can highly recommend W. HANCOCK as a good SECOND GARDENER or Single-handed; four years last situation [illegible] W. HANCOCK, Auriga Terrace, Market H[illegible]

GARDENER, age 26, seeks SITUATION in [illegible] Vinery; 10 years' experience in General Nursery Work; excellent references. R. ABRAHAMS, 56, Radwinter Road, Saffron Walden, Essex.

GARDENER (Under) seeks SITUATION in Pleasure or Kitchen Garden; [illegible] Inside; age 22; four years' reference. [illegible] MILLUM, Slades, Rolvenden, Kent.

JOURNEYMAN (Inside); age 22, [illegible] experience; good references and well recommended; Bothy preferred. S. HIGH, [illegible] Acle, Norwich.

JOURNEYMAN (Inside).—W. HEADINGTON will be pleased to recommend [illegible], age 23, to any Gardener requiring a willing [illegible]; seven years' experience; Bothy preferred. The Gardens, Waltham Place, Maidenhead, Berks.

JOURNEYMAN (Inside), under a Foreman; age 22; 8 years' experience Inside and [illegible]; good references. W. BAIGENT, 58, [illegible], Surbiton Hill, Surrey.

SITUATION COUPON

To the Advertisement Manager of "The Gardeners' Magazine,"
148 & 149, Aldersgate Street, London, E.C

For APRIL 24, 1909.

Please Repeat my Advertisement.

Name..

Address..

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Date..........................

THIS COUPON, duly filled up, should be forwarded not later than Tuesday for the next issue.

Situations Wanted—*continued.*

JOURNEYMAN (Inside), age 21. — A. BAKER, Hapstead Gardens, Ardingley, Sussex, wishes to recommend W. MEAD; eight years' experience in Plants, Fruit, Kitchen, Flower Gardens; Bothy preferred.

JOURNEYMAN (Inside and out); age 22; 7 years' experience; 2 years' present place. Apply JOHN HUGHES, The Gardens, Gwrych Castle, Abergele, N. Wales. (No circulars.)

WANTED, SITUATION as an IMPROVER, age 17; strong and willing; has had three years and ten months' general experience Inside and Out; total abstainer. Bothy preferred. A. HYLAND, Woodlands, Ticehurst, Sussex.

KITCHEN GARDEN and PLEASURE GROUND; experience in both branches; married, no family; age 45; good reference. NEALE, Gardeners' Cottages, Moortown, Ringwood, Hants.

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LADY can highly recommend Gardener to any Lady or Gentleman requiring a good practical, hard-working MAN; thoroughly understands his work, Inside and Out; life experience; leaving through death; 10 years' excellent character; age 34; married, one child, 8 years. W. HIGGINS, The Lodge, Darrington, Camberley, Surrey.

MR. KEATES, Head Gardener, Stanley Hall, Stroud, Glos., will be pleased to recommend a YOUNG MAN, age 21, for Inside, or Inside and Out, Under Foreman or Head; six years' experience.

MARRIED MAN (29), one child, seeks SITUATION as KITCHEN GARDENER, used to cows and poultry; good references; also slight knowledge of greenhouse work; willing and obliging. Apply ARTHUR WILLIAMS, Bisbrooke, Nr. Uppingham, Rutland.

MR. M. FEAKES, Head Gardener, Lilley, Luton, Beds, will be pleased to recommend H. DAVIS, age 30, to any lady or gentleman, or gardener, requiring a steady, hard-working young man for kitchen garden and pleasure grounds; 11 years' experience; abstainer.

YOUNG MAN seeks SITUATION as under Gardener; age 19; Inside and Out; strong and willing. G. LUFF, 18, Prospect Place, Maidstone, Kent.

YOUNG MAN, age 22, seeks SITUATION, Inside and Inside and Out; have had previous experience and good references. Apply, G. W. J., 42, Harpsden Road, Henley-on-Thames.

YOUNG MAN (23) seeks SITUATION; assist in Garden; understands Cows, Poultry, etc.; good references; not afraid of work. Apply, E. SKINNER, 107, Frenches Road, Redhill, Surrey.

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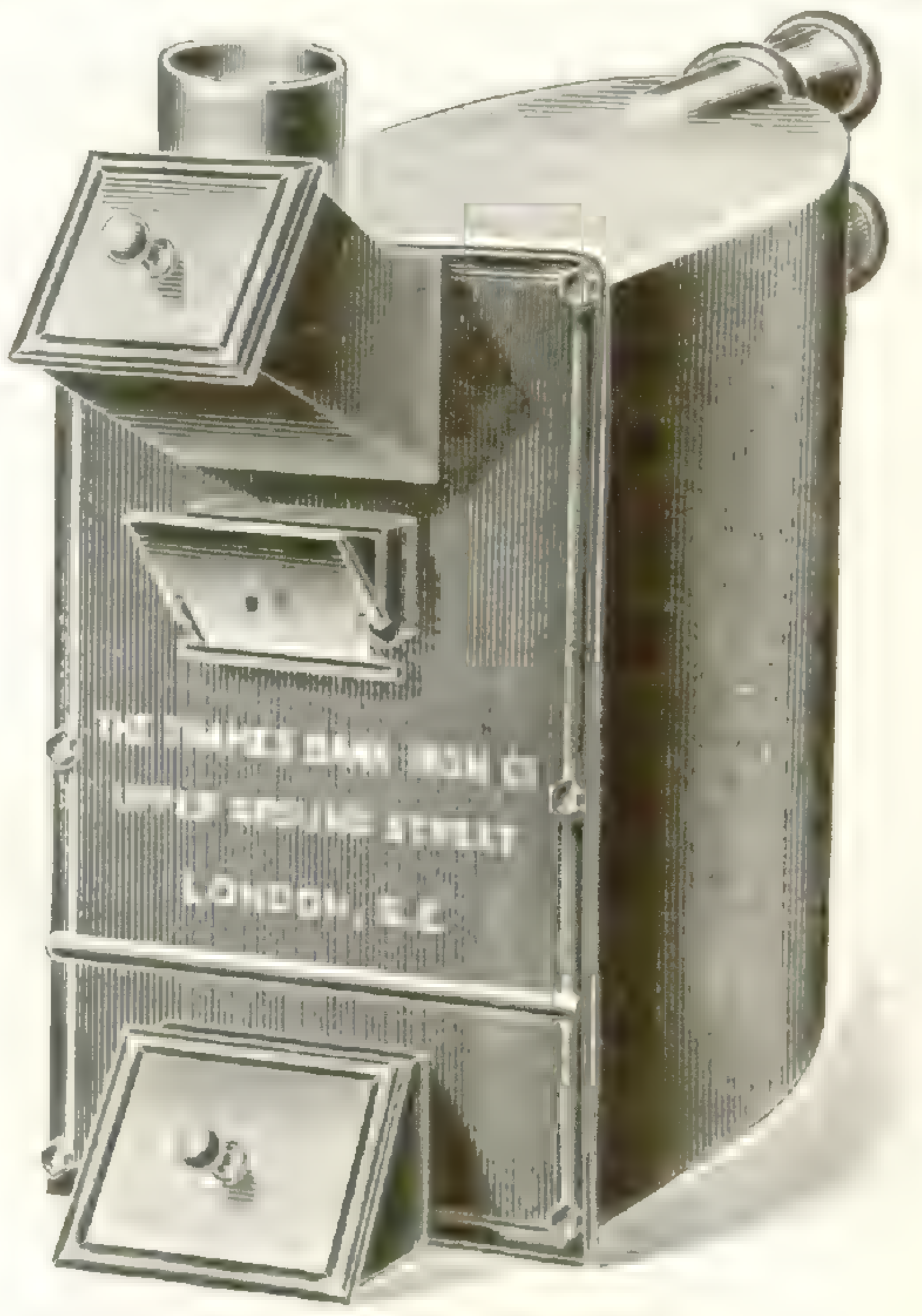

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CATALOGUES FREE ON APPLICATION

VOL. LII.—No. 2,894. SATURDAY, APRIL 17, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Observation.

It is a remarkable thing, considering the two wonderful gifts we possess of seeing and hearing, that so little practical use is made of them by the majority of human beings, as compared, that is, with the use which might be made. We may obtain a pretty good proof of this if we are the happy owners of a garden which is frequently visited by friends, ladies and gentlemen. Except in such cases where the visitors are specially invited as recognised flower lovers and students, the majority will simply ramble about, conversing on extraneous social or political matters, some of the young ladies will ejaculate "How pretty," in the intervals of their gossip about "him," and the fashions; and in short, the innumerable wonders of Nature, which teem in every garden worthy the name, will be entirely ignored and unobserved. Probably if asked on their departure, in a casual tone, whether they had seen everything in the garden, the reply would be a cheery, "Oh, yes! it's very nice indeed," although, if cross-examined, it would transpire that they had really seen nothing at all in the sense of seeing and appreciating properly. The power of observation is, in point of fact, rare, and its possession involves a freemasonry of incalculable social value when natural study is the incentive. Every true gardener knows what a delight it is to anticipate and receive a visitor of the keenly observant kind, who can fully appreciate the merits of what he sees, and be very probably in a position to impart some fresh knowledge in the desired direction. There is no superficiality here, no "How pretty" and "How nice" distributed broadcast, but a close study of points pro and con, and an eventual verdict which, if favourable, constitutes in itself a reward for much previous study and trouble. In point of fact the measure of cultural success in horticulture is determined entirely, given of course fair facilities, by observation of results and intelligent adoption of the lessons they teach. Every failure has its underlying reason, and hence, like the successes, constitutes a stepping stone to further knowledge, if only the grower is determined to get at the bottom of it, and does not merely accept it as a misfortune, and let it go at that. Observation, however, should be accompanied by notes and records, and not merely committed to memory, since it is often by comparison of such records with other and subsequent ones that the true meaning of the phenomena observed becomes apparent, and something tangible is then elicited. The man who makes no notes may, by virtue of a retentive memory, acquire a great deal of useful knowledge in the course of his existence, but he is little likely to be a contributor to that mass of knowledge which forms the literature of horticulture, and through which man learns from man, and as a notemaker adds his quota to that accumulation of ascertained facts, by virtue of which each generation becomes wiser than its predecessor. That great factor in horticultural progress, the Horticultural Press, is the practical outcome of powers of keen observation, coupled with careful recording, and we have only to contrast that Press of to-day with that of less than a century ago, to see what an immense advance has been made, and is always being made in the acquisition of invaluable practical knowledge. In the old days, say of Gerard, to go back still farther, the general ignorance permitted the authoritative promulgation of the most ridiculous myths and fables, and although in the outside Press of to-day we still, from time to time, find examples of horticultural and botanical marvels of equally grotesque character put forward with all verisimilitude, knowledge is now so widespread that it is rare, indeed, that anyone is taken in by them. Superficial observation is no good at all, it is the man who is always about and closely examining the plants he cultivates who hits upon the "reason why," both of success and failure, and by experiment based upon such discoveries eventually enriches not merely himself, but his fellows, with additional items of knowledge. This close research begins in the laboratory of the botanist, who pokes and pries with his microscope into the abstruse mysteries of the fundamental cell formation, and it ends with the selective cultivator, who, by close study of the plant as a whole and its peculiarities, adds so much to our floral and agricultural wealth, as exemplified in our up-to-date exhibitions.

MR. WILLIAM CRUMP, V.M.H.

Mr. William Crump, V.M.H.

Few men are more widely known in horticultural circles than Mr. William Crump, head gardener to Earl Beauchamp, at Madresfield Court, whose portrait we present in this issue. His first charge was at Lamberhurst, and from thence he went to Blenheim Palace, where he became particularly successful as a fruit grower, twice winning the packing prize of £10, offered by Mr. J. Webber, of Covent Garden, for the best three boxes of fruit sent by ordinary railway carriage, and delivered at South Kensington by the conveying company. From the Royal Horticultural Society and the Royal Botanic Society, Mr. Crump won gold medals for fruit while at Blenheim, and secured the blue riband of the old International Potato Society at the Crystal Palace. At Blenheim he raised the fine Blenheim Orange melon, and obtained a first class certificate for it at South Kensington, as well as first prize against thirty-one other entries. Rather more than a quarter of a century ago Mr. Crump took charge of the Madresfield Court Gardens, after the death of Mr. W. Cox, and ever since then his name has been intimately associated with the Madresfield estate as well as the gardens. The latter have been largely extended and greatly improved under his care, the massing of hardy flowering trees and shrubs, the bold grouping of herbaceous plants, and the naturalisation of bulbs in grass being a few of the innovations that have made Madresfield famous. But, as Mr. Crump is a famous fruit grower, it was only natural that he should develop hardy fruit culture at Madresfield, and this, with the generous support of his enthusiastic employer, he has done in a remarkable way. He has an experimental orchard, where all likely varieties of hardy fruits are tested, and all those that prove their worth are propagated extensively and distributed from the home nursery to the farmers, cottagers, and others on the various estates belonging to Earl Beauchamp. Mr. Crump has distributed in this way over 40,000 trees, thereby adding largely to the letting value of the property and the well-being of tenants. Mr. Crump is an old member of the Royal Horticultural Society's Fruit and Vegetable Committee, and he was one of the original recipients of the Victoria Medal of Honour in Horticulture.

Water Gardening will receive special attention in our issue of the 24th inst., and, with a view to afford our readers the fullest possible information on the work that must be done in the water garden during the next few weeks, the contents will include articles on formal and informal water gardens, water lilies, planting water margins, hardy aquatics other than nymphæas, and spiræas in the bog garden. The issue will be freely illustrated.

Fruits of Foreign Growth were less plentiful in British markets in March last than they were in the corresponding month of 1908, the aggregate decrease in value amounting to the substantial sum of £47,845. The increases and decreases were equal in number, and the more important of the former were those of nuts and oranges. As in the case of the first two months of the year, there was a big drop in the imports of apples, the aggregate having been 201,716 cwt., of the value of £129,888, as compared with 357,484 cwt., of the value of £208,401, in the corresponding month of last year. Apricots and peaches were, on the other hand, imported in larger quantities, the total imports amounting to 230 cwt., of the value of £1,547, or an increase in quantity of 168 cwt., and in value of £1,390. Of bananas the imports were 449,625 bunches, of the value of £127,959, or a decrease in number of 80,482 bunches, and in value of £13,180. Grapes were received in lessened quantities, the aggregate having been 3,213 cwt., of the value of £15,052, against 5,584 cwt., of the value of £24,138. The imports of pears were larger than they have been for several years, the total having been 2,898 cwt., of the value of £11,730, or an increase in quantity of 1,064 cwt., and in value of £6,785. The imports of plums aggregated 595 cwt., of the value of £2,831, as compared with 198 cwt., of the value of £429. Strawberries, of which a few were imported in the corresponding month of last year, have no place in the March returns. Of unenumerated fruits, the imports were 8,724 cwt., of the value of £12,674, the figures representing an increase both in quantity and in value of nearly 100 per cent. The value of the fruit imports for the month was £818,403, bringing the total value for the first quarter of the year up to £2,380,615.

Orchids at the Temple Show.—An important notice has been issued by the Royal Horticultural Society concerning the orchid classes at the forthcoming Temple Show. It appears that attention has been drawn to the possibility of misunderstanding arising from the use of the word, "unrestricted" in Classes 1, A. and B. It cannot, therefore, be too clearly and fully understood that the word is governed by Rule 4, which gives 200 square feet as the maximum. In other words, Classes 1, A. and B., are unrestricted in size only so long as they do not exceed the 200 square feet permitted by the rule.

A New Primula—P. Forresti.—We understand that at the meeting of the Royal Horticultural Society on April 20, Messrs. Bees', Lim., of Liverpool, will show a new Chinese primula. The newcomer owes its name—P. Forresti—to the fact that it was secured by Messrs. Bees' intrepid collector, Mr. George Forrest. Our readers will remember that on one of Mr. Forrest's collecting expeditions, he was hunted among the mountains by a band of insurrectionary Lamas, who murdered the French missionaries with whom he had been staying. Mr. Forrest escaped, but was eight days barefooted among the mountains, and during this period he touched no food. Primula Forresti is a native of limestone cliffs among the Yunnan Alps, at an altitude of 9,000-11,000 feet. It has been kept unprotected during the past winter at Sealand, near Chester, and has proved quite hardy. The leaves are strong and of a dark shining green. The flower spikes are from 10-12 inches high, carrying loose spreading heads of from 10-15 blooms. The individual plants vary in colour from light yellow to a fine rich orange. Perhaps the most notable feature, however, is the fragrance, which is quite unlike that of any other primula. It is not confined to the flowers, but is also present in the leaves, and is deliciously suggestive of ripe fruit. The whole effect of the plant is sturdy and vigorous, very different from the delicate beauty of the firm's previous introduction, the graceful P. malacoides.

Imports of Foreign Vegetables last month were much smaller than in March, 1908, the most noteworthy decrease being in potatoes. Of these tubers the imports were 85,017 cwt., of the value of £35,648, against 666,727 cwt., of the value of £129,625. The imports of onions amounted to 450,495 bushels, of the value of £110,165, these figures representing a decrease in quantity of 108,830 bushels, and an increase in value of £16,246. The imports of tomatoes dropped from 86,928 cwt., of the value of £69,722, in March, 1908, to 66,249 cwt., of the value of £51,712 last month. Unenumerated fruits, on the other hand, show an increase in value of £21,970, the total having been £59,700.

The Easter Holidays, although marred by the break in the weather, which occurred on Monday, were held under favourable climatic conditions, and there was a large exodus from London and the principal provincial towns to the country and the seaside during the week previous. Residents in London and its suburbs who remained at home, were careful to take full advantage of the opportunity they had for visiting the public parks and gardens within the Metropolitan area or not far distant from London. Enormous numbers visited such popular resorts as Epping Forest, Hampstead Heath, Hampton Court, and the Royal Gardens, Kew. According to the official return, there were 41,000 visitors to Kew on Easter Monday, against 56,000 last year. To the heavy rains which fell from noon onwards may be attributed the decrease, for the visitors came in such large numbers in the forenoon as to suggest a record attendance for Easter Monday. The daffodils on the Cumberland mound are now producing a glorious display of colour, and in other parts of the gardens these flowers are making such rapid progress as to suggest that the later varieties in other parts of the gardens will be equally attractive within the next few days.

The Journal of the Kew Guild for 1908 has just reached us, and, though it is dated for Christmas, and comes with the daffodils, it is not less interesting because belated. The frontispiece is an excellent portrait of Mr. George Massee, F.L.S., V.M.H., and is followed by a biographical sketch of this famous cryptogamist. The annual report and accounts show that the Guild's balance on current account almost doubled itself during the year, and consists of £20 9s. 2d. in cash. In addition, there are invested funds to the total of £320, yielding a trifle less than £10 10s. per annum. Old Kewites will read with interest of the doings of the "Kew Mutual," and the results of the courses of lectures, and will think of the days of the years that are gone. "The Kew Training" is an article that should make present Kewites think hard. We fear that an objection by students to be regarded as such, and an endeavour to belittle the educational advantages of a sojourn at Kew, on the part of Kewites of recent years, is answerable for some measure of reduction in appointments from Kew. Mr. F. J. Cole's plea for an Institute of Gardeners is particularly good, and the idea will appeal to many who desire to see the profession placed on a higher level. The "Notes from Old Kewites" are numerous and entertaining, but there is a lack of descriptive accounts of travels this year.

The Lasting Qualities of Dahlia Flowers.—A Fellow of the Royal Horticultural Society, writing from Wiesbaden, draws attention to a point of considerable interest in connection with dahlias. He found that some varieties would, on being cut for decorative purposes, last much longer than others kept under the same conditions. Herr E Becker, also of Wiesbaden, states that he finds those varieties with narrower foliage possess more lasting qualities than those with broad flat leaves. He considers that plants which have been heavily manured with stable manure are less lasting than those which have been grown without its aid, and finds that if the foliage be removed immediately after the flowers have been cut, they last much better in water than they do in the ordinary way. The matter is one well worthy the attention of growers and raisers of these brilliant decorative flowers, and observations upon the subject would be welcomed.

A South African Bamboo.—For more than seventy years the existence of a bamboo in Cape Colony has been known, but until last year the inflorescence of the species was unknown. It appears that Munro was correct in referring the species to arundinaria, and his name of A. tessellata has been retained. Commandant Bowker wrote, in 1877, that, "The bamboos are much used by the natives for spear handles, house building, fences, and gates to sheep folds, etc. They can be got from 3 feet to 25 feet in length, and in any quantity. I have used a rod made from it for many years past, and found it superior in spring and strength to any other I could get. I think they could be turned to account as coach-whip handles, umbrellas handles, walking sticks, etc.; the root grows into almost every shape, and could be cut into handles of different patterns." Nothing more was heard about the use or usefulness of the bamboo; but, says Dr. Stapf, in the "Kew Bulletin," it seems quite worth while to try again whether it could not be put to any practical use, the more so as one of its principal stations, the one near the Van Reenen Pass, in the Drakensbergen, is now easily accessible by railway. At the same time, an attempt should be made to take it into cultivation. It ought to prove hardy in this country. The area of Arundinaria tessellata lies from Stockenstrom and Queenstown Divisions over Craddock, Tarka, Molteno, Aliwal North, and Basutoland, to the Drakensbergen, the easternmost station in that range being at the Van Reenen's Pass. It may be pointed out in this connection that Munro in putting the lower limit of Arundinaria tessellata at 500 feet merely repeated a mistake or misprint in Nees's account of the bamboo, where it is said to occur on Katberg at 500 feet, instead of 5,000 feet.

The Magpie in London.—With reference to the nesting of the magpie in London, Mr. W. Cave writes: "It may be of interest to your readers to know that a pair of magpies are now building a nest in the Green Park. I watched the male bird on several occasions this winter, evidently prospecting in the same tree where the pair have now begun operations. This poplar tree is within 30 yards of Piccadilly, and on the banks of the Tyburn brook which still runs underground, crossing the street between the Savile and St. James's Clubs. The existence of magpies in St. James's Park is probably well known to many, but I do not think their nesting in London has yet been recorded."

Horticultural Club.—The next house dinner of the club will take place on Tuesday next at the Hotel Windsor, when Mr. E. A. Bunyard will give a lecture on "The Colours of Plants." The dinner will, as usual, commence at 6 p.m.

Davidia involucrata.—Mr. A. S. Horne, in a paper read before the Linnean Society, deals with the structure and affinities of the genus Davidia, which has been referred to the natural orders Combretaceæ, Cornaceæ, and Hamamelidaceæ by various authorities. In the light of original observations carried out under the direction of Professor J. B. Farmer, upon material brought by Mr. E. H. Wilson from Szechuen in 1904, evidence is advanced in favour of interpreting the inflorescence as consisting of a number of congenitally fused, apetalous, multi-staminate male flowers, or of male and in addition a single obliquely situated, apetalous, hermaphrodite flower with epigynous stamens arranged in series. From a detailed study of the flower, ovary, ovule, and seed, the author is inclined to believe that Davidia is distantly related to Alangium and Nyssa, and still more distantly related to the Araliaceæ; that the genus occupies a somewhat isolated position owing to having pursued an independent course of development from the plexus of primitive groups, which included the ancestral forms of the Araliaceæ, Nysseæ, and Alangieæ.

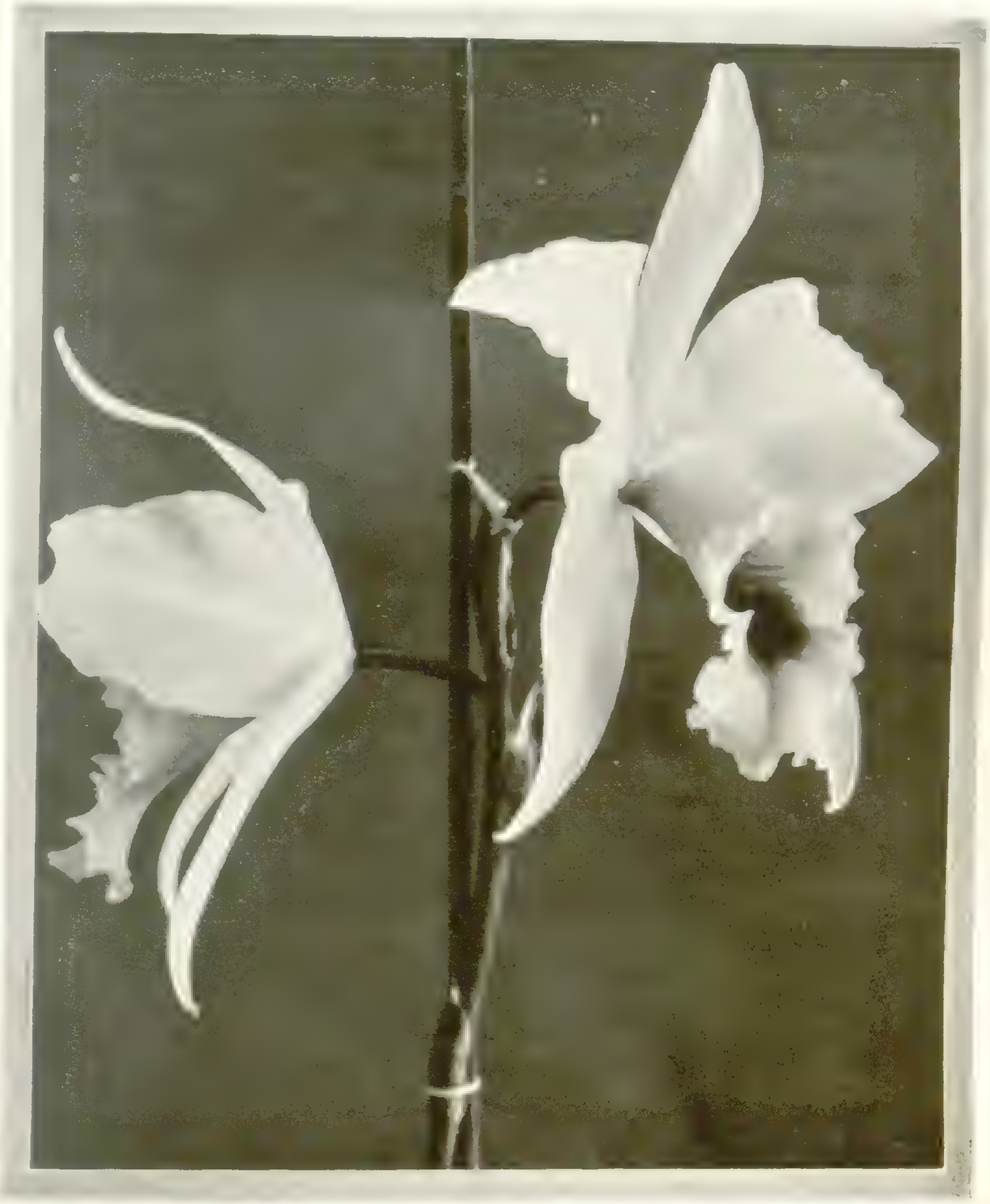
EARLY RHODODENDRONS AT LEONARDSLEE.

The fine Rhododendron barbatum is now in flower here, though it is much later than usual. There is a great charm about this rhododendron, as it is one of the brightest and earliest, but one needs a really large plant to see it at its best. It is fairly easy to grow, provided a suitable position is found for it with a little shelter from cutting winds, a little shade from hot sunshine in summer, and a moderately high position. R. præcox is now very effective and bright. This is a hybrid between R. dahuricum and R. ciliatum, and it is a better grower than its seed parent, as it makes fairly good bushes in a short time, and is an exceptionally free bloomer. It should be grown in groups of half a dozen or more plants when its effect is very fine.

R. dahuricum is also in flower; this is a slim and rather ragged grower, but gives delightful blooms, with a sweet fragrance in both foliage and flower. This also looks best when planted in groups. R. ciliatum is fast opening its buds (April 6), and promises to be extra fine, and by the time these lines appear, I expect, will be in full bloom. This is the gem among the earlier species; it is of good habit, compact and shapely, flowers with the greatest freedom, and has only one drawback, i.e., it may be nipped by frost. But there is always a certain amount of risk with every early plant, and this is one that most certainly should be planted. One cannot have too many of it. I recollect last March seeing what I believe to be the finest existing batch, at Tremough, in Cornwall, and I think, if I remember aright, that Mr. Gill lifted one and sent it to the R.H.S. meeting last spring. We have a large quantity here, but not such large plants as those at Tremough. This charming species forces readily (not too early), and it makes a pleasing addition to forced subjects for house and conservatory, and the flowers when so produced are nearly white.

R. Nobleanum, when a finely-developed specimen, makes a brave show, and it flowers from Christmas to Easter. A good dressing of cow manure over the roots during the summer enables the plants to make fine growth and buds, keeps the foliage clean and healthy, and, moreover, keeps the roots cool, which is essential to their well-being. W. A. Cook.

Leonardslee Gardens, Horsham.



LÆLIO-CATTLEYA FREDERICK BOYLE VAR. KERCHOVÆ.
Flowers blush, with yellow throat. A.M., R.H.S., April 6. Sir Trevor Lawrence, Bart., Dorking.

Caltha palustris flore plena.—There exists no better plant for an effective and cheap display in spring in any boggy position than the double form of Caltha palustris. The foreground planted with this subject, and backed by the innumerable forms of double trollius, will yield a rich harmony of colour, and impress every beholder with the latent possibilities that underlie this branch of gardening, as it is only by a free use of bog and water that we need expect that full development from those plants which naturally inhabit swampy regions.—Thomas Smith.

NEW PLANTS, ETC.

ODONTOGLOSSUM PERCULTUM COOKSON'S VAR.

This is a very fine variety, the flowers being of splendid shape and good size; the colour is mauve-purple, with white margins, and a few white veins. O. percultum is the result of crossing O. Rolfeæ with O. ardentissimum. F.C.C., R.H.S., April 6. Mr. H. J. Chapman, gardener to N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne.

ODONTIODA ERNEST HENRY.

In this distinct novelty the deep, dark red-brown, with a rich golden crest, is very striking, but not particularly beautiful. The flowers and plant shown were small, so that the former may be expected to improve in the course of a season or two. The parents were O. Queen Alexandra and Cochlioda Noezliana. F.C.C., R.H.S., April 6. Mr. Day, gardener to H. S. Goodson, Esq., Fairlawn, Putney.

CATTLEYA SCHRODERÆ THE BARON.

This magnificent variety gained a certificate previously, but the award did not hold good, as a painting was not made. The broad petals and sepals are pale blush, white towards the margin, and deepening towards the large, soft orange disc in the lip. A beautiful orchid. F.C.C., R.H.S., April 6. Mr. H. Alexander, orchid grower to Lieut.-Colonel Holford, Westonbirt, Gloucester.

CATTLEYA SCHRODERÆ IRENE.

Another charming variety with pale lilac-pink flowers, and a rich yellow disc. The flowers are very large, and the lip prettily frilled. F.C.C., R.H.S., April 6. Mr. A. W. Jensen, Lindfield, Haywards Heath.

CATTLEYA SCHRODERÆ ALEXANDRA JAMES.

A large-flowered variety, blush tinted, with large orange disc on the lip. Fine in form and substance. A.M., R.H.S., April 6. Mr. Wm. James, West Dean Park, Chichester.

LÆLIO-CATTLEYA FREDERICK BOYLE VAR. KERCHOVÆ.

A very pretty variety of this L. anceps hybrid. It has fair-sized, blush-coloured flowers with golden throat to the lip. A.M., R.H.S., April 6. Mr. W. H. White, orchid grower to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking.

ODONTOGLOSSUM CRISPUM ANGELA.

A beautiful variety, broad-petalled, and of good form. The flowers are white, freely marked with deep crimson. A.M., R.H.S., April 6. N. C. Cookson, Esq.

ODONTOGLOSSUM SYLVIA WESTONBIRT VAR.

This is a pretty form of the elegant hybrid derived from O. cirrhosum and O. Rolfeæ. The flowers are starry, yellow, with dark brown markings, and borne on a branched spike. A.M., R.H.S., April 6. Lieut-Colonel Holford.

ODONTOGLOSSUM DREADNOUGHT.

A handsome, large-flowered hybrid from O. Prince Albert and O. sceptrum. The principal colour is deep red-brown over yellow, the latter showing as veinings and at the tips. The lip is bright brown and yellow. A.M., R.H.S., April 6. Messrs. Sander and Sons, St. Albans.

RHUBARB DAWES' CHALLENGE.
A valuable variety shown by Mr. T. E. Dawes, Syderston, Norfolk, at R.H.S. Meeting, on April 6, when an Award of Merit was made in its favour.

HIPPEASTRUMS.

Magnificent.—A very beautiful variety with rich crimson colouring in the centre, this shading beautifully into the soft rose colour at the apices of the rounded segments. A fine form. A.M., R.H.S., April 6. Messrs. R. P. Ker and Sons, Aigburth, Liverpool.

Marcus.—A splendidly formed flower, round, and with broad segments. The colour is rich vivid crimson. A.M., R.H.S., April 6. Messrs. Jas. Veitch and Sons, Chelsea.

SAXIFRAGA APICULATA ALBA.

This is a very pretty addition to our early-flowering saxifrages, but the flowers are not truly white. They are very pale cream colour, and produced freely on the dwarf, sturdy spikes. A.M., R.H.S., April 6. The Guildford Hardy Plant Nursery, Guildford.

DAWES' CHALLENGE RHUBARB.

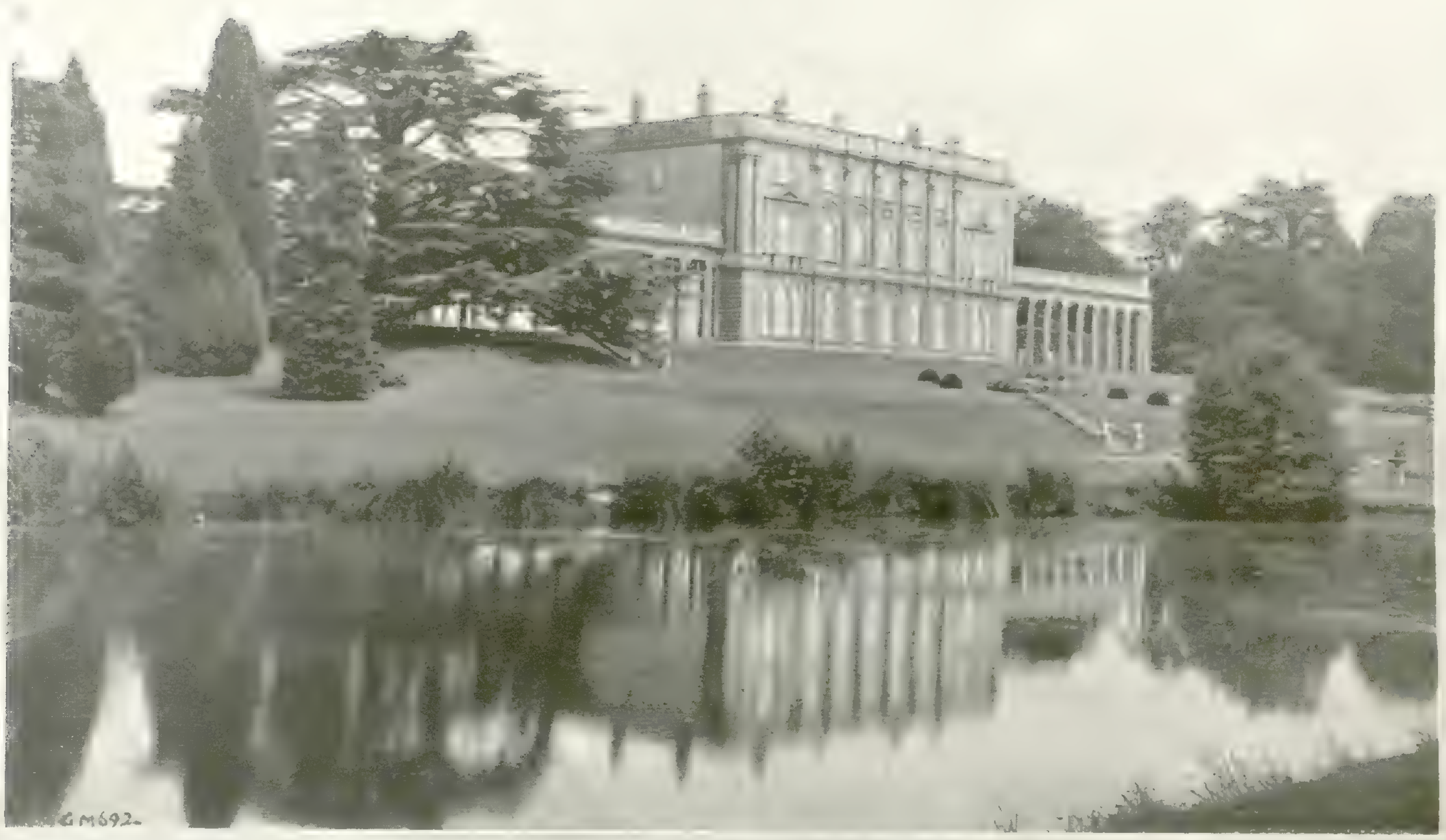
A splendid variety, producing an abundance of long succulent stems of brilliant colour. Very prolific, and fine for forcing. A.M., R.H.S., April 6. Mr. T. E. Dawes, Syderstone, King's Lynn, Norfolk.

TOWN GARDENING.

I must ask your indulgence in order to reply to Mr. Kingsmill, of Harrow Weald. I thought I had made it quite clear in my notes that it is impossible to treat this subject in a general way, because what would thrive at Highgate would be a complete failure in Bermondsey. I have spent a long term in public work, and under a variety of conditions, and am at a loss to know in which of our Metropolitan parks Mr. Kingsmill drew up his list of over a hundred trees that actually succeed. It is a mistake to take a walk round Waterlow or Dulwich Parks, which, from a gardener's point of view, are practically in the country, to make note of the trees that appear happy and prosperous, and to declare that they are admirably adapted for London parks generally. When I was writing of the difficulty to cultivate successfully, etc., reference was made to the unfavourable circumstances over which no gardener, however able and competent he may be, has any control.

It would be interesting to obtain a report from the various superintendents, not only in London, but the provincial towns, on the subject, and I am quite aware that experiments are made in our parks with plants generally, and a given tree may present a fairly good appearance for a year or two, but deterioration sets in very early. This induces me to say that I do not accept every subject that has a label attached to it and is alive as a proof of it being happy and doing well, and in speaking of vegetation generally, and its adaptability to unfavourable conditions, it behoves Mr. Kingsmill and everybody concerned to make perfectly sure of their ground before making a definite statement. Walter H. Aggett.

Water Tanks and Ponds employed for the cultivation of aquatic plants in summer should be examined at the earliest opportunity, removing any scum or objectionable matter that has collected either on the surface or at the bottom. If practicable, draw off the bulk of the water; this will enable the workmen to more thoroughly examine the plants, and also to augment or reduce the various occupants as desired. Water lilies occasionally develop [illegible] crowns, which only produce a dense growth of small leaves, and rarely any flowers; such crowns should be entirely removed, and crowns of normal growth in place of those removed. Many of the free-growing varieties require severe thinning, as overcrowding has a tendency to raise the majority of the leaves out of the water, thereby lessening their decorative [illegible] in flower. Fresh soil should only be employed under special circumstances, as the majority of aquatics succeed best in the natural mud which collects and is deposited in still water.—Thomas Smith.



CAVERSHAM PARK.

SOME GARDENS ROUND READING—II.

Caversham Park.

Prominent among the many notable seats in the district of which Reading is the centre is Caversham Park, the residence of W. T. Crawshay, Esq., which has long been famous for the commanding position of the stately mansion, and for the extent and interest of its gardens. Situate on the Oxfordshire, or north side of the Thames, the mansion and gardens are between two and three miles from Reading Market Place, and are reached by way of Caversham Bridge and village, both of which possess considerable interest. The bridge is associated with some of the more stirring events in history, and the village, as becomes the suburb of a flourishing town, has an extremely well-to-do look about it, and enjoys considerable favour for residential purposes. The village is not wanting in picturesque effect or trim gardens, and the road thence to the mansion has much to attract the attention of, and give pleasure to, lovers of characteristic English scenery. The rolling meadows and wide stretches of woodland that meet the eye during the climb from the village to the high ground on which the mansion stands, form a series of delightful pictures, and come as a pleasant relief to the flat country the traveller finds in approaching Reading from the London side.

The descending approach to the mansion from the high road is particularly good, and the grandeur and beauty of its site are so remarkable that they appear to have made a profound impression upon Whateley, for he refers to them in eulogistic terms in his classic work entitled "Some Observations on Modern English Gardens." The illustration given herewith will convey some idea of the dignity of expression of the structure, flanked by noble trees of mature growth, and commanding a wide stretch of country in one of the fairest parts of this England of ours. Along the front of the mansion is a broad terrace, about two hundred yards in length, with spacious flower beds and walks of a width proportionate to so ample a space. From the terrace the prospect is extensive, and includes the broad and richly diversified valley of the Thames. At the west end of the mansion are numerous coniferous trees, in which a noble Cedar of Lebanon is conspicuous, and at the east end are coniferous and deciduous trees, and of these the finely developed cedar is the most noteworthy. At the foot of the principal slope is the commencement of the lake, which is seen in the illustration, and this fine expanse of water rapidly widens, and, extending between two fine belts of deciduous trees, greatly enhances the charms of the garden. The edges of the water, it must be said, are separated from the trees by breadths of turf, and on one of the margins are bold masses of pampas grass, polygonums, and other suitable subjects. The grounds of Caversham Park were originally laid out by "Capability" Browne, who enjoyed a high degree of popularity as a landscape gardener in the second half of the 18th century, and they were altered considerably about thirty years ago.

On the west side of the mansion is a spacious conservatory, built in agreement with the architecture thereof, but evidently free from the defects characteristic of many architectural plant houses. At all events, it is richly furnished with choice plants in the best possible condition. The building is divided into two sections, and that adjoining the mansion is devoted to greenhouse plants, and, taking advantage of the tall pillars on either side of the principal path, Mr. Miles, the head gardener, has given an excellent object-lesson on the value of fibrous-rooted begonias as conservatory climbers. From floor to the roof the elegant pillars are clothed with Begonia fuchsioides and other free-growing kinds, and the effect produced by their glistening leaves and attractively coloured pendulous flowers is extremely good. The second of the two divisions is occupied by tropical plants, that include a considerable number distinguished by their bold growth. Here also we find unquestionable evidence of cultural skill of a high order, and it would be interesting to enumerate some of the more noteworthy specimens, but one has necessarily to be brief.

At the east end of the mansion the architectural features are continued by means of a line of elegant pillars connected with a suitable cornice. The pillars form an admirable balance to the conservatory at the other end, and afford an opportunity for the provision of a flower garden in which shelter from strong winds and seclusion may be enjoyed. Looking across this garden from the door of the mansion that opens on to it, the effect, with the noble cedar as the background, is very pleasing. At the back of the enclosure is a lofty structure, in which tree and other ferns have found a home in every way adapted to their requirements, for they are all in the most robust state of health. The ferns alone would have formed a charming picture, but the effect has been materially enhanced by clothing the walls and the surface of the beds with Rex begonias, which are certainly not less luxuriant in their growth than are the ferns.

One might write at length on the distinctive features of the spacious pleasure grounds, of the delightful woodland walks, and of the many interesting trees met with, but the kitchen garden, with its numerous glasshouses and various cultures, form so strong a feature that some reference must be made to it. Intersecting the large area devoted to the production of fruits and vegetables, and the various classes of decorative plants that require the aid of glass in their cultivation, is a broad walk flanked by borders of dwarf roses, and enclosed by yew hedges six feet or so in height. This walk, with its borders of roses, and shut off from everything likely to offend the eye, must form a delightful promenade during the season of roses, which, by the way, is a long one, for continuity of flowering evidently received the fullest consideration when the border was planted.

It was interesting to observe in passing through the numerous houses set apart for ornamental plants, that those which yield of their floral wealth from the middle of the autumn until the spring are held in high appreciation for the embellishment of the mansion and table decoration. The popular Begonia Gloire de Lorraine, poinsettias, calanthes, and several other subjects that are well known are grown in immense numbers, as also are chrysanthemums in variety. The cultivation of Malmaison and other carnations is carried out on a large scale, and with much success. Planted out, and trained over the back of one of the houses, is a huge specimen of Streptosolen Jamesoni, that throughout the summer blooms abundantly and produces a rich effect. When the writer had the pleasure of seeing it the foliage was almost hidden by the large masses of bright orange-coloured flowers.

It follows, almost as a matter of course, that in so large an establishment Mr. Miles should devote three or four houses to the production of tomatoes, and it need only be said that the crops were such as might be expected from so skilful a cultivator. It was interesting to observe that the climbing French beans are grown largely under glass, and give heavy crops. The plants grown for the production of the later glass crops are planted in a narrow border and trained up strings, and give liberal supplies with much less trouble than when pots are used. The ranges of peach houses and vineries were not less interesting than were other structures, and much might be written about the splendid crops of Goshawk and Sea Eagle peaches, and grapes generally, but one can only now say that they produced an impression not likely to be soon removed.

ENCLOSED FLOWER GARDEN, CAVERSHAM PARK.

Maple-Durham House.

As in the case of Caversham Park, Maple-Durham House is situate on the north side of the Thames, and is rather more than three miles distant from Caversham Bridge, by which access from Reading is obtained into Oxfordshire. This fine old manor house, the residence of the Hon. A. H. Mills, has the advantage of being placed amid the most delightful surroundings, and of being approached, no matter from what direction the visitor comes, through scenery so beautiful that one might well be excused for speaking of it in glowing terms. The river scenery changes immediately above Caversham Bridge, and instead of the flat meadows through which the river flows on passing Reading on its way to the sea, the ground rises sharply on the north side of the road, and for a considerable distance the latter passes under deep, well-wooded banks, and elsewhere affords glimpses of scenery in which wood, water, and mead are so happily combined as to compel a deep admiration for Nature's handiwork.

Maple-Durham House dates back to the reign of Henry VIII., and is a fine example of the best architecture of the time, and one might well wish that it found favour at the present day. No edifice would well be better suited for the home of a great country family, combining as it does solidity with elegance, and having the advantage of being quiet in colouring, without any approach to dulness. The mansion has a façade of considerable length, with bold central porch, and two wings, details that are mentioned for the purpose of directing attention to the admirable manner in which the handsome Magnolia grandiflora is utilised in clothing some portion of the walls. The porch is covered with variegated ivy which grows vigorously, and, proper trimmed, produces an excellent effect contrast with the deep red, dark-pattern brick walls. Some distance on either side of the porch is a slight projection, abo six feet wide, and perfectly flat, and on these two projections the large-flowe magnolia is trained to a height of prob thirty feet. Not a branch is allowed extend beyond the sides of the project and the effect is surprisingly beautiful, asmuch as the fine lines of the build are in no way blotted out or blurred, the case in many instances when climb plants have as their supports the walls buildings of architectural or historical portance. At no distant date I sh my readers an opportunity of judging themselves how admirable is the syst training wall plants that has been adop in this case. I had intended giving illustration in conjunction with th notes, but it has not been found poss

Extending in a direct line from th

door, for a distance of a mile or so, is an avenue of elms. I am not in a position to say when the avenue was planted, but it must have been in the distant past, for the trees are of noble proportions, and there has long been current a tradition that when one of the trees is blown down a Blount dies. The Blount family, it may be added, has owned the property for about four centuries. Not always have the mansion and its surroundings presented the quiet appearance which now constitute so great a charm, for one has not to dip very deeply into historical records to be reminded that in 1443 the mansion was strongly fortified, and had to bear the brunt of a hot contest, and to suffer the indignity of being taken by the attacking force.

The pleasure grounds and flower garden are extensive, distinct in character, and possess much beauty. The former are especially rich in ornamental trees, and as one calls to mind the many remarkable specimens of choice kinds that have found such an excellent home, the inference suggests itself that the tree planting done by the Duke of Marlborough at Whiteknights Park had its influence upon the then owner of Maple-Durham House. Cedar and other coniferous trees, large in size, and splendidly developed, abound in all directions. Some indication of the wealth of the grounds in these trees is obtained in the illustration in which the shepherd standing on a tall pedestal is quietly surveying the scene. The central part of the mass of yew surrounding the pedestal is of the common kind, and the outer band is the golden variety, which here takes on a brilliant colour, and produces a contrast that is very effective amid the somewhat sombre hues that prevail. In this portion of the grounds note was made of an especially fine specimen of Pavia macrostachya, which here attains to an exceptionally large size, and blooms with remarkable profusion. Of special interest and immensely attractive is the tall and otherwise splendidly developed specimen of the Maidenhair Tree (Salisburia adiantifolia). Seldom are such fine examples of this elegant tree met with, and it may well be regarded as one of the most noteworthy arboreal features of a garden rich in beautiful trees. Worthy of mention also is a fine specimen of Cratægus odoratissimus, a handsome species remarkable for its large leaves, its handsome flower trusses, and for the late period at which it blooms. The flowers attain their full development about a fortnight after those of the varieties of the common thorn have lost their freshness and beauty, and are then much appreciated.

The flower garden, of which an illustration is given, adjoins the mansion, and enclosed on three sides by trim hedges of yew it forms a charming retreat. The method of planting for summer effect is sufficiently shown to render description unnecessary, but it should be mentioned that the photograph was taken rather too early to show the plants at their best. Elsewhere may be seen hardy plants in abundance, and in another part of the gardens climbing and other roses, which Mr. D. Harris, the gardener, grows with so much success, were producing a beautiful display of colour.

FORMAL FLOWER GARDEN, MAPLE-DURHAM HOUSE.

Hardwicke House.

Leaving the quaint little village of Maple-Durham, and continuing the journey in the direction of Pangbourne for a mile or so, the fine old Tudor mansion known as Hardwicke House is reached. The scenery between Caversham Bridge and Maple-Durham, as previously mentioned, is extremely beautiful, but after leaving the last-named the road passes through even more picturesque country, and the pleasure is enhanced by some charming glimpses of the river. The mansion, which dates back to the time of Richard II., has much that is of interest associated with it, and is remarkable for its handsome elevation, its distinctive gables, and elegant groups of chimneys. The ground here slopes sharply down to the river, and the mansion, placed on a terrace on the north side, commands a wide and beautiful prospect, the river contributing in no small degree to the great charm of the Thames valley, which is here of considerable width.

The grounds of Hardwicke House, which is the residence of Charles Rose, Esq., are extensive and highly picturesque, and, among other things, are remarkable for the large number of splendidly developed trees, for the fine breadths of turf that form so admirable a setting to the arrangements of tender plants, the spacious borders of hardy perennials, and the groups of roses. The tender plants are arranged in a geometric garden contiguous to the mansion, and as this is accomplished with much taste, the effect, as seen from the terrace, is very pleasing. On the western side of the lawn is a border of hardy perennials, that at once arrests attention by the high development to which the plants attain, and the delightful combinations of colour that are produced. The heavy rain would not permit of more than a hasty glance at this fine example of hardy plant culture, a matter much to be regretted, because the rain kept the camera in its case, and prevented me carrying out my intention of giving an illustration of a portion of the border and of some other objects. Hardy plants are grown in other parts of the grounds, a point of some importance, as they show that they are highly appreciated at Hardwicke House, and that the gardener, Mr. A. Ryder, is fully conversant with the finest of the kinds and their cultural requirements.

In the lower ground on the south side of the wide-spreading lawn is an extensive bog garden, which, formed a few years since, now constitutes a most attractive feature. The area is intersected by canals [illegible] feet or so in width, and in these the [illegible] beautiful of the aquatics may be seen in a thriving condition. On the margin of the water are various moisture-loving plants, and in the spaces between the canals are groups of grasses, polygonums, and other hardy plants of bold growth. The pleasure grounds are continued down to the river's bank, where a terrace, with a broad walk and beds tastefully embellished with flowering plants of various descriptions, form a feature at once distinct and beautiful.

The numerous fruit and plant houses are arranged on the slopes to the west of the pleasure grounds, and in them was seen much to interest, and abundant evidence of cultural skill of a high order. On the broad belt of ground at the foot of the slope that skirts a private road, rambling roses and sweet peas were yielding their wealth of floral beauty in prodigal profusion, and producing an effect that compelled attention, however the rain might be falling—and it certainly was not light. The roses were supported by pillars formed with larch poles, and fixed in a line next the road, and behind them were the masses of sweet peas, which had attained to a quite exceptional height, and were flowering freely from within a short distance of the ground to the top.

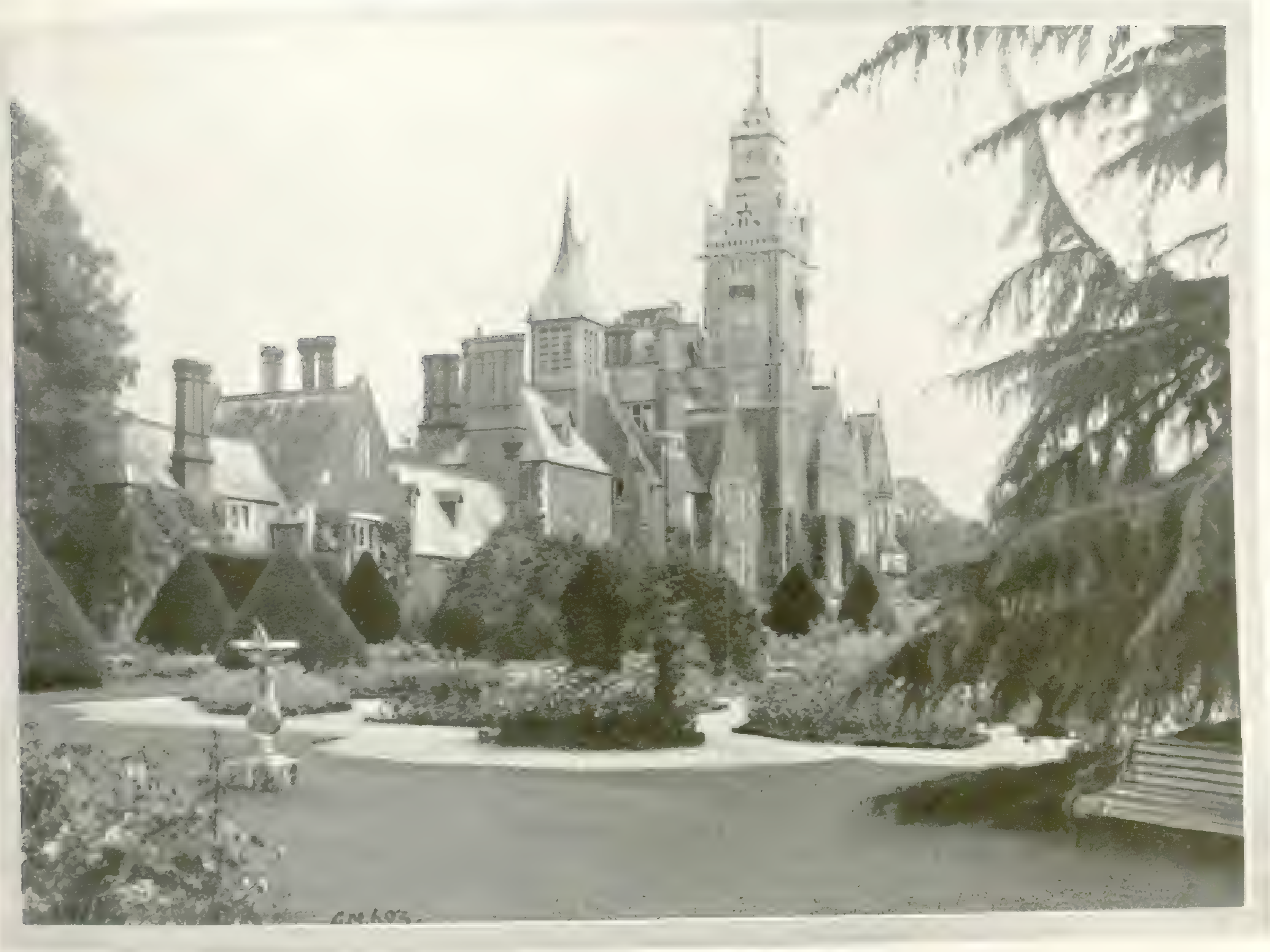
VIEW IN PLEASURE GROUNDS, MAPLE-DURHAM HOUSE.

Aldermaston Court.

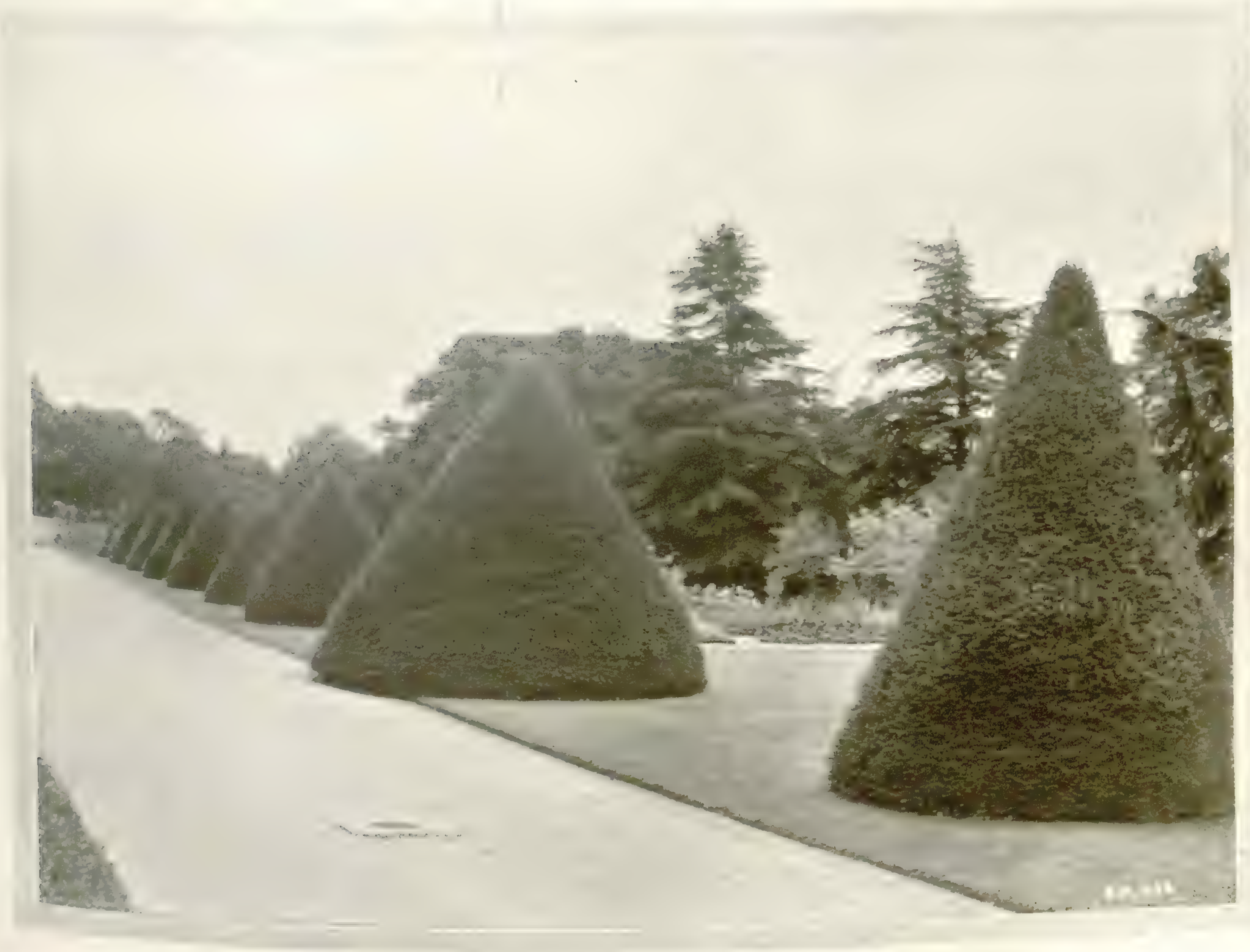
A visit to Aldermaston Court necessitates a journey of about ten miles, which may be accomplished wholly by road, or partly by rail and partly by road. Either is pleasant, but to drive the whole way is preferable, as a much better opportunity is afforded for enjoying the scenery to the south-west of Reading. The journey takes one to within a short distance of the northern boundary of Hampshire, and also of Silchester, which enjoys considerable fame, especially in antiquarian circles, for its Roman remains. Aldermaston is not, however, the best point from which to visit the site of the Roman town, as Mortimer Station is nearer, and otherwise more convenient. There is no occasion to describe the characteristic features of the scenery that lies between Reading and Aldermaston. It will be sufficient to say that it is varied and pleasant, and that fine crops on the arable land which is seen on all sides cannot well fail to give pleasure to those who are interested in country life. The village of Aldermaston is picturesque, and the railway station provided for the convenience of the inhabitants is certainly far enough away to ensure their being undisturbed by the noise of trains. Not far from the railway station is the wharf, on the portion of the Kennet which has become known by reason of its seclusion as the "backwater of the world." For a considerable period immense quantities of osiers for basket making were despatched from the wharf, but osier culture in the Kennet Valley has for many years been a declining industry. There are still osier beds, but from what one hears in the district they are not very profitable at the present time.

The entrance to Aldermaston Court, the seat of C. E. Keyser, Esq., from the north, is at the far end of the village, and in entering the park the visitor should not fail to notice the handsome iron gates, which were brought from Midgham House by Mr. Congreve when the estates passed into his possession in the distant past. The mansion and pleasure grounds are some distance from the entrance gates, but the walk or drive through the park is pleasant, and associated with much that is of interest to those who are concerned with arboriculture. It occupies rather high ground, has an area of about one thousand acres, and, half a century ago, abounded in snakes, for these reptiles were not only given sanctuary, but the people were encouraged by liberal payment to collect them for the purpose of augmenting the numbers. There is a large lake and severa smaller sheets of water, and great breadth of bracken that are particularly attra in the autumn, when the large, spread fronds assume the rich tints peculiar that season. The most noteworthy fe tures of the park are, however, the no oaks, the wide-spreading cedars, the an cient yews, and the tall limes, many of th last-named being noteworthy from the fa that they formed part of the avenues whi at one time were a distinctive featur of the park.

The fine Elizabethan mansion, which was built about sixty years ago, occupies a prominent position in the park, and has for its setting extensive flower gardens and pleasure grounds. Th most important, and certainly the most attractive, part of the grounds immediately surrounding the mansion is the terrace, o which two views are given herewith. Her are great beds of roses, containing vari that have been selected with due regard continuity of flowering, various orname tal shrubs, finely developed coniferous an other trees, the specimens of Cedrus De dara being particularly notewor beds of tender plants remarkable fo of leaf or flower. These latter are m arranged in the geometric scheme opp the mansion, and of this a glimpse i tained in the illustrations of the cl clipped yews, which form so disti ture of the terrace, and give expression to the broad prom ing across this flower garden fro sion a beautiful view is obtained the tall elms of the surrounding co and in the making of the scenery comes within the range of vision, g dow, glistening lake, bosky w rising hill, has each contributed The pyramidal yews are of considerabl age, and it is curious to see that the specimens was allowed, probably youth, to extend at its base a much gr



MANSION AND TERRACE GARDEN, ALDERMASTON COURT.



PYRAMIDAL YEWS ON TERRACE, ALDERMASTON COURT.

distance than the others. It will be seen that while the others have not been allowed to reach the margin of the grass, this one has been allowed to extend over it. The point is interesting, but of no great importance, and doubtless those who had charge of the trees in their early stages had good reason for what they did in this particular.

The kitchen and fruit gardens and the glass houses are within a short distance of the entrance to the park, and here one might linger long, for, as so well known throughout the district, the gardener, Mr. A. Galt, is a cultivator of great ability. If no reference can now be made to these important departments, the broad lake contiguous to them must be mentioned. Here one finds floating on the surface of the water a large number of the finest of the water lilies now in cultivation, and producing an abundance of splendidly developed flowers. The lake is liberally furnished, but there is no crowding, and each of the numerous forms has been kept separate from its fellows. The practice which obtains here might with advantage be adopted in some other cases, as under no conditions do the several kinds present a more pleasing appearance than when they are able to fully display their distinctive characteristics.

Wokefield Park.

An account of the more noteworthy gardens around Reading would be strangely wanting in completeness were no reference made to those of Wokefield Park, and all who know these gardens will share with me a feeling of regret that they cannot be described at greater length than is now possible. Wokefield Park, which is the seat of Alfred Palmer, Esq., is situate about six miles to the south of Reading, and may be readily reached by railway to Mortimer Station, usually spoken of as a mile from the mansion; but those who prefer to allow themselves some margin in catching trains would probably act wisely in regarding the distance as between a mile and a quarter and a mile and a half.

Whether the distance from Reading be six miles or a mile and a quarter from Mortimer Station is not a matter of great consequence, and the point need not be laboured. Of greater interest will it be to learn that the journey either way is a pleasant one, that the stately mansion has a beautiful setting, and that the gardens are remarkable alike for their extent and their high keeping. Here, as in some other of the districts to which reference is made, the scenery is extremely beautiful, and remarkable for its diversity of character. The park has a large area, is liberally furnished with trees distinguished by their nobility of aspect, and occupying a prominent position therein is the handsome stone mansion that impresses one by its long façade and its appearance of solidarity. Extending the whole length of the mansion is a broad grass terrace, supported on the park side by a low wall, and from this, as from any of the windows, a delightful view is obtained of the park and its fine expanse of water, and, indeed, of the country far beyond. The terrace is remarkable for its fine breadth of turf, whereon lawn games are played under the most favourable conditions, and at one end, where it widens considerably, and appears to pass imperceptibly into the park, there is a group of flower beds, which, tastefully filled, contribute liberally to the attractions of this part of the gardens. Occupying prominent positions in various parts of the lawns are many fine specimen trees, and of these special mention might well be made of the noble examples of Araucaria imbricata and Sequoia gigantea, which are two of the most attractive of coniferous trees for the lawn, when, as here, they retain their lower branches after having attained to goodly dimensions. Beyond the flower beds are shady walks amid aborescent features of much interest, conspicuous among them being that formed by the large examples of the Portugal laurel, which throughout the grounds grow with great luxuriance.

Connected with the pleasure grounds, at the other end of the terrace, are the kitchen and flower gardens, which have been designed and planted with due regard to attractiveness and utility. As a matter of course, when considerable improvements were made in these departments by Mr. Woolford, the gardener, nine years or so ago, due regard was paid to making provisions for abundant supplies of all kinds. This much may at all events be assumed, judging from the results obtained, and it may be assumed with equal safety that when he had made these provisions he proceeded to take the steps necessary to render the departments attractive with flowering plants. In walking through the kitchen and fruit gardens one sees large numbers of roses grown in various forms, the arches being especially attractive, and borders that are filled with plants well suited for the supply of flowers for decorative purposes. The great feature of the gardens, however, are the two broad borders of hardy flowers that flank the walk which runs the whole length of the old and new gardens. These borders are probably the longest of their kind in the United Kingdom, and they are remarkable for the success that has been achieved in the endeavour to provide a continuous display of flowers throughout the season. It not being practicable to satisfactorily portray the whole of the two borders, an illustration is given herewith of a portion of [illegible] near the handsome gates through [illegible] access is gained to the terrace and [illegible]

Fruits and plants under glass are grown with so much success that one would have been glad to direct attention to some of the more important of the object-lessons that came under notice when walking

PORTION OF HERBACEOUS BORDERS, WOKEFIELD PARK.

through the numerous structures, but the space is exhausted, and what has proved a very pleasant talk must be abruptly brought to an end.

George Gordon.

IRIS GARDENS.

Certainly one of the most delightful features of the modern garden is that known as the iris garden. The popularity of the various types of the iris has extended very rapidly of late years, and few groups of hardy flowers have done more in beautifying the garden.

Popular as they unquestionably are, we have not yet utilised to the full the wondrous possibilities of the irises; and, though the late Sir Michael Foster devoted the main portion of his interesting garden at Shelford to their culture, much more remains to be done before they are appreciated at their true worth. Iris gardens are at present few and far between, and even in places where much space is devoted to the iris they are subjected to the detrimental effects of having unsuitable plants grouped near them, or are so poorly arranged that half their beauty is practically lost.

Japan has taught us something about the wondrous attractions of a garden of irises. Those glowing breadths of Iris Kæmpferi, which travellers have extolled and have fascinated the eye of the artist, are glorious in the extreme. Pen utterly fails to describe their magnificent colourings and their indescribable charm. Irises of the Kæmpferi type are certainly glorious, and grouped by the waterside, or in moist boggy ground they are unsurpassed in effectiveness. The possibilities of these irises, together with those other splendid moisture-loving forms, such as [illegible], aurea, orientalis, Monneiri, Delavayi, spuria, monspur, monaurea, and their numerous varieties, gives one ample material for clothing the moister portions of the iris garden, or, better still, they could be utilised for margining a watercourse or lily pool.

Nothing is more charming than a daintily conceived waterway, or a series of lily pools flanked with bold groups of the irises mentioned. Picture it if you will. The soft, exquisite colourings of the flowers of the early nymphaeas resting upon the bronzy-green leafage, and the blue, gold, and purple of the irises, shading away through the maze of opal tints, and softest colourings to the purest white, their glorious forms mirrored in the water, and the summer sunlight giving its glowing rays to assist in the expression of beauty. Surely such is worthy of the central place of the iris garden. And with the moisture-loving irises as the pivot, one can freely group the many other sections of irises, until the delightful comprehensive scene of the iris garden is complete.

Individual taste in selection and grouping will add greatly to the charm, and will ensure for the garden a characteristic interest all its own. The more inclusive one can make the selection the greater is the interest of the garden. The Germanica, Siberica, pumila, unguicularis, versicolor, and similar groups can be readily drawn upon. Bulbous irises should also be pressed into service, as they furnish several early-flowering forms possessing much beauty, and also include the popular Spanish and English irises.

Without wishing to trespass upon the patience of the reader, one might suggest that the rarities should be well represented, for by their inclusion one has a great asset in determining the popularity of the garden. It is important to group the species and varieties boldly, for there must be nothing weak in the planting scheme. Those forms which love a fairly dry position should be given the preference for the higher ground. Regularity and formalism in design and planting will rob the garden of half its beauty. The beds or groups may be broken up by turf walks, but by far the better plan is to arrange a good irregular stone pathway through the main portions of the iris garden, and to break up the groups and varieties of irises by groups of other plants of a dwarf yet light character. The effect of breadths of myosotis, cerastiums, heucheras, tiarellas, anemones, linums, dwarf gysophilas, and many other dainty plants, intersecting the great masses of the sword foliaged irises will be more than pleasing.

There is so much of beauty and charm in the iris garden, and whether the main features rest entirely with the irises, or whether you combine kindrid subjects with them, the essential points of interest and beauty will have that same pervading charm, making it the most popular feature of the pleasure grounds.

P. S. Hayward.

TERRACE FLOWER GARDEN, WOKEFIELD PARK.

Agapanthus umbellatus minor.—There are several agapanthuses in cultivation, all of which, according to the "Kew Hand List," are but varieties of A. umbellatus. This is of small growth, and free in blooming, and well suited for decorative purposes when grown in pots of small size. The leaves are narrow, and almost grass-like, while the flower stem, which attains a height of about eighteen inches, terminated by an umbel of flowers that, individually, are not quite so large as those of A. umbellatus itself, while they are also somewhat paler. All the forms are valuable for the embellishment of the greenhouse during the latter part of the summer and early autumn. K.

SOME DWARF CATCHFLIES.

It is generally of greater benefit to the gardener to write of flowers which are in the hands of the trade, and can be purchased at a reasonable price, than to describe rarer and unprocurable species which, however beautiful, are not to be secured for the garden. The latter, being unobtainable, are of little more than academic interest to the ordinary cultivator of flowers. Thus at present I shall not venture to speak of any of the silenes except a few which are readily obtained, and, at the same time, are quite inexpensive, and generally easily grown.

Silene acaulis.

The first to be named is the Stemless Catchfly, or Cushion Pink (Silene acaulis), together with its varieties, the whole forming an exquisite group of much beauty. The close carpets of verdant green are very beautiful in themselves, but when these are sheeted with the charming little rose-pink or white flowers it is difficult to conceive anything more fascinating among the members of the alpine flora.

The flowers themselves seem almost to nestle on the leaves, and there is no one who can see a clump of this little cushion pink without admiring it. It is not, however, always satisfactory in the rock garden, missing, as it frequently does, the moisture at the roots in which it delights when it is in full sunshine, and too often do we see it giving only a few sparsely scattered blooms over its carpet of green. It likes a sunny position, in moist, sandy, or peaty soil, but if given a dry place will give but little satisfaction. The typical S. acaulis has flowers varying in colour, but they are generally of a good rose-pink. There is also a white variety, alba, together with one with double flowers, but this, the colour of which is pink, is not so free of blooming or so vigorous in growth. Exscapa is a dwarfer form, and there is one still more compact, but, so far as I know, not in commerce, called muscoides. This species and its varieties are increased by division after flowering.

Silene alpestris.

The Alpine Catchfly (Silene alpestris) is a little plant, is so easily cultivated, and gives its beautiful little flowers so freely that it deserves the gratitude of all admirers of the prettiest white alpine flowers. It is thoroughly hardy, very neat and dwarf in its growth—its height being from four to six inches—and exceedingly pretty, with its white flowers, elegantly notched, and shining as if polished. These flowers are well uplifted above the glossy green leaves, and, as they are freely borne from May onwards for a month or two, they are highly valuable. This species likes to be among small stones, but should not be too dry at the roots if it is required to assume a healthy aspect and to flourish and increase. It is raised from seeds or multiplied by division, and is, taking it all in all, one of the most useful of all dwarf alpines with white flowers.

Silene Elizabethæ.

Elizabeth's Catchfly is one of the most charming of alpines, but it always remains comparatively rare, and is more expensive to purchase than the majority of the race. This fact points to its being more difficult to cultivate, and it is generally found that the plants usually sold, which are necessarily small on account of the difficulty of keeping the plant, often fail. Strong established plants from pots, and planted out in a sunny place in loam, sand, and grit, have a much better chance of success than these, but, although much has been said to the contrary, it cannot be accounted a plant for the many. It is, however, a great beauty, with its tufts of rather pubescent leaves and its wonderfully large rose-coloured flowers on little stems three or four inches high.

Silene maritima.

But for the beauty of its double form, the Sea Catchfly, or Sea Campion (Silene maritima) need hardly be mentioned. This form, called S. maritima fl.-pl., is, however, an attractive little plant, useful for trailing over a small stone or for covering a low flat terrace. The white flowers are wonderfully like those of a double pink, although they are devoid of the fragrance of that favourite flower. There is also a rose-coloured form of the single sea campion, but I am not greatly enamoured with it. The glaucous leaves of both are pretty, and they can be grown in almost any soil, from pure sand to stiff loam.

Silene pumilio.

Like Silene Elizabethæ, the Pigmy Catchfly is easier to grow on paper than in practice, and it ranks in price along with that scarce flower. It is like S. acaulis in many ways, but is much smaller in its growth, and has larger flowers of a finer rose colour. It is a species which likes a sunny place in summer and winter alike, but it must have plenty of water about its roots in the former season. Sandy loam, with grit in the compost, and a sunny position, are the orthodox requirements, and it is wise to endeavour to provide these for the Pigmy Catchfly. It grows about three inches high, and blooms in May.

Silene Schaftæ.

Schafta's Catchfly is one of the most useful of all, its pretty, deep pink flowers coming late in the season when other alpines are scarce, and lasting for a long time. It grows about six inches high, and will often bloom from June until October. It is easily raised from seeds, and is one of the cheapest of the species, while it is also one of the prettiest. It will grow in common soil, and is excellent for the rock edging.

Such are a few of the most easily obtained and prettiest of the dwarf catchflies or campions. Their beauty is unmistakable, and their flowers in their season will serve to minister to our enjoyment, and will render our gardens more full of pleasure to all.

S. Arnott.

Vallota purpurea.—Of late years we have had large quantities of the Scarborough lily imported from South Africa. The bulbs appear to have been collected in a wild state, and, as a rule, the growth is tall, and the flowers very poor in shape compared with the older forms which have been in cultivation for many years. One of the latter, to which the varietal name of magnifica is applied, is of dwarf, sturdy growth, with the segments so broad that the flower is almost circular. The colour is a rich scarlet, with a very light centre. I have known this variety for nearly forty years, but in the far off days it used to be called eximea, the magnifica of that period being a tall, stately plant, with fine, rich-coloured flowers of a uniform tint, being entirely without the light centre. The dwarf, sturdy type, according to my experience, flowers with far greater freedom than the imported forms. That interesting hybrid between the vallota and Gastronema sanguinea, which is known sometimes as Vallota hybrida, and at others as Gastronema hybrida, is of interest. The blooms are smaller than those of the vallota, and do not expand so widely, while in colour they are more of a vermilion tint.—W. T.

THE FRENCH SYSTEM OF CROPPING.

The French system of growing winter salad plants and vegetable crops under cloches, placed over warm manure, is creating a great amount of interest in this country at the present time—more especially, perhaps, for supplying market centres than for private gardening. The profits therefrom, as given in some reports, are certainly an incentive to give the system a fair trial, even if you divide them by one-half. The French [illegible] population are known to be a studious, thrifty, economic, and successful people, and around Paris some largely derive their income from this form of cultivation, generally known as intensive cropping. It therefore behoves us to give the matter due consideration, and to carefully compare their methods with our own, and to adopt them in part or as a whole if found to surpass our present system of production.

The president of the Chester Paxton Society, Mr. Gibbons Frost, said at a meeting of the society that he had been on a visit to France, and, from what he saw of the French mode of culture, it had so much impressed him that, on his return home, he decided to give it a fair and impartial trial in his garden at Chester, and generously invited those who were interested in this to pay him a visit to enable them to form an opinion of its value to us. This brings me to the point. How can we, with advantage, adopt it for supplying a private establishment with its varied daily demands? Speaking with reserve from a limited experience of the system, it does not appear likely that it will be generally taken up by the English gardener. It appears too exacting and complicated with so many crops intermixed, and, unless relegated to a frame ground, the necessary quantity of appliances, covering, etc., lying about, is not in accordance with the order and neatness usually seen in good English gardens.

The labour, too, in covering and airing the crops in the cloches is considerable during extreme weather, and this cannot be given the close attention with the many calls of a private place, as in the case of one who is on the spot devoting his sole energy and time to the production of market crops. Taking into account everything connected with this style of forcing, there does not seem great advantages over our present system of production with pits and frames. There is, in many cases [illegible] private places, a difficulty in showing the necessity of a sufficient quantity of [illegible] which need not be of an expensive character, but are invaluable during the winter [illegible] spring months, especially for forcing and protecting purposes. Where the requisite number of frames, etc., are provided, and [illegible] the improved varieties of cabbage lettuce [illegible] our disposal, there is no difficulty in [illegible] a supply through most of the year. [illegible] the season round, if due care is exercised [illegible] sowing at the proper time during [illegible] autumn, and bringing the plants on in sheltered positions to be covered with glass [illegible] severe weather sets in, followed on with [illegible] sowings in the first part of January [illegible] forced in the usual way over mild [illegible] Endive, too, may with protection [illegible] long as required, and blanched as desired [illegible] any dark position with a temperature ranging from 50 to 60 degrees, easily [illegible] most of our gardens. Chicory is [illegible] easiest to procure, as it very readily commences growth and blanches when [illegible] to any warmth from 45 to 60 degrees [illegible] light is excluded. With these plants [illegible] early carrots, potatoes, etc., our way of [illegible] ing them seems to us simple and [illegible] In the desire for knowledge and [illegible] ment it is very interesting to know [illegible] learn something from our French [illegible] that may be of use to us. Probably we can not do better than Mr. Frost, in making experiments of their methods for ourselves, in a small way.

C. Flack.

Cholmondeley Castle Gardens.

THE FORSYTHIAS.

Few shrubs are more floriferous or are calculated to make a better display of bloom during early spring than the forsythias, while few shrubs are more amenable to general cultivation. They thrive in many sorts of soil and in a variety of situations, are easily propagated, and attain flowering size in one year from the time the cuttings are inserted. In addition to the bright display they afford the latter part of March and in April, they may be used for forcing, for greenhouse or conservatory decoration, and large plants lifted from the shrubbery and forced gently so as to be in bloom early in February, are extremely useful for decorations, either as house plants or cut flowers. For beds on the outskirts of lawns, masses in the woodland, groups in the shrubbery or for covering trellises, they are equally desirable, and they are within the reach of all, as they may be obtained at a very cheap rate. The species in cultivation number three, but in addition there are several varieties and a hybrid.

NARCISSUS KING ALFRED.

As exhibited by Messrs. James Carter and Co. at the Meeting of the Royal Horticultural Society on the 6th inst., and described in our report at page 286 of our issue for the 10th inst. King Alfred is one of the finest of the golden trumpets, and so large a display attracted much attention.

F. suspensa.

This is a Chinese plant, which has been known by the names of F. Fortunei and F. Sieboldi, in addition to the correct name. Grown under natural conditions it forms an elegant bush 12 feet high, with a few stout main branches and numerous slender pendulous branchlets. It succeeds well amongst evergreens, where the long slender branches can trail over the surrounding bushes. Placed against a trellis, with the main branches secured and the side ones allowed to hang loose, it is also effective. Grown under the former conditions, it requires practically no pruning, but when planted against a trellis the side branches should be cut back each spring.

There is, in addition, another way in which this species may be grown effectively. This is by preparing beds of rich soil and filling them with plants 4ft. apart. These plants are then cut over 2½ or 3ft. from the ground, as soon as the flowering season is over. During summer strong upright shoots 3 to 4ft. in length are formed, which bear blossoms from base to summit the following spring. Each year, as soon as the flowers fade, the annual branches are cut back to within two or three buds of the base. The process is an exhaustive one, and it is necessary to mulch each spring with well rotted manure. When the plants show signs of deterioration they should be thrown away, and be replaced with a fresh lot of plants.

F. viridissima.

This is another Chinese plant. It differs from the foregoing by forming a dense upright bush, with very green branches and deep green leaves. The flowers are borne profusely, but they are a little later than in the former species. It may be used for beds and groups, but is not serviceable for trellises. Very little pruning is necessary, except when plants are growing out of bounds. It is not so useful as F. suspensa for forcing purposes.

F. intermedia.

This is a hybrid between the foregoing plants, and in habit and general appearance it is intermediate between the two. It requires very little pruning; in fact, it blooms better when left unpruned. Old plants 8ft. high, and bushy, are frequently masses of yellow blossoms in spring. There are several very floriferous varieties, of which vitellina and densiflora are distinct.

F. europæa.

A lot of notice was taken of this shrub a few years ago, in so much as it is an European plant, and the genus was not known to be represented wild in Europe previously. It was found in Albania, and was introduced to commerce six or seven years ago. So far as gardens are concerned, it is practically useless, for all the other forsythias are infinitely better and flower much more freely. As in the other cases, it has yellow flowers. Some variation is noticeable in a batch of plants, some being hairy, others glabrous, whilst the leaves of some are lobed, others not.

All the forsythias may be propagated from cuttings of soft shoots in May or June, and cuttings inserted at that period do much better than those taken later when the wood is partly set. If put into gentle heat, roots are formed in about a fortnight, and the young plants may be placed out in a border about a month after the cuttings are taken. By this means a good growth is obtained the first year.

Kew. W. Dallimore.

Lily of the Valley from Denmark.—We have grown so used to Berlin and Hamburg lily of the valley crowns that we look doubtfully upon crowns from elsewhere. But Denmark has taken up the culture of crowns for forcing, and last autumn sent a considerable quantity to London. These crowns, after cold storage, force well, and the demand for the Danish produce appears likely to increase.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

CATASETUMS, cycnoches, chysis, and other allied genera, will now be producing their new growths, and in some of these genera the flowers will also make their appearance with the young growths. These must now have more liberal treatment in respect to the application of root moisture. Practically the whole of this section may be grown in the cattleya house under the same atmospheric conditions. To induce the majority of this section of orchids to flower satisfactorily, it is desirable they should be given ample light, and where they can be grown suspended from the roof with just sufficient shade to prevent the foliage becoming scorched, they generally yield a satisfactory return of flowers.

LYCASTES.—This is another class of orchids that are not cultivated so extensively as they used to be, or as their merits deserve. They are exceedingly useful, being winter and spring flowering. Many of the species not only retain their flowers in perfection for many weeks, but they are also exceedingly useful for the supply of cut flowers. The period of the year at which the plants are flowering depends to a great extent on the treatment given them. Where they are grown in a warm intermediate house the flowers are produced throughout the greater part of the winter and spring months, but where grown cooler, the flowering season is naturally later. There can be no doubt that the best colour and substance is produced under the cooler methods of treatment. This is accounted for by the more favourable conditions prevailing outside, when the flowers are in process of development. The new growths of the plants that flowered early will be advancing rapidly, and as soon as the new roots make their appearance, any repotting requirements necessary should be attended to before the roots become far advanced. Before repotting lycastes it is advisable to water them well the day previous to their being repotted. This will not only moisten the old potting compost, and thereby facilitate its removal, but it will enable the roots to part more readily from the side of the pots. It will generally be found that by giving the roots a good watering some time previous to removal, even the strongest rooted orchids are the more easily detached. Avoid over-potting, and select pots just sufficiently large to secure the plants comfortably. Fill the pots to about one-third their depth with clean broken crocks. The potting compost may consist of about equal portions of fibrous peat, Osmunda fibre, and turfy loam; to this may be added sufficient sand or finely broken crocks to render the compost porous. In districts where there is a considerable obstruction to light, the compost should consist of peat, osmunda fibre, and chopped sphagnum moss. The compost should be pressed moderately firm. Water as soon as repotting is completed, and shade from the direct rays of the sun until the roots are pushing into the new compost.—H. J. CHAPMAN, Oakwood Gardens.

STOVE PLANTS.

SYRINGING, ETC.—In the stove at this season, when growth is rapid, the afternoon syringing is important because humidity thus created allows the house to be shut up while the sun is yet powerful, without in any way causing scorching. With the increase of ventilation, and, of course, evaporation, frequent syringing and damping down is most essential.

EDGING PLANTS.—Give attention to the supply of young and fresh material for furnishing the edgings of stages, etc. such as Isolepis gracilis, Ficus radicans, tradescantias, panicum, Rex begonias, Pilea muscosa, and similar plants.

COLEUS THYRSOIDEUS.—When once this plant has been cultivated for winter decoration its propagation is not likely to be overlooked, because of its usefulness. When in flower, associated with white chrysanthemums, or white lilac, the effect is good. Plants that have finished flowering should be cut partly down, and encouraged in a warm house to produce cuttings. Bush plants are very attractive, but we much prefer plants with from one to three stems and flower spikes, and from 4ft. to 6ft. in height; and when the plants are grown strongly, large flower spikes result.

CALADIUMS.—Pot up more tubers to give a succession to those earlier started, using a compost consisting of equal parts of peat and loam, with plenty of sharp sand. As caladiums are seldom benefited by repotting the pots should be large enough to carry the plants through the season. The tubers should never be placed deeply in the soil; place them in a temperature of from 65 to 70 deg., and be careful at first not to give much water, but when growth is active feed and water freely.

TUBEROSES.—Fragrant flowers can be and are produced with equal success by warm or cool treatment, from the bulbs of these plants. Yet many failures have been recorded, due principally, one may presume, to the application of water before the bulbs had made any leaf growth. To encourage early root action plunge the pots in a bottom heat of 65 deg., and give no water until growth has started freely, when weak liquid manure may with advantage be given. The flowers will continue in good condition for a long time if given shade from strong sun in a cool house.

EUPHORBIA JACQUINÆFLORA.—When cuttings can be secured from the well-ripened wood, they strike more readily and grow more freely with a heel of the old wood attached. Put three cuttings near the edge of a small 60-sized pot; and when turned out, rooted, pot them singly. Employ good loam, peat, leaf-soil, and sand, and place in a temperature of about 80 deg., when they will soon take root. As the plants increase in size, charcoal in small pieces, and quarter-inch bones may with advantage be added to the soil, but in all stages of growth give no more water than is really necessary, and that is not much.—W. FYFE, Lockinge Gardens.

FRUITS UNDER CLASS.

THE EARLY VINERY.—Keep the laterals pinched frequently, never allowing them to become so long as to necessitate using the knife. The stopping of the shoots is not to check the vigour, but to direct it into the proper channels. As soon as the berries begin to stone, extra care should be exercised to prevent undue check. After stoning, the stopping must be done very thoroughly, little and often, and with the thumb and finger. Tie up any shoulders which will be of benefit to the bunch, as by this means the berries have a much greater chance of development, though any untidy shoulders should be cut away. At this stage it is a good plan to look over all the bunches very carefully, and see that the thinning has been properly done, and if an odd berry or two requires removal attend to it at once. A good bunch of grapes should be just tight enough to keep its position when placed on the dessert dish. Grapes like Madresfield Court and Gros Maroc require a good deal of judgment, and should be thinned heavier than Hamburghs and Sweetwater grapes. See that the borders do not lack moisture; have the walls and floors frequently damped, and admit a little air at 6.30 every morning; an opening of half an inch at the top will be sufficient, and if it be a sunny morning, gradually give more air.

SUCCESSIONAL HOUSES.—Continue to disbud and tie down the growths as necessary. Remove strawberries from vineries as soon as possible, and never allow them to become dry, or they will soon become a prey to red spider, and then cause trouble. The Muscat house should now have a rise in temperature to 60 or 65 deg., and by the time the vines come into bloom it may be raised another 10 degrees, as Muscats revel in plenty of heat. Syringe well both morning and afternoon, and occasionally damp down according to the weather.

EARLY PEACH HOUSES.—Tie down [illegible] growths regularly, and fill every avail[illegible] space with young branches, as these [illegible] make the fruiting wood for the next [illegible] Any old worn-out branches, with no [illegible] may be cut out and new wood trained [illegible] their place. See that the crop is not too h[illegible] better have a moderately good crop [illegible] a heavy one of poor fruits. It is a very g[illegible] plan to change the early house once [illegible] and again, as it cannot be expected that [illegible] can be forced year after year without [illegible] or partial loss of crop. This applies to [illegible] early forced trees only. Successional [illegible] may be treated similarly to the earlier [illegible] and at this time strict attention must [illegible] paid to disbudding and thinning the [illegible] All disbudding should be done in the [illegible] stages of growth.

LATE STRAWBERRIES.—These should now be placed under a north wall [illegible] advancing too rapidly in the frames, and [illegible] are much better treated thus than [illegible] shaded in frames. Strawberries fruiting and showing fruit should be thinned in the [illegible] stages, and be well fed to the time they [illegible]mence to colour, when feeding should [illegible] All fruiting plants, as soon as the [illegible] gathered, should be at once turned [illegible]

MELONS.—Batches should be sown [illegible] the late summer supply, and as a [illegible] to those recommended in a former [illegible] These may include similar varieties. [illegible] the earliest crop a good top-dressing [illegible] with some fertiliser mixed with it. [illegible] will give the fruits and foliage the [illegible] requisite at this stage. Melons grown [illegible] cordon principle may carry four fru[illegible] melon of about 3lb. weight is much [illegible] than a very big one, as they can be [illegible] when sent to table.

TOMATOES should be kept rather [illegible] as too much moisture will cause the [illegible] to crack. Those ripening now in pots [illegible] be afforded liquid manure occa[illegible] Seeds should now be sown for a late [illegible] batch. Tomatoes in private establi[illegible] should not be kept about after the ma[illegible] of fruit has been secured, as they ge[illegible] look untidy, and the fruits deteriorat[illegible]

ORCHARD HOUSE. — Where cherries, plums, pears, etc., are grown, the house will now be gay with bloom. The cherries must have frequent washings if at all a[illegible] with black aphis.—W. A. COOK, Le[illegible] Gardens.

THE KITCHEN GARDEN.

FRENCH BEANS.—A sowing of this [illegible]able vegetable may now be made o[illegible] most parts of the country. Choose [illegible] sheltered border, where the soil is [illegible] light but rich, to encourage early and [illegible] root action. Draw the drills [illegible] south, at about two feet apart, and [illegible] seeds more thickly than the plants [illegible]quired, to guard against loss, as slugs [illegible] often too ready to attack early plants. Plus Ultra, Perfection, and the [illegible] Canadian Wonder are each dependable [illegible]ties for yielding heavy crops. Narrow glass frames are invaluable for [illegible]ing and forwarding early sowings [illegible] kind in cold and bleak districts.

RUNNER BEANS.—Preference [illegible] times given to an early supply [illegible] and in this case a batch of plants [illegible] brought along by sowing seeds [illegible] 48-size pots to the number required [illegible] soil; grow the plants sturdily in a [illegible] or frame until they are about 12 in[illegible] then gradually harden them off [illegible] out in a favoured position to gr[illegible] advance of those sown outside. [illegible] opinion, the main crop is best sown [illegible] the open, unless proper frames [illegible] be devoted to the plants. [illegible] and Scarlet Emperor are both [illegible]ties.

PEAS.—The weather so far has [illegible] very favourable for planting out [illegible] plants. If the peas reared under glass [illegible] not been planted, take the first [illegible] get them out. They are subject [illegible] growth if allowed to [illegible] Choose soil that has [illegible] manured and deeply dug or trenched.

the rows running from north to south, and give a space of about nine inches from plant to plant. Take care in planting to not unduly disturb the roots. For the purpose of protection stake the plants at once, and should cold winds occur, place laurel boughs on each side of the rows to screen them. It is not advisable to soak the soil with water after planting unless it is unusually dry.

CELERY.—The earliest sown batch of plants will soon be ready for planting out in their trenches. For special produce the single row system of planting is essential to secure a greater root run, and the extra earthing up and attention is more easily carried out. If the crop is grown for the daily supply of the household, plant in double rows, which economises space and labour. The main sowing, made early in March, will be now about ready for pricking out into cool frames at six inches apart. The plants are more easily transferred with good roots if the frame is placed upon a hard and firm base. Use good loam lightened with spent mushroom bed manure, or rough leaf-mould and sand, to a depth of about eight inches, made fairly firm. Keep the atmosphere of the frame humid and moist by admitting very little air, and syringing the plants twice each day till it is seen growth has commenced in the new material; afterwards admit more air.

LEEKS.—The early plants will be in a condition for planting out, if pricked out as required from the seed boxes. These are gross feeders, and the best results are only obtained by providing them with a deeply stirred and richly manured soil. Choose the moistest part of the garden. Trenches are best for producing large specimens.

BROAD BEANS.—A successional sowing of this crop may be made in a cool quarter, such as a north border, to give a late supply. In this position succulent beans are obtained over a long period.

GENERAL REMARKS.—As the young crops appear above the ground keep the Dutch hoe actively employed in stirring the surface between the rows at short intervals. Remove the stems of old green crops as soon as they are of no further value, and have the site manured and dug in readiness for further planting. Prick out young Brussels sprouts and cabbages into nursery beds, and sow seeds to make good any failures. Also make sowings outside of most kinds of plants for salading.—Chas. Flack, Cholmondeley Castle Gardens.

AN OLD-GOLD OROBUS.

There is a very distinct and pretty, although not showy orobus, called by the name of Orobus aurantius, or orange orobus, which deserves a little more notice than it generally receives at the hands of writers on hardy flowers. It comes a little later than the varieties of the spring Orobus lathyrus or Orobus vernus, but its colour is so distinct and good that it is worth having, even where flowers which blow from May until July, its flowering season, are, as a rule, plentiful indeed. There are never too many plants with pea-shaped flowers at that time, and there are fewer still with blossoms of its fine orange or old-gold colour then in bloom. The height of Orobus aurantius makes it excellent for the small border or the front of the large one, as well as for good places on the large rockery. About a foot and a half is its maximum height, but in sandy soil it is usually only some twelve inches high. This depends greatly upon the amount of moisture it receives, but it appears to prefer a considerable amount of this if the soil is both sandy and well-drained. Orobus aurantius, which comes from Iberia, is a valuable plant, which derives its value alike from its hardiness and its beauty, so that it may be more widely cultivated with advantage. It is increased by seeds or by division of established plants, which is best effected after flowering is over, so as not to lose a season's bloom. S. Arnott.

FERNS FOR DECORATION.

During late years many kinds of asparagus have been introduced, and ferns have somewhat lost favour amongst the florists, consequently they are not so much grown now as formerly for the production of fronds. Still, there is nothing so suitable for arranging with choice orchids as sprays of adiantums, or for giving a finishing touch to light and elegant bouquets or sprays; but in order that the fronds may be sufficiently hardened to withstand the rough treatment they are likely to be subjected to, the plants ought to be placed in a cool temperature for some time previously, and none but the oldest and thoroughly developed fronds be used. The enormous quantity of Adiantum cuneatum that was at one time grown for the production of fronds would be difficult to realise, as tons of them found their way into our markets, to say nothing of the quantity used in private establishments. It is, however, not as cut foliage that I wish to draw attention to ferns, but to their value for decorative purposes. Numerous as are the species and varieties, there are but few really good plants for indoor decorations, particularly where they have to put up with the rough treatment many of them are subjected to in the dwelling house.

Of adiantums the most popular are A. cuneatum and its variety gracillimum. These two are readily produced from spores, which will, with due attention, make nice plants in a short time. Batches of these should be sown at intervals, and when the plants are large enough to handle they should be pricked off into pans or boxes about an inch apart, using a light, sandy, peaty soil. When the seedlings touch each other, which they soon will do if afforded plenty of heat and moisture, they should be potted singly into small pots, and when these are filled with roots shift them into larger ones as they require it. There is, however, no necessity to use very large pots, as plants a couple of feet in diameter may be grown in those known as 32's, provided they are liberally treated, and never allowed to suffer for want of nourishment. A. formosum is another species that makes a splendid decorative plant, as its fronds are hard, and will withstand rough treatment. This is by no means particular as to soil, though, given a light, rich compost and a liberal amount of heat and moisture, small plants will soon develop into a useful size, and as they are produced so readily from spores batches should be brought forward to succeed each other. The fronds of this species, when well grown and fully developed, are of fair dimensions, therefore the plants are suitable for large vases.

Where a quantity of house decorations are the order, Asplenium bulbiferum will be found a most useful fern to grow, and there can be no doubt about this being a universal favourite, not only on account of its easy management and rapid growth, but for the peculiar way in which it increases itself. Even those who know but little about ferns delight in watching the small plants which are produced on the surface of old fronds develop themselves, and as they become large enough these may be taken off and transferred to small pots. It is watching these plantlets grow that has caused so many to take an interest in fern culture. Being not at all particular as to soil, so long as ample moisture is afforded the roots, plants will thrive wonderfully in a half-lighted sitting-room, and, given a gentle warmth, they will grow away most rampantly, even in a small pot, and as the fronds become developed they assume a pleasing pendulous habit, which makes them the more attractive.

There are several kinds of pteris that are well adapted for decorative purposes, as their hard fronds enable them to withstand the variable and dry temperature of the dwelling-house. Provided the plants are well rooted, but not too potbound, and have not been grown in too high a temperature, it is astonishing how well they accommodate themselves to such rough treatment. P. serrulata and its varieties are grown by the hundreds of thousands for market, varying in size from those in small thumb pots to specimens in six-inch pots, and as they are so readily increased by spores, which are produced in abundance, there is but little difficulty in having plants in all stages of growth. Though by no means partial as to soil, these ferns grow most rapidly in a mixture of peat, leaf-soil, loam, and sand, and, given a moist atmosphere with a suitable temperature, it is astonishing how quickly the plants develop. The variety P. serrulata cristata is very popular, being of more robust habit and quicker growth than the old form of serrulata. P. cretica albo-lineata and P. Mayi are also useful plants, their light foliage making them very attractive. P. tremula should also be given a place, as this is a fern of rapid growth, and furnishes fronds of a pleasing character which last a considerable time in good condition, provided the plants are well supplied with moisture at the roots. This, too, is easily grown from spores, which are produced in abundance on the old fronds.

In addition to having to produce plants to fill vases, etc., it frequently happens that ferns are required for suspending in ornamental baskets, and for these the following may be found very serviceable, though some of them will not put up with the rough treatment those named above will. Still, in many positions they will be found most useful, and owing to the beauty of their fronds they are specially adapted for decorative purposes. Most gardeners are well acquainted with the old Nephrolepis exaltata, or Ladder Fern, as it is termed, as being a very useful and accommodating species. N. todeaoides is well worthy of a place in all gardens on account of its easy culture. It is alike useful as a basket plant and for growing in pots, and is equally as pretty in a small state as when grown to a large specimen, for its fine feathery fronds are sure to please even the most fastidious fern lovers. The fronds, when fully developed, are from a foot to fifteen inches in length, and from four to five inches wide, the edges so deeply crimped as to render them much like a feather. Like most others of this class, it is readily propagated from the small plants that are produced along the thin wiry rhizomes, or by the crowns or offshoots from the main plant. So far I have not seen a fertile frond. N. Whitmani is another of like character, and though the fronds are not so deeply crimped they are very beautiful. Another which should find a place in all gardens where there is room is N. davallioides furcans plumosum. If there is anything in names, surely some of the ferns have ample to describe them most minutely. The fronds of this, as its name signifies, are feathery, and the plant altogether is most interesting for baskets, where its fronds can hang loosely over the edges. N. rufescens tripinnatifida is useful alike either as a basket or pot plant. Then we have N. Duffi, a dwarf, neat-growing species, producing beautifully tessellated fronds, which, when well grown, are crowded together, forming a compact plant. This species is far better for pot culture than for a basket, as the fronds stand more erect. Being a native of a warm country this requires more heat than some of the other species to grow it to perfection. Nor does it increase so readily as some of the other kinds do, for being of a more tufted character there is no abundance of wiry rhizomes, but by carefully attending to the plant's requirements a stock may soon be worked up by division in spring.

There are several other nephrolepis worthy of cultivation, but the above will be found among the most interesting for general use. They like an abundance of moisture at the root when growing, and, though they are not at all particular as to shade, it is far better to screen them from the bright sunshine. H. C. Prinsep.

Buxted Park Gardens.

NARCISSUS CULTIVATION.

(Concluded from page 288.)

Cultivation between Planting and Harvesting.

The chief labour involved is in keeping the ground clean, and the amount of labour necessary varies according to the condition of the land and the weather. When planting has been done early, say, in August or September, weeds will soon begin to show. These can be kept in check by hoeing (large growers use horse labour), provided the weather is favourable. If it is showery, so that hoeing is not eeffctive, the land must be lightly "pointed," i.e., shallow-dug, in order to bury the weeds. For this work a broad-tined fork is the best tool to use, and the most suitable time to perform this work is at the end of October or beginning of November. If performed earlier there is the risk of another crop of weeds appearing; if done later, the bulbs may be too far advanced, and damage may result in consequence.

During the winter months some growers protect their bulbs from frost by covering the ground with heather or other loose litter, but for the varieties to be recommended this labour is unnecessary. In February, before the foliage pushes through the ground, soot may be applied broadcast and lightly harrowed or raked in. This is especially recommended where bulbs have remained in the same position two or three years.

During the spring months weeds must be kept in check by hoeing and hand-weeding, taking care that the least possible damage is done to the foliage. Treading on the beds is to be avoided as much as possible. When the foliage dies down, if the bulbs are to remain another year, the whole area should be hoed over, and this operation should be repeated two or three times during the summer months, which is all the attention necessary until the period for autumn "pointing" again returns.

Harvesting.

As soon as the foliage has died down, a start must be made to raise those bulbs which it is desirable to lift. No time must be lost in this work, as in the event of showery weather fresh roots will very soon be produced, and the aim of the grower is to get his bulbs out of the ground whilst root-growth is dormant.

Many large growers use the plough for lifting as well as planting. By its use a careful and experienced ploughman and a sufficient number of pickers can lift large areas very expeditiously at a lower cost than where forks are used, while less damage is done and fewer bulbs are left in the land. The smaller grower, however, must resort to the fork. The bulbs as lifted should be put in shallow trays or baskets, and placed in a cool, airy shed to dry, if such is available. If this shelter cannot be given them, they may be allowed to lie on the ground until they become dry and clean. They must not, however, be allowed to remain too long, in case they get scorched by strong sunshine. The length of time necessary must depend upon the condition of the bulbs when lifted, and the weather experienced, but once they are in a fit condition no time should be lost in getting them under cover, as, if showery weather sets in root-growth will very quickly commence, and this must be prevented. All lifting should be finished by the end of July at the latest.

The weight of produce lifted must necessarily depend upon the fertility of the soil, the variety grown, and the length of time the crop has been planted, but ten to twelve tons per acre may be regarded as an average yield, or about double the weight planted.

Preparation for Market.

Various methods of marketing are employed. Bulbs may be sold as lifted, large and small together, by the cwt. or ton, and many people (especially planters) prefer to buy their bulbs in this way. Retailers, however, and wholesale dealers who supply retailers, require first or second-sized shapely bulbs only. It then becomes necessary to clean and size the produce, making four different sizes, viz., first or "heads," seconds, thirds or "planting" size, and "chips." First-size bulbs of the popular varieties can be readily sold to bulb merchants by the 1,000, and the other sizes should be kept for planting purposes.

In growing for bulb production a more frequent course of transplanting is necessary than when bloom is the chief object, and nice, shapely bulbs, such as are wanted for shop sales, can only be obtained by regularly transplanting. When first-size bulbs are planted they multiply and give increased stock, and it is well to let such remain two or even three years undisturbed. Second-size bulbs, if carefully sized, should yield "heads" (or firsts) after one year's growth. Thirds and "chips" require two years before attaining saleable size, and then half only may be fit to be classed as "heads."

This sizing requires the exercise of some discretion, as by its careful performance much unnecessary labour may be saved. Thus the grower who sizes and plants what he hopes to lift as first-size bulbs after one year's growth incurs needless labour and expense if only 50 per cent. of the produce attains first size. A very little experience, however, will suffice for the alert cultivator, and he will be able to estimate from the bulbs planted what quantity of different sized produce he will have for disposal each year.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date.	Sunshine.	Temperature of the Air.			
1909. April 4 to April 10.		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
April 4—Sunday	11 30	41	37	51	31
„ 5—Monday	11 24	42	42	51	32
„ 6—Tuesday ..	10 54	46	41	57	30
„ 7—Wednesday.	10 36	45	41	62	29
„ 8—Thursday ..	11 12	49	42	65	30
„ 9—Friday	11 42	47	42	70	29
„ 10—Saturday ...	10 30	47	42	71	35
Means	(total) 77·48	45	41	61	31

Date.	Rain.	Temperature of the Soil. At 9 a.m.			Lowest Temperature on Grass.
1909. April 4 to April 10.		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
April 4—Sunday	—	41	44	44	25
„ 5—Monday	—	42	44	44	23
„ 6—Tuesday ...	—	42	44	44	22
„ 7—Wednesday.	—	42	44	44	20
„ 8—Thursday ..	—	43	44	44	24
„ 9—Friday	—	44	45	44	23
„ 10—Saturday ...	—	46	46	44	27
Means ...	(total) —	43	44	44	23

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EXHIBITIONS AND MEETINGS.

◆

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, APRIL 6.

Present: Mr. E. A. Bowles, M.A., F.L.S. (in the chair); Professor G. S. Boulger, Messrs. A. W. Sutton, J. T. Arkwright, E. M. Holmes, W. Hales, J. W. Odell, C. E. Shea, W. Fawcett, G. Massee, J. Douglas, F. J. Baker, H. T. Güssow, A. Worsley, J. Frazer, G. S. Saunders, and F. J. Chittenden (hon. secretary). Visitors: Messrs. E. Laxton and J. H. Drummond, F.L.S.

GUMMOSIS IN LEMON.—Mr. H. T. Güssow reported that the specimens of lemon shown by Mr. Worsley at the last meeting have been examined microscopically. After dissolving the gum in warm water at each of the places where the gum exuded, a wound was noticeable extending some way into the wood. The injured portions had no connection with each other, but were well defined nearly all round the stem. The distance between the two places where gum was seen oozing out was about 4in. The bark was peeled off, and some of the gum was transferred with a sterilised needle to a cover glass, and was diluted with distilled water. After drying and fixing the preparation it was stained for bacteria, and in every preparation a large number of them were revealed. The presence of the bacteria does not certainly prove that the gumming was caused by them, but the examination plainly showed that the injury could not have been due to some cause or other within the range of the root. Mr. Worsley kindly sent me the root and stem of the diseased lemon, and the roots were [illegible] to be perfectly healthy, with a good [illegible] fibrous and small rootlets; the stem [illegible] above the root showed next to a [illegible] injury which, according to additional information from Mr. Worsley, had first exhibited the gumming. The specimen examined was a seedling. It is frequently the [illegible] that bacteria gain entrance in the place [illegible] grafting, and cause profuse outflow of [illegible] in all kinds of stone fruits. A [illegible] of the organisms has been made, and [illegible] be used in infecting a young cherry [illegible] The bacteria isolated from cherries, [illegible] peaches, which showed gumming, [illegible] resemblance to those isolated from [illegible] lemon. The withering and flagging [illegible] the silvery appearance of the [illegible] leaves above the place of injury is [illegible] the natural result of the [illegible] vessels being clogged by the gum.

INHERITANCE OF CHARACTERS IN PEA SEEDS.—Mr. A. W. Sutton [illegible] a long series of preparations [illegible] seeds of plants raised by crossing [illegible] which he found growing wild [illegible] (? Pisum arvense) with forms of [illegible] vated garden pea (Pisum sativum [illegible] bicolor-flowered peas (Pisum arvense [illegible] Twenty-two crosses were made in [illegible] of these four were immature in [illegible] F1, and failed to germinate; four [illegible] before flowering in F1; seven flowered [illegible] produced no seeds; seven only produced [illegible] seeds in F2 (these latter are shown [illegible] 1 to 7). In most cases it would [illegible] the plants are almost or quite sterile [illegible] 8, 9, and 10 are the results of crosses

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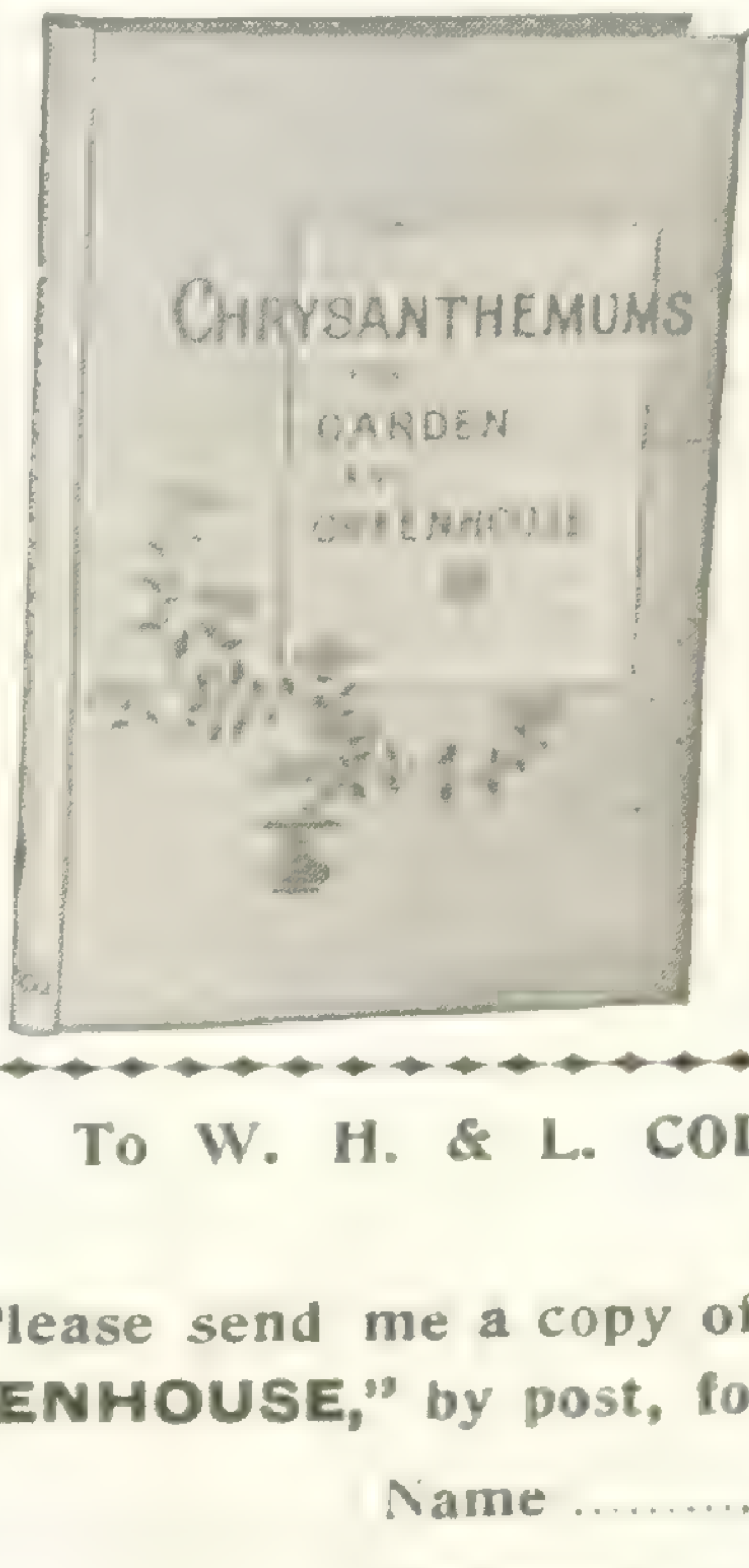

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between the Palestine pea and Pisum sativum by Mr. Darbishire, and grown at Reading. They practically confirm our experiments. Mr. Sutton also exhibited a growing plant of the wild pea from Palestine, and a plant of Pisum quadratum (?) grown from seeds received from Kew. This plant much resembles the Palestine pea in all respects except the foliage. He also exhibited a collection of the various forms of seeds of the garden pea (Pisum sativum), and of bicolor blooming types (Pisum arvense), etc. Among the remaining cards showing the results of various experiments with peas, some showing that when Improved William 1st, with semi-wrinkled seeds, is crossed with a wrinkled pea, the resulting types of seed do not follow the Mendelian ratio of 3:1, were particularly interesting. This pea contains starch grains of similar form to those which are common to those found in round seeds, and not of the form found in wrinkled seeds, so that unless the wrinkled character of the seed was unconnected with the form of the starch grains the usual Mendelian ratio could scarcely be expected. Mr. J. H. Drummond showed a series of specimens from his own herbarium and from the herbarium of the Royal Botanic Gardens, by the courtesy of the director, showing that the plant Mr. Sutton had collected in Palestine was in all probability Pisum humile of Boissier, and not Pisum sativum or P. arvense (as, indeed, its behaviour on crossing appeared to show too).

WILD SPECIES OF ASPARAGUS AND RHUBARB.—Mr. Sutton also exhibited plants of asparagus (propably Asparagus filicinus) and rhubarb (apparently Rheum Moorcroftianum) sent him from the Punjab by a correspondent. The roots of the asparagus were tuberous, and were no doubt organs in which water was stored. The young leaves of the rheum were cup shaped, the leafstalk springing from the base of the cup.

HIPPEASTRUM HYBRID.—Mr. Worsley showed a flower of a deep dragon's blood red, a first cross between the two species Hippeastrum aulicum and H. vittatum. The flower is of very good form and splendid colour.

POLYSTICHUM SP.—Mr. J. Fraser showed specimens demonstrating the resemblance between Polystichum lobatum, Presl., and P. Lonchitis, Roth. If the pinnæ of the latter were lobed or lobulate instead of being merely serrated, the two forms would be closely similar, judging from the size and form of the pinnæ in the two cases. The comparison between Polystichum lobatum, Presl., and P. aculeatum, Sw., was less obvious.

SEED FROM SOUTH AFRICA.—Mr. E. M. Holmes reported that the seed exhibited by Mr. Veitch at a recent meeting was Voandzeia subterranea, often called Bambarra ground nut, and used in tropical and South Africa as food.

MALFORMED ORCHIDS, ETC.—Mr. J. W. Odell showed some malformed orchids which will be reported on at the next meeting, and some flowers of auricula wherein the stem of the stamens were becoming transformed into petals, thus showing the beginning of a double flower.

DENDROBIUM HYBRIDS. — R. G. Thwaites, Esq., Streatham, sent flowers of Dendrobium Thwaitesiæ x D. Wiganiæ xanthochilum, both being white with a zone of purple on the disc of the lip. He wrote: "Of the first three have flowered like those sent, and of the second six plants have flowered. You will notice the pollen caps and stems are also white. I feel sure it would be quite useless to use those flowers for obtaining white hybrids, and it may be that the unsuccessful attempts to obtain white flowers (hybrids from apparently white parents) is due to coloured parentage somewhere behind the flowers used. These and other results, though apparently confusing, may later on assist in throwing light upon the albinism question, as notwithstanding the mass of contradictions which are appearing, I feel sure there is some logical law relating to it." D. Wiganiæ is a hybrid between D. nobile and D. signatum, D. Wiganiæ xanthochilum being a seedling out of the same pod, while D. Thwaitesiæ represents the result of further crossing D. Wiganiæ and D. Ainsworthi (nobile x aureum), so that the original parents are all either purple or yellow flowers, and the cause of the peculiarity is not apparent.

Bournemouth Gardeners' Association.

On April 6 "A Chat on the Cyclamen" was the subject of a very interesting and instructive lecture given by Mr. F. Lever, of Bournemouth, before a good attendance of members. Mr. Geo. Garner, Delamere Lodge, Bournemouth, presided.

Mr. Lever did not attempt to treat the subject exhaustively, but gave very useful hints on the most salient points in connection with the successful cultivation of the cyclamen. He strongly advised sowing the seeds before November where it was not possible to maintain a winter temperature of at least 70 deg., but where this was possible he recommended November sowing; then the resultant plants would make strong specimens for flowering during the following winter and spring months a year hence.

His method of sowing the seeds was, to drop them singly on the smooth, sandy surface of the prepared compost at a distance of one inch apart, and then gently press them into the soil with the end of a lead pencil. The necessary watering afterwards would wash in the sand and sufficiently cover the seeds. Equal parts of loam and leaf-soil, with a free admixture of sharp sand, was the compost recommended, and the lecturer preferred pans to boxes because of the moisture connected with the former.

Mr. Lever recommended sowing the seeds in September to produce flowering plants the following autumn, or to depend upon two-year-old plants, which he preferred. For the final potting, some old mortar rubbish, with a 5-inch potful of bone-meal, should be mixed with the compost, and the potting done fairly firmly.

Mr. Lever believed in dipping in fir-tree oil as a remedy for thrips, and also syringing the foliage with soot water as being very beneficial to the health of the plants. The resting of the plants, said the lecturer, should commence in June, and last for two months. His system was to place the pots on their sides on the north side of a wall.

Many members showed much eagerness to take part in the discussion which followed the lecture. Mr. C. Nippard, Ashton Court Gardens, advised the plants being rested in the sunshine and well baked, and had had good results from this treatment; but this system did not find very much favour with the members present. How to treat the ripening seeds, and especially those of the crested varieties, feeding, housing, gathering the flowers, and other matters, were freely discussed, and the lecturer replied in a very satisfactory manner to the many questions put to him.

Hearty votes of thanks to Mr. Lever, and the Chairman, concluded a most enjoyable and instructive discussion.

Reading Gardeners' Association.

The usual fortnightly meeting of this association took place in the Abbey Hall on Monday, April 4, when the chairman, Mr. A. F. Bailey presided over a good attendance. The lecturer for the evening was Mr. H. C. Loader (vice-chairman), who presented a very carefully-prepared paper, "Our Association: Some of its Advantages," which was delivered in the forcible and convincing manner characteristic of him, and his remarks frequently evoked considerable applause. In enumerating the advantages of such a society, Mr. Loader dwelt on the great opportunity for improvement the younger members who chose to grasp it had enjoyed by being present at Mr. Charles Foster's classes for young gardeners, which had been so successfully conducted and so well at[illegible] during the past six months. By their [illegible] lar appearance at the fortnightly meeting the older members showed that they too [illegible] desirous of refreshing their memories, as [illegible] as giving others the benefit of their [illegible] ence. Mr. Loader spoke of the association [illegible] a huge partnership, the object of which [illegible] the promotion by the members to the [illegible] of their ability of horticulture in [illegible] branches.

In the discussion following the paper [illegible] members bore eloquent testimony to the [illegible] of the lecturer's remarks, and also to the [illegible] vantages they had reaped as members of [illegible] association. At the conclusion of the [illegible] ing a hearty vote of thanks was accorded M[illegible] Loader.

The society's certificate of cultural [illegible] was awarded Mr. H. Goodger, head gardener to Mrs. H. Collins, Stoneham House, [illegible] for a group of Sutton's Star cinerarias. M[illegible] F. Townsend, gardener to the vice-president, exhibited—not for certificate—a splendid collection of narcissi, which was greatly admired.

Bristol Gardeners' Association.

The last meeting of the session was [illegible] on April 8 at St. John's Parish Rooms, pre[illegible] sided over by Dr. Barclay Baron. Mr. [illegible] H. Cave gave a very interesting lecture upon "Daffodils," which, in the words of [illegible] chairman, was delivered with complete [illegible] knowledge, and enthusiasm. The [illegible] dealt very minutely with his subject, and gave many useful hints, under the [illegible] divisions—soil, aspect, planting, and [illegible] naturalising, cutting, and packing, hardiness and powers of increase, and hybridising. [illegible] the course of his remarks, Mr. Cave said [illegible] lifting should be done in July, and [illegible] planting finished by the end of August. [illegible] also gave a comprehensive list of [illegible] suitable for various purposes. Mr. [illegible] an enthusiast where daffodils are [illegible] and has raised many choice seedlings, and of these two were exhibited, one [illegible] miniature Sir Watkin. The lecturer [illegible] lises several hundred every year. Dr. [illegible] Baron proposed a vote of thanks to Mr. [illegible] and Mr. Shelton proposed one to the [illegible] man, and both were enthusiastically [illegible] For two pots of schizanthus, Mr. H[illegible] first, and Mr. Candy second. An [illegible] certificate went to Mr. Venn for a [illegible] dium.

United Horticultural Benefit and Provident Society.

The monthly committee meeting of this society was held at the Horticultural [illegible] Vincent Square, S.W., on Monday, A[illegible] Mr. Thomas Winter in the chair. [illegible] members were elected. The usual [illegible] payments were made, and several [illegible] over sixty years of age availed [illegible] the opportunity to withdraw their [illegible] per rule 18. The annual report and [illegible] sheet has been posted to members [illegible] member not having received one [illegible] write to the secretary, Mr. W. [illegible] Martindale Road, Balham.

FORTHCOMING ENGAGEMENTS.

TUESDAY, April 20.—Royal Hor[illegible] Narcissus Committee, at 11 [illegible] Floral, and Fruit Committees [illegible] ture at 3 p.m. on "Pans[illegible] D.Sc.; Scientific Committee [illegible]
Devon Daffodil Show, at P[illegible]
Shropshire Horticultural Society's [illegible]
National Auricula and Primula Show, [illegible] Horticultural Hall.
WEDNESDAY, April 21.—Royal Hortic[illegible] of Ireland, Spring Show, at Dublin.
Ipswich Spring Show.
Royal Meteorological Society.
Royal Horticultural Society's Examination [illegible] ral Horticulture.
THURSDAY, April 22.—Midland Daffodil [illegible] Birmingham; two days.
TUESDAY, April 27.—Huntingdon Daffodil [illegible]
WEDNESDAY, April 28. — Royal Ho[illegible] Society's Examination in Horticulture [illegible] Teachers.

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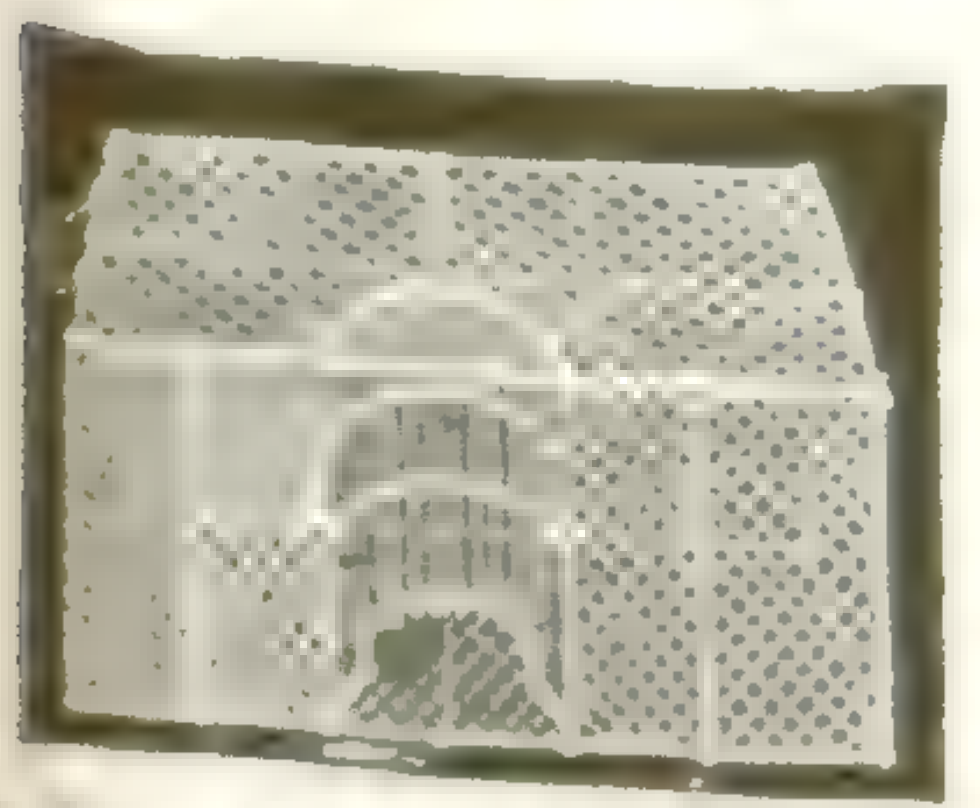

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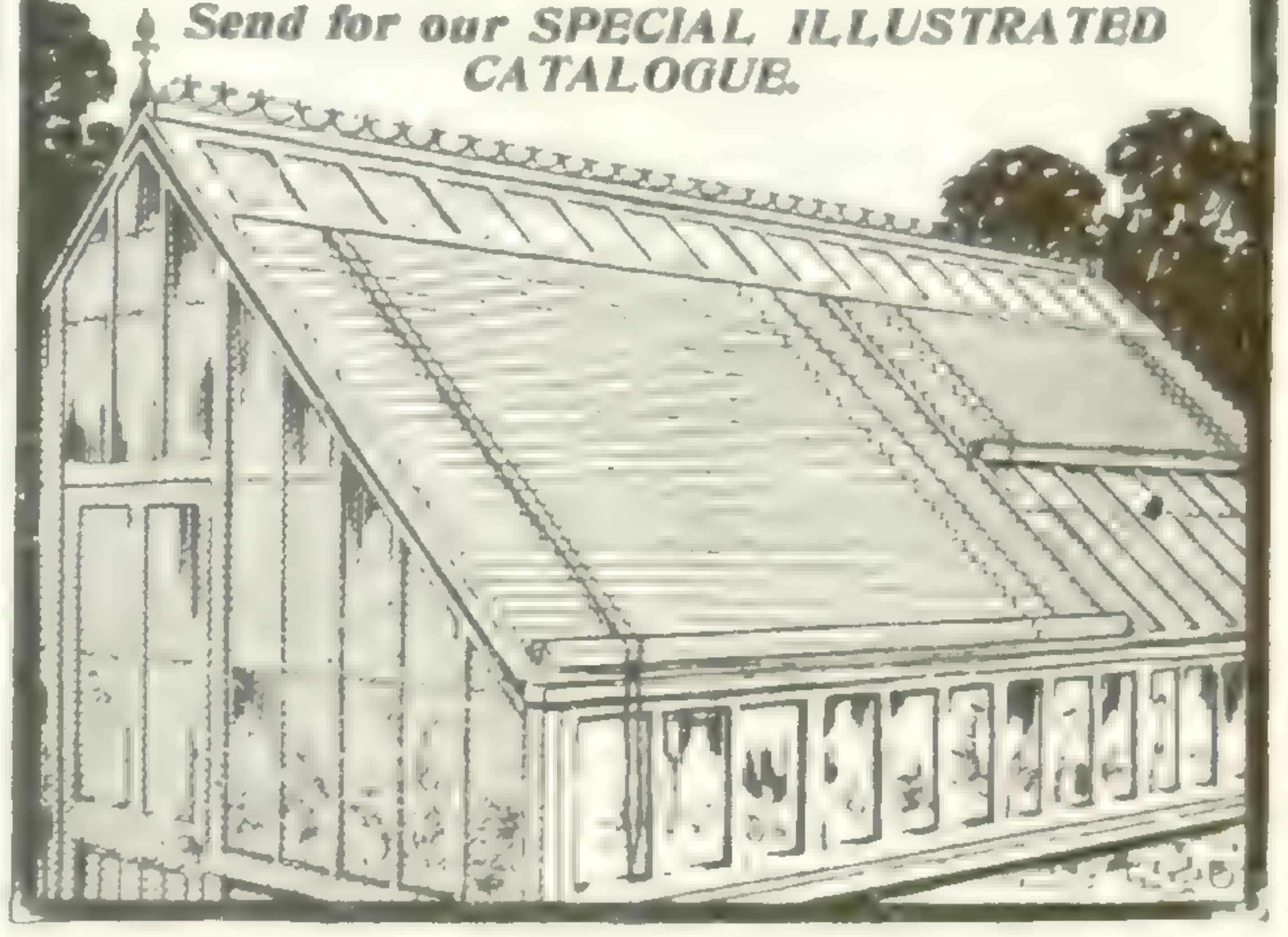

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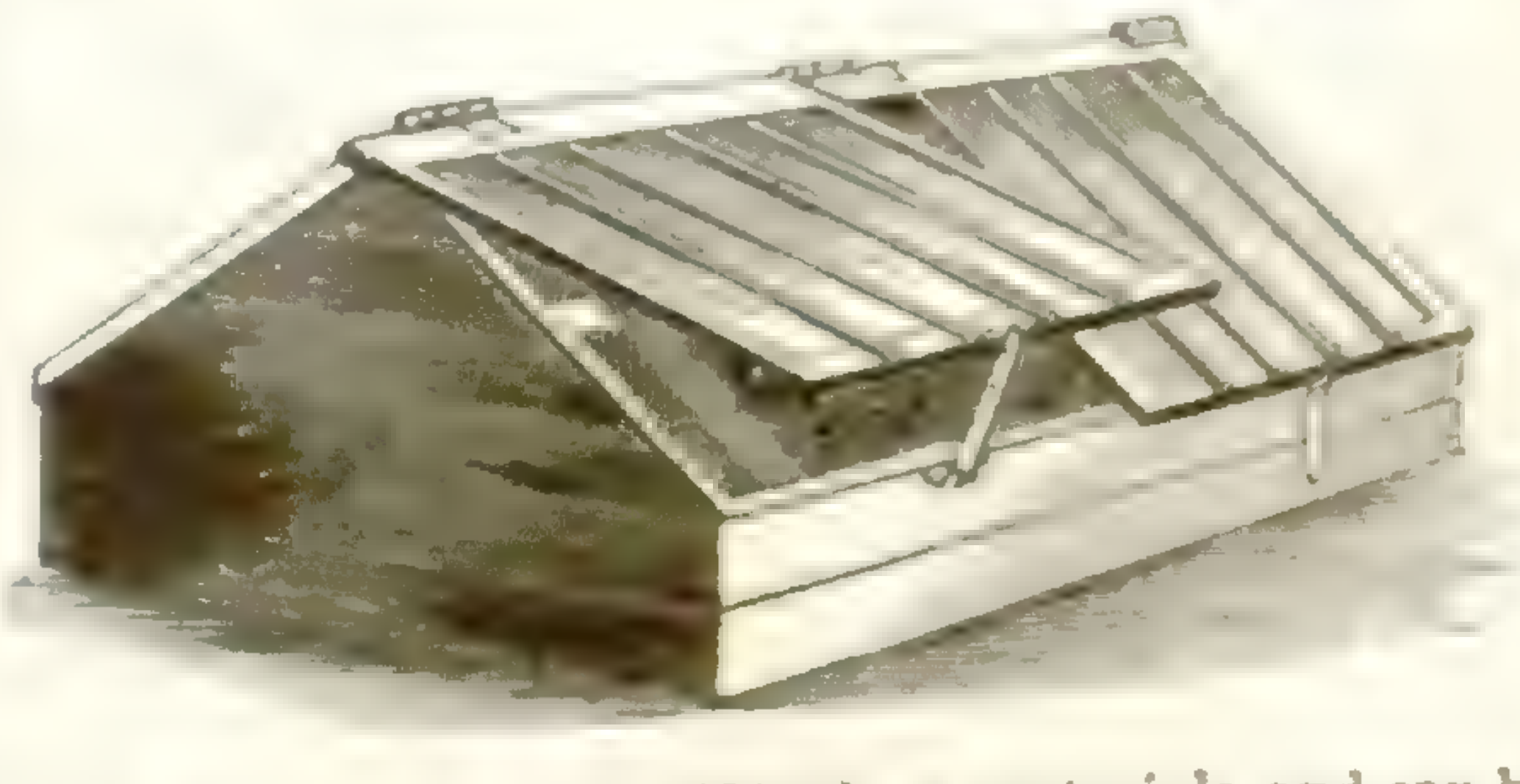

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VACANT LAND CULTIVATION SOCIETY.—M. E., Kingston: The secretaries of the Vacant Land Cultivation Society are Messrs. E. G. Culpin and J. Fels, and the offices of the society are at 39, Wilson Street, London, E.C.

DAHLIAS. — J. C. S., Margate: Where early propagation has been practised the great mistake so often made is that of allowing the plants to become hard stemmed, and more or less starved before planting time comes. The plants should be potted at once and kept in a cool pit or house, quite free from frost, and there they will grow steadily and root freely. Where dahlias are to be a feature of the garden, the plants ought to be in six-inch pots, with stems as stout as one's finger, and about fifteen inches or so high by the beginning of June. Such examples continue to grow away, and they come early into bloom, and continue flowering until frosts cut them down. We certainly advise you to grow some of the pæony-flowered varieties for garden decoration in positions that are not too exposed to wind.

HANDY DICTIONARY. — S. W. J., Chelmsford: The handiest gardening dictionary we know is the "Encyclopædia of Gardening," post free, 3s. 10d., from Messrs. W. H. and L. Collingridge, 148, 149, Aldersgate Street, E.C.

A GOOD DWARF BLUE ANNUAL. — G. J., Peterborough: For your particular purpose we recommend the pretty and useful Phacelia campanularia, a charming Californian annual that grows about eight inches high, and produces bell-shaped flowers of the richest blue colour. These flowers are borne in racemes, and the plant does best when in a warm situation, and in rather dry soil. The fine compact habit of the plant makes it specially suitable for bedding. Sow at once in light soil, and only just cover the seeds, place the box or pan in a warm house or pit, and place a sheet of glass over it, and give shade until germination ensues. After this, pricking off and hardening the seedlings as for other annuals raised in heat, must be followed. While under cover keep the plants near the glass to ensure dwarfness and compactness.

LARGE-LEAVED SUBTROPICAL PLANT.—C. P., Launceston: In addition to the subjects you enumerate, we suggest Weigandia macrophylla, sometimes known as W. caracasana. It makes a very fine bold foliage plant, and will grow 10ft. high. It is rather late to propagate this useful subject from seeds now, but if you have convenience to keep plants in a stove temperature until the beginning of June, it is worth while sowing a few seeds at once. Light loamy soil, and plenty of light and heat will enable you to produce plants of considerable size by that time, and then a little hardening off before planting out will suffice. In the autumn raise a few plants by means of cuttings, pot these up when well rooted and keep them in a warm greenhouse until the following summer; by this means you will secure splendid examples for next season.

COLOUR CHART FOR FLOWERS. — F. G., Woking: You are evidently not a Fellow of the Royal Horticultural Society, or you would know that Fellows can obtain the "Repertoire de Couleurs," or Colour Chart, through the society, for 15s., post free, whereas the published price is £1 1s. net. We have badly wanted for a long time a colour standard for naming, recognising, or indicating to others, the exact shade of colouring in any flower in which we are interested. This chart, arranged by the French National Chrysanthemum Society, provides such a standard, and we believe that in a few years' time—we are slow to move in these matters—it will become generally used for the description of florists' flowers. The present style of popular description will not necessarily be dropped altogether, but it will be accompanied by a reference to the colour and shade to be found on a certain page of the "Repertoire de Couleurs." If you do not care to join the R.H.S., you can obtain the Colour Chart through any Fellow of your acquaintance, and, failing such acquaintance, we will obtain a copy for you on receipt of 15s.

CHICORY AS GREEN SALAD. — A. M., Hertford: Although chicory is most valued during winter and early spring, when roots produced the previous season are forced in a warm dark place, and make succulent leafage, this is by no means the only use to which it can be put. Where salading is in great demand, and it is necessary not only to maintain a supply, but also to secure as great a variety as possible, chicory may with advantage be pressed into service. For this purpose small beds should be made at intervals of three or four weeks from spring till autumn, and on these the seeds should be sown thickly, in shallow drills. The fresh young leaves should be picked as needed.

ORACHE OR MOUNTAIN SPINACH.—S. S., Ulverston.—It is entirely a matter of taste, and we think you should attempt the cultivation of this greenstuff, rather than oppose its use and press the claims of garden spinach. You are not, we take it, likely to be debarred from growing the latter, and it seems unwise to raise obstacles in the way of a crop that you have no knowledge of, and for which a wish has been expressed. Orache or Mountain Spinach (Atriplex hortensis), is closely allied to the spinach, and is sometimes used as a substitute for it. It is a hardy annual, and hails from Tartary. Seeds may be sown at any time from March to September, in rich soil, in drills an inch deep, and two feet apart. Sow thinly, and thin out the resulting plants to a foot or fifteen inches apart. Give good soakings of water during dry weather, and pinch out the flower spikes as they appear. There are white, green, red, and dark red varieties, and the coloured forms are quite decorative; the colouring all disappears during the process of cooking.

NUTTALIA CERASIFORMIS.—A. G. N., Cirencester: You are quite right, the plant is Nuttalia cerasiformis, a Californian shrub that is always interesting in the early spring time, and one that does not lack beauty of a modest kind. In outward appearance it does not suggest an affinity with the big rose and apple family, but, nevertheless, it belongs to the great order Rosaceæ. Propagation is a quite easy matter, and sometimes one can obtain imported seeds. Failing these it may be increased by layering the lower branches, by carefully removing and transplanting the sucker-like growths that push up from the roots, or by means of cuttings of half-ripened shoots inserted in sandy soil and placed under a hand-light. As you are not likely to need many plants, we suggest layering as a suitable method of increasing your stock.

NAMES OF PLANTS.

E. H. G., Weymouth.—1, Sciadopitys verticillata; 2, Cupressus macrocarpa lutea.

W. J., Hendon.—1, Salix Caprea; 2, Iris reticulata; 3, Saxifraga apiculata; 4, Leucojum vernum.

M. L. A., Oxford.—1, Cydonia japonica; 2, Forsythia suspensa; 3, Erica herbacea; 4, Adonis Amurensis.

B. C. W., Chesterfield.—1, Saxifraga apiculata; 2, Clianthus puniceus; 3, Boronia heterophylla; 4, Acacia armata.

A. G. O., Keswick.—1, Dendrobium Pierardi; 2, D. Bensonæ; 3, Cymbidium Lowianum—a good variety; 4, Dracæna Godseffiana.

N. D., Torquay.—1, Narcissus triandrus; 2, N. cyclamineus; 3, Odontoglossum triumphans; 4, O. cirrhosum; 5, Phalænopsis Schilleriana, a very poor form.

CATALOGUES RECEIVED.

CHARLESWORTH AND CO., HAYWARDS HEATH.—A large and excellent catalogue of orchids, and one in which hybrids are particularly well represented. This firm has now removed its entire stock from Bradford to Haywards Heath, and the illustrations in the new catalogue show the extent and very fine arrangement of the new nursery, and also give an idea of the beauty and interest of the wonderful collection of plants grown at Haywards Heath.

MARKETS.

◆

COVENT GARDEN.

Flowers.

Trade is rather slack after the holiday season.

		s. d.		s. d.
Acacia	per doz. bun.	8 6	to	12 [illegible]
Adiantum cuneatum	per doz. bun.	5 0		9 6
Anemones	per doz. bun.	1 6		2 6
Arums	per doz.	3 0		4 0
Asparagus	per doz. bun.	1 6		6 0
Azaleas	per doz. bun.	4 0		5 [illegible]
Bouvardias	per doz. bun.	6 0		8 0
Camellias	per doz.	1 6		2 [illegible]
Carnations	per doz. blms.	2 0		4 0
,,	per doz. bun.	9 0		12 0
Cattleyas	per doz.	10 0		15 0
Croton leaves	per bun.	1 0		1 6
Cypripediums	per doz. blms.	1 6		3 0
Daffodils	per doz. bun.	3 0		6 [illegible]
Dendrobiums	per doz.	2 6		3 0
Eucharis	per doz.	2 6		3 6
French fern	per doz. bun.	1 0		3 0
Freesias	per doz. bun.	2 6		3 9
Gardenias	per doz.	1 6		3 0
Hyacinths, Dutch	per doz. bun.	6 0		10 0
Iris, Spanish	per bun.	1 3		2 0
Lilac, white	per bun.	2 6		3 0
,, mauve	per bun.	3 0		5 0
Lilium auratum	per bun.	2 0		3 0
,, speciosum	per bun.	2 0		3 0
,, longiflorum	per bun.	4 0		5 0
Lily of the Valley	per doz.	7 0		14 0
Marguerites, white	per doz. bun.	2 6		4 0
,, yellow	per doz. bun.	3 0		4 0
Mignonette	per doz. bun.	3 0		5 0

Fruits.

Supplies are fairly good for the season, but business is quiet.

		s. d.		s. d.
Apples, American	per barrel	15 0	to	28 [illegible]
,, Australian	per box	10 0		15 0
,, English	per bush.	7 0		10 0
,, Nova Scotian	per barrel	17 0		25 0
,, Californian	per case	8 0		10 6
,, French Russets	per case	9 0		10 [illegible]
Apricots, Cape	per case	6 0		8 0
Bananas	per bun.	4 0		10 6
Chestnuts	per bag	7 0		16 0
Cranberries	per case	8 0		12 [illegible]
Figs	per box	0 10		1 [illegible]
Grapes, English	per lb.	1 6		3 0
,, Almeria	per doz. lb.	4 0		7 0
,, Belgian	per lb.	1 6		2 [illegible]
,, Cape	per case	12 0		16 0
Lemons	per case	8 0		16 0
Medlars	per case	4 0		5 6
Oranges, Jamaica	per case	6 0		10 [illegible]
,, Denia	per case	10 0		27 [illegible]
,, Jaffa	per case	8 0		12 [illegible]
,, California	per case	12 0		14 [illegible]
Peaches, Cape	per case	6 0		10 [illegible]
Pears, Californian	per case	8 0		12 0
,, Cape	per box	3 6		7 0
,, Catillac	per crate	8 0		10 0
Pineapples	each	2 0		6 [illegible]
Plums, Cape	per case	5 0		12 6
Strawberries	per lb.	3 0		10 0

Vegetables.

Forced produce and greenstuffs find a ready sale.

		s. d.		s. d.
Artichokes, Globe	per doz.	2 6	to	4 [illegible]
,, Jerusalem	per bush.	1 9		2 6
Asparagus	per bundle	3 6		7 0
,, Paris	per bundle	3 0		4 0
,, Sprue	per bun.	0 8		1 0
Beet	per bush.	1 0		2 0
Beans (French)	per lb.	1 6		2 [illegible]
Broccoli, Sprouting	per bag	4 0		4 6
Brussels Sprouts	per ½-bush.	2 0		4 0
Cabbage	per tally	4 0		[illegible]
Carrots	per doz. bun.	1 0		3 [illegible]
Cauliflowers, Cornish	per crate	6 0		10 0
,, Italian	per basket	3 0		9 0
Celery	per doz. rolls	7 6		12 0
Celeriac	per doz.	1 6		9 6
Chicory	per lb.	0 4		6 6
Cucumbers	per doz.	3 0		5 0
Endive	per doz.	1 6		9 3
Greens	per bag	4 0		13 0
Horseradish	per doz. bun.	8 0		6 0
Kale	per bush.	3 0		3 6
Leeks	per doz. bun.	2 0		4 [illegible]
Lettuce, French	per crate	3 0		6 [illegible]
Mint	per doz. bun.	3 0		13 [illegible]
Mushrooms	per doz. lb.	7 0		4 [illegible]
Onions, Pickling	per bush.	3 6		13 [illegible]
,, Valencia	per case	10 0		5 [illegible]
,, Spring	per doz. bun.	3 0		6 [illegible]
Parsley	per doz. bun.	3 0		3 [illegible]
Parsnips	per bag	2 0		2 [illegible]
Radishes	per doz. bun.	1 3		1 [illegible]
Rhubarb	per doz. bun.	0 9		10 6
Savoys	per tally	7 0		12 0
Seakale	per doz. pun.	10 0		3 [illegible]
Spinach	per basket	2 6		1 6
Tomatoes, English	per lb.	1 3		15 [illegible]
,, Canary	per pack.	10 0		

LONDON POTATO MARKETS.

Business is quiet.

		s. d.		s. d.
British Queen	per ton	50 0	to	60 [illegible]
Dunbars	per ton	75 0		80 [illegible]
Epicure	per ton	50 0		65 [illegible]
Evergood	per ton	45 0		55 [illegible]
Sharpe's Express	per ton	60 0		65 [illegible]
Maincrop	per ton	65 0		70 [illegible]
Royal Kidney	per ton	45 0		55 [illegible]
Up-to-Date	per ton	60 0		65 [illegible]
,, Blacklands	per ton	50 0		55 [illegible]
Canary, new	per cwt.	8 0		10 [illegible]

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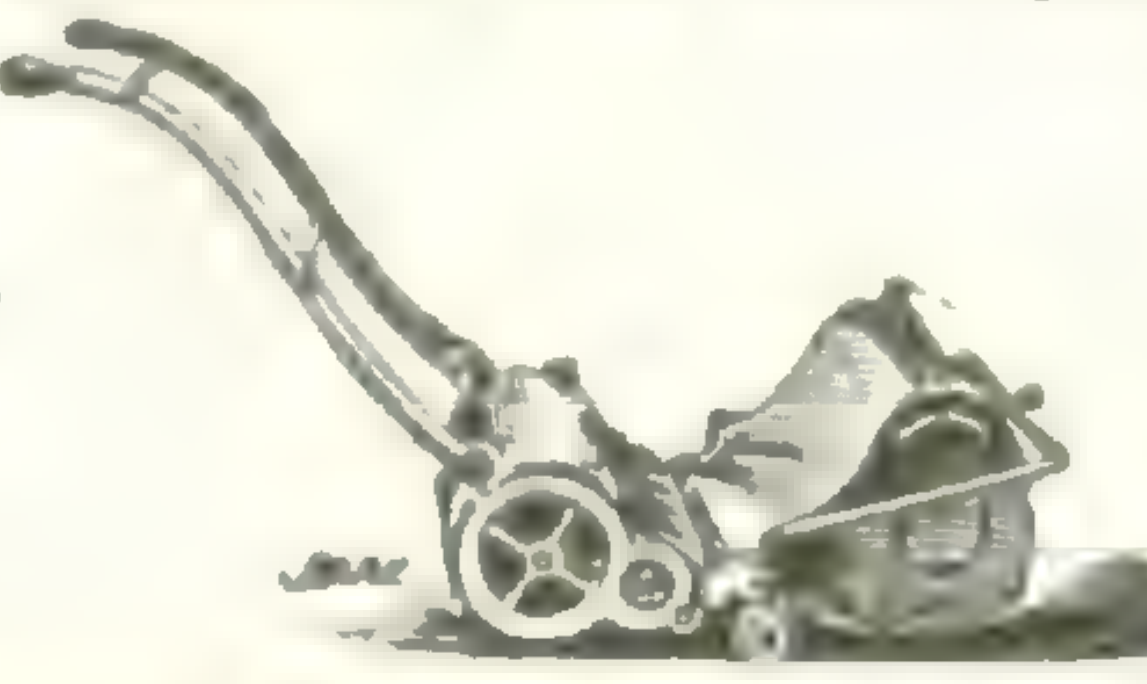

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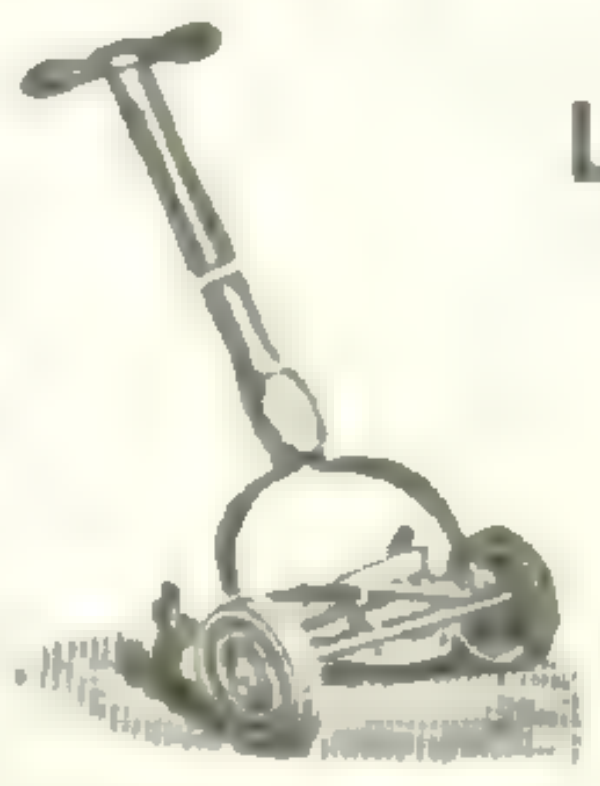

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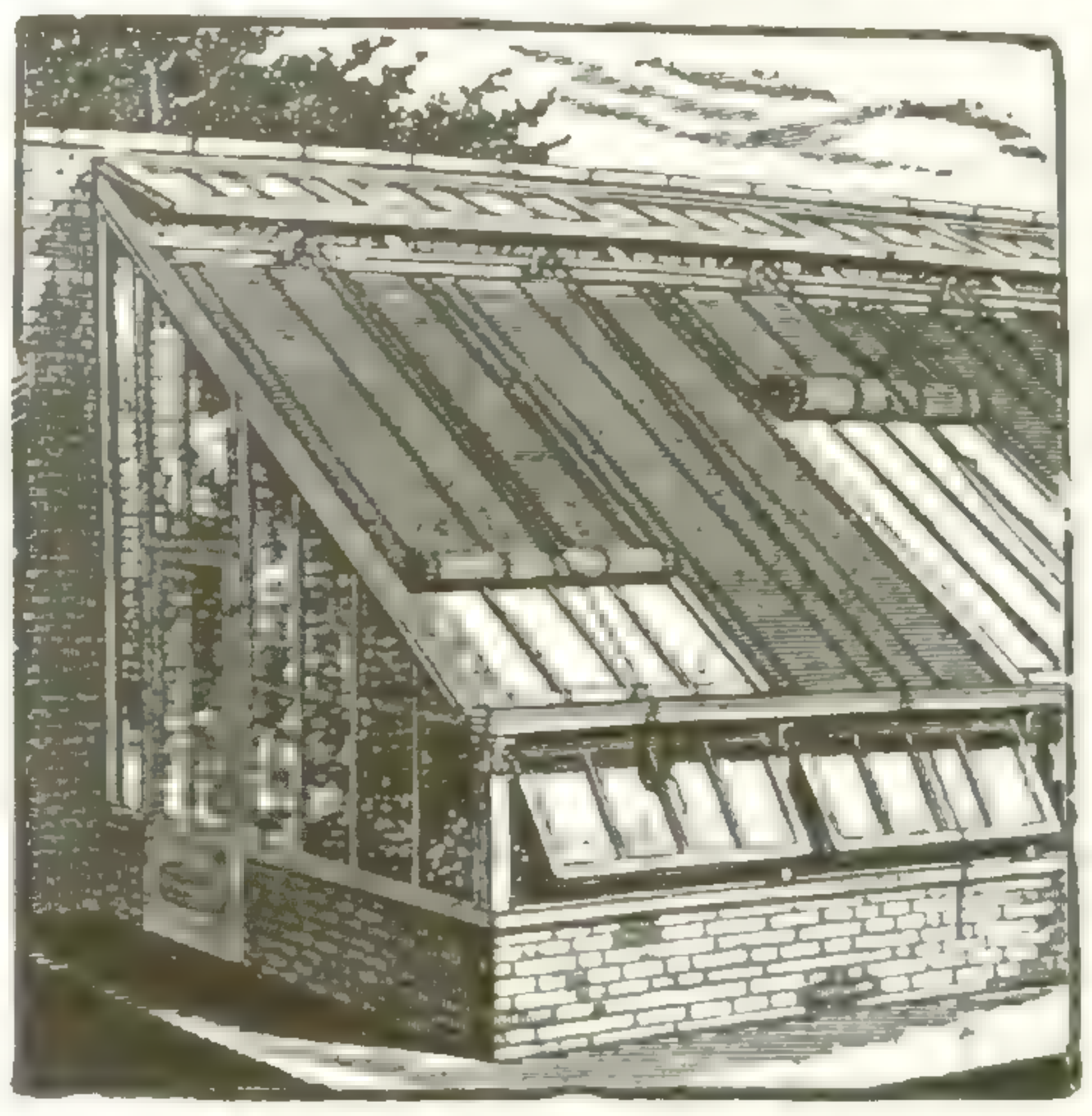

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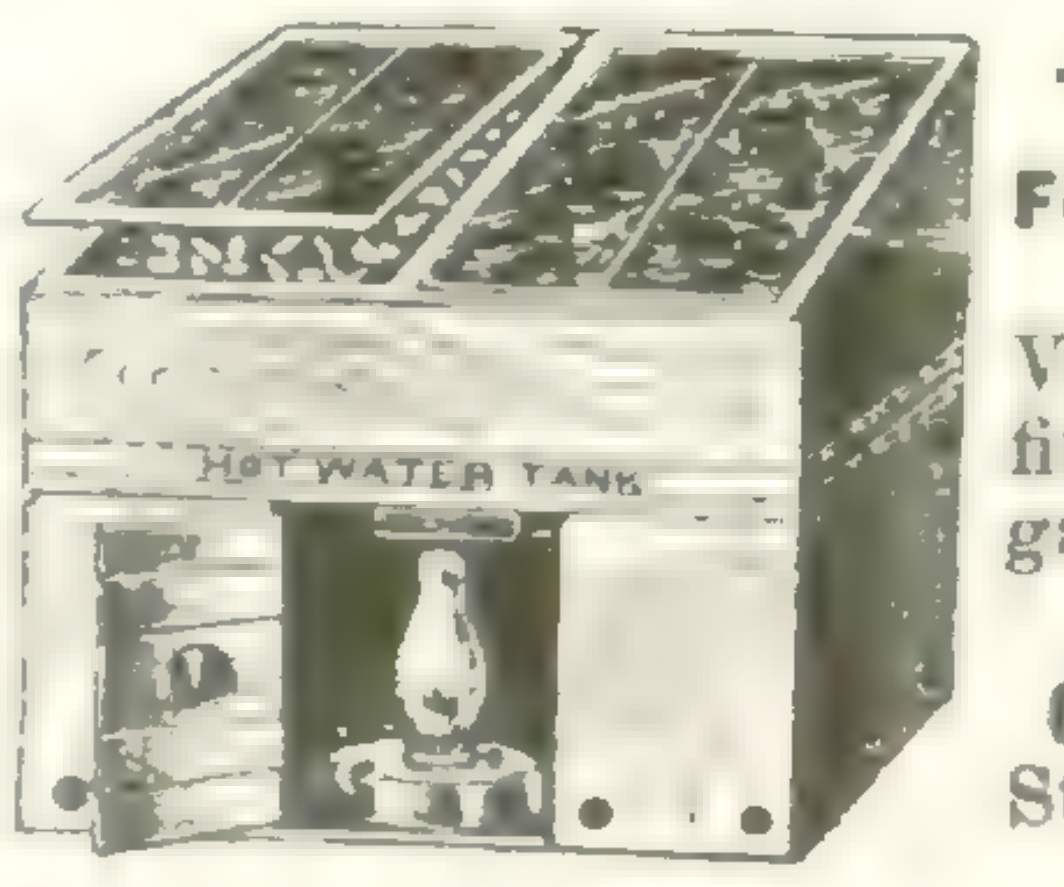

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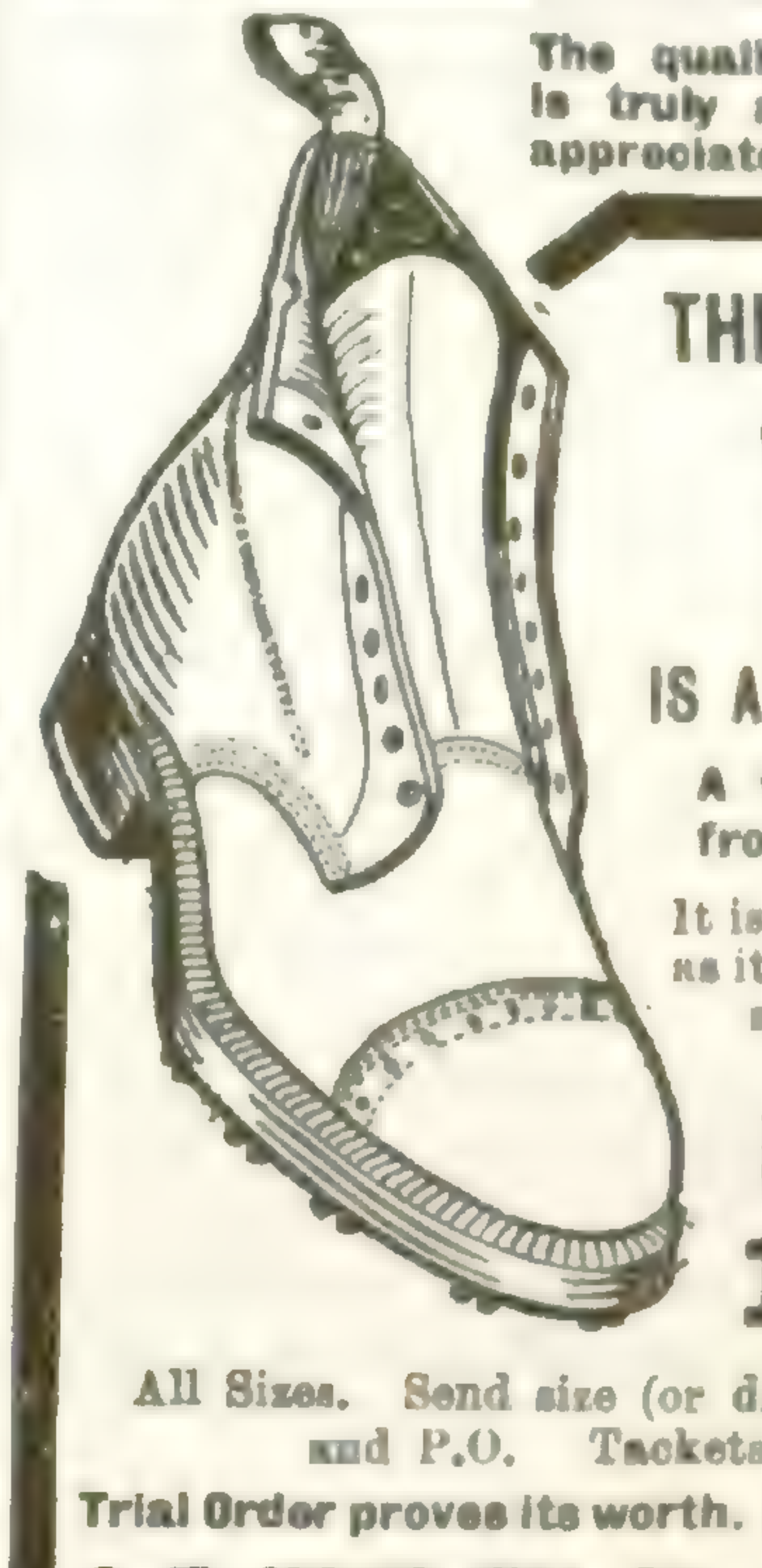

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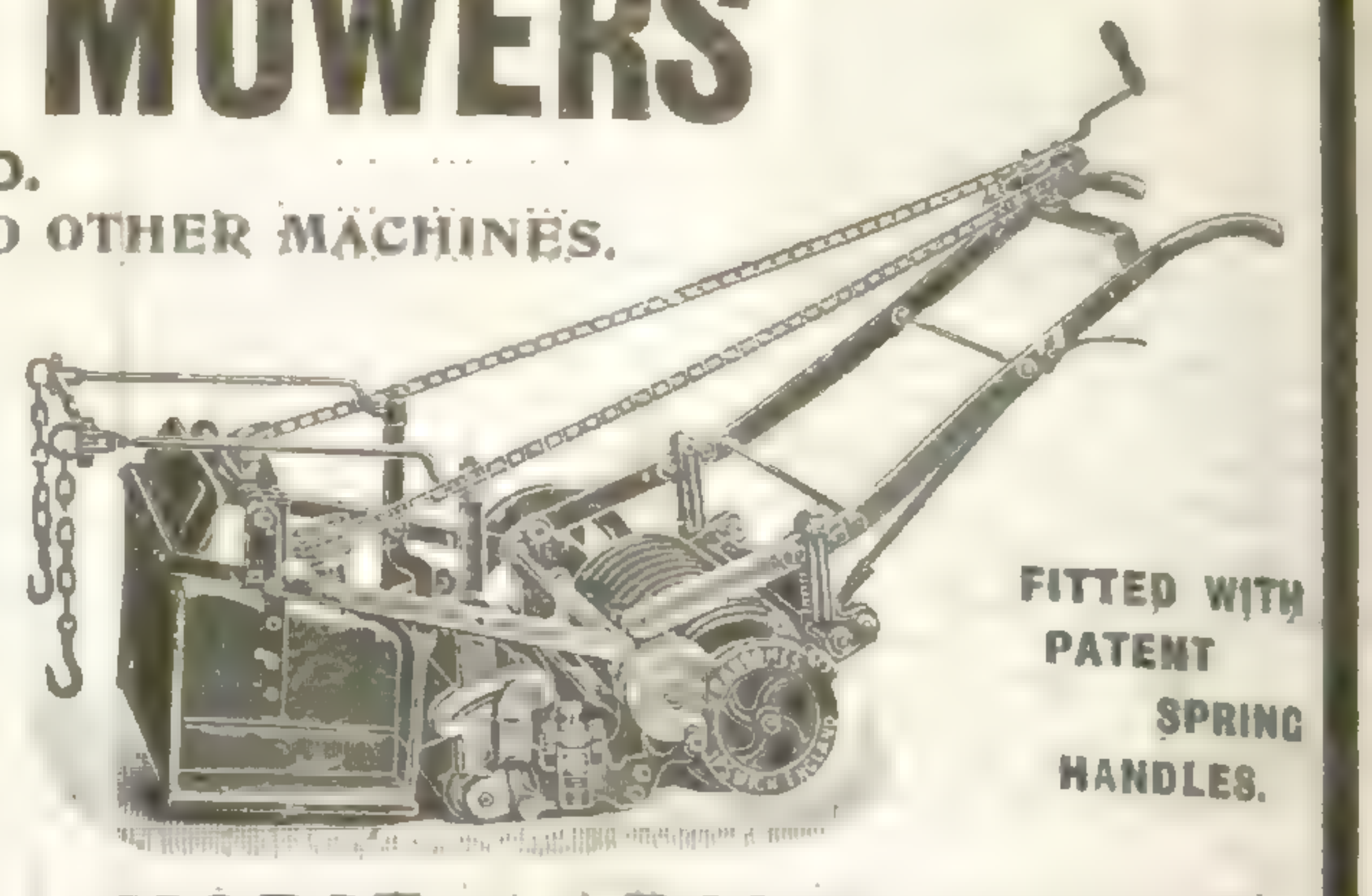

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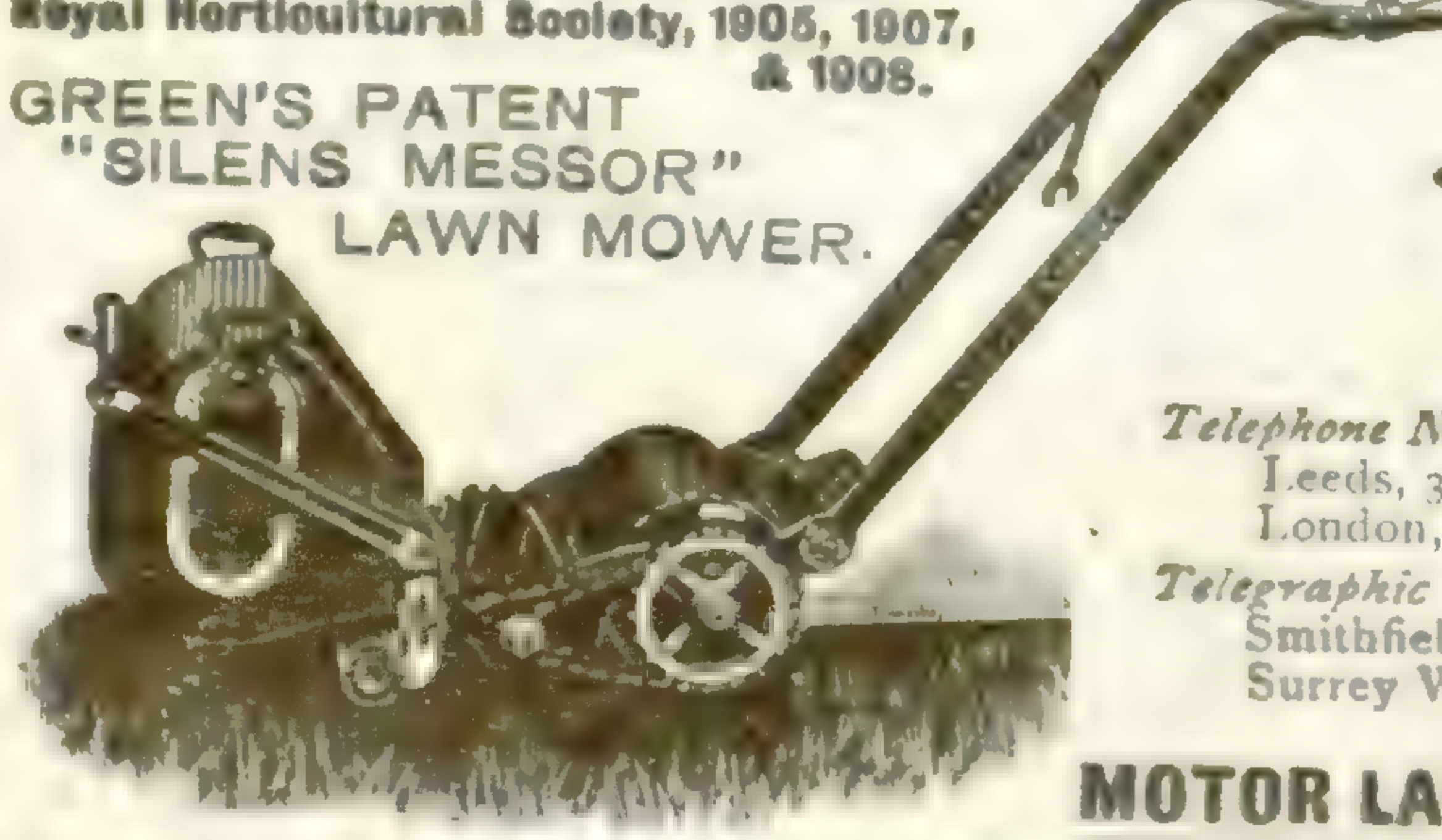

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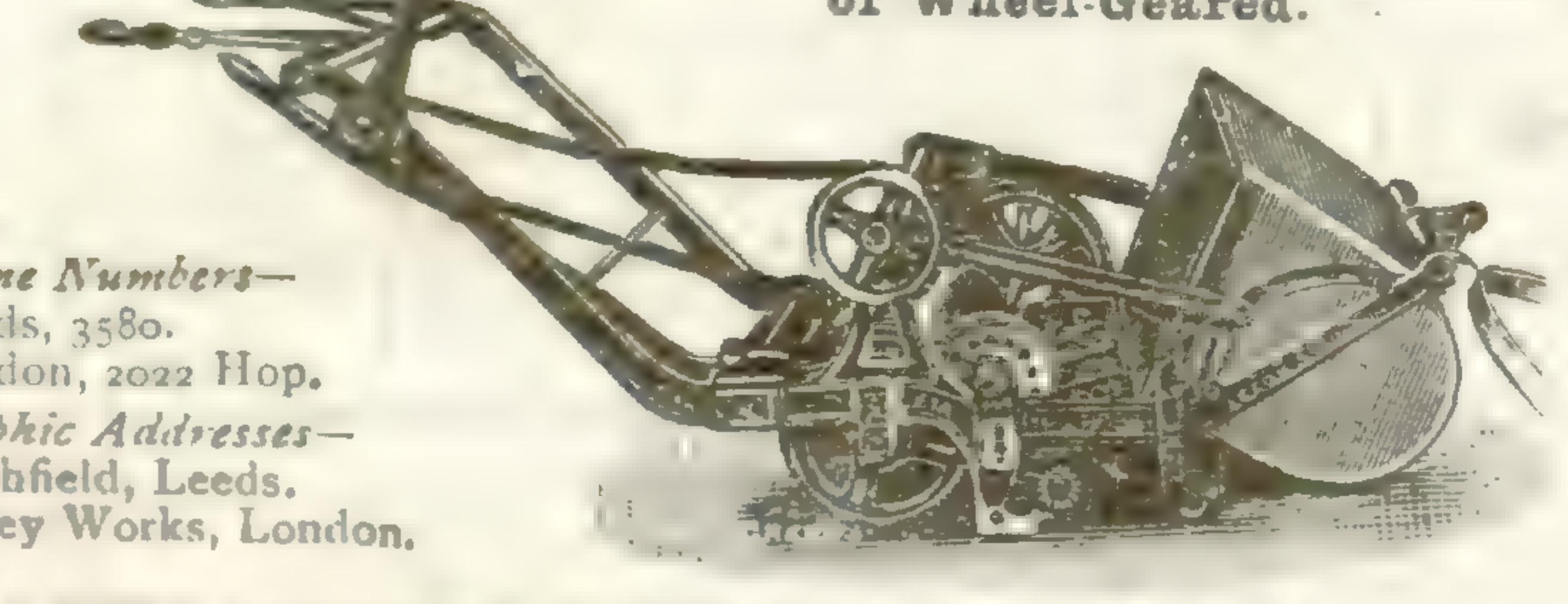

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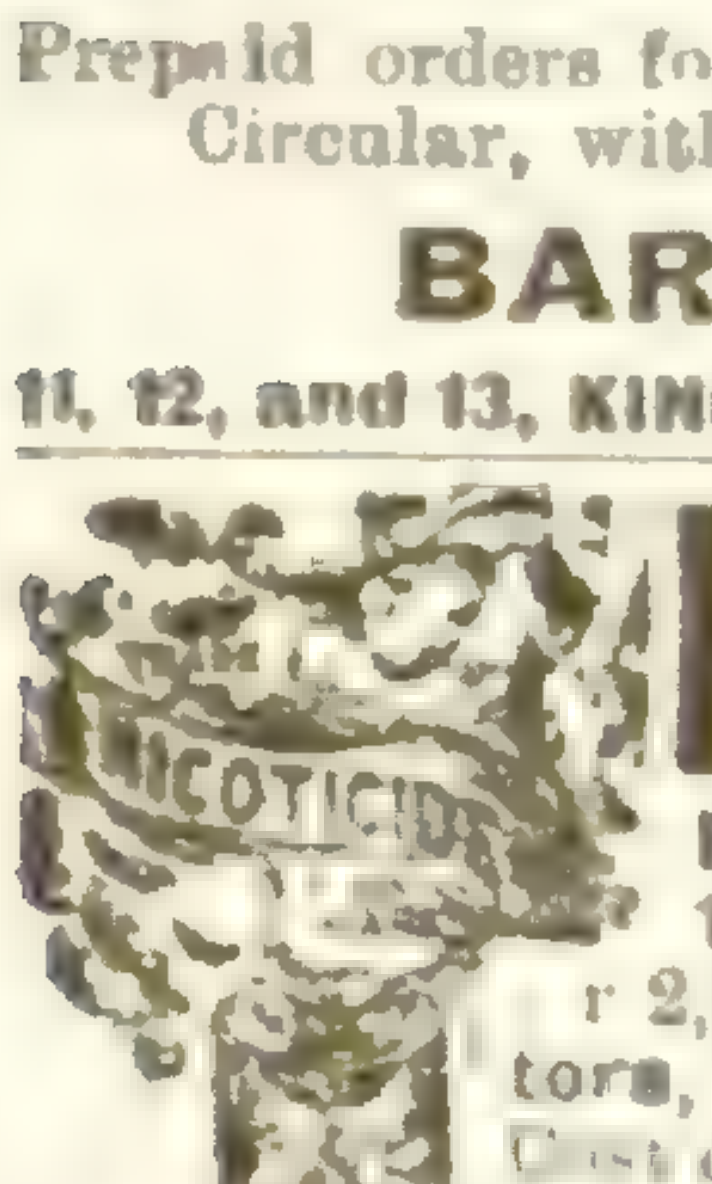

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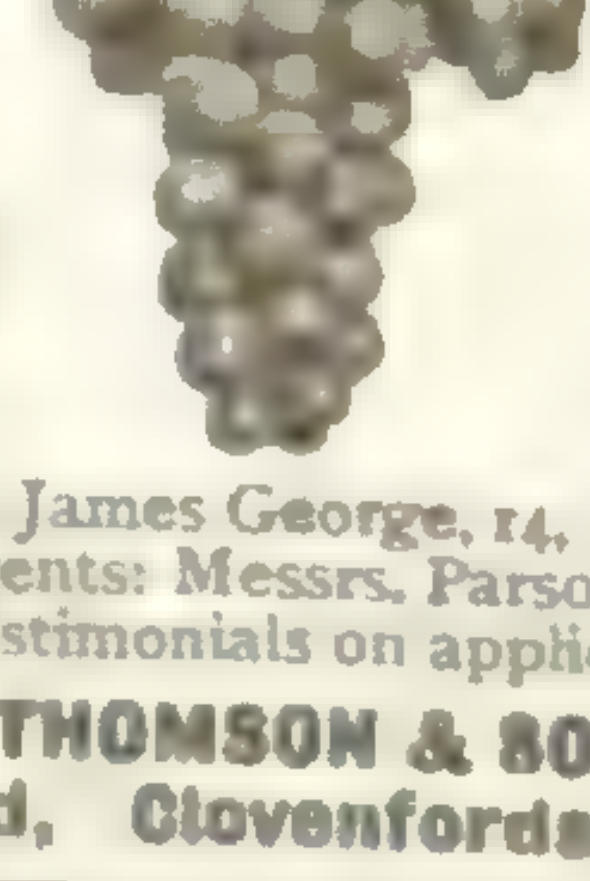

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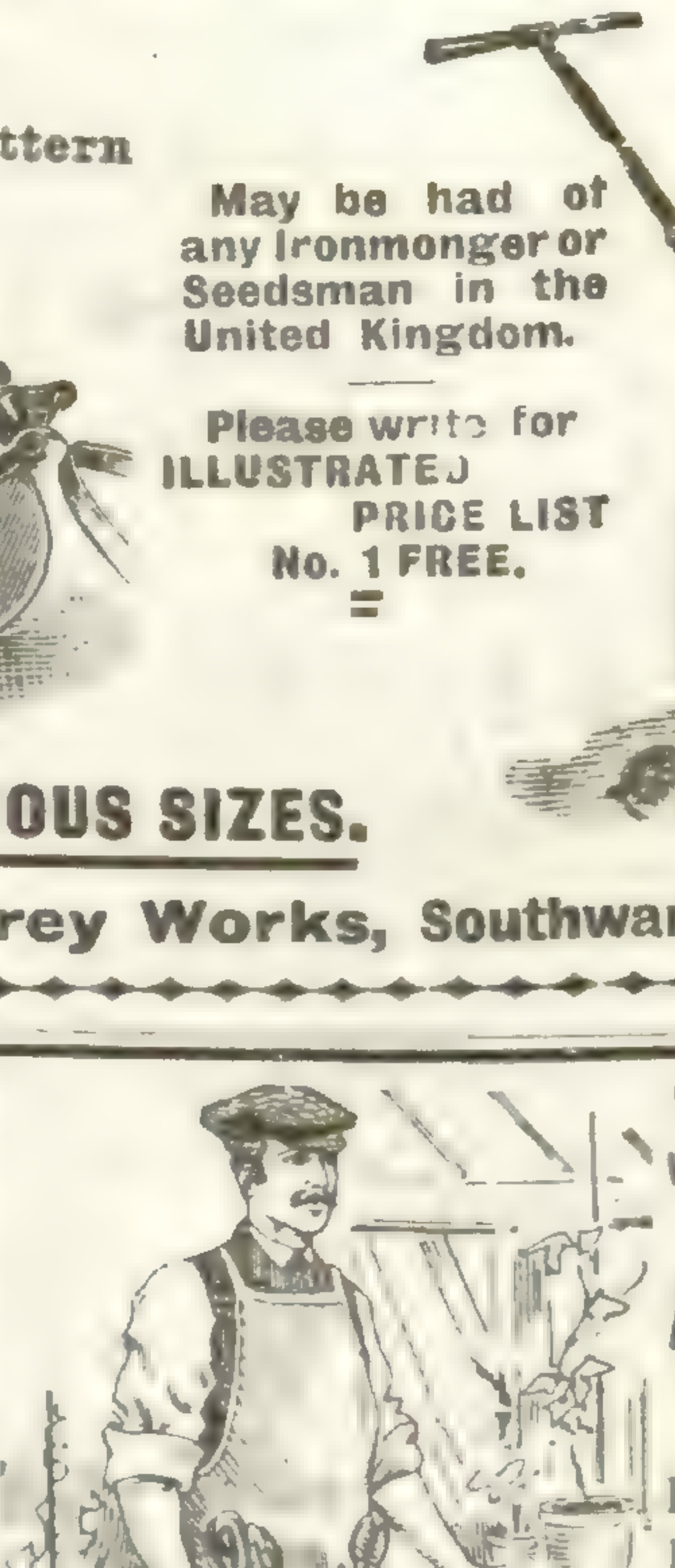

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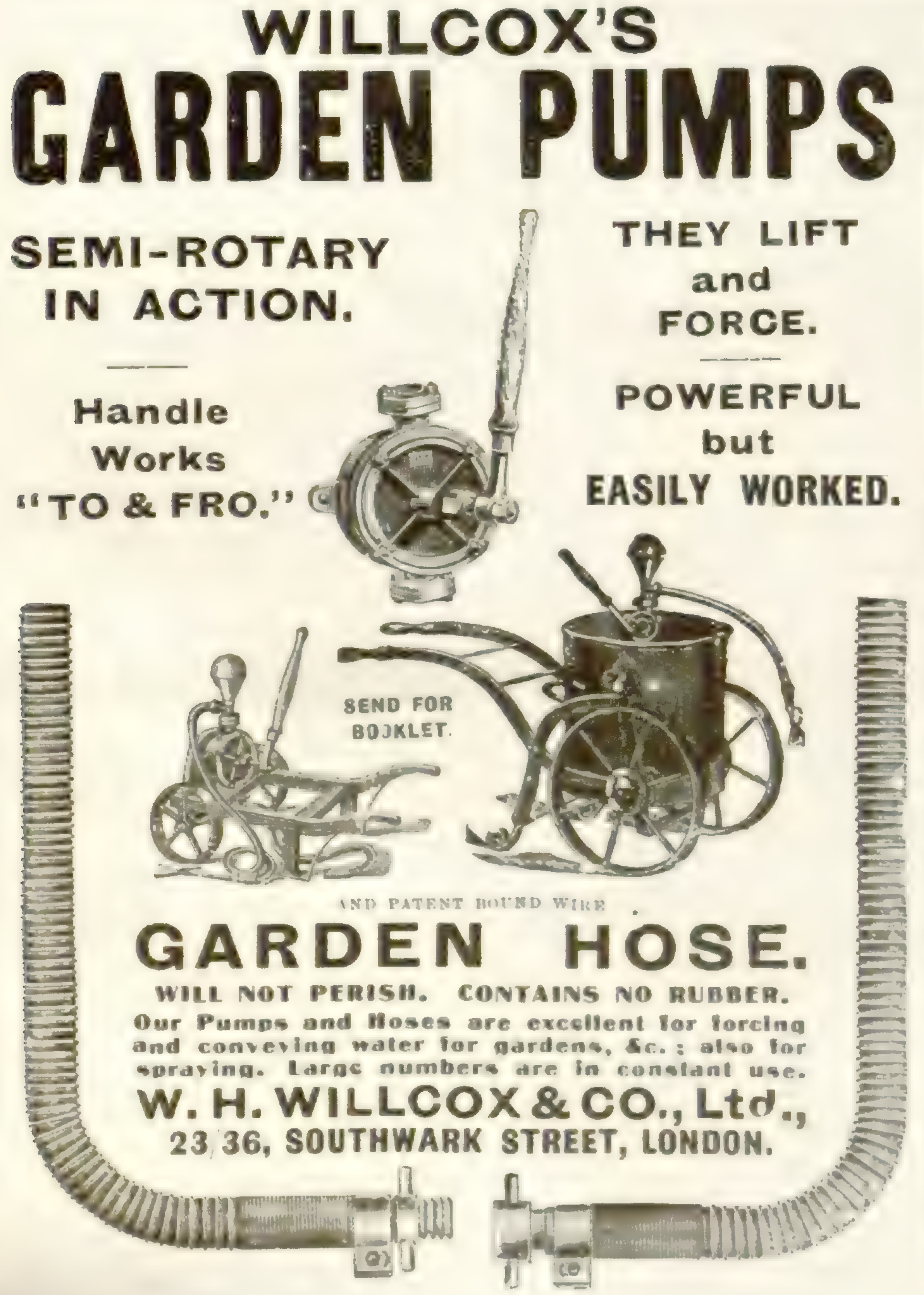

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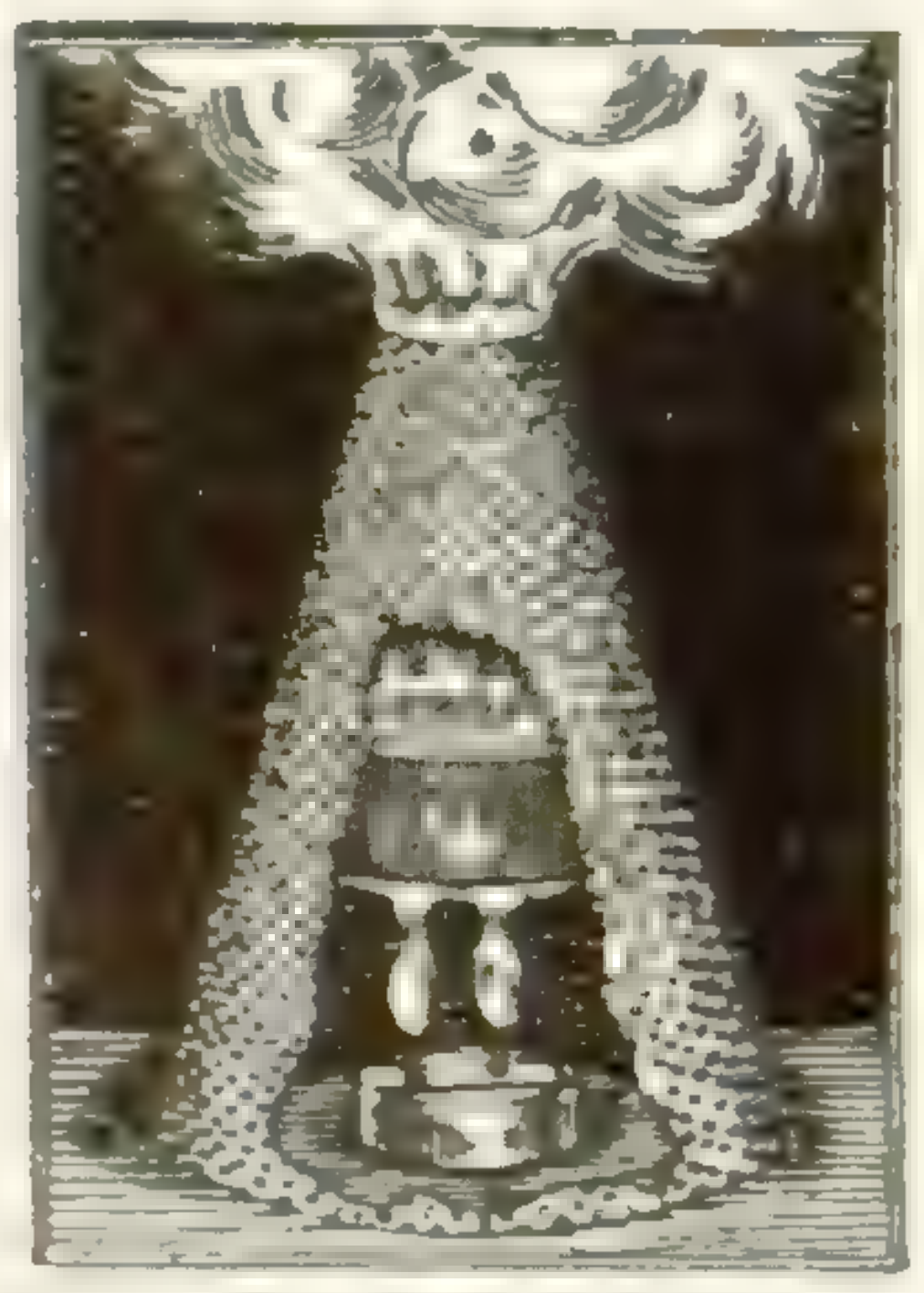

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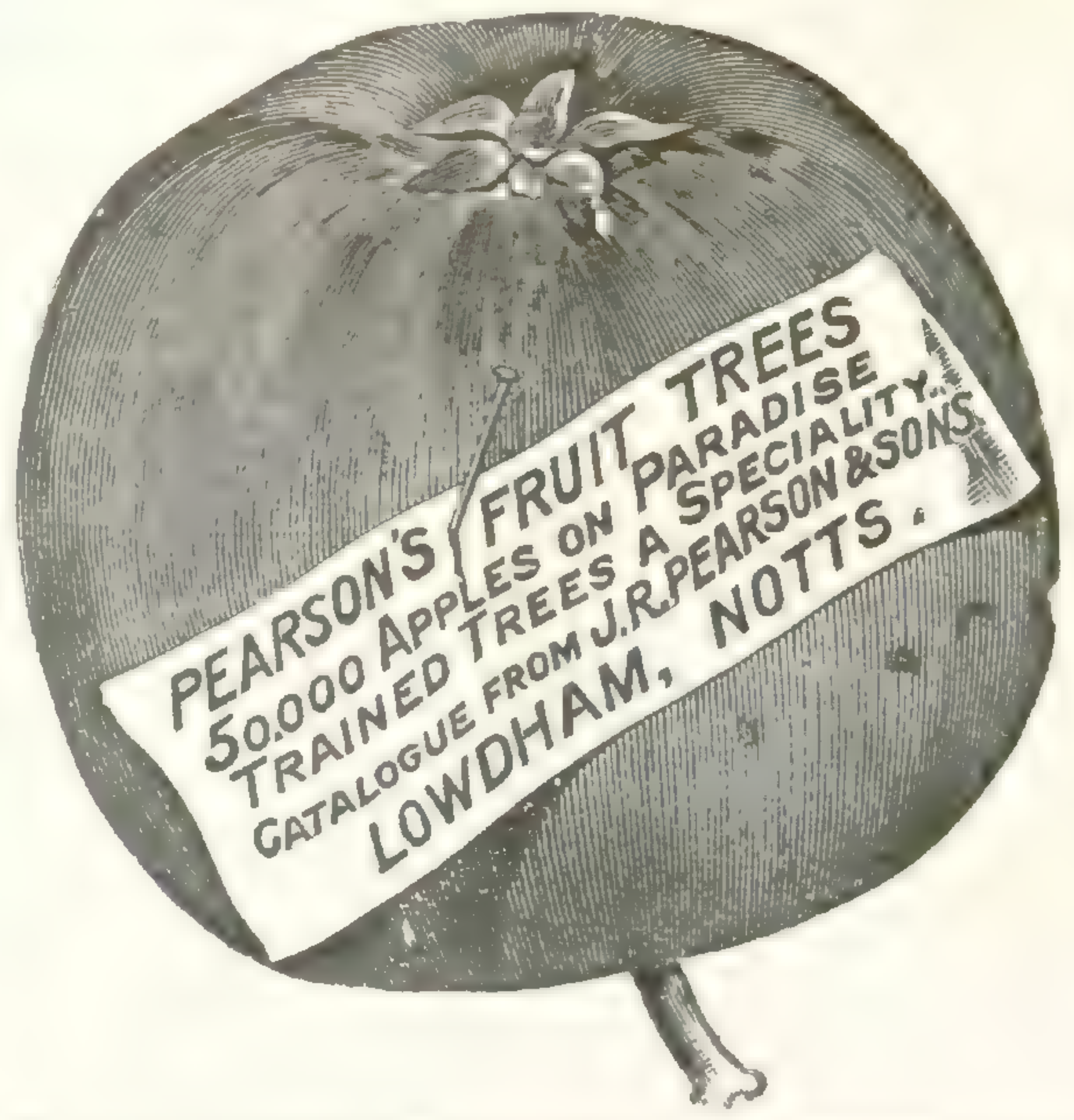
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Situations Wanted.

ADVERTISER seeks RE-ENGAGEMENT as HEAD WORKING GARDENER to any Lady or Nobleman requiring the services of a good practical Man, who has had 20 years' experience in all branches (Inside and Out); excellent testimonials; personally recommended if desired; married; age 35. Apply, W. GUNSTON, c/o Mrs. Knowlton, Brook, nr. Lyndhurst, Hants.

LADY MALCOLM, of Poltalloch, highly recommends her HEAD GARDENER; eight years in present place, Head of three; life experience in all branches; age 36; married, one child, seven years. W. BASTIN, Barnardiston Hall Gardens, Haverhill, Suffolk.

MR. J. CYPHER, Queen's Road Nurseries, Cheltenham, will be pleased to recommend F. W. HOLLAND to any lady or gentleman wanting HEAD WORKING GARDENER; experienced in the cultivation of [illegible] plants, including orchids, fruit, and vegetables. Apply as above.

MRS. TRESIDDER confidently recommends an industrious, hard-working HEAD GARDENER; good all-round man; 9 years present place; married. GARDENER, The Lodge, Wood Villa, Whetstone, N.

GARDENER (Head). — H. EDWARDS, Beechy Lees Gardens, Sevenoaks, Kent, is open to engage with any Lady or Gentleman requiring the services of a steady, practical man, conversant with the requirements of a well-kept establishment; [illegible] years in above gardens as general foreman. Well recommended by past and present employers, who would answer any questions concerning him. Apply as above.

GARDENER (Head of two or three); all-round experience in all branches, including all kinds of Fruits and Flowers under Glass; age 35; married, good references; last 6 years Head. S. BUTLER, 4, Alexander Road, Chislehurst West.

GARDENER (Head Working), where more are kept; 25 years' practical experience in all branches, Inside and Out, early and late Forcing, Vines, Cucumbers, Melons, Stove, and Greenhouse Plants, Herbaceous Borders; thoroughly reliable, highly recommended; married, without encumbrance. WOODHOUSE, Eastwood Road, Bramley, Surrey.

GARDENER (Head Working, where several are kept); life experience in all branches; especially Grapes, Melons, Peaches, Cucumbers, and Stove and Greenhouse Plants; also Flower and Kitchen Garden; 21 years in last place, having left through death of employer; good references. C. F. M., 18, Pentland Street, Wandsworth, S.W.

GARDENER (Head Working), age 47; good practical experience in all branches, Inside and Out, many years as Head; can have good references. H. TURNER, Fineshade, Stamford.

GARDENER (Head working, where 3 or more are kept); first-class experience, both under Glass and Outside; excellent character from present and previous employers; married, no children. J. LIDDICOAT, 20, Carnarvon Road, Barnet.

GARDENER (Head Working).—Sir WILLIAM CHANCE, Bart., Orchards, Godalming, highly recommends G. DOE; good, practical experience; all-round man Inside and Out; married, two boys, 10 and 11. Care of SARGOOD, Millmead Terrace, Guildford.

GARDENER (Head Working, or good Single-handed); good practical experience in all branches, including Bees; seven years as Head; age 37; abstainer; married, two children; good references. J. ELLIS, Lodge, Springhurst, Newbury.

GARDENER (Head Working); life experience Inside and Out; five years Head of three; excellent references; disengaged through place being sold; understands Oil Engine; age 36; married, one child (age six). E. HOPKINS, Belmore Cottage, Hookwood, Horley, Surrey.

GARDENER (Head Working).—R. HOISER, Gardener to G. Drummond, Esq., can highly recommend his Foreman to any lady or gentleman requiring a good practical man, age 34. Address, W. LONGLEY, Swaylands, Penshurst, Kent

GARDENER (Head Working); life experience in all branches, Inside and Out; married; good references; disengaged when suited. W. CANE, Sparrows Green, Wadhurst, Sussex.

GARDENER (Head Working), age 32; good experience Inside and Out; used to Orchids, Carnations, Herbaceous and Alpine Plants. CHARLES LUXFORD, 78, Southfield Road, Oxford.

GARDENER (Head Working), age 40, son 16, require SITUATIONS (together or separate); 25 years' practical all-round experience, including glass; excellent references; disengaged when suited; some experience in the care of poultry, bees, etc. H. W., 32, Alexandra Road, Chislehurst, Kent.

GARDENER (Head Working or good Single-handed); age 47; life experience, Inside and Out; 7 years' at present place; 17 years Head at Belmont Castle, Grays. Leaving through gentleman giving up garden. HILL, 8, Wallis Avenue, Prittlewell, Southend, Essex.

GARDENER (Head Working), age 32, married; life experience in good establishments, including Syon House, Mereworth Castle, and Old Warden Park; highest references. F. FRENCH, Covent Garden, Barming, Kent.

GARDENER (Head, where two or three are kept); life experience; good references; can be highly recommended from present situation; age 29, married, no family; in or near Reading preferred. H. MARSHALL, Manor House Gardens, Cookham Dean, Berks.

G. P. LECHALLAS, Esq., Grantbourne, Chobham, Surrey, wishes to recommend JOHN JANES, Head Gardener; married; age 35; Inside and Out; [illegible] 18 months; 12 years' previous character. Gentleman going away.

GARDENER (Head of Two or Three, or thorough Single-handed with help); married, age 40; life experience in Fruit, Flowers, and Vegetables, Inside and Out, good character. J. S., 5, White Cottages, Clay Hill, Enfield.

A YOUNG MAN (25) seeks SITUATION as SINGLE-HANDED GARDENER, or where help is given; 2½ years' good character. P. MUSTON, Coln St. Aldwyns, Fairford, Gloucestershire.

GARDENER seeks SITUATION as good Single-handed; understands poultry, and no objection to cow; married; age 39; now disengaged; 3 and 6 years good character; Berks or Oxon preferred. Apply W. DEARLOVE, Dorchester, nr. Wallingford, Oxon.

GARDENER (Single-handed or otherwise); eight years' practical experience, Inside and Out; married, one child; highest reference. F. WEBLEY, Adlestrop Gardens, Chipping Norton.

GARDENER (Single-handed or with help); good Second's place not objected to; married, age 36; tall; one child; life experience Inside and Out; good references. H. WARNER, 17, Salmestone Road, Margate, Kent.

GARDENER (good Single-handed or where help is given); age 37; 24 years' experience in all branches; good references. E. SMITH, 5, Havelock Road, Bromley, Kent.

GARDENER seeks SITUATION, [illegible] handed, or where help is given; age 28; [illegible] life experience in all branches; good references. [illegible] ATTWATER, Ivy Cottage, Horsmonden, Kent.

GARDENER (Single-handed, or with help); Vines, Stove, Greenhouse Plants; experienced Inside and Out; good character by me; age 35; married (boy 5 years); willing to be useful. State terms. C. H. SMITH, 44, Ravenbourne Road, Catford, S.E. Disengaged when suited.

GARDENER (Single-handed or good Second); thoroughly experienced Inside and Out; excellent ref.; married; age 30. Apply, A. PLUMRIDGE, Ivy Cottage, Temple Bar, Cosham, Hants.

GARDENER (Single-handed or Under); 8 years' good experience Inside and Out; can be well recommended; age 24. C. KIMBERLEY, Birdingbury, Rugby, Warwickshire.

GARDENER (Single-handed or with Help); age 31; Catholic; married; one child; Convent or Private; long reference from present position. COX, 25a, New Trinity Road, East Finchley.

GARDENER (Kitchen and Pleasure Ground or small Single-handed) seeks SITUATION, life experience; good reference; married, no family. [illegible] GARWOOD, 65, School Lane, Bushey, Herts

FOREMAN (Inside), age 27; 14 years' experience in good establishments; four years in last situation as Foreman; excellent references. G. MORRIS, Hackmans Gate, Broome, nr. Stourbridge, Worc.

FOREMAN (Inside), age 26; 11 years' good general experience in Plants and Fruit Houses including Carnations, Chrysanthemums, etc., and House and Table Decorations; good [illegible] JOHNSON, Stansted Hall Gardens, Stansted, Essex.

FOREMAN (Inside), age 26; nine years' experience in good establishments; well experienced in Carnations, etc.; 2 years as Foreman. T. BUDGEN, Grange View, Turner's Hill, Crawley, Sussex.

MARRIED MAN, age 32, seeks SITUATION as FOREMAN; life experience in general Pot Stuff; Carnations and Cyclamen a speciality. A. GROENEKAN, 36, Ladysmith Road, Upper Edmonton.

MR. E. COULSON, Gardener, [illegible] Manor, Tamworth, will highly recommend [illegible] Young Men A. CARRINGTON [illegible] twelve years' experience in Fruit, [illegible] Decorating; two years present situation; [illegible] references; and W. YOUNG (19), as [illegible] side or Inside and Out); 5½ years present situation. Bothies preferred.

GARDENER (Second); Inside, or Inside and out, where several are kept; age 26; 11 years practical experience. Midlands, and bothy preferred. W. R. PHILLIPS, Rose Cottage, Kingscote, Wotton-under-Edge, Gloucestershire.

GARDENER (Second, good, Inside and Out); excellent references; four years in last private service; 11 months in the Trade. D. SAWYER, Hatch House, Hazleigh, Maldon, Essex.

MR. E. CLIFTON BROWN wishes to highly recommend G. HARRIS as good SECOND GARDENER; age 28; single; has been his Second Gardener for four years, with good experience Inside and Out; excellent character. Burnham Grove, Burnham, Bucks.

MR. R. STREET, Effingham Lodge Gardens, Effingham, Surrey, can with confidence recommend H. NEWNHAM as SECOND [illegible] Inside or Inside and Out, life experience; [illegible] south preferred. Apply, Ote Hall, Burgess Hill, Sussex.

SITUATION COUPON

To the Advertisement Manager of "THE GARDENERS' MAGAZINE,"
148 & 149, Aldersgate Street, London, E.C

For MAY 1, 1909.

Please Repeat my Advertisement.

Name ....

Address ....

....

Date ....

THIS COUPON, duly filled up, should be forwarded not later than Tuesday for the next issue.

Situations Wanted—*continued.*

MR. MORELAND recommends Young Man as SECOND Inside and Out, where two or three are kept; good references; age 26, leaving through death. Apply, T. J. WITCHELL, Tower Gardens, Belvedere Park, Kent.

GARDENER (Under) seeks SITUATION: Pleasure or Kitchen Garden; willing to assist Inside; age 22; four years' reference. HARRY MILLUM, Slades, Rolvenden, Kent.

GARDENER (Under), age 22, seeks SITUATION; knowledge of both Inside and Out; good reference. N., Red House Lodge, Heatherside, Camberley, Surrey.

GARDENER (Under or Single-handed) or CARETAKER; 14 years' experience, chiefly outside; good references; married; abstainer. PEGG, The Lodge, West Hatch, Chigwell, Essex.

GARDENER (Under, Inside or Inside and Out); 8½ years' experience; 2½ years here; well recommended; Bothy preferred. HEWLETT, The Gardens, Clandon Regis, Guildford, Surrey.

GARDENER (Kitchen and Pleasure, where 2 or 3 are kept, or good single-handed); 14 years present situation; age 32 years, married when suited. Apply, ROBERT NICHOLLS, Pankbridge Street, Crondall, Hants.

JOURNEYMAN (Inside).—W. HEADINGTON will be pleased to recommend S. WEBB, age 23, to any Gardener requiring a willing Hand; seven years' experience; Bothy preferred. The Gardens, Waltham Place, Maidenhead, Berks.

JOURNEYMAN - IMPROVER (18), height 5ft. 8in., seeks SITUATION in a good establishment under the Foreman in House; active, willing, and trustworthy; life experience; can take Duty; well recommended; disengaged. Address, G. AUBERTIN, Bulwick Park Gardens, Wansford.

JOURNEYMAN (Inside), age 23; 8 years' good practical experience in private and nursery establishments; 2 years at Denbies Gardens, Dorking; good references. B. ALLEN, 14, Archway Place, Dorking.

JOURNEYMAN (First, Inside, or Inside and Out, or Second of four); 8½ years' experience in all-round work, 1 year 9 months present situation. H. BELFIELD, 21, Lindum Road, Hampton Wick, Middlesex.

YOUNG MAN (21), abstainer, seeks SITUATION as JOURNEYMAN (Inside); four years' experience with Tomatoes, Chrysanthemums, Geraniums, and Kitchen Garden; can be highly recommended; disengaged when suited. Apply, H. COLES, Manor Gardens, Great Addington, Thrapstone.

IMPROVER or ASSISTANT, age 17½, seeks SITUATION in the Houses; willing and obliging; good references. Apply, F. COOK, Woodfield Road, Hadleigh, Essex.

CARNATIONS.—YOUNG MAN, age 21, seeks SITUATION in Tree Carnations; 6 years' experience in all its branches. Apply, A. LENTON, High Street, March, Cambs.

WANTED, SITUATION as an IMPROVER, age 17; strong and willing; has had three years and ten months' general experience Inside and Out; total abstainer. Bothy preferred. A. HYLAND, Woodlands, Ticehurst, Sussex.

LADY can highly recommend Gardener to any Lady or Gentleman requiring a good practical, hard-working MAN; thoroughly understands his work, Inside and Out; life experience; leaving through death; 10 years' excellent character; age 34; married, one child, 8 years. W. HIGGINS, The Lodge, Darrington, Camberley, Surrey.

PRACTICAL MAN seeks SITUATION as MUSHROOM SPAWN MANUFACTURER; seven years' experience; good reference. Apply to G. E. BRYANT, Twyford Bridge Farm, Willesden, N.W.

YOUNG MAN (26) seeks SITUATION as GARDENER (Under) or Single-handed in small place; good Scythe and Machine Hand. C. HAYLER, 17, Regina Terrace, Ealing, W.

YOUNG MAN (19) seeks SITUATION as IMPROVER (Inside or Inside and Out); 3½ years present place; well recommended. In or near London preferred. Disengaged when suited. Apply, G. CHANDLER, Butts Road, Alton, Hants.

YOUNG MAN seeks SITUATION as under Gardener; age 19; Inside and Out; strong and willing. G. LUFF, 18, Prospect Place, Maidstone, Kent.

Situations Vacant.

FOREMAN WANTED.—Experience with Carnations, Violets, Grapes, Chrysanthemums, and general indoor work; good reference; £1 per week and lodgings; also Young Man with good knowledge of rock and rose garden, and herbaceous borders. Apply, MORRIS, Grove Gardens, Craven Arms, Shropshire.

WANTED, a Man, not over 35, to look after a Kitchen Garden and Glasshouses; he must be an expert grower of cucumbers, melons, grapes, peaches, and winter-flowering greenhouse plants, especially carnations; he would have a man and boy under him, and further help when required. The flower garden and grounds are worked by a separate staff, but he would have to keep them supplied with all necessary bedding stuff. A comfortable house and good wages will be given to a really competent man with satisfactory references. Apply to J. A. Christie, Framingham Pigot, Norwich.

WANTED, good all-round SINGLE-HANDED GARDENER, used to small range of houses, kitchen garden, and lawn; capable of running small petrol engine for electric light. Single man preferred. Wages 22s. per week. Apply to J. A. FOWLER, Bridgfield, Halewood, nr. Liverpool.

WANTED, Active LABOURER for garden and estate nursery; one used to herbaceous borders. Wages 17s. Mr. ELLAWAY SMITH, Estate Office, Uttoxeter, Staffs.

NICOTICIDE

(FUMIGANT).

		cubic ft.	each
Half gall. Tin contains sufficient for		160,000	60/-
No. 1 size Tin—1 pint	,,	40,000	15/-
No. 2 size Tin—½ pint	Ask your	20,000	7/6
No. 3 size Bot.—6 oz.	Seedsman	12,000	4/6
No. 4 size Bot.—4 oz.	for it.	8,000	3/-
No. 4½ size Bot.—2 oz.	,,	4,000	1/8
No. 5 size Bot.—1 oz. "sample"		2,000	10d.

Carriage paid.

FUMIGATORS 1/- each, for 5,000 cubic feet.

NICOTICIDE PLANT SPRAY.

Half pint ... ... 1/2 | Quart 3/6
Pint ... ... 2/- | Half Gall. 5/-
Gallon 10/-

Use 1 part to 40 parts water for green fly, etc.
Carriage Paid.

GOW'S LIQUID WEED KILLER.
1 gallon to make 50 in solution... ... ... 4/-
5 gallons to make 250 in solution 16/6
Drums free. Carriage paid.

NICOTICIDE

GOW'S POWDER WEED KILLER.
No. 1 tin 2/- to make 25 galls.
No. 2 ,, 6/6, ,, 100 ,,

Gow's Lawn Sand Daisy Eradicator, 28lbs., 7/6; for 100 square yards, 1 cwt., 23/-, carriage paid.
Gow's Slug and Wireworm Destroyer, being a combined Fertilizer and Lawn Sand.
Tobacco Powder and Quassia Extract.
Sold in 6d., 1/- and 2/6 tins, also in larger sizes.
Carriage forward.
Your Seedsman will supply you.

HUNTER & GOW,
46, THOMAS STREET, LIVERPOOL.

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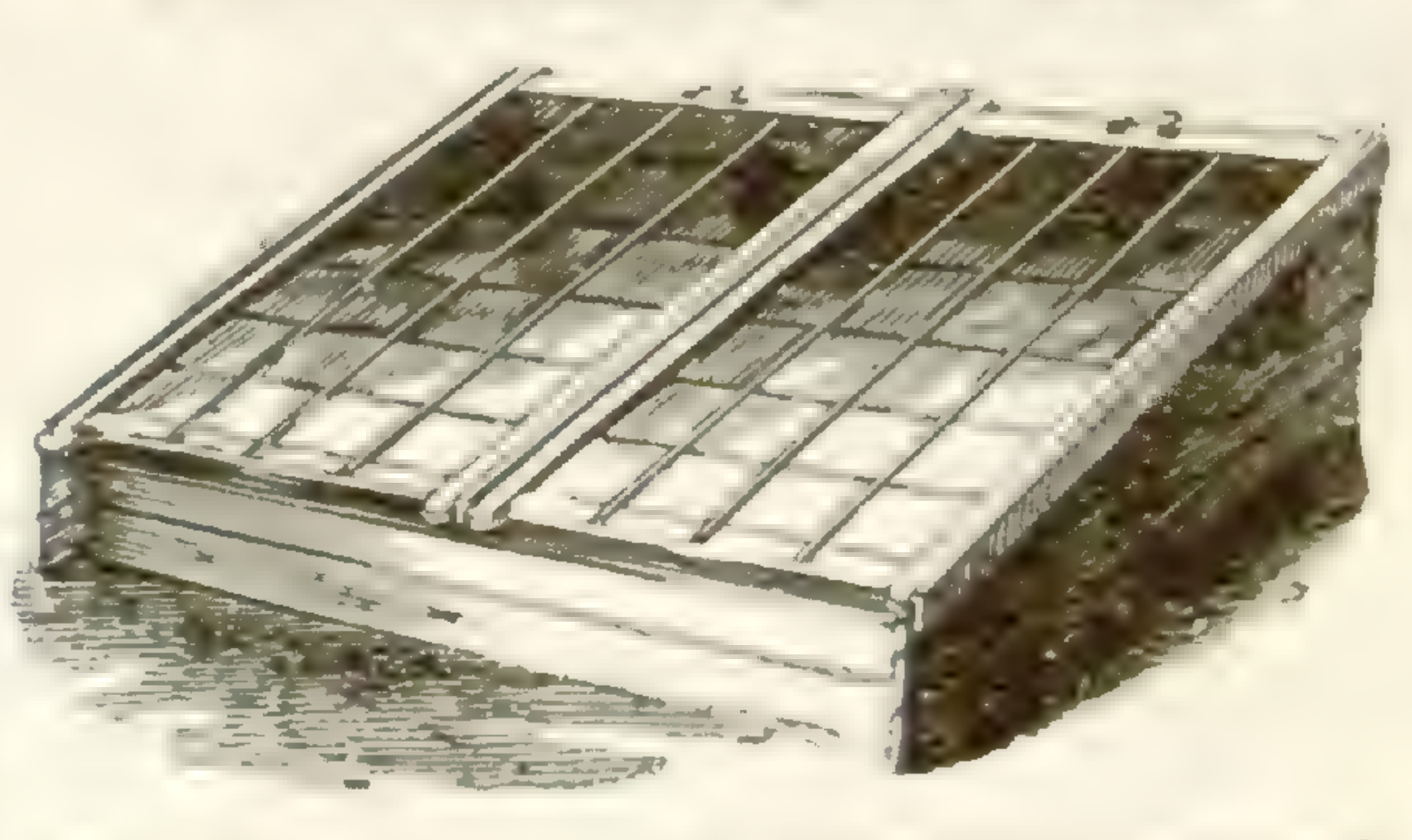
CUCUMBER FRAMES.
OUR WELL-KNOWN MAKE.



These Frames are made of the best materials, and can be put together and taken apart in a few minutes by anyone.

Sizes and Prices, Glazed and Painted.		£	s.	d.
1-light 4 ft. by 6 ft.	*CASH PRICES.*	2	0	0
2-light 8 ft. by 6 ft.		3	0	0
3-light 12 ft. by 6 ft.		4	2	6
4-light 16 ft. by 6 ft.	*CARRIAGE PAID.*	5	5	0
5-light 20 ft. by 6 ft.		6	7	6
6-light 24 ft. by 6 ft.		7	10	0

Larger sizes at proportionate prices.

R. HALLIDAY & CO.,
Royal Horticultural Works,
MIDDLETON, MANCHESTER.

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Simplest! Strongest! Most Economical!

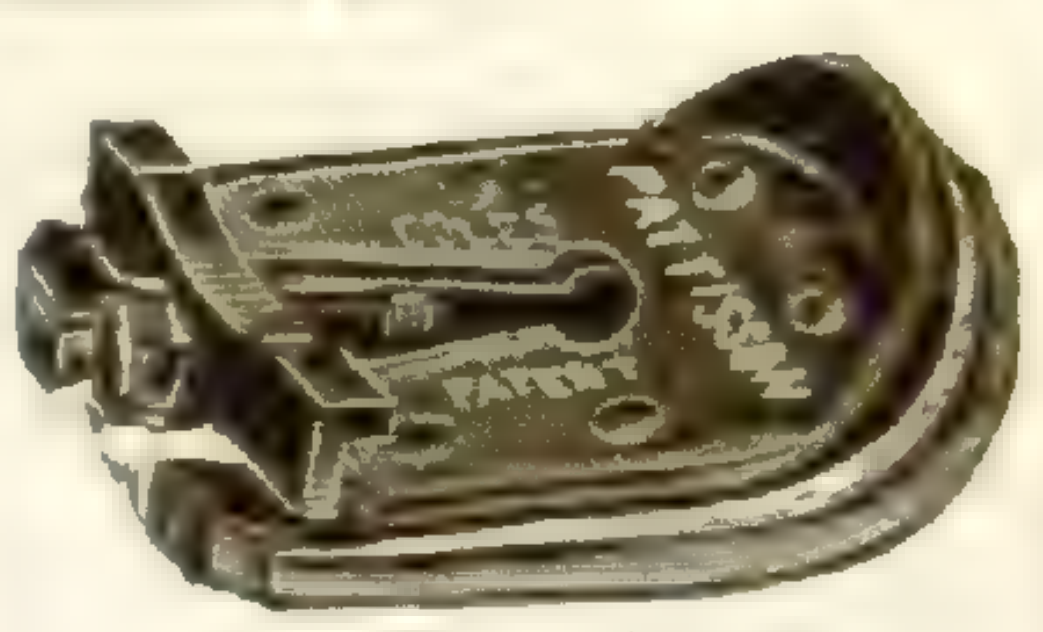

Fig. 1.

Soles of Best English Sole Leather (Waterproofed) with Motor Tyre Rubber Studs or Solid Rubber. Fig. 1 can be REFITTED repeatedly, equal to New Boots. Rubber Soles strongly recommended.

Used in the ROYAL and in thousands of the PRINCIPAL GARDENS.
Silver Medal—
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Hundreds of Testimonials.
The Field says: "As good as anything that could be devised."
Illustrated Price List from—

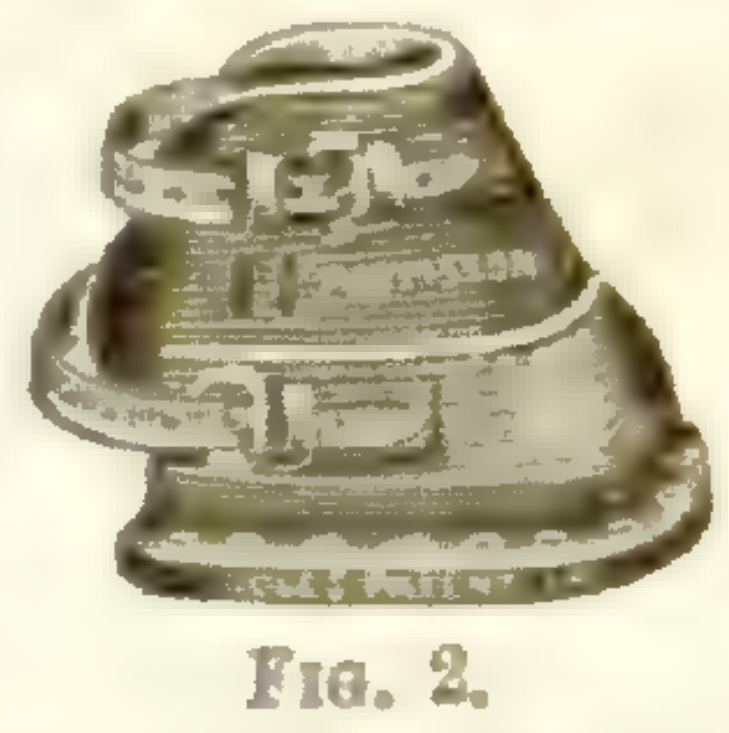

Fig. 2.

H. PATTISSON & CO., 4, GREYHOUND LANE, STREATHAM, S.W.

PLEASE MENTION
THE GARDENERS' MAGAZINE
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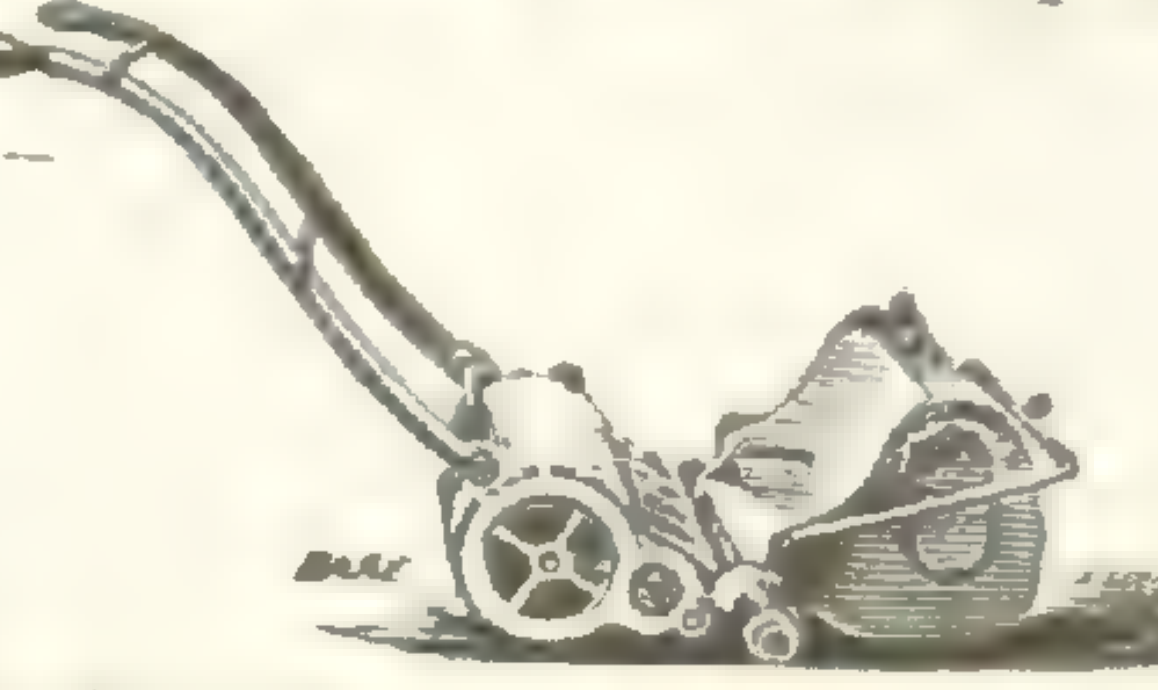
SHANKS' LAWN MOWERS.
STANDARD MACHINES,
For HAND, PONY, or HORSE POWER.
Fitted with Steel Axle Springs.



SIZES:— 10 ins. TO 48 ins.
ALSO Small Mowers, 6, 7, & 8 ins.
"THE CALEDONIA" Light ROLLER MACHINE with Patent Axle Springs.
SIDE-WHEEL MOWERS, "The Talisman," "The Britannia," AND "The Britisher,"

Light & Cheap. WITH OR WITHOUT GRASS BOXES.
ROLLERS for HAND, PONY, or HORSE.
Also Petrol Motor Mowers, the most powerful on the market.
Of all Ironmongers and Seedsmen. S. & P. 216.

GARDEN NETTING. Best small mesh, will not rot.
CAN BE SENT ON APPROVAL. 100 yds. long by 1 yd. wide, 4/-; by 2 yds., 8/-; any width or length supplied. Orders over 5/- Car. Paid. Supplied BY US to the Royal Gardens. Cheaper kinds kept.
H. J. GASSON, Net Works, RYE.
Established 126 Years.

V2 FLUID
For Summer Spraying.
Kills Greenfly, Psylla, Scale Insects and Young Caterpillars.
V2 K FLUID
FOR ROSE AND OTHER MILDEWS.
Prices and full particulars, from
Wm. COOPER & NEPHEWS, Berkhamsted.

Barr's
Lawn Phytobroma
The best Manure for all Lawns.
The most economical of all artificial manures, 2 oz. to the square yard only being required.
Per cwt., 20/-; ½-cwt., 12/6; 28lb., 7/6; 14lb., 4/6; 7lb., 2/6; sample tins, 1/-.
Prepaid Orders for 28lbs. and upwards, carriage paid.
Circular with full particulars, on Application.
BARR & SONS,
11, 12, & 13, KING STREET, COVENT GARDEN, LONDON.

CACTI, CACTI, CACTI, 5s., 6s. 6d., 9s. doz. Carriage paid. Cacti Catg., 54 pages, 162 illustrations, 6d., post free, which is allowed off first order. ELLISON, 57, West Bromwich. Tropæolum tuberosum, 3 for 9d.; 2s. doz., carriage paid.

AN APPEAL TO THE GARDENERS OF GREAT BRITAIN.

MANY Professional and Amateur Gardeners are aware of the fact that a fight has been going on for years between the Traders in Poiso Compounds Protection Society and the Pharmaceutical Society in reference to the sale of poisonous compounds used in horticulture. The Act, known as "The Poisons and Pharmacy Act, 1908," came into force on April 1st of this year, and Clause 2 reads as follows:—

2. In granting licences for the saleof poisonous substances for use exclusively in horticulture, preference shall be given to nurserymen, florists, seedsmen, and other persons whose business is specially connected with horticulture.

The only correct construction which can be put upon this clause is that it was the intention of the Government that the Borough and County Councils should grant licences to Nurserymen, Seedsmen, Florists, etc., who have been accustomed for very many years—in fact, ever since the articles were introduced—to supply Nicotine Vaporising Compound, Nicotine Insecticide, Weed Killer, etc., etc.

As a matter of fact, they have always held the trade for such poisonous compounds as these, and the gardening public have always sent their orders to them.

The Chemists' Associations all over the country have done their best to bamboozle the licensing authorities by making mis-statements to the effect that they, and not the Horticultural Trade, have been doing this business, and that there is no necessity to grant licences to the Horticultural Trade. Now, as the largest manufacturer of poisonous compounds (XL ALL) used in gardening, I appeal to professional gardeners not to place a single order with a chemist.

There is no question that the sympathy of Professional Gardeners will be with their own fraternity, and I shall be much mistaken if Gentlemen Amateur Gardeners who buy these kinds of articles themselves do not take the same view of the situation. Such mercenary greed on the part of the pharmacists, to rob horticultural tradesmen of the business which they have created and introduced to the public should be beneath the action of professional men.

PHARMACY FOR THE PHARMACIST! TRADE FOR THE TRADER!!

I wish to explain to gardeners and amateur gentlemen buyers that should their Nurseryman, Seedsman, or Florist be denied a licence for the time being, they can, all the same, legally book orders for XL ALL poisonous preparations, to be sent on by the manufacturer; and still further, they can legally invoice the goods and receive payment for same. Very little delay will be caused by having to follow this course and I trust that gardeners generally will show their disapproval of the mean and contemptible action of the pharmacists of Great Britain by not placing orders with them.

G. H. RICHARDS (XL ALL), 234, BOROUGH HIGH ST., LONDON, S.E.

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IF NOT, WHY NOT?
When we are offering the very
CATCH OF THE SEASON
Write for our Spring Catalogue of **Trees, Shrubs, Alpine, Herbaceous,** and **Bedding Plants**, also
VEGETABLE and FLOWER SEEDS
of finest selected strains and tested growth
IRISH GROWN SEED POTATOES
no one will serve you better.
WORKINGMEN and ALLOTMENT HOLDERS
buy your seed at the right price.
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FOR ROCK, WALL, BOG, AND WATER GARDENING.

Write:
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(Author "Rock and Alpine Gardening"),
SUSSEX SEED, BULB, and NURSERY ESTABLISHMENT
CRAWLEY.

ADVICE GIVEN, or work carried out in any part of the country. **Suitable Stone sent to any part**

BY SPECIAL APPOINTMENT

TO HIS MAJESTY THE KING

ORCHIDS. ORCHIDS.

QUANTITY IMMENSE.

INSPECTION OF OUR RANGE OF HOUSES IS CORDIALLY INVITED BY

HUGH LOW and CO.,
BUSH HILL PARK, MIDDLESEX

BROOKLANDS NURSERY.

Specially Choice Hybrid Rhododendrons on own Roots.

JAS. HATHERALL, Brooklands Nursery, **WEYBRIDGE.**

PELARGONIUMS.

A splendid selection of the finest Show and Regal varieties. Strong plants from single pots, correctly named, post free,
3/- per dozen.

BEGONIAS, very fine strain—
Started tubers .... post free **2/9** per doz.
,, ,, double ,, **3/6** ,,

LOBELIA, double blue, from cuttings, post free ... . **3/6** per 100.
Single Blue and Single White, post free **3/-** 100.

WILLIAM BADMAN,
CEMETERY NURSERY, GRAVESEND.

WATER CATALOGUE NOW READY
PERRY ENFIELD, MIDDLESEX

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Hayward's Heath, Sussex,

ORCHID SPECIALISTS

IMPORTERS, EXPORTERS, RAISERS & GROWERS.

PRICED ILLUSTRATED CATALOGUE FREE

WARE'S

GOOD ONLY

NEW and RARE

HARDY PERENNIALS

For Herbaceous Borders and Alpine Gardens.

WATER LILIES & BOG PLANTS.

Herbaceous Borders artistically planned and furnished. Rock, Water, and Bog Gardens Constructed or Remodelled upon up-to-date Lines.

TERMS MODERATE.

ROSES (In Pots). **CARNATIONS** (The best Tree and Border varieties)

WARE'S BEGONIAS.

45 Gold Medals and Silver Cups Awarded.
Premier Honour "Gold Medal" Franco-British Exhibition, London, June, 1908.

OUR STRAIN IS UNRIVALLED FOR
1. SUPERIOR BEDDING. 2. CONSERVATORY. 3 EXHIBITION.

CHOICE SINGLES, DOUBLES, FRILLED-EDGED AND CRESTED, supplied in Strong Tubers now.

SUPERB COLLECTIONS
Of Choice Double named varieties.

BEGONIA SEED.
Ware's Choicest, Mixed, Single, **1/- & 2/6** per pkt.
,, ,, Double **2/6 & 5/-** ,,
NEW CATALOGUE Begonias and General Hardy Plants now ready, sent free.

Address Dept. No. 2.
THOS. S. WARE ('02), Ltd., Feltham.

CHRYSANTHEMUM CUTTINGS. — One doz. of the best up-to-date varieties sent post free for 2s., to include some of the following: Dorothy Goldsmith, Mrs. Norman Davis, Geo. Mileham, Formality, Edith Jameson, Kitty Hardy, Bessie Evans, Thos. Stevenson, Mrs. C. Penford, Mrs W Wells. Send for Catalogue, SANFORD and CO., Ltd Hall Green Nurseries, Birmingham.

CHRYSANTHEMUMS.

SPECIAL PLANTING OFFER OF FINE STRONG PLANTS.

12 Beautiful varieties for the open border, the true hardy type, **2/6**; 25, **4/6**; 50, **8/6**; 100, **16/-.**
The above varieties will flower from July to October.

25 Grand plants for the cool greenhouse or conservatory, to flower from October to January, **4/6**; 50, **8/6**; 100, **16/-**; or a beautiful dozen for **2/6.**

12 Magnificent Japanese varieties for exhibition, **2/6**; 25, **4/10**; 50, **9/6**; 100, **18/6.**

25 Charming Singles, for greenhouse or conservatory, **4/6**; 50, **8/6.**

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THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Water Gardening.

Within recent years there have been many changes in public taste in its relation to the garden, and of these not the least important has been the fuller appreciation of the beauty and interest of moisture-loving plants. As a consequence of this change water gardening has become an essential feature of horticultural practice and both aquatics and sub-aquatics are systematically cultivated in large numbers of gardens. From time well-nigh immemorial these plants have had a place in British gardens, and we should have to go far back to find a time when the white water lily could not be seen floating on the placid surface of lake or pool within the pleasure grounds, and masses of meadow sweets, lythrums, and other bog plants did not contribute their share to the attractions of slow-running streams that intersected the ornamental parts of the garden. But not until within a recent period have the representatives of the water and bogland flora been freely utilised in the creation of garden scenery, and so arranged as to display their distinctive characteristics to the best advantage. The change that has taken place in the views held with regard to the cultural requirements of these plants is not less deserving of mention than is the fuller appreciation of their many merits. Water lilies were from time to time planted in lake and pool, and if they failed to become established they were, in some cases, replaced, while in others it was assumed that the conditions were not favourable to their successful culture, and nothing further was done. If, on the other hand, the water lilies became established, and grew vigorously, they were allowed to remain until the growth became so dense as to render the removal of masses of vegetation imperative. Now, those who have had experience in this phase of gardening persevere until they are successful in establishing healthy colonies of water lilies and the other subjects that may be associated with them: and are careful to pay due attention to the all-important detail of thinning. Water gardening is unquestionably a quite modern innovation, and when carried out on proper lines adds so appreciably to the attractions and interest of the garden that there is ample justification for a strong feeling of satisfaction that it should have attained to so high a degree of popularity. Mistakes have been made in some instances, and others will doubtless be made before the water garden has reached the high state of perfection that is desired by all who are actively interested in it and its occupants. This, however, is by no means surprising, considering how varied are the plants in their habit and cultural needs, and how difficult it is to grow them successfully and arrange them effectively, until the cultivator has, with the aid of expert advice, become acquainted with their peculiarities. Appreciating the importance of fuller information upon water gardening than is readily available, we felt that we might, with advantage to our readers, give special attention to the more important points relating thereto, and have been so far successful in giving practical effect to our views, that our readers have at their command full information on all the more important points relating to its planting and management. There is no occasion that we should deal in detail with points so fully dealt with elsewhere, but it is a matter of some importance that we should direct attention to the necessity for care in selecting the site for the water garden; also to the importance of adopting a design that is suited to the site. The informal water garden is unquestionably the best for the cultivation and the tasteful display of a comprehensive collection of aquatic and bog plants, but it should not, as is sometimes done, be constructed at a heavy cost on high ground. Nature should be imitated, and a low part of the grounds be selected for the water garden, and the site be laid out in as natural a manner as possible. Ample provisions must be made for a selection of the finest of the nymphæas, and as these require a considerable area, and a good depth of water, it will be an enormous advantage if the garden can be associated with a natural lake or pool. In any case, a site where water is plentiful, or is readily obtainable, should be taken advantage of. In all cases overcrowding the water and its margin should be avoided, for, unless the lilies are sufficiently far apart to allow a water space between them, the effect is far from pleasing. In like manner the plants growing on the margin should be arranged in groups, with space between them, so that the lilies and other plants growing in the water can be readily seen. There is yet another point that should have consideration in the formation of a bog garden, and that is the provision of stepping stones, resting upon a firm foundation, to admit of the examination of the plants grown therein with some degree of comfort. Sometimes the stones are put too far apart and in other cases they are laid on the surface, with the consequent risk of the unwary visitor finding himself or herself ankle deep in mud when enjoying the

MR. J. W. ODELL.

charms of some object that is especially attractive. The formal water garden, if less suitable for the cultivation of a comprehensive collection than one in which informality reigns supreme, is of considerable value, inasmuch as it admits of the cultivation of nymphæas and other subjects in positions where informality would be quite out of place. It may, perhaps, be well, in conclusion, to sound a note of warning, to the effect that in water gardening, as in other matters horticultural, it is important to avoid attempting too much, and to remember that a comparatively small area carefully managed will give far more pleasure than will one so large that sufficient time cannot be devoted to it.

Mr. J. W. Odell has so long occupied a prominent position among practical horticulturists, and has, moreover, accomplished such excellent work in various directions, that a large number of our readers will be interested in his portrait, which we have the pleasure of giving in this issue. Mr. Odell has for upwards of twenty years had charge of the gardens and farm of The Grove, Great Stanmore, and, among other matters of special interest associated with his career, previous to his entering on his present charge, may be mentioned the laying out and planting of a large area of fruit land in Florida, on behalf of an American fruit growing syndicate. While possessing great cultural skill and administrative ability, as exemplified by the success he has achieved in the management of the gardens and farm under his charge, Mr. Odell possesses scientific attainments of a high order. He has devoted much attention to the study of British plants, and the paper he read, not so long since, before the Royal Horticultural Society on wild flowers in relation to the garden was of special interest. Mr. Odell was for some years a member of the Orchid Committee of the society mentioned, and during the past eight years has been a member of the Scientific Committee. While devoting close attention to the practical and scientific aspects of gardening and farming, Mr. Odell has fully recognised his responsibilities as a citizen, and taken a keen interest in local affairs, and that he is highly esteemed in the district is evidenced by the fact that for twelve consecutive years he has occupied the position of chairman of the Great Stanmore Parish Council.

Flower Imports in March last were of the value of £35,177, as compared with £35,185 and £42,611 in the corresponding month of 1908 and 1907 respectively. For the first quarter of the year the value of the imports of flowers was £97,812, which is the largest sum that has been paid in a similar period for flowers of foreign growth for several years past. This increase for the first three months of the year is surprising, considering the large extension of flower production in this country within recent years.

Census of Fruit and Vegetable Crops.—Information is being collected by the Board of Agriculture as regards market garden crops, crops grown under glass, and the production of fruit. Information is desired, not only as regards the ordinary field crops, but also as regards vegetables (cauliflowers, celery, mustard, mint, etc.), tomatoes, flowers grown for market, grass seeds, watercress, the produce of nursery gardens, etc., etc. In the case of small areas on which a great variety of produce is grown, which cannot be separately distinguished, the total value is asked for; but, generally, the information is desired in as much detail as is possible. Growers of crops under glass are asked to state the amount and value of grapes, peaches, tomatoes, cucumbers, and other kinds of fruit, flowers, and vegetables so produced. Fruit growers are desired to give the area, production, and average yield of strawberries, raspberries, currants, gooseberries, and other kinds of small fruit, and of apples, pears, cherries, plums, nuts, and other kinds of orchard fruits. In addition, occupiers are asked to state the number of persons temporarily employed in fruit picking during the season, showing the number employed for small fruit and orchards.

Open-air Bulb Show at Hillegom.—The thirtieth annual exhibition of the Hillegom section of the Dutch Bulb Growers' Society was opened by the Burgomaster of Hillegom in the Hof Gardens on April 8, but, owing to the lateness of the season, few flowers were open on that date. The show promises to be a very fine one between April 20 and May 8, as the flowers will be at their best during that period.

French Gardening at Evesham.—Mr. James Udale writes thus of "French Gardening" in the current issue of the "Journal" of the Royal Agricultural Society: "La Petite Culture" under frames and bell-glasses, or "French Gardening," is the same system whereby the old English gardener produced all his early vegetables and salads under frames set on heaps of fermenting material. The writer had his first practical experience of the system in 1865, and practised it continuously till 1871. Since then "glass" has got cheaper, hot-water apparatus have been developed, and so the more or less uncertain hotbeds have been replaced by hot-water heated frames, pits, or low-roofed glass-houses. It may be remarked that a "French Garden" is not a piece of ground entirely covered by frames and bell-glasses, but that the amount of land so covered is equal to about one-fourth of the total area; the glass being moved from quarter to quarter or plot to plot, as the various successive crops require protecting. So far as I know, there is but one bonâ fide "French Garden" at Evesham, but I believe the nucleus of a second one has been formed. Considering that a large number of Evesham gardeners were taken to Paris several years ago with the special object of stimulating them to copy the French gardeners, and incidentally to show to them (the Evesham men) their backwardness and shortcomings, it is significant that the Frenchmen have had practically no imitators in the Vale of Evesham.

Window Gardening in London.—In a communication from Lord Meath having reference to the encouragement of window gardening in the poorer parts of the Metropolis, his Lordship states that during the past four years the Metropolitan Public Gardens Association has been making a strenuous effort to encourage the formation of outside window gardens in the poorer streets of London. The object in view has been to relieve the great monotony of many of these thoroughfares by inducing the occupiers to grow plants, flowers, creepers, etc., in boxes, pots, or baskets outside some of their windows. It is astonishing what a transformation is effected by even a few such efforts on the part of the inhabitants, which change the whole aspect of a dull street and gladden the eye of every passer-by. Many of the thoroughfares are too narrow for trees, so no other form of foliage is possible, but even where trees do exist the window gardens are a most desirable addition. The association has therefore started prize competitions in various centres, obtaining the assistance of some suitable organisation in the vicinity to arrange local details. Last year there were 30 centres (chiefly situated in the central, eastern, and south-eastern parts of London), 800 entries, and 21 prizewinners, entailing an outlay of some £30. The results were considerably in excess of those of 1907, and the association is prepared to go on.

Prizes for Forced Hyacinths in 1910.—The Council of the Royal Horticultural Society have accepted the offer of the following prizes, to be competed for in March, 1910, from the Royal General Dutch Bulb Growers' Society at Haarlem. For amateurs and gentlemen's gardeners—Eighteen hyacinths, distinct: 1st prize, £6 6s.; 2nd prize, £5 5s.; 3rd prize, £4 4s.; 4th prize, £3 3s.; 5th prize, £2 2s.; 6th prize, £1 1s. Twelve hyacinths, distinct: 1st prize, £5 5s.; 2nd prize, £4 4s.; 3rd prize, £3 3s.; 4th prize, £2 2s.; 5th prize, £1 1s. Six hyacinths, distinct: 1st prize, £2 2s.; 2nd prize, £1 10s.; 3rd prize, £1 1s.; 4th prize, 10s. Four pans, containing hyacinths, ten roots of one variety in each pan, the blooms of each pan to be of distinctly different colour to those of the other three pans: 1st prize, £4 4s.; 2nd prize, £3 3s.; 3rd prize, £2 2s.; 4th prize, £1 1s. For trade growers—Collection of 200 hyacinths in at least 36 varieties, grown in pots or glasses: Prize, the gold medal of the General Bulb Growers' Society at Haarlem; collection of 200 hyacinths in 20 varieties in pans, 10 roots of one variety in each pan: Prize, the gold medal of the General Bulb Growers' Society at Haarlem. In the first three classes each bulb must be in a separate pot, size optional. In the first four classes all must be single spikes; no spikes may be tied together. Exhibitors may only compete in one of the first three classes. All bulbs must have been forced entirely in Great Britain or Ireland. The bulbs used in pans and in the last class should be of varieties most suitable for outdoor bedding purposes.

Tweedside Alien Plants.—At the monthly meeting of the Edinburgh Botanical Society a paper by Miss J. M. Hayward, on "Tweedside Alien Plants," was read. Miss Hayward stated that the banks of the river Tweed are especially rich in alien plants, no doubt owing to the river and its tributaries flowing through so many wool manufacturing towns. The wool and sheep skins carry seeds picked up in their native countries, which become detached in the processes of washing and cleaning. These seeds find their way, to some extent, into the rivers, and, becoming lodged in congenial soil on their banks they take root and grow. In that way wool introductions are found on the deposits of alluvial soil and on the shingle banks, and plants, natives of Australia, New Zealand, South America, and other countries, are found growing and flourishing for a considerable way along the banks of the river Tweed below the manufacturing towns. In the course of 1908 Mr. James Fraser and Miss Hayward found altogether 130 different species of alien plants in the neighbourhood of Galashiels, 68 of which had not hitherto been recorded as growing on the banks of the Tweed and its tributaries.

National Auricula and Primula Society.—The Midland Section of this society has notified the alteration of its show date from April 28 to May 5 and 6.

ON METHOD IN GARDENING

Mr. Strugnell's remarks in the last paragraph of his comments on "Facts about Gardenias" that recently appeared in the Gardeners' Magazine, incidentally illustrate how important a thing it is, in order to be successful in following gardening pursuits, to have adequate resources, accompanied with sound methods. The two modes of growing the gardenia described by your correspondent amply verify this. In one case, the necessary means for the plants' requirements were provided, and they were skilfully employed by the cultivator; while in the other, the cultivator with respect to his plants, appears to have been placed in a common and unenviable position—that of having to attempt to successfully cultivate under identical conditions a variety of subjects that demand in some respects widely different treatment from each other.

Mistakes in cultural methods are probably more commonly made in the case of plants that require glass protection than in any other department of horticulture. Collections of miscellaneous subjects that need very different treatment in the manner of atmospheric moisture, temperature, light, shade, etc., may be seen placed together, and subjected to the same conditions, and each is expected to succeed. This state of things may be either the fault of the gardener or his employer; but, whatever the cause, no really good results can come from it. It is futile to expect to achieve high-class cultural attainments with subjects of any description, whether flowers, fruits, or vegetables, unless proper methods are adopted, and it is far better to be satisfied in cultivating well what may be termed commonplace things, for which the means are at command, than it is to grow badly higher-class subjects, owing to attempting their culture with inadequate means. Nevertheless, it is only just to admit that great credit is due to individuals who surmount great cultural difficulties, though it may not always be worth the trouble, especially when the sacrifices thus sometimes made are taken into consideration.

T. Coomber.

The Hendre Gardens.

INFORMAL WATER GARDENS

The informal water garden should not be too near the house, neither should it be in too close proximity to any part of the formal garden. Those who have running through their grounds a brook or streamlet have just the place in which to start a garden of this interesting character. As a great many of our most effective and most graceful hardy plants can be grown either in the water itself or in the moisture-laden margins of a pond or brook, it is surprising that more advantage is not taken of this fact when the opportunity occurs. Even where natural ponds exist, it frequently happens that the banks of the pond, as well as the water itself, are either perfectly bare, or are covered only by the rankest weeds. The margins of these brooks or streams offer to lovers of hardy flowers a site easily made into a garden of pleasure.

Some who have hitherto used such places for aquatic plants only, and of these latter only a very meagre selection, have missed much of the pleasure that might have been enjoyed if they had only used some of our vigorous hardy flowers. Many of the finest plants, from irises to globe flowers, thrive in moist soil, and these bank plants have the advantage over water plants that we can fix and limit positions, whereas water plants spread so much that some kinds overrun others.

Many of the following types of hardy flowers will grow freely near the water-side: Meadow sweets, tall irises, day lilies, the rosy loosestrife, golden rods, star-worts, monkshoods, giant knot-worts, moon daisies, the cardinal flower, and the lupins. With these hardy plants, too, may be associated some of the hardy ferns, such as the Royal Fern and Feather Ferns.

In shady nooks by the waterside, Primula japonica and P. sikkimensis delight. Here also the blue Himalayan poppy (Meconopsis Wallichi), the tall yellow Gentiana lutea, and the bright blue Mertensia virginica will flourish, as well as the Saxifraga peltata. Here, also, Solomon's Seal and Trillium grandiflorum will be at their best. There are a number of other suitable plants for the water garden and its surroundings, especially if we include those subjects generally known as bog plants, which, however, are perhaps more suitable for the bog bed in the rock garden than the margins of ponds or streams, but enough plants have been enumerated to show that we have a great variety to pick from for the informal water garden.

AN INFORMAL LILY POOL IN AN IRISH GARDEN.

But, alas, how often one sees mistakes made by the water-side, such as the use of variegated shrubs, the too frequent planting of bushes like the yellow elder and the purple beech. These are all very well in their place, but when we find variegated shrubs growing down to the very margin of the water, it is, to my mind, the worst kind of vegetation that could be chosen for such a place.

T. B. Field.

Ashwellthorpe Gardens.

Pentstemon barbatus Torreyi.—Mr. Smith draws attention to this pentstemon, and describes it as bright scarlet in colour. This colour I have never found in the variety Torreyi. Mine has always been a dull, faded red, not in any way bright, let alone scarlet. The type, as I grew it twenty years ago, was much brighter in colour, but this appears to have become less known, and as the newer P. b. Torreyi is so easily raised from seed, we do not see the latter form so much.—E. M.

THE PLANTING OF WATER MARGINS.

A careful review of many British water gardens of every description, that one has visited during the past 20 years, prompts a warning note as to the great desirability of evolving something distinct from a mere flower garden—something restful as a woodland scene, giving colour in a limited degree only, and wealth of foliage in a greater.

The water gardens of our fathers were, either the moat in which water-lilies almost solely were grown; the broad lake, tree-girt, and but partly exposed- such as one now finds in our largest parks—or the ornamental tank of worked stone, still a feature of the Italian school of garden designers.

Latterly has arisen a decided trend in gardening taste towards informality. The apparently irresistible desire to project into the region of park, copse, and waterside brighter features than of yore, has rendered it possible to use effectively many beautiful plants, culturally at home there, each being a fitting associate of the other and of the surroundings. In the planting of water margins there is danger to any effective design by including among the proper plants for such a position a lot of rejects from the garden proper; too often the water garden commences with what the garden proper has to spare. Here is a bad beginning. No amount of skill can group these garden rejects in a way that will present the picture of an ideal water garden. The grander the scheme the simpler and bolder must be the grouping.

In the smaller water gardens it is permissible to plant hundreds of representatives of water-loving flora, for nothing is here attempted to accord with breadths of landscape; it is when this system of including everything the nurserymen have to offer in units, twos or threes, upon the banks of broad expanses of water, that indefinite and mainly uninteresting water gardens result.

In our national gardens at Kew there is a good example of artistic and well-balanced grouping on the banks of the great lake. Here are colonies of spiræas, colonies of irises, colonies of bamboos, rifts of Sea Buckthorn, Giant Saxifrage, and a limited number of groups of other waterside plants, British and cultivated, all intersected by areas of turf which dip to the water's edge. The arrangement is such that every feature of the lake is available to view from many points of vantage.

One can suggest as a useful guide in the planting of water gardens, two-thirds of the surface of water should be unplanted, two-thirds the area of its margins should be planted. Experience teaches that this proportion gives the best results in the case of quite informal lakes, the broader area of unplanted water providing a mirror for the banks.

Lake Margins and Riverside.

Whilst the principal plants for waterside grouping will be mainly subaquatic and bog plants, a means of well separating these and diversifying the scenic effect will be found in a few groups of trees and shrubs that could occupy the higher banks and the water's edge also. These groups will give needful shelter to astilbes, the larger calthas, Giant Saxifrage, and other plants liable to injury by late spring frosts, and the clever planter will group tree, shrub, and herb in a way showing each to be helpful to the other culturally and artistically. For the higher levels can be recommended the big-flowered magnolias, whose flowers and foliage seem destined to grace waterscapes. Spiræas Lindleyana and Aitchisoni—both spreading shrubs, with handsome flower panicles. Viburnum plicatum and lantana, Hydrangea paniculata, Rubus deliciosus, and as many of the taller bamboos as one cares to plant.

Connecting this zone of trees with the landscape will be the common forest trees of the English park, and among these should be a group or two of the common larch and English oak for their wonderful leaf colouring in spring.

Where moisture occurs in appreciable quantity a different type of tree may be planted. The common willow, the Kilmarnock willow, Pseudotsuga canadensis, hornbeam, Sea Buckthorn, the lesser bamboos, such as Arundinaria nitida, Phyllostachys mitis, and those pretty drooping ones that look so well dipping to the water's surface—Phyllostachys Henonis, P. aurea P. nigra, and castillonis, to name a few. Grouped here, also, one may have phormiums, Polygonums Hererichi, chinense, and polystachyum, giant fennels, bocconias, and the Provence Reed, but avoid any plants that seed freely—notably Senecio tanghuticus, the coarser lythrums and Epilobium augustifolium, if their increase cannot be controlled. If these groups are disposed so that plenty of promenading space is around them and among them—many positions will suggest themselves for colonies or "sweeps" of erythroniums, the meadow fritillary in several colour forms, Smilacina racemosa, podophyllums, Irises verna, cristata and virginica, dodecatheons, gaultherias, pernettyas, and—greatest desiderata of all—cultivated forms of British ferns selected for their elegant leafage. These plants could literally lie at the feet of the taller shrubs and grasses, seeking and receiving shelter from them.

Connecting this zone of vegetation with aquatics proper are hosts of water-loving plants that delight to grow in rich soils, many with water laving their roots, others just beyond its reach. Culturally, it may be said of them, they will grow in any rich, moist soil, but many need wind shelter, and where groups of trees and shrubs can be arranged within a yard or two of the water's-edge, these damageable kinds could complete the grouping on the water's side and "face" across stream or lake. Such are the astilbes, an important group of plants for waterside, and doubly valuable when boldly massed with woodland as a background. Excellent plants for skirting a river are Spiræa venusta, a replica of our common spiræa in carmine-pink colouring; Spiræa palmata elegans, a plumy mass of pink. The double white Spiræa ulmaria, Gillenia trifoliata, and the cimicifugas. Formal grouping does not help these plants, they should be planted in loose order, the inflorescences are too elegant to crowd into meaningless heavy masses. Choose a rich site for a bold clump or group of Spiræa kamtschatica; this magnificent plant yields massive heads of creamy flowers, borne on stout stems two yards high, and is a model of luxuriant growth. Many of the great race of irises find their happiest home by waterside. I. Kæmpferi, planted 'twixt wind and water, and I. Delavayi, I. versicolor, I. fulva, I. sibirica, and its improved form Snow Queen, will last for years in a rich soil, and give a wonderful display of flowers throughout summer. Iris Kæmpferi should be grouped away from the others, the flowers are so magnificent that an environment of greenery is all they need in flowering time. Bamboos and willows provide for these an excellent setting.

Other irises admissible here, although common garden plants, are ochroleuca, aurea, and Monnieri, white, deep yellow, and pale yellow respectively. These species will grow in any garden soil of good tilth and are a greater gain to waterside planting when the banks are higher than is good for the Kæmpferi group. Low promontories afford picturesque sites for the display of Gunnera scabra and manicata, giving these plants unlimited room; in fact, isolate them if possible. Ofttimes it is really necessary to provide a similar place for drier sites projecting into the water, and for these Ferula gigantea, communis, and its form neapolitana, are excellent. The remarkably elegant leafage and inflorescences silhouetted against the sky give a grand picture, and noteworthy is that these plants are quite ornamental in early spring and summer when most waterside plants are "getting on."

THE SIBERIAN IRIS EFFECTIVELY USED ON MARGIN OF LAKE.

Lesser plants that could be grouped at the feet of taller plants at the water's edge are the double form of Cuckoo Pint (Cardamine pratense flore pleno), Primulas japonica, sikkimensis, involucrata, and rosea, Bog Pimpernel, and Myosotis palustris. Sites for these little plants are always findable, and it is noteworthy they will thrive better associated with sheltering plants than in the cultivated bog garden.

Many remarkable bits of waterside grouping present themselves in various parts of the country. In a Gloucestershire garden the Knap Hill Gavin thrusts its horizontal growths over the water's edge, and in the cavern thus formed colonies of Cyclamen coum and ibericum find a surprisingly realistic home. Here, on the banks of Cheddar Water giant plants of Fuchsia Riccartoni and globosa throw gnarled stems, in the form of arches, halfway across stream, and long pendant branches laden with blossom dip to the water's surface. In some of the rocky gorges through which the stream passes, the Wayfaring Tree hangs from the stone sides, and sprays over the water. Artists delight in this scene, and it is cited to show water gardening need not begin and end with subaquatics. Such plants do not appear incongruous because their habit is in good character, but of such trees as Taxodium distichum, so much recommended for waterside, there is but little that is favourable to note.

Ponds and Watercourses.

It is obviously difficult to artistically associate a small pond or narrow watercourse with breadth of landscape; and, although many attempt it, the result is a reflex upon the effort. Such water gardens should be self-contained, and well furnished with shelter belts of trees and shrubs, and their contents should be proportionately small habited. Instead of employing gunneras, ferulas, bocconias, hydrangeas, and giant grasses, I would here limit my choice to Polystichum angulare in its many diversified forms. Among these I would grow Liliums canadense, pardalinum, parvum and superbum; astilbes in one or two varieties, notably Snow Plume and the new pink Peach Blossom, or Queen Alexandra, and, of still bolder habit, rivularis major; a group or two of Iris Kæmpferi, Spiræas venusta and palmata, Spartina cynosurioides, Butomus umbellatus, the double caltha, and practically all the primulas noted already. These will form the principal groups of the small water garden, and all will delight to grow at the water's edge or a yard or two away from it, provided the soil is damp. Leave one or two broad interspaces in which the turf touches the water, and here dibble in the turf Bog Pimpernel, Iris cristata, erythroniums, Narcissus bulbocodium citrinus The Meadow Fritillary, Parnassia palustris where turf and water meet, and the pinguiculas. At the feet of the iris, astilbe, spiræa, and other taller plants, group the treasures of the small water garden—omecons, cypripediums, trilliums, Orchis foliosa, sanguinaria, epigæa, and gaultherias.

My teaching and practice has always been to make a few elegant plants, freely grouped, the dominant features of the small water garden, and around these or among these, wherever a corner exists or a frontage looks bare, there to plant "drifts" of lesser plants, literally as ground "furniture," it is really their home. The plan gives a better picture than is obtained by planting 200 kinds of plants on 200 square feet of soil, their presence there being (often necessarily) indicated by 200 labels. A group of iris or spiræa would provide at its margin a home for many little plants, such as sanguinaria and erythronium, and their early retirement is effectually concealed by the increasing luxuriance of the host clump. A word of warning and I have done. Do not be tempted to plant glyceria and phragmitis or the taller polygonums in the small garden; and watch carefully, lest their increase be overwhelming, such aggressives as mimulus, epilobiums and lythrums. Select sheltered and shady sites for osmundas and onocleas among ferns, and give to all iris clumps the fullest sunshine possible.

G. B. Mallett.

Cheddar.

A TASTEFULLY PLANTED STREAM IN AN IRISH GARDEN.

WALLFLOWERS FOR NORTH BORDERS.

It is very often a difficult matter to make a border with a north aspect gay with flowers in the spring at a very small cost. Quite recently I inspected a splendid lot of wallflower plants growing on a north border, one which was being continually swept by a cold wind. The plants were sturdy, with rich dark green leaves, and giving promise of an abundant flower display. One of the principal causes of the success of these plants was the early raising of the seedlings.

If the seeds of wallflowers were sown earlier than is usually the case by inexperienced cultivators, and the resultant seedlings grown in a firm nursery bed before being transplanted to their flowering quarters, we should see more strong specimens in spring than we do; plants fit to grow in any part of the garden. The seeds should be sown in the open border in May.

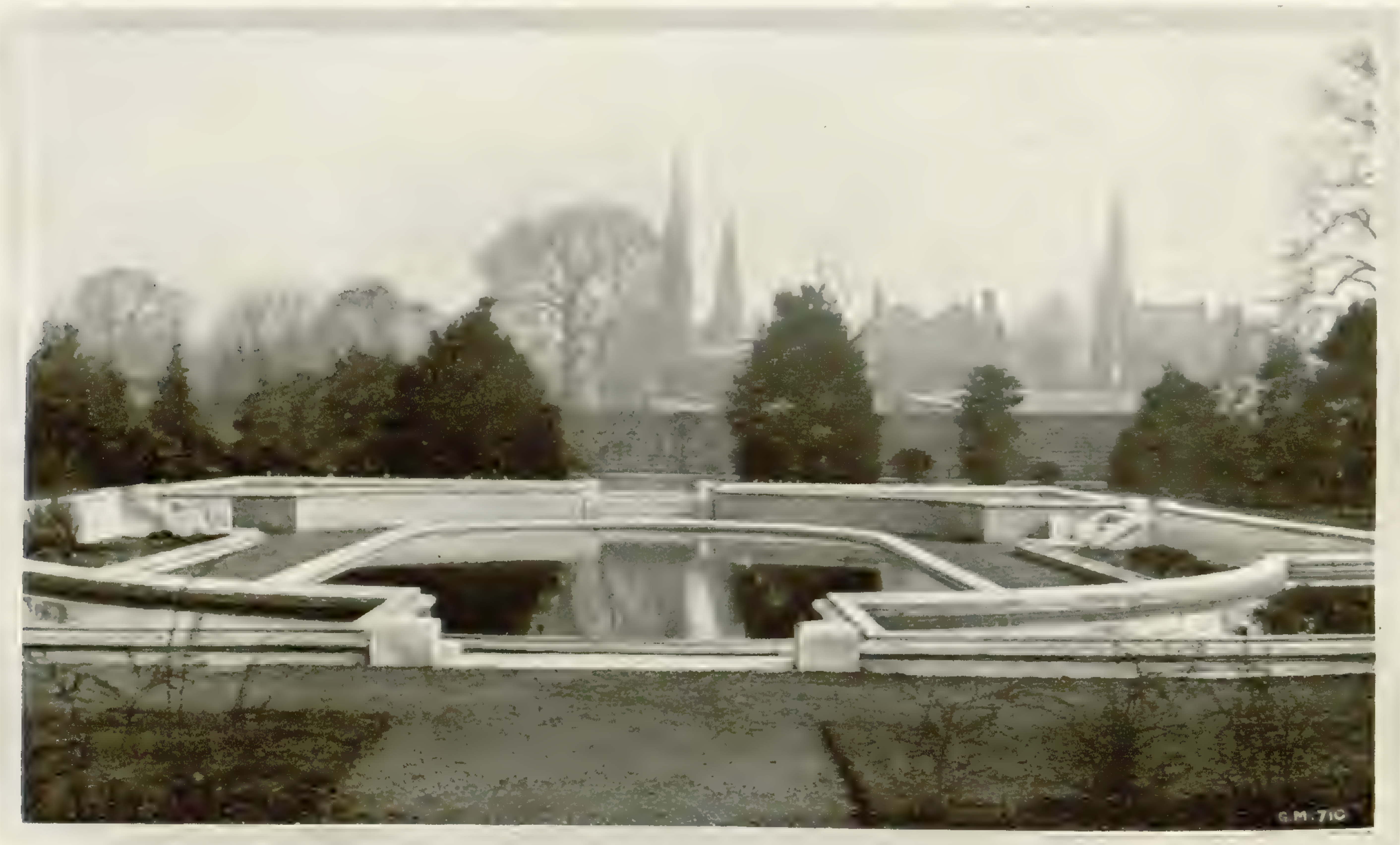
Geo. Garner.

Pansies in Sandy Soil.—Sandy soil is like a sieve, it lets the water go through it freely; it is not a rich medium, and certainly not the kind that would be selected for growing pansies in. But I have grown very fine plants in a sandy soil, and seen others growing in almost pure sand—very satisfactorily, too. In certain circumstances pansies must be grown in such soil as is described above, and the cultivator must overcome all obstacles. My system is to dig in a liberal quantity of well-rotted manure four inches below the surface, then plant early in the season, and put on a mulch. The plants are established before the hot weather comes, and if water be given when required, and faded flowers are regularly removed, a rich harvest of blossom will result.—G.

LAWNS.—Those who desire to make a new lawn or bowling green, or to renovate and maintain existing ones in good condition, can have no better guide than "LAWNS AND GREENS," by T. W. Sanders, price 1s. net, by post 1s. 2d., bound in cloth 1s. 6d., by post 1s. 9d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

FORMAL WATER GARDENS.

In the planning and the planting of water gardens, those who would achieve a full measure of success must give careful consideration to the all-important question of appropriateness. There should be complete agreement between the water garden and its surroundings; and, speaking in a general way, this can be more readily obtained by adapting the design to the site selected than by preparing the plan, as is sometimes done, and then making such alterations in the site as may be necessary to ensure it forming a suitable setting to the garden. Appropriateness should obtain special prominence when the question whether the garden shall be formal or informal is being determined. The two styles are not equally adapted to all positions that may be available, as so well known to many of my readers. It should be hardly necessary to state this fact, but experience has taught the writer the necessity in dealing with a matter of this kind, of avoiding ambiguity. Moreover, it is clear from observations made in various parts of the country that it is as easy to make mistakes in the cultivation of hardy aquatics as in other phases of the cultural art.



NEW FORMAL WATER GARDEN, ROYAL GARDENS, KEW.

The question whether the water garden shall be formal or informal should not be determined by the preference of the owner or the special fitness of either form for the requirements of any particular class of plants, but by suitability for the position selected. Each form has its advantages and disadvantages from the cultural standpoint, but the informal garden is the best adapted to the cultivation of a representative collection, and also for the display of the distinctive charms of the several kinds. Upon this point there cannot well be any difference of opinion, and where several sites are available, and it is not desired to have the hardy aquatics near the house, one should be selected where a natural style of arrangement can be adopted. Because of its superiority it must not be assumed that the informal water garden is the only one from which really satisfactory results can be obtained. So far from this being the case, there are many gardens in which it is more or less unsuitable, and in not a few gardens the formal water garden would be the best for the site which it is desired to devote to aquatics. For instance, when it is desired to grow nymphæas and their allies within a short distance of the residence, or on a terrace where straight lines prevail, the informal water garden is quite out of place. If the dwelling-house and terrace occupy the higher part of the grounds, we are reminded, as we admire the occupants of the water area, that Nature marks out the courses for brooks and other streams along the lower ground, and that, as a rule, pools and lakes have a place in the valley. This incongruity, therefore, materially detracts from the pleasure well-grown hardy aquatics are so well able to afford.

For the positions mentioned in the preceding paragraph formal gardens are preferable, or to state the case more strongly, are alone suitable. When a formal lily pool, such as that at Downside, Leatherhead, the residence of A. Tate, Esq., occupies a position on the grassy slopes in the higher part of the grounds or on a high terrace, one is not troubled about the law of gravitation in relation to water. It is at once recognised that the pool is the creation of art, and one is able to admire the ornate or plain masonry, as the case may be, and to enjoy the beauty of the water lilies that float on the surface. Formal water gardens have their value, and may be made to contribute liberally to the attractions of the pleasure grounds when given sites in which they will be in harmony with their surroundings, and furnished with plants best adapted for cultivation in them.

The beautiful formal water gardens which contribute so liberally to the many attractions of Downside is one of the best of the types in which the architectural features are somewhat ornate. Here the ornamentation is by no means excessive, and, as so clearly shown in the illustration, is chiefly confined to the handsome vases; and the effect produced by the expanse of lilies is particularly good from the higher ground. The nymphæas that have found so excellent a home at Downside include the finest of the many handsome forms now in cultivation, and enjoying to the full the bright sunlight and pure air characteristic of this favoured spot, they bloom in profusion, and produce flowers that are quite exceptional in their development. Highly ornate also is the formal water garden at Easton Lodge, near Dunmow, the Essex seat of the Earl and Countess of Warwick. This garden has a comparatively large area, and is sunk several feet below the general level. The pool has a broad walk round it, and the wall by which the area is enclosed is surmounted by a handsome balustrade. Water gardening obtains special attention at Buckhurst, near Groombridge, for both Mr. and Mrs. Benson are very partial to water-loving plants. A considerable area of the magnificent lake has been converted into an informal water garden, and on the terrace on which the mansion stands there is a water garden of a formal character. Ornate stonework would have been out of keeping with the surroundings, and instead of the coping of the enclosing wall being raised above the surface, the wall terminates about twelve inches below the general level, and forms, as it were, a step down to the water. Level with the upper edge of the wall a stone platform is formed at either end. The pool is between twenty and thirty feet in length, and of a proportionate width, and the nymphæas are limited to the very best of the varieties of medium growth.

The new formal water garden in the Royal Gardens, Kew, is quite distinct in design from those already having a place in British gardens, and no doubt need be felt as to it proving a feature at once interesting and attractive when the plants have become established. With the aid of the accompanying illustration, the reader will have no difficulty in obtaining a clear idea of the general arrangements. The garden is 104ft. long by 62ft. wide, and is on two levels. The four corner tanks are eighteen inches or so above the general level, while the central tank is 2ft. or so below, and is approached by six flights of steps. The central tank is 71ft. long by 28ft. wide, and is provided with hot-water pipes for warming the water therein, and thus permit of the successful cultivation of certain of the plants that require water of a higher degree of temperature than that to which water attains in the open under ordinary conditions. The corner tanks are 24ft. by 24ft. and the two borders which flank the central basin, and will be devoted to bog plants, are 36ft. long by 7ft. wide. This garden has been formed on the ground that has been devoted to hardy medicinal plants on the north side of No. 2 Museum.

It will, of course, be fully understood that provisions must be made for effecting such change in the water as will prevent it becoming stagnant, and as this will consist simply of an inflow pipe one side and an outlet on the other, detailed description is unnecessary. A layer of soil about 18in. in thickness should be provided as a rooting medium for the occupants, but no manurial matter should be used. If the garden or pool is of comparatively large size, a few plants, other than nymphæas, that grow naturally in the water may be sparingly used; but where of moderate or small dimensions water lilies alone should be planted.

G.

Trifolium pannonicum. — Not many of the species of trifolium are valuable border plants, but the subject of this note is an exception, being specially showy during a good part of the summer. It is a strong-growing species, measuring eighteen inches in height, bearing large oval heads of flowers of a sulphur-yellow colour. Grown in a rather dry, starved position, it presents a wild and striking appearance, but under the more liberal treatment of the herbaceous border it is still better, and forms a fitting companion to the handsome T. rubens.—E. J. Allard.

LOBELIA TUPA.

Distinct in its appearance, and a striking plant in every way, is the lobelia known as Lobelia Tupa, or Tupa Feuillei. Although in cultivation for a considerable time, its doubtful hardiness has militated greatly against its general introduction into gardens, and it is thus not commonly met with by visitors to these. So many have tried it, and have failed to make it a permanent occupant of their gardens, that it has acquired a bad reputation, and has been kept at arm's length by many whose pleasaunces would be all the better of this striking flower. Varying in height from three to five feet, with its rather lance-shaped, narrowish leaves covered with whitish down, and its spikes of reddish flowers, it looks well indeed among other flowers or grouped boldly by itself.

The difficulty of cultivating it seems to be that it likes a rich, but light soil, which is not too wet in winter, and I have been surprised to meet with it so far north as it has come under my observation. On inquiry, however, I found that the plants had, from first planting, been protected by ashes or litter in winter; in some cases, indeed, a frame was also put over them at that season, especially during the first few winters after they were planted; this gave them a chance of becoming established. In some gardens it was thus put in a position to survive ordinary winters, but an unusually severe one proved fatal.

There is no reason, however, why Lobelia Tupa should not be more cultivated in the south, and it is recommended to readers well south of the Humber, who can give it a dry soil, a sunny position, and some slight covering during the winter months.

It is one of the Chilian and Peruvian plants which ought to be easily accommodated in our climate in average seasons, but which baffle us at times despite the utmost care.

S. Arnott.

MARECHAL NIEL ROSE ON OUTSIDE WALLS.

About ten years ago I saw one of the healthiest plants of this variety that I can remember having noticed, growing on a cottager's house wall in Cheshire. The tree was a young one, and had borne some magnificent blossoms. I was not able to find out how the tree behaved in after years, but I was very much interested at the time.

In Hampshire I have flowered Maréchal Niel rose on outside walls very successfully some seasons and entirely failed with it in others—failed to get the flowers to develop freely and of good colour. The failures occurred when cold winds were very prevalent during the early weeks of the summer. Where the branches can be trained under the glass copings of walls wonderfully fine blooms of this king of yellow roses can be grown. Both the leaves and the flowers require some protection from frosts and cold winds. The bare stems below the glass coping should be protected with mats in winter time during severe frosts only.

The present is a good time for planting out strong specimens from pots.

G. Garner.

[Photo: F. Mason Good.

A FORMAL WATER GARDEN IN THE ITALIAN STYLE,
At Downside, Leatherhead, the residence of A. Tate, Esq.

WATER LILIES.

The exquisite charm of waterside scenery, the beautiful effects of flower-strewn margins and lily-clad lakes, and the pleasing results attained by joining hands with Nature in garden design and adornment, is making the water-garden an item of first-class importance in the "garden beautiful."

And it is in following up this subject of water-gardening that the real value of water lilies and similar subjects has been brought home fully to the garden lover, until at the present time the English garden cannot be considered complete unless it has its delightful setting of lily pools and flower-clad watersides. It matters but little whether the garden is of limited extent, or whether it is of great dimensions, the fact remains that amid the great range of nymphæas there are those suitable for all phases of water-gardening.

[Photo: Miss K. Dendy Sadler.

"WATER LILIES."

The lake of considerable acreage, the rockery ponds, the pools in the wild garden, and even the modest sunken lawn tubs, or ornamental basins, can all be rendered exceedingly beautiful by the wise grouping of suitable species and varieties.

The newer hybrid forms give a range of the most exquisite colourings, beautiful forms and gloriously luxuriant foliage of diverse hues, and the thanks of the flower-loving community are due to M. Latour-Marliac, and other raisers for the magnificent hybrids they have raised.

The Marliac varieties are superb for medium and large-sized pools and ponds, where ample allowance can be made for their free growth. With plenty of room for expansion, and the margins effectively clad with selections from the more notable waterside plants, a series of well-arranged pools, overspread with the handsome foliage and the exquisite blossoms of this group, gives a pleasing touch of beauty, which softens and exquisitely tones the whole garden scene.

A few remarks upon the notable forms existent among the stronger growing water lilies may, perhaps, be of service. Of M. Marliac's novelties one notes the lovely white N. Marliacea albida, an exquisite white with a central mass of golden anthers; N. M. carnea, a dainty golden anthered pink variety, which shades to white at the petal's edge; N. M. chromatella, a soft hued yellow, whose beauty is heightened by its central crown of gold and its dark lustrous leafage; N. M. flammea, a lovely carmine gem, softening to pale rose at the petal tips; and N. M. ignea, a bright fire-lit carmine-red with orange-red anthers. In N. M. rosea we have a handsome, pleasing rose-coloured form, which is wonderfully floriferous, while N. M. rubra punctata, with its rosy purple blossoms profusely dotted with carmine, concludes a group of good and tried varieties from the French raiser. The whole group is noteworthy for its robust, highly ornamental foliage.

In addition to the foregoing I would note a few of the best of the other principal forms. Among these are the handsome N. Aurora, with its adornment of bronzy yellow, shading to orange-red as the blossoms age. N. colossea is grand, a soft rich pink of immense proportions, robust growth, and unsurpassed freedom. N. gloriosa is a beautiful rosy pink suffused with carmine. N. Frœbelli, a rich vinous crimson of good size and exquisite formation, and N. fulva, an orange-yellow deepening in hue towards red.

A few others of much merit are N. lucida, a glowing pink deepening to red, with beautiful stellate blossoms; N. Gladstoniana, the giant, and beautiful white variety of our own native N. alba; N. atropurpurea, a superb form, the flowers large, deep ruby-red, with golden stamens; N. William Doogue, a soft pink of great size and beauty; N. James Brydon, a sterling globular hybrid, with rosy crimson colouring; N. sanguinea, a rich and dainty ruby-carmine; N. Seignouretti, an easy growing, delightful gem, with soft yellow blossoms suffused with pink; and the beautiful N. tuberosa, with its fine varieties, Richardsoni, rosea, and rubra, a group of glorious giants in pure white, shell-pink, and carmine-red respectively.

The range of the lesser nymphæas especially suitable for small pools and tub-culture is considerable, and one has only to mention the N. odorata, N. Laydekeri, and N. tetragona groups in order to show that plenty of material for this phase of water gardening is already existent. The American N. odorata group is especially rich in fine varieties, and the whole set is effective in appearance, with ornamental leafage and dainty blossoms lifted well above the water's surface. The type is a well-known white, sweetly fragrant, a characteristic which the whole of its varieties share. N. caroliniana is an exquisite rosy pink, of free growth; N. exquisita is a sterling rosy carmine, with grand blossoms; N. gigantea, a notable white of fine appearance; N. minor is a miniature white; N. rubra is a deep rosy red of good size; N. luciana is a small replica of N. caroliniana, while the two sulphur-yellow forms, N. sulphurea and N. sulphurea grandiflora are daintily pretty and well worthy of acquisition. Of the Laydekeri group, N. fulgens, a rich glowing red with crimson anthers; N. lilacea, a favourite rosy lilac variety; N. rosea, a wonderfully floriferous rosy pink, and N. purpurata, a deep-rich purplish crimson, are perhaps the most notable and pleasing.

N. tetragona (or N. pygmæa), the smallest of water lilies, is very serviceable for the smallest of tubs or pools. The blossoms are pure white, with a mass of golden anthers, while in the variety N. helvola one has the same miniature form in a pale yellow colouring. N. Ellisiana furnishes a delightful bit of colour, with its dainty formation and its rosy carmine blossoms, and can be utilised in the lawn pools with exquisite effect. The planting of water lilies should be proceeded with at once, and completed without unnecessary loss of time. It is a very good practice to put each plant in a small flat basket, filled with turfy loam, on the surface of which a few stones have been laid, and lower the basket in the position which the plant is to occupy. When the plants have become established they should not be allowed to become overcrowded.

Though the nymphæas form but one group of many which can be associated with the water garden, yet they will always occupy the highest place among the true aquatics, forming as they do the central feature of the water-garden proper. It is well that one can associate with them such a host of delightful subjects for margining the watersides. There is wealth unlimited, and the whole question of making the water-garden picture a blending of perfect formation and beauty, lies with the garden maker alone. His subjects are perfect, of varying contour and diverse in colourings, he has no lack of material for all phases, and given the touch of the artist, the eye for exquisite arrangement, and a hand unfettered in utilising the subjects chosen, the picture evolved should be one of exquisite grace and perpetual interest.

P. S. Hayward.

THE SPIRÆA FAMILY IN THE BOG GARDEN.

Botanists rigidly discriminate between astilbe and spiræa, placing the former under the natural order of Saxifragaceæ, while the spiræas are included in the same stately order as the rose, namely Rosaceæ. That there are technical points to support this distinction can readily be ascertained upon close examination, yet the general character and habit of both genera are practically identical, at least in so far as the herbaceous species are concerned, so that for garden purposes we may disregard this classification and treat them upon grounds common to both.

SPIRÆAS AND ASTILBES IN THE BOG GARDEN AT WALMSGATE, LOUTH.

They constitute a race of stately, noble perennials of undoubted hardihood, as conspicuous by reason of their elegant compound foliage, as they are justly admired for the grace and beauty of the flowers, which are produced upon the upper portion of the slender stems, at times in the form of a flattish head, but in the majority of instances in branching terminal spikes. So freely are these wand-like stems produced upon established clumps, which embrace colours most appropriate for massing, that their effect in garden decoration is not readily overestimated, combining features distinctly novel and striking. The foliage in nearly every instance is of similar character, but two types of inflorescence are present, namely, that in which the panicle is compound and axillary, forming a more or less flattish head, as in Spiræa kamtschatica, and in the other and most frequent type we have terminal branching heads, forming pyramidal spikes of great elegance, of which Astilbe chinensis and Spiræa aruncus are good examples.

The cultivation of astilbes and spiræas present no great difficulty provided we recognise their partiality for water, for though chiefly exotics, they are quite as hardy as any indigenous plant, as I have grown them in saturated bog-beds year in and year out, and find each floral harvest equal to, if not surpassing, that which went before. Rich soil and abundant supplies of manure will meet the requirements of both genera, but I hold that their great decorative value can best be appreciated, as their beauty is developed in greatest luxuriance, when grown in wet ground, and in close proximity to water. As moisture-loving plants, their home is essentially beside water, and wherever this feature is introduced in an informal manner in garden or pleasure ground, there endless opportunity will occur wherein these genera can be employed to the very best purpose. A strong point in their favour is their suitability for gardens of any extent, for they never run riot among choicer and daintier subjects, and in small gardens we can always restrain the most vigorous by employing them as specimens, giving precedence to the dwarf species and their varieties when planting in groups; conversely, a striking effect would result, where opportunity offered, to plant a score or more of Spiræa aruncus beside some extensive lake or upon the moist banks of a sluggish stream.

Given the conditions above indicated, both genera may be planted at any season, summer excepted; April and May are most suitable, as at this season wet-ground plants soon overcome any ill-effect consequent on disturbance, breaking into activity almost at once.

To spiræa belongs the distinction of containing the tallest species, namely S. kamtschatica (gigantea of gardens). It is a plant of great merit for the wild garden, frequently reaching a height of 10ft., the type has white flowers, and the variety Elegans produces flowers of a soft rose colour; the latter is scarcely so vigorous in growth as the type. Spiræa aruncus is a plant of lesser stature, forming shapely, rounded bushes when established, each stem terminates in a creamy white panicle of blossom, slightly pendulous in habit, a splendid subject for bold planting. Spiræa palmata has very rich crimson flowers, deepest when grown in half shade, and reaching 4ft. in height; Alba is a white form, and Elegans pink; both are more vigorous than the type. Spiræa lobata (venusta of gardens) is old, yet one of the best, and the pink flowers are borne upon 4ft. stems; like palmata, the colour is best in shade. A cross effected between S. lobata and S. kamtschatica has every promise of developing seedlings of more than average merit, intermediate between the parents, with deep cut foliage and flattish flower-heads of soft pink and white. I have had my attention drawn to the fact that Mr. Perry, of Enfield, is distributing the first set of these hybrids this spring.

Spiræa filipendula is a native plant, surpassed for garden purposes by its double form, which has white buttonlike flowers, perfectly double; the foliage of this plant is extremely beautiful. S. astilboides is a well-known plant, producing slender stems with white flowers; the average height is 2ft. S. floribunda is a dwarfer variety with feathery white plumes, about 21in. in height; and S. longifolia has arching stems some 30in. high.

Treating the allied genera in the same order, we have in Astilbe Davidii a hardy perennial worthy in every respect to the claim which the introducers (Messrs. James Veitch and Sons) make on its behalf, "the best of its class; the elegant leafage more or less that of A. japonica on a large scale, flower stems six or more feet in height, the upper portion, 2ft., densely covered with deep rosy-violet, or mauve-coloured flowers." Both in the colour of the flowers and in the fastigiate habit of the flower spike is this plant distinct from all others, and a unique addition to the herbaceous section of moisture-loving plants.

A. grandis, like the preceding, was introduced from China by the same firm, and in this the flower stem forms a sparsely-branched, narrow pyramid, covered with creamy white flowers; it may be described as a 6ft. form of A. chinensis, though the flowers are not so pretty as in this species, nor do they remain effective for very long. A. rivularis resembles in a general way the better-known Spiræa aruncus; the heavy panicles are cream-coloured.

Astilbe chinensis is a plant of marvellous beauty, the flowers are a soft rich shade of pink, borne profusely on slender, arching stems that spring in enormous quantities from the crowns. It is an old plant, which yet maintains its position in spite of the many fine additions made recently to this group. A. japonica is a well-known species, extensively grown for pot work and forced in spring under glass. It is largely superseded both for indoors and open-air use by a set of hybrids obtained by crossing this species and A. chinensis and Spiræa astilboides. In every instance these hybrids are highly floriferous, and they may be grouped under two sections, namely, those with slender, arching spikes, like A. chinensis, and those dwarfer, like A. japonica. To the former belong W. E. Gladstone, the best white; Queen Wilhelmina, creamy-white; Neiée Rose, very pale pink; Avalanche, pure white; and Snow Plume, snow white. Those of a more compact habit include Compacta multiflora, a variety with very dense, creamy spikes; Blondin, a lovely white; Delicata, very pale flesh, only 18in. high; Silver Sheaf, a magnificent plant for small gardens, closely resembling Snow Plume, but in this instance a silvery white; Peach Blossom, clear blush pink; and Queen Alexandra, deeper pink.

The flowering season covered by these forms extends from the last week in June until the end of August, the foliage in every instance remains effective until destroyed by autumn frosts.

Thomas Smith.

Walmsgate Gardens.

HARDY AQUATIC PLANTS.

Gardens which possess a picturesque stream or lake have an advantage over those which do not include such assets, for, in addition to the water being of much assistance to the general landscape effect, a great many beautiful plants can be grown which are never met with in those gardens where a sheet or sheets of water do not exist.

Unfortunately, the owner of a garden only too frequently thinks that a lake, pond, or tank must be introduced, or the garden is not complete, and such introductions very often spoil what would otherwise be a charming garden. It is quite probable that, if a landscape gardener were asked, "which feature more than another in the laying out of a garden which was to include a lake would give him the most trouble?" his answer would be "the lake," that is, providing no natural lake, stream, or spring existed. It is extremely difficult to so arrange a lake that the surroundings shall look natural, and that a constant supply of fresh water is assured, for it must be borne in mind that the water supply must be adequate for the driest periods, else, if a dry time occurs, the water level may sink considerably, doing serious injury to plants, and forming an eyesore in the garden. Water that is likely to become stagnant, too, causes much trouble, for, in addition to the smell which is given off, rank weeds multiply exceedingly and make a considerable amount of work.

Should a natural sheet of water exist, however, or the provisions be ample for the formation of a lake, it will be found to be a charming feature both on account of the variation it makes from the surroundings, and from the number of interesting and beautiful plants that may be grown.

The introduction of plants into a lake needs careful consideration; those of very vigorous growth should be planted sparingly, for, if they once get the upper hand, it is most difficult to eradicate them, whilst all plants should be so placed that they may be easily seen from the bank, and that they do not encroach on the best reaches of water. If a beautiful lake exists in a garden, then let the water be seen, and make the most of it; carefully plant the margins so that every few yards a fresh view is opened up, but let it be a view with water in it, not a dense mass of floating vegetation. Ample space for aquatics may usually be found about the margins or in miniature bays, but the main part of the lake should be kept open. Even in the case of ponds formed specially for aquatic plants, a better effect is always made if the plants are so placed that good spaces of open water can be seen between each two.

When selecting plants for the water proper, as apart from those which grow about the banks, half in and half out, we naturally turn, in the first place, to the various nymphæas, and the majority of them are, indeed, delightful subjects; the flowers, red, yellow, or white, floating on the water with their setting of large green leaves, looking the personification of grace. There are, however, other things which are decidedly worthy, and it is to these that special attention is directed in this article.

One of the first plants to attract attention is the yellow water-lily (Nuphar luteum). This is a common British plant, which is found in many parts of the country. It is recognised by its thick, fleshy, creeping stems, which grow in the mud at various depths, from 6in. to 3ft. or so below the surface of the water, its large, rounded leaves, with two deep lobes at the base, and globular golden flowers, which are borne from the end of May to September. It can be readily established, and is a strong grower. In some parts of the country, the common name of Brandy-bottle is given to it.

A delightful little plant, with leaves closely resembling those of a small nymphæa, although the two genera are in no ways related, is Limnanthemum peltatum; sometimes called Villarsia nymphæoides. It has a creeping rootstock, which grows in the mud, whilst the annual stems float on the water. The leaves are small and dainty, whilst the flowers, which are an inch or so across, with fringed, golden petals, are borne slightly above the water. When in full blossom it is one of the most beautiful plants imaginable; it has, however, one defect, and that is its rapid growth. Care must be taken to restrict it or it will soon outgrow its space. The common name of Fringed Buck Bean is applied to it. Other species are known, two of which are Humboldtianum and lacunosum.

The Buck-bean or Bog-bean (Menyanthes trifoliata) is common in ponds and lakes in many parts of the country, and, although it is usually found where the water is shallow or in marshy ground, it will grow where the water is from 1 to 2ft. deep. The flowers are borne in racemes, are white or pinkish in colour, and fragrant. A colony is well worth introducing.

Aponogeton distachyum is a South African plant, known under the name of Cape Pond-flower. It is hardy in many parts of the country, and is one of the daintiest hardy exotic aquatics we possess. It thrives in water from 1ft. to 3ft. or more in depth, and under favourable conditions forms a large mass. The leaves are long and narrow, and float on the water. The flowers, which are borne slightly above the water, are white and fragrant, the scent being very similar to that of hawthorn. It is inadvisable to plant it in water in very exposed positions in the north, where severe frost is experienced.

The Frog-bit (Hydrocharis Morsus-ranæ) is a dainty little plant, with small rounded or kidney-shaped leaves and white flowers. It thrives best in shallow water overlaying rich mud. Another pretty native plant is the Water Violet (Hottonia palustris). It likes rich soil, and is found in water varying from a few inches to a foot or more in depth, while it is occasionally met with in marshy ground, where the water barely covers the leaves. The leaves are deeply lobed, and form a rosette on the water, while the flower-stalks rise to a height of 1 to 2ft., and bear lilac flowers with yellow eyes, in whorls at intervals. Several ranunculuses, such as R. marinus and R. heterophyllus, grow in water, their leaves and branches almost all submerged, and their flowers borne above water. They should be introduced with great care as they quickly outgrow allowable space.

Eichornea azurea, the Water Hyacinth, is a pretty water plant from Brazil. It thrives out-of-doors in the milder parts of the country during summer, and has been known to live through mild winters. It may be planted in a few inches of water, where it will rapidly increase into a fine patch. The leaves have wide blades, 5 to 7in. across, with swollen petioles. The flowers are mauve coloured, with a bright yellow blotch in each, and are borne in upright racemes.

The common Arrow-Leaf (Sagittaria sagittifolia) is a well-known British water plant, but for cultivation, the double-flowered form of the North American S. variabilis is preferable; it grows 2 to 3ft. high, and flowers well. In the milder parts of the country Richardia africana thrives and forms a picturesque object. At Trelissick, near Falmouth, it has become naturalised, and forms handsome foliage, while in their season many hundreds of pretty white spathes are open at once. Popularly known under the names of arum lily and calla, this plant must not be confused with the true calla, Bog Arum, or Marsh Calla (Calla palustris). This latter is a low-growing plant, which forms long creeping stems that grow out from the sides of a pond well into the water. The inflorescences are white and rather small, but the plant is worthy of cultivation.

The Flowering Rush (Butomus umbellatus) is a tall growing aquatic, with curiously angled leaves, and good sized heads of reddish flowers. It may be planted in about 6in. of water. The Water-Soldier (Stratiotes aloides) is a curious plant, more beautiful on account of its long, narrow, serrated leaves, which rise from the bottom of the pond, than for its tiny white flowers, which appear during summer. Utricularia vulgaris, the Greater Bladder-wort, is a curious plant with floating branches, and small leaves on which are air bladders, and yellowish flowers. It thrives in both shallow and moderately deep water.

The Indian Rice (Zizania aquatica) should be planted in rich soil in 9in. or a foot of water, and under these conditions it forms a handsome specimen 8 to 10ft. high, with large leaves and inflorescences. As it is an annual, seeds must be saved each year, and these require to be kept in a vessel of water through the winter. The seeds should be sown indoors, in water, in an intermediate or cool house in March, and the young plants placed out in May.

Although there are many other plants which will grow in water, the above are the most showy, and would form an interesting collection. To introduce them successfully they should be planted in baskets of soil and sunk to the bottom of the water.

Kew. W. Dallimore.

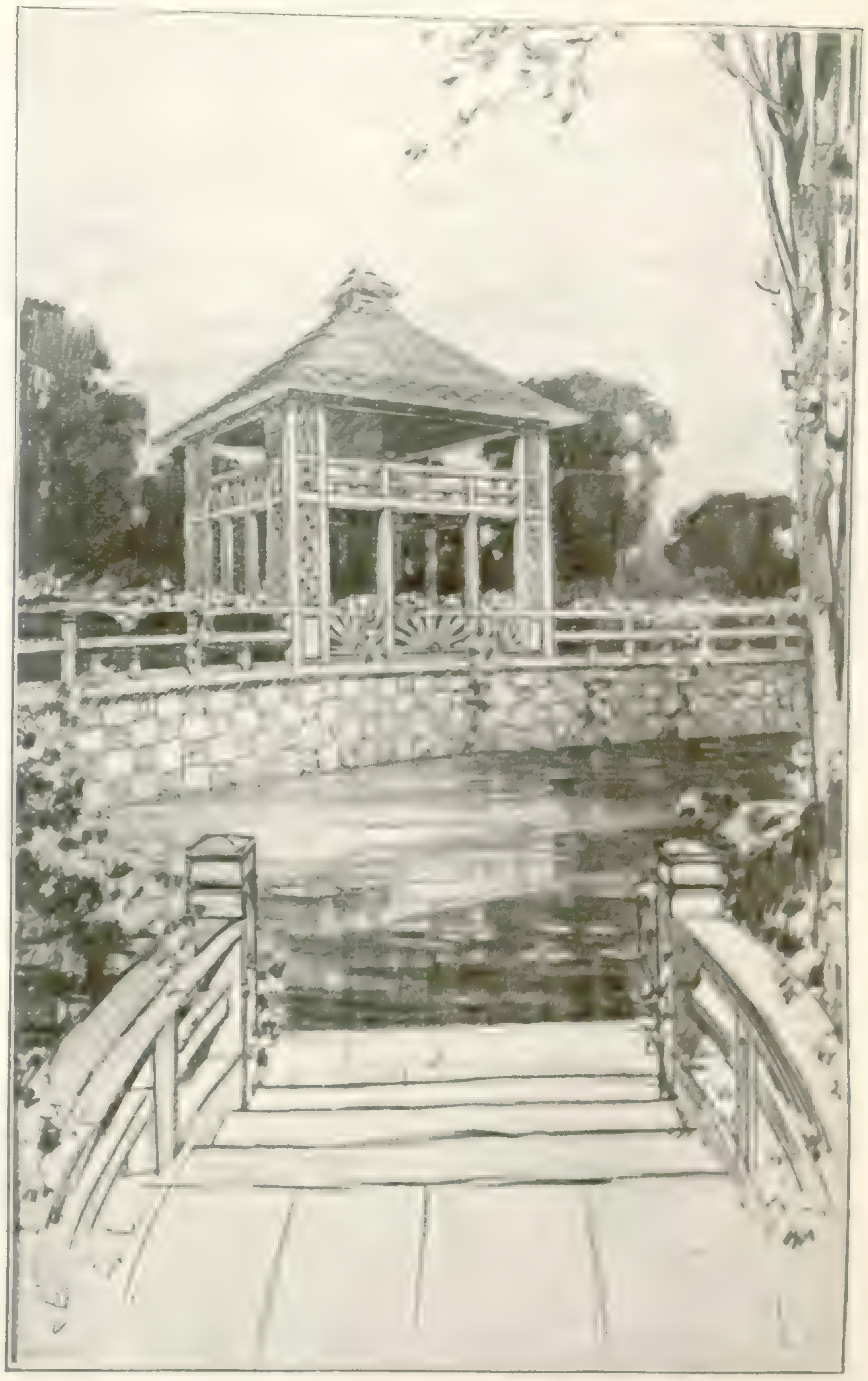
GARDEN DESIGN.

Under the comprehensive title of "Garden Design," we have received a charming folio work of only some two dozen pages from Mr. J. P. White, of the Pyghtle Works, Bedford. It is beautifully printed and illustrated, but its great value lies in the suggestiveness of the illustrations for designs in garden construction. Garden houses (we must give up calling these structures "summer houses, now), and bridges in connection with water gardening are the chief features dealt with in this booklet, and some of the pictures represent Japanese houses—bridges and gardens, while others represent greenhouses and bridges erected in this country and adapted in their design from Japanese models.

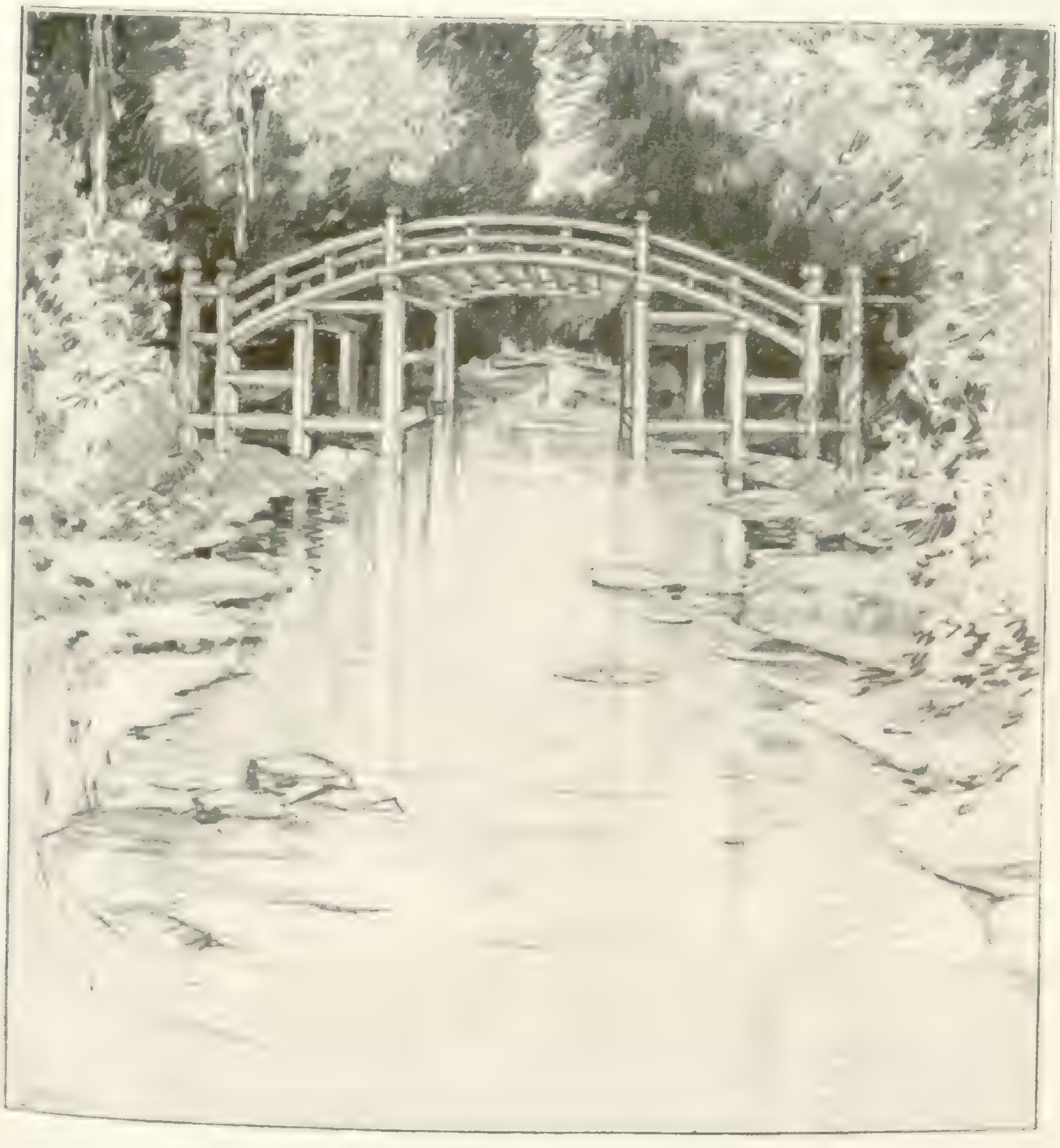
The introduction to this work is particularly well written and interesting. It is by Mr. Rowland S. Protheroe, who briefly reviews the pleasure garden of England, previously alluding to more ancient gardening, and shows how our national style of gardening has resulted from a combination of the Elizabethan and Italian designs. The Dutch or geometric style brought about considerable alterations, but this again gave place to a more natural and free style, and now we have returned to the Old English type, with the improvements that years of experience and the increased wealth of hardy herbaceous and alpine flowers, and flowering trees and shrubs, have brought with them.

Mr. Protheroe points out that, while the broad features of present-day garden designs are excellent, there is room for improvement in the details and the process by which the old English garden has assimilated foreign ideals in its native growth can still be followed. But there is the difficulty of avoiding slavish copies, and as the difficulty and its solution are best illustrated from the suggestions which are made by Japanese art to English designers, "Garden Design" becomes extremely useful as well as interesting and beautiful. Mr. White's adaptation of the model of a Japanese garden house to English needs, as so well shown in the accompanying illustration, is especially interesting. It is an elegant structure, with the floor raised well above the ground to render it the more comfortable and ensure a better view of the garden scenery. Grace and lightness, with the directness and practical needs of English design are well expressed in the beautiful bridge he has designed for spanning a stream of water in park or pleasure grounds.

In the introduction Mr. Protheroe points out that "the resemblances between the essential aims of English and Japanese gardens are so close that the interchange of models seems tempting. Yet the differences are sufficiently great to sound a note of warning. No one, for instance, has carried the art of garden bridge-making to greater perfection than the Japanese designer. But to copy the models in servile fashion would be absurd. Japanese bridges are not direct passages over a watery space, they are places on which 'to linger to catch the cool air of the water, or to watch the goldfish below,' and, often enough, the bridge will turn at right angles, or is wilfully crooked in construction. Yet, because the bridge plays so large a part in garden life, infinite care has been bestowed on its construction, and the English designer may gain many useful hints without copying what in this country would be eccentricity. So, too, the refinement, the suitability to its purpose, the simplicity of the materials, the delicacy and refinement of the effect, the perfect sense of proportion, may all be utilised and translated into purely English design."



JAPANESE SUMMER HOUSE.
Adapted by Mr. J. P. White to the requirements of an English garden.



AN ORNAMENTAL FOOT BRIDGE.
Adapted by Mr. J. P. White from the Japanese style.

Both Mr. Protheroe, by his writing, and Mr. White, by his illustrations and work, have contributed greatly, through the medium of this booklet, to the wide and interesting subject of garden design.

Intermediate House Climbers.—The climbers that thrive the most satisfactorily in a house in which an intermediate temperature is maintained include some of the most desirable climbing plants for the conservatory. Particularly noteworthy are Aristolochia elegans, with peculiarly shell-shaped and quaintly-marked blossoms, Thunbergia fragrans, whose pure white flowers are borne throughout the summer and autumn; Allamanda magnifica, one of the finest of the large golden-flowered allamandas; Stigmaphyllon ciliatum, whose bright yellow flowers are produced in succession for months; Passiflora racemosa, noteworthy among the passifloras for its bright scarlet blossoms, and Clerodendron speciosum, with deep red flowers.—T.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

GENERAL REMARKS. — With more favourable conditions prevailing outside many orchids will be commencing growth, or producing flower scapes. Plants in such conditions will require every encouragement to enable them to develop growth or flower buds satisfactorily. There cannot be any question as to dispensing with a good deal of artificial heat being beneficial, and thus every assistance that can be obtained from the sun should be taken advantage of. On bright mornings the blinds should not be drawn down until there is the possibility of the foliage becoming discoloured or scorched in any of the divisions. The odontoglossum houses, perhaps, need the greatest amount of care, as an excessive amount of light has a tendency to harden and ripen the leaves to such an extent that they fall, and a lot of leafless pseudo-bulbs is an undesirable spectacle. Again, in the afternoon, the blinds should be drawn up the moment it can be done with safety. The ventilators should also be closed, and the temperature of the houses will thus be raised sufficiently to dispense with fire heat to a great extent until late in the evening.

DAMPING.—Where plants are in flower, and where growth is in a forward, yet tender state, it is desirable that the damping of the floors, stages, etc., should be done sufficiently early in the day to permit any excess of atmospheric moisture to disperse before the cooler evening and night temperature is reached. We have always made it a practice not to damp the houses until the normal degree of temperature has been reached. I consider it also should apply to the atmospheric conditions when the lower night temperatures are reached.

VENTILATION.—There is a considerable amount of discretion required in affording air through the ventilators. It is desirable at all times to have a clear, pure atmosphere in the houses, but the methods of procuring this must be varied according to the different departments of the orchid houses, and then only with due consideration of the prevailing conditions outside. Where the blinds are allowed to remain off until the last possible moment it will generally be found that it is necessary to use the ventilators, but when the blinds are lowered, especially when chilly winds are blowing during the spring months of the year, it will be found that there is a rapid fall in the temperature inside, and the ventilators will often have to be closed, so as to obtain a gradual fall in the temperature, such as will not be likely to detrimentally affect the plants. Where wood roller blinds are used, this fall in temperature is most pronounced, and I have no doubt that this is produced by the current of air passing between the blinds and the roof glass, causing a rapid cooling of the latter. This is a point that requires very close attention in the warm divisions, where lath blinds are used. On mild nights a little air admitted by the lower ventilators will be desirable in all the divisions. If the ventilators are opened the last thing at night they can be closed if desired for raising the temperature first thing in the morning.—H. J. CHAPMAN, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

VIOLETS.—Owing to the cold weather since Christmas violets are somewhat later in blooming than usual, but no time should now be lost in having the old plants divided up and planted out in their summer quarters. Various methods are in vogue for propagating them, and there is a good deal to be said in favour of pulling off the young runners when planting in the autumn, pricking these out about three inches apart under handlights or in a cold frame, when they will have made sturdy plants by this time for planting out. Failing this method, rooted runners should now be cut or pulled from the old plants, and planted, about a foot apart each way, in a bed previously prepared for them, and if the weather is dry give them an occasional syringing until growth commences, as well as a good sooting, to guard against the ravages of slugs. I prefer an open piece of ground, to which has been added plenty of spent hotbed manure or leaf-soil, this helping them during a dry summer, and providing something for the roots to adhere to when lifting in the autumn.

AZALEA INDICA.—Now that the majority of these plants have gone out of bloom they should have all the old flower stems removed, and those that require it should be potted, using a light compost of peat, leaf-soil, and sand, to which might be added a little loam, but not sufficient to make the compost too binding or close. It is not advisable to give too big a shift, but allow just enough room to use a small rammer between the old ball of soil and the pot. Potting should be done very firmly, and the soil must be just moist, or there will be trouble in soaking it through after potting. Any straggling shoots should be either pruned back or tied in, though in the case of large trained plants it is well to defer the general tying or training until after growth is completed. The plants should be placed in a warm house or pit, where they may have plenty of heat, and be syringed until growth is completed, when they may be gradually hardened off preparatory to standing out of doors.

SALVIAS.—Young plants of Salvia splendens grandiflora must now be potted and kept growing steadily in the cold frame, pinching the young shoots to keep them from growing away and making long sappy wood. The variety Glory of Zurich will be found very useful for blooming in pots (as well as in the open ground), and may be kept in much smaller pots (if well fed than the older variety; it blooms much earlier.

POINSETTIAS AND EUPHORBIAS must now be brought out from where they have been resting, and given a good light position in an intermediate house, and have frequent syringings to encourage the formation of young shoots. These latter should be taken off as soon as long enough for cuttings, taking care not to let them bleed, and to prevent this it is wise to have pots or pans at hand filled with very fine, dry sand, placing the cuttings in these immediately they are cut. The cuttings should be inserted singly in thumb pots or small 60's, afterwards plunging them in a propagating frame with a brisk bottom heat, and keeping them carefully shaded until rooted.—THOMAS STEVENSON, Woburn Place Gardens.

THE FLOWER GARDEN.

SPRING BEDDING.—Every attention should be given to the various subjects employed for beautifying the flower garden during the spring months in the way of staking and tying; the beds should be kept thoroughly cleaned, and the surface soil stirred about them. During continuous spells of dry weather it will be necessary to give copious supplies of water to many, particularly to wallflowers, arabis, and myosotis.

FLOWER BEDS that have been unoccupied during the winter months should now have a thorough dressing of good manure, and the soil either deeply dug, or, better still, trenched, and everything, as far as possible, made in readiness for the bedding season, which will soon be upon us. Though it will not be safe to attempt to put out in the open the more tender kinds of bedding plants before the end of next month, there are many subjects, such as calceolarias, pentstemons, antirrhinums, and many of the more hardy edging plants, which will be much better placed in their permanent quarters by the middle of the month. Great care should be taken to thoroughly harden off everything which has been wintered under glass before planting them out, or a serious check must inevitably follow.

HERBACEOUS BORDERS.—Nearly everything grown in these will now be making new growth, and, in many cases, it will be necessary to reduce the clumps of the more strong-growing kinds, and thinning out the growths of others. Especially is this necessary in the case of herbaceous phloxes, for when well thinned the quality of the flower spikes will be much higher. The surface soil should be neatly hoed once a week, and all plants supported with suitable sticks and stakes before they are allowed to fall about.

SHRUBBERIES.—Assuming the borders of these have been forked over, it will be now necessary to break down the surface finely with a suitable tool, and the best tool for the purpose will depend on the nature of the soil. Many of our more beautiful early-flowering shrubs are now laden with flowers, and it should be borne in mind that the great majority of these, when pruning is necessary, should be cut back immediately the flowers are past their best. All kinds of ulex, if allowed to remain unpruned, become unsightly, and these respond readily if cut close to the ground immediately they begin to go out of flower. The beautiful double-flowering gorse, so much superior to the single varieties both as regards duration and colour, will last for a great number of years and the effect will be much superior if this is cut close to the ground every fourth or fifth season.—E. BECKETT, Aldenham House Gardens.

HARDY FRUITS.

APRICOTS.—The young fruits will, in some instances, be ready for the first thinning, and to carry out this operation successfully it is necessary that the operator should have some knowledge of the varieties, as the smaller-fruiting kinds, such as Breda and Alberge, may, at the final thinning, have the fruits left more closely together without overtaxing the trees unduly, than would be advisable for the larger-fruiting sorts, as Moorpark, Large Red, and Oullin's Early. This work should be carried out gradually, removing, in the first instance, the smallest fruits where they have set in pairs, also all those fruits which are found growing between the branches and the wall, and those which are so situated that they will not have sufficient space to develop. The trees should be looked over once a week, removing a few fruits each time, and selecting those which do not swell up so rapidly as others, but leaving rather more than will be required for a full crop until the fruits have finished stoning, when the final thinning should take place. The larger varieties may have the fruit left at an average of eight inches apart, while the smaller varieties may have one fruit left to every six inches of wall space. Of course, a good deal depends on the condition of the trees as to whether they may be allowed to mature a full crop. It is much more satisfactory to see a tree carrying a medium crop of choice fruits than one with a large crop of small, immature fruits.

DISBUDDING.—This may be carried out simultaneously with the thinning of the fruits. Remove all growths from the back of the branches, and all foreright shoots not required for spurs, laying in only sufficient of the young growths as will be required to replace a portion of the older fruiting wood which will be cut away during the next autumn. Beware of overcrowding, ample space being allowed between the branches, so that the foliage and fruit may have plenty of room and light for their perfect development. Stop all shoots left for spurs at the third leaf, and any subsequent lateral growths to one leaf. This work, like that of thinning the fruit, should be done gradually, so as not to cause any undue check to the trees, by removing at one time a large amount of young growths. Few insect pests attack the apricot, but the Apricot Moth (Tortrix angustiorana) is very troublesome in some seasons. A close examination of the young foliage is necessary for the first tokens of leaf curling, prompt action for the destruction of the caterpillar, by pressing the curled-up leaves between the finger and thumb, will prevent any serious damage to the foliage.—GEO. WOODGATE, Rolleston Hall Gardens.

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EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

APRIL 20.

A part of the hall was on this occasion devoted to the auricula and primula show, but there was, nevertheless, plenty of room for a large exhibition of orchids, daffodils, hardy flowers, roses, and other beautiful plants and flowers.

FLORAL COMMITTEE.

Roses were beautifully shown by Mr. George Mount, Canterbury, his large bunches of glorious blooms of Kaiserin Augusta Victoria, Souv. de Pierre Notting, Richmond, Madame Abel Chatenay, Dean Hole, Mildred Grant, Liberty, and Mrs. R. G. Sharman Crawford, attracting a great deal of attention by reason of their size and lovely fragrance and colour. Double primroses and big daisies, and colonies of Primula cashmeriana, P. viscosa, P. denticulata, and alpine auriculas, came from Messrs. W. Artindale and Son, Sheffield.

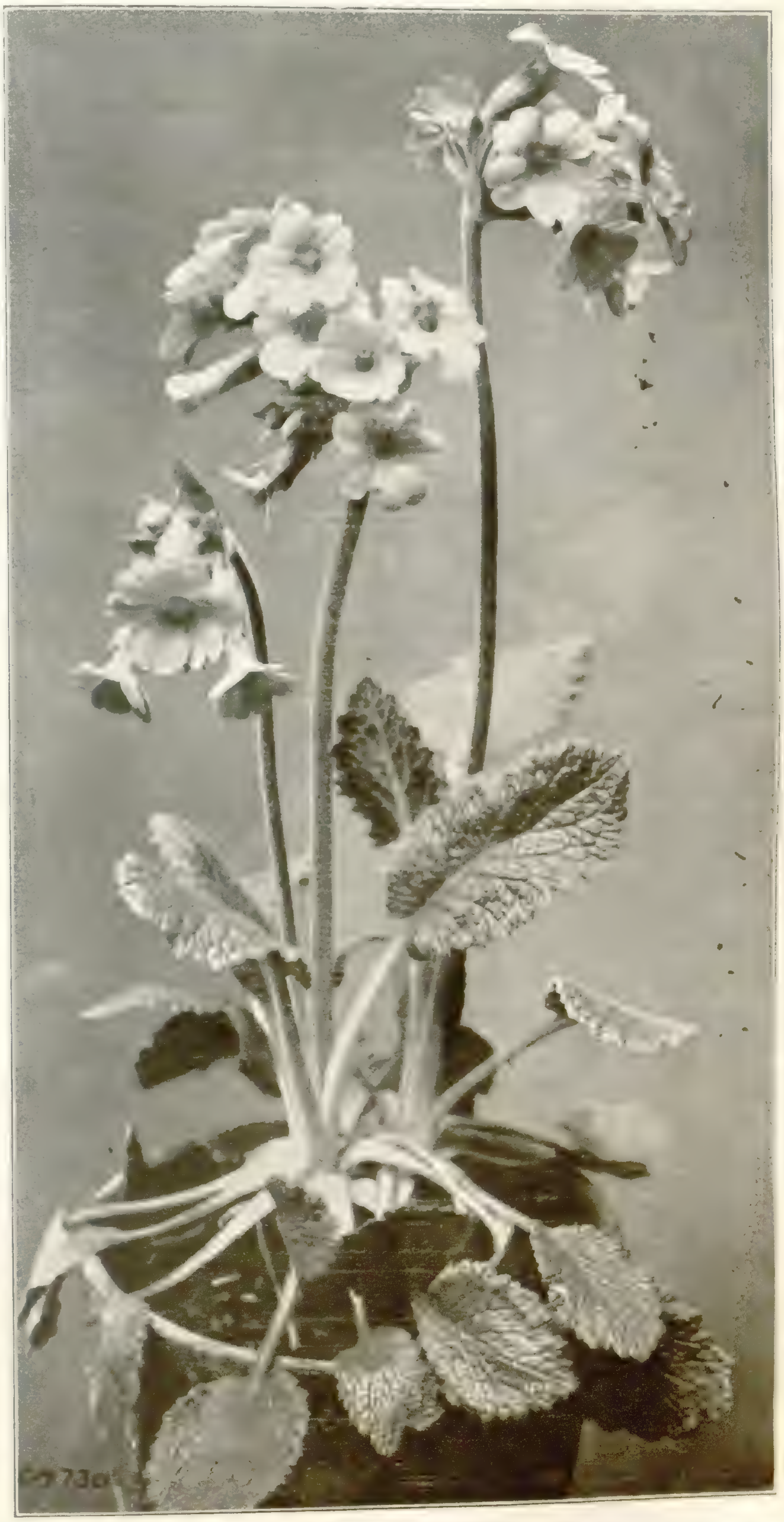
The beautiful Tritonia Prince of Orange, crowded with spikes of soft orange-coloured flowers, was grandly shown by Messrs. Barr and Sons, Covent Garden. This is a grand hardy flower, and worthy of extended culture. Messrs. Storrie and Storrie, Glencarse, Perthshire, showed some lovely polyanthuses, chiefly selfs, carrying fine spikes of beautiful blooms. They also had some fine new gold-laced polyanthuses, remarkable for their vigour and fine markings. Mr. H. C. Pulham, Elsenham, contributed a rock garden planted with small alpine flowers.

A large group of elegant and fragrant cinerarias was shown by Messrs. James Veitch and Sons, Chelsea; these included the very graceful Feltham Beauty cactus-flowered variety, and the pink Feltham Beauty. The same firm sent C. flavescens, a creamy-white hybrid between C. Feltham Beauty and Senecio auriculatissimus, and they staged a few amaryllis and gerbera hybrids. A very fine exhibit of well-grown roses, Lilium longiflorum, and such good carnations as Winsor, Enchantress, White Lawson, and Governor Roosevelt, was staged by Mr. W. H. Page, Langley Nurseries, Hampton. Some good roses, notably Florence Pemberton, W. R. Smith, William Shean, Molly Sharman Crawford, Mons. Paul Ledé, Mrs. Mawley, and Frau Karl Druschki were staged by Mr. G. Prince, Longworth, Berks.

A handsome display of carnations was made by Messrs. Hugh Low and Co., Bush Hill Park, Enfield, their flowers of Rose Pink Enchantress, Beacon, Enchantress, Red Lawson, and Winsor, being unusually good. The same firm submitted a group of acacias, and a group of roses, that included some beautiful flowers of the new sport, White Killarney, very large, white, and fragrant.

Forced shrubs, shown by Messrs. W. Cutbush and Son, Highgate, made a brave show. This firm's carnations were also fine, and among them was their new and magnificent Malmaison variety named Lady Coventry (A.M.); this is undoubtedly the biggest carnation yet seen, and its brilliant colour and fragrance are sure to make it very popular. Double primroses in great variety, daffodils, alpine primulas, and violets were contributed by Messrs. G. Bunyard and Co., Maidstone.

The beautiful new golden-yellow Primula Forrestii, about which we wrote last week, was finely shown by Messrs. Bees, Lim., Liverpool; this is a grand new hardy plant, and deservedly gained an F.C.C. Messrs. J. Cheal and Son, Crawley, submitted Baby Rambler roses and violas. Messrs. Bakers, Wolverhampton, showed a fine lot of freely-flowered polyanthuses, Aubrietia J. S. Baker. Primula Cockburniana, P. denticulata, and P. d. alba, and varieties of Saxifraga decipiens. Messrs. Phillips and Taylor, Bracknell, Herts, showed Primula rosea in quantity, and some excellent auriculas. An interesting rock and water garden arrangement from Messrs. G. and A. Clark, Dover, was greatly admired for its design and free planting of simple flowers.



PRIMULA FORRESTII.

A handsome Chinese species, exhibited by Messrs. Bees, Lim., at the R.H.S. meeting on Tuesday last, when a First Class Certificate was conferred upon it. The freedom with which the rich golden-yellow flowers are produced is shown in the illustration, which is considerably below the natural size.

Messrs. Frank Cant and Co., Braiswick, Colchester, showed Lady Gay rose well, and also Leuchtstern, Tausendschon, and Mrs. F. W. Flight, all grand climbing varieties. Messrs. J. Peed and Son, West Norwood, sent up alpines and daffodils. Messrs. Paul and Son, Cheshunt, sent a group of the single white Sea Shell rose, a very pretty perpetual-flowering Wichuraiana variety. Agate is a double white dwarf variety of the same class. Roses were well shown by Messrs. William Paul and Son, Waltham Cross, Herts, who had freely-flowered plants in pots, their chief varieties being Aennchen Muller, Waltham Bride, the fine white H.T. Albatross, Margaret, and fine blooms of the new and beautiful Lyon Rose.

Violas in variety were most successfully shown by Messrs. Dobbie and Co., Rothesay, some of the most remarkable flowers being Duke of Argyle, Louie Granger, Mary Burnie, Agnes Kay, William Lockwood, Jenny McGregor, Lizzie Storer, and Snowflake. Miss Willmott, V.M.H., Great Warley, showed the bright Arctotis aureola robusta, and Mr. Staward, Panshanger Gardens, sent bunches of sweet violets and of Fortune's Yellow rose. Messrs. H. Cannell and Sons, Swanley, made up a gorgeous exhibit of zonal pelargoniums, cut flowers arranged in large bunches.

Mr. James Douglas, Great Bookham, Surrey, brought up some wonderfully fine show and alpine auriculas, and beautiful bunches of Lady Margaret Boscawen daffodil. Some grand amaryllis were brought up by Mr. A. Chapman, gardener to Lieut.-Colonel Holford, Westonbirt, Gloucester, and the elegant rose-shaded Pinkie was deservedly granted an Award of Merit; Rose Cardinal was another fine thing.

Messrs. J. Carter and Co., High Holborn, had a big central display, filling a circular staging with pots of schizanthuses, with baskets of these graceful flowers suspended overhead. The whole display was a particularly light and pleasing one. Messrs. Sutton and Sons had a fragrant exhibit of Italian hyacinths, white, blue, and pink varieties, associated with the deliciously-scented freesias.

Messrs. H. B. May and Son, Upper Edmonton, showed clematises, statices, dwarf roses, and big pansies, and also had a delightfully cool corner group of choice hardy ferns, the crested and much-divided Lady ferns being especially beautiful. Mr. G. Reuthe, Keston, sent choice early flowers, including rare rhododendrons. Messrs. T. S. Ware, Lim., Feltham, showed anemones, fritillarias, primulas, etc., arranged in a miniature rock garden. Mr. H. Hemsley, Crawley, set up a small group of popular daffodils, and a good selection of hardy heaths. Very interesting was the group of early flowers shown by Mr. W. A. Cook, gardener to Sir Edmund Loder, Bart., Leonardslee, Horsham, which contained camellias and rhododendrons in great variety, daffodils, magnolias, azaleas, and heaths; the rhododendrons were particularly good.

Bougainvillea Rosa Catalina (F.C.C.), with deep rose-pink flowers of fine size and great beauty, was shown by Mr. G. D. Davison, gardener to Colonel Petre, Westwick House, Norwich.

DAFFODIL COMMITTEE.

Miss F. W. Currey, Lismore, Ireland, submitted a beautiful group of daffodils, showing a grand lot of varieties, and setting up good vases of each variety. We noted fine examples of The Geraldine, King Alfred, White Lady, Albatross, Lycidas, The Sirdar, Lord Kitchener, Banshee, Lyric, Lady of the Snows, Incognita, Mrs. Robert Sydenham, Una, and Vivid. Messrs. Barr and Sons, Covent Garden, had a very lightly arranged and pleasing exhibit of daffodils, that included numerous fine sorts, such as Lord Roberts, Peter Barr, Hamlet, Mascotte, Cossack, Seraphim, Chancellor, Pilgrim, Amazon, a beautifully formed new yellow trumpet daffodil as yet unnamed, and a number of the more popular varieties.

In the group of daffodils arranged by Messrs. Pope and Son, Kings Norton, there were good vases of Glory of Noordwyk, Van Waveren's Giant, Lady Margaret Boscawen, Glory of Leiden, Mrs. Betteridge, Boatswain, Sebastian, the new Ben Simonite, Nymph, Bernardino, Will Scarlet, King Alfred, Albatross, and many other beautiful daffodils. Messrs. R. H. Bath, Lim., Wisbech, displayed an interesting and attractive group of daffodils, and in it they showed good blooms of King Alfred, Crystal Queen, Torch, Glory of Noordwyk, Horsfieldi, Lady Margaret Boscawen, Cornelia, Duke of Bedford, Primrose Queen, Fireflame, Golden Ball, and Primrose Phœnix.

Mr. F. Lilley, Guernsey, showed daffodils, tritonias, and tulips. Messrs. G. Jackman and Son, Woking, had roses, and also a pretty collection of early-flowering shrubs and alpines, the latter including some fine Primula cashmeriana. Messrs. R. W. Wallace and Co., Colchester, submitted a group of Darwin tulips, some choice daffodils, Iris Susiana, and a delightful bit of rock garden, with colonies of anemones, tulips, primulas, aubrietias, and fritillarias. Messrs. Hogg and Robertson, Dublin, contributed a collection of daffodils that contained Glory of Leiden, Madame de Graaff, Beauty, Brigadier, King Alfred, Lady M. Boscawen, Seagull, Mr. J. Thorley, and other charming varieties.

Mr. G. Churcher, Woodcote, Alverstoke, submitted a small group of the better-known daffodils, and Mr. W. A. Watts, St. Asaph, had a very good amateur's collection of the better varieties of these lovely spring flowers.

ORCHID COMMITTEE.

A magnificent plant of Odontoglossum Pescatorei, carrying about a hundred and fifty flowers, on three branching spikes, was shown by Mr. H. Alexander, orchid grower to Lieut.-Colonel Holford, Westonbirt, Gloucester, and secured a cultural commendation. From the same collection came Cattleya Robert de Wavrin (A.M.), L.-c. Dorothy var. splendens, the golden L.-c. Goldcrest (A.M.), very lovely; the fine Odontoglossum Phœbe, Westonbirt var., and a glorious plant of Cattleya Enid, Westonbirt var.

Messrs. Hugh Low and Co., Bush Hill Park, Enfield, showed a very bright group of Cattleya Schroderæ, Dendrobium Wardianum, Ionopsidium acaule, Masdevallia Pourbaici, Cypripedium Olivia, and other beautiful orchids. From Sir Trevor Lawrence's collection at Burford Lodge, Dorking, came finely-flowered plants of Dendrobium crepidatum (Cultural Commendation), the lovely Odontoglossum Loochristiense aureo-fulvum (A.M.), and a box full of rare masdevallias. M. Maurice Mertens, Mt. St. Amand, Ghent, showed some very beautiful odontoglossums, all of fine form, and grandly marked; O. amabile, O. Wilckeanum, O. Wiganianum, several hybrids, and an odontioda were the chief features.

Mr. A. W. Jensen, Lindfield, Sussex, showed a fine lot of plants of Cattleya Trianæ and a few odontoglossums. Mr. W. J. Stables, gardener to De Barri Crawshay, Esq., Rosefield, Sevenoaks, showed Odontioda Charlesworthi Theodora, and Odontoglossum Theodora (F.C.C.), the latter a very fine cross between O. Rossi rubescens and O. triumphans—a very pretty orchid, showing evidence of both parents.

Mr. T. W. Thurgood, gardener to H. T. Pitt, Esq., Stamford Hill, N., showed a group of odontoglossums, dendrobiums, cattleyas, and cypripediums, the former being very well represented. The white Cattleya intermedia alba was beautifully shown by Messrs. J. Cypher and Sons, Cheltenham, who also had Dendrobium infundibulum, D. atro-violaceum, Chysis bractescens, Bifrenaria Harrisonæ, Cattleya citrina, Diacrium bicornutum, and other good things.

In the group of orchids submitted by Messrs. Sander and Sons, St. Albans, we noticed Lælio-cattleya Choletiana, Cattleya Schroderæ, Miltonia Bleuana Sander's var. (A.M.), the beautiful Odontoglossum Dreadnought III., a fine cross between O. Prince Albert and O. sceptrum, the brilliant Renanthera Imschootiana, and several pretty little orchises.

Messrs. Charlesworth and Co., Haywards Heath, contributed a beautiful group of orchids, that contained, among other very handsome things, good specimens of Cypripedium caudatum, Epilælia Lionetti (A.M.), a curious cross between Epidendrum macrochilum rosea and L. purpurata; Cattleya Mendeli Distinction, Renanthera Imschootiana, Ærides Fieldingi, Odontioda Bradshawiæ Pleurothallis Birchenallei, and the beautiful Oncidium concolor.

FRUIT AND VEGETABLE COMMITTEE.

The homely cabbage is of unusual interest this spring, after the dreary winter, and the nice green little heads of the April cabbage, shown by Messrs. Sutton and Sons, Reading, were admired almost as much as the orchids and roses.

Mr. R. Staward, gardener to Countess Cowper, Panshanger, contributed good dishes of Duke of York, Britannia, Midlothian Early, Sharpe's Victor, and Early Balfour potatoes, all this year's crop. Mr. J. Poupart, Rainham, showed magnificent asparagus, and gained first prize and a silver Knightian medal for his produce.

An interesting exhibit of small fruits of Cape pineapples was set up by the South African Constantia Fruit Company, Wandsworth Road, Nine Elms, S.W.; the smooth Cayenne fruits were the largest and by far the best in flavour.

CERTIFICATES AND AWARDS.

First Class Certificate.—To Odontoglossum Theodora, from De Barri Crawshay, Esq., Sevenoaks.

To Primula Forrestii, from Messrs. Bees, Lim., Liverpool.

To Bougainvillea Rosa Catalina, from Mr. Davison, gardener to Colonel Petre, Westwick, Norwich.

Awards of Merit.—To Saxifraga decipiens grandiflora, from Mr. Kitley, Bath.

To Hippeastrum Pinkie, from Lieut.-Colonel Holford, Westonbirt.

To Hippeastrum Gracchus, from Messrs. James Veitch and Sons, Chelsea.

To Alpine Auriculas Robert Bruce, Claude Halcro, Ulleswater, and Admiration, from Mr. James Douglas, Great Bookham, Surrey.

To Malmaison Carnation Lady Coventry, from Messrs. W. Cutbush and Son, Highgate.

To Cattleya Robert de Wavrin, from Lieut.-Colonel Holford, Westonbirt.

To Lælio-cattleya Goldcrest, from Lieut.-Colonel Holford.

To Odontoglossum Loochristiense aureo-fulvum, from Sir Trevor Lawrence, Bart., Dorking.

To Epilælia Lionetti, from Messrs. Charlesworth and Co., Haywards Heath.

To Miltonia Bleuana Sander's var., from Messrs. Sander and Sons, St. Albans.

MEDALS.

Silver-gilt Banksian.—Miss F. W. Currey, Lismore, Ireland, for daffodils.

Silver Flora.—Messrs. J. Carter and Co., Holborn, for schizanthuses; Messrs. W. Cutbush and Son, Highgate, for forced shrubs and carnations; Messrs. Hugh Low and Co., Enfield, for carnations, etc.; Messrs. H. B. May and Sons, Edmonton, for ferns; Mr. G. Mount, Canterbury, for roses; Mr. W. H. Page, Hampton, for carnations and lilies; Messrs. William Paul and Son, Waltham Cross, for roses; Mr. G. Prince, Longworth, Berks, for roses; Messrs. James Veitch and Sons, Chelsea, for cinerarias, etc.; Messrs. Charlesworth and Co., Haywards Heath, for orchids; Messrs. James Cypher and Sons, Cheltenham, for orchids; Messrs. Hugh Low and Co., Enfield, for orchids; H. T. Pitt, Esq., Stamford Hill, for orchids; Messrs. Sander and Sons, St. Albans, for orchids; Mr. M. Mertens, Ghent, for orchids; Messrs. Barr and Sons, Covent Garden, for daffodils; Messrs. Hogg and Robertson, Dublin, for daffodils.

Silver Banksian.—Messrs. Pope and Son, Kings Norton, for daffodils; Messrs. R. H. Bath, Wisbech, for daffodils; Mr. G. Churcher, Alverstoke, for daffodils; Mr. W. A. Watts, St. Asaph, for daffodils; Mr. J. Poupart, Rainham, for asparagus; Messrs. Sutton and Sons, Reading, for cabbages; Mr. A. W. Jensen, Lindfield, for orchids; Messrs. R. W. Wallace and Co., Colchester, for alpines, etc.; Sir Edmund Loder, Leonardslee, Horsham, for rhododendrons, etc.

Bronze Flora.—Messrs. Sutton and Sons, Reading, for hyacinths; Messrs. H. Cannell and Sons, Swanley, for pelargoniums.

Bronze Banksian.—Messrs. Dobbie and Co., Rothesay, for violas; Guildford Hardy Plant Company, for alpines; and Messrs. T. S. Ware, Lim., Feltham, for alpines.

National Auricula Society.

WESTMINSTER, APRIL 20, 1909.

The thirty-third exhibition of the Southern Section of this society could not be recorded as a success. The season has been about as bad as it could be, hence many well known growers were conspicuous by their absence, and only in exceptional cases were these spring flowers in proper form; no doubt most growers are about three weeks late in their calculations.

The premier class for twenty-four plants, in not less than twelve varieties, only induced three competitors to take the field. Mr. James Douglas, Great Bookham, had an easy victory with well-developed plants of Favourite, Abraham Barker, Harrison Weir, Rev. F. D. Horner, Queen of Spain, George Lightbody, Queen of Sheba, Marmion, Shirley Hibberd, Ouida, Dinham, H. Wilson, Eucharis, Mrs. Phillips, Colonel Champneys, Abbe Liszt, Lovebird, Sultan, and Lapwing; a very fine collection, in good form. Mr. W. M. Shipman, Altrincham, was second with a much weaker display, the plants being about a fortnight later in development. The best were Favourite, George Rudd, G. Lightbody, Acme, Eucharis, Mikado, and Heatherbell. Mr. G. H. Wilson, Handsworth, Sheffield, was third.

For twelve varieties, distinct, there were but two entries, Mr. James Douglas leading well with the following varieties: Dido, Abbe Liszt. Favourite, Lovebird, Harrison Weir, Beauty, Westhumble, Marmion, Mrs.Phillips, Conservative, Lapwing, and George Lightbody. Mr. W. Smith, Bishops Stortford, made a good display for second prize, staging Mikado, Abbe Liszt, Majestic, and Dr. Hardy in good form.

Fir six dissimilar varieties only Mr. J. Bennett-Poë, Ashley Gardens, staged, his varieties were J. Hannaford, Robert Headley, Mr. Phillips, Mrs. Henwood, and the Rev. J. D. Horner.

A smaller class for four distinct plants secured two entries, Mr. J. Bennett-Poë winning first prize with plants of Mrs. Henwood, Mrs. Phillips, Rachel, and Prince Charming; Mr. F. W. Price, Beckenham, was second with Acme, Olympus, and Mr. Phillips as his best efforts.

For a single specimen, green-edged, Mr. James Douglas was awarded first and third prizes, while Mr. W. Smith secured the second, all staging Abbe Liszt.

The grey edges were not so well represented. Mr. James Douglas was second with Dinham and fourth with George Lightbody; the other plants were not on the table at the time these notes were taken. The white-edged varieties were not numerous, Mr. F. W. Price was first with Acme; Letetia was second (no exhibitor's name); Mr. R. Staward third with Heatherbell.

The selfs were more popular, for there were nine staged, Mr. James Douglas leading with Favourite; Mr. W. Smith came second, and Mr. Bennett-Poë was third with Harrison Weir. Seedlings were not well represented. Mr. W. Smith won first with Majestic, a crimson self; the other sections did not appear to be represented.

The alpine classes were better filled, though they were not up to the standard of former years. For twenty-four plants, in not less than twelve varieties, Mr. James Douglas was again the first prize winner, with a fine set of plants. The varieties were Ettrick, Rosy Morn, Olivia, Argus, Firefly, Robert Bruce, Janet, Brightness, Mrs. James Douglas, Chieftain, Purple Glory, Mrs. Markham, and Dazzle. Messrs. Phillips and Taylor, Bracknell, were second with a weaker exhibit. The best examples were Mrs. M. B. Smith, Mrs. R. C. Cartwright, Thetis, Madiera, Veronica, W. Smith, and Argus.

Mr. James Douglas was again successful with twelve distinct plants. His varieties were Phyllis Douglas, Ulleswater, Mrs. J. Douglas, Chieftain, Firefly, Argus, Rosy Morn, Janet, and Duke of York. Messrs. Phillips and Taylor were second with Majestic, Mrs. Gorton, Duke of York, Thetis, Firefly, and Argus as their best examples.

In the class for six plants Mr. R. Staward, Panshanger, Herts, won first prize with Argus, Teviotdale, Rosy Morn, and some seedlings. Mr. F. W. Price, Beckenham, was second with nice plants of Flora McIvor and Thetis, while Mr. J. G. Baxter, Beckenham, was placed third.

The smaller class for four plants contained five contestants. Mr. R. Staward was the victor, relying chiefly on seedlings; Mr. F. W. Price was second with Alex. Dean and Bluebell; and Mr. C. C. Price, Brentwood, third.

The single specimens with a gold centre brought out some good plants, Mr. James Douglas winning first prize with Chieftain, and second with Claud Halcro; Mr. R. Staward was third.

The white or cream centres did not make such a good show. Mr. F. M. Price won with Argus, Mr. R. Staward taking second position with the same variety, and the third prize with Teviotdale.

In the novices' class for six alpines Mr. C. C. Price was the only exhibitor, but was deservedly awarded the first prize. His varieties were Thetis, Rosy Morn, Urania, Argus, Flora M'Ivor, and Firefly.

Class 20 was for six seedling plants. Here Mr. F. W. Price was placed first with a nice even exhibit, followed by Messrs. R. Staward and W. M. Shipman in the order named.

Mr. James Douglas was the only exhibitor in the class for twelve fancy varieties, and a beautiful exhibit they made, too. The most attractive were Kate Nickleby, Bronze, Caprice, May Day, Nanessa, Innocence, and Epsom.

The classes for primulas were not represented, and this section was much missed by those who remember the fine displays they have made in former years.

The primroses and polyanthus were disappointing, the plants not being up to the standard of former years.

For twelve polyanthus Mr. W. A. Watts, St. Asaph, was placed first, with Messrs. Till and Son second, while the same exhibitors won the primrose prizes in the same order.

For a single primrose, in pots eight inches in diameter, Mr. W. A. Watts won with a white variety; he also won second with a good yellow form; Messrs. Till and Son third. In a similar class for polyanthus Mr. W. A. Watts was first, the Rev. H. A. Soanes second, and Messrs. Till and Son third.

The group of primroses and polyanthuses arranged for effect secured two entries, Mr. S. Mortimer, Swiss Nursery, Rowledge, Farnham, winning easily with a fine strain of well-staged plants. Messrs. Storrie and Storrie, Glenaske, Perth, were second with a fine strain, but it lacked arrangement.

Mr. James Douglas staged a nice exhibit of auriculas in all sections, with some excellent trumpet daffodils. The fancy varieties were particularly attractive.

Mr. J. Crook, Camberley, Surrey, exhibited a choice strain of polyanthuses; the colours were very varied, and the flowers large and bright; evidently a capital strain.

Mr. James Douglas won the prize for the premier plant with a beautiful variety called Queen of Spain, a crimson self.

East Anglian Horticultural Club.

There was a large gathering at the April meeting of this flourishing club. Mr. J. Powley presided. The subject for the evening was a paper upon "Birds in the Garden," given by Mr. H. Goude, head gardener at The Grange, Old Catton, Norwich. The essayist stated that for twenty years he had kept an observation upon birds in the several gardens he had been at, and the conclusion he had arrived at was that, generally, the verdict went against the birds. Throughout the year some kind of bird seemed to be doing some kind of damage in some part of the garden, and this caused extra labour to keep them off trees, plants, and seed beds. Netting, black cotton, scarers, etc., all had to be provided, and for what? For a partial co-operation in the destroying of insect pests. It was only partial, for nowhere had he found that, if left to the resources of birds, the plants had been entirely freed from insects. Moreover, our present knowledge and appliances made it easy now to rid the garden of insect pests thoroughly. Too much sentiment seemed to go in the birds' favour, and

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their usefulness was made too large a point. As objects of beauty and adding charm to the countryside birds were all right, but in the garden they were not so useful as most people supposed. The most useful and the most destructive birds were noted, and other points dealt with.

A large number of the members took part in a splendid discussion.

The monthly exhibition provided a capital display. Orchids, from Mr. W. Shoesmith, gardener to F. W. Harmer, Esq., Cringleford, were very good; carnations, from Mr. W. Laws, gardener to G. E. White, Esq., Eaton, were splendid examples; and strawberries were shown in first-rate condition, as were also pot plants.

MARKETS.

◆

COVENT GARDEN.

Flowers.

Business is quite brisk again, and there is a good all-round demand.

		s. d.		s. d.
Acacia	per doz. bun.	8 6	to	12 0
Adiantum cuneatum	per doz. bun.	5 0		9 0
Anemones	per doz. bun.	1 6		2 6
Arums	per doz.	3 0		4 0
Asparagus	per doz. bun.	1 6		6 0
Azaleas	per doz. bun.	4 0		5 0
Bouvardias	per doz. bun.	6 0		8 0
Camellias	per doz.	1 6		2 0
Carnations	per doz. blms.	2 0		4 0
,,	per doz. bun.	9 0		12 0
Cattleyas	per doz.	10 0		15 0
Croton leaves	per bun.	1 0		1 6
Cypripediums	per doz. blms.	1 6		3 0
Daffodile	per doz. bun.	1 0		2 6
Dendrobiums	per doz.	2 6		3 0
Eucharis	per doz.	2 6		3 6
French fern	per doz. bun.	1 0		3 0
Freesias	per doz. bun.	2 6		3 0
Gardenias	per doz.	1 6		3 0
Hyacinths, Dutch	per doz. bun.	4 0		6 0
Iris, Spanish	per bun.	1 3		2 0
Lilac, white	per bun.	1 6		3 0
,, mauve	per bun.	2 0		3 0
Lilium auratum	per bun.	2 0		3 0
,, speciosum	per bun.	1 6		3 0
,, longiflorum	per bun.	3 0		5 0
Lily of the Valley	per doz.	7 0		15 0

Fruits.

Supplies are good, and the Cape and Australian fruits find a ready sale.

		s. d.		s. d.
Apples, American	per barrel	15 0	to	28 0
,, Australian	per box	9 0		15 0
,, English	per bush.	7 0		10 6
,, Nova Scotian	per barrel	17 0		24 0
,, Californian	per case	8 0		10 6
,, French Russets	per case	9 0		10 6
Apricots, Cape	per case	6 0		8 0
Bananas	per bun.	3 6		10 6
Chestnuts	per bag	7 0		16 0
Cranberries	per case	8 0		12 0
Figs	per box	0 10		1 6
Grapes, English	per lb.	1 6		3 0
,, Almeria	per doz. lb.	4 0		7 0
,, Belgian	per lb.	1 6		2 0
,, Cape	per case	12 0		16 0
Lemons	per case	8 0		18 0
Medlars	per case	4 0		5 6
Oranges, Jamaica	per case	6 0		10 0
,, Denia	per case	10 0		26 0
,, Jaffa	per case	8 0		12 6
,, California	per case	12 0		14 0
Peaches, Cape	per case	6 0		10 0
Pears, Californian	per case	8 0		12 0
,, Cape	per box	3 6		7 0
,, Catillac	per crate	8 0		10 0

Vegetables.

The scarcity of greenstuffs is keenly felt, and root crops are now shortening, so that prices are firm.

		s. d.		s. d.
Artichokes, Globe	per doz.	2 6	to	4 0
,, Jerusalem	per bush.	1 9		2 6
Asparagus	per bundle	3 6		7 0
,, Paris	per bundle	3 0		4 0
,, Sprue	per bun.	0 8		1 0
Beet	per bush.	1 0		2 0
Beans (French)	per lb.	1 6		2 6
Broccoli, Sprouting	per bag	4 0		4 6
Brussels Sprouts	per ½-bush.	2 0		4 0
Cabbage	per tally	4 0		8 0
Carrots	per doz. bun.	1 0		3 6
Cauliflowers	per tally	5 0		10 0
Celery	per doz. rolls	7 6		12 0
Celeriac	per doz.	1 6		3 6
Chicory	per lb.	0 4		0 6

LONDON POTATO MARKETS.

Supplies are fully equal to the demand, and prices show no upward tendency.

		s. d.		s. d.
British Queen	per ton	50 0	to	60 0
Dunbars	per ton	75 0		80 0
Epicure	per ton	50 0		65 0
Evergood	per ton	45 0		55 0
Sharpe's Express	per ton	60 0		65 0
Maincrop	per ton	65 0		70 0
Royal Kidney	per ton	45 0		50 0
Up-to-Date	per ton	60 0		65 0
,, Blacklands	per ton	50 0		55 0
Canary, new	per cwt.	8 0		10 6

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

DAHLIA TRIALS.—C. F. A., Leighton Buzzard: The Royal Horticultural Society is holding a trial of garden dahlias at its gardens at Wisley this year, but show and cactus varieties are to be excluded from the trials. The plants will be judged entirely on their merits as grown at Wisley, and the judges will consist of a committee of twelve, six nominated by the Royal Horticultural Society and six by the National Dahlia Society, with Mr. William Marshall as chairman. The latter society is holding a trial of cactus dahlias at Shenfield, Essex, under the care of Mr. J. T. West, and a trial of pompon dahlias at Slough, at Mr. Charles Turner's nurseries.

CALIFORNIAN WASH FOR FRUIT TREES.—S. P., Ripon: The winter wash for fruit trees known as the Californian wash is made up from 3lb. to 6lb. of quicklime, 3lb. of sulphur, and 3lb. of salt. These are mixed together, and sufficient water is added to slake the lime; while the whole is hot, as a result of the slaking of the lime, more water is added, and then the mixture is boiled for three-quarters of an hour. After the boiling more water is added to make up ten gallons of wash, and the mixture is ready for use. The great value of this wash lies in the fact that chemical changes occur, and result in the deposition of free sulphur that adheres strongly to the trees sprayed, cementing the eggs of insects, and preventing hatching, and also acting as a fungicide. This wash should be used as soon as made, otherwise it loses much of its value.

BIG BUD ON BLACK CURRANTS.—M. M., Brixham: The microscopic mite (Eriophyes ribis) that causes the big swollen buds in black currants are now migrating from bud to bud and bush to bush. Pick off and burn all the big buds, and then dust the bushes with a mixture of one part powdered quicklime and two parts of flowers of sulphur. This should be used when the bushes are wet, and three dustings should be given, one in March or early April, one towards the end of April, and one during early May. You will be able to give two good dustings and thus minimise the attack. Winter spraying appears to have not the slightest effect upon the black currant bud mite. Where the infestation of new stock is suspected it has been found a good plan to immerse the bushes for ten minutes in water at 115 deg. Fahr. before planting.

PLANTING OUT FORCED BULBS.—E. H. B., Brighton: There is no need to wait until the leaves have entirely died down before planting out the forced bulbs. If watering has been done since the flowers faded, and the plants have been hardened off, they may be planted out at once in the borders, where the leaves will soon ripen.

SWEET WILLIAMS.—S. V., Luton: Sow the seeds at once in good soil either in a cold frame or a nursery bed. Prick out the seedlings when a couple of inches high in good soil, to which some crushed mortar rubbish is added. From this planting fine plants will result ready for being put out in September where they are to flower.

CHERRIES AND PLUMS ON WALLS.—Sol, Sussex: Cut back the shoots of the Morello cherry to about one-third of their length, and bend the portion retained into a horizontal position to secure growth from the basal buds, and thus provide a good foundation for the tree. Later on, when growth has progressed somewhat, train out the rods to form a fan. The plum will need similar treatment, otherwise all the base of the tree will be bare in a few years. Be sure and bend the rods down, when pruned, until new growth starts freely from the base.

HERB PARIS.—O. W. J., Plymouth: Herb Paris is a moisture-loving plant, native of Great Britain. Its name is Paris quadrifolia. The flowers open in May and June, and have four green sepals and four narrow yellow petals, and the foot-high stems carry one whorl of four leaves. The black berry that succeeds the flowers is four-sided. In shady spots near the water herb Paris will grow readily, and it may be increased by root division or from seeds.

PEAS FOR SMALL GARDENS.—W. W., Ottery St. Mary: The tall peas occupy too much space, and interfere so greatly with other crops that they should not be included in selections of vegetables for small gardens. The best peas for such gardens are those that in average seasons attain a height of three feet. There is no great objection to varieties that rise to a height of four feet, except where the soil is strong and deep, and in northern districts; and the objection to them in such cases is the increase in the height of a foot or more. The following are excellent varieties for the production of supplies at seasons when peas can be had in the greatest abundance, and of the highest quality, and that range from thirty to forty-two inches high: Sutton's Prizewinner, The Gladstone, Sharpe's Queen, Sutton's Prolific Marrow, Eureka, and Webb's Senator. Autocrat is an immensely productive variety of high quality, but it grows to a height of four feet, and has, therefore, not been included in the six.

WOUND IN TREE.—T. F. J., Keswick: Cut the wounded part back to clean, healthy wood and bark, and then paint the cut portion with Stockholm tar.

BLUE DAISIES.—G. B. M., Southend: There are many plants that have received the popular designation of blue daisy, notably the greenhouse plant, Agathæa cœlestis, and the annual Brachycome iberidifolia, or Swan River daisy. But, as you suggest the plant you refer to is "a real daisy," we assume it must be Bellis rotundifolia cœrulescens, the blue Moroccan daisy. This is a true daisy, but it will not survive our winters without protection except in the most favourable districts, hence it has never become popular. The leaves are two inches or three inches long, and the flowers, varying from white to blue and blue-purple, are about an inch across.

NAMES OF PLANTS.

M., Gerrards.—Yes; Anemone fulgens.

H. W., Shotley.—Cypripedium villosum.

H. S. R., Broxbourne.—1, Berberis aquifolia; 2, Erica herbacea; 3, Ribes sanguinea.

M. T., St. Albans.—1, Cœlogyne occellata; 2, Cymbidium Lowianum; 3, Begonia President Carnot.

S. C., Chichester.—1, Forsythia suspensa; 2, Anemone pulsatilla; 3, Draba Aizoon; 4, Saxifraga apiculata; 5, S. Burseriana.

S. G., Godalming.—1, Anemone blanda; 2, Adonis amurensis; 3, Muscari conicum Heavenly Blue; 4, Narcissus Johnstoni; 5, N. triandrus albus.

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METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1909. April 11 to April 17.	Sunshine.	Temperature of the Air.			
		At 9 a.m.		Day	Nigh
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg
April 11—Sunday	11 0	56	47	69	38
" 12—Monday	4 24	49	43	54	41
" 13—Tuesday ..	—	49	47	53	44
" 14—Wednesday	5 24	50	50	54	49
" 15—Thursday ..	9 8	52	47	60	35
" 16—Friday	4 30	51	45	61	40
" 17—Saturday ..	5 5	54	52	60	45
Means	(total) 40 6	52	47	59	42

Date. 1909. April 11 to April 17.	Rain.	Temperature of the Soil. At 9 a.m.			Lowest Temperature on Grass.
		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
April 11—Sunday	—	46	46	44	27
" 12—Monday	0.03	48	47	44	35
" 13—Tuesday ...	0.17	47	47	45	39
" 14—Wednesday.	0.01	48	47	45	47
" 15—Thursday ..	—	47	47	45	28
" 16—Friday	—	48	48	46	34
" 17—Saturday ...	0.01	48	48	46	33
Means ...	(total) —	47	47	45	35

FORTHCOMING ENGAGEMENTS.

TUESDAY, April 27.—Huntingdon Daffodil Show.

WEDNESDAY, April 28.—Royal Society of Arts. School Teachers' Examination in Horticulture.

THURSDAY, April 29.—Norwich Spring Show.

SATURDAY, May 1.—French Horticultural Society of London.

MONDAY, May 3.—National Fruit Growers' Federation.

TUESDAY, May 4.—Royal Horticultural Society; Narcissus and Tulip Committee meets at 11.30; Fruit, Floral, and Orchid Committees at 12 o'clock; lecture at 3 p.m. by Mr. C. C. Hurst, on "Mendel's Law and its Application to Horticulture"; Scientific Committee at 4 o'clock.

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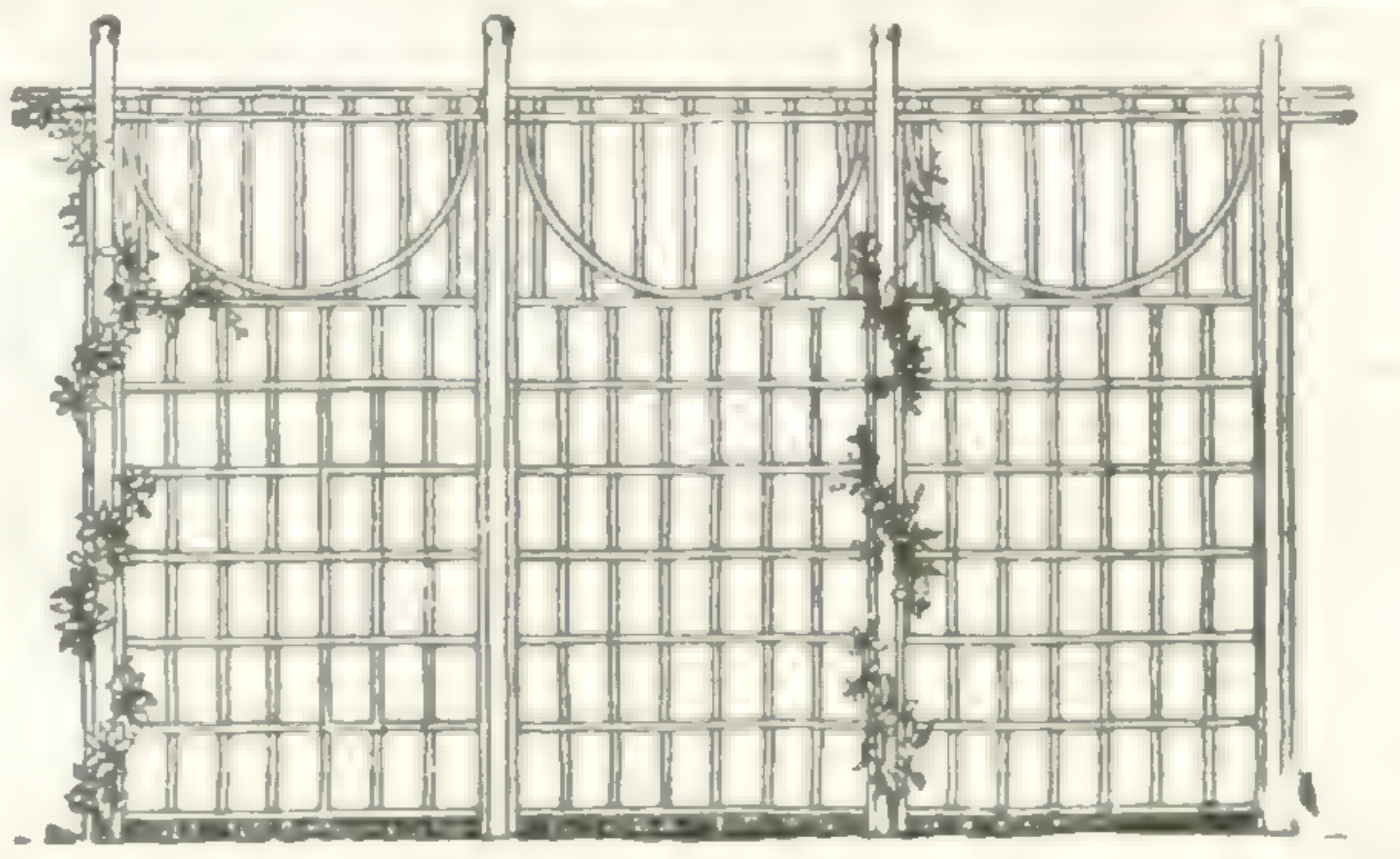

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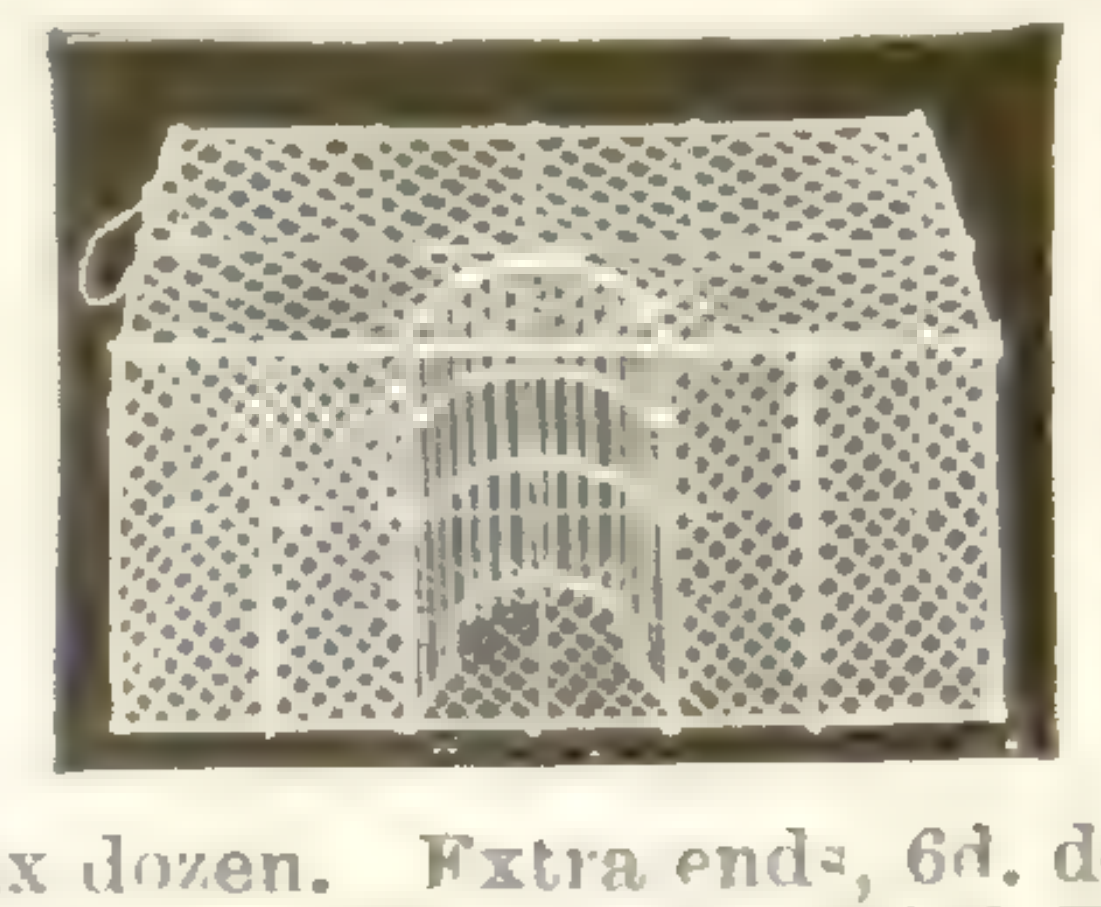

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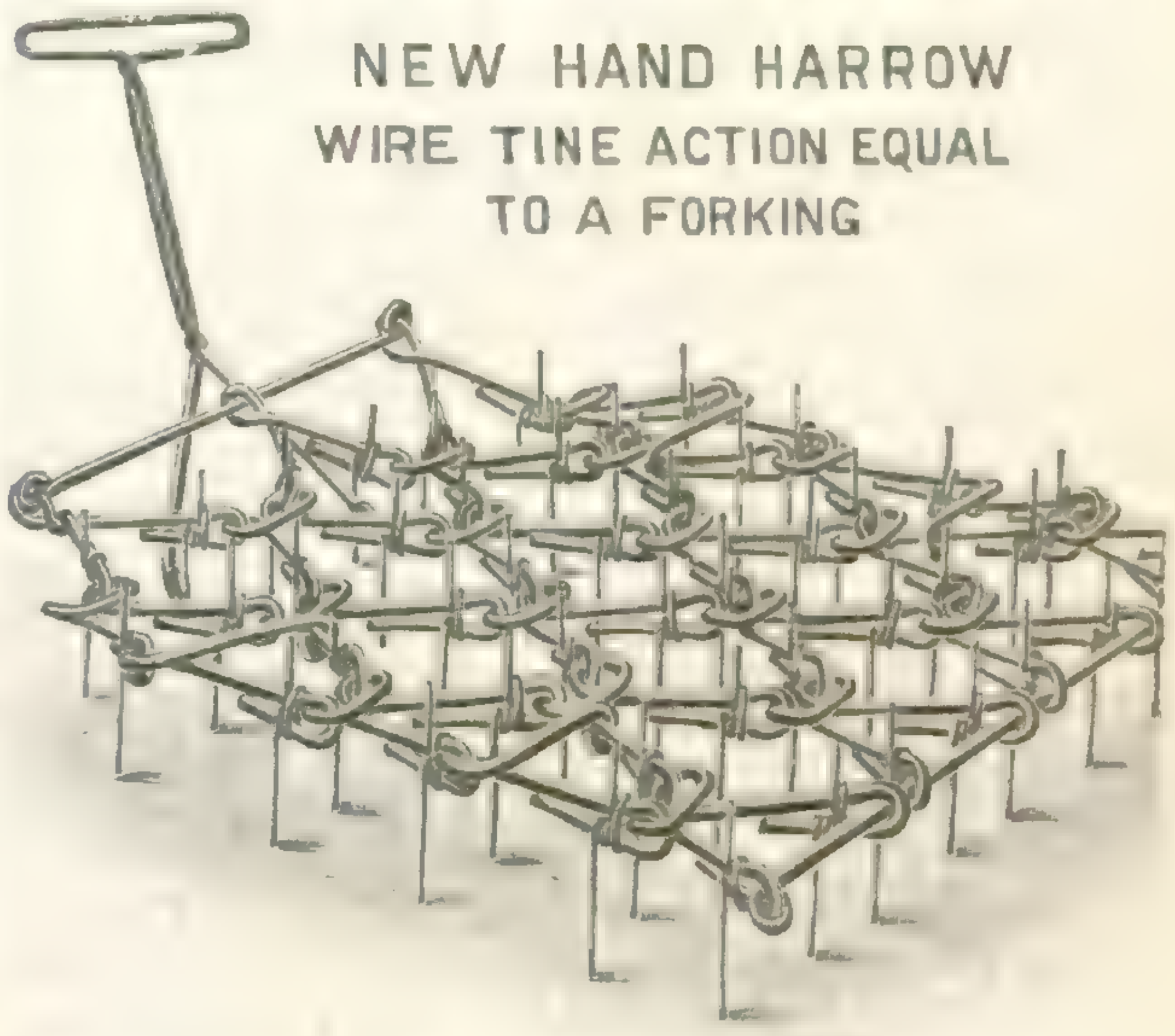

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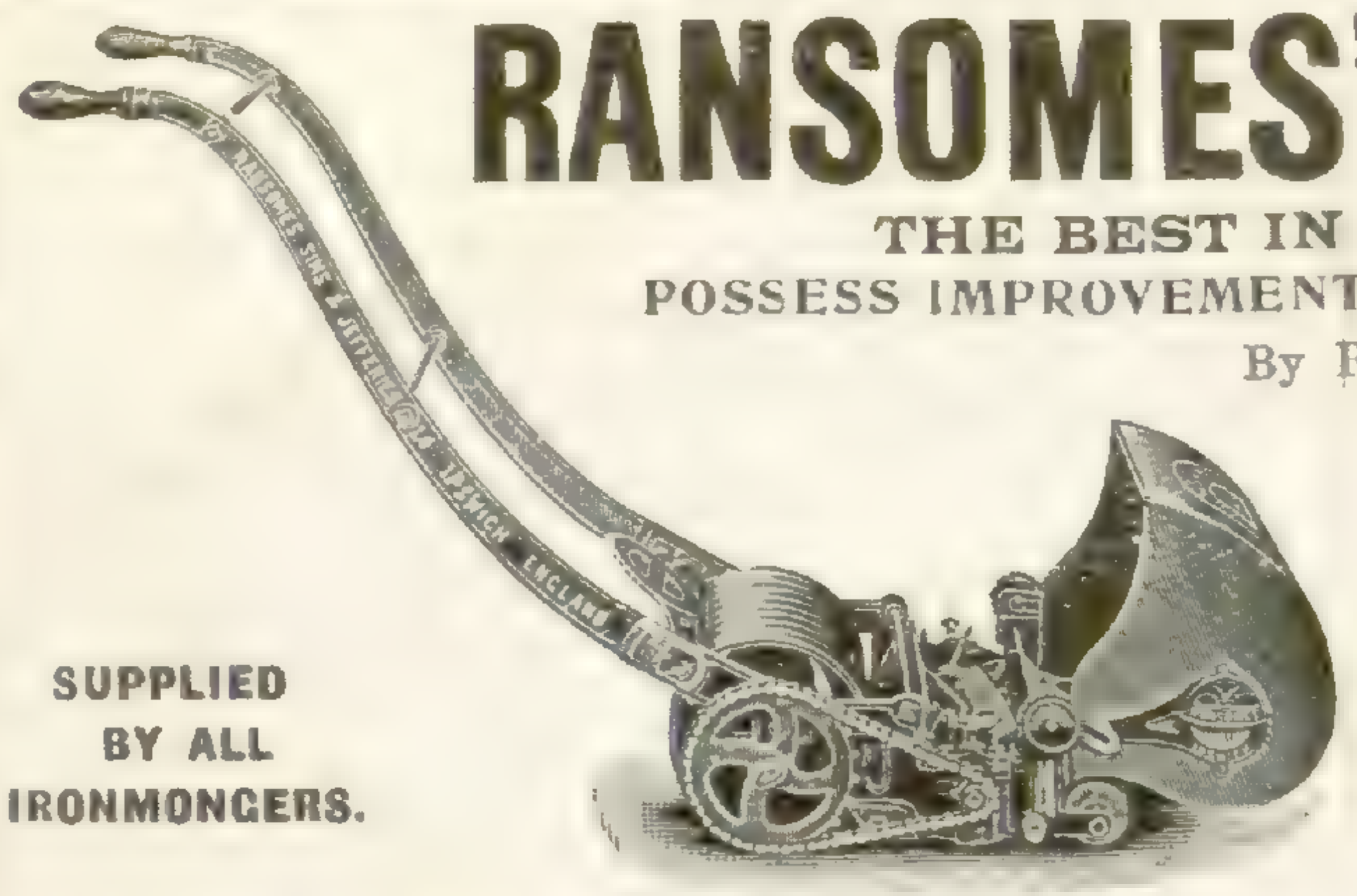

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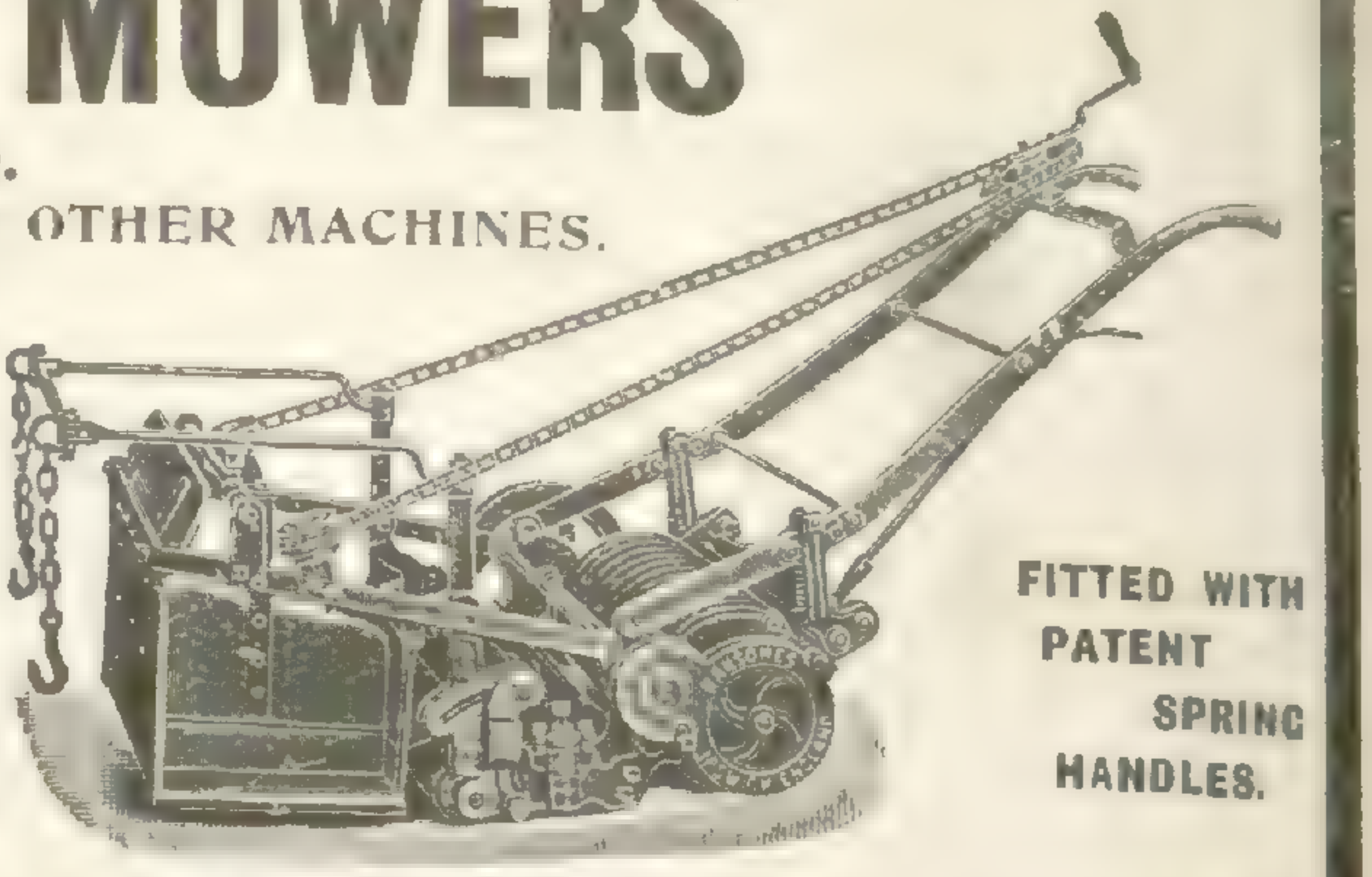

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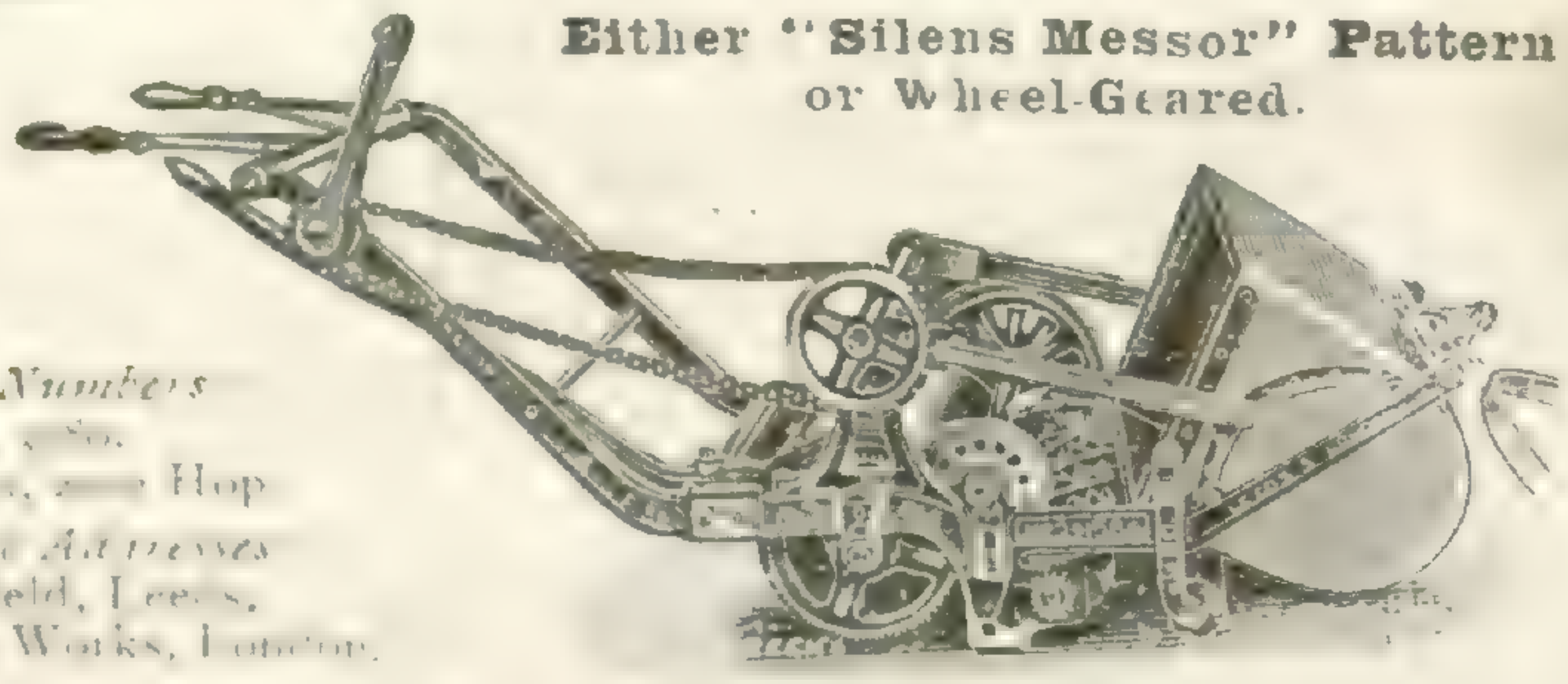

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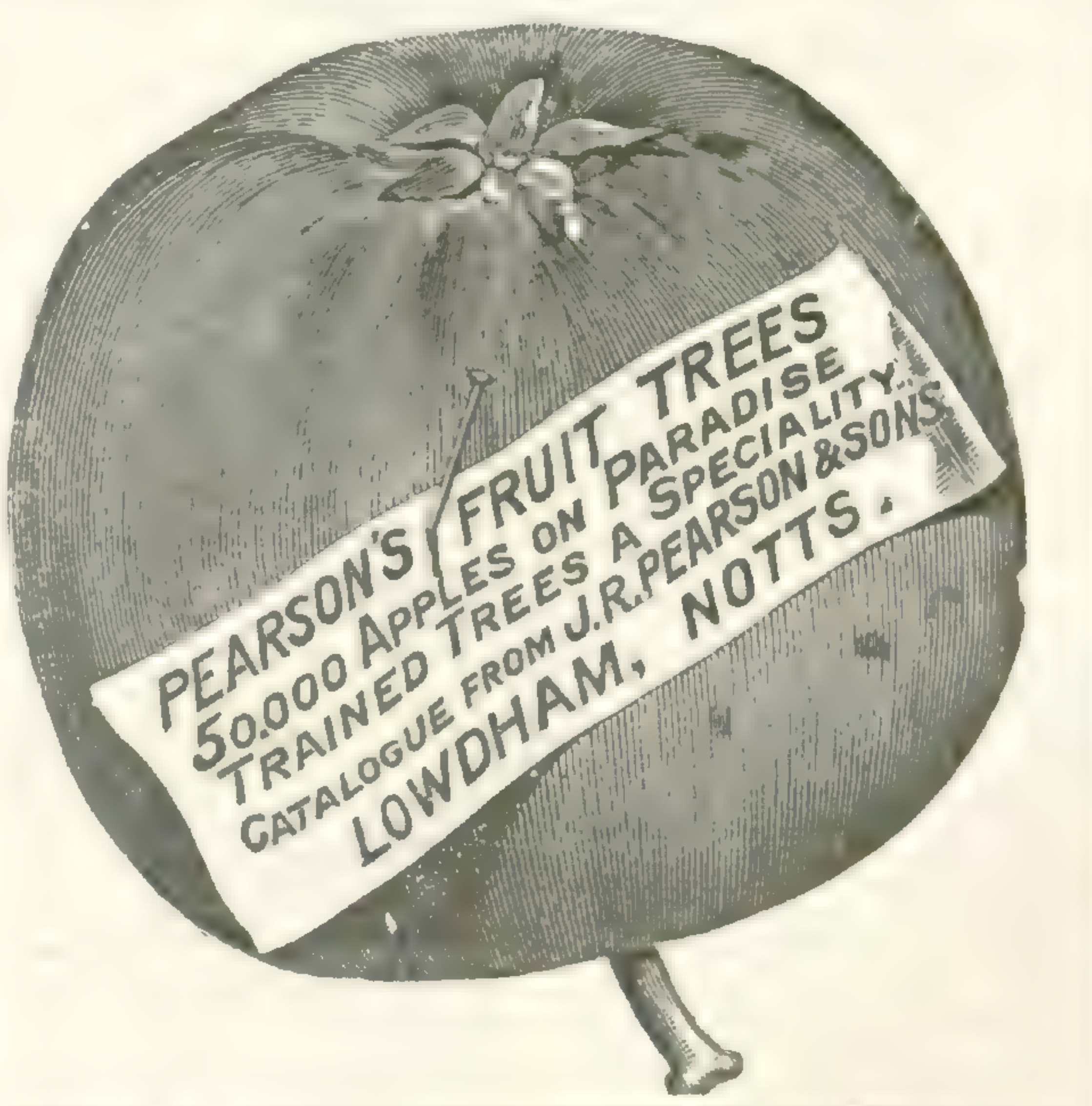
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A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

GARDENER (Head Working), where more are kept; 25 years' practical experience in all branches, Inside and Out, early and late Forcing, Vines, Cucumbers, Melons, Stove, and Greenhouse Plants, Herbaceous Borders; thoroughly reliable; highly recommended; married, without encumbrance. WOODHOUSE, Eastwood Road, Bramley, Surrey.

GARDENER (Head Working, where six or more men are kept); experienced in all branches of horticulture, early and late forcing; could also undertake management of farm; age 40, married, no family; twelve years last situation; good references. C. L. BRANSON, 71, Sheffield Road, Chesterfield.

GARDENER, Head Working or good Single-handed; life experience in all branches, Inside and Out; excellent references; married, and no family. Apply W. HOWLETT, Matchams Park Gardens, Ringwood, Hants.

GARDENER (Head); experience gained in first-class establishments in all branches, both inside and outside; age 38; married, two children; excellent testimonials. Apply J. NESLING, 38, Forcett Street, Cockerton, Darlington.

GARDENER (Head Working); life experience in all branches; can be highly recommended; age 30. E. ELMS, Moorcroft Gardens, Hillingdon, Middlesex.

GARDENER (Head Working); life experience in all branches, Inside and Out; married; good references. W. CANE, Sparrows Green, Wadhurst, Sussex.

GARDENER (Head) seeks SITUATION where three or more are kept; age 30; married, two children; six years Escrick Park, five years Campsall Hall; three years as Head at present situation. SKILBECK, Nunthorpe Hall, York.

GARDENER (Head). — H. EDWARDS, Beechy Lees Gardens, Sevenoaks, Kent, is open to engage with any Lady or Gentleman requiring the services of a steady, practical man, conversant with the requirements of a well-kept establishment. 3 years in above gardens as general foreman. Well recommended by past and present employers, who would answer any questions concerning him. Apply as above.

GARDENER (Head of two or three); all-round experience in all branches, including all kinds of Fruits and Flowers under Glass; age 35; married; good references; last 6 years Head. S. BUTLER, 4, Alexander Road, Chislehurst West.

GARDENER (Head Working, where several are kept); life experience in all branches; especially Grapes, Melons, Peaches, Cucumbers, and Stove and Greenhouse Plants; also Flower and Kitchen Garden; 21 years in last place, having left through death of employer; good references. C. T. M., 18, Pentland Street, Wandsworth, S.W.

GARDENER (Head Working), age 47; good practical experience in all branches; Inside and Out; many years as Head; can have good references. H. TURNER, Fineshade, Stamford.

GARDENER (Head working, where 3 or more are kept); first-class experience, both under Glass and Outside; excellent character from present and previous employers; married, no children. J. LIDDICOAT, 20, Carnarvon Road, Barnet.

GARDENER (Head Working, or good Single-handed); good practical experience in all branches, including Bees; seven years as Head; age 37; abstainer; married, two children; good references. J. ELLIS, Lodge, Springhurst, Newbury.

GARDENER (Head Working).—R. HOISER, Gardener to G. Drummond, Esq., can highly recommend his Foreman to any lady or gentleman requiring a good practical man, age 34. Address, W. LONGLEY, Swaylands, Penshurst, Kent.

GARDENER (Head Working), age 32; good experience Inside and Out; used to Orchids, Carnations, Herbaceous and Alpine Plants. CHARLES LUXFORD, 78, Southfield Road, Oxford.

GARDENER (Head Working), age 40, son 16, require SITUATIONS (together or separate); 25 years' practical all-round experience, including glass; excellent references; disengaged when suited; some experience in the care of poultry, bees, etc. H. W., 32, Alexandra Road, Chislehurst, Kent.

GARDENER (Head, where two or three are kept); life experience; good references; can be highly recommended from present situation; age 29, married, no family; in or near Reading preferred. H. MARSHALL, Manor House Gardens, Cookham Dean, Berks.

GARDENER, where one more kept; 14 years' experience in good establishment; with good knowledge of fruit, plant, and stove houses; also fruit, flowers, and vegetables; Inside and Out; age 28; single; excellent testimonials. THORNTON, Mulberry Tree Villa, Grange, Gillingham, Kent.

G. P. LECHALLAS, Esq., Grantbourne, Chobham, Surrey, wishes to recommend JOHN JANES, Head Gardener; married; age 35; Inside and Out; managed stock 18 months; 12 years' previous character; Gentleman going away.

LADY MALCOLM, of Poltalloch, highly recommends her HEAD GARDENER; eight years in present place, Head of three; life experience in all branches; age 36; married, one child, seven years. W. BASTIN, Barnardiston Hall Gardens, Haverhill, Suffolk.

MRS. TRESIDDER confidently recommends an industrious, hard-working HEAD GARDENER; good all-round man; 9 years present place; married. GARDENER, The Lodge, Wood Villa, Whetstone, N.

RECTOR of BILDESTON, Suffolk, wishes to recommend his late HEAD GARDENER as a thoroughly good all-round man; total abstainer. Address R., 115, Foxhall Road, Ipswich.

A YOUNG MAN (25) seeks SITUATION as SINGLE-HANDED GARDENER, or where help is given; 2½ years' good character. P. MUSTON, Coln St. Aldwyns, Fairford, Gloucestershire.

GARDENER seeks SITUATION as good Single-handed; understands poultry, and no objection to cow; married; age 39; now disengaged; 3 and 6 years good character; Berks or Oxon preferred. Apply W. DEARLOVE, Dorchester, nr. Wallingford, Oxon.

GARDENER (Single-handed or otherwise); eight years' practical experience, Inside and Out; married, one child; highest reference. F. WEBLEY, Adlestrop Gardens, Chipping Norton.

GARDENER (Single-handed or with help); good Second's place not objected to; married, age 36; tall; one child; life experience Inside and Out; good references. H. WARNER, 17, Salmestone Road, Margate, Kent.

GARDENER (good Single-handed or where help is given); age 37; 24 years' experience in all branches; good references. E. SMITH, 5, Havelock Road, Bromley, Kent.

GARDENER seeks SITUATION, single-handed, or where help is given; age 28; single; life experience in all branches; good references. H. ATTWATER, Ivy Cottage, Horsmonden, Kent.

GARDENER (Single-handed, or with help); Vines, Stove, Greenhouse Plants; experienced Inside and Out; good character by me; age 35; married (boy 5 years); willing to be useful. State terms. C. H. SMITH, 44, Ravenbourne Road, Catford, S.E. Disengaged when suited.

GARDENER (Single-handed or with Help), age 31; Catholic; married; one child; Convent or Private; long reference from present situation. COX, 25a, New Trinity Road, East Finchley.

GARDENER seeks SITUATION, Single-handed or otherwise; age 25; 11 years' experience; good references. A. RANDALL, 40, Victoria Place, East Street, Epsom.

GARDENER seeks SITUATION as Kitchen Gardener, or Single-handed; life experience, good references; age 28; disengaged; married when suited. WALTER FOWLER, 30, Church Green, Witney, Oxon.

GARDENER (Kitchen and Pleasure Ground, or small Single-handed) seeks SITUATION; life experience; good reference; married, no family. A. GARWOOD, 65, School Lane, Bushey, Herts.

FOREMAN (Inside); age 25; 11 years' practical experience in Vines, Peaches, Melons, Cucumbers, and Plants; life abstainer; good references. E. CARTER, Stanley House, Eastern Road, Plaistow.

FOREMAN or JOURNEYMAN (First, Inside); age 28; good experience in Fruit and Plant Houses; good references; Bothy preferred.—J. REEVE, 50, Palmerston Road, Northampton.

FOREMAN (Inside), age 26; 12 years' experience in Fruit and Plants, including Waddesdon Manor and Worth Park. G. JOHNSON, Stansted Hall Gardens, Stansted, Essex.

GARDENER (Second or Single-handed); 13 years' experience in good places; Inside and Out; age 27; disengaged. A. S. WINDELL, High Street, Dedham, Essex.

GARDENER (Second, Inside and Out), nine years' experience; good references; age 25. Berks or counties joining preferred. W. SMITH, The Bothy, Epping House, nr. Hertford, Herts.

GENTLEMAN thoroughly recommends W. SMALL as GARDENER (Second where four or more are kept); 16 years' experience; age 34; married, no children; good characters. Kitscroft, Eversley, Hants.

MR. E. CLIFTON BROWN wishes to highly recommend G. HARRIS as good SECOND GARDENER; age 28; single; has been his Second Gardener for four years, with good experience Inside and Out; excellent character. Burnham Grove, Burnham, Bucks.

GARDENER (Under), age 22, seeks SITUATION; knowledge of both Inside and Out; good reference. N., Red House Lodge, Heatherside, Camberley, Surrey.

GARDENER (Under or Single-handed) or CARETAKER; 14 years' experience, chiefly Outside; good references; married; abstainer. PEGG, The Lodge, West Hatch, Chigwell, Essex.

JOURNEYMAN (First), age 24; good experience in Carnations, Malmaisons, Roses, Orchids; previously at Burford, Hanworth Park, Blenheim Palace; good references. J. HART, Hamper Mills, Watford.

JOURNEYMAN (Inside or Inside and Out); 6 years' all-round experience; good characters. Country near London preferred, and Bothy. J. TOKINS, The Gardens, Dobroyd Castle, Todmorden, Lancs.

SITUATION COUPON

To the Advertisement Manager of "THE GARDENERS' MAGAZINE,"
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For MAY 8, 1909.

Please Repeat my Advertisement.

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Date.............................

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JOURNEYMAN (Inside), age 23; eight years' good practical experience in Private and Nursery establishments; two years at Denbies Gardens, Dorking; good references. B. ALLEN, 14, Archway Place, Dorking, Surrey

JOURNEYMAN (Inside), 7 years' experience, age 22; good references; disengaged. E. JARVIS, Ida Cottage, 31, Boston Road, Woodbridge Road, Ipswich.

JOURNEYMAN seeks SITUATION in Fruit or Plant Houses; nine years' experience; age 2[illegible]; good references. Apply P. BURR, Wilstead, Beds.

JOURNEYMAN - IMPROVER (18), height 5ft. 8in., seeks SITUATION in a good establishment under the Foreman in House; active, willing, and trustworthy; life experience; can take Duty; well recommended; disengaged. Address, G. [illegible]BERTIN, Bulwick Park Gardens, Wansford.

YOUNG MAN (21), abstainer, seeks SITUATION as JOURNEYMAN (Inside); four years' experience with Tomatoes, Chrysanthemums, Geraniums, and Kitchen Garden; can be highly recommended; disengaged when suited. H. COLES, Manor Gardens, Great Addington, Thrapston.

CARNATIONS.—YOUNG MAN, age 21, seeks SITUATION in Tree Carnations; 6 years' experience in all its branches. Apply, A. LENTON, High Street, March, Cambs.

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IMPROVER seeks SITUATION; Inside or Inside and Out; 4 years' experience; age 23; good character; Bothy preferred. H. BIRCH, Fern Cottage, Ettington, near Stratford-on-Avon.

IMPROVER.—Young Man, age 20, seeks SITUATION as above in good establishment; Bothy preferred; good reference. H. DUDLEY, Whittington Cottage, Middle Green, Langley.

LAD (18) seeks SITUATION in Nursery; 2½ years' experience in Garden; good character. Write to W., High Street, Botley, Hants.

LADY can highly recommend Gardener to any Lady or Gentleman requiring a good practical, hard-working MAN; thoroughly understands his work, Inside and Out; life experience; leaving through death; 10 years' excellent character; age 34; married, one child, 8 years. W. HIGGINS, The Lodge, Darrington, Camberley, Surrey.

THE HEAD GARDENER, Telegraph House, Chichester, wishes to recommend W. ROSE as Inside and Out; has been with me six years; Bothy.

THE REV. BAYLAY would be pleased to recommend ARTHUR MARSOM, who has been with him four years, for kitchen garden and pleasure grounds, where more are kept. Apply A. MARSOM, Thurgarton, Notts.

WANTED, SITUATION as an IMPROVER, age 17; strong and willing; has had three years and ten months' general experience Inside and Out; total abstainer. Bothy preferred. A. HYLAND, Woodlands, Ticehurst, Sussex.

YOUNG MAN (19) seeks SITUATION as IMPROVER (Inside or Inside and Out); 3½ years present place; well recommended. In or near London preferred. Disengaged when suited. Apply, G. CHANDLER, Butts Road, Alton, Hants.

YOUNG MAN, age 23, seeks RE-ENGAGEMENT by June 7, Under, or small Single-handed; 8 years' experience; 4 years' present situation. Apply, W. GULLIFORD, 3, Camden Terrace, Camden Hill, Chislehurst, Kent.

YOUNG MAN (20) seeks SITUATION, Inside and Out; six years' all-round experience; can be highly recommended. ROBERT PREECE, Lugg Bridge, near Hereford.

YOUNG MAN (23) requires SITUATION as SHOPMAN (Second) in Seed and Florist Trade; good references. Apply W. CLEASLY, 47, Clive Street, Burnley, Lancs.

YOUNG MAN (22) seeks SITUATION as Under-Gardener; knowledge of Inside and Out; 8 years at Holland House, Kensington. Apply H. YOUNG, 17, Phœnix Place, Holland Park, London.

YOUNG MAN seeks SITUATION, Kitchen Garden and Pleasure Grounds; age 27; five years' excellent reference last situation; willing and obliging. H. SMITH, North Street, Winkfield, Windsor.

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20 ,, ,, ,, 520 ,,	1	7	6
40 ,, ,, ,, 1,040 ,,	2	12	0
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1 tin sufficient to make 25 galls.	0	2	0
4 ,, ,, ,, 100 ,,	0	7	0
8 ,, ,, ,, 200 ,,	0	12	0
12 ,, ,, ,, 300 ,,	0	17	0
20 ,, ,, ,, 500 ,,	1	7	6
40 ,, ,, ,, 1,000 ,,	2	12	0

Carriage paid on 5 galls., 4 tins and upwards.

Prices, Liquid, Double Strength.	£	s.	d.
5 galls. making with water 255 galls.	0	16	0
10 ,, ,, ,, 510 ,,	1	8	0
20 ,, ,, ,, 1,020 ,,	2	12	0
40 ,, ,, ,, 2,040 ,,	4	18	0
80 ,, ,, ,, 4,080 ,,	9	10	0

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AN APPEAL TO THE GARDENERS OF GREAT BRITAIN.

MANY Professional and Amateur Gardeners are aware of the fact that a fight has been going on for years between the Traders in Poisonous Compounds Protection Society and the Pharmaceutical Society in reference to the sale of poisonous compounds used in horticulture. The new Act, known as "The Poisons and Pharmacy Act, 1908," came into force on April 1st of this year, and Clause 2 reads as follows:—

2. In granting licences for the sale of poisonous substances for use exclusively in horticulture, preference shall be given to nurserymen, florists, seedsmen, and other persons whose business is specially connected with horticulture.

The only correct construction which can be put upon this clause is that it was the intention of the Government that the Borough and County Councils should grant licences to Nurserymen, Seedsmen, Florists, etc., who have been accustomed for very many years—in fact, ever since the articles were introduced—to supply Nicotine Vaporising Compound, Nicotine Insecticide, Weed Killer, etc., etc.

As a matter of fact, they have always held the trade for such poisonous compounds as these, and the gardening public have always sent their orders to them.

The Chemists' Associations all over the country have done their best to bamboozle the licensing authorities by making mis-statements to the effect that they, and not the Horticultural Trade, have been doing this business, and that there is no necessity to grant licences to the Horticultural Trade. Now, as the largest manufacturer of poisonous compounds (XL ALL) used in gardening, I appeal to Professional Gardeners not to place a single order with a chemist.

There is no question that the sympathy of Professional Gardeners will be with their own fraternity, and I shall be much mistaken if Gentlemen Amateur Gardeners who buy these kinds of articles themselves do not take the same view of the situation. Such mercenary greed on the part of the pharmacists, to rob horticultural tradesmen of the business which they have created and introduced to the public should be beneath the action of professional men.

PHARMACY FOR THE PHARMACIST! TRADE FOR THE TRADER!!

I wish to explain to gardeners and amateur gentlemen buyers that should their Nurseryman, Seedsman, or Florist be denied a licence for the time being, they can, all the same, legally book orders for XL ALL poisonous preparations, to be sent on by the manufacturer; and still further, they can legally invoice the goods and receive payment for same. Very little delay will be caused by having to follow this course, and I trust that gardeners generally will show their disapproval of this mean action on the part of the pharmacists of Great Britain by not placing orders with them.

G. H. RICHARDS (XL ALL), 234, BOROUGH HIGH ST., LONDON, S.E.

VOL. LII.—No. 2,896. SATURDAY, MAY 1, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Thinning Out.

Undoubtedly one of the most difficult things to get the amateur gardener to grip and to practice is the absolute necessity of giving a plant full room to grow if he wants it to flourish and display its beauties to the best advantage. In Nature, crowding may be the rule: seeds are produced and scattered in numbers out of all proportion to the number of the plants required to maintain the numerical status of the species. The result is a constant struggle for existence, which, as we know, has had marvellously beneficial results in the evolutionary way. In a garden, however, it is the flower lover's province to prevent such struggles, as far as possible, by giving his protégés every opportunity, and removing every handicap to their welfare. What, however, do we see in innumerable cases? The seeds so abundantly produced are usually collected or supplied on correspondingly liberal lines, a packet containing, as as rule, ten, twenty, or even more times as many seeds as are really required, or can even be grown into plants. The result is, as a rule, the sowing of scores of seeds, within a space that a single plant will require in its adult form. The experienced man knows full well that a seedling handicapped at the outset by being crowded by its immediate neighbours rarely recovers entirely from the weakness thus engendered, but the inexperienced one is too tender-hearted, and cannot bring himself to perform the Herodian decimation which, in many cases, especially with annuals, is absolutely essential to the welfare of the survivors. As a consequence, he obtains a tangled mass of weaklings, in which the natural grace of the individual plant is entirely lost, and its flowering capacity immensely deteriorated. It is true that allowances must be made for accidents, insect depredations, and so on, and to this end, when transplanting to the final stations, more seedlings than one are advisable. When, however, these have established themselves, all but the strongest should be removed if the space allotted to the group is no larger than a properly-grown plant can fill. In this connection it must not be forgotten that above ground light and air are the vital factors of plant life, while below the surface the root systems require free space for their fibres to collect the moisture and earthy salts, which it is their province to transmit to the foliage. Every plant elbowed by another is thus robbed in both directions, above and below, to the detriment of both, the roots intermingling in the soil and competing with each other, while the foliage, by overlapping, deprives the leaves of their full share of light. A common-sense deduction from these facts is, of course, that very thin sowing is advisable at the outset. If the seeds be obtained from a reliable source, the presumption is that all, or nearly all, will germinate if sown under proper conditions, and, bearing this in mind, the amateur would do well to consider how many plants he can properly accommodate, that is, give full growing space to, in their adult stage, and only to sow, say, two or three times as many seeds. In this way most of the evils we have indicated will be avoided, and he will subsequently be spared much of the pain involved in the destruction attending thinning out on healthy lines. To those who are interested in fern culture, and the raising of ferns from their spores, our remarks apply with even greater urgency. Here the microscopic spores may be reckoned in millions, though each one is as fully capable as the largest seed of reproducing a fern, possibly of great size. The tiniest possible pinch consequently may produce an abundant crop, and as ferns resemble all other green plants in their need for root room, light, and air, it is clear that it is an absurdity to sow thickly, and thus handicap them in their babyhood, with the inevitable result that a slaughter of the innocents must follow, or an acre or two of land be devoted to the eventual crop, with an adequate staff of men to do the planting. In short, it is better to give away, or even throw away, surplus seeds, rather than sow in ridiculous profusion, with the handicapping results indicated.

MR. FREDERICK BEDFORD.

Mr. Frederick Bedford has been so long in Ireland that many of his friends believe him to be a son of Erin. For thirty-four years he has been head gardener to the Barton family at Straffan, Co. Kildare, where, under three different members of the family he has made the gardens famous. Mr. Bedford was born at Gosport, in Hampshire, and after serving under his father, and at various establishments, he became orchid grower to the Earl of Londesborough, who at that time had a wonderful collection at Grimston Park, Tadcaster, where Mr. W. Denning was then head gardener. From Grimston he went to act as orchid grower and expert to Mr. B. S. Williams, of Holloway, and he paid numerous visits on behalf of the latter to the leading Continental orchid collections. Mr. Bedford then became head gardener to the Earl of Kenmuir, at Killarney House, and from thence passed on to the charge of the gardens at Straffan House, where Major and the Hon. Mrs. Barton then resided. Mr. Bertram Barton is the present owner of the estate, and our readers know how well Mr. Bedford grows orchids, stove plants, conifers, and fruit and vegetables, and especially how successful he has been with choice hardy plants, notably Cypripedium spectabile and bamboos. It gives us great pleasure to give Mr. F. Bedford's portrait in this issue. We may add that two of Mr. Bedford's sons are following his profession, Mr. Arthur Bedford being foreman under Mr. J. Hudson, at Gunnersbury House.

Noteworthy Newcastle Gardens.—In the issues of the GARDENERS' MAGAZINE for May 8 and 15 we shall give a freely illustrated account of some of the more noteworthy gardens around Newcastle-on-Tyne. The gardens will include those of Howden Dene, Castle Hill, Prudhoe Hall, Oakwood, Holeyn Hall, Jesmond Dene, Heaton Park, and Willow Wood.

Damage by Frost during the Past Winter.—In view of the great severity of the weather during the past winter (1908-9), and the number of plants recently introduced to British gardens, the Council of the Royal Horticultural Society consider it desirable to collect all available information concerning the damage done by frost, in order that it may be made public in the society's "Journal." Forms have been provided for entering the information, and those who have not received copies may obtain them, on application to Mr. F. J. Chittenden, R.H.S. Laboratory, Wisley, Ripley, Surrey. The extent of the damage done may not be apparent until the middle or end of May, but it is suggested that notes of the apparent damage should be made at once, and checked subsequently at the time the plants should be in full growth. As the report will be of great practical value to all who are engaged in gardening, those who are able to do so should make returns.

The Royal Gardeners' Orphan Fund annual festival dinner will take place at the Hotel Cecil, Strand, London, on Thursday, May 6, at 6.30 for 7 o'clock. His Grace the Duke of Rutland will preside, and there is every prospect of a large, influential, and successful function.

Gardeners' Royal Benevolent Institution.—In aid of this excellent charity Mr. Edward Sherwood is arranging for a performance, on Wednesday, May 12, of a new musical play, entitled "In Cyderland," at the Cripplegate Theatre, Golden Lane, E.C. The play has been written by Mr. R. Carey Tucker, and the music composed by Mr. Edward Sherwood. The full orchestra, by the courtesy of "The Hurst and Son" Musical Society, will be under the direction of the composer. The prices range from 3s. to 10s. 6d., and tickets may be obtained from Mr. G. J. Ingram, 175, Victoria Street, S.W.; Mr. N. N. Sherwood, Dunedin, Streatham Hill, S.W.; and Mr. Edward Sherwood, 152, Houndsditch, E. The doors will open at 7.30 p.m., and the performance terminate about 10.45 p.m. The Cripplegate Theatre, we would add, forms part of the Cripplegate Institute.

The Eaton Hall Gardens are remarkable for their annual displays of daffodils, and in no season has Mr. N. F. Barnes provided for the entertainment of his noble employers a more delightful display of these beautiful flowers than in that through which we are now passing. With his customary kindness, the Duke of Westminster opened the gardens and grounds to the public on two days to enable them to participate in the feast of flowers, and on the 20th and 21st ult. the large numbers who passed the gates proved to demonstration that the privilege was highly appreciated by the residents in and near Chester. Choice varieties are extensively cultivated, and such varieties as Emperor and Empress, Sir Watkin, Grandee, and Poeticus varieties are grown in immense numbers in the grass.

The Savatier Herbarium.—We learn that Madame L. Raoul, the daughter of the late Dr. P. A. L. Savatier, having offered the herbarium of her father to Kew for purchase, the whole of the collections included in that herbarium have been acquired for the Royal Botanic Gardens. They consist of two sets: one, numbering 730 specimens, comprises only Japanese plants, whilst the other, which numbers 735 specimens, is made up of several collections, mainly from Tahiti, Peru, the Straits of Magellan, and other parts of South America, under the general description "Campagne de la Magicienne." M. Savatier was a doctor in the French Navy, and in this capacity travelled largely, and was ten years in Japan with the French Naval Engineers. The Japanese set is of particular interest and value, as it goes a long way to illustrate the "Enumeratio Plantarum in Japonia Sponte Crescentium," by Franchet and Savatier, the first comprehensive and methodical attempt at a flora of Japan on a scientific basis. Savatier's Tahiti plants were worked out and incorporated by Drake del Castillo in his "Flore de la Polynésie Française," and furnish, therefore, authenticated and important material for the study of the flora of Eastern Polynesia. The American plants, on the other hand, are only partly named, but as they are well localised, and, like the rest, well preserved, they represent a valuable accession to the collections at Kew.

Excess of Magnesia in Soil.—Dr. Voelcker, in his report, made as consulting chemist to the Royal Horticultural Society, instances an interesting case of soil from Malvern, where currants were said to be very unhealthy in appearance. Dr. Voelcker analysed the soil, and found that there was not any one constituent that was markedly deficient, except, possibly, the organic (vegetable) matter and the nitrogen derived from this source. There was a very fair supply of potash; in phosphoric acid the soil was distinctly rich, while the amount of lime could not be said, in itself, to be low. A remarkable point, however, brought out by the analysis was that the amount of magnesia (1.39 per cent.) contained in the soil was more than double that of the lime (.60 per cent.). This is a matter to which, says Dr. Voelcker, my attention has been of late directed in a somewhat special way. Moreover, experiments conducted by myself at the Woburn Experimental Farm have brought out very clearly the influence which magnesia may exert on the crops of the farm. To briefly summarise the information gained on these points, it would appear to be brought out that whenever the proportion of magnesia in a soil exceeds the lime that is present, conditions unfavourable to the successful growth of crops are produced. I am of opinion that to this may very well be attributed the failure of the currant bushes in the present instance. The subject is still under investigation, but I certainly believe that the best thing to do in such a case as that mentioned is to apply lime liberally, for, while it is impossible to take the magnesia out of the soil, it is possible to reduce its preponderance by the addition of lime.

Poisonous Excretions of Roots.—Investigations have been carried out by Mr. F. Fletcher, deputy director of agriculture in the Bombay Presidency, of the excretions of roots of plants. As the result thereof, Mr. Fletcher has arrived at the following conclusions: (1) All plants excrete substances which are toxic, both to themselves and to other species; (2) the quantity of toxic material excreted by the different crops varies, when reckoned per unit area of a field sown in the ordinary way; (3) sensibility to the excreted substance varies with the plant; (4) the substance excreted by all crops is apparently identical. The nature of the substance, which may be an alkaloid, is being investigated. The toxic substance appeared to have an injurious effect on adjacent crops according to the extent to which it was distributed through the soil, while its effect on subsequent crops grown on the same land would depend on the extent to which the roots came into contact with it, especially by occupying the same layer of soil.

A Big Apple Orchard in Kansas.—Secretary Coburn, of the Kansas State Board of Agriculture, has published a glowing account of the enterprise of Judge Wellhouse, of Topeka, Kansas, in apple-growing. He has over 1,600 acres devoted to this fruit, which he began to plant in the latter part of the "seventies." He must have had a strong faith in the suitability of his district for apples, as he began by planting 437 acres, which his neighbours deemed as a great act of folly. He has now gathered and sold twenty-six crops, amounting to over half a million bushels. The largest crop was 80,000 bushels in 1890, and the smallest was 488 bushels in 1899. The largest crop sold for over 50,000 dollars; but if there were 1,600 acres then the gross return was only £12 5s. per acre, which is not much to boast about, and the smallest must have left a very heavy loss. If the area was 1,600 acres in 1890, the yield was only 50 bushels per acre, which is a poor maximum, and even if only 1,000 acres were bearing fully then, 80 bushels per acre cannot be regarded as remarkable. The Judge may have been enterprising enough, and his orchards must number among the big things in the United States, but the results of his enterprise, supposing the figures to be correct, we could easily beat in this old country of ours.

An American National Sweet Pea Association is in course of formation, and the leading spirits are Messrs. Harry A. Bunyard and A. T. Boddington, of New York. The latter has been in communication with the N.S.P.S. of this country, for the purpose of obtaining a knowledge of the working of the latter body. Mr. H. Turner, president of the New York Florists' Club, and Mr. W. Atlee Burpee, of Philadelphia, are lending their influence and financial aid to the new venture, and already June 14 is the date booked for a sweet pea exhibition and inaugural meeting at New York. If the American society and the British one work hand in hand in the matter of trials, too-much-like varieties, synonymy, etc., great good will result, and sweet pea lovers will be grateful.

Presentation to R.H.S. Library.—Professor A. H. Church has presented three books which he had had privately printed, to the Royal Horticultural Society's Library. These are catalogues of some 6,000 manuscripts, scarce pamphlets, etc., contained in the library of the Royal Society, and dating from about 1606 to the beginning of the nineteenth century, containing many interesting references to well-known botanists and other scientific men of this and foreign countries.

Plants and Flowers for London Workers. — Lord Monkswell, Chairman of the Kyrle Society, writes: "Allow me again to appeal through your columns to those who have gardens to send us flowers, plants, seeds, or bulbs, to bring some brightness into the lives of the poor workers of London. Lovers of flowers can easily understand the pleasure they bring to those whose lives are spent among the dull and crowded streets and tenements of London. Flowers should be gathered in bud, before the sun is on them, and sent tied up in bunches. A postcard to the hon. secretary, Kyrle Society, 2, Manchester Street, London, W., will receive a prompt reply giving addresses where flowers may be sent direct."

Tree Carnations as Border Plants.—We have already pointed out the value of Perpetual Carnations for beds and borders, and are therefore glad to find the matter dealt with in the current issue of the "R.H.S. Journal." It is there stated that "the best results outdoors are obtained from old plants that have been blooming through the previous winter and spring: they should be planted out at the end of May, on a sunny but sheltered border, not cutting them back at all, but putting them out just as they are. For a time they will appear very shabby, and be somewhat of an eyesore, but in a very short time new growths will be made which will produce an abundance of blossoms during the late summer and autumn. The soil for the plants ought to be deeply dug, say eighteen inches deep, adding a liberal supply of well-decayed manure or well-rotted leaf soil; and if the soil is stiff and heavy, coarse sand or road grit may be used to keep it porous and warmer. If the weather is very dry after planting, copious supplies of water should be given until the plants are well established, and a good syringing occasionally after hot days is very beneficial. Later on, when the plants are established, frequent hoeing to keep a loose surface is called for, as it not only conserves moisture, but the plants thrive the better for it, and respond much better to this treatment than to feeding with chemical or natural manures. We should advise that no manure of any kind be given to the plants after putting them out in the border, as it tends to the production of foliage at the expense of the quantity and quality of the flowers."

The Stone Seat in the Kew Arboretum.—Inquiries are from time to time made, says the "Kew Bulletin," as to the stone seat among the beech trees towards the southern end of Kew Gardens. The seat, which was placed in the position it occupies in February, 1904, was presented to Kew by a group of friends of the late Miss Cassell, who was for twenty years lady superintendent of the College for Working Women. It was provided as a memorial by past and present students of the college, to express their sense of Miss Cassell's unique personality. "That it should be a resting-place in sight of sky and trees in such an altogether beautiful place as Kew, and within reach of working Londoners, seems, in accordance with her life spent in working for the working poor, what she would like," is a sentence which occurs in a letter on the subject, written by Mrs. Maclehose, at whose instance the memorial was erected. In the same letter Mrs. Maclehose says: "We should like some motto or words carved on it, but no obviously memorial words—no names." The actual inscription is: Life—the gift. Let us take hands and help this day we are alive together. Look up on high and thank the God of all.

BUNCH PRIMROSES.

We often hear it said that no garden is complete without this, that, or the other flower, and it is certainly true that there would be a sense of something missing if we went over a garden in the spring and saw no members of the primrose family. The single and double solitary-flowered primroses of various colours, as well as the polyanthuses, are very old inhabitants of our gardens, but the primrose-polyanthus is of comparatively recent introduction, though now well-known everywhere. The flowers in various shades of crimson, pink, yellow, mauve, and white, coming up at first as ordinary solitary-flowered primroses, but later on in polyanthus, or bunch-flowered form, the individual flowers suffering little, if any, diminution of size by being bunched. It may be said by some that they will grow anywhere without any difficulty, the plants lasting for years, and reproducing themselves from seed. This is by no means universally true, as I know only too well from experience, and many, especially those on the London clay, find that the choicer sorts, if not all, need some little cultivation.

The foliage of the primrose family, when well grown, is very beautiful, and forms a pleasing relief to the flowers, and it would be worth while giving them good cultivation for this alone. A soil that is both rich and moist produces the best results in flower and foliage, and, if in partial shade, all the better. It does not matter if they are not exposed to full sunshine in the summer. If we study the situation in which the primrose grows in a wild state, we shall be helped in choosing positions for the bunch primroses in our gardens. Early in the summer, and even in July, we are usually told that "now is the time to sow" seeds of various things, and among them primroses, and so it may be, but seed sown at that time will not produce flowering plants the following spring. The earlier the seed is sown the better, February being the best month. Heat is not necessary, perhaps not advisable, and I always sow the seed in pans and set them in an unheated frame in February, and in a month or six weeks, according to the character of the season, they are up. They are very slow in development above ground at that stage, though they are making good roots, and they should be ready to prick out in a rich bed of soil in partial shade sometime in May, putting the seedlings six inches apart, and keeping them moist, if the weather is dry, until they are well established. Seed may also be sown in the open in April, but if choice seed has been obtained—and it is advisable to purchase the best—it is better to obtain the maximum number of seedlings possible by careful raising, and we are not likely to have too many if the strain is good. Some save their seed from selected plants, and sow it as soon as ripe in a nursery bed, pricking out the young plants early the following spring. Very good plants are obtained in this way under favourable conditions, but if the situation or climate is not favourable, many of these, probably the best varieties, will come to grief during the winter.

Though the young plants will appear to be making little progress most of the summer, they will go ahead in September and early in October, making fine plants for putting out in their flowering positions—along the margins of shrubberies and nut walks, in beds, grouped among the perennials in the mixed borders, etc., not forgetting their use in pots. Though they may be successfully moved at any time in the spring, even when in bloom, the best results are obtained if the plants are potted up in October, made firm in good, rich soil in thirty-twos, or, in the case of extra fine plants, twenty-fours. They should then be put in an unheated frame for the winter, and given weak liquid manure occasionally, increasing the frequency and the strength as spring approaches, when the plants will grow most luxuriantly, producing large dark green leaves, with fine trusses of blossom, and making most decorative objects for the house. If they are brought into a cool, not a cold house, in January, they may be obtained in flower during those chilly weeks of early spring when everything is ready to come out, but nothing does because of the biting winds, and there is no time when we appreciate them more. We too often see primroses dotted about in the mixed borders, but their effect is lost there, as they are not intended by Nature for such use, being usually found in a wild state growing more or less closely together.

The method of propagation adopted must depend upon the suitability or otherwise of the soil and situation. In some gardens plants will last for several years without being touched, whilst in others they are of little use after the first year. When this is the case, there is nothing for it but to raise a stock from seed every year. Where primroses are indigenous in the neighbourhood, a better way is to gradually build up a stock of the finest varieties, either by buying plants of the best named sorts or by sowing some choice seed every year, and retaining the best varieties for propagation by division. In suitable soils this latter process is a very simple one, though with me the plants obtained in this way are never so good as those raised from seed. As soon as the flowers of the plants which it is desired to propagate have lost their beauty, they should be taken up and be cut into pieces with a sharp knife. Every piece with any root attached will make a flowering plant for the following season. Whether one cuts them up into the smallest pieces possible, or just divides the old plants enough to give them room for proper growth, depends upon the scarcity or otherwise of the stock, though small portions with a nice piece of root properly belonging to them will make much stronger plants than larger pieces with less root.

ALGER PETTS.

Psychotria (Gloneria) jasminiflora.—This is one of the whitest of all white flowers that I am acquainted with, and at the same time it blooms with great freedom at this season of the year. It is a native of Brazil, and therefore needs the temperature of a stove for its successful culture. This psychotria forms a neat-growing evergreen shrub, clothed with ovate leaves about three inches in length. They are smooth and bright green on the upper surface, and of a glaucous whiteness underneath. The flowers, which very much suggest those of a bouvardia, are borne in compact terminal clusters, and, as above stated, they are of unusual whiteness. This psychotria needs careful attention, particularly in the matter of water, as the roots are somewhat delicate, and are quickly injured by an excess of moisture. Cuttings of the half-ripened shoots strike root readily if they are put into pots of sandy soil in a close propagating case. The "Kew Hand List" contains seven species of psychotria, but, except this, they are almost unknown. One kind that often used to be met with some years ago is P. cyanococca, whose flowers are uninteresting, but the berries which succeed them are bright blue, and decidedly ornamental. This last-named species is a native of Nicaragua, and was introduced by the late Dr. Seemann about forty years ago.—W. T.

NEW PLANTS, ETC.

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ODONTOGLOSSUM THEODORA.

This is a remarkable, as well as a beautiful odontoglossum, and one of the Rosefield successes. It is the result of crossing O. Rossi rubescens with O. triumphans. The flowers are very neat, of fair size, and pretty colouring. The sepals and petals are heavily barred and blotched with deep red-purple over a yellow ground, the latter showing between the dark colouring, and also at the tips of the petals. The large lip is prettily frilled, white, with a purple tinge, and a yellow crest behind the semicircular red-brown blotch. F.C.C., R.H.S., April 20. Mr. De Barri Crawshay, Rosefield, Sevenoaks.

ODONTOGLOSSUM LOOCHRISTIENSE AUREO-FULVUM.

In this variety the bright yellow of the sepals and petals show up the deep, rich red-brown blotches and bars finely. The lip is white, with a few brown spots, and a yellow crest. The flowers are of excellent shape, and the variety is very distinct and attractive. A.M., R.H.S., April 20. Sir Trevor Lawrence, Bart., Burford Lodge, Dorking.

CATTLEYA ROBERT DE WAVRIN.

A large-flowered, handsome hybrid between C. Schroderæ and C. Schilleriana. The broad white petals are faintly tinged with rose, as also are the sepals. The lip is deep rosy-mauve, with a yellow throat, and some dark veins at the base. A.M., R.H.S., April 20. Lieut.-Colonel Holford, Westonbirt, Tetbury.

LÆLIO-CATTLEYA GOLD CREST.

A very beautiful bright-yellow orchid, derived from the intercrossing of Cattleya Schroderæ and Lælia Cowani. The blooms are of moderate size, borne freely in an erect spike. The colour is clear bright yellow throughout. A.M., R.H.S., April 20. Lieut.-Colonel Holford, Westonbirt, Tetbury.

EPI-LÆLIA LIONETI.

A distinct and curious hybrid between Lælia purpurata and Epidendrum atropurpureum. The flowers are bright purplish rose, carried in an erect spike. A.M., R.H.S., April 20. Messrs. Charlesworth and Co., Haywards Heath.

DAFFODIL QUEEN OF THE WEST.

A magnificent clear golden-yellow daffodil belonging to the Ajax, or large trumpet group. The flowers are large, carried on fine stems, and the variety is sure to become popular for market. F.C.C., R.H.S., April 20. Messrs. Walter T. Ware, Lim., Bath.

BOUGAINVILLEA ROSA CATELINA.

This handsome bougainvillea probably possesses a strain of B. speciosa in it, for, as yet, it has not flowered in a small state. It is very beautiful, and, from its showy rose, pink-shaded bracts, all the magenta-purple that spoils B. glabra from a decorator's point of view, has been eliminated. The variety was found at Las Palmas, and appeared to be the only one of its kind in the Grand Canary. F.C.C., R.H.S., April 20. Mr. G. Davison, gardener to Colonel Petre, Westwick, Norwich.

PRIMULA FORRESTII.

This new primula has been already referred to, and figured in these pages (p. 325). It comes from a considerable altitude in Yunnan, and has proved hardy in this country. In old plants the root stocks grow to a considerable length, but the plants shown were very neat, and in quite small pots. The flowers are yellow, but the shade varies almost to orange, and they are sweetly-scented, as are the green leaves. The style of the plant is suggestive of a strong-growing, large-flowered cowslip. F.C.C., R.H.S., April 20. Messrs. Bees, Lim.

SAXIFRAGA DECIPIENS HYBRIDA GRANDIFLORA.

A very effective mossy saxifrage, growing about four inches high, and carrying a great profusion of deep crimson flowers. The mossy foliage and the deep-hued stems are further attractions. A.M., R.H.S., April 20. Mr. J. Kitley, Bath.

AURICULAS.

Admiration.—An effective flower of the grey-edged alpine type, with a clear pale-yellow centre. A.M., R.H.S., April 20. Mr. Jas. Douglas, Great Bookham.

Claud Halcro.—A beautiful alpine variety with crimson and bronze-shaded segments surrounding the clear yellow centre. A.M., R.H.S., April 20. Mr. James Douglas, Great Bookham.

Ulleswater.—A purple alpine auricula with creamy-white centre. A.M., R.H.S., April 20. Mr. Jas. Douglas, Great Bookham.

Robert Bruce.—This alpine variety has a pale-yellow centre, and greyish segments. A.M., R.H.S., April 20. Mr. Jas. Douglas, Great Bookham.

HIPPEASTRUMS.

Gracchus.—A splendid flower, large and shapely, and of an intense and deep crimson colour throughout. A.M., R.H.S., April 20. Messrs. Jas. Veitch and Sons, Chelsea.

Pinkie. — A beautiful variety, heavily shaded and veined with rose over a white ground. Fine in form, size, and substance. A.M., R.H.S., April 20. Mr. A. Chapman, gardener to Lieut.-Colonel Holford, Westonbirt, Gloucester.

CARNATION LADY COVENTRY.

This is one of the very finest of Malmaison carnations, as it combines fragrance with immense size and splendid colour. The variety grows well and flowers freely, and a plant in a 3in. pot carried one grand bloom. The colour is deep crimson. A.M., R.H.S., April 20. Messrs. W. Cutbush and Son, Highgate.

ROSE MARECHAL NIEL.

The almost entire absence of this rose from ordinary gardens is, I fear, a proof of its waning popularity. Nowadays, varieties are preferred that give double the number of blooms and little trouble. Difficulties common to the culture of this old favourite are shunned rather than tackled. The finest blooms for size, form and colour that I ever saw were the produce of standards growing on the ordinary hedge briar, planted at the foot of the southern side of a mansion eight miles north of York. I have occasionally seen fairly good blooms on outside trees in the south, but never saw a desirable full crop.

I cannot but think that soil has an effect upon the growth, or why should we see such good results in various parts under glass, and from stocks which some think quite useless? For instance, plants growing upon their own roots will give all that is necessary in some gardens, while in others it is the reverse. I think, upon the whole, the best general results are obtained from plants worked on the ordinary briar, especially if the stock was, and is, healthy and vigorous. It is useless to employ old hide-bound stocks; we want vigour.

As to the principle of close pruning after flowering, with a view to getting growth for next season's flower crop, the bulk of those who grow this rose for profit, practise that plan, cutting back to within a few inches of the base. Of course, there is still another reason why this rose is not so much grown, i.e., owing to its flowering but once in a season—nowadays it is continuity in flower production that makes favourites of one sort over another; and, again, Maréchal Niel has rather short flower stems, which all too often are weak, allowing the flowers to droop in vases if they are not artificially supported, and seldom can we obtain them with long stems, such as are nowadays favoured, as Liberty, Mrs. John Laing, Mdme. Abel Chatenay, and such like.

E. Molyneux.

OUTDOOR CULTURE OF PITCHER PLANTS.

I have been asked to give a short account of the manner in which the North American pitcher plants are grown in the open at Leonardslee. I would first mention that these plants have been established for some years in the gardens here, and we continue to raise a few from seed every season, and as the plants bloom freely they produce a beautiful effect when in bloom. The flowers are bright crimson, and Eriophorum angustifolium, growing freely between the plants, gives a contrast that is very pleasing, these being white. There are growing here also good examples of Darlingtonia californica, a distinct and handsome species. The darlingtonias and sarracenias occupy large beds that are in a moist position, fully exposed to the sun throughout the day, and they thrive well under these conditions. In the beds also are the charming sundews Drosera rotundifolia and D. longifolia.

In the cultivation of outdoor pitcher plants a warm position should be chosen, and this should be fully exposed to the sun, and sheltered from the cold winds. A position facing due south is the best, and it must be a damp one. Where there is water coming through the soil, such as one often finds where rushes, etc., grow freely, will be suitable. There must not be too much water, or the plants may be washed away in winter, nor must it become dry in summer, as, in the latter case, the plants will quickly die. In preparing the ground, the top spit of turf must be taken off and laid grass downwards; then prepare some good peat and sphagnum moss, which should be chopped up and laid to the depth of 5 or 6in. over the ground in which the plants are to be grown. They should then be fixed firmly with a mixture of the same material, pressing the sphagnum well up to the collar of each one. The plants should be protected with some branches to screen them from the sun and wind until growth has commenced.

They are planted at Leonardslee in eight or ten positions; and some of the specimens have from 100 to 200 pitchers. I have sown some in a small ditch, with Pinguicula grandiflora, where they are growing. Of course, they must be protected from animals or anything likely to run over them. Mice are very fond of nibbling them, so that a sharp look-out is necessary and traps be set.

I would mention that the sarracenias make a beautiful display of colour through the dull months of the year; during the months of November, December, January, and February, they are simply lovely, and form a great attraction. The seed vessels are taken off during October, when seeds are generally ripe and ready for sowing; the seeds may be sown in a box or pan, and kept in a cool frame, or they may be sown on the spot where they are intended to grow. In either case, they must be kept moist; if they are sown on chopped peat and sphagnum, it would be well to place a little more sphagnum over the seed, as the seedlings would push through this covering quite easily. The grower must have patience in raising these plants, but, as a rule, the seedlings make their appearance in three or four months.

W. A. Cook.

Leonardslee Gardens, Horsham.

USEFUL GUIDE TO GARDEN WORK.—A handy all-round guide to work in the garden month by month is the Gardening Year Book, by George Gordon, V.M.H., price 1s. net from booksellers, or by post 1s. 3d., from W. H. and L. Collingridge, 148 Aldersgate Street, London. The book is freely illustrated and the cultural details thoroughly practical and up to date.

PREPARATION OF BEDDING PLANTS.

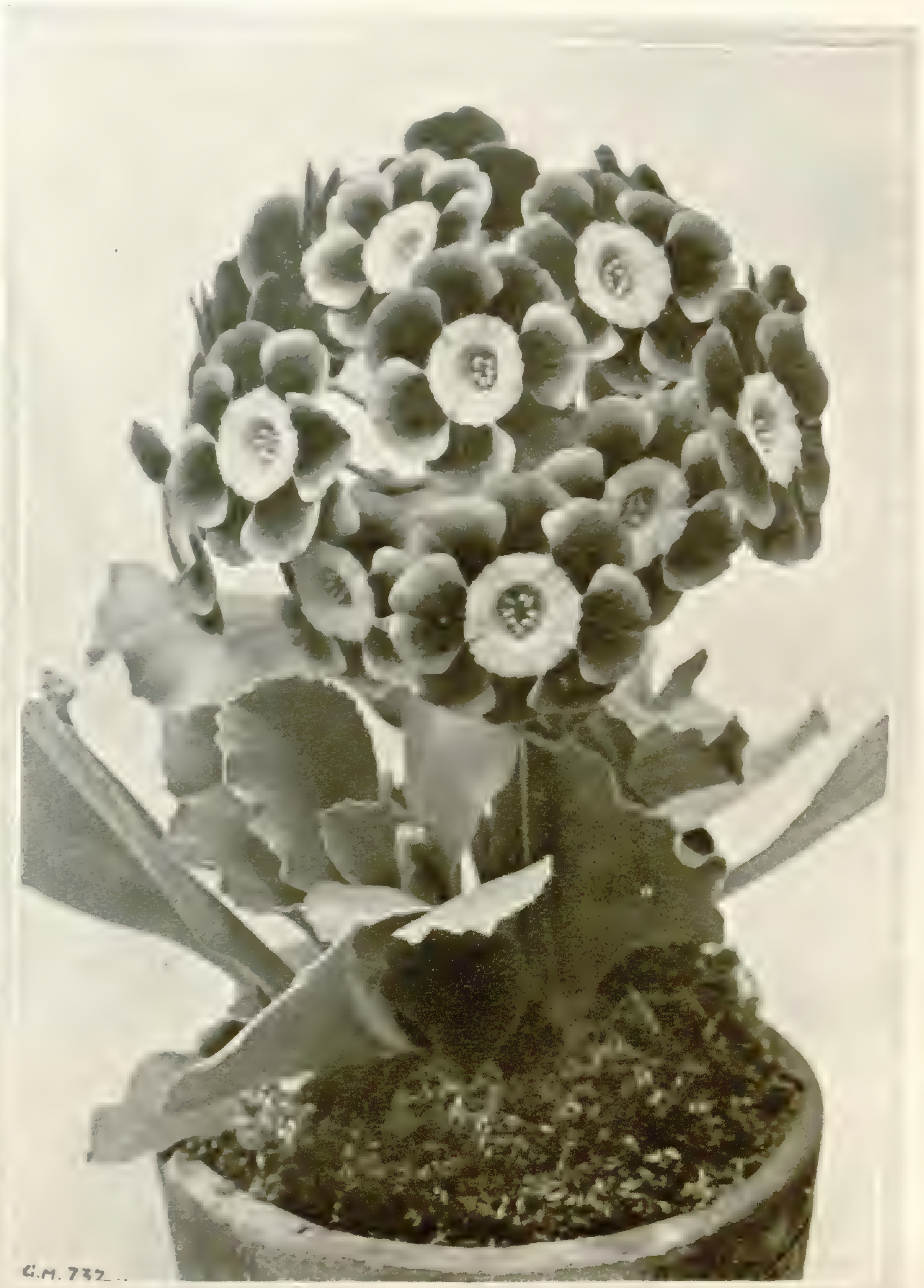
Plants, whether propagated in autumn or spring, should be well hardened off in order to ensure their success after being planted. How often do we see that starvation is substituted for hardening off. It is not a very uncommon thing to meet with calceolarias, pelargoniums, etc., in small pots, exposed to the full blaze of sun, and all the influence of cold, drying winds in April and May, with the view of making them hardy. Under such treatment the plants become stunted and wiry, and when planted out in such a condition they stand still a long time before they commence to grow freely. The tissues of the plants are so dried up and contracted that midsummer passes before they commence to make a really healthy growth. If, instead of exposing small pots to the full sun and wind for weeks, they are shaded during the hottest part of the day, or else turned out of their pots into beds of light, rich soil, they would present a very different appearance by the middle or end of May.

When the accommodation for plants is not far from the flower garden, I would suggest that those which have been potted off should, as soon as they have filled their pots with roots, be turned out of these, and planted in frames or temporary pits in soil composed of equal parts of loam and leaf-mould. There are great objections to matted balls in tiny pots, and when plants are in pots that are less than three inches wide, and the same in depth, the turning out system that has been recommended above obviates the evil arising from small pots, and, at the same time, saves trouble in watering, and produces far finer plants. Besides all this, it admits of the necessary amount of exposure for properly hardening off, without stunting and starving the plants. Even under more favourable circumstances they should not be exposed to cold, cutting winds, even though accompanied with bright sunshine, the effect of which is, as already referred to, to dry up and stunt their growth. It is much better during such weather to keep the lights on, merely giving air to prevent the opposite extreme.

A good plan in the case of those who have to turn out plants from under the protection of glass during the cold winds of spring, is to stretch some strong calico tightly about a foot above them, and let it remain so constantly. The plants obtain a fair share of light through such a covering, while they are protected from drying winds, and, if tightly stretched, the calico throws off rains also. Any additional night-covering required can be applied over it.

Throughout the month of April and in the early part of May bedding plants managed in this way usually make rapid progress, and an evil quite the opposite of stunting must be guarded against, namely, that of the stock becoming drawn and weakly. To prevent this freely expose during fine weather, and when the coverings are put on at night, do not forget to provide for the admission of a little air. The soil should be kept in a medium condition of moisture. Just enough water to keep the plants steadily growing and healthy should be given. The quick-growing things, such as calceolarias, etc., should be frequently looked after, and stopped, not allowing them first to make long, straggling growths, and then pinching severely back, but be regularly attended to, and have merely the points of the growth pinched off. Every sign of green-fly must be checked by fumigating, for if once this insect is allowed to overrun the plants they rarely ever thrive so well afterwards. When it becomes necessary to move bedders from the protection of glass, etc., to temporary places, where all the protection they can receive is that of being covered with mats or canvas, they should be well established and hardened off previously. The position chosen for such temporary protection should not be shaded, although well sheltered. If placed in a position where they get no sun for weeks before being planted out, they become tender and weakly, and when ultimately planted out in the full sun, the foliage invariably becomes scorched, and they lose their leaves and are sadly checked. This is more especially applicable to pelargoniums of the variegated class, but to all it is very injurious. T. B. FIELD.

Ashwellthorpe, Norwich.



NEW ALPINE AURICULA, CLAUD HALCRO.
Raised by Mr. J. Douglas, and received an Award of Merit at R.H.S. Meeting, April 20. Flowers rich crimson, shading to old gold. (See New Plants.)

Tydæas.—Though the quaintly marked flowers of these pretty gesnerads may be had throughout the greater part of the year, at no time are they more appreciated than when most summer flowers are on the wane. A varied selection may be obtained from seed, and, on the other hand, there are some very striking named varieties.—K.

EARLY LETTUCES.

The most important of all the salad plants grown in English gardens are the lettuces. It is not only in this country that the best seed houses have turned their attention to highly selected types, but in the United States and on the Continent much time and trouble is yearly spent upon the lettuce crops. It is quite bewildering to study some of the French catalogues, so lengthy are the descriptions of the numerous varieties of lettuces.

Some three years ago I grew upwards of sixty stocks of the Cabbage and Cos varieties; all were sown upon the same day, and a very instructive trial it gave, because it showed very plainly that there are varieties suited for producing crops in their own respective seasons, which, out of that season, are out of character and of no commercial value.

My object now is to say a few words about lettuces for late autumn, winter, and spring use, and I will give those I have found suitable for the purpose in a foggy town atmosphere, and these I am sure may be seen to greater perfection in a country district, providing the accommodation is there for growing them. Earliest of All, Commodore Nutt, Improved Tom Thumb, Early French Frame, Golden Ball, and Golden Queen, were amongst the best cabbage forms; and Dwarf Perfection, Little Gem, Verte Maraichére, Grise Maraichére, and Blonde Maraichére are very good Cos forms. The three latter may be described as taller Perfection, White Heart, and Peerless Cos varieties.

All the cabbage varieties named are early ones, but it has been found in at least one case that those that are naturally the earliest under open-air treatment are not so when sown in the autumn and subjected to frame cultivation. Late September and October sowings have proved that highly-selected stocks of Commodore Nutt and Tom Thumb heart more quickly than Earliest of All, which matures so quickly when sown in the open garden. In my own particular case, I still find Golden Ball hard to beat, and, grown in a large house, heated frames, or manure frames, I still get the best commercial returns from it.

I have found that for a winter-growing crop the frames heated by hot-water pipes have given the most satisfactory returns, as damp is more easily expelled, and mildew is less troublesome. For producing plants to transplant into newly-prepared frames, the bell-glass produces the most satisfactory results, and it is wise to make frequent sowings from the end of September up to November. These autumn sowings require no special treatment, in fact, the hardier they are kept at this stage the better. After Christmas, when gentle hotbeds are formed, with a few inches of rich mould placed upon them, and lettuces are transplanted from the bell-glasses, growth is soon active, and the produce matures with amazing rapidity.

A WELL-FURNISHED BED OF HYACINTHS, HYDE PARK.
The variety is the single light-blue Priestley.

There are a few simple but important points in the management of lettuces for winter and early spring use. Firstly, when the seedlings are large enough, transplant them thinly under other bell-glasses. Secondly, the soil in the frames must be within a few inches of the glass. Thirdly, when transplanting take care not to plant deeply, merely covering the roots is all that is required, for if the plants are sunk into the soil close to the leaf base, many of them will damp off. Our best results during the winter months, as before stated, have been from frames heated by hot water, and some of these are now (mid-April) producing their third crop, but this is only accomplished by having successive batches ready for following on as soon as others are cleared. The last batch is now, in fact, carrying two crops, cabbage and cos varieties together. The latter type is unresponsive for very early use, but, with brighter days during March, they move rapidly. All my lettuces grown in heated frames have had no manure for bottom warmth; they are growing in rich material made by mixing one part of old hotbed manure with one part of ordinary garden soil, which is light and sandy.

Those lettuces growing under bell-glasses at this season will require a slight shading during the hottest part of the day, or the glasses may be lightly smeared with whiting and milk made into a thin wash. I have found the bell-glasses most serviceable during this backward season in forwarding other crops; in fact, the uses they may be put to are almost endless and are worth recording. CHARLES FOSTER.

FRUIT PROSPECTS.

The winter we have just passed through has been a long and cold one, and trees are slow to unfold their leaves and blossoms, but the lateness of the spring is not without its compensating reward, as the flowering period of our fruit trees, thus retarded, is less likely to be visited with biting winds and frost. As a result of the lateness of spring, we can count with more confidence on a good fruit crop than would otherwise be the case. This year, too, is remarkable for the amount of blossom on fruit trees and flowering trees and shrubs. Even Prunus Pissardi, which is usually grown for its foliage, is wreathed in masses of its pale pinkish-white blooms, and espalier and wall fruit trees are producing wreaths of their charming flowers.

This condition of things I have observed most marked in gardens where the soil in which the trees are growing has been liberally supplied with phosphates and lime, and the early pinching method of culture has been in practice. In one instance, the trees have shown a tendency to produce nothing but fruit buds. Of course, the growths cut hard back at the winter pruning will, a little later, push out shoots, and furnish the plants with the necessary leaves to manufacture food to meet the demands of the crop. In order to lessen the strain on plants in this floriferous condition, the flowers should be thinned, or, better still, the buds rubbed off before they have expanded. This will prevent a waste of the carbonaceous matter, which flowers have the power of throwing off. The flower buds to remove are the worst-placed ones and those likely to get the least of the sun. The older and more feeble trees will benefit most from this kind of treatment, as they are less able to bear the strain on their resources occasioned by the developing and supporting a superabundance of flowers and fruit. Besides conserving the plant's vigour for the purpose of maturing a marketable sample of fruit, it also assists the tree in resisting the inimical effects of cutting winds and frosts should they prevail at any time during the flowering period.

In the event of the genial weather we are now having being prolonged throughout the flowering season, very heavy crops may be looked for, and these, as well as the flower buds, will have to be thinned, if decent sized fruit is desired. When thinning fruit, we are apt to aim at accomplishing too much by saddling the trees with more work than they are equal to, and when it is late learn the fact. In this case a few applications of sulphate of ammonia, at the rate of 1½oz. to the square yard of ground in showery weather, will do much in the way of assisting the plants to complete their task.

It is only by adapting conditions to meet prevailing circumstances that we are able to accomplish much with our crops, and in connection with fruit growing, we have to reckon not only with the trees, but with the soil and climate, and seasons as well; therefore, we have to look ahead, make our deductions early, and be ever watchful, and ever ready to supply the fostering aid to attain our aims. PEDESTRIAN.

Pentstemon Newbury Gem.—Mr. T. Smith (on p. 260) draws attention to Newbury Gem as one of the lesser known pentstemons. By some it is thought to be new, or comparatively so, but such is not the case, as when calling on Mr. Shingler, at Melton Constable, in Norfolk, nine years ago, he was using it largely as a bedding plant, and said he had known it intimately for forty years. In any case, it is a desirable plant, flowering profusely and continuously over a lengthy season. It is of easy propagation, and, what is important, is quite hardy, even in such winters as that just past. I have had plants stand for five years without being once replanted, and annually give a full crop of flower.—E. M.

Cauliflowers.—Cauliflowers are less hardy than cabbage, and while both are indispensable in every well-ordered garden, the former is regarded the greater delicacy, while it also entails considerably more expense and attention in forwarding and maturing the crops. The earliest sowings made under glass will have now advanced to the stage for planting out; careful hardening off is imperative, otherwise a severe check may follow, and thereby cause the plants to produce heads prematurely. Rich soil worked to a substantial depth, and preferably on a warm border at the foot of a south wall, will largely accelerate the earliest crop in the open. Any light protection in the way of spruce tops or light hurdles laced with the same material will assist in forwarding the growth, both by conserving the sun's heat among the plants and in breaking up cold currents of air. Varieties that produce medium-sized heads are most reliable for early use, such as Snowball, First Crop, and Early Erfurt, to be followed by Early London, Dwarf Mammoth, and Eclipse, while an April sowing of Walcheren and Autumn Giant will continue the supply of this vegetable till the end of the year.—THOMAS SMITH.

BULBS IN THE LONDON PARKS.

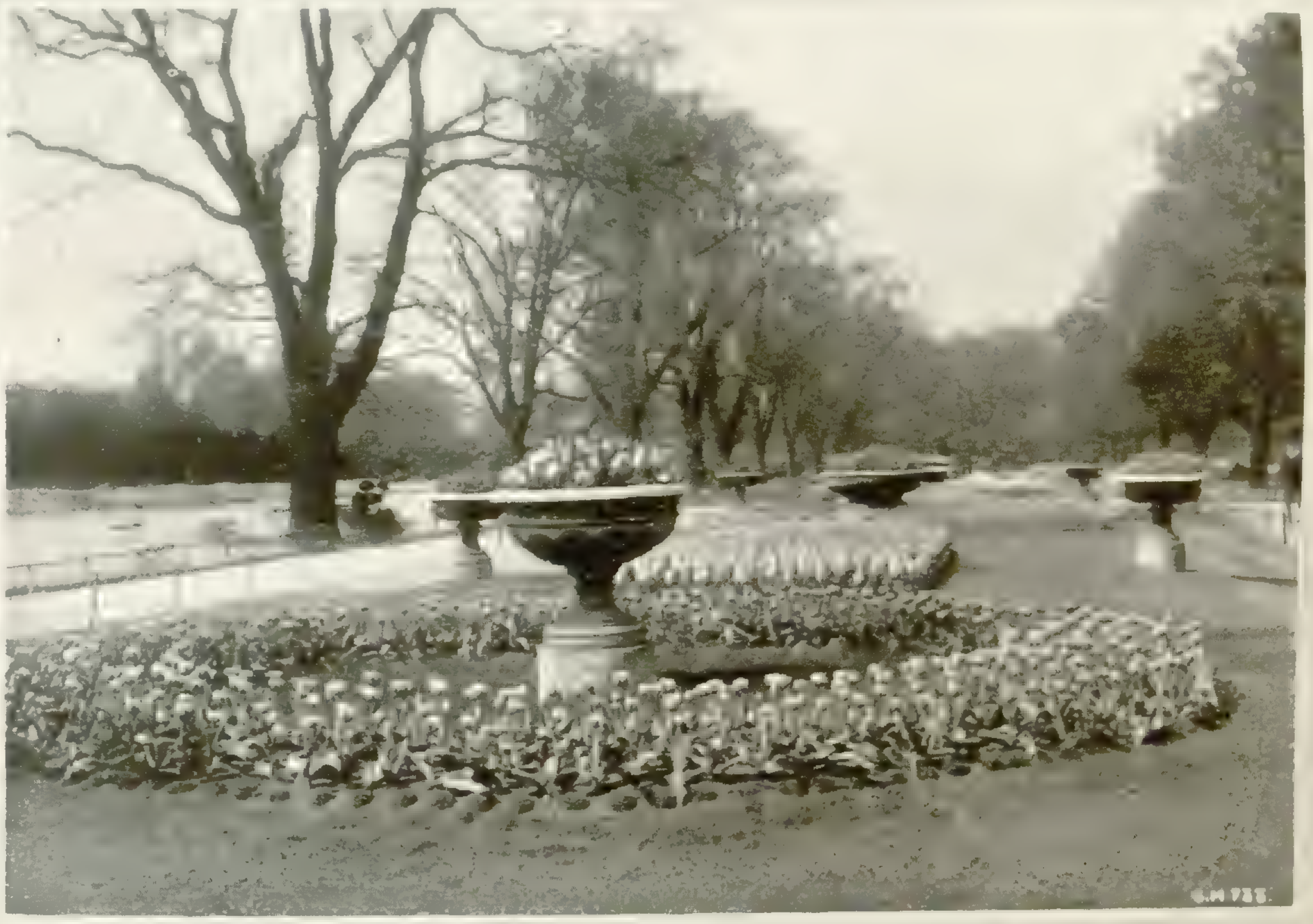
At the present time the Royal and other parks within the metropolitan boundaries are bright with the colour of the flowers of daffodils, hyacinths, tulips, and other subjects that yield of their charms in the season of spring, and the humblest of London's dwellers may enjoy displays of flowers equally remarkable for their magnitude and beauty. It matters not in which direction we may turn, there are flowers in plenty, and in association therewith evidence of an appreciation of their beauty. Those responsible for the management of the parks under the direction of the London County Council have not been wanting in zeal in providing displays of bulbous plants for the entertainment of visitors; and, whether we journey north to Finsbury Park, south to Dulwich Park, east to Victoria Park, or west to Battersea Park, we find that the endeavour of the respective superintendents to arrange the various bulbs in such manner as to give pleasure to visitors, and afford object lessons of much value to those engaged in horticultural pursuits, has been eminently successful.

The Royal parks are not less remarkable for their displays of bulbous flowers than are those under the management of the officials of the London County Council, and in no season have their traditions been more worthily maintained than in the one through which we are now passing. In the Hyde Park display Mr. Gardiner has fully maintained the high reputation he obtained as the result of the success he achieved at Hampton Court, and those who have annually to provide arrangements of spring-flowering bulbs, and are not far distant from London, should endeavour to visit the park. The principal effects are those produced in the enclosures alongside Park Lane, which forms the eastern boundary to this park. Here, as befits the surroundings, the arrangements are characterised by boldness, and from whatever point of view selected, the effect is rich and tasteful. The flowers chiefly used are daffodils, hyacinths, and tulips, and in some cases they are arranged separately, and in others two kinds have a place in the same bed. But in no cases do the beds contain mixtures of the ordinary type. In some cases the useful white bedding tulip is associated with the Empress daffodil. In other beds dark tulips may be seen in association with such strong yellow daffodils as Emperor and Glory of Leiden. Again, yellow and crimson wallflowers are associated with both daffodils and tulips, and as a harmony of colour is at all times obtained, these combinations are very pleasing.

Some of the fine beds of hyacinths consist wholly of one variety, and one of these is herewith illustrated for the purpose of showing the method of planting that is adopted in Hyde Park with so much success. In not a few cases hyacinths are planted so far apart as to show a considerable area of the surface of the beds when they are in bloom, and when this happens the colour effect is not altogether satisfactory. There is some excuse for thin planting, for, owing to the small space occupied by one plant, a large number of bulbs is required for a bed of any considerable size. The variety illustrated is one known as Priestley, a single pale blue variety producing large spikes of bloom. The beds of hyacinths in which several varieties have been planted are especially attractive, and in every instance a delightful harmony of colour has been produced. Especially noteworthy is the bed furnished with Alba superbissima, Gigantea, and Gertrude, in equal proportions, and even more so, perhaps, are the beds in which the light blue and salmon pink varieties are in association.

As for many years, the principal display of bulbous flowers in Regent's Park is in the flower garden in the southern half of the park, but there are bulbs elsewhere, and the glories of the spring are in the several enclosures contiguous to the chestnut avenue which forms so distinct a feature. A portion of the flower garden is herewith portrayed, and from the illustration it will be seen that there is a wealth of flowers of daffodils, hyacinths, and tulips. In the immediate foreground is a circular band of the attractively coloured Keizerskroon which, in its colour and period of flowering, has no superior. Beyond it is a fine mass of hyacinths, which may well be taken as a model for the planting of these bulbs; and still farther on are glorious masses of golden daffodils that strongly appeal to the artistic temperament as they dance in the sunlight. There are numerous beds outside the lines of chestnuts, and these, now gay with their rich colouring, contribute liberally to the general effect.

In the arrangement of the huge triangular bed on the west side of the avenue, Mr. A. D. Webster has surpassed himself, and produced one of the most beautiful arrangements of hyacinths that has yet been made in this country. The bed is of immense size, the three sides are arranged to form gracefully flowing curves, and the surface is broken up to form a series of mounds, the higher points being several feet above the general level. The outer mounds are planted with distinct colours, and between them are large blocks of hyacinths, selected, it need hardly be said, with due regard to harmony of colour. The higher areas in the middle of the bed are occupied by strong-growing golden daffodils, which are flowering, as in other parts of the park, in the most satisfactory manner.



AN EFFECTIVE DISPLAY OF SPRING-FLOWERING BULBS, REGENT'S PARK.

Although outside the London area, the Royal Gardens, Kew, should be visited by those specially interested in spring-flowering bulbs, because of the fine examples they afford of naturalising daffodils, bluebells, etc. The formal beds devoted to bulbs are also remarkably attractive, both in front of the Palm House and on either side of the Broad Walk. G.

Acidanthera bicolor.—This bulbous plant is, botanically speaking, not far removed from the gladiolus, and has long arching leaves, and a flower stem that reaches a height of two or three feet. The flowers, which are loosely disposed on the upper part, have a long slender tube, while the expanded blooms are about three inches across. They are creamy-white, with a patch of purple at the base of each segment, and have a pleasing fragrance. This acidanthera is a native of Abyssinia, and was given a First Class Certificate by the Royal Horticultural Society in the autumn of 1896. It is certainly a very pretty bulbous plant for the embellishment of the greenhouse in its season.—W. T.

SALVIAS FOR BEDDING.

The value of salvias for bedding purposes has been clearly demonstrated in the London parks and public gardens in recent years, and the plants should be coupled with early flowering chrysanthemums for filling the breach and replacing in late summer subjects that have become shabby or flowerless.

Far and away the most effective kind is Salvia splendens grandiflora, with most brilliant scarlet flowers, and one cannot find a more striking object in the garden when in full bloom. Cuttings should be struck in warmth during March, and grown in a greenhouse until the middle of May, when they should be planted out in a sunny spot in the reserve garden. If a fair quantity of cocoanut-fibre refuse is added to the soil, and within six inches of the surface, it will be possible to lift them with a large ball of soil attached, and they will receive no check whatever on removal. It will, of course, occur to the cultivator that spraying overhead in the evenings for a week or ten days will assist their re-establishment.

The type plant, S. splendens hastens into flower at a much earlier date than the foregoing, or at any rate that is my experience, and in order that they may flower simultaneously, it is persistently pinched during the summer. A peculiarity which has been observed in this plant is that if the flower buds are allowed to remain they fail to expand during the hottest months in town gardens, while it behaves in normal fashion with the approach of autumn.

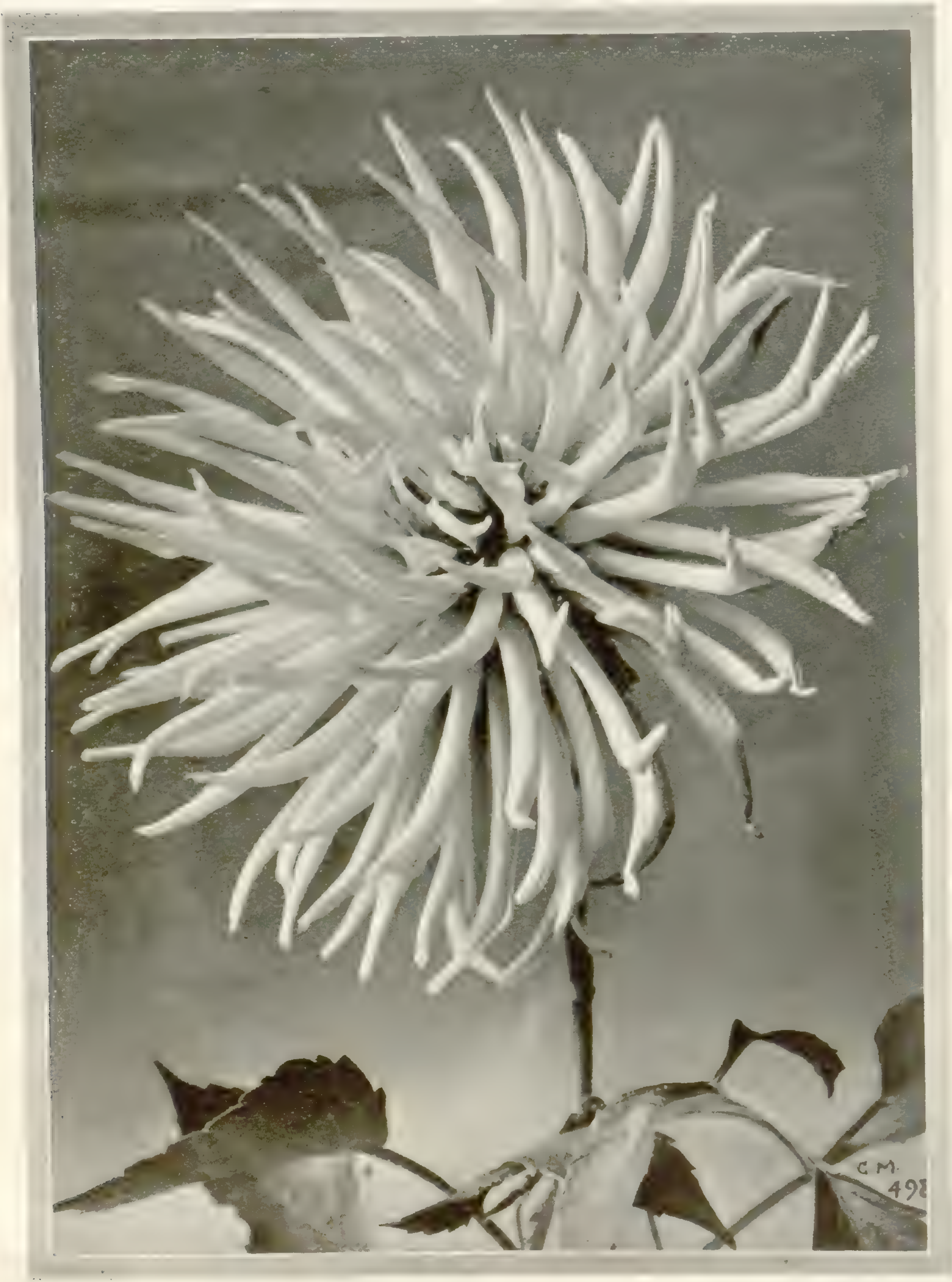
A very fine species is seen in S. Pitcheri, of a very beautiful blue shade. It should be grown in pots, and if placed in a very warm and sunny position a brave show is made by the middle of September. It associates harmoniously with early-flowering chrysanthemums. As seen in very large pots or tubs, towering up to six feet in height, it forms a splendid addition to early autumn and winter-flowering plants in the greenhouse.

Less showy, but worthy of mention and culture, is S. Bethelli with amaranth colouring; it requires the same treatment as the foregoing. The old Salvia patens should be represented in the bedding arrangements and may well rub shoulders with the deep golden Calceolaria Burbidgei and specimen ivy-leaved pelargoniums.

Walter H. Aggett.

NEW CACTUS DAHLIAS.

We are informed officially in the report of the National Dahlia Society that last year was favourable to the successful cultivation of the dahlia. I take it that means so far as the weather was concerned. I fear, however, had a census of opinion been taken from a number of growers, the majority would have reported unfavourably. I certainly have not forgotten the "overcoat" June, the hard, unkind July, and the cold nights of August, while the fourteenth of September saw the majority of my plants hopelessly destroyed by frost. I merely mention these facts to explain the paucity of the 1907 varieties at our leading dahlia exhibitions, for very few of the most promising novelties of the year were staged in good condition, and I fear it is just as likely that the best varieties of last year's introduction will not be seen prominently at our next autumn shows.



NEW CACTUS DAHLIA SNOWDON.
Raised by Messrs. J. Stredwick and Sons. Pure white.

The raiser is generally blamed for this state of affairs, but it is hardly fair that he should bear the whole of the blame; no doubt he propagates as closely as possible, for it is the only way for him to reap a reward, but I fear the buyers of novelties are far more to blame, for as soon as the new plants arrive, in common parlance, "off comes his head," to increase commercially the flowers of the earth.

What is the result? Simply that the plant we have mauled has to be hurried up to make a decent and respectable article at planting time. This operation naturally causes the plant to produce its flowers later in the season; therefore, few of the novelties are seen at the exhibitions the following year, and many of the novelties distributed get a bad name before they have time to exhibit their true form. Consequently, many really good sorts pass into oblivion in an undeserved way.

The novelties of this season cannot be described as a great advance on those produced during the past four or five years, but we must bear in mind that the advance of this section of the dahlia must now be necessarily slow, and, perhaps, in a season or two, it will follow on somewhat different lines. Beyond a doubt, we must have a better habit instilled into the plants, if they are to maintain their popularity in the eyes of the general public; and probably now that the National Dahlia Society has instituted trials, we shall have an opportunity of judging in a better way than formerly the merits of novelties. Now, we have to rely solely on the flowers we see staged. I trust also that the leading society will deal with the duplication of names which causes so much confusion at the present time, an evil that would not be allowed to exist either in the National Sweet Pea Society or the National Chrysanthemum Society. As an illustration the name Dorothy appears to have a particular fascination, for we have the name in the single section, again in the fancy show varieties, and still again in the cactus sorts. How many more Dorothies are we to be blessed or bothered with. The repetition, perhaps, is still more striking in the new garden cactus variety Brightness (Baxter), for we have already a garden cactus of this name, and of the same colouring too. Again, we have Vivid (Ware), a new one, and we have also Vivid of similar colouring in the same section already in commerce. Surely it is time the National Society took this matter in hand.

During the past year eleven novelties received first-class certificates from the National Dahlia Society, quite a small proportion of the new sorts staged, and I might add in passing, that it is now difficult to obtain the coveted award. It must be something really distinct in colouring or form to even arrest the attention of the committee. Now the whole of those so honoured last year are worthy of taking a place in the first rank, but I do not intend dealing with the whole of them, but just mentioning those that I consider the most striking.

Una (Burrell and Co.)—This is, no doubt, the most distinct "break" of the year. Delicate silvery rose, shading to white at the base, the florets are divided deeply, in fact, almost fimbriated; the general appearance of the flower resembles a head of well-curled endive.

Monarch (Burrell) will certainly make its name on the exhibition table, it is bright bronzy red, with a yellow centre, the florets are long and narrow, the whole being well built. I am informed it also possesses a fine erect habit.

Rev. T. W. Jamieson (Stredwick).—This I consider one of the best of the new introductions; in colouring it is best briefly described as yellow, deeply edged with lilac-rose. It is a flower of grand build, with a perfect centre, and as the illustration depicts, the florets are beautifully fluted.

Saxonia (Stredwick).—A colour much wanted by exhibitors, rich purple-red shaded, it is most striking, while the flowers are large, refined, and carry a high centre

Glory of Wilts (Keynes).—The deepest yellow or golden variety yet seen in this section, the flowers are large, and the form most refined.

Snowdon (Stredwick).—One would think it difficult to produce a new white variety, and doubtless the general public would describe most of them, as distinctions without a difference, but to the trained eye, the distinction can be seen at a glance, and in this one (see illustration) we have a quite distinct variety, inasmuch that it is pure white, of excellent form, and, what is better still, it has good stiff stems.

Nellie Riding (J. T. West).—This is the best of the bicolors to date; deep crimson with heavy white tips, the flowers are large and well built, will make a fine exhibition flower. It was illustrated in these pages last autumn.

Fairy Queen (H. Shoesmith).—This is best described as an improvement on Fairy, it having the same delicate florets and refined appearance, while the blooms are much larger than the older form.

Satisfaction (Stredwick). — A pleasing

shade of rose, with the centre of the flower creamy-white. The build of the flower leaves little to be desired, the florets are long, and gracefully fluted.

Wellington (Stredwick).—A bright scarlet shaded purple towards the tips, a very large flower, with a good high centre.

Royal Scarlet (West).—A really grand scarlet flower, pure in colour, the florets are long and narrow, it should make a telling bunch on any exhibition stand.

J. B. Riding.

VALUE OF GLASS PROTECTION.

I was extremely interested in the leading article on the above subject in the Gardeners' Magazine of April 10. The value of portable frames in every kind of garden can hardly be overestimated, and I have for many years proved their usefulness and advocated their increase. At the present moment, when we hear so much about French gardening, the valuable editorial remarks are to the point, and well-timed.

I am one of those who do not agree at all with the so-called French system of gardening, knowing as I do, that in the great majority of cases, especially in private gardens, it is not so much a question of being taught how to produce early and first-class vegetables, as it is of providing the means to produce them. I am fully convinced that, if better means were generally provided, we could well hold our own. Cheaply made wooden frames, in my opinion, provide by far the best and most economical method of bringing forward early vegetables under glass, and, with the aid of a small quantity of fermenting material, chiefly consisting of leaves (which are far too often wasted), the great majority of early vegetables can be brought forward far in advance of anything we may produce in the open, at a very small cost, and good prices may be readily obtained.

The great value and convenience of such frames are, that by judicious management, they may be brought into use, for one thing and another, the whole year through. The great point is that all the frames should be made of uniform size, so that the light can be readily removed from one frame to another as required, and it is also a capital plan to have at one's disposal double the quantity of frames as lights, as it frequently happens that the frame may be left with some great advantage minus the lights for some time, while the lights may be doing duty in bringing forward successional crops.

Such frames, too, as already pointed out, are useful for other branches of gardening, and it cannot be too deeply impressed upon the minds of all who are anxious to obtain the best results from their gardens, that an ample supply of frames should be provided.

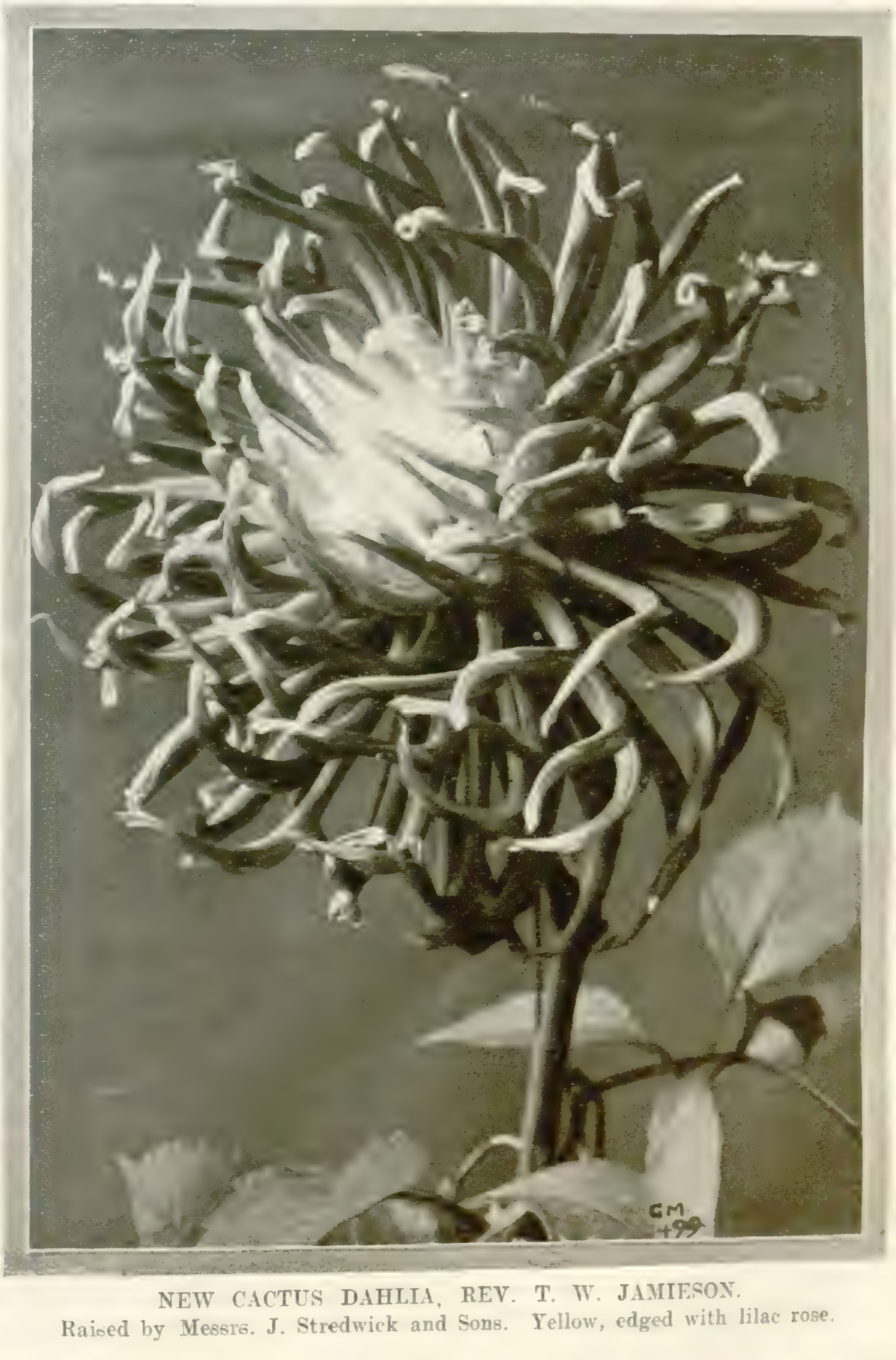
For the amateur proper, and for the cottager alike, frames are invaluable, and it is really surprising what aid these afford to the enthusiastic cottager, first of all in raising the various kinds of seedlings both for his flower and vegetable garden, and afterwards in doing duty for growing cucumbers all through the summer months. And again, when autumn approaches, these frames are carefully filled with late autumn-sown plants, and such like. I have also on several occasions seen some remarkable crops of tomatoes grown in a fairly large three-light frame, by elevating it, putting out good strong plants early in May, and training the growths up, on rods of course, putting out the plants at the bottom of the frame.

E. Beckett.

Aldenham Gardens.

SOME DARK ROSES.

There is a peculiar charm about the high-coloured rose, especially the very dark velvety maroon shades. The softer colours predominate, and we have few really good darks. I do not allude to deep reds, such as Doctor Andre and General Jacqueminot, but propose to note some of the deeper shades. Probably 95 per cent. of the newer introductions belong to yellows, reds, pinks, salmon, and coppery shades; but with all their beauties they lack the peculiar charm of dark velvety maroon, also the exquisite perfume belonging to these I will try to describe.



NEW CACTUS DAHLIA, REV. T. W. JAMIESON.

Raised by Messrs. J. Stredwick and Sons. Yellow, edged with lilac rose.

Empereur du Maroc was sent out as long ago as 1859. It is one of our very deepest maroons, approaching black as nearly as any. A good and hardy grower, fairly free blooming; not very large, but a grand lasting flower for the coat, and better early and late in the season. Géant des Batailles, the parent of Empereur du Maroc, is over sixty years old, and is still a beautiful dark. One of the very earliest to open. It is rather flat, and has a peculiarly imbricated form, somewhat like a camellia. Very dark, and as the light falls on it some of the most dazzling scarlet tints flash out from among the maroon. A short, but not a bad grower, and a capital flower to last. Eugène Appert, another seedling from the last-named, is even more intense in colour, but a shorter grower.

Grand Mogul and Jean Soupert are very similar, if not actually alike. A large and bold bloom this, very distinctly imbricated, and with such stout petals as to last much longer than most roses. It is especially good late in the season, and comes considerably darker at that time. A good grower, and freer with us upon standards than as dwarfs. Jean Liabaud possesses some darker shades than the last, but it also has more deep red. It is a grand dark, and very sweetly scented. Horace Vernet has a distinct touch of purple amongst its deep velvety crimson shadings. Not always a good grower, but quite unsurpassed where it does do well. An ideal exhibition rose, and simply gorgeous when it comes good.

Charles Lefebvre was sent out in 1862, but was followed by Paul Jamain and Marguerite Brassac. The three are synonymous, and the preference is rightly given to the first named. There is no fault in this rose; the deepest crimson, with a purplish-maroon centre. Sir Rowland Hill is a deep port wine and plum-coloured sport from this, quite distinct as a general rule, but apt to revert to the normal type more often than most sports. Even when it does go back it is a grand rose still. Victor Hugo is one of the most brilliant roses we have. Intense and fiery crimson, deeply shaded with maroon, that changes to purple with age. A grand variety, very sweet, and most reliable. It is freer from red rust than most hybrid perpetuals.

Abel Carrière is another of the old favourites, and it is worthy of note how much we are dependent upon the older introductions for our best crimson and maroon shades. This is more a purplish than a maroon-crimson; a good grower, not particularly large flowers, but lasting well. Unfortunately, it mildews more than the majority of its class. Earl of Dufferin, a rich, brilliant, velvety crimson, shaded with maroon, is grand; rather shy blooming, but a good grower, and throwing a greater proportion of flowers when in standard form.

ODONTOGLOSSUM THEODORA.
A beautiful hybrid raised by De Barri Crawshay, Esq., and awarded a First-Class Certificate at R.H.S. Meeting, April 20. Flowers heavily blotched with rich red-purple on a yellow ground. (See New Plants.)

Perhaps the most popular really dark rose is Prince Camille de Rohan, which has remained unbeaten for forty-six years. A good and free grower, both upon dwarfs or standards, every bud useful in one form or another, and the deepest velvety crimson maroon we have. Lord Macaulay, an old favourite of 1864, must not be missed even if it is not so robust in growth as one would like. Its intense colour, combined with unsurpassed perfume, should keep it in the front for many years yet.

Bardou Job, although only semi-double, cannot be left out of this list. It is the richest of crimsons, shaded with maroon almost up to a purplish-black. In flower from first to last, produces large trusses, and most handsome foliage. Maharajah is a single of immense size; a strong, upright grower, very suitable for pillars, and best early and late; one seldom gets a flower during mid-season, but they are always set among deep green clean foliage of the most substantial type.

One should be able to choose a good dark from the above, but my own choice would be the following six, in the order named: Prince C. de Rohan, Victor Hugo, Charles Lefebvre, Grand Mogul, Bardou Job, and Horace Vernet.

If you want a dark rose as a climber I do not think you can find one to surpass Ard's Rover. It is a good flower, exceptionally sweet-scented, lasts well, and is thoroughly perpetual; a great point among climbing roses. A. P.

FUCHSIAS FOR THE FLOWER GARDEN.

There are few more graceful plants than fuchsias; and few more suitable for filling certain beds in the flower garden. They are quite as hardy as the zonal pelargoniums, and will thrive and flower splendidly in somewhat shady, cool positions which are unsuitable for the zonals. It is really wonderful what a lovely display a number of old specimens will make if planted out in a partially sheltered border. If retained in their pots, the old plants may not make much progress, but when planted out they take a new lease of life, as it were, and prove very satisfactory.

We all know how beautiful standard fuchsias appear in borders, with a suitable groundwork of other kinds of plants which are dwarf growing. Small specimens, turned out of large 60's, also fill a bed very attractively; moreover, the fuchsia is a persistent flowering plant, and gives very little trouble during the summer months beyond staking and the removal of faded flowers.

In the Isle of Wight, and in many parts of the southern counties, fuchsias are largely grown, and quite a number of specimens of the hardy varieties attain to a height of ten feet, and even, in some instances, fifteen feet. I well remember being much struck with one old plant which grew against a cottage wall. It is still there, and is quite fifteen feet high.

Geo. Garner.

FAMOUS LONDON PLANE TREES.

The Wallace Plane.

Growing near the main entrance to Gray's Inn gardens is one of the largest and best developed plane trees in London. It was planted about two hundred years ago, is fully 70 feet high, and with a branch spread of twenty-five yards. The peculiarly gnarled trunk unusual for a plane tree, is about four feet in diameter at a yard from ground level, and is clear of branches for three-parts of its height. The Wallace tree is in perfect health. It is questionable whether any other grounds of equal area in London contain so many large plane trees as may be seen in the Gray's Inn gardens.

The Wood Street Plane Tree.

This famous tree, which stands at the left-hand entrance to Wood Street, from Cheapside, marks the site of St. Peter in Chepe, a church which was destroyed by the Great Fire of London. The terms of the lease of the houses at the West-end corner are said to forbid the erection of another storey or the removal of the tree. This tree, growing in a very confined position, is in a healthy condition, as is evidenced by the young growths which have been sent out since it was pollarded about three years ago. It is gratifying to know that this pruning was, unlike much of such work in London, carried out in a practical and sensible fashion, and has interfered but little with the original appearance of the tree. The smooth, well-rounded stem rises for 30 feet without a branch, the diameter being about a yard through at breast high. As late as 1845 rooks built their nests in this tree.

The Plane in Stationers' Court.

This is a magnificent specimen, though growing in a very cramped and confined position, the branches on all sides nearly touching the surrounding buildings. The specimen is in excellent health, with a large, well-formed stem; but, unfortunately, owing to "snag-pruning" the outline has been rendered somewhat unsightly. This plane tree, which grows in the Court of Stationers' Hall, Ludgate Hill, is much prized by the residents around.

The Dean's Court Plane Trees.

Though growing in a very confined and dusty position these two plane trees have attained to a height of fully sixty feet, and are healthy and well developed.

There are many other large and well-developed plane trees in London, such as those in Cavendish, Russell, and Bedford Squares, and in Lincoln's Inn Fields, all of which clearly point out how well-suited the plane is for battling with the impurities of a town atmosphere.

A. D. Webster.

Pruning Roses.—Roses are likely to be a source of worry and anxiety to growers for the best part of this season. Much of the sappy growth of last year is blackened by the severity of the past winter's frost, but with dwarf roses this is immaterial, so long as the base is sound and healthy: but it is otherwise with climbing and free-growing varieties, so largely employed in garden decoration. A wise policy will be to average the shoots, retaining the healthiest or those parts that seem capable of maturing a crop of flowers, and then head a number hard back or at various distances, so that in the event of failure with this year's crop, abundant material may be early developed, and subsequently ripened, to take its place for another year.—Thomas Smith.

CROQUET LAWNS.

The Size and Setting Out.

I have noticed from time to time that inquiries are made through the medium of the GARDENERS' MAGAZINE relative to the size and setting out of croquet lawns. As a member of the committee of the Croquet Association, may I be permitted to offer a few remarks on the subject, in the hope that they will be of service to some of your readers?

The Croquet Association, whose offices are at 47, Fleet Street, London, E.C., is now the sole authority on all matters relating to the game of croquet. This association issues annually the laws of croquet, in which are contained the size of the lawn, and settings of pegs, hoops, etc. These laws are the official ones, and, as such, are recognised by croquet clubs throughout the British Empire and on the Continent. What the Marylebone Cricket Club is to cricket, that the Croquet Association is to croquet. With a view of perfecting the game, the association annually reviews the laws and revises them when thought necessary. Everyone who has to do with the setting out of croquet lawns, and desires to keep abreast with the times, should obtain an official copy of the laws for the current year. Manufacturers of croquet plant sometimes supply a book of laws, but the purchaser should ascertain whether these laws bear the name of the Croquet Association, and also notice the year of issue. In passing, I may say without breach of confidence that the laws for 1909, with the exception of a few verbal alterations, will be practically the same as those for 1908.

The diagrams of the setting of lawns here given show that the size of a lawn is 35 yards long and 28 yards wide, hoops and pegs being arranged in sevens. In diagram No. 1, where two pegs are used, the measurements are as follows: Peg in centre line of ground 7 yards from the nearest boundary; hoops up centre line of ground 7 yards from peg, and 7 yards apart; corner hoops 7 yards from centre line and 7 yards from the nearest boundaries. Diagram No. 2, an alternative setting to No. 1, but seldom used, has a centre peg instead of two. This peg is equidistant from the corners; hoops up the centre line of ground 7 yards from peg; corner hoops 7 yards from the nearest boundaries.

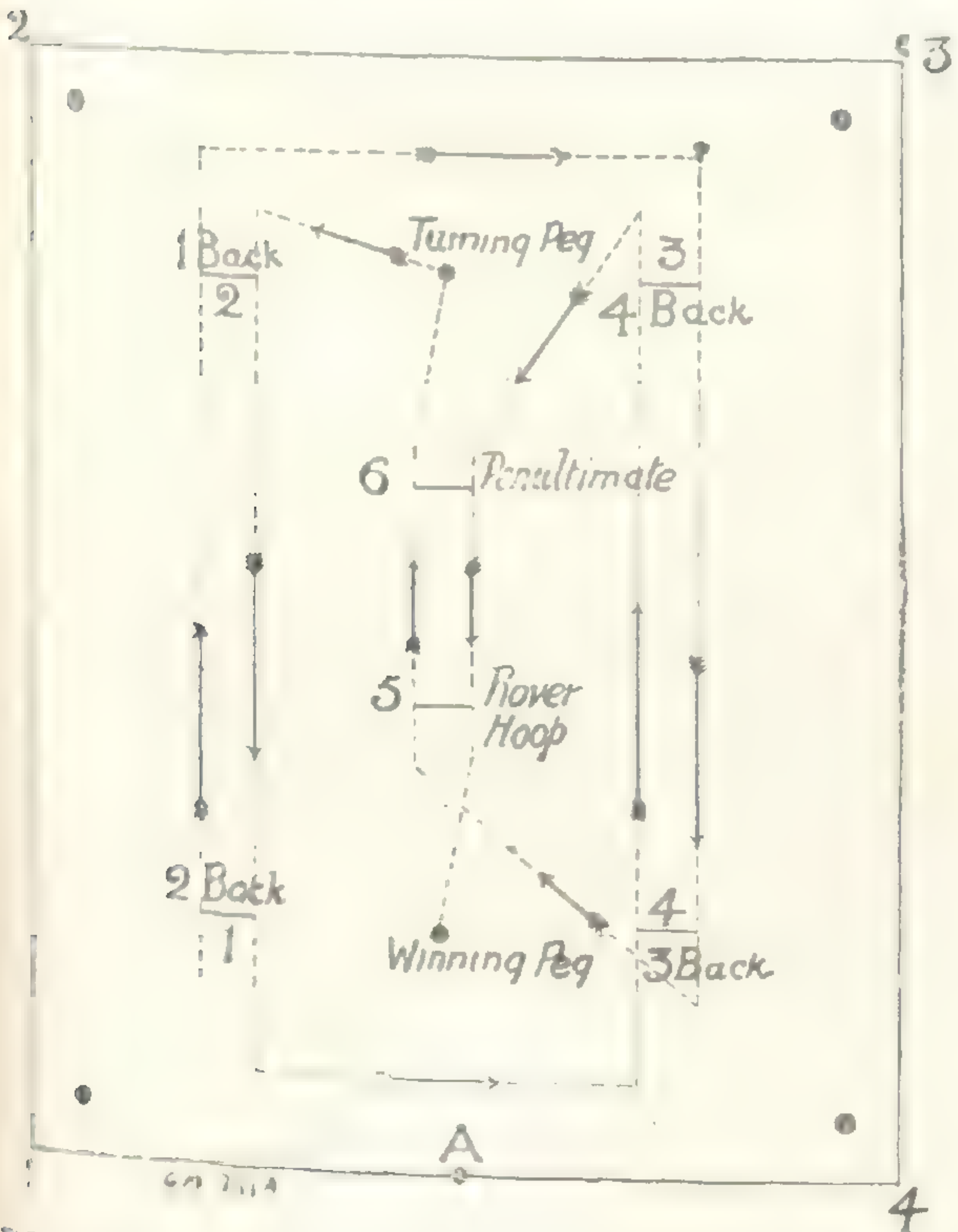


DIAGRAM OF CROQUET LAWN, NO. 1.

The marking out of the croquet lawn is very important. There must be a boundary line on all sides; the spots at the four corners should be indicated, and balk line should also be marked. This balk being "the area within three feet of the boundary, between the spot marked A and the corner marked I on diagram No. 1." A study of the rules will show that all these marks are essential to the game. In marking out a croquet lawn, size or buttermilk should be added to the whiting to make it adhere to the grass. The lines will then not be washed out by rain.

AN ATTRACTIVE CROQUET LAWN, ROCK MOUNT, STAMFORD.

If from lack of space a smaller lawn has to be provided, instead of the lawn being set out in multiples of 7 yards, the setting should be reduced proportionately, say, in multiples of 6, or, at a pinch, 5 yards. But the balk line should always be three feet from the boundary.

JOSEPH H. PEMBERTON.

Apple Lord Burghley.—This is one of the newer varieties, and is not generally known except on the exhibition table, where, however, it does not often make an imposing show. I have grown it now for a number of years, and I have come to the conclusion that in its season—February to April—its quality is second only to that of the Ribston Pippin, to which it bears some resemblance when well grown, both in appearance and flavour, being highly coloured, angular, and the height greater than the breadth. Like all very late apples, it does not come to perfection in a bad season, and always needs to be left on the tree till November. I have found the tree very hardy, and a healthy and fairly vigorous grower, but, owing to its lateness, there is no doubt that for the best results a warm soil is necessary, with as sunny a situation as possible. It is a fair bearer, producing a moderate crop nearly every year. It is not generally recommended for a standard, though I do not know why, but it makes an excellent bush or pyramid, and is suitable for a cordon, being of very regular upright growth, and spurring well. A writer in one of the papers a year or two ago said he had found it the worst grower and the poorest bearer in his collection, and I know of a grower who says pretty much the same thing. Whether the stock or the soil is at fault in these cases I cannot say, but from my own experience I should certainly plant it wherever I had a garden. I may say my soil is a London clay, and that in a cold, low-lying position.—ALGER PETTS.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

COCHLIODAS.—There are many less attractive orchids than the three species of this genus that are in general cultivation. Undoubtedly the most attractive is C. Noetzliana, which produces its brilliant orange-scarlet and purple flowers at the present season of the year. Well-cultivated plants are most effective when in bloom, and exceedingly useful for exhibition and the supply of cut flowers. It has also been, and will continue to be, most useful for hybridisation purposes. It is generally found to intercross with most of the oncidiums and odontoglossums. Its influence with the latter genus has resulted in most remarkable, and in most cases desirable, additions to the cool house.

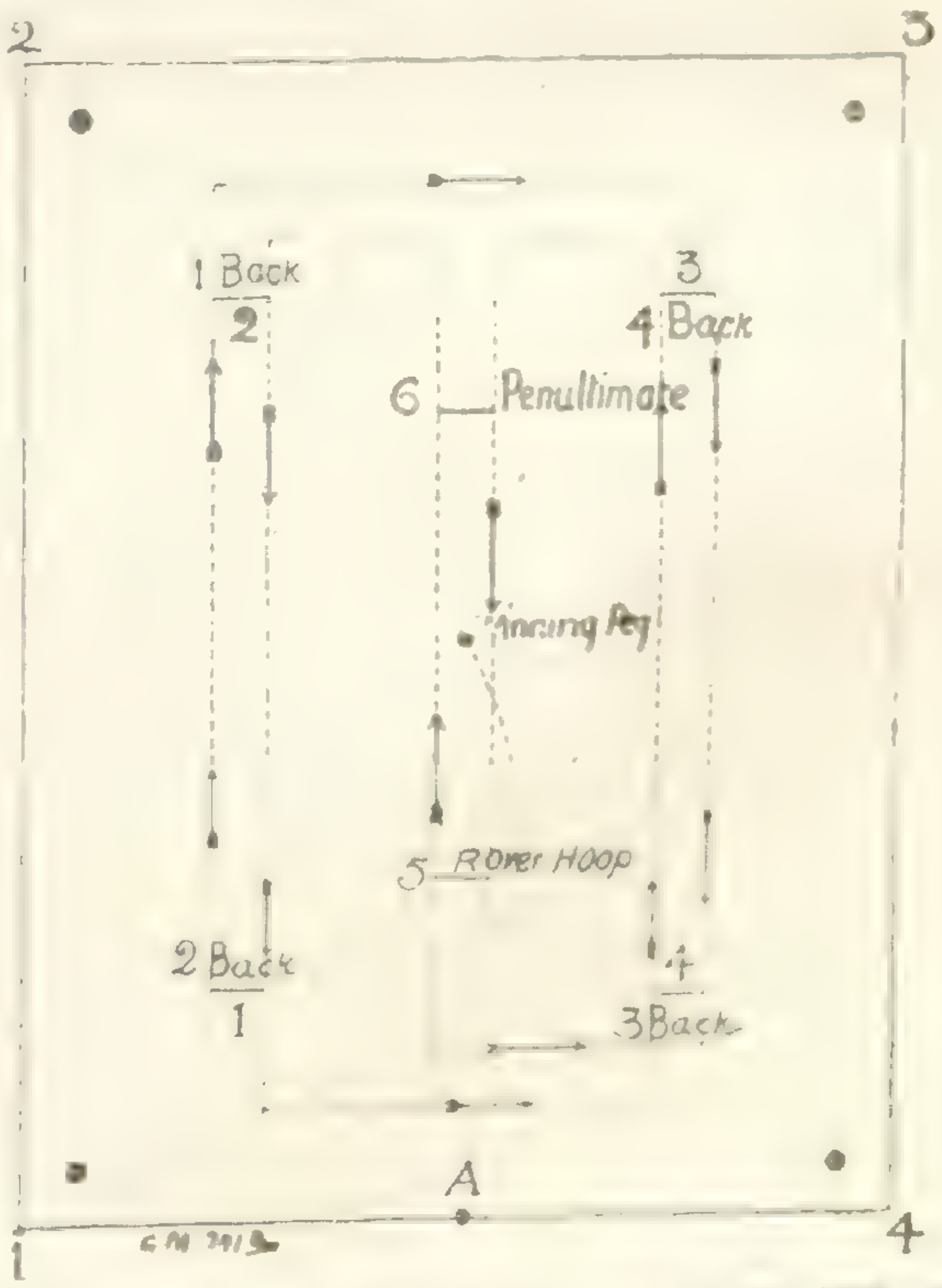


DIAGRAM OF CROQUET LAWN, NO. 2.

CULTURE OF COCHLIODAS.—This may be exactly that of the odontoglossums. I find the plants do not require an abundance of light at any season, and unless they have a cool, shady position during the summer months they are liable to shed their foliage, leaving the pseudo-bulbs leafless, and presenting anything but a desirable appearance. I consider the best time to repot cochliodas is when the new roots make their appearance from the base of the developing growth, which takes place just before the pseudobulb is formed, in autumn or late in spring, according to the conditions under which the plants are grown. The pots used should be clean, and drained to about two-thirds their depth with clean, broken crocks, or, better still, chopped bracken roots. They are practically surface rooters, and thus they do not need a deep potting compost. They are best grown several together in the same pot, thus giving a larger specimen. The potting compost we use consists of equal portions of fibrous peat, chopped sphagnum moss, and broken oak or beech leaves in about equal portions, with sufficient silver sand and broken crocks added to render the compost porous. This compost should be made moderately firm. Rain water must always be used for watering or spraying purposes. During the active growing season, which is the winter months of the year, they must have every encouragement, but excessive watering during this season, especially where the potting compost is in a decomposed condition, will cause the foliage to become spotted, and the tips of the leaves to turn black. During the dormant season only sufficient root moisture is necessary to retain the pseudo-bulbs in a normal plump state.

C. VULCANICA produces its flowers late in the summer, and when it can be induced to grow satisfactorily it is most desirable. Its long, branching spikes of pale rosy-pink flowers are most attractive. It should be grown under the same conditions as described in the preceding paragraph, but repotting requirements are best attended to immediately after the flowers have lost their beauty. C. rosea is a miniature-growing plant compared with the other two species, and is best accommodated when grown in shallow pans or baskets, where they may be suspended near the roof glass. The odontoglossum house treatment suits it, but careful watering is necessary at all seasons of the year. Thrips and green-fly are the most troublesome pests to be contended with, but regular spraying with some safe insecticide keeps these pests in check.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

FLOWERING CLIMBERS, such as dipladenias, stephanotis, etc., will be now making rapid progress. Give close attention to the regulation of growth, and to keeping insects in check by fumigating and syringing while the flower clusters are forming. Give the plants a good position near the glass, and only sufficient shade to prevent the foliage being damaged by powerful sunshine. Provide weak liquid manure while the flowers are forming, and shade from bright sun when in flower.

BOUGAINVILLEAS.—The cool stove or even the conservatory is very suitable for these free-flowering climbers, and the best results are secured when specimens are planted out in a well prepared border over good drainage, and in a mixture of turfy loam, peat, sand, and a good sprinkle of charcoal. Water freely during the growing season, and give very little shading. Few plants provide such an attraction for such a long period, and when freely exposed much pruning will be unnecessary.

THE FERNERY.—Should any plant require potting, the tender roots should be carefully handled; avoid the use of large pots, and stand the plants upon a bed of coal ashes. Give close attention to watering, and when the house is fully exposed to the sun shading will be requir d.

GESNERAS.—Grow these in a brisk heat, with plenty of light and abundance of moisture, and in a compost of two parts fibrous peat, one of leaf-soil, and sand. Provide ample drainage, and place the bulbs just under the surface of the compost. Give water sparingly until growth appears, when more moisture will be needed; but overhead syringing should not be practised. The stock may be increased by cuttings of the young shoots; or matured leaves, if inserted the length of the stalk, in sandy soil, will root freely.

HEATED PITS which have been used for forcing may now with advantage be utilised for stove plants. Such positions are best suited to the requirements of young plants producing short-jointed, sturdy growths. By carefully utilising the early afternoon sunheat, and early closing, a suitable atmosphere and temperature can be secured. Use the syringe freely at closing time, and as growth proceeds endeavour to secure colour by as free exposure to the sun as the plants will bare without injury.

MISCELLANEOUS.—Cuttings of Begonia Gloire de Sceaux and Gloire de Loraine must be put in for late flowering. Tuberous-rooted begonias, when choice varieties are secured, may also be increased by cuttings when the young shoots have attained the length of four to five inches. Begonia socotrana having been kept dry at the roots while resting, will now succeed best in an intermediate temperature. Give attention to climbing annuals, such as ipòmaeas, and prevent them from becoming entangled. Cuttings of justicias, coleus, Eranthemum pulchellum, Manettia bicolor, etc., may also be put in now.—W. Fyfe, Lockinge Gardens.

FRUITS UNDER GLASS.

POT VINES.—These have made excellent progress during the last few weeks, and where the grapes are commencing to colour more air will be required. See that the roots do not suffer from drought, or the bunches will fail to finish satisfactorily. guard also against the attack of red spider, and if an attack is noticed, which can soon be seen by the leaves turning a dull yellow, sponge the leaves at once with a solution of sulphur and milk, and syringe all surroundings frequently with soft water. The sponging must be done several times. A very good plan is to mix a liberal quantity of sulphur with milk, and paint the hot water pipes. This will often prevent a further attack.

FIGS.—The fruits of these will now be approaching maturity, and the trees should be frequently fed with farmyard manure or other fertiliser. The temperature should be kept at from 65 to 70 degrees, but admit air when the mercury is running up, with sunshine, quite early in the morning. Damp down thoroughly in the afternoon, and when the fruits show signs of ripening the use of stimulants should be discontinued. Stop the growths at the fourth or fifth leaf, excepting where extension is necessary, and remove any very weak growths, so that there is no unnecessary crowding. Trees in the later house should be disbudded early, removing all the growths that are not required. Stop the leaders when about five joints have been made, and any growths that have not broken satisfactorily should be removed, as this will make room for young growths to be tied in. The fig is rarely troubled with any insect pest if its wants are thoroughly provided for.

PEACHES AND NECTARINES.—While the fruits are stoning the temperature should not be allowed to become too high, from 55 to 60 degrees being quite sufficient. When it is seen that the fruits have passed the stoning period the temperature should be increased from 5 to 10 degrees, especially if the fruits are required at the earliest period. Attend to the watering, and give copious supplies at this stage, with occasional supplies of liquid manure. Syringe thoroughly twice daily, and shut the house up with sunheat. Set the fruits up with small pieces of wood to expose them to the sun. If this is done carefully they will attain a rich colour. Trees in successional houses should be disbudded promptly, and in the earlier stages of growth thin the fruits where they have set too thickly.

MELONS.—The earliest fruits are now swelling rapidly; give them the support of small nets. A little liquid stimulant once weekly at this stage is beneficial. Syringe thoroughly about 3.30 p.m., and close with strong sunshine, and damp down several times between closing and 10 o'clock.

STRAWBERRIES.—Introduce fresh supplies as often as required, and remove all plants from which the fruit has been gathered as soon as possible.—W. A. Cook, Leonardslee Gardens, Horsham.

THE KITCHEN GARDEN.

BEET.—The sowing of seed of the main crop of beet may now be ventured. Extra-large roots are not desirable, as invariably they are too coarse in texture and clumsy for use. Nicely-shaped, medium-sized roots are much preferred, especially for salad purposes. Land that is not too rich, and has been laid up early enough to have had full exposure to the frost, will be more suitable for this crop. A day should be selected for sowing when the surface is dry, to prevent it settling down too firmly after rain. Draw drills from 12 to 15 inches apart, and sow somewhat thickly, as the young plants, just as they are appearing above ground, are very liable to attacks from slugs. Light dressings of soot and lime periodically are helpful in warding off these pests. Pragnell's Exhibition and Sutton's Red are good in shape and of fine quality.

TURNIPS.—A large sowing of seed of a good type of Snowball turnip, if made now in a rich, cool quarter of the garden, will yield a profitable supply over a long time, and will succeed the early sowing made on the south borders. At this time of year the turnip fly often becomes very troublesome. Bentley's quassia extract has, with me, been the most effectual remedy for it. Work the Dutch hoe frequently between the young plants to promote quick growth.

ASPARAGUS BEDS.—The plants will be making their growth, and may be much assisted by waterings of liquid manure, and with light applications of nitrate of soda or salt. Keep the beds free from weeds, and entrust the work to an experienced hand, or damage may be done to the young growths below the ground. Thin out the young seedling plants before they attain much size, and become drawn; at least 12 inches should be allowed between each plant.

MULCHING.—Where time and material can be spared, mulching is of great service to growing crops, more especially so on light land. Early peas on south warm borders, if established, and now given a watering of liquid manure, and each side of the row covered with peat moss litter or other manure will amply repay the attention. Early cauliflowers in similar positions will be benefited, and the returns from them be much greater if top-dressed. Broad beans that were sown early for first pickings will be aided by this treatment. Also such crops as lettuces that have stood the winter and are hearting.

PARSLEY.—The early-sown seeds under glass will have produced plants sufficiently large for pricking out into beds in the open. Do not select a position that has just previously been occupied with the brassica family, as parsley enjoys a rich soil, and it is of the utmost importance that the latter should be free from wireworms. Work soot into the soil, and place the plants about one foot apart to secure the finest leaves. Drawn stems very quickly damp off and rot when overcrowded, and are worthless for standing the winter frosts. Sow again outside to ensure against failure.

WINTER GREENS AND LATE BROCCOLIS.—Make a sowing of late kales of the hardy kinds that have proved most useful, these being indispensable during severe winters when other greens are cut down. Late broccolis, too, are most valuable, and the sowing should not be delayed after the early part of May. The old favourite, Veitch's Model, has stood the winter here for years much better than some newer varieties, and should be grown largely. Sutton's May Queen can also be recommended.—Chas. Flack, Cholmondeley Castle Gardens.

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EXHIBITIONS AND MEETINGS.

Midland Daffodil Society.

The annual exhibition of the Midland Daffodil Society, held at the Botanical Gardens, Edgbaston, is a festival looked forward to with the very greatest of interest by all enthusiastic daffodil lovers, trade or amateur. The exhibition held this year, on April 22 and 23, was of unusual interest because of the visit of a deputation from the Royal Horticultural Society, which deputation, composed of Mr. H. B. May, Mr. E. A. Bowles, Mr. A. Kingsmill, and Mr. C. H. Curtis, made awards on behalf of the Royal.

There was a keen competition throughout the classes, with one or two exceptions, and the flowers were, on the whole, of a very high order of merit. New daffodils were very much to the fore, and the great successes of the meeting fell to Mr. E. M. Crosfield and Messrs. Cartwright and Goodwin, while Mr. P. D. Williams, Mr. W. T. Ware, Messrs. Barr and Sons, Messrs. J. R. Pearson and Sons, Messrs. Pope and Son, and Mr. F. H. Chapman all contributed novelties.

MESSRS. BARR AND SONS' GOLD MEDAL COLLECTION OF DAFFODILS.
Midland Daffodil Society's Exhibition at Birmingham.

In the matter of entertainment and help and attention in every direction, the Birmingham people, led by Mr. Robert Sydenham, behave right royally. There was luncheon in the gardens that look so beautiful, and are so vastly interesting under Mr. Thomas Humphrey's care, and at the end of the first day there was dinner at the Grand Hotel, given by Mr. Sydenham to about a hundred exhibitors, judges, and others associated with the daffodil industry. The only weak point about the Midland Daffodil Show is the lack of proper arrangements with the Clerk of the Weather. For several years past the weather during show time has been wretched, and this year was no exception to the rule.

OPEN TO ALL.

There were four competitors in the leading class for fifty varieties of daffodils, these to fairly represent the three leading groups of large, medium, and small-crowned varieties. There was a splendid fight for the premier award of £5 5s., and here Mr. E. M. Crosfield, Cossington House, Bridgwater, secured the first place with a grand lot of blooms, the majority being new seedlings of his own raising, all in beautiful condition. A few of the finer things were Bedouin, Castor, Hamlet, Leyden Jar, Cassandra, Sceance, Incognita, Cœur de Lion, Honey Bird, Mrs. E. M. Crosfield, Mermaid, Lotus, Bansai, Lord Roberts, Lucifer, Eyebright, Anchor, Almira, Prelude, Lilith, Northern Light, and Inez. Messrs. Cartwright and Goodwin, Kidderminster, secured the second prize with a delightfully well set-up group of new varieties, in which Trimpley Gem, Circlet, Heroine, White Queen, Amazon, Homespun, Fairy Queen, Sir Philip Sidney, Solfaterre, Giraffe, Weardale Perfection, Lady M. Boscawen, Incognita, and Diamond, were among the best. Third place fell to Messrs. J. Pope and Son, King's Norton, for a good set, and Mr. F. H. Chapman, Rye, came fourth with another good set.

The best dozen varieties of long trumpet daffodils, three flowers of each, was a fine set staged by Messrs. Cartwright and Goodwin, Kidderminster, who showed substantial, fresh, and bright blooms of Weardale Perfection, Peter Barr, King Alfred, Lord Roberts, Hamlet, Mdme. de Graaff, Cygnet, Mrs. J. H. Veitch, Alice Knights, Admiral Makaroff, Horsfieldi, and Empress. Messrs. Pope and Son were placed second, Mr. James Douglas, Great Bookham, Surrey, third; and Mr. J. Mallender, Bawtry, fourth.

For half a dozen varieties of short trumpet daffodils Messrs. Cartwright and Goodwin won the premier place with an exquisitely beautiful set of Lowdham Beauty, Lemon Star, Heroine, Giraffe, Arnold Rogers, and Lady M. Boscawen; Mr. James Douglas was second with Great Warley and Lady Margaret Boscawen, in grand condition; Messrs. Pope and Son third. Premier place for a dozen varieties of large cupped daffodils was also secured by Messrs. Cartwright and Goodwin, Kidderminster, with superb examples of Evangeline, Duke of Leinster, Lucifer, Northern Light, Diana, Princess Mary, White Cloud, Ayaconora, Blackwell, Marina, Fairy Queen, and Homespun. Messrs. Pope and Son, second; Mr. James Douglas, third; and Mr. J. Mallender, fourth.

Messrs. Cartwright and Goodwin were again first in the class for a dozen varieties of small cupped daffodils, showing clean, pretty flowers of White Slave, Scarlet Eye, Eyebright, Redbreast, Oriflamme, Ethelbert, Inga, Dorothy, Fusilier, Circlet, Alton Lock, and Tom Tit, all charming varieties. In the class for six distinct varieties of poeticus daffodils, Messrs. Cartwright and Goodwin again scored, this time with Sir John Suckling, the pretty, new Oliver Goldsmith, Laureate, Juliet, Rhymester, and Cassandra; Mr. F. H. Chapman second; and Mr. W. A. Watts, St. Asaph, third.

For half-a-dozen flat-cupped varieties Messrs. Cartwright and Goodwin again came to the front with Armeline, Incognita, Coreen, Dorothy Pearson, Mariette, and Amyas Leigh, in fine condition; Messrs. Pope and Son, second. The three best double daffodils were Gollywog, Red and Gold, and Argent, shown by Messrs. Cartwright and Goodwin; Mr. James Douglas second, and Messrs. Pope and Son third. A second prize was awarded to Messrs. Cartwright and Goodwin for six varieties of bunch-flowered daffodils, Aspasia and Elvira being the best.

In the single bloom classes Mr. J. Mallender led with King Alfred (trumpet); Mr. E. M. Crosfield for Phantasy (white trumpet); Mr. Crosfield for Buttercup (short trumpet); Mr. Crosfield for Bernardino (large cup); Mr. P. D. Williams for Famille Verte (small cup); and Mr. Crosfield for Pixie (flat cup).

In a special open class the Rev. Thomas Buncombe scored for six vases of decorative, moderately-priced daffodils, selected from a provided list of varieties, and he won with nine vases of Barri conspicuus, Leonie, John Bain, Flora Wilson, Emperor, and Frank Miles; Mr. Cryer, gardener to J. A. Henrick, Esq., Barrow Court, Edgbaston, second; and Mrs. E. Deakin, Hay Mills, third.

AMATEURS ONLY.

Premier award for a collection of twenty-five varieties (bulbs not to cost more than 15s. each) was secured by Mr. N. J. Lower, Presteign, with a beautifully clean set of flowers that included Gloria Mundi, Madame de Graaf, Weardale Perfection, Madame Plemp, Horace, and Albatross; Mr. H. B. Young, Metheringham, second, and the Rev. Thomas Buncombe, Black Torrington, third. No fewer than eleven competitors entered in the amateur class for nine varieties of long trumpet daffodils, and here the premier position was filled by Rev. Thomas Buncombe, Black Torrington, who had grand blooms of Weardale Perfection, Emperor, Madame de Graaff, etc.; Mr. H. B. Young, Metheringham, second; Rev. G. P. Haydon, Canterbury, third; and Mrs. Gumbleton, Tewkesbury, fourth.

In the interesting class for nine varieties of large-cupped daffodils there were eight competitors, and the Rev. Thomas Buncombe led with Barri conspicuus, Minnie

Hume, and Artemis, etc., in fine style; Rev. G. P. Haydon, second; Mr. H. B. Young, third; and Mr. N. J. Lower, Presteign, fourth. Out of three entries the Rev. G. P. Haydon scored for nine varieties of small-cupped daffodils, Rev. Thomas Buncombe coming second, and Miss Mabel Williams, Scorrier, Cornwall, third.

The Rev. G. P. Haydon was first, Rev. Thomas Buncombe second, and Mr. N. J. Lower third for three flat-cupped varieties. The Rev. G. P. Haydon led for three varieties of double daffodils with fine specimens of Codlins and Cream, Golden Rose, and Eggs and Bacon; Mrs. Gumbleton, Tewkesbury, second; and Mr. Usher, gardener to J. A. Kenrick, Esq., Harborne, third. The Rev. Thomas Buncombe led for three varieties of bunch-flowered daffodils, with Aspasia, Irene, and Elvira; Mr. Cryer second, and Mr. W. H. Parton third. There were eight entries of six varieties of daffodils, any classes, and the first prize was won by Mr. H. B. Young, Metheringham, second by Mr. N. J. Lower, and third by Mr. W. Marple, Penkridge.

MAIDEN GROWERS.

In this division only those who had never won a first or second prize at the society's shows can compete, and those who exhibit must not stage varieties costing more than 1s. per bulb.

Mrs. W. F. Mitchell, Warwick, secured first prize for a dozen varieties of daffodils, all sections, not to cost more than 1s. per bulb; Mr. H. R. Darlington, Potters Bar, second; and Mr. A. Taylor, Acocks Green, third. For six varieties of trumpet varieties, costing not more than 1s. per bulb, Mr. A. Taylor led, with Mr. H. R. Darlington second, and Mr. H. J. Jones, Ludlow, third.

First prize for six large-cupped varieties, not costing more than 1s. per bulb, was won by Mr. H. R. Darlington, Potter's Bar, with C. J. Backhouse, Fairy Queen, Crown Prince, Constellation, Blackwell, and Barri conspicuus; Mr. H. J. Jones, second; and Mr B. Bowen, Ludlow, third. For six small cupped varieties, the first prize fell to Mr. H. R. Darlington, who also led for three varieties of double daffodils.

SEEDLINGS AND NEW DAFFODILS.

Premier place, and the beautiful Bourne Cup, for twelve new seedling daffodils, raised by the exhibitor, was won by Mr. E. M. Crosfield, Cossington House, Bridgwater, with some superb blooms, some of the most beautiful were the drooping Honey Maid, the broad-cupped Gaybird, the white Casilda, and the splendid white trumpets Ecru and Phantasy; Mr. P. D. Williams, Caerhays, Cornwall, second; and Mr. J. C. Williams, Gorran, Cornwall, third.

Mr. S. T. Batson, Beaworth, led for six seedling daffodils raised by the exhibitor and not in commerce, with some good flowers, and a specially fine thing in Aktis, with a scarlet cup; Messrs. Pope and Son second, and Mrs. C. H. Cane, Mangotsfield, third. Mr. F. H. Chapman annexed the first prize for three new seedling daffodils with the white Spindrift and bright blooms of Henry James and Signal, the latter a descendant from Blackwell.

The Cartwright Cup, offered for the best set of twelve new varieties of daffodils, not in commerce more than four years, was won by Mr. E. M. Crosfield, who showed grand trumpet varieties named Silver Sheen, Artus, Ecru, Phantasy, Chandos, Herod, Honey Maid, etc.; Messrs. Cartwright and Goodwin second, and the Rev. G. P. Haydon third. First prize for six distinct new seedlings was won by Messrs. Pope and Son, King's Norton, whose Bert Sands was a pretty bicolor; Mr. F. H. Chapman, Rye, second.

POT PLANTS AND DECORATIVE CLASSES.

Mr. A. Coger, Berrow Court Gardens, led for a dozen pots of daffodils, distinct, his Glory of Leiden, Sir Watkin, Mdme. de Graaff, and Empress being particularly good; Mrs. E. Deakin, Hay Mills, second. For six pots, Mr. Usher was first, and Mr. J. Seeaney, Harborne, second. Mr. Cryer led for a dozen pots of tulips with a grand exhibit, and was followed by Mr. W. H. Parton, Kingswood Grange, Hollywood. For six pots, Mr. Usher led.

In the decorative classes, Messrs. Pope and Son led for a bowl of daffodils, Mr. John Seeaney second, and Mrs. E. Deakin third. For an epergne of daffodils, Mrs. E. Deakin led, followed by Messrs. Pope and Son and the the Rev. J. Jacob, Whitewell Rectory, Whitchurch. For a table decoration, Mr. J. Seeaney, Harborne, was placed first for a rather thin design of daffodils; Miss Clarke, Sparkrooke, second, with poeticus flowers; and Messrs. Pope and Son third.

NON-COMPETITIVE.

There were numerous excellent non-competitive displays arranged in the exhibition house and the adjoining palm house, and these added considerably to the interest and attractiveness of the meeting.

Messrs. Barr and Sons, Covent Garden, presented a fine array of both popular and choice new seedling daffodils, and arranged these in front of the orchestra. It is difficult to make a selection of varieties, and useless to describe unnamed seedlings, however good they are; but we made special note of Mrs. Bettridge, Homespun, Zoe, Maggie May, Weardale Perfection, Cossack, Ibis, Bedouin, Buttercup, Czarina, Circlet, Ethelbert, Symbol, Blackwell, G. P. Haydon, Torch, Mdme. de Graaf, etc. Mr. H. D. Phillips, Olton, Birmingham, contributed a fine lot of the newer daffodils, and set up his flowers admirably, these including Homespun, Petticoat, White Hart, King Alfred, Sappho, Lucifer, J. B. M. Camm, Seagull, etc.

Exquisitely beautiful were the new daffodils charmingly shown by Mr. Charles Dawson, Gulval, Penzance. Of course, a great number were absolutely new and unnamed seedlings, but among the named varieties there were lovely flowers of the very beautiful Dawn, Princess, Buttercup, Lavender, Tennyson, Cossack, Hypatia, Pilgrim, Famille Vert, and Red Chief. Miss F. W. Currey, Lismore, Ireland, had a group of very beautiful daffodils, and showed a very fine selection of the newer and finer varieties, the following being a selection of the best: Firecrest, Vanity, Mrs. Robert Sydenham, Enid, Lucifer, Albatross, Lady of the Snows, Strongbow, Beacon, Lohengrin, Atalanta, Beacon, Magpie, Blood Orange, Gloria Mundi, Ermine, and Primrose Phœnix.

Sir Jocelyn Gore Booth, Lissadel, Ireland, had a very pleasing exhibit of choice daffodils, the flowers all very fresh and bright. The leading varieties, shown in goodly bunches, were Gloria Mundi, Oriflamme, Judge Bird, Waterwitch, Madge, Argent, Madame de Graaff, Albatross, Torch, Seagull, Egret, Mrs. Percy Foster, and Incognita. The orange and deep yellow colouring was finely developed in these flowers. Messrs. J. R. Pearson and Sons, Lowdham, Notts, contributed a very attractive exhibit of beautifully fresh and handsome daffodils arranged with an edging of Heavenly Blue muscaris. Chief among the lovely newer varieties were Hon. Mrs. Franklin, Lowham Beauty, Florence Pearson, Lady Margaret Boscawen, Vanille (sweetly vanilla scented), Gloria Mundi, Magnet, Mrs. Robert Sydenham, The Sirdar, Scarletta, Lord Kitchener, and Apricot; there was also a magnificent round-flowered golden Ajax seedling with reflexing mouth to the trumpet, that was greatly admired; this was unnamed.

Messrs. Walter T. Ware, Inglescombe, Bath, showed three large bunches each of Queen of the West—their grand new golden trumpet daffodil; the double Dubbloon, the bright-cupped Firebrand, and three magnificent blooms of the immense bicolor, Great Warley. Messrs. W. H. Simpson and Sons, Birmingham, contributed a large group of popular daffodils, showing large bunches and pots full of Emperor, Empress, Horsfieldi, Sir Watkin, and other fine free-flowering sorts.

For the purpose of further demonstrating the usefulness of the culture of bulbs in fibre in undrained pots, Mr. Robert Sydenham, Birmingham, arranged a large group of daffodils, tulips, and lily of the valley in ornamental bowls and pots of varying size, these making up a pretty and fragrant display. Messrs. Hogg and Robertson, Mary Street, Dublin, associated gorgeous tulips with their daffodils, and made a brilliant group. Of the latter they had fine blooms of Lovelace, Countess Cadogan, Lucifer, Lady Godiva, Lady M. Boscawen, White Lady, King Alfred, J. T. Bennett-Poe, and Mrs. J. Thorley.

Messrs. Sutton and Sons, Reading, arranged a very pleasing group of cinerarias in the palm house, setting up a beautiful lot of refined and rather dwarf stellate varieties, with supporting groups of rose and pink florists' forms grandly grown, Perfection stocks, and fragrant mignonette, the whole making up a very attractive exhibit. Mr. H. N. Ellison, Bull Street, West Bromwich, was represented by a group of interesting ferns, the chief feature of which were the numerous pretty varieties of the newer nephrolepis. Mr. T. E. Dawes, Syderstone Nurseries, Norfolk, exhibited wonderfully fine roots of his new and particularly good new rhubarb, named Dawes' Challenge, figured in our issue of April 17. This variety is finely coloured, and the stems are of great length.

A charming rock garden exhibit, made by Messrs. Bakers, Wolverhampton, was a source of great interest to the many visitors. In this exhibit Trillium grandiflorum, Primula viscosa, P. Cockburniana, P. Mrs. Wilson, P. denticulata, P. d. alba, P. japonica, P. rosea, Incarvillea Delavayi, Saxifraga pyramidalis, and various irises were planted in pretty colonies, and the too frequent mistake of cramming such an exhibit with a multitude of small plants of a great variety of subjects had been carefully avoided. The large group put up by Messrs. Gunn and Sons, Olton, consisted of a background of forsythias, mollis, and Ghent azaleas, rhododendrons, and Japanese maples, with groups of moisture-loving and alpine plants in the foreground, with Iris Susiana, and Primula japonica as special features. A pretty exhibit of perpetual carnations was arranged in large vases by Mr. S. Mortimer, Farnham, Surrey, who had lovely flowers of Enchantress, Rose Pink Enchantress, Brittannia, Winona, Miss Burnett, Lady Bountiful, Black Chief—the new crimson, Marmion, and Robert Craig.

CERTIFICATES AND AWARDS.

First-Class Certificate.—To Daffodil Queen of the West, from Messrs. Walter T. Ware, Bath.

To Daffodil Homespun, from Mr. H. D. Phillips, Olton.

Award of Merit.—To Daffodil White Slave, from Mr. H. D. Phillips.

To Daffodil, St. George, from Messrs. Barr and Sons, Covent Garden.

To Daffodil Bedouin, from Mr. E. M. Crosfield, Cossington House, Bridgwater.

To Daffodils Scarlet Gem, Giraffe, and Red and Gold, from Messrs. Cartwright and Goodwin, Kidderminster.

To Daffodil Red Chief, from Mr. Chas. Dawson, Gulval, Penzance.

To Daffodil Lowdham Beauty, from Messrs. J. R. Pearson and Sons, Nottingham (R.H.S. Award).

R.H.S. DEPUTATION AWARDS.

Gold Medal.—Mr. Chas. Dawson, Gulval, Penzance, for new daffodils; Mr. E. M. Crosfield, Bridgwater, for new daffodils in competitive classes; Messrs. Cartwright and Goodwin, Kidderminster, for new daffodils in competitive classes.

Silver-Gilt Flora Medal.—Messrs. Barr and Sons, Covent Garden, for daffodils; Messrs. J. R. Pearson and Sons, Lowdham, for daffodils.

Silver-Gilt Banksian.—Mr. H. D. Phillips, Olton, for daffodils; Sir Josslyn Gore Booth, Lissadel, Sligo, for daffodils; Mr. P. D. Williams, Caerhays, Cornwall, for new daffodils; Messrs. Pope and Son, King's Norton, for daffodils; Messrs. Bakers, Wolverhampton, for rock garden; Messrs. Sutton and Sons, Reading, for cinerarias.

Silver Flora Medal.—Miss F. W. Currey, Lismore, Ireland, for daffodils; Mr. F. H. Chapman, Rye, for daffodils.

Silver Banksian. — Messrs. Simpson and Sons, Birmingham, for daffodils; Messrs. R. H. Bath, Lim., Wisbech, for daffodils; Mr. R. Sydenham, Birmingham, for bulbous plants; Messrs. Hogg and Robertson, Dublin, for daffodils; Mr. S. Mortimer, Farnham, for carnations; Messrs. Gunn and Sons, Olton, for hardy flowers; Mr. H. Ellison, West Bromwich, for ferns.

Special Commendation.—To Messrs. Walter T. Ware, Lim., Inglescombe, Bath, for new daffodils.

MEDALS.

Premier medals for highest points gained in competition in the several sections: Messrs. Cartwright and Goodwin, Kidderminster; Rev. Thomas Buncombe, Black Torrington, and Mr. A. Cryer, gardener to J. A. Kenrick, Esq., Edgbaston.

Gold.—Messrs. Barr and Sons, Covent Garden, for daffodils; Messrs. Bakers, Wolverhampton, for rock garden.

Silver Gilt.—Mr. H. D. Phillips, Olton, for daffodils; Mr. Chas. Dawson, Gulval, Penzance, for daffodils; Miss F. W. Currey, Lismore, Ireland, for daffodils; Messrs. Sutton and Sons, Reading, for cinerarias.

Silver.—Messrs. R. H. Bath, Lim., Wisbech, for daffodils; Messrs. J. R. Pearson and Sons, Lowdham, for daffodils; Sir J. Gore Booth, Lissadel, Sligo, for daffodils; Mr. S. Mortimer, Farnham, for carnations; Mr. R. Sydenham, Birmingham, for bulbous plants; Messrs. Gunn and Sons, Olton, for hardy flowers.

Ipswich Daffodil Show.

One of the best spring shows ever held by the Ipswich and East of England Horticultural Society took place on April 22 and 23 in the Public Hall, Ipswich. Both the hall and the saloon were well filled with exhibits.

In the section open to amateurs without restriction to the number of employees, Mr. A. Sparke, gardener to F. L. Bland, Esq., led for a collection of two dozen varieties of daffodils, Seagull, Albatross, Lucifer, Mdme. de Graaff, Victoria, and Glory of Leiden being especially fine; Mr. H. G. Strutt, gardener to W. P. Burton, Esq., was second. For a dozen varieties Major W. O. Cautley, Norton, Bury St. Edmunds, led, and showed excellent blooms of Duke of Bedford, Lucifer, Weardale Perfection, etc.; Mr. J. Clarke, gardener to W. Pipe, Esq., Rushmere, second. For twelve varieties, one bloom of each, Mr. A. Sparke again secured the leading award, his Weardale Perfection being an unusually fine example; Major Cautley second, and Mr. S. Farrow, gardener to Mrs. Luther Holden, Pinetoft, Ipswich, third.

For three bunches of yellow Ajax daffodils Mr. Donald C. Warnes, Bramford, led, and was followed in order by Major Cautley and Mr. R. Dow, Lowood, Hasketon. For white or sulphur Ajax varieties Mr. Sparke and Major Cautley took the awards, while for bicolors of the same class the same two competitors held similar positions. The best trumpet daffodil in this section was the Weardale Perfection, staged by Mr. G. H. Saville, of Woodbridge, and it gained Major Cautley's silver medal.

In the medium-crowned section Major Cautley scored for incomparabilis varieties, and for Leedsi forms, and was second to Mr. Sparke for Barri varieties. Other winners were Mr. D. C. Warnes, and Mr. Saville, and the varieties best shown were Sir Watkin, Barri Conspicuus, Beauty, Katharine Spurrell, and Seagull, the latter, exhibited by Mr. Sparke, winning a silver medal as the best bloom in its section.

Mr. Sparke, Mr. Saville, and Major Cautley were placed in order of mention for three bunches of small-crowned daffodils, and Mr. Saville won the silver medal for best bloom with a good flower of Horace.

The class for a dozen flowers of Sir Watkin brought out a dozen or so of competitors, Mr. Saville, Major Cautley, and Mr. Sparke sharing the honours. For a dozen flowers of Barri conspicuus Mr. Dow, Mr. Warnes, and Mr. Sparke secured the awards as named.

In the smaller classes Mr. Saville, Mr. Bradbury, Mr. A. Turner, and Mr. R. Death, Capel St. Mary, were the leading prizewinners.

In the plant classes there were also some excellent exhibits. Mr. H. G. Strutt scored for a group arranged for effect, followed by Mr. H. J. Southgate, Spring Road Nursery, and Mr. Porley, Hounslow Road. Mr. R. C. Notcutt, Ipswich and Woodbridge, led for one palm, and for three palms. Mr. Porley had the best three lilacs in pots. Mr. W. F. Paul, Orwell Lodge, Ipswich, had the best specimen of Azalea indica, finely flowered, and also the best Azalea mollis, and the best herbaceous calceolarias. Mr. R. Dow was first for hyacinths in pots and daffodils in pots, showing the latter very well; he also had the best six bunches of spring flowers, his wallflowers and Crown Imperials being notably good. Mr. J. E. Grant, gardener to W. H. Burroughes, Esq., Ancaster Road, had very fine spiræas, both in the S. japonica and the S. astilboides classes. Mr. F. W. Porley scored for Cineraria stellata, but in this class the strain or selection of varieties was distinctly at fault, and there was not a really good plant in the competition. Mr. W. Pipe had the best mignonette in a close competition, and Mr. Burton staged the best lily of the valley.

Mrs. Gilbert, Carr Street, Ipswich, showed the best daffodil bouquet. Mrs. F. W. Judge, London Road, was first for a basket of daffodils with a fine arrangement of Emperor. Mrs. Owen Turner scored for a bowl of daffodils with Leedsi varieties, and also for the best vase of daffodils, with jonquils lightly disposed. For four bowls of spring flowers Miss Warnes, Bramford, led with a delightfully simple and pretty arrangement of daffodil Queen of Spain.

Non-competitive groups included a grand exhibit of flowering shrubs, etc., from Mr. R. C. Notcutt, Woodbridge; carnations from Messrs. W. Cutbush and Son, Highgate; daffodils from Messrs. R. H. Bath, Lim., Wisbech; and daffodils from Messrs. F. Smith and Co., Woodbridge.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, April 20.

Present: Mr. E. A. Bowles, M.A., F.L.S. (in the chair); Sir Daniel Morris, G.C.M.G., Professor Church, F.L.S., Messrs. A. Worsley, G. Massee, A. W. Hill, J. Douglas, C. Druery, J. T. Bennett-Poë, J. W. Odell, W. Cuthbertson, and F. J. Chittenden (hon. secretary).

INSECTS IN CINERARIA STEM.—Mr. G. S. Saunders reported that he had examined the plant of cineraria sent to the last meeting, and found that the stem had been hollowed out at the base for some distance by some grub, but what there was no evidence to show.

FATSIA INJURED BY GNAWING ANIMALS.—Mr. J. W. Odell reported that he had examined the plants of fatsia in the garden of Mr. Kingsmill, at Harrow Weald, who had sent specimens of the injured stems to be examined by the committee, and found that the injury had been caused by the long-tailed field mouse, which had gnawed off the bark of some of the branches all round for a considerable length.

DOUBLE AURICULA.—Mr. Druery called attention to a very double auricula of an exceedingly dark purple colour, shown by Mr. J. Douglas. The plant had been raised by Mr. C. B. Green, of Acton, from seed bought of Mr. Douglas, and the plants had been grown on by the latter. The example was particularly interesting, since Mr. Douglas stated that never before in his experience had a double auricula been raised from seed of his plants. Sir Daniel Morris raised the question of whether such a variation as this suddenly occurring from seed could rightly be called a sport. The discussion of the proper application of this term was deferred.

VARIOUS PLANTS.—Mr. Worsley showed flowers of Tulips which he had received under the name of Tulipa Fosteriana from Holland, and commented upon the amount of variation in colour which these showed, especially in the presence and absence of the dark blotch at the base of the perianth pieces. He considered that the plant approached very closely to Tulipa Eichleri. Mr. Worsley also offered some remarks upon a plant shown at the previous meeting, which he had identified as Urceolina miniata, a native of the Peruvian Andes.

From Mr. A. W. Sutton came an unnamed composite, apparently a native of Tropical Africa. In appearance the flowers somewhat resembled those of a cineraria, but did not seem identical with any known species. Mr. Sutton was asked to show the plant again when ripe fruit could also be seen.

Sir Daniel Morris remarked that he had recently seen, in a garden in the New Forest, a white-flowered shrub about 5ft. or 6ft. in height, which there passed under the name of Leucopogon Cunninghami, but which was really Spiræa Thunbergi. He desired to know whether Leucopogon Cunninghami was hardy in England.

MALFORMED ORCHIDS.—Mr. G. Wilson, F.L.S., sent two malformed cattleyas from the same spike, which had three outer perianth pieces, but the inner were reduced very greatly, the small lip springing from near the apex of the column instead of from the base. Three stamens were present.

Horticultural Club.

THE COLOURS OF PLANTS.

After the usual monthly dinner of this club at the Hotel Windsor, on the 20th instant, Mr, W. J. Jefferies taking the chair, Mr, A. E. Bunyard gave a most interesting lecture on the results of his research and experiments into the underlying causes of colour and change of colour in plants.

By means of a number of lantern slides, some representing flowers in their natural colours as obtained by up-to-date processes, and others representing prepared microscopic sections of the colour producing plant cells, he showed and explained the many subtle ways in which colours are widely varied by very minute modifications of the colouring matter, or even only of its arrangement. In the first place, he explained that we recognise colours by virtue of the varying powers possessed by the colouring materials of absorbing white light, i.e., sunlight, and breaking it up, as in prisms, into those constituent tints which we see in the rainbow or in the spectrum. When so broken up these components are partly absorbed and partly thrown off or reflected, and it is by virtue of the rejected rays, and not the absorbed ones that our eyes are affected, and we see the colour concerned. Inherently, therefore, what we call a red body is really all the tints but red, and not red at all in itself. He then went on to explain that the colouring matter in plants is of two kinds, sap or liquid colours, and "plastids" or minute microscopic bodies of a granular nature

In one very remarkable slide representing a section of a flower petal, he showed how these two kinds, say, one yellow the other red, may be associated in separate but adjoining cell layers in definite patches, and in such a fashion that when both were exactly superimposed, a very intense colour appeared; while otherwise, a less exact coincidence would allow the lighter tint to appear between the darker one, and in this way produce more or less marked gradations of tint by purely microscopic shifting of the layers. The skill which could have produced such a beautifully clear exemplification as a lantern slide, created a great impression when the delicacy of the operation was considered.

Mr. Bunyard next explained that the chief colouring matter of plants, viz., the chlorophyllic or green granules, which pervade the foliage, is almost always, if not invariably, associated with a yellow colouring matter termed carotin, from its presence as the colouring medium of the carrot. In foliage this is masked by the predominating green granules, but when these are withdrawn in the autumn, the yellow tint becomes visible, and, in conjunction with other media, produce the brilliant reds and yellows of the autumn landscape. Another interesting point brought out by the lecturer was the practical identity of blue and red colours, whether sap or pigmentary, from the fact that a slight excess of acid on the one hand, or alkali on the other, would determine either colour, the blue becoming red by acid reaction, and the red blue by alkaline, as in the familiar test cases by litmus paper, which, in point of fact, is stained with a vegetable colour to start with. Hence a very slight change in the composition of the soil or in the assimilative tendencies of the plant itself may lead to a change from red to blue flowers, or vice versa, as we see in the much-discussed cases of the hydrangea. A further series of slides illustrated very peculiar forms taken by colouring matter in the epidermal layers of fruits, the melon sometimes displaying under the microscope curious arrangements of rods and ribbons, while in other cases the matter takes the form of minute crystals. Flowers being modified leaves usually contain chlorophyll in their incipient stages, but eliminate it later as they assume their distinctive colours. In the green flowers, however, such as green roses and dahlias, this elimination does not occur; the chlorophyll persists, and in this way a partial reversion occurs.

An admirable feature of Mr. Bunyard's research, as was recognised by all present, is its eminently practical character, since a careful analysis of the colouring factors may well determine the effort of hybridisers and selective cultivators in the right direction when otherwise in ignorance, say, of the entire absence of a certain component character, they are striving to obtain the impossible by combining parents, neither of which possess it. He pointed out, too, that a colour which may be entirely absent in the flower may betray its presence in the plant's system elsewhere, and also that varieties, even when not in flower, may be recognised by such indications, as, for example, in the white lilac, the leaf-buds of which differ from those of the coloured lilacs by an absence of a tint in the foliage, which the latter invariably show.

In the subsequent discussion, in which Messrs. Druery, Cuthbertson, Pearson, Barr, Sanders, and Dr. Shillitoe took part, several other points were raised, to which Mr. Bunyard replied, Mr. Druery pointing out that the most wonderful colour was the chlorophyll, the tiny green grains of which constituted the one and only link between the vitality of all organic creation and the life-giving influence of the sun, by virtue of which they were enabled to transform inorganic materials into organic, and in this way provide the animal world, including man himself, with the essentials of existence.

A hearty vote of thanks was awarded to the lecturer in conclusion.

Winchester Gardeners' Association.

The above association spent a very pleasant evening on the 20th ult. in the Oddfellows' Hall, when an illustrated lecture on "French Gardening" was given by Mr. W. F. Giles, from Messrs. Sutton and Sons. Mr. W. Cardy presided. The lecturer fully described the whole process of French gardening from the preparation of the beds and soil, and the arrangement of the bell-glasses and frames, to the use of every inch of ground. Some splendid views of French gardens were thrown on the screen, and also of some English gardens worked successfully on the same system. Mr. Giles reminded his hearers that French gardening was not all profit; there was great outlay at first, and much labour and time had to be spent, so that it was not such a gold mine as some would lead us to believe. The French had at present the honour of being foremost at raising salads in the early part of the year, but the English gardener does not take second place in an all-round competition in the culture of vegetables. The Chairman proposed a vote of thanks to Mr. Giles for his able lecture.

Reading Gardeners' Association.

The final meeting of the spring session took place in the Abbey Hall on Monday, April 19, when there was a very large attendance. The president, Mr. Alderman F. B. Parfitt, occupied the chair. The evening was devoted to the following competitions, all the work being done in the room:

Five small vases of flowers, suitable for a breakfast table, arranged for effect; fifteen minutes allowed for arrangement. Open to head gardeners, single-handed gardeners, and foremen only. Result: First prize, H. Goodger; second prize, W. Butler; third prize, H. C. Loader.

Vase of flowers, arranged for effect; open to members; head gardeners, single-handed gardeners, and foremen excepted. Result: First prize, A. E. Bolton; second prize, H. Prince; third prize, S. Judd.

Bowl of flowers, arranged for effect; open to those who had never won a prize. Result: First prize, E. Webb; second prize, A. Francis; third prize, F. Goodger.

The judges were Messrs. T. Tunbridge, A. F. Bailey, and R. A. Hatton, and their work, owing to the closeness of the competitions, was particularly arduous.

This meeting had been selected for the annual hospital night, when members bring flowers, which are next day sent to the Royal Berkshire Hospital.

Over 100 bunches of flowers were brought in by the following contributors: Messrs. Turnham, T. Tunbridge, T. J. Powell, Neve, Clarke, Fry, Bailey, E. J. Dore, H. Wynn (Reading), T. Judd, J. Wynn, F. Townsend, D. Dore, Boxall, Gilbert, Dix, Loader, W. J. Townsend, Abraham, G. Carter, Toovey, Hinton, Cooper, Gardener, Durrant, Wilson, H. Goodger, etc. A collection on behalf of the funds of the above-mentioned excellent institution was made by the association's representative, Mr. F. W. Exler. The sum of £3 1s. being realised.

On the proposal of Mr. Tunbridge, seconded by Mr. Exler, Mr. G. Hinton, one of the "fathers" of the association, was elected a life member of the society. Votes of thanks were accorded to Messrs. Watson and Son, Minster Street, for kindly lending vases and bowls; to Mr. J. Phillips, for the use of the tables; to the judges, and to the president. Two new members were elected.

Bournemouth Gardeners' Association.

In connection with this association the annual exhibition of cut blooms of spring-flowering plants (not shrubs) was held on Tuesday, April 20. There was a very good entry, and the vases of flowers staged made a brilliant display.

For six vases of hardy spring flowers, distinct, with their own foliage. Mr. Tompkins was first with a nicely-set-up collection. Narcissus Empress, Ornithogalum nutans (very early), crown imperial, Orobus vernus, N. Barri conspicuus, and Tulip La Reine were all fine vases of flowers. Mr. Nippard, gardener to Mr. Norton, Ashton Court Gardens, took second honours with a very beautiful lot of flowers. His tulips, polyanthuses, narcissi, and wallflowers were charming, and showed good culture. In the class for three vases of hardy spring flowers (not shrubs) Mr. Lansley was successful with a splendid exhibit. Narcissus Emperor, Tulip Keizerskroon, and polyanthuses were the kinds staged. Mr. Sprackling worthily won second prize with a bright trio of narcissus, hyacinths, and tulips, Mr. Pearce following closely for third position with a very fine exhibit.

Exhibitions such as this deserve every encouragement. They are intensely interesting, and highly instructive. After the prizes had been awarded Mr. Nippard, of Ashton Court Gardens, read a paper before a large and appreciative audience, on "Flowering Trees and Shrubs." He brought some grand specimens of rhododendrons, magnolias, pyrus, deutzias, and Forsythia Fortunei. Mr. Nippard referred to many kinds of flowering shrubs which were not really hardy in this country, except in mild seasons and in sheltered positions, such as are to be found in some parts of Bournemouth, and instanced Sir John Llewelyn's garden in Cornwall. The lecturer laid much stress upon the fact that flowering trees and shrubs were generally planted too thickly, and soon formed a dense growth like a forest, and then the hard pruning necessary resulted in the cutting away of much flowering wood, and other branches did not ripen sufficiently to bear flowers satisfactorily. He also deprecated the planting of conifers amongst flowering trees and shrubs. In mild districts, Mr. Nippard said, rhododendrons might be had in bloom nearly six months of the year. Daphnes, Choisya ternata, Andromeda floribunda, almonds, double-flowered pink peaches, which, he said, generally commenced to fruit with him after they had been planted five years. The fruits were not of much value for eating, but were excellent for stewing purposes. Prunus Pissardi was recommended to be grown as a standard; P. atropurpurea, and P. coccinea were also highly favoured. Double-flowered cherries were also dealt with, the lecturer advising that Cerasus grandiflora should be grown on a single stem as a standard, as dwarf plants spread over the ground too much. He also recommended lilacs being worked on privet, as the shoots were more short-jointed, and suckers never gave trouble.

Wistarias, weigelas, viburnums, shrubby spiraeas, laburnums, azaleas, cotoneasters, and numerous other kinds were very ably dealt with by the lecturer, who also answered many questions on pruning and other matters connected with the successful growing of these useful and ornamental flowering trees and shrubs.

Hearty votes of thanks to Mr. Nippard, and to Mr. George Garner, who presided, brought to a close a very pleasant meeting.

Bristol Gardeners' Association.

The annual meeting was held on Thursday, April 22, at St. John's Parish Rooms, when Mr. A. O. Shelton presided over an enthusiastic attendance. Mr. Scott read the annual report, followed by the financial statement, both of which were most satisfactory. Numerically and financially, the society is in a more favourable position than in previous years. A vote of thanks to the officers was proposed by Mr. E. T. Parker, and seconded by Mr. Binfield. Colonel Carey-Batten was again elected president, and thanked for his interest and help. Mr. Shaddick (gardener to Colonel Goss) was elected chairman, and Mr. Hayball (gardener to the Lord Mayor) as vice-chairman; Messrs. J. Scott and H. Woodward were re-elected treasurer and hon. secretary, and assistant secretary respectively; librarian, Mr. Coombes; registrar, Mr. Extense. The following were elected on the committee: Messrs. Holt, Perry, House, Lee, Binfield, Morse, Curtis, Shelton, E. T. Par-

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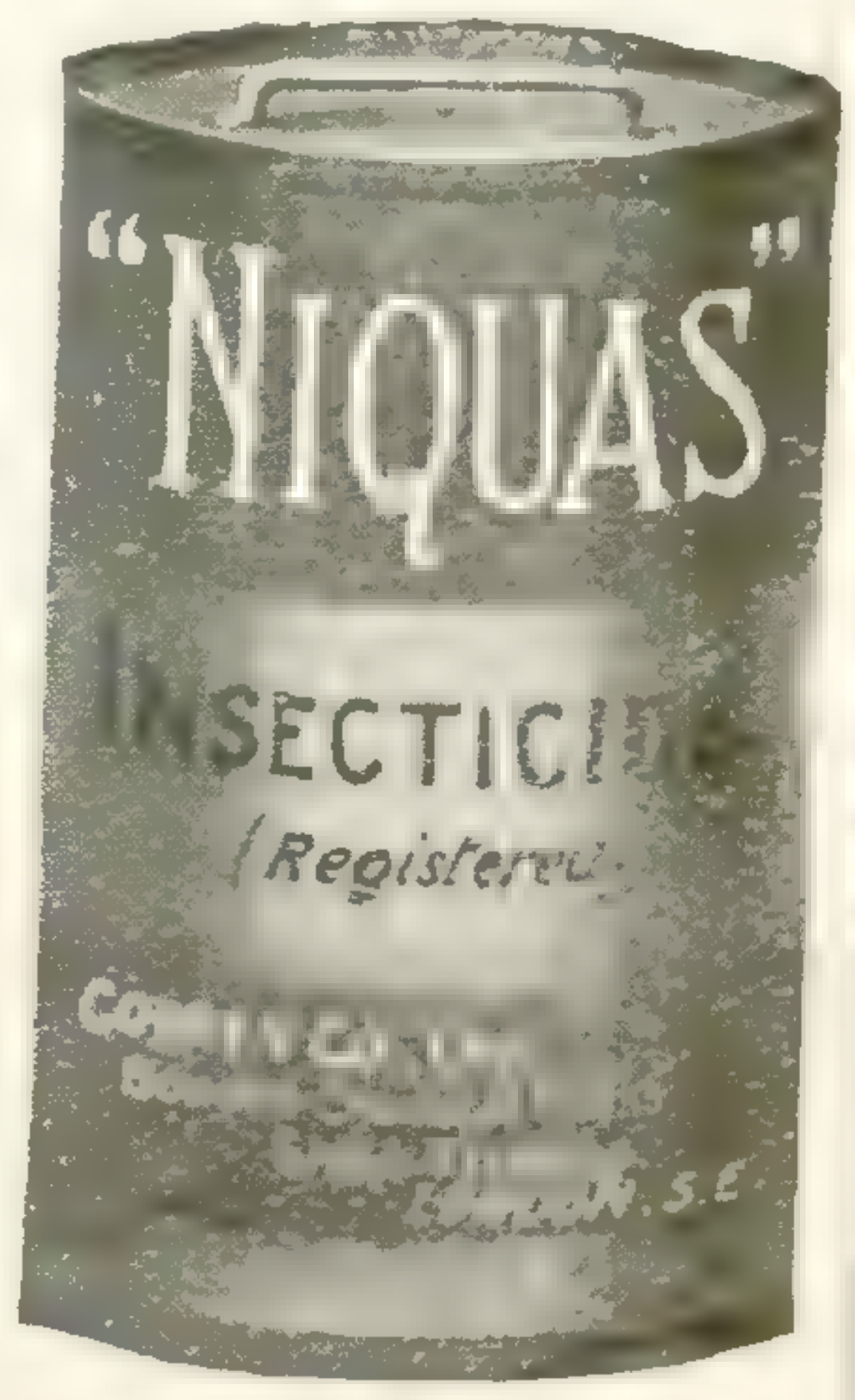

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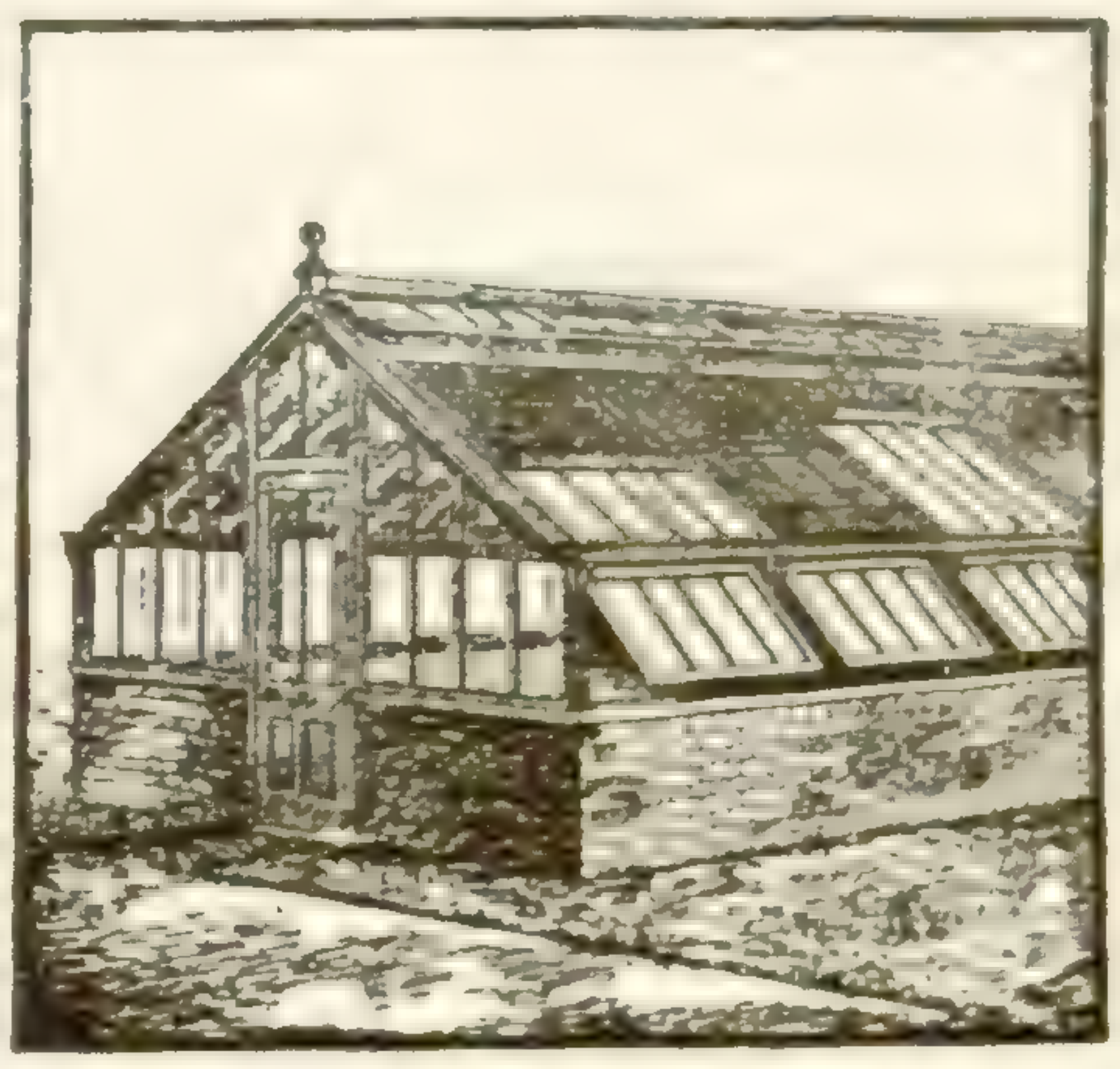

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ker, Candy, Hunking, Jennings, Thoday, Garnish, J. Clark, and Grieve.

A good fresh start was made by electing six new members, and Mr. E. T. Parker kindly offered a silver medal for the most successful exhibitor during the coming session. For six vases of daffodils (prizes kindly given by Mr. C. H. Cave) there was a keen competition, the prizes going to Messrs. Holt, Woodward, and Binfield (in the order given), gardeners respectively to Mrs. Baker, Mr. Edgar Watts, and Mr. Francis Tagart. Ordinary certificates were awarded to Messrs. Garnish and Hayball, the former for a nice dish of Early Giant pea, the latter for daffodils and amaryllis.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1909. April 18 to April 24.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
April 18—Sunday	4 30	54	50	61	49
,, 19—Monday	8 12	55	50	67	34
,, 20—Tuesday	12 0	52	47	57	45
,, 21—Wednesday	10 18	52	52	60	33
,, 22—Thursday	6 54	53	49	61	42
,, 23—Friday	7 30	53	49	57	48
,, 24—Saturday	3 30	54	53	59	47
Means	(total) 52 54	53	50	60	43

Date. 1909. April 18 to April 24.	Rain.	Temperature of the Soil. At 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
April 18—Sunday	—	50	49	46	43
,, 19—Monday	0.62	50	49	47	29
,, 20—Tuesday	—	52	50	47	42
,, 21—Wednesday	—	49	50	47	26
,, 22—Thursday	0.21	50	50	47	35
,, 23—Friday	0.16	51	50	48	42
,, 24—Saturday	—	51	50	48	42
Means	(total) 0.99	50	50	47	37

MARKETS.

◆

COVENT GARDEN.

Fruits.

There is a steady demand for all kinds of fruits.

		s.	d.		s.	d.
Apples, American	per barrel	15	0	to	24	0
,, Australian	per box	9	0		12	0
,, English	per bush.	7	0		10	0
,, Nova Scotian	per barrel	17	0		20	0
,, Californian	per case	7	0		9	6
Apricots, Cape	per case	6	0		8	0
Bananas	per bun.	3	6		10	6
Chestnuts	per bag	7	0		16	0
Cranberries	per case	8	0		12	0
Figs	per box	0	10		1	6
Grapes, English	per lb.	2	0		[illegible]	0
,, Almeria	per doz. lb.	4	0		7	0
,, Belgian	per lb.	1	[illegible]		3	0
,, Cape	per case	12	0		16	0
Lemons	per case	8	0		16	0
Medlars	per case	4	0		5	6
Melons, Guernsey	each	2	6		3	6
Oranges, Jamaica	per case	6	0		10	0
,, Denia	per case	10	6		[illegible]	[illegible]
,, Jaffa	per case	8	0		12	6
,, California	per case	12	0		14	0
Peaches, Cape	per case	6	0		10	0
Pears, Californian	per case	8	0		12	0
,, Cape	per box	[illegible]	[illegible]		8	0
,, Catillac	per crate	8	0		10	0

LONDON POTATO MARKETS.

There is a better demand for new potatoes, but trade is quiet as a whole.

		s.	d.		s.	d.
British Queen	per ton	50	0	to	60	0
Dunbars	per ton	75	0		80	0
Epicure	per ton	50	0		65	0
Evergood	per ton	[illegible]	[illegible]		[illegible]	[illegible]
Sharpe's Express	per ton	60	0		65	0
Maincrop	per ton	65	0		70	0
Royal Kidney	per ton	45	0		[illegible]	0
Up to Date	per ton	60	0		65	[illegible]
,, Blacklands	per ton	50	0		55	0
Canary, new	per cwt.	8	0		10	[illegible]

ANSWERS TO CORRESPONDENTS.

DISEASED PELARGONIUMS. — W. F., Wymondham: The plants are suffering from an excess of moisture in the soil, and, probably also from the evils of a high temperature. The majority of the roots have rotted away as the result of overwatering, and the thin pale leaves indicate a high temperature. Let the soil become fairly dry, and gradually inure the plants to cooler conditions; by this means you may save some.

SEEDLING CARNATION. — R. B. M., Sale: We are sorry to disappoint you, but it would be next to useless to attempt to place the variety on the market. The colour is good, but the flower lacks size and substance, and, what is of more importance than those, it has a bad, splitting calyx. Not one flower of those sent had an entire calyx. The prizes are few, but if this discouragement urges you to further efforts, and to higher aims as a raiser, it will have served its purpose.

SWEET PEAS.—M. M., Hellifield: We advise you to do two things, viz., secure a copy of "Sweet Peas and Their Cultivation," price 1s. 2d. (or 1s. 8d. in cloth), from Messrs. W. H. and L. Collingridge, 148, 149, Aldersgate Street, E.C.; and then join the National Sweet Pea Society, the secretary of which is Mr. C. H. Curtis, Adelaide Road, Brentford, Middlesex. The teaching in the book we recommend will assist you to grow flowers sufficiently well to win prizes at the National Shows at Saltaire or London next July.

AMERICAN BLIGHT.—R. M., Sandown: Cut away and burn all the badly-infested and cankered growths, and then paint the branches with spirits of wine, but do not touch the new growths with it.

FELLOWSHIP OF THE R.H.S.—A. H., Croydon: Send to the Secretary of the Royal Horticultural Society, Vincent Square, Westminster, for a form of application for fellowship. When you receive this get some Fellows of the society to propose and second the nomination, and return the filled-up form, together with a cheque for 21s., to the society's offices, as above. If you are not well acquainted with any Fellows, the Council will see that your application form is duly filled up. Ladies are entitled to become Fellows of the society.

LOGANBERRY. — A. H. J., Whitehaven: To secure a lot of strong canes for next season's fruiting, and to enable the plant to become fully established, cut down the canes quite close to the ground, reserving one or two for layering. The layering should be done at once, and if a few "tongues" are cut near the joints along the cane, roots will the more readily form.

BIG BUDS ON BLACK CURRANTS.—G., Erdington: The big buds are caused by an infestation of the Currant Bud Mite (Eriophyes ribis), and should be all pulled off and burned at once. You will see, on page 328 of our issue for April 24, an answer to a similar question to yours, and there a course of procedure is advised for keeping this microscopic pest in check. Another method is to spray the black currant bushes every ten days from the end of April to the end of June, with a mixture of quassia, soft-soap and water, boiling the quassia chips in water for an hour or so, and adding the soft soap to the hot solution before straining. The proportions should be a quarter-pound of quassia and two ounces of soft soap for each gallon of water.

DEAD SHOOTS OF EUONYMUS LATIFOLIUS.—B. P., Harrow: In a great many gardens the green and variegated euonymuses have suffered terribly as a result of the winter just passed, or rather as a result of very cold weather following a warm, moist autumn. The latter rendered the growths soft and succulent, so that they could not withstand the subsequent hard weather. If you carefully examine the bushes you will probably find that buds are pushing from the hard old wood, below the dead upper shoots, and if this is so, you should leave the bushes alone for another few weeks, and then cut the dead growth back to the new shoots.

LYCASTE (BIFRENARIA) INODORA.—G. W. D., Leatherhead: This species and other members of the genus are best suited in an intermediate house, and need practically the same treatment as the lycastes. B. inodora does well in a basket suspended from the roof. Water freely during the growing season, but be careful of overwatering at other times. You should also try L. Harrisonæ.

BIRDS AND CULINARY PEAS. — S. B. W., Wendover: We have not yet found a better means of keeping birds from young pea plants than the use of black cotton, or coarse black thread. Three rows of cotton, stretched over the rows, about four or six inches above the ground, and knotted to short sticks at each end and in the middle of the rows, will suffice, and birds will rarely touch the plants under it, while a strong plant outside the guarding cotton will be soon spoiled. We ourselves use tacking cotton, which costs 2d. or 2½d. per thousand yards, so that the protection given can hardly be regarded as expensive. We have to protect early lettuces in a somewhat similar way. Ten days ago a neighbour lost all his lettuces within an hour of planting them, because he had no cotton at hand to protect them with.

HELLEBORE POWDER. — G., Erdington: Hellebore powder is very poisonous, and its chief use in gardens is to combat attacks of the Gooseberry Sawfly on gooseberries and red currants. It is dusted over the bushes and among the foliage when the latter is moist with dew, or has been moistened by syringing. A flour dredger, with fine holes, is a useful implement for distributing the powder. Unless heavy rains follow soon after an application it is dangerous to pick green gooseberries from bushes that have been treated, but if the berries are left to ripen, there will be no fear of harm, as one or two dressings of hellebore powder will usually suffice in late spring or early summer. Do not inhale the powder, and take care that a careful man uses it.

NAMES OF PLANTS.

G. W. D., Leatherhead.—Lycaste (Bifrenaria) inodora.

J. J., Compton Abdale.—1, Forsythia viridissima; 2, Prunus Pissardi.

W. W., Gerrard's Cross.—Anemone fulgens—surely we named this for you a week ago!

P. V. O., Weeley.—We regret we cannot name varieties of florists' flowers. Probably the soil is unsuitable for the Campanelle Jonquil, hence its irregularity.

J. H., Pontypool.—The orchid is Lycaste (Bifrenaria) Harrisonæ. The begonias are, apparently, B. manicata (1) and B. fuchsioides (2), but a leaf or piece of growth would have enabled us better to determine the species.

C. R., Wuntorse. — The flowers were shrivelled up in their packing of cotton wool, and quite beyond identification. We cannot promise to name florists' flowers, and you had much better send flowers of daffodils to a specialist for name.

FORTHCOMING ENGAGEMENTS.

MONDAY, May 3.—National Fruit Growers' Federation.

TUESDAY, May 4.—Royal Horticultural Society; Narcissus and Tulip Committee meets at 11.30; Fruit, Floral, and Orchid Committees at 12 o'clock; lecture at 3 p.m. by Mr. C. C. Hurst, on "Mendel's Law and its Application to Horticulture"; Scientific Committee at 4 o'clock.

WEDNESDAY, May 5.—National Auricula and Primula Society, Midland section, at Birmingham, two days.

THURSDAY, May 6.—Royal Gardeners' Orphan Fund Festival Dinner at the Hotel Cecil.

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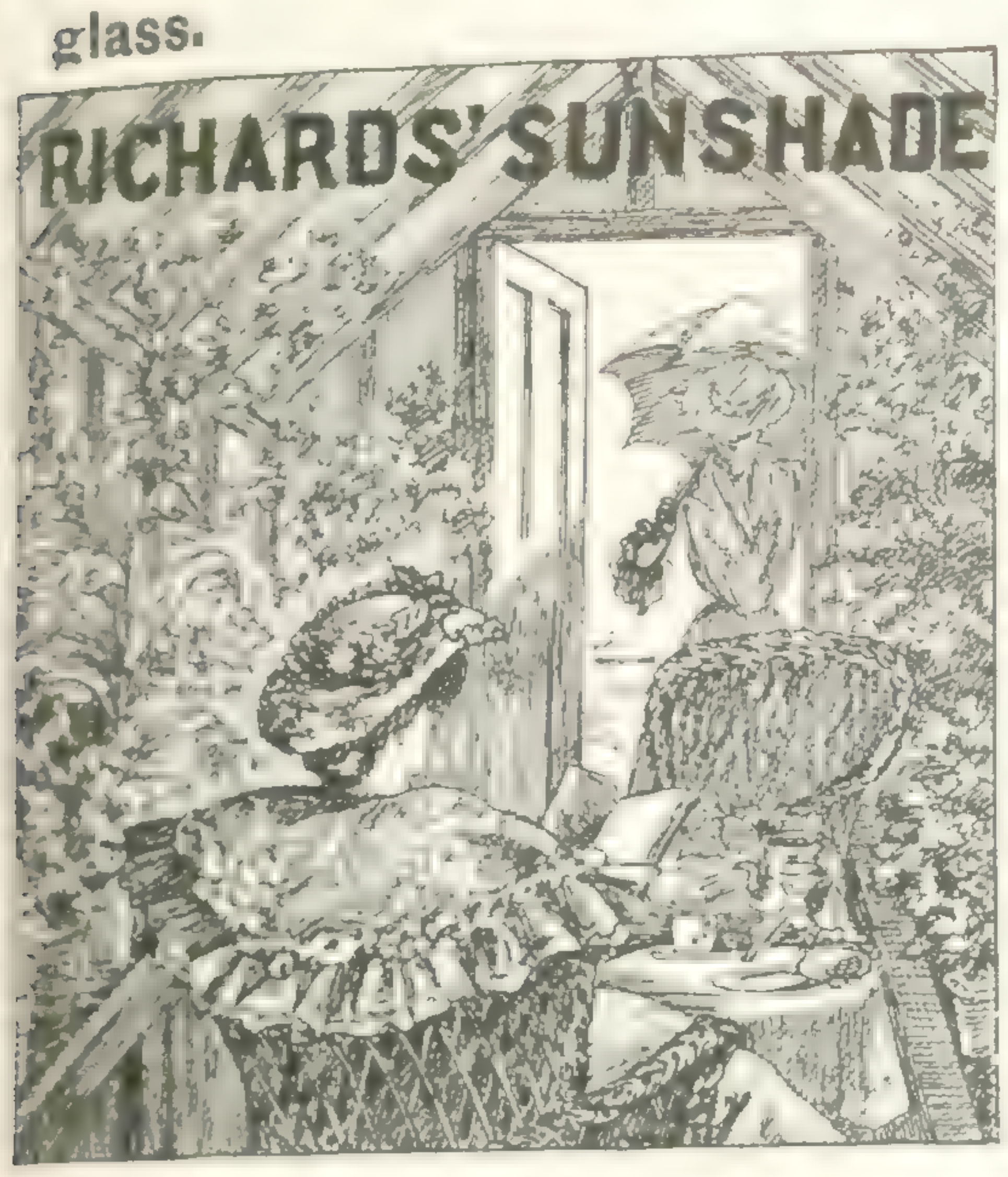

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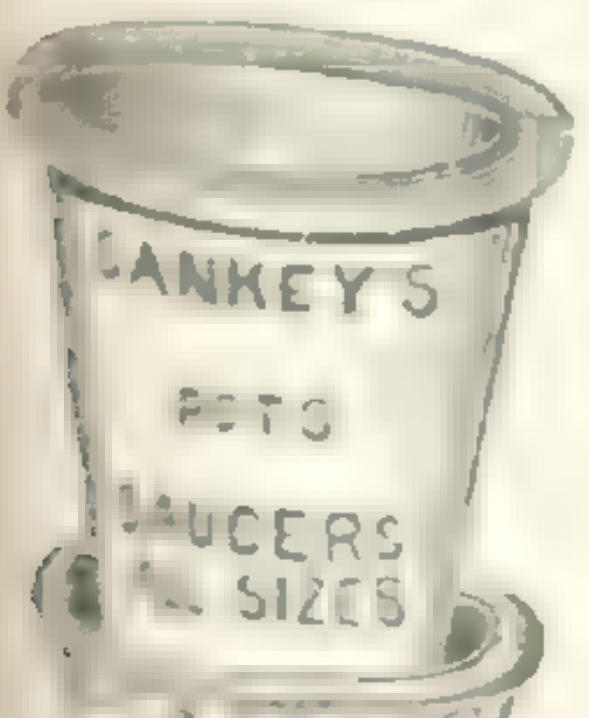

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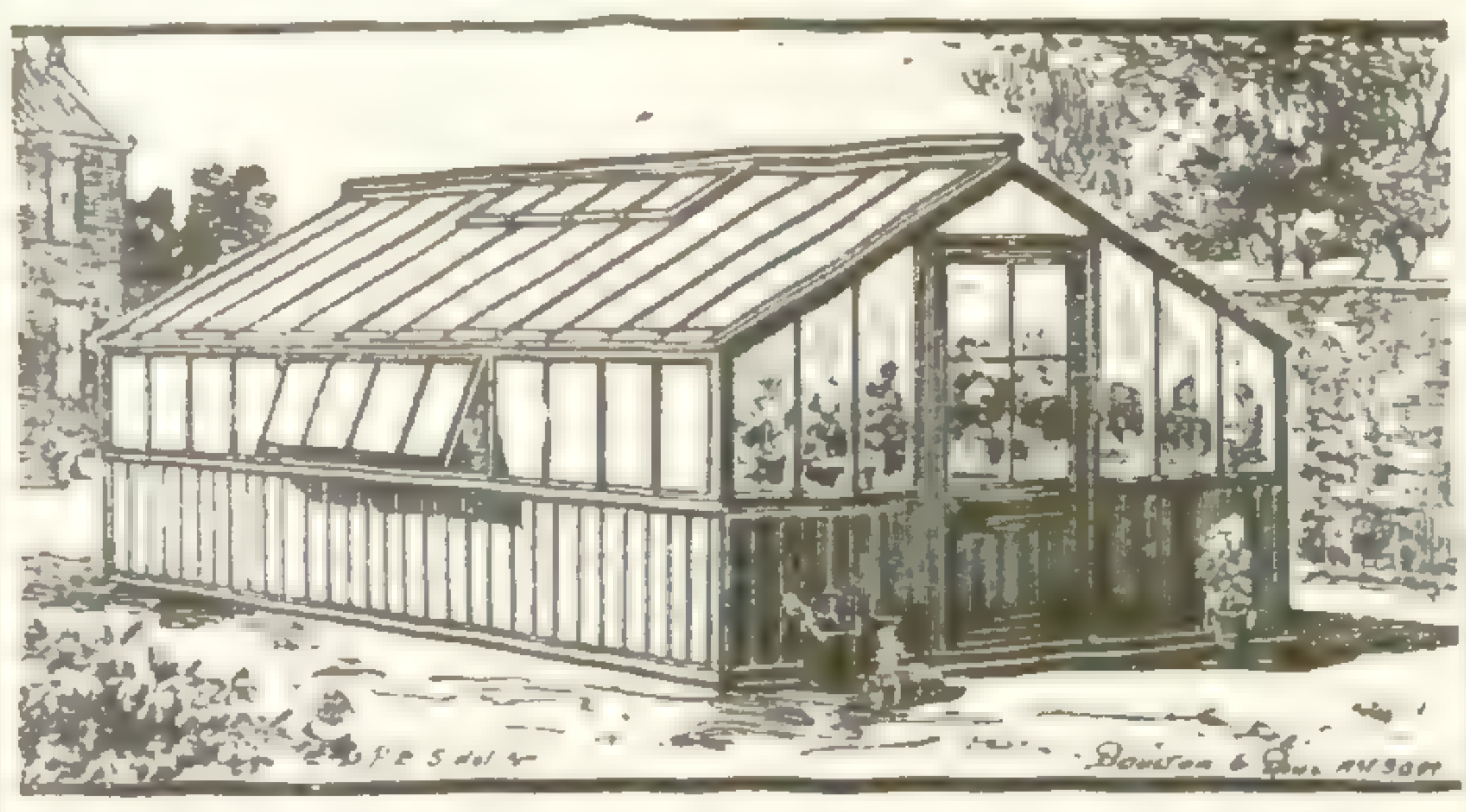

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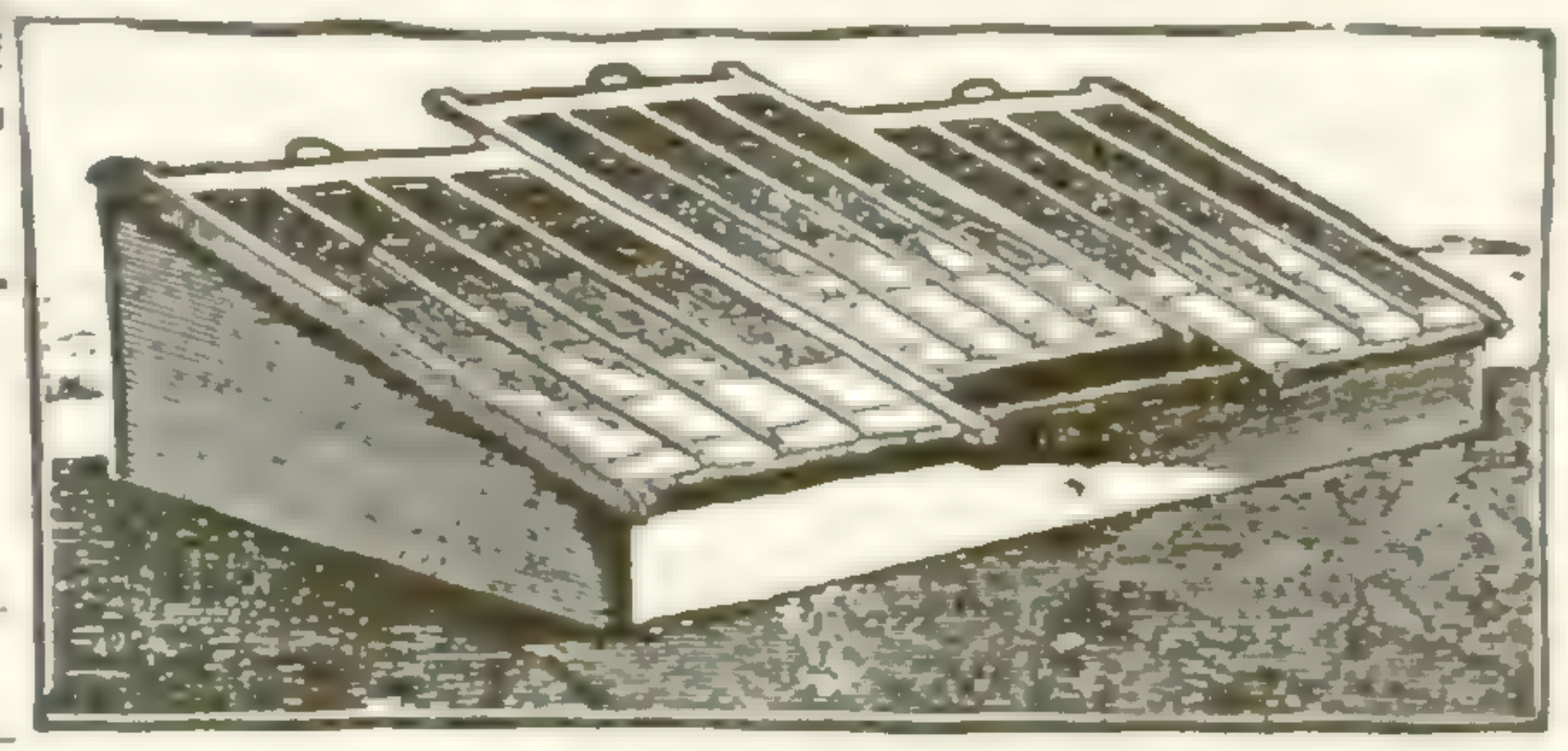

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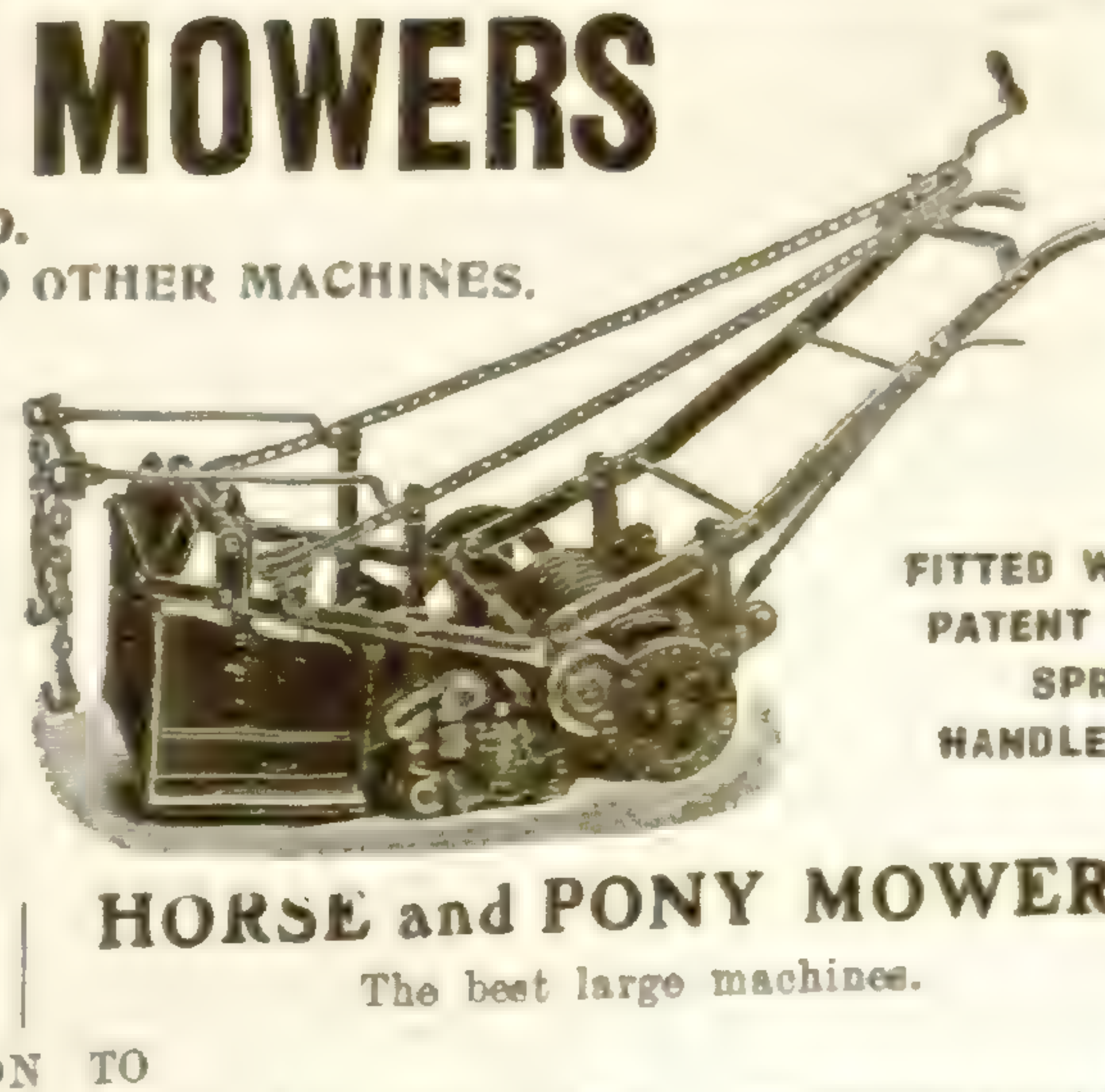

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The appearance of this book is of special interest to us, as a further proof that the free expression of our views with regard to the importance of a well-made and properly-kept lawn has had the desired effect. For a long period the lawn was relegated to a quite unimportant position in garden literature, and it was quite exceptional to meet with other than the briefest reference to it, except in works of a comprehensive character. Knowing how greatly does bright green velvety turf contribute to the enjoyment of the flower garden and pleasure grounds, we have for some years constantly kept before our readers the necessity of paying such attention to the lawn as will ensure it being at all times in the best possible condition. We have been careful to give prominence to the importance of keeping the grass free from weeds, and of maintaining the soil in a proper state of fertility. We are glad to have evidence that, as the result of our endeavour, a considerable improvement has been effected in the management of lawns, and that a strong demand has arisen for the fullest information on the various details essential to success.

If we derive satisfaction from the great quickening of interest in the lawn and its management, the feeling is materially enhanced by the knowledge that the book before us is so full and trustworthy as to be admirably adapted to the needs of those who are desirous of becoming fully informed on all that relates to the lawn and its management. The book is divided into four parts, and in the first the formation of lawns is fully dealt with. The second part is devoted to the management of lawns, and here we find ample information on mowing, rolling, watering, renovating, manuring, and weeds and pests. In the third part tennis and croquet lawns, bowling greens, cricket grounds, and golf greens are fully described, and the details of their formation and management referred to with sufficient fulness to enable the reader to carry them out without difficulty. The fourth part is devoted to the various appliances necessary in the making and keeping of the lawn. The book is freely illustrated, and, while all are good, the illustrations of garden weeds, from photographs taken by Mr. H. A. Smith, must have special mention.

THE ROSE ANNUAL FOR 1909.

Although somewhat late in making its appearance, this publication of the National Rose Society will be heartily welcomed by the large body of members, and, indeed, by not a few rosarians who have not as yet participated in the advantages resulting from association with this important body. The more noteworthy of the contributions to the issue include an account of the society's exhibition in 1908 by Mr. E. B. Lindsell; a descriptive list of the roses to which the Nickerson awards were made, by Mr. Herbert E. Molyneux; rose hybridisation, by Mr. Alex. Dickson; Wichuraiana roses, by Dr. A. H. Williams, climbing roses, by Mr. H. R. Darlington; a descriptive list of some of the newer roses that appear to be the most worthy of the attention of cultivators; and Banksian roses, by Mr. George Gordon, V.M.H.

With regard to the usefulness of the contributions as a whole, there can be no doubt; but several are of so great a length as to prevent the pages presenting that attractive appearance one could wish. The illustrations are numerous, and conspicuous among them are the portrait of the Rev. F. Page-Roberts, the president of the society, and the views in the Strathsfieldsaye Rectory garden, and the portrait of Mr. W. E. Nickerson, who last year generously presented twelve silver cups to the society.

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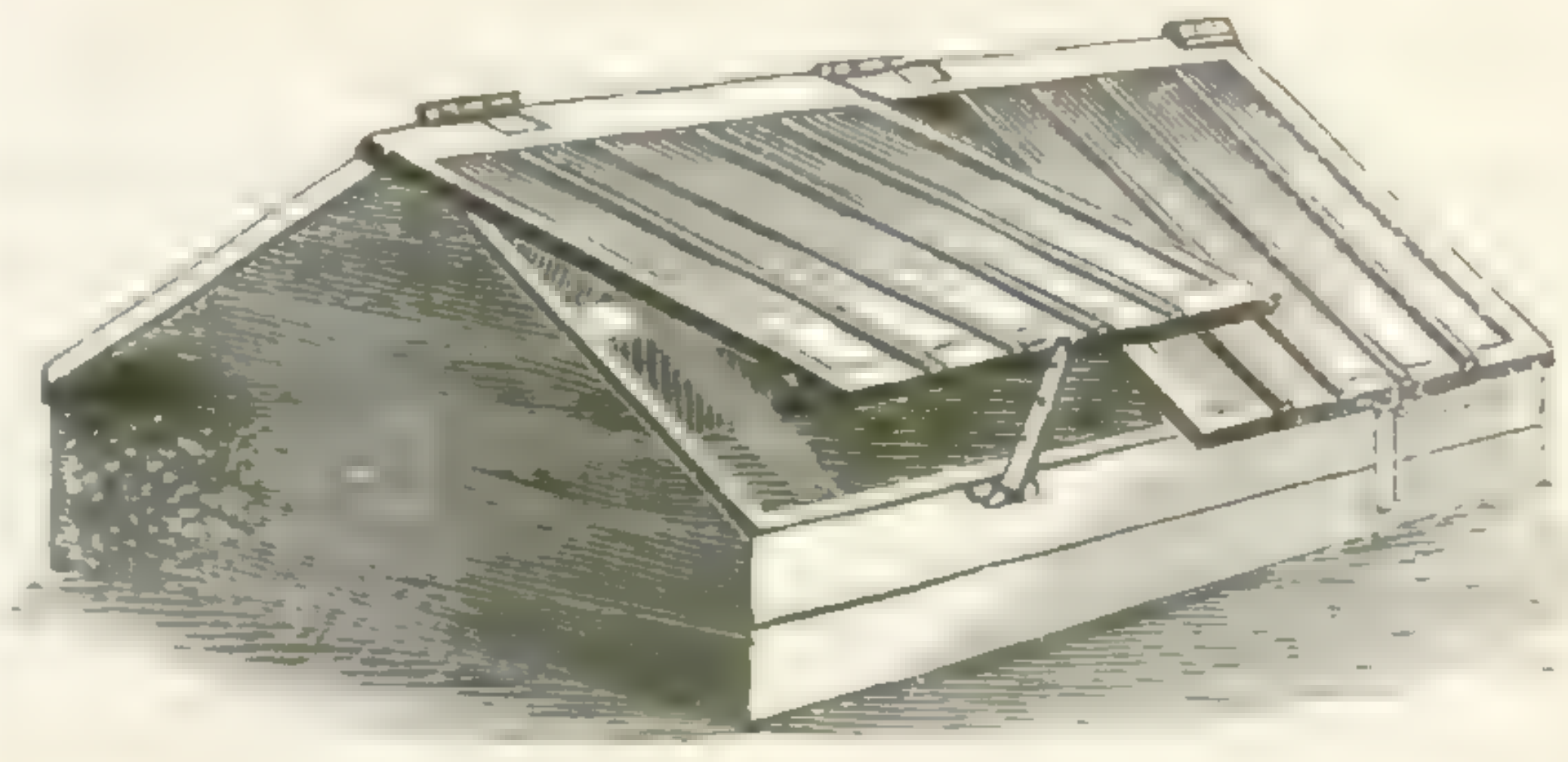

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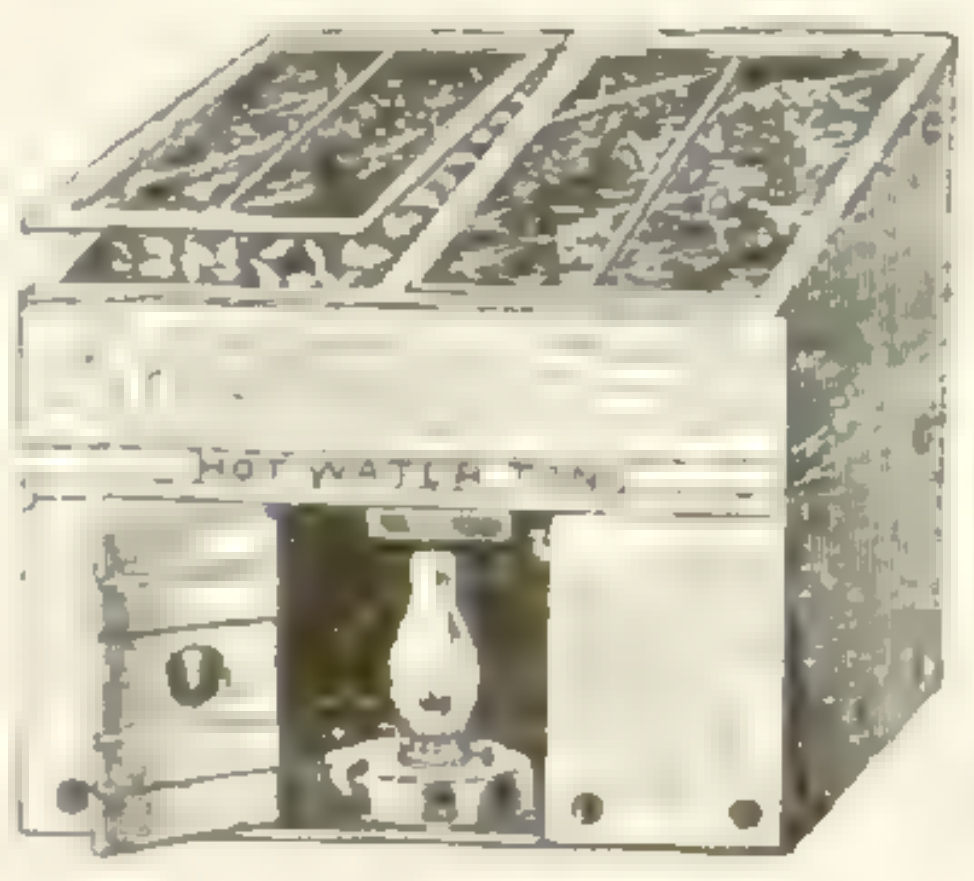

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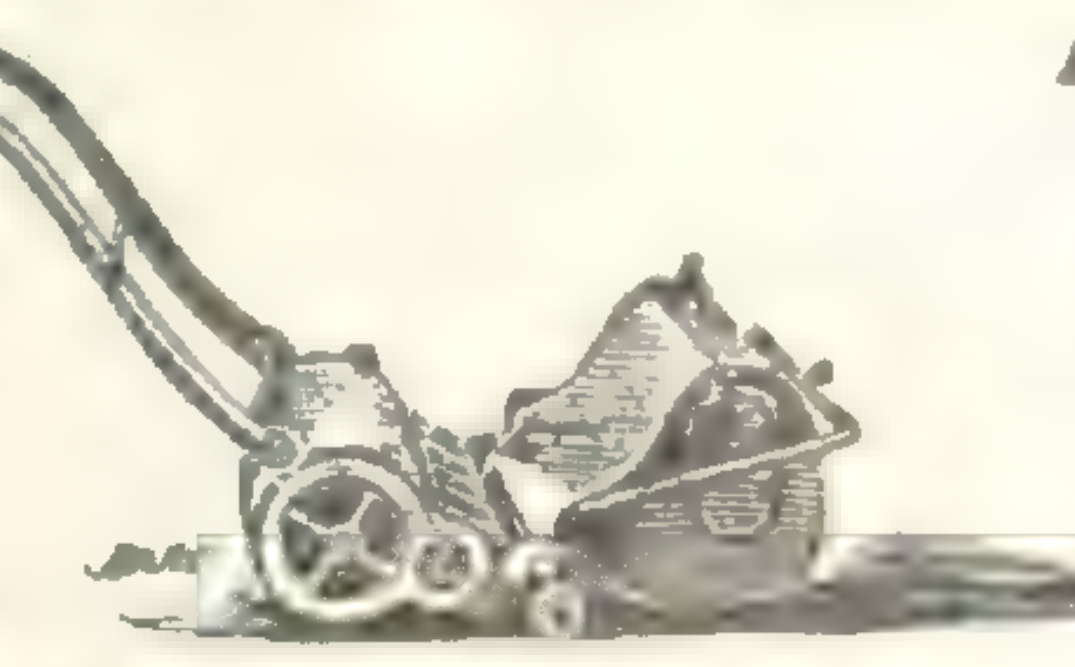

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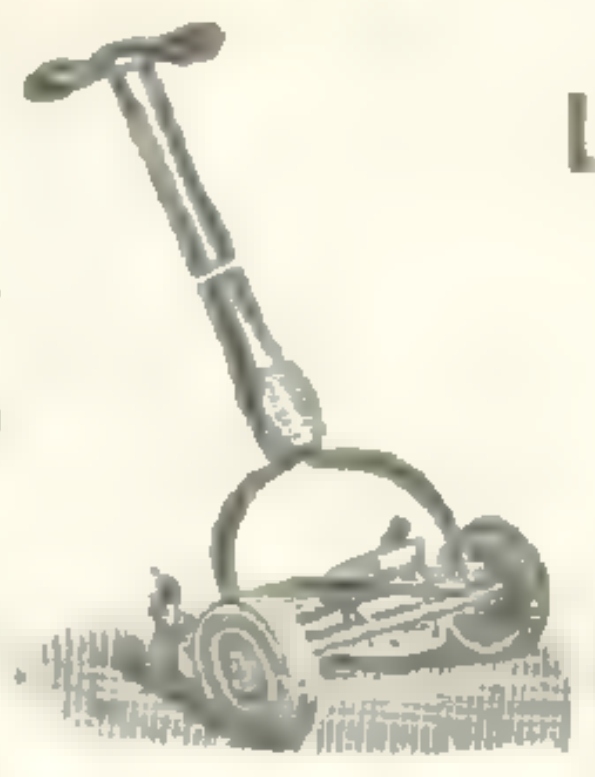

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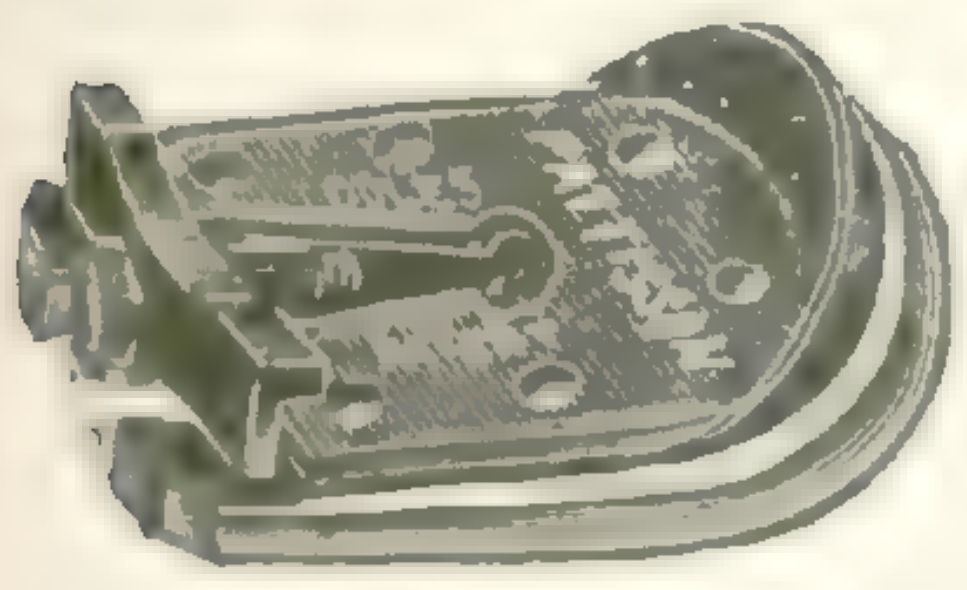

FIG. 1.

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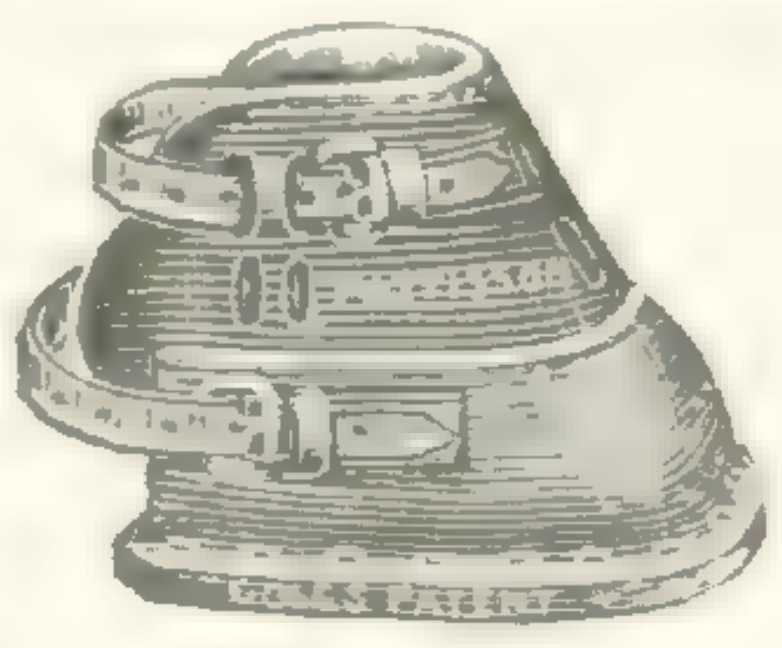

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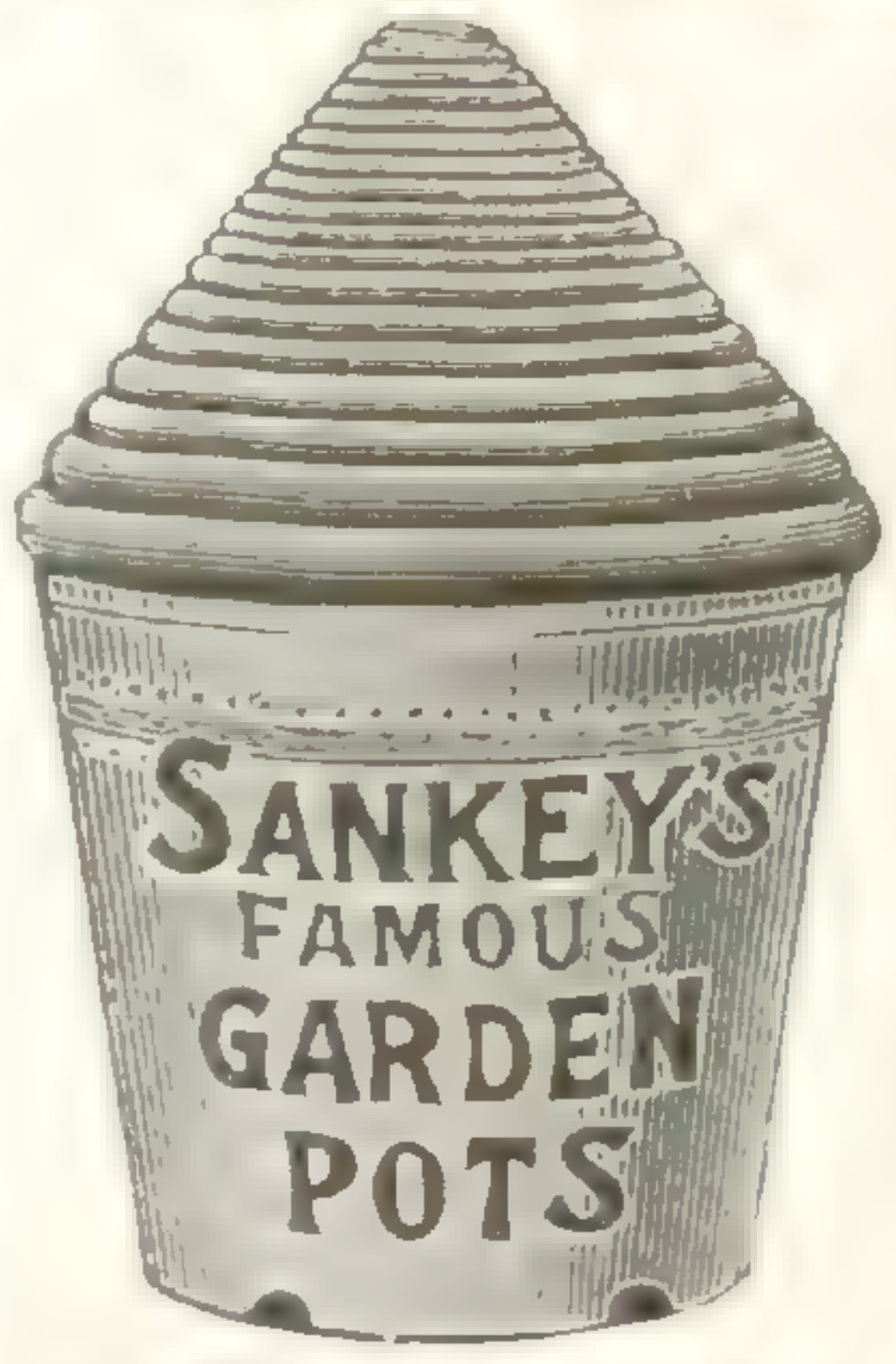

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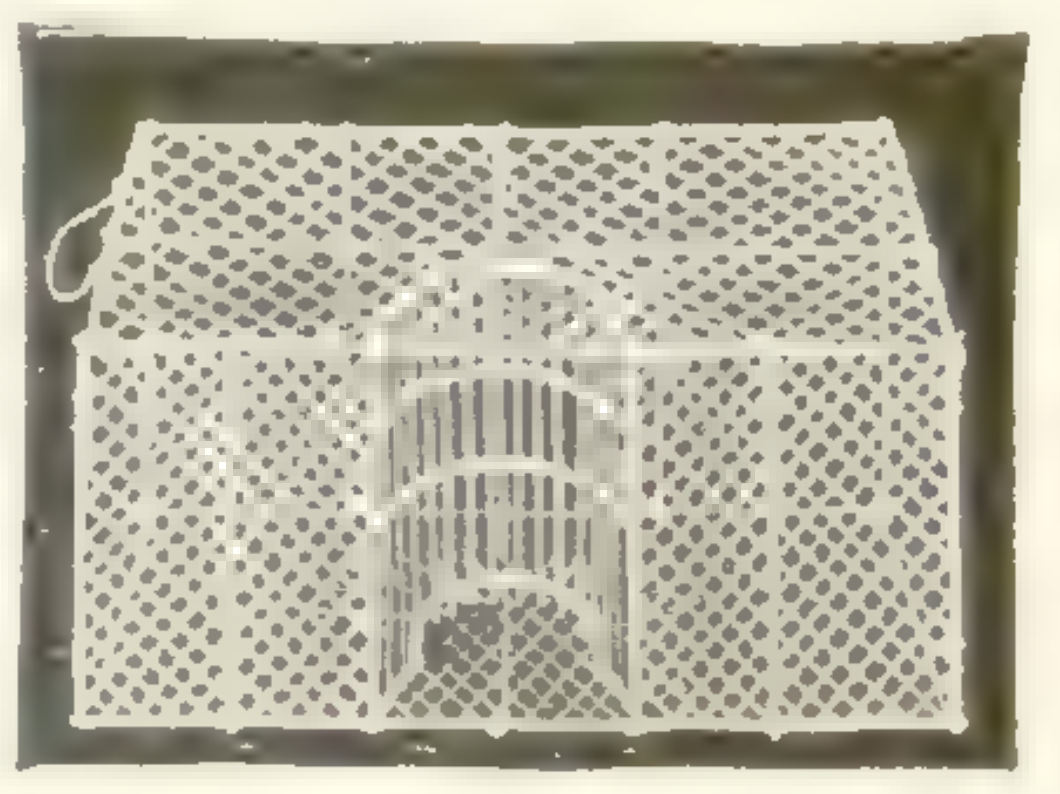

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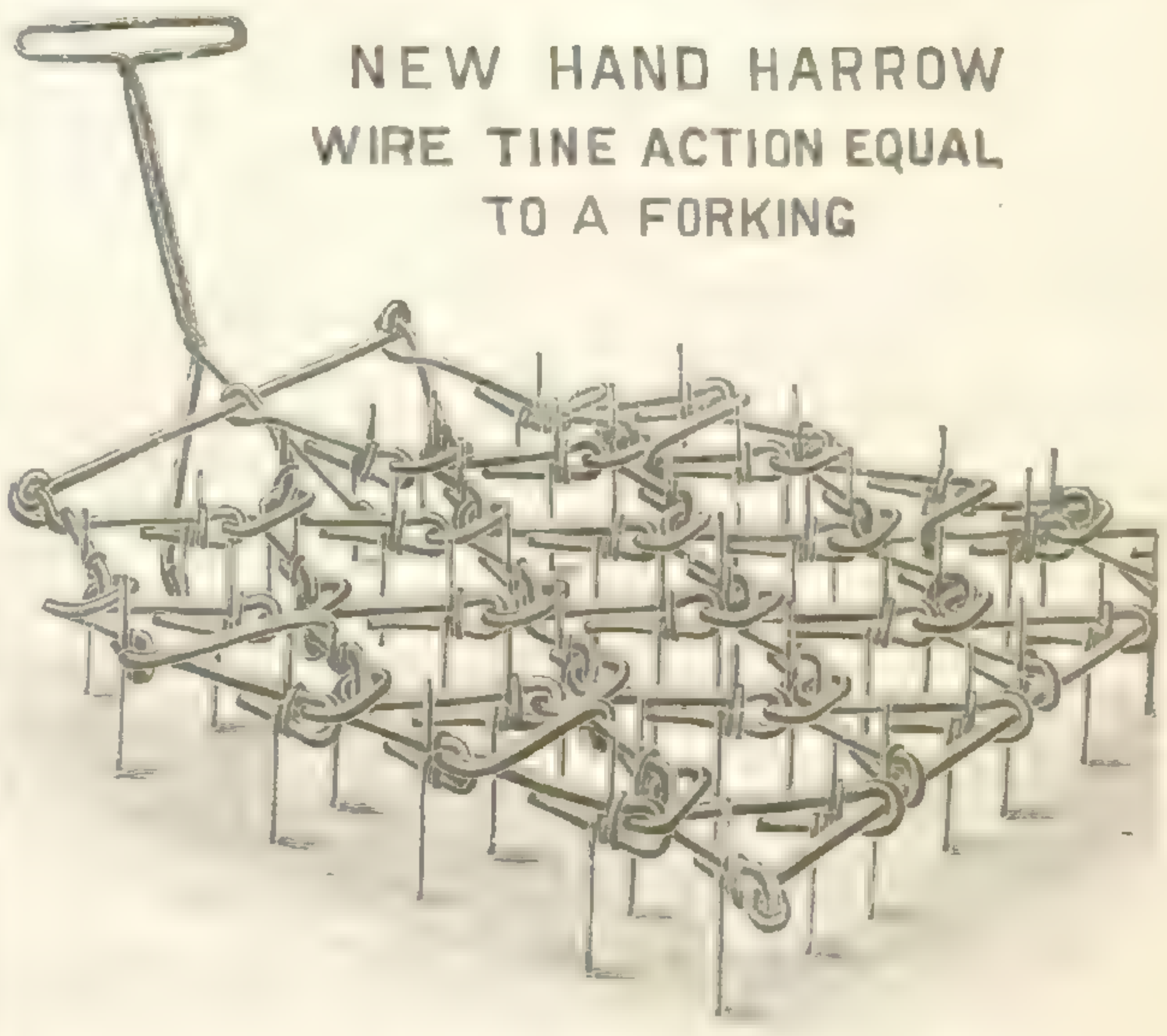

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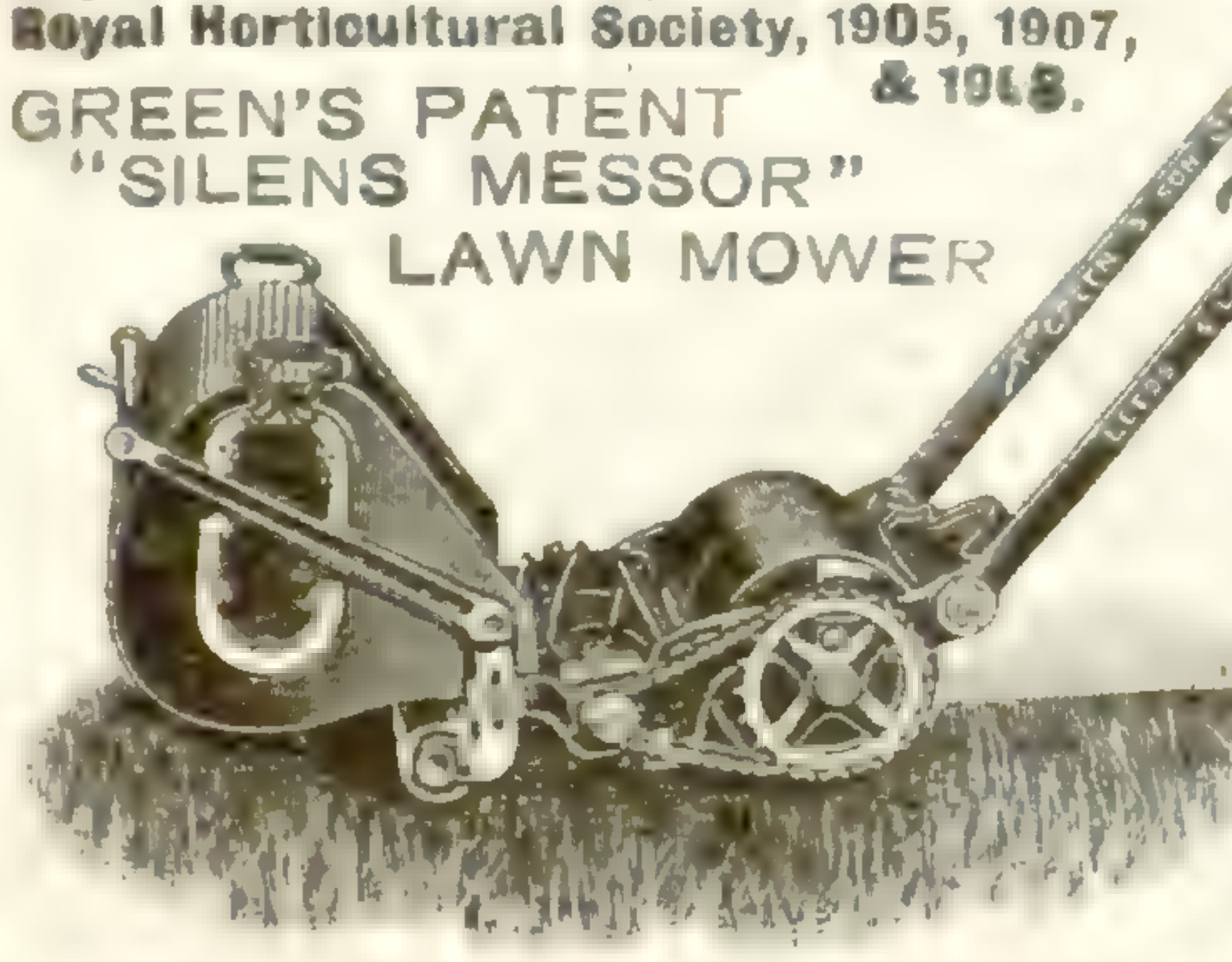

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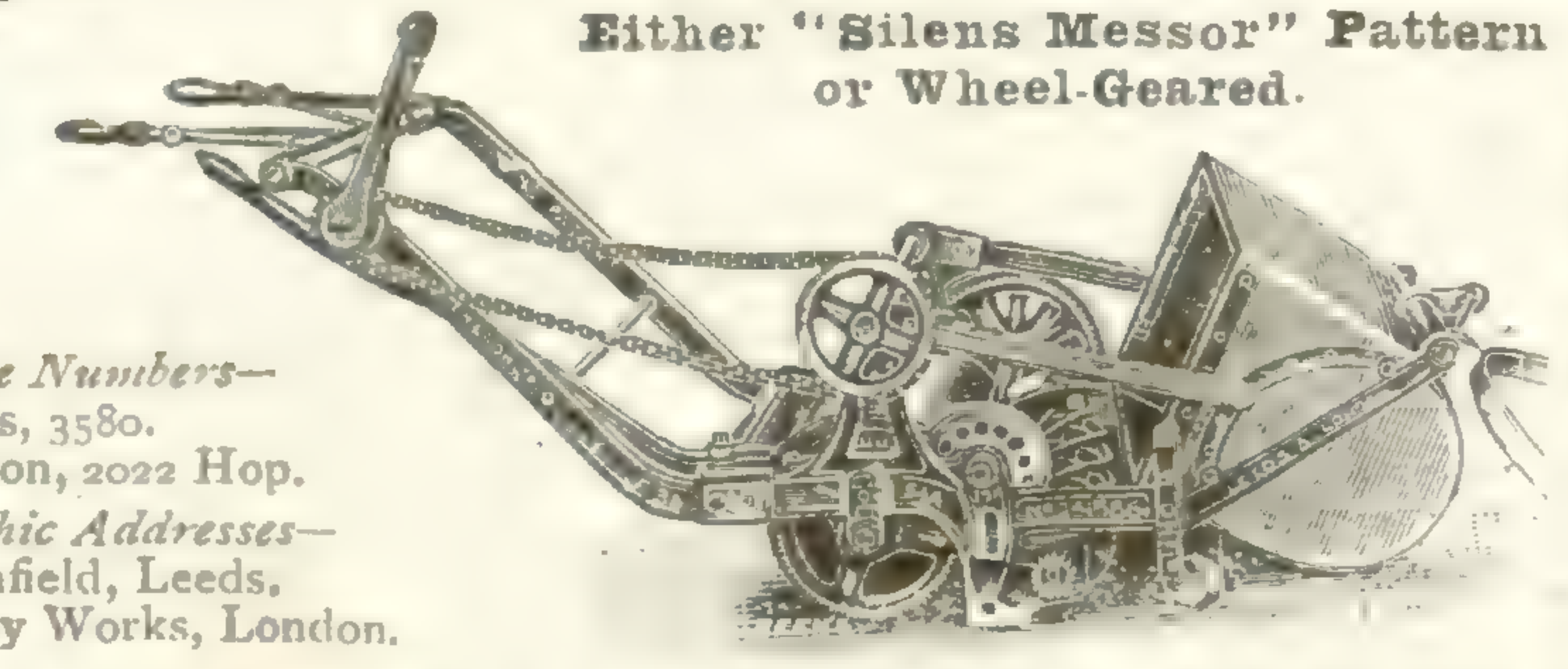

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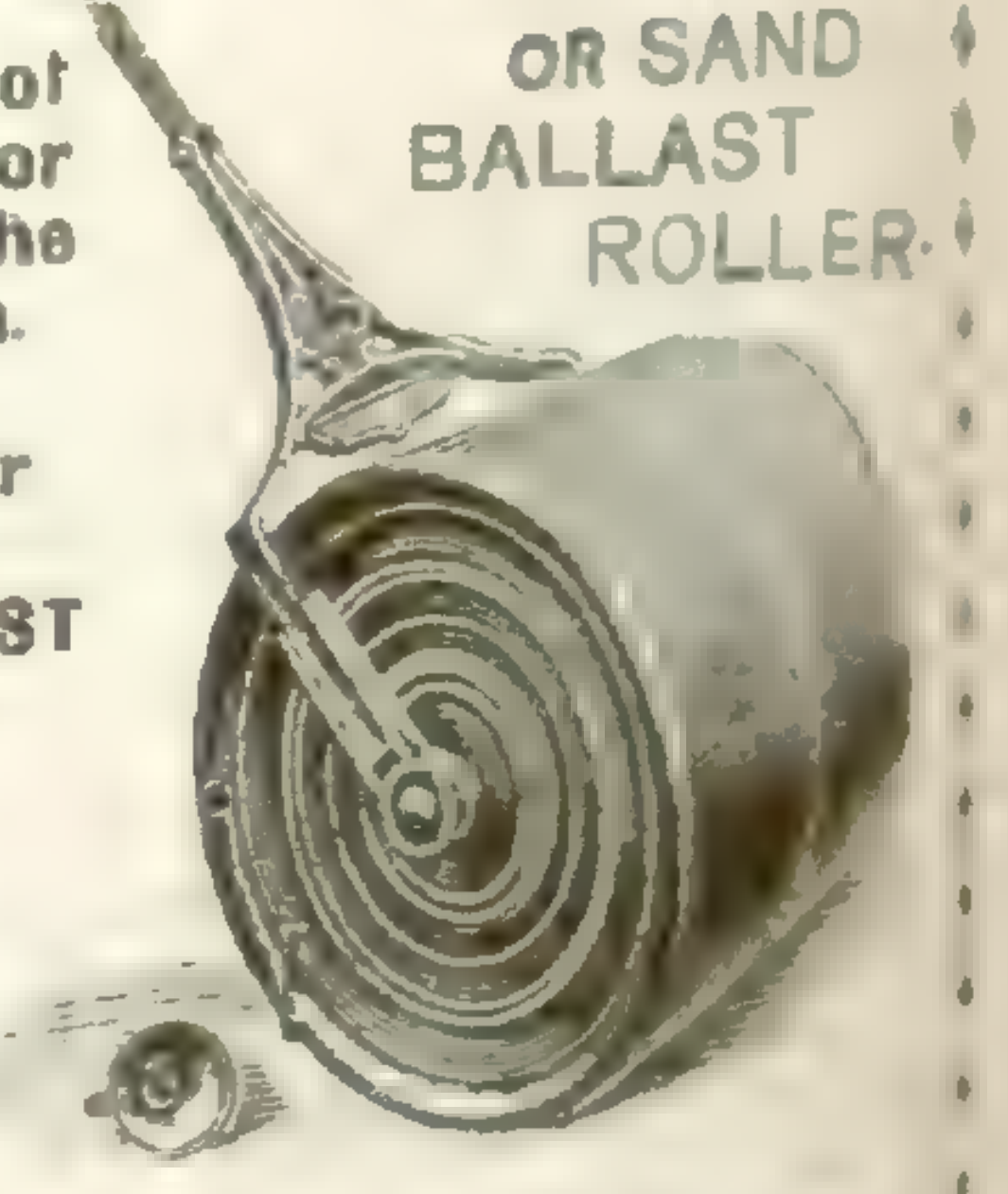

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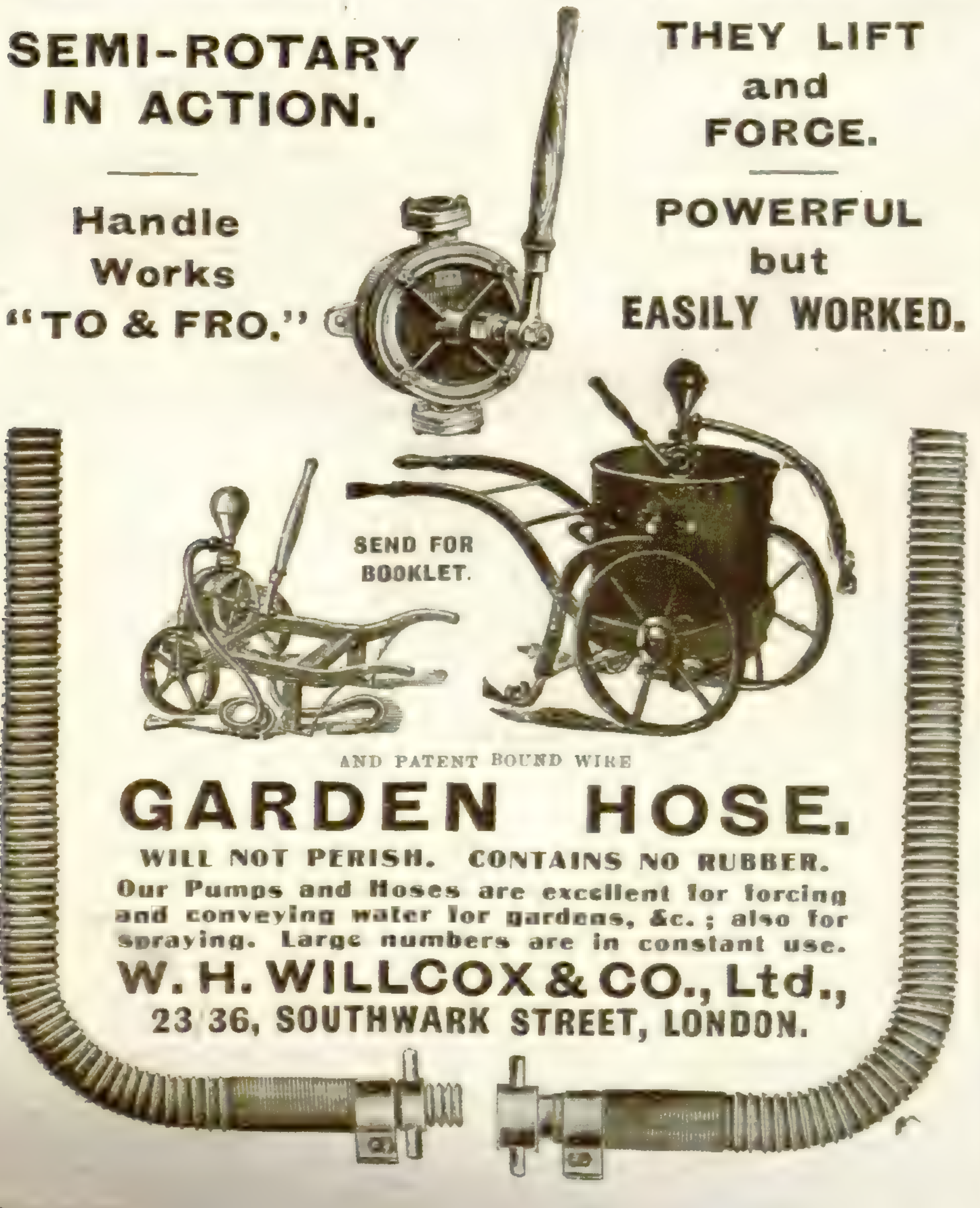
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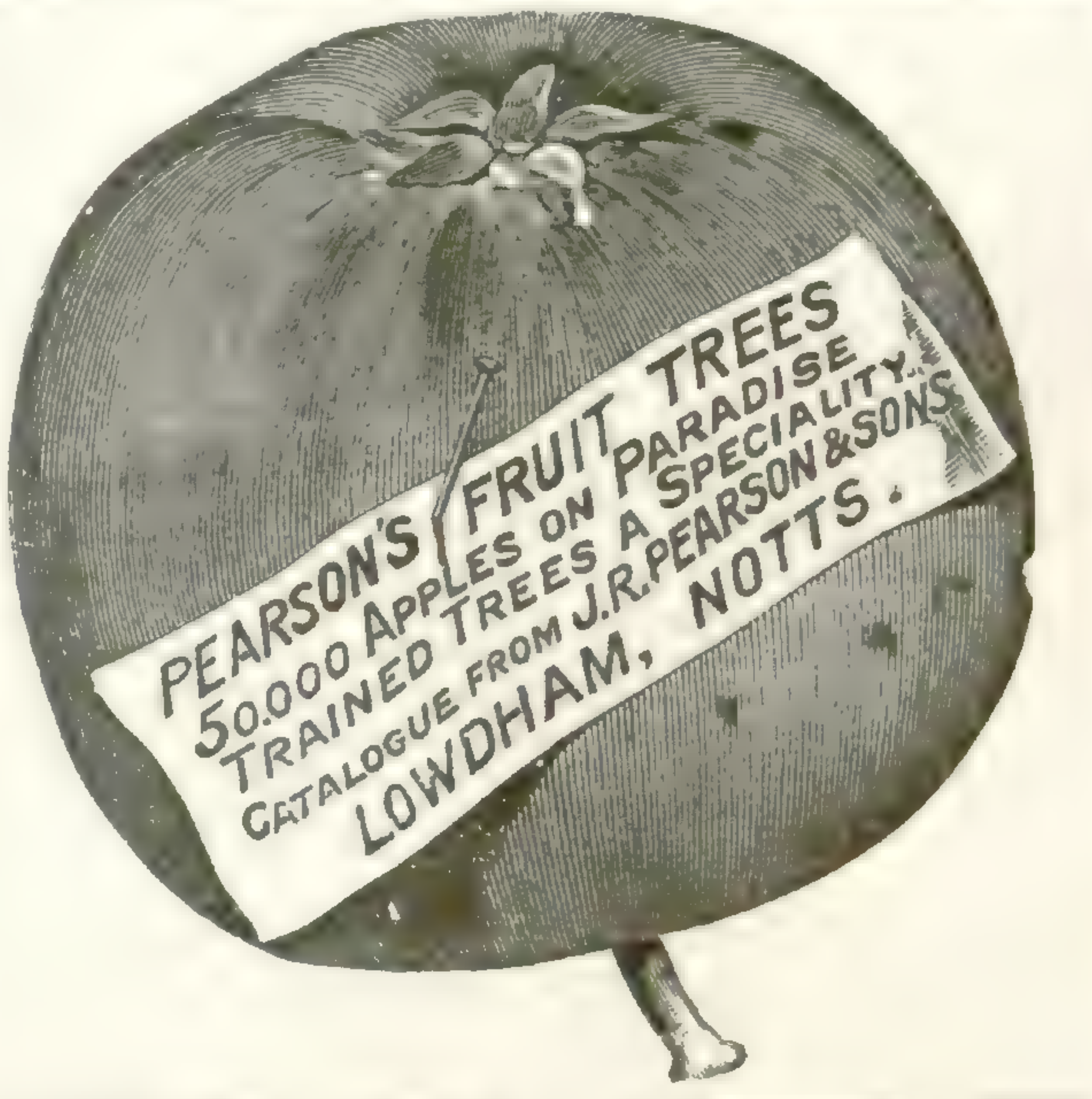
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A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

GARDENER (Head Working), where more are kept; 25 years' practical experience in all branches, Inside and Out, early and late Forcing, Vines, Cucumbers, Melons, Stove, and Greenhouse Plants, Herbaceous Borders; thoroughly reliable; highly recommended; married, without encumbrance. WOODHOUSE, Eastwood Road, Bramley, Surrey.

GARDENER (Head); experience gained in first-class establishments in all branches, both inside and outside; age 38; married, two children; excellent testimonials. Apply J. NESLING, 38, Forcett Street, Cockerton, Darlington.

GARDENER (Head Working); life experience in all branches, Inside and Out; married; good references. W. CANE, Sparrows Green, Wadhurst, Sussex.

GARDENER (Head) seeks SITUATION where three or more are kept; age 30; married, two children; six years Escrick Park, five years Campsall Hall; three years as Head at present situation. SKILBECK, Nunthorpe Hall, York.

GARDENER (Head). — H. EDWARDS, Beechy Lees Gardens, Sevenoaks, Kent, is open to engage with any Lady or Gentleman requiring the services of a steady, practical man, conversant with the requirements of a well-kept establishment. 3 years in above gardens as general foreman. Well recommended by past and present employers, who would answer any questions concerning him. Apply as above.

GARDENER (Head of two or three); all-round experience in all branches, including all kinds of Fruits and Flowers under Glass; age 35; married; good references; last 6 years Head. S. BUTLER, 4, Alexander Road, Chislehurst West.

GARDENER (Head working, where 3 or more are kept); first-class experience, both under Glass and Outside; excellent character from present and previous employers; married, no children. J. LIDDICOAT, 20, Carnarvon Road, Barnet.

GARDENER (Head Working, or good Single-handed); good practical experience in all branches, including Bees; seven years as Head; age 37; abstainer; married, two children; good references. J. ELLIS, Lodge, Springhurst, Newbury.

GARDENER (Head Working).—A Gentleman would be pleased to recommend a thoroughly reliable, steady Man where several are kept; can grow the new indoor Carnations; 10 years' first-class character from last place; Land and Stock if required; abstainer; married. H. PITTMAN, Twyford, Winchester.

GARDENER (Head Working); life experience Inside and Out; five years Head of three; excellent references; disengaged through place being sold; understands Oil Engine; age 36; married, one child (age six). E. HOPKINS, Belmore Cottage, Hookwood, Horley, Surrey.

GARDENER (Head Working), age 47; good practical experience in all branches; Inside and Out; many years as Head; can have good references. H. TURNER, Fineshade, Stamford.

GARDENER (Head Working).—R. HOISER, Gardener to G. Drummond, Esq., can highly recommend his Foreman to any lady or gentleman requiring a good practical man, age 34. Address, W. LONGLEY, Swaylands, Penshurst, Kent.

GARDENER (Head, where two or three are kept); life experience; good references; can be highly recommended from present situation; age 29, married, no family; in or near Reading preferred. H. MARSHALL, Manor House Gardens, Cookham Dean, Berks.

HER GRACE THE DUCHESS OF DEVONSHIRE wishes to recommend J. THOMPSON to any Lady or Gentleman requiring the services of a HEAD GARDENER, where several are kept; 20 years' experience in all branches. Holker Gardens, Cark-in-Cartmel, Lancs.

J. J. PARKER, Nurseryman, Whetstone, N., confidently recommends an industrious, hard-working HEAD GARDENER; good all-round man; 9 years last place; married; age 40.

LADY MALCOLM, of Poltalloch, highly recommends her HEAD GARDENER; eight years in present place, Head of three; life experience in all branches; age 36; married, one child, seven years. W. BASTIN, Barnardiston Hall Gardens, Haverhill, Suffolk.

MR. MOULAND, Tower Gardens, Belvedere Park, Kent, recommends his Foreman as HEAD WORKING GARDENER, where others are kept; 7 years in my employment; age 31; experienced in Vines, Melons, Chrysanths., Stove and Greenhouse plants; leaving through death and sale of establishment. Apply as above.

MESSRS. LADHAMS, Nurserymen, Shirley, Southampton, can confidently recommend W. GUNSTON, age 35, as HEAD WORKING GARDENER to any lady or gentleman requiring the services of a good all-round man, who is conversant with the requirements of a well-kept establishment; excellent references. Apply as above.

MESSRS. CYPHER and SONS, Exotic Nurseries, Cheltenham, can, with confidence, recommend F. W. HOLLAND as HEAD WORKING GARDENER, experienced in the growing of fruit, flowers, and vegetables; Inside and Out; good grower of chrysanthemums for exhibition; 4 years with G. F. Moore, Esq., Chardwar, Bourton-on-the-Water, who can with confidence highly recommend him.

MAJOR G. W. HOBSON wishes to recommend WALTER WAINWRIGHT as HEAD GARDENER in a good establishment; he was with the late R. Hobson, Esq., J.P., D.L., of The Marfords, for seven years as head of ten; life experience in good gardens; thoroughly experienced in all branches of gardening, including fruit, plants, orchids, roses, chrysanthemums, spring and summer bedding, herbaceous and Alpines, vegetables, etc.; married, no family, age 45. Address W. WAINWRIGHT, Marfords Gardens, Bromborough, Cheshire.

RECTOR of BILDESTON, Suffolk, wishes to recommend his late HEAD GARDENER as a thoroughly good all-round man; total abstainer. Address R., 115, Foxhall Road, Ipswich.

A YOUNG MAN (25) seeks SITUATION as SINGLE-HANDED GARDENER, or where help is given; 2½ years' good character. P. MUSTON, Coln St. Aldwyns, Fairford, Gloucestershire.

GARDENER (Head or good Single-handed); life experience Inside and Out; 7 years at present place, with good character; age 47; leaving through gentleman giving up garden. HILL, 8, Wallis Avenue, Prittlewell, Southend.

GARDENER seeks SITUATION as good Single-handed; understands poultry, and no objection to cow; married; age 39; now disengaged; 3 and 6 years good character; Berks or Oxon preferred. Apply W. DEARLOVE, Dorchester, nr. Wallingford, Oxon.

GARDENER (Good Single-handed, or where help is given); age 37; 24 years' experience in all branches; good references. E. SMITH, 5, Havelock Road, Bromley Common, Kent.

GARDENER (Single-handed or otherwise); eight years' practical experience, Inside and Out; married, one child; highest reference. F. WEBLEY, Adlestrop Gardens, Chipping Norton.

GARDENER (Single-handed or with help); good Second's place not objected to; married age 36; tall; one child; life experience Inside and Out; good references. H. WARNER, 17, Salmestone Road, Margate, Kent.

GARDENER seeks SITUATION, single-handed, or where help is given; age 28; single; life experience in all branches; good references. H. ATTWATER, Ivy Cottage, Horsmonden, Kent.

GARDENER seeks SITUATION, Single-handed or otherwise; age 25; 11 years' experience; good references. A. RANDALL, 40, Victoria Place, East Street, Epsom.

GARDENER (Single-handed, or where help is given) age 35 thoroughly competent in all branches, Inside and Out; highest references. Apply GARDENER, 1, Gillepsie Road, Highbury, London, N.

GARDENER (Kitchen and Pleasure Grounds, or small single-handed) seeks SITUATION; life experience; good reference; married, no family. A. GARWOOD, 65, School Lane, Bushey, Herts.

FOREMAN (Inside); age 25; 11 years' practical experience in Vines, Peaches, Melons, Cucumbers, and Plants; life abstainer; good references. E. CARTER, Stanley House, Eastern Road, Plaistow.

FOREMAN (Married).—Mr. F. CUBBERLEY, Head Gardener, Fairlawn, Tonbr[illegible] Kent, can with every confidence highly [illegible] his late Foreman, J. NORWOOD, to any Ga[illegible] quiring a thorough, competent, and trustworthy M[illegible] well versed in the requirements of a large est[illegible] ment; good manager of Men; first-class Fru[illegible] Plant Grower; Carnations a speciality; excellent [illegible] corator; experience gained in first-class est[illegible] ments; excellent testimonials; disengaged. Apply as above; or to NORWOOD, Norman Street, Ide Hill, Sevenoaks, Kent.

GARDENER (Second or Single-handed); 13 years' experience in good places; Inside and Out; age 27; disengaged. A. S. WINDELL, High Street, Dedham, Essex.

MR. E. CLIFTON BROWN wishes to highly recommend G. HARRIS as good SECOND GARDENER; age 28; single; has been his Second Gardener for four years, with good experience Inside and Out; excellent character. Burnham Grove Burnham, Bucks.

GARDENER (Under), age 22, seeks SITUATION; knowledge of both Inside and Out; good reference. N., Red House Lodge, Heatherside, Camberley, Surrey.

GARDENER seeks SITUATION Inside and Out; age 19; three years' experience; good reference. Apply E. HILLS, Brick Yard, Lodsworth, Petworth, Sussex.

GARDENER (Under or Single-handed); 14 years' experience; good references; married; abstainer. PEGG, 30, Woodside Cottages, Churchyard Bottom, Muswell Hill Road, Highgate, N.

JOURNEYMAN (Inside or Inside and O[illegible]; 6 years' all-round experience; good characters. Country near London preferred, and Bothy. J. TOKINS, The Gardens, Dobroyd Castle, Todmorden, Lancs.

JOURNEYMAN (Inside or Inside and Out); 8½ years' experience; good plantsman; abstainer; age 23; good references. H. BELFIELD, [illegible] Lindum Road, Hampton Wick, Middlesex.

JOURNEYMAN seeks SITUATION in F[illegible] or Plant Houses; nine years' experience; [illegible] 23; good references. Apply P. BURR, Wilste[illegible]

IMPROVER (Inside and Out); age 19; [illegible] years' experience; can be highly recommended. W. JOHNSON, Crouchmans, Great Wakering, Essex.

SITUATION COUPON

To the Advertisement Manager of "The Gardeners' Magazine,"
148 & 149, Aldersgate Street, London, E.C.

For MAY 15, 1909.

Please Repeat my Advertisement.

Name...

Address...

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Date.......................................

THIS COUPON, duly filled up, should be forwarded not later than Tuesday for the next issue.

Situations Wanted—*continued.*

IMPROVER, in a good Garden.—Lady wishes to recommend a respectable Lad; age 17; two years' experience; Bothy preferred. STANLEY STEWARD, Pinmill Road, Chelmondiston, Ipswich, [illegible]

IMPROVER seeks SITUATION; Inside or Inside and Out; 4 years' experience; age 23; good character; Bothy preferred. H. BIRCH, Fern Cottage, Ettington, near Stratford-on-Avon.

MR. MOULAND, Tower Gardens, Belvedere Park, Kent, recommends A. H. HELLYER as IMPROVER in the Houses; has been with me 2 years; age 17; leaving through death. Apply as above.

WANTED, SITUATION as an IMPROVER, age 17; strong and willing; has had three years and ten months' general experience Inside and Out; total abstainer. Bothy preferred. A. HYLAND. Woodlands, Ticehurst, Sussex.

YOUNG MAN (19) seeks SITUATION as IMPROVER (Inside or Inside and Out); 3½ [illegible] present place; well recommended. In or near [illegible] preferred. Disengaged when suited. Apply, G. CHANDLER, Butts Road, Alton, Hants.

GARDENER.—YOUNG MAN seeks situation as Under Gardener in Large Gardens; [illegible]; 5 years' reference. C. RICHES, Pleasant [illegible]ce, Uppingham.

GARDENER.—YOUNG MAN seeks SITUATION as Under Gardener; would live in Bothy; age [illegible]; good ref. Apply O. BOLTON, Marcham, [illegible]don, Berks.

GARDEN LABOURER (39); married, no [illegible] used to both Pleasure Ground and [illegible] work; good scythe and spade hand. [illegible]LING, F[illegible]s Cottages, Lambley, Nottingham.

GARDEN LABOURER.—Young married Man requires SITUATION; used to horse and hand machines, and general garden work; good reference; age 25. Eastern Counties preferred. A. HOWARD, c/o Green, South View Farm, Kenninghall, Thetford, Norfolk.

LAD (18) seeks SITUATION in Nursery; 2½ years' experience in Garden; good character. [illegible] W., High Street, Botley, Hants.

MR. G. F. OLIVER, The Gardens, Egerton House, Egerton, Kent, wishes to recommend a YOUNG MAN for Inside and Out; has been with him for six years; single; age 25. Apply as above.

YOUNG MAN, age 23, seeks RE-ENGAGEMENT by June 7, Under, or small Single-handed; 8 years' experience; 4 years' present situation. Apply, W. GULLIFORD, 3, Camden Terrace, Camden Hill, Chislehurst, Kent.

YOUNG MAN (age 18) seeks SITUATION on lawns; used to machines; strong and wil[illegible] height 5ft. 10in.; 2½ years' experience. Can be recommended. Bothy preferred. Apply, RICH[illegible]GS, Gardener, Harperbury, Radlett.

YOUNG MAN (19 to 20), with good know[illegible] K[illegible]chen Garden; live in Bothy; good [illegible] qualifications required. Apply, stat[illegible] to E. MILLER, The Gardens, Pyr[illegible] Court, Woking.

YOUNG MAN seeks SITUATION on pleasure ground and kitchen garden; good refs., and can be well recommended; disengaged; age 24. J. TURNER, Elm Cottage, Goring Heath, Oxon.

CARPENTER (single) seeks SITUATION on Estate, Nurseries, or otherwise; used to greenhouse work; twelve years last place; good references. J. HENDERSON, 6, Claverton Buildings, Widcombe, [illegible]

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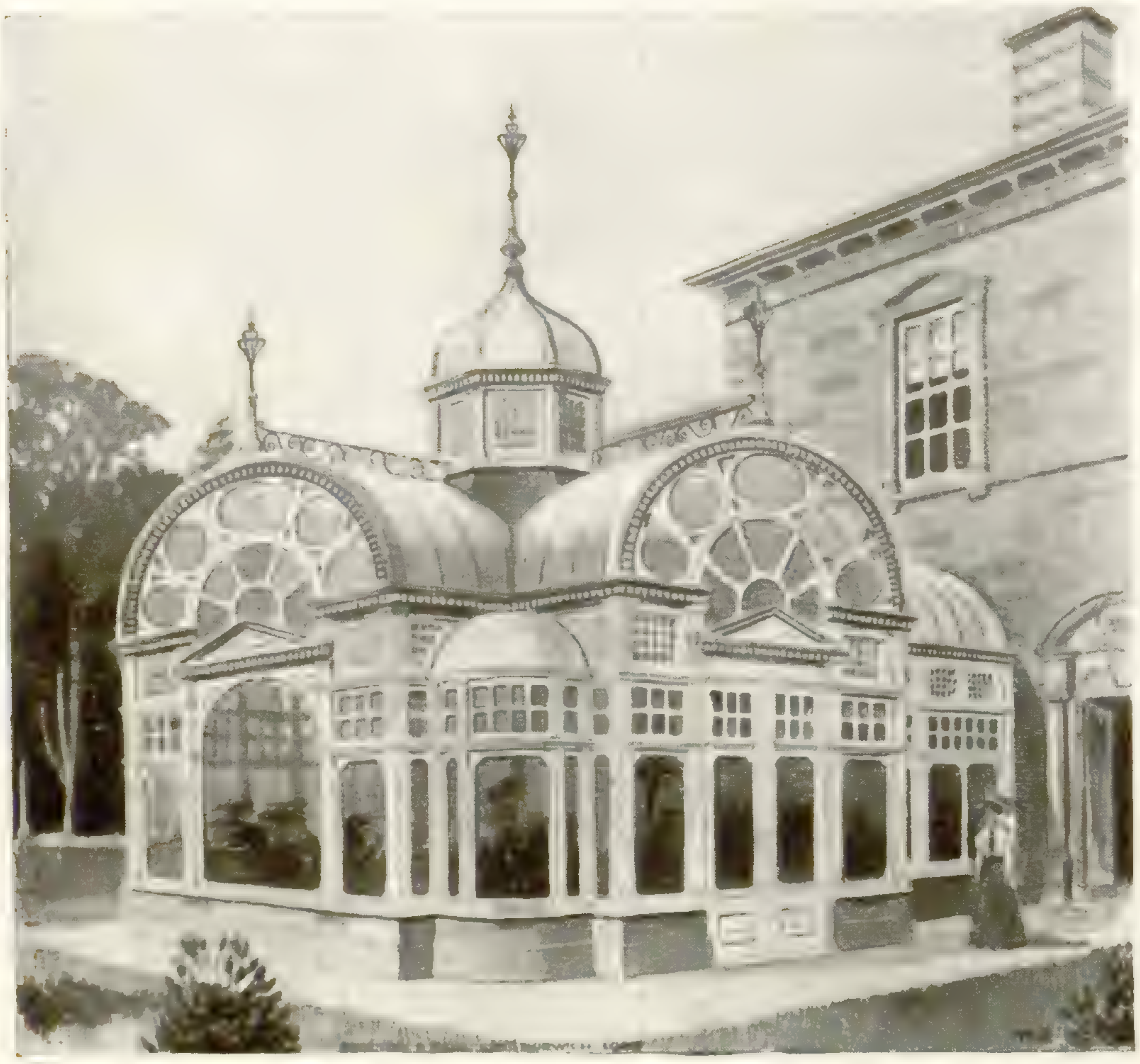

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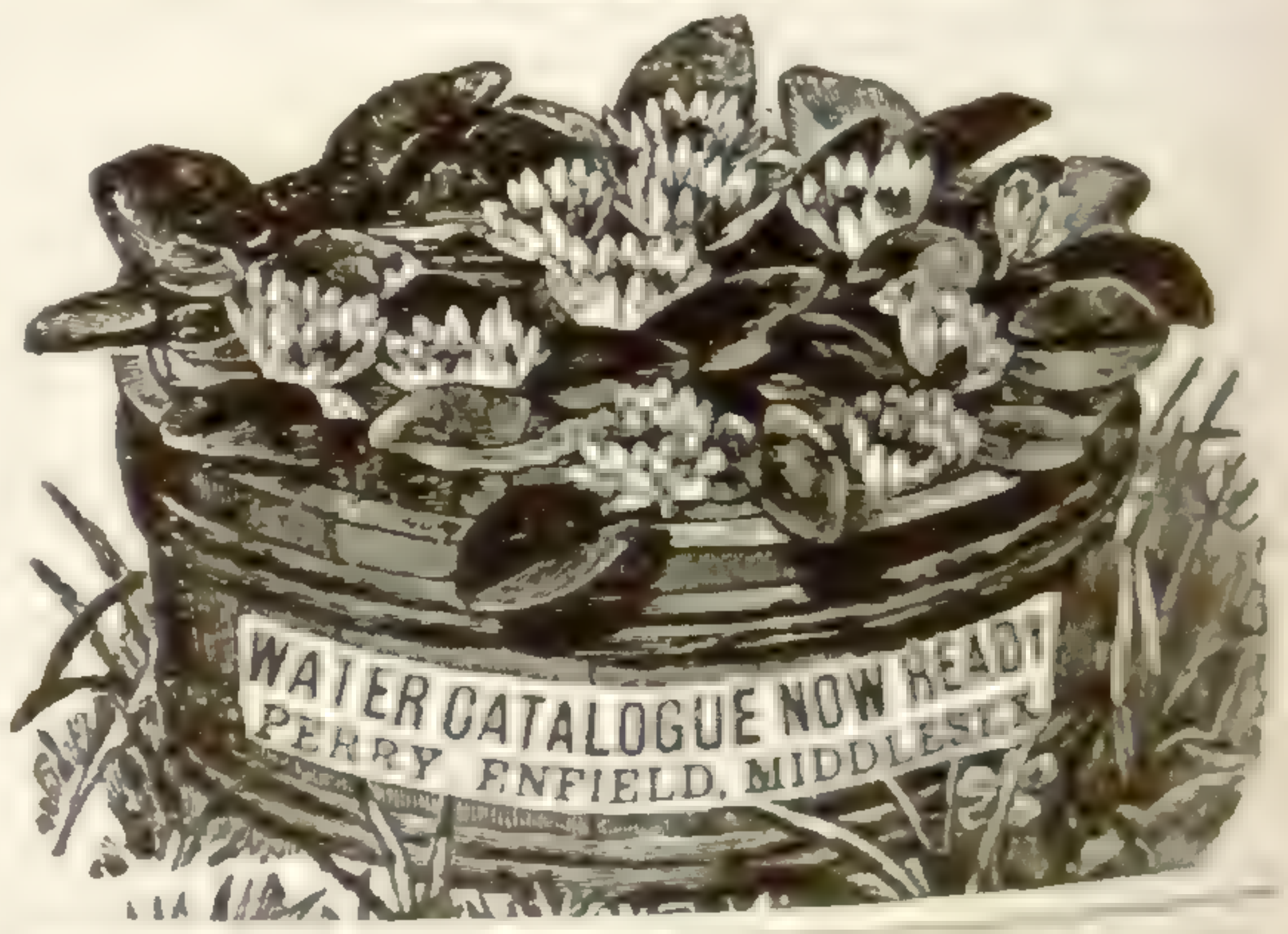

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VOL. LII.—No. 2,897. SATURDAY, MAY 8, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

The Beauty of the Orchard.

Although the owners of orchards are naturally more concerned at the present time with the prospect of the harvest that will follow the wealth of bloom that the fruit trees are now yielding, than with the beautiful effects the blossom-laden trees are now producing, the great beauty of the orchard should not be overlooked. We can fully appreciate the feelings of those who cultivate hardy fruits on a large scale for market purposes as they watch the changes in the weather that follow each other in quick succession; but we feel that growers, as well as those who are not immediately concerned with crop prospects, should derive as much pleasure as possible from the exquisitely beautiful effects that well-managed fruit trees are so well able to produce during their season of flowering. An ancient apple tree, with gnarled stem, lichen-covered branches, and comparatively few clusters of flowers, will probably appeal more strongly to the artist than the trim and lusty occupants of the commercial fruit plantations; yet the latter, when enwreathed in blossom, are so attractive as to at once appeal to the great body of flower lovers, and especially to those who derive greater pleasure from natural objects in their full vigour than from those that have passed their period of usefulness, and are showing unmistakeable signs of decay. We have recently had opportunities for passing through some of the principal fruit-growing districts, and have been much impressed by the great billowy masses of snow-white blossoms produced by plum, pear, and cherry trees. We have also been much gratified by the promise that is now being given in garden and orchard of an abundant yield. Plum trees have, in most districts, flowered freely, and would appear to be setting well, and especially in orchards that are provided with a screen on the northern and eastern sides sufficient to break the force of the cold winds that come from these directions, and frequently do much injury to the reproductive organs of the flowers and the embryo fruits when the trees are exposed to their full effects. Even more profusely are the pear trees flowering, but, unfortunately, flower production is, in the case of the pears, coincident with a material reduction in the temperature, and it is not surprising that owners of pear orchards should at the present time be apprehensive as to the ultimate results. Pears are the most uncertain of orchard fruits, because of the extreme susceptibility of the reproductive organs to frost, and, indeed, to temperatures closely approaching frosty conditions; but the flowers have developed in a most satisfactory manner, and, we trust, both in the interest of growers and consumers, that a good crop will in due course be gathered. In gardens where the trees are trained to walls, or grown in pyramidal or bush form, and the means are available for protecting the trees until the young fruits are safe from frost, the results will probably be satisfactory. There is at present the prospect of a good crop of pears, but not until we have passed the cold spell that is usually experienced about the 20th of this month will it be possible to make a forecast worthy of attention. Very abundant also is the bloom of the cherry trees, and where these fruits are grown largely, as in Kent and a few other counties, they now contribute liberally to the attractions of the landscape. Geans, bigarreaus, and morellos are equally profuse in flowering, and the blossoms are strong; favourable weather alone is necessary to ensure an abundant crop. It is a matter of some interest that the cultivation of cherries for market should not have been increased to a greater extent outside the county of Kent than has been the case. Cherries are unquestionably peculiar in their requirements, and no one who possesses ordinary intelligence would plant cherries where the natural conditions are not favourable to their growth. There are, however, many districts in which soil and climatic conditions are eminently favourable to these fruits, where no trees have been planted, except in gardens for the production of fruit for home use. We know of numerous sites for cherry orchards in the home counties, and the other day, in passing through a wide-spreading village in Hampshire, where farmhouses, villas, and cottages were literally smothered in huge cherry trees, we were not able to find a single orchard of these fruits that had been planted for commercial purposes. The absence of orchards from a district eminently fitted to cherry culture was all the more remarkable from the fact that it was within a short distance of two great populous centres. The flowers of the apple trees are as yet safely enclosed in the buds, and as they are abundant, as well as late in development, we may, at the present time, look forward with a feeling of hopefulness to the ingathering of the fruit harvest. The lateness of the flower development of apples is not by any means an assurance of a full crop, but it is an important factor, inasmuch as the shorter the period previous to the last week in May the flowers and young fruits are exposed to

SIR JOSEPH DALTON HOOKER, C.B., G.C.S.I., K.C.S.I., F.R.S., Etc.

climatic influences, the smaller is the risk of damage from frost. Bush fruits are very promising, and the flower trusses of strawberries appear to be of exceptional strength, and the earlier flowering varieties of the last-named will pay for a light protection, as frequently advised in these pages.

Sir Joseph Dalton Hooker, C.B., G.C.S.I., K.C.S.I., F.R.S., etc., etc., whose portrait we have very great pleasure in presenting to our readers, is the Grand Old Man in the world of botanical science. He was born in 1817, the second son of Sir William J. Hooker, and he practised as a surgeon in the Royal Navy for many years, being attached to the Antarctic Expedition in the "Erebus," in 1839-43. During 1847-51 he travelled as a naturalist in the Himalaya, Eastern Bengal, and the Khasia Mountains, discovering very many notable plants that now enrich our gardens and greenhouses. He visited Syria in 1860, Morocco in 1871, and California in 1877. It was in 1855 he was appointed Assistant Director of the Royal Gardens, Kew, and in 1865 he succeeded his father as Director, a position he held with great ability until he retired in 1885. Sir Joseph Hooker was president of the Royal Society from 1872 to 1877, and during the greater part of his life he has been associated with the work of the Royal Horticultural Society, and still is chairman of that body's Scientific Committee. Sir Joseph Hooker's "Himalayan Journal," a vastly interesting record of travel and discovery, will be familiar to most of our readers; other publications of his include "The Flora of British India," "Handbook of the New Zealand Flora," "Students' Flora of the British Isles," and "The Rhododendrons of the Sikkim Himalaya." For many years Sir Joseph Hooker edited the "Botanical Magazines," but a mere mention of his literary work would fill several of our columns. Despite his age, he still takes the keenest interest in botanical science at his pleasant home at Sunningdale.

Tradescant's Tomb.—Mr. A. D. Webster writes: "In Lambeth Churchyard is a tomb which no botanist should neglect visiting that of John Tradescant, who was gardener to Charles I. in 1629. Near by was his famous botanical garden, in which, as late as 1749, might have been seen many rare and curious plants, including the arbutus, aristolochia, and Rhamnus catharticus, the latter about 20 feet high, and nearly a foot in diameter of stem—truly a giant specimen of our native buckthorn. It was, indeed, hard to realise when visiting the adjoining Lambeth Borough Recreation Ground, with its soot-incrusted specimens of the euonymus, holly, and aucuba, where the atmosphere reeks with chemical fumes, that little more than a century and a-half ago nearly the same site should have been occupied by the most famous botanical garden and museum of its day."

Fixation of Nitrogen.—The next meeting of the London branch of the British Gardeners' Association takes place on Thursday, May 13, at Carr's Restaurant (Charles Dickens' Room), Strand, W.C., when Professor W. B. Bottomley, M.A., of King's College, will give a lecture, illustrated by lantern slides, on "Nitrogen Fixation in Plants." Many of the leading horticulturists are expected to be present. Professional gardeners interested in this subject should take advantage of this opportunity to hear Professor Bottomley.

Proposed Garden Belt for Paris.—In an official report recently presented to the Parisian authorities, there is a strong recommendation that the old fortifications which surround the city be converted into a continuous garden. If this recommendation is adopted Paris will presently have a nineteen mile long belt of gardens, averaging about 250 yards in width. It is estimated that the net cost of the conversion will be about equal to £5,000,000, and the upkeep will cost well over £100,000 a year.

Beautiful Violas and Pansies.—Wondrously beautiful are the violas, and, to some folk, the pansies, with their splendid markings, are even more beautiful. It is in spring and early summer we so greatly prize these homely flowers, but they must be well grown if we are to have them at their best. From Messrs. Dobbie and Co., Rothesay, we have received a gathering of these flowers that in size, substance, and brilliance leave nothing to be desired. Among the violas we were specially pleased with Crieffie Smith, deep blue; John Cunningham, claret; Agnes Kay, lavender; Hugh Reid, plum; Jenny McGregor, violet; Miss H. Pearce, white; and Mrs. C. W. McPhail, purplish-lavender, while among the pansies notably fine things were Mrs. MacFadyen, gold and purple; James Johnstone, two shades of claret-purple; W. P. A. Smith, yellow and purple; Margaret Fyfe, blue and pale yellow; Mrs. H. Stuart, maroon and rose; Peggie Townsend, blue and cream; and Jenny Morris, yellow blotched with maroon. Many of the violas were sweetly scented, and all the flowers had good stems, giving evidence of good selection and fine culture.

Longleat, the residence of the Marquis of Bath, at which the Prince and Princess of Wales will stay on the occasion of their visit to Midsomer Norton in June next, is very properly regarded as one of the largest and most beautiful mansions that were erected in the sixteenth century. The foundation of the present mansion was laid by Sir John Thynne, in 1566, from designs by John of Padua, and the house, so far as finished by Sir J. Thynne, was twelve years in building. Sir James Thynne, a later owner, completed the work. The present garden front is of much later date, and is due to Sir J. Wyatville, who remodelled the principal apartments. As indicating the vast proportions of the palatial structure, the length of the main front is 220 feet, and of the flanks 180 feet. During the long period over which the history of Longleat extends the gardens have shown considerable variation in style. For a considerable period they represented the formal Dutch style at its best, but the third Viscount Weymouth, created Marquis of Bath, had the gardens and pleasure grounds remodelled under the direction of "Capability" Brown. The stately mansion is approached from the south by a straight drive a mile or so in length, flanked by old elms, and for some distance bounded on one side by the pleasure grounds, and on the other by the large lake. The woods and plantations have an area of about 2,000 acres, and the magnificent park affords a large number of views of great beauty, the most noteworthy being that from the spot known as Heaven's Gate.

New Public Gardens for Douglas.—The Douglas Town Council have accepted the offer of the trustees under the will of the late Mr. Henry Bloom Noble, to sell them the Villa Marina, Douglas, for £60,000, a condition being that the grounds shall be used as public gardens. The trustees will return to the Council £20,000 for the erection of a public hall in the grounds, and will set aside £50,000 for agricultural and industrial education.

Great American Orchid Exhibition.—A large exhibition of orchids is being arranged for May 26 to May 30, [illegible], by the Massachusetts Horticultural Society. There will be also classes for new stove and greenhouse plants, new conifers, and shrubs, and new herbaceous plants. [illegible] gold medals will be offered as prizes, and in some instances substantial money prizes are to be added to the medal award. Full particulars and schedules can be obtained from Mr. William P. Rich, the secretary of the society, Boston, Mass., U.S.A.

The Worshipful Company of Gardeners, on the occasion of a banquet given recently at the Gaiety Restaurant, London, was honoured by the presence of the Duke and Duchess of Teck, and the Freedom of the company was conferred upon his Serene Highness. Captain R. I. Tasker presided over a large company that included Sir Trevor and Lady Lawrence, Sir Albert K. Rollit, Mr. N. N. Sherwood, Mr. C. Bayer, and other well-known horticulturists.

Wild Flower Show at Glasgow.—So successful was the exhibition of wild flowers held last year in the People's Palace, Glasgow Green, that the display is to be repeated this year. The daily exhibition of wild flowers has already commenced, and will be continued until the end of September, and it is proposed, in connection therewith, to give simple botanical lessons to the young Glaswegians.

Presentation to Mr. J. H. Goodacre.—As an acknowledgment of the good work he has done for the members during many years, by advice, visits to gardens, and lectures, the Nottingham Garden Holders' Society, presented Mr. J. H. Goodacre with a fine silver salver a few days ago. The presentation was made by Councillor Small, at a public meeting at the Welbeck Hotel, Nottingham. As our readers are probably well aware, Mr. Goodacre is head gardener to the Earl of Harrington, at Elvaston Castle, and is a famous fruit grower and exhibitor.

Fire on Hockley Common, Elstead.—The lads who were charged with setting fire to the furze, etc., on Hockley Common, were recently brought before the Guildford County Bench, and committed for trial at the Assizes.

Alteration of Walks at Kew.—The fence which for fifty years had separated the "Botanical Garden" from the "Pleasure Grounds" or Arboretum was removed in 1895. A path on each side of it had been necessary so long as the two sections of Kew remained distinct, but when the fence was taken down these two walks, where they ran parallel and within a few yards of each other, lost their meaning, except that one was used as a service road for carts, etc. From the landscape point of view, also, this duplication of walks was wrong. During the past winter that section of the service road reaching from near the Victoria Gate to the point where it joined the road leading to the Stable Yard has been broken up, and will disappear. The path for visitors which went behind the Temple of Bellona and ended at the Unicorn Gate has been brought in front of the Temple, and now ends close to the Victoria Gate. It may be of interest to mention, says the "Kew Bulletin," that this path is a portion of the ancient "Stafford Walk," made, so tradition says, by the Staffordshire [illegible] about 1770. It commenced at the [illegible] end of the Rhododendron Dell, passed through the "Hollow Walk Wood" [illegible] the Sion Vista, and ended, as already stated, where the Unicorn Gate now stands.

VEGETABLE MARROWS.

These succulent vegetables are often relegated to an inferior place among crops, and the reason is not far to seek. Each marrow is allowed to grow too much, or it is grown too slowly, and then it has to be peeled and seeded, so that by the time it is cooked, most of its flavour, as well as its nutritive properties, have been transferred to the water. People, too, sometimes scoff at it because it contains 94 to 95 per cent. of water, and to such we might reply that some light beers contain about the same proportion. Students of physiology tell us that we should consume at least five pounds of water every day in some form or other, and a certain school of doctors are favouring the practice of taking this liquid in the form of food rather than of drink. Given a well-grown marrow of good variety, cut at the right time, that is, from five to ten days from the bloom in fairly warm weather, and cooked whole, and I am of opinion that it is worthy to hold a place not far below green peas and asparagus. But no hotel, or dining place of any sort, to which I have been, has ever given it to me in this way. As one gets it at these places, it is truly only a third-rate vegetable.

Two main opinions, diametrically opposed to each other, are held as to the proper cultivation of the vegetable marrow. One school of gardeners dissuades us from making a special bed for it, and tells us to grow it on the level in ordinary deeply-dug and well-manured soil—in ordinary market-garden style, in fact—claiming that by this system it is more fruitful, and continues bearing till later in the season. I do not deny there may be something in this, though, as I have had them bearing from early July till late October on the raised-bed system, and have cut as many as seventy-three marrows from a bed containing three plants, I cannot believe there is much in the claim of increased fertility and lengthened season when grown on the flat without any special preparation. But one undoubted feature of the latter system is that the fruits do not swell up so quickly, and therefore have to be cut when smaller, not only to avoid the necessity of peeling and seeding, but also to secure that delicate marrow flavour, added to which one does not get them, as a rule, until a month later in the season, there being a difference between having cold garden soil below them in late May, and the warmth of a considerable mass of manure.

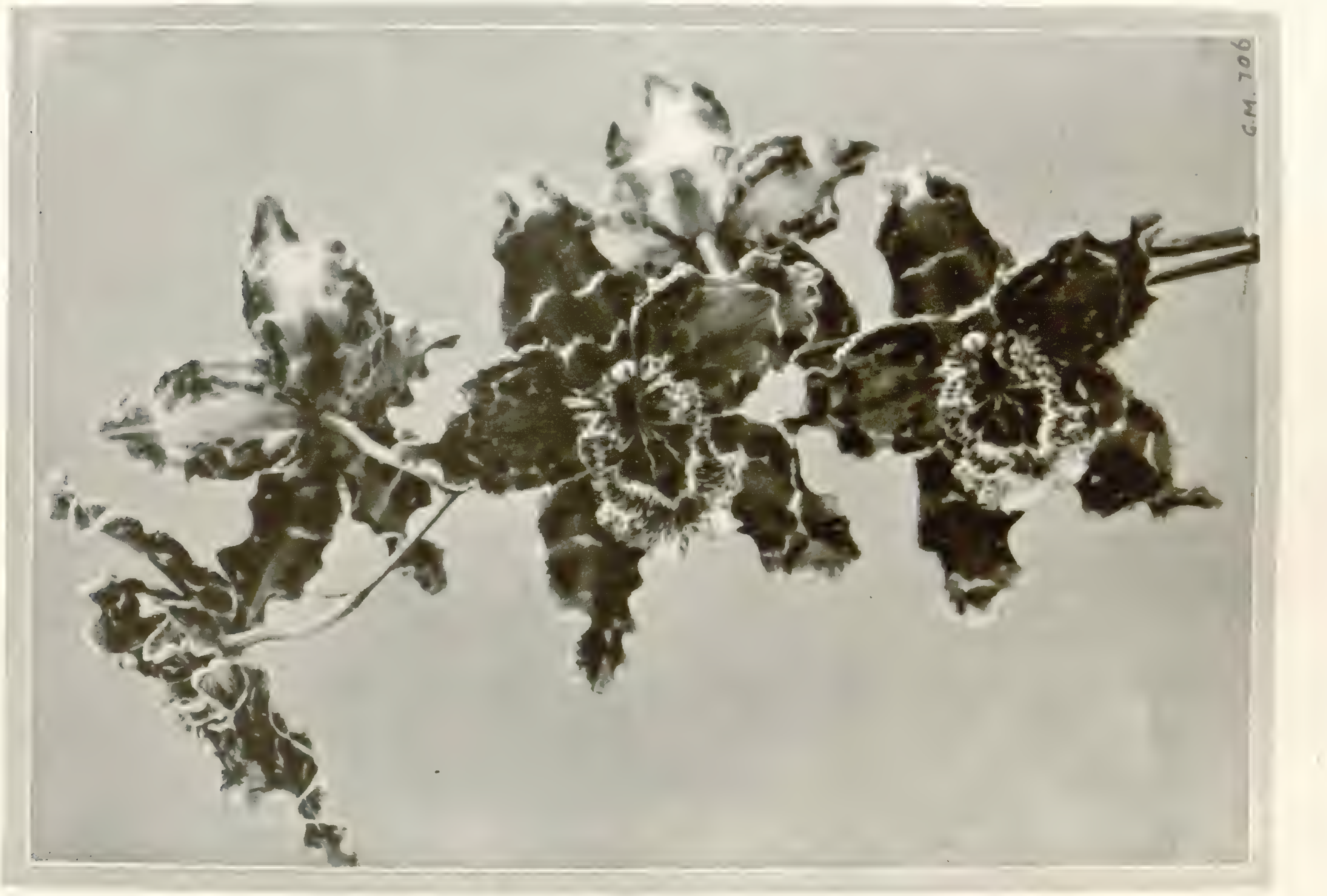
The system I have adopted for many years is a combination of the pit and the raised bed, digging out a pit from one to two feet deep of the required area, and then filling in manure and good soil from the vegetable quarters in alternate layers till the bed is about two feet above the level, the topmost six inches being a mixture of soil and manure. This is done in the late autumn, and each layer of soil and manure is sprinkled with basic slag. The winter's rains cause it to sink perhaps a foot, while the soil gets well mixed with the layers of manure, enabling the bed to hold more water than a two-feet thickness of manure would do by itself. Thus the bed has the necessary conditions for fruitfulness—a firm rich soil, with plenty of phosphate in it, and an ample supply of moisture, the lack of this latter in a dry summer being the charge which advocates of growing on the flat often bring against the raised bed; while I am convinced that the lack of phosphates in sufficient quantity is often the cause of diminished fruitfulness, or early termination of season. If too many plants are not grown on the space allotted, one good soaking—not a mere sprinkling with a rose—will generally carry the bed through the summer.

As regards raising the plants, if one does not want marrows in early or mid-July, when peas are in abundance, the easiest way is to plant the seeds on a bed early in May, where they are to grow. If marrows are wanted early, the plants must be raised in a frame, or in a house first, and afterwards hardened off in a cold frame, putting only one seed in a forty-eight pot filled with good turfy loam. It is of no use sowing the seed early out of doors, as the seed does not germinate in a lower temperature than 55 deg. F., and before the soil reaches this the seeds will have rotted. I have known this to happen in a cold frame too.

Alger Petts.

ODONTOGLOSSUM PERCULTUM COOKSON'S VAR.

The beautiful Odontoglossum percultum, obtained by crossing O. Rolfæ and O. ardentissimum, is one of the finest of the secondary orchid hybrids, and O. percultum Cookson's var., is one of the deepest-coloured forms of it. This handsome variety was exhibited at the Royal Horticultural Society's meeting of April 6 last, by Mr. H. J. Chapman, gardener to N. C. Cookson, Esq., and was described in our issue of April 17. We figure it herewith, as the variety is of special interest in connection with the account of the Oakwood gardens also appearing in the present issue. We may add that O. percultum Cookson's var., raised at Oakwood, is deep mauve-purple with white margins and a few white veins, and a dark orange crest.



ODONTOGLOSSUM PERCULTUM COOKSON'S VAR.
F.C.C., R.H.S., April 6. N. C. Cookson, Esq., Oakwood, Wylam. Flowers mauve purple and white.

Mignonette is always welcome in the garden, and to ensure a constant supply of cut flowers all through the summer, frequent sowings should be made in various parts of the garden. Give a good surface dressing of finely-sifted old mortar rubbish.—Edwin Beckett, Aldenham House Gardens.

TENDER GREENHOUSE ANNUALS.

Mid-April is soon enough to make sowings of the more beautiful of greenhouse annuals which are invaluable for both room and conservatory decoration in summer and autumn.

One cannot conceive anything more lovely than Celosia plumosa, when the strain is good, but imported seeds are not likely to produce anything but weeds. It is possible to obtain a large packet of seeds for sixpence, containing six times as many seeds as the half-a-crown packet from an English firm which has a reputation to maintain, but after all the trouble expended upon them they are fit only for the rubbish heap. Celosias can be raised and grown entirely in a greenhouse, but the best plan is to sow thinly in boxes of light sandy soil, and to place them upon the fermenting material in a frame. Under these conditions germination takes place in a few days, and when large enough, or the true leaf has been formed, the seedlings should be pricked off into boxes three inches apart. When the plants meet, every alternate plant should be transferred to other boxes at six inches apart, which will allow the entire stock six inches of space for development. Provided they are syringed overhead morning and evening and kept rather close, splendid plants will soon result fit for six-inch flowering pots. When thoroughly established they must be gradually hardened off, when they may be brought into the greenhouse. Turfy loam, leaf soil, and sand will meet their requirements, and a very important point is, the plants must be maintained in a progressive condition from the outset. A slight check brings about premature flowering. Apart from their value as conservatory plants they are unsurpassed as bedders, and a good stock should be grown in order to make provision for both purposes.

Cockscombs require precisely the same treatment and are very effective as bedders when thinly disposed and carpeted with white lobelia, or dwarf white or yellow antirrhinums. It goes without saying that they contribute much brilliance to the greenhouse over many months.

The improved camellia-flowered balsams call for attention, and certainly as decorative subjects must be placed in the front rank. Failure to grow them successfully may be traced to subjecting them to too much heat in the early stages, the evil being aggravated by staging them a considerable distance from the glass. Hence the importance of attention to these matters, and the proper way to proceed is to sow in pans, which should be placed as close to the roof glass as possible, where the plants should be allowed to remain during their various stages in pots until they commence to flower. It may be of service to explain that splendid plants can be had by sowing upon a warm south border early in May. The writer prepares a bed of light soil, to which a liberal quantity of cocoanut fibre refuse and short manure is added, and the seeds are sown two inches apart. When large enough, or the plants meet, two-thirds are transferred to flower beds and borders, and the remainder allowed to develop, preparatory to being potted for greenhouse decoration. The presence of the fibre refuse and manure near the surface enables the plants to be lifted with a large ball of soil, and they receive no check whatever. Robust, in fact, perfect specimens can be raised in this way.

The Zanzibar balsam Impatiens Sultani is worthy of notice, being a very floriferous subject, and further, the scarlet flowers are produced in uninterrupted succession for many months. It grows with the greatest freedom in a greenhouse.

Datura chlorantha and D. cornucopia give us handsome and fragrant blossoms, and are very valuable where a large conservatory has to be furnished. A good start may be given them, as with celosias, and when transferred to 6in. pots they will grow with great rapidity in the greenhouse.

The fine globular flowers of the Globe amaranth, in purple, orange, and white are not to be despised, and since petunias are now generally treated as annuals, a beautiful strain, such as the well-known Carter's Emperor and Empress, should be selected for the greenhouse. The colouring and markings are simply exquisite, while the individual flowers are immense and of great substance.

It is hardly necessary to point out that the season of beauty of these plants is appreciably lengthened by the application of stimulants on the approach of the flowering period, and subsequently at intervals of ten days or a fortnight. Nor is it necessary to explain that they resent drought at the root, and speedily show resentment by passing out of flower. Walter H. Aggett.

UNDER THE PERGOLA.

The pergola for the display of roses and other climbing flowering and foliage plants has become almost a necessary part of a garden. Too often, although we see the pergola well planted and attractive, but little heed is paid to the walk under the structure. Frequently the path is of the wrong material either for use or appearance, and nothing is planted below to interest the visitor, whereas the pergola might be made doubly interesting by a little forethought in arranging a scheme of planting beneath.

The first point to consider is the path or space underneath that is to be used as a means of connection between one part of the garden and another. It is often said that no pergola should be constructed without an object. The late Lord Battersea was of that opinion, and he was an authority on the subject, having, perhaps, as many and as varied in character in his charming garden at Overstrand, in Norfolk, as most folks. He never built a pergola without an object in view—a summer house at the end of a path, an approach to a lake, colonnade, or alpine garden. The latest pergola he constructed was a long massive one, built of bricks, to hide a building in the distance, and this it did most effectively, although the latter was on an adjoining estate.

Grass is a common covering for the pathway under the pergola, and very nice it looks during the summer, but with much wear and a want of light, owing to the growth overhead, the grass becomes worn and shabby. Flag stones, as obtainable in many parts of London, where building operations are going on, make quite a good path; in fact, at the present time they provide the most fashionable method of treating a pergola path. The stones should not be laid in too precise a manner, and there should be dwarf growing plants, as saxifrages of sorts, thymes, sedums, armerias, Iceland and Welsh poppies, antennarias, Arenaria balearica, and such-like hardy subjects growing between them. An extra space of an inch or two left between the flags will provide all the space required.

Old bricks of a thin pattern are much prized by some persons for paths, and among these planting is equally easy. Gravel is sometimes preferred; indeed, there is no limit to what the path shall be made of. On each side of the pergola a narrow or a wide border can be made, and if planted judiciously quite an interesting feature can be made about the base of the permanent pergola plants, which, in time, become bare, particularly if they are mainly roses. These rambling roses have a decided tendency to make the bulk of their growth on the top of the pergola, and, naturally, there are not many growths spring from the base.

Whether the border on each side shall be one foot wide or one yard depends upon the width of the structure; if this be eight feet or more wide, and there is space outside, the border can be at least three feet wide, say, one foot within the pergola and two feet outside. I have seen borders a foot wide planted with thrift (Armeria maritima), which looked remarkably well, as it was in flower twice yearly. Mrs. Sinkins pink is an attraction to many, and so is lavender in a single row. Dwarf-growing roses in a mass of one sort are appreciated by many.

A low, irregularly formed rockery planted with alpines and dwarf-growing bulbs, as narcissus, muscari, cyclamens, and any low-growing subject that will flower in the spring, will make the pergola an attraction before the regular occupants are sufficiently advanced. Summer bedding plants may be employed with pleasing effect, supplementing these in the autumn with dwarf shrubs for winter effect. E. Molyneux.

GESNERAS.

These lovely flowering plants are exceedingly useful for the embellishment of the greenhouse and conservatory from about June to the end of the year without much artificial heat. The flower is not the only attraction which the plant possesses, as the leaves are traversed with veins carmine in colour, and shading to a bright blue. If they are held in the direct sunshine, the colours almost resemble those found in stained-glass windows.

The plants may be raised from seeds or from cuttings. The strains have been greatly improved during the past few years, but I shall never forget the favourable impression these plants made when I saw a magnificent batch of them grouped in a cool glass structure in the North of England about twenty years ago. Scarcely a pot could be seen, as they were hidden by the massive, healthy leaves, and the flowers were there in profusion.

Growing plants should now be repotted, using fibrous loam two parts, peat one part, leaf-soil one part. Sufficient sand or road drift must be put in to render the compost porous. After crocking the pots, place some very fibrous portions of turf on the drainage material, and then a few half-decayed tree leaves; the roots of gesneras thrive amazingly in such a mixture. The plants like moisture, but it is best to supply it in the atmosphere, and not to syringe the leaves. Gesneras do well grouped on the floor of a conservatory.

Geo. Garner.

The Double Arrowhead.—Sagittaria japonica flore plena is one of the most satisfactory of all water plants. The flowers are exceedingly large, of a pure glistening white, in the form of close-packed balls borne on spikes like a huge double hyacinth, thrown clear above the water. The foliage is extremely handsome, of the true arrowhead form, having the barb-like points of great length. The resting crowns are almost egg-shape, and the plant increases fairly rapidly, and is perfectly hardy if planted in muddy soil in water 12 to 18 inches in depth.—Thomas Smith.

SOME GARDENS ROUND NEWCASTLE—I.

Although we usually associate Newcastle with coal, big guns, chemical works, and shipbuilding, or, from another point of view, with Hadrian and the Roman Wall, and with battles innumerable, yet we may also well associate it with good gardening. Within a few miles of this great and busy city one may visit numbers of famous and interesting gardens, public and private, and find in them much to interest and much to admire. Here, amid the hills of Northumberland, the climatic conditions are not the most favourable, hence the more credit is due to the enthusiasm of owners and the skill of the gardeners. For the purpose of discussing gardens round Newcastle it would be necessary to divide a ten or twelve mile radius into several districts. In the present instance, the district taken is that part of Tyneside, a delightful country, stretching from Wylam nearly to Hexham, but also, for this purpose, including a part of the famous city itself, so as to indicate some of its fine parks.

Newcastle is a famous flower-show district, and its own summer show is a fine one. But for enthusiasm pure and simple, one must go to the mining villages—clean villages, not dirty, dust-begrimed places—where each man has his ample plot of garden, and often a decent greenhouse or two builded with his own hands. In a previous issue I have shown what Prudhoe and South Wylam can do in this connection, and this applies in lesser degree to other places in pleasant Tyneside. The larger private gardens of the district are noted throughout the country for their orchid collections, for their fine scenery, their herbaceous and alpine collections, for their roses, and for their generally good upkeep. In the following notes a few of these gardens are described.

Howden Dene.

Corbridge-on-Tyne is a very old village, and it is reached from the south side of the river by a quaint and stout old bridge that withstood the tremendous floods in years long past when no other bridge over the Tyne was left standing. Historically, Corbridge is particularly interesting. Situated on the line of the old Roman wall, it was also the site of the ancient Roman town or fortress of Corstopitum, and the antiquaries have made many interesting discoveries during the process of excavating on the site of the Roman stronghold.

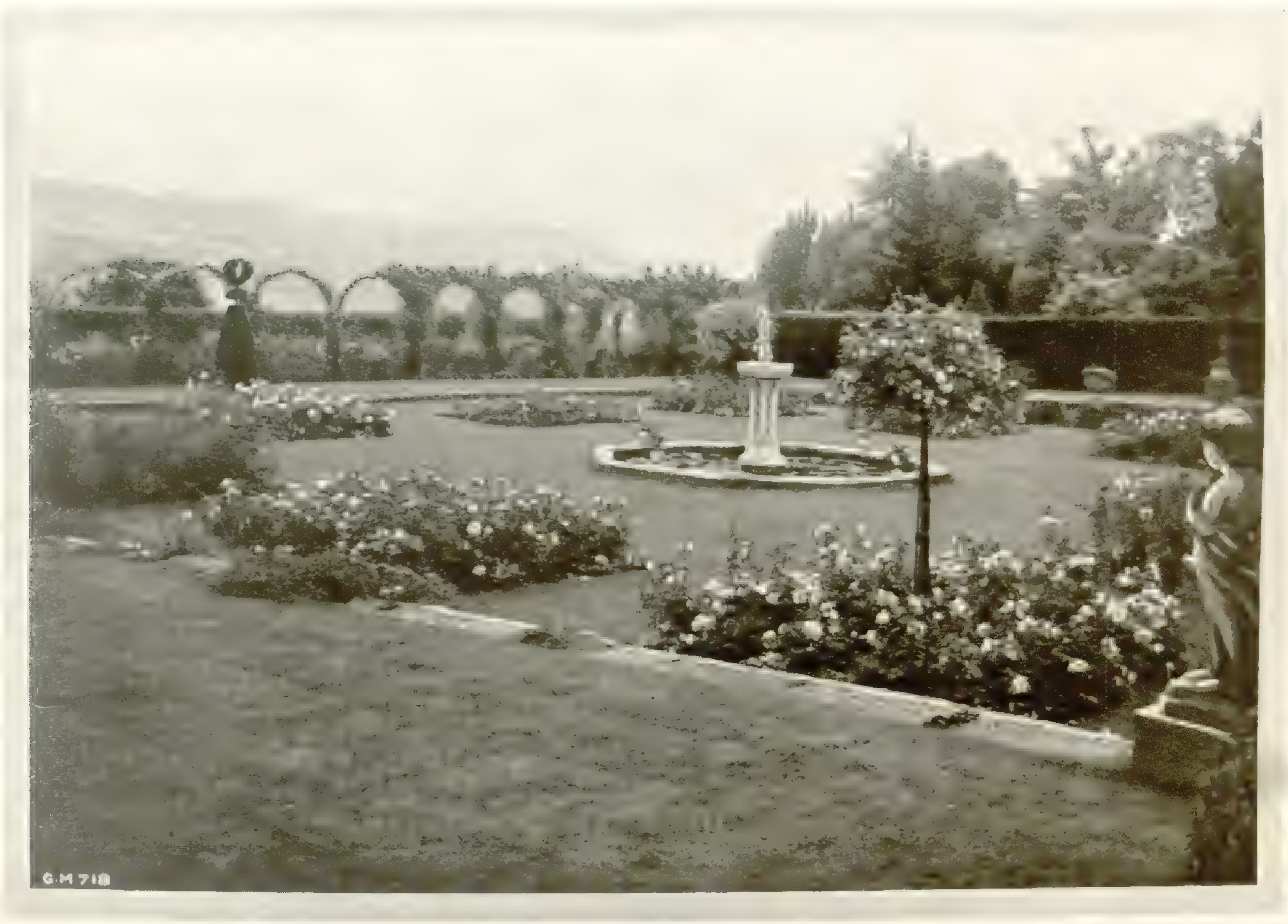
Turning to the right after crossing the bridge, a broad road rises steadily eastward, with houses and gardens of considerable size at intervals on either side. A mile and a-half along is Howden Dene, one of the prettiest places in all Tyneside. It is difficult to conceive what more could well be done to increase the beauty and add to the interest of the gardens. Both the owner, Joseph H. Straker, Esq., and the gardener, Mr. J. Winder, are to be envied, and to be congratulated, upon the design and excellent upkeep of Howden Dene. I need hardly say the gardens are famous in Tyneside, no real garden lover is refused admission, and the gardeners attached to the several Mutual Improvement Societies in the district have foregathered here in great strength at the invitation of Mr. Straker. Beautiful views are to be obtained from the garden front, but fine scenery is the inheritance of each and all of these high Tyneside gardens.

The French garden is peculiarly attractive, and is to the east of the mansion. Three years ago a kitchen garden occupied the site, but a new kitchen and fruit garden has been formed on the other side of the main road, and the old site converted into a place of great beauty. This garden is in two parts, each sunk about eighteen inches below the surrounding level, and a broad grass walk surrounds the whole within the shelter of yew hedges, and tall trees beyond. The western half is devoted entirely to roses and violas, save for the water lilies in the pool around the beautiful fountain in the centre. Killarney, Madame Abel Chatenay, Madame Ravary, Duke of Edinburgh, and other roses fill the beds, each bed containing but one variety. Each corner bed has also a tall weeping standard rose, Dorothy Perkins and Leuchtstern being the varieties used with great effect.

In the other half of this charming garden the plan of the beds is distinct. The outer beds are filled with roses, and one cannot fail to notice how splendidly Madame Abel Chatenay and Killarney flourish here. The inner beds are devoted to carnations, the pink Raby Castle being the favourite variety. In the centre of this loveliness, all set in beautiful greensward, is a sun-dial which, somewhat unkindly, informs you that:

> Time by moments steals away,
> First the hours and then the day:
> Small the daily loss appears,
> Yet it soon amounts to years.

One could linger long here. There is a fine pergola where Gloire de Dijon, Dundee Rambler, Carmine Pillar, Felicite Perpetue, Cheshunt Hybrid, and Crimson



ROSE GARDEN AT HOWDEN DENE.

Rambler roses fulfil their mission as ably as the dwarfs in the beds. Along the south side is a long border of roses, with arches of roses overhead, Dorothy Perkins and Gloire de Dijon being the varieties most freely used on them.

Beyond the southern hedge of this French garden of roses, and all unexpected, is one of the finest of herbaceous borders, with a broad path of flag stones between it and an equally fine border of dwarf roses. The whole lies open to the south, between sheltering yew hedges. The herbaceous plants are a grand lot of the finest kinds and varieties, margined with low-growing alpines, saxifragas, oxalis, Lithospermum prostratum, sedums, etc., that are allowed—within reason—to extend over the flag stones. A similarly pleasing margin is provided for the roses. What a magnificent opportunity is here for such painters as Mr. G. Elgood and Miss Beatrice Parsons! Were I an artist, with a penchant for garden scenes, I should spend a whole summer in Tyneside, and, Mr. Straker permitting, Howden Dene would provide me with material for any number of pictures.

This is by no means the only herbaceous border; there is one to the west of the rose garden where phloxes are wonderfully well grown, both named varieties and selected seedlings, stately, fragrant, and beautiful. Lower than the long flag-paved rose and hardy flower walk are the tennis courts, sheltered by a holly hedge, with its supporting rockery-wall decked with those delightful alpine plants that love the sunshine and seem to need so little soil for their sustenance. From the comfortable tea-house one has a fine view up to Hexham, as well as down this wonderful and beautiful Tyne valley.

In the Howden Dene gardens one passes quickly from one beautiful scene to another, all different from the rest. Full advantage has been taken of the old trees and of new plantations, and good use has been made of evergreen hedges, while the great diversity of ground level has also helped to make each new scene a glad surprise. The grouping of the choice shrubs beyond the tennis courts has been well thought out, and here one finds Buddleia variabilis, Garrya elliptica, Cotoneaster microphylla, C. Simonsi, and C. horizontalis; spiræas in great variety, golden hollies, berberis, gorse, the Savin, Dipplopappus chrysophyllus, pyruses, magnolias, and many another fine subject, all well developed, and making up a most interesting collection. Further along, a little clearing amid the trees has been paved with flag stones, a central bed is filled with nicotianas and fuchsias, and all around are quaintly clipped yews.

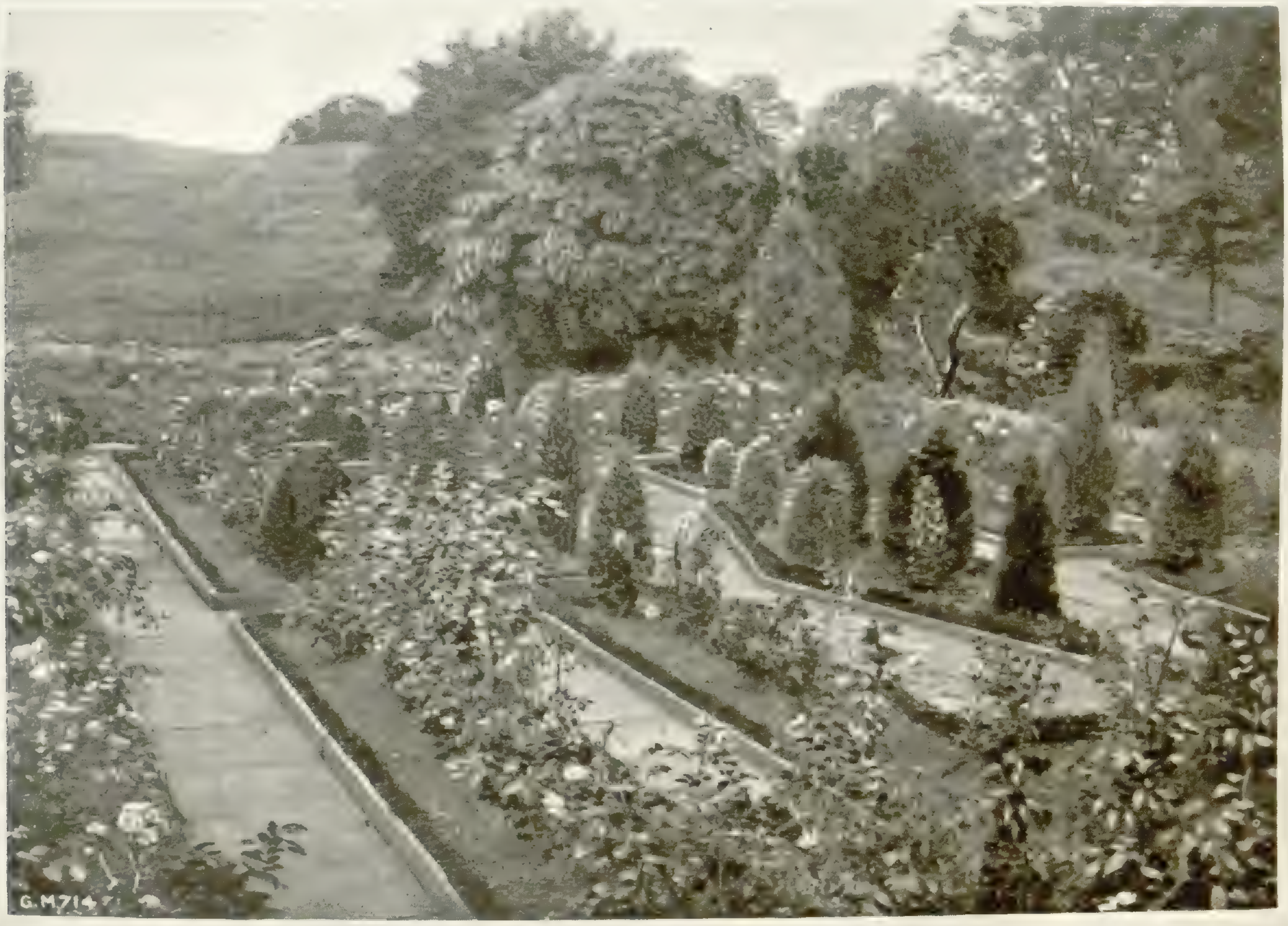
The stone-built house, with its portico, has no flower beds immediately in front of it, but a few vases of fuchsias and pelargoniums stand at regular intervals at either end. Near by are some fine retinosporas, berberis, and tree ivies, and behind them some tall Wellingtonias, beeches, and maples, and a big Prunus Pissardi. Passing to the extreme west of the garden the scene changes again. Here the ground falls so abruptly into the Dene that a steep, winding flight of old stone steps is needed to give access to it. No doubt there was once a stream running down this ravine, but now the grass clad slopes provide a home for a goodly collection of conifers. A few of the finest are Retinospora pisifera aurea, Cryptomeria japonica elegans, Cupressus Lawsoniana variegata, C. L. lutea, Abies concolor, Juniperus chinensis, and J. c. aurea, Abies Parryana glauca, Cedrus Deodara, C. atlantica, and Sequoia gigantea. The head of the Dene has been transformed into a steep rock garden, with a tiny streamlet trickling down its face, and falling into pool after pool till it reaches the bottom of the valley. This is a new feature, but iberis, Kæmpfer irises, Primula japonica, alpine auriculas, veronicas, and other good things have established themselves. A delightful fragrance hangs over the rock garden and the Dene, produced by an abundance of mignonette sown on the outskirts of the rockwork, in the narrow border along the top, and among the shrubs that line the path through the woodlands around the crest of the Dene. It was a happy thought, to sow mignonette freely like this, one of those little things that cost so little and mean so much.

I must pass the fine set of glass-houses and their well-grown contents, leaving readers to assume that tomatoes, grapes, roses, begonias, orchids, ferns, crotons, palms, cucumbers, and the rest are in the best of health—it could not be otherwise in such a fine establishment. The kitchen garden, too, must share the same fate, for my space is already exceeded, and yet so little has been said of Howden Dene garden—a "garden that I love."

FLOWER BORDERS AND STONE WALK, HOWDEN DENE.

Castle Hill.

There is one point in which nearly all the Tyneside gardens referred to in these notes agree, and that is their situation. In every case, the gardens are hilly, and the mansion at a considerable altitude. In some instances, the rise to the residence is long and steady, as at Oakwood, while in others it is very sharp, especially from the valley of the river, and this is so at Castle Hill. The woodlands actually hang over South Wylam station, and to these one may pass over a wooden bridge from the station platform, up by a steep path, to the pleasure grounds where hollies abound and are in superb health. Then comes a plateau on which the creeper-covered mansion stands, sheltered by trees, amid broad lawns and sloping flower beds and borders. Very quickly the ground falls away again to the south, and in the lower grounds are the vegetable and fruit gardens and the glass-houses. Between the pleasure grounds and the kitchen garden is a wide field where Highland cattle are always kept. Castle Hill is



FORMAL ROSE GARDEN, CASTLE HILL.

the residence of F. Newall, Esq., and his head gardener is Mr. W. C. Fraser.

There are fine views over the hills from Castle Hill, as well as up the valley; there are hardy perennials in abundance; there are sweet peas as finely grown as one could wish; there are vegetable crops grown with great skill and care; there are chrysanthemums that reveal the hand of the master; there are odontoglossums and cattleyas that make the beginnings of what may become a useful orchid collection; there are splendid cupressus, pines, cedars, beeches, and hollies, a long drive, and a couple of very pretty and well-kept cottages; there are all these and many other points of interest at Castle Hill, but it is to two items of special interest, and chiefly to one of these that I must confine attention. One is the rock garden and the other is the rose garden, or, rather, the two rose gardens. These delightful features are in the south-west part of the gardens below the lawns, and they lay very warm and cosy in the shelter of the hills and the surrounding trees.

The rock garden is a rather large one, set up by Messrs. J. Backhouse and Son, of York, but it was so recently finished at the time of my visit that it would be unfair to describe or criticise it. The general idea is that of low mounds of rock, with gentle slopes from one to the other, and easy alpine paths giving access to every part. A new rock garden nearly always suggests the idea that far too much rock has been used, simply because the plants have not had time to spread over the boulders, and so soften the appearance of the whole scene. Another year of growth and [illegible] will make all the difference in the Castle Hill rock garden.

Close to the rock garden is a formal rose garden, with flagged paths and stone margins, as well as box edging to the regular beds. Along the west side is a hedge of Wichuraiana roses supported by a fence of telegraph wires. On the east and south-east sides Dorothy Perkins does duty as a hedge plant, and right well does she perform that duty, appearing to make it a great pleasure. Along the north side of this formal rose garden, and practically on the top of the retaining wall that keeps it from falling into the lower rose garden, is a beautiful hedge of fragrant lavender. Hybrid perpetual, China, and hybrid tea roses fill the beds, except that the inner corners of the beds, and the central diamond-shaped bed are marked out with closely clipped green and golden cupressus. Experiments are being made with some of the more tender tea roses, and probably these will prove a success in this sheltered spot.

The second rose garden is several feet lower than the one already noticed, and next to it. It is longer than broad, and rectangular; it has a flagged path all round, and a path starting from the middle of each side meets in the hexagonal centre, where a fine old font is set up in the central bed. There are four prominent and large beds of dwarf roses, edged with pinks and violas, and with a small clipped cupressus at each corner. Ferns are taking possession of the lavender-topped wall, and in the border below campanulas are always a feature. In the broader border along the opposite side are more roses, standards and dwarfs, backed by a fine hedge of rambling roses of the multiflora class, including the inevitable Crimson Rambler.

At one end of this rose garden, neatly and prettily encircled with rockwork and popular alpines, is the water lily pond, where Marliac's nymphæas flourish and flower beautifully. Only a few yards from the pool, and snugly placed in the shelter of coniferous trees, and grouped about with spring-flowering shrubs, is the summer-house, from whence the lily pool and the rose garden can be viewed and enjoyed in comfort.

The whole of this lower part of the garden is, as I have shown, laid out in a very unusual fashion. Formality and informality, the old and the modern – rarely are these seen so close to each other. The combination would offend many who are ultra-sensitive in the matter of garden design, but, fortunately, a garden is for the owner's pleasure, and may be conformed to suit his or her taste; and so, in various gardens, one finds the reflexion of varied tastes. These expressions of taste may not all appeal alike to the visitor, but I have yet to find a garden where the taste of the owner has resulted in absolute ugliness and incongruity. With a little weakness for the formal side of gardening, under certain conditions, I greatly admired these rose gardens at Castle Hill, with their flagged paths that need neither roller nor weed-killer, and that are dry and comfortable in all kinds of weather.

Prudhoe Hall.

Prudhoe is a mining village on the south side of the Tyne, not far from Wylam, and, as I have intimated on a previous occasion, it is a famous gardening village, the miners being adepts at plant, flower, and vegetable culture. It is a good climb up to Prudhoe from the river, and Prudhoe Hall, the residence of Mrs. Swan, is perched higher than the village. The garden around the hall is a very hilly one, and, with its ravines, its streams, and its abundance of trees, it is a beautiful place. Strongly built and strongly positioned, Prudhoe could have stood a siege in the old days, and even now, minus artillery, it would prove an intensely difficult place to capture. There is nothing warlike, however, about Prudhoe Hall of to-day. It has fine stables and garage, and a glass-covered carriage yard, where tennis is played when rains are heavy or the weather cold.

Set on the crest of a hill, Prudhoe Hall overlooks a deep, densely-wooded ravine. Directly in front of the hall a broad terrace extends, ending at the tennis court at one end, and concluding with a circular rose garden and fountain at the other. At the west end of the hall is the flower garden, consisting of fourteen beds, set rather closely on the lawn. Six of the beds are filled with roses, chiefly the popular H.P. varieties, with pansies and violas carpeting the ground beneath them. The other beds are filled with tender subjects, such as begonias, pelargoniums, marguerites, lobelia, etc. Sweet peas are grown in the border next the laundry, by the side of the flower garden, and the wall is smothered in summer time with the beautiful old annual climber, Tropæolum canariense. The circular rose garden, with its big beds of Hermosa and Fellenberg roses, and its surrounding rhododendrons, beeches, and maples, is a very attractive finish to the terrace. Two fine vases, each with a variegated agave, mark the end of the terrace proper, and a beautiful three-tiered fountain serves, with the roses, to provide an end and aim for the broad walk.

Considerable interest attaches to the various methods adopted in hilly gardens for the management of the terrace walls. At Prudhoe Hall, where the descent to the ravine is very sharp, the upper terrace wall is particularly substantial, but it is completely hidden by a dense mass of Cotoneaster microphylla that is annually clipped to keep it to the shape of the wall. Last autumn, this was thickly studded its whole length with deep red berries. It is not merely a good plant or two, but a dense wall of cotoneaster about a hundred and fifty yards long. Another very interesting feature of this terrace is the yard-wide border in front of the cotoneasters, for this is filled from end to end with Montbretia crocosmiæflora, and the elegant plant grows and flowers famously.

WATER LILY POND, CASTLE HILL.

But, attractive and well-kept as are the gardens at Prudhoe Hall, the great attraction of the place lies in its splendid belts of rhododendrons, its fine green and variegated hollies, and its woodlands. In the woods at the head of the ravine oak trees abound, and the ground beneath is carpeted with bluebells and primroses, and with foxgloves and oxalis. In the moister places there are great sheets of emerald green moss and colonies of native ferns, while in the varied positions that these woods afford there is to be found an abundance of wild flowers. Crossing the bridge and climbing up the narrow pathway, to where the oak is mixed with beech and silver birch, up near the edge of the moor, the remains of an old illicit whisky still is passed. Very beautiful is this woodland walk, and the exquisite little scenes obtained from it would charm the heart of an artist, and provide sketches for many a picture.

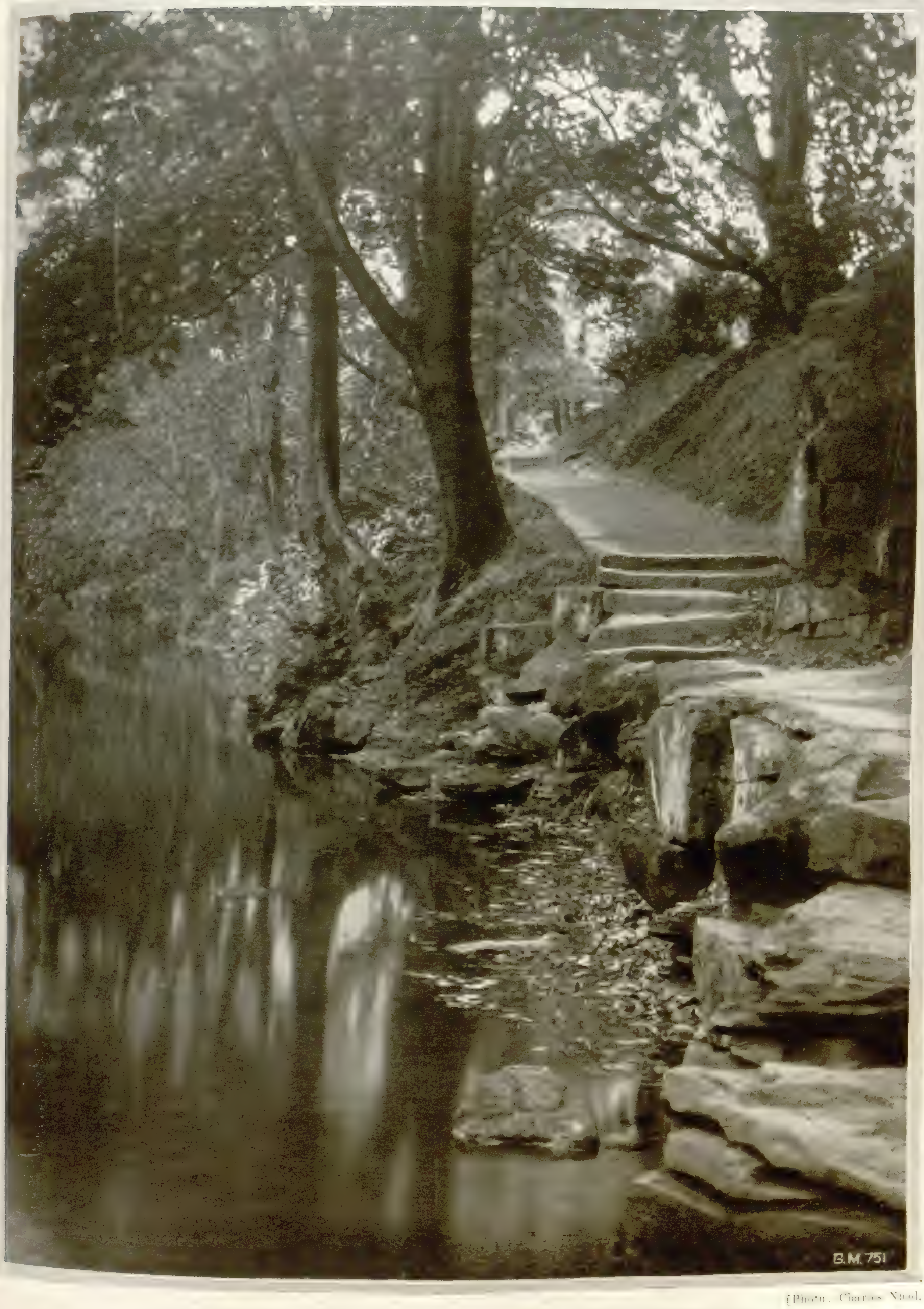
Winding amid the trees and the ferns, working away the soft soil from among the rocks, whirling round some big boulder, forming a pool preparatory to a leap and a splash over fallen tree or rough stone, the Red Burn sings merrily on its way to join the Stanley Burn below, and then on into the Tyne itself.

Coming back to more mundane matters, after a long walk through these delightful woods and grounds, one appreciates, by force of contrast, the very old kitchen garden, where, backed by a range of greenhouses and vineries, there are big breadths of excellent vegetables, rows of apple and pear trees—we are on the southern slope of the high south bank of the Tyne—and broad herbaceous borders on either side of the broad walks. Cordon plums are not invariably a success, but they do fairly well on the walls here. Mr. Shotton, the head gardener, is delighted with his new orchard house, a quite cool, homely structure, wherein he grows peaches, cherries, plums and pears in pots, plunged in low beds. He uses rather large pots, each with two rows of holes bored nearly halfway up. Through these holes feeding roots run out into the bed material, and the deep pot rims provide ample room for top-dressing and watering. The five dozen trees grown are likely to receive many companions in the near future, now that the success of the venture is assured. In the warm houses, it was evident that Mr. Shotton is an excellent plantsman, the fine dracænas, calanthes, and allamandas all telling of good culture. The comparatively new vineries, built by Richardson, of Darlington, are in excellent order, and contain well-managed Madresfield Court, Black Hamburgh, Muscat of Alexandria, and Alicante vines. I noticed a particularly fine Bellegarde peach tree in the peach house, while in the cooler plant houses and the frames there was no lack of plants for the decoration of house and conservatory. It is no easy task to manage such an elevated and hilly garden, but Mr. Shotton is devoted to his charge, and not only manages the garden and grounds to the satisfaction of his employer and his own credit, but he is also a very successful exhibitor at the district shows.

Oakwood.

The best-known of all the private gardens in the western district of Newcastle is Oakwood, the residence of Norman C. Cookson, Esq., a gentleman famous for his wonderful collection of orchids. Oakwood is at Wylam-on-Tyne, the birthplace of George Stephenson, and about a couple of miles from the little stations, one of which is on each bank of the Tyne, and connected by a toll bridge.

Situated at a considerable elevation, Oakwood gardens do not lack fresh air and sunshine; indeed, of the former they sometimes receive too much, because a Tyneside storm breaks suddenly, and often sweeps



[Photo: Charles Nicol.

A CHARMING VIEW IN JESMOND DENE, NEWCASTLE-ON-TYNE.

with great fury along the river valley. Here, as in some other gardens previously described, one finds that, while orchids are the great attraction, there are many other attractions, and these of sufficient importance to make the gardens well worth a visit even if there were no orchids.

Several years ago I had the pleasure of dealing at some length in these pages with the Oakwood gardens, and, though there have been many minor improvements since then, the general character of the gardens remains unchanged.

A broad drive passes up through the grounds, bordered on the one hand by meadows along the lower portion, then, passing through woodlands, a short arm turns into the entrance to the residence, while the main drive ascends beneath abundance of oaks and beeches up to Mr. H. J. Chapman's house, and then out into the main road, having described an irregular semicircle, and risen considerably. The numerous glass-houses are near the residence, and so, of course, are the gardens proper. The little home farm lies behind all these, and the greater part of the kitchen garden lies to the left of the upper portion of the drive, on a broad bank that slopes toward a little stream. Rabbits abound in the neighbourhood, hence Mr. Chapman has to use wire netting freely to keep these from his various vegetable crops.

One feature of the Oakwood Gardens that has been considerably developed during recent years is the collection of alpine and herbaceous plants. Mrs. Cookson has always taken a special interest in these, and the collection is now a fine one. There is one very long border, extending in a line with the garden front of the house, and backed by a unique and tall laburnum hedge. Here the bold subjects are most effectively planted, and delphiniums and pæonies are particularly good. Sheltered by walls and trees, near to the orchid houses is a garden of hardy herbaceous flowers, where in summer time annuals and biennials are also grown extensively. Here, too, delphiniums are especially fine, gaillardias bloom splendidly in great variety, and phloxes and pentstemons yield an abundance of bloom. Some distance from this garden is the alpine and water garden, where, in a very sheltered spot, a pool of water has been margined with rockwork. Gentians of various kinds, ramondias, saxifragas, and sedums in bewildering variety, dianthuses, and Daphne Blagayana are a few of the choice alpines that flourish here. Through an extension of the low rock garden there runs a broad, rough stone pathway, leading to a rose-clad rustic summer-house. Fine groups of Saxifraga peltata and Anemone palmata are noticeable hereabouts, and on the rocks the masses of the golden-flowered Hypericum reptans are very strikingly effective.

ROSE GARDEN AND FOUNTAIN, PRUDHOE HALL.

The pool itself is the happy home of the choicest of the water lilies, the white, yellow, and flesh-pink varieties of M. Marliac's hybrid nymphæas occupying considerable space and producing handsome leaves and noble flowers. With these are associated such fine nymphæas as N. Robinsoniana, N. Jas. Brydon, and N. Ellisiana.

There are many fine trees at Oakwood, and a notable one is a big copper beech that faces the laburnum hedge, across a broad gravel path. Hollies do well at Oakwood, and so do rhododendrons, and there are large specimens and groups of each, providing shelter when the deciduous trees are bare. The rhododendrons also produce an abundance of flowers, but there are flowers of many kinds at Oakwood, and plenty of them at all seasons of the year. We expect a summer glory of flower and fragrance in every garden, and latterly we have come to look for an increasingly beautiful spring display. At Oakwood the spring flowers have for many years been a great delight and beauty. Under the trees, in the woodlands, round the meadow margins, and along the streamlet sides there is a wealth of daffodils, primroses, polyanthuses, bluebells, snowdrops, violets, anemones, etc., that must give the whole place a wonderful charm.

But I suppose everyone who does me the honour of reading these notes will quickly skip the foregoing remarks, and desire to read of the Oakwood orchids. It is, however, no easy matter to deal with these plants in the brief space at disposal. If Mr. Cookson and Mr. Chapman were famous either for odontoglossums, for phaius, for calanthes, for cypripediums, or for dendrobiums, the task would not be so difficult, but they have secured fame for their work in each of these genera, and in others also.

I have previously told how Mr. Cookson purchased his first pair of odontoglossums for a few shillings, and each turned out a really good thing, i.e., O. crispum Cooksoni and O. Andersonianum Cooksoni. But what wonderful plants the collection now contains; indeed, it is probably the finest collection of these cool orchids in existence. O. c. Cooksonæ, O. c. Fr Mazreel, O. c. Lindeni, O. c. Harold, O. Mundyanum, O. c. Raymond Crawshay, O. c. Luciani, O. c. Leemani, O. c. Angela, O. Grairianum, O. percultum Cookson's var. and O. excellens Prince of Orange, are a few of the gems. And there is that latest grand novelty that has brought us so near to a scarlet odontoglossum, the hybrid Odontioda Bradshawiæ Cookson's var., raised at Oakwood. Seedling odontoglossums and odontiodas are plentiful at Oakwood, and there is a great promise of wonders to come, for Mr. Cookson has a long and wide experience of orchid raising, and magnificent varieties to work with.

Hybrid phaiuses are becoming quite popular plants nowadays, and yet it is only [illegible] years since Mr. Cookson crossed P. [illegible] with P. simulans, and produced P. Cooksoni. P. simulans (tuberculosus) has een a favourite parent, and in association ith P. Sanderianus, it gave the variable P. Norman, itself presently becoming rent of P. Clive and P. Harold. By ing P. Humbloti as a parent Mr. Cook[illegible]ained P. Phœbe and P. Cooksoni; [illegible] crossing the first-named with P. [illegible] P. Oakwoodensis was obtained. [illegible] obtained in this genus alone [illegible] suffice to bring fame to the raiser. [illegible] equally valuable has been the improvement made among calanthes, and C. Alexanderi, C. William Murray, C. Bryan, C. Cooksoni, C. Chapmani, C. Sibyl, C. Oakwood Ruby, and several others have all en raised at Oakwood.

Some of the best of the dendrobiums ised at Oakwood are D. Venus, D. Sibyl, D. Cassiope, D. Kenneth, D. Bryan, D. illiam Murray, and D. Dulce. Cypripeums have also received attention, but, as se are (mostly) easily raised, and so many wers have become cypripedium specials, these orchids do not find so much vour at Oakwood as formerly. At present the great interest centres in the crossed and hybrid odontoglossums, and the ontioda, and other bigeneric crosses. If nt successes are an earnest of good gs to come, it is safe to say that, fams as the Oakwood orchids have be[illegible] will attain greater fame in the e future.

ood cultivation must go hand in hand th skilful crossing and successful raising, [illegible] must clever propagation, other[illegible] things may be lost or their [illegible] long delayed. Mr. H. J. [illegible] whose writings are familiar to [illegible] and whose advice on orchid culre is held in the highest estimation, has tire charge of Mr. Cookson's gardens and orchids, and his skill as a grower and raiser is of the highest order.

CHARLES H. CURTIS.

⁂ The second article on "Some Gardens Round Newcastle" will appear in our next issue, and will include descriptions of Willow Wood, and Holeyn Hall Gardens, and of Armstrong and Heaton Parks, and the far-famed Jesmond Dene. One of the charming scenes in this beautiful Dene is given in the present issue—there are others to follow.

WOODLAND SCENE, PRUDHOE HALL.

LATE KEEPING APPLES.

I trespass upon your space with a somewhat unseasonable note, because a correspondent has expressed his disappointment with respect to the keeping properties of some varieties of apples that I some years ago recommended for affording late supplies of fruit. It should be borne in mind by those desirous of having a very late supply of fruit, that to secure it in good condition involves much other careful attention than that of merely planting, and otherwise cultivating late-keeping varieties.

In the first place, it is, of course, essential to plant late varieties, and our thanks are due to the raisers and distributors of both new and little-known apples for having during recent years considerably increased in number the good keeping sorts, and for having caused them to become well known and freely planted.

In order that apples may keep well, it is most important that they are carefully gathered, and each variety must have special attention as to fitness for gathering and be perfectly dry when picked. The fruit must be carefully handled so that it is not bruised, for even slight bruises will accelerate decay; at the same time the fruit must be sorted, and freed of all blemished specimens. It is of little avail to go to the trouble and expense of growing fruit, and then detract from its value by unintelligent gathering, though this is quite an ordinary state of things, a mistake is often thoughtlessly made by gathering late apples too early, and the fruit shrivels as a consequence.

Another matter of equal moment is that of storing the fruit, for, unless this is properly carried out, even the best late varieties that have been most carefully gathered will not keep so long a time as they otherwise would do. It is therefore necessary to make use of a suitably constructed fruit room, in which the fruit may be kept in a uniformly cool state, and be excluded from light. Fire-heat must not be brought into use, except to exclude frost, as a dry atmosphere, especially if promoted by this means, will cause the fruit to shrivel; though it is equally important to avoid, as may be done by careful attention to a rightly constructed room, an atmosphere overcharged with moisture.

If the gathering and storing of late apples is skilfully done (though certainly the state of the weather will have some influence upon this matter), there need be no difficulty in ordinary seasons about their powers of keeping, as may be seen by the splendid collections annually exhibited by Messrs. George Bunyard and Co., and other successful cultivators, at the Royal Horticultural Society's Hall in Vincent Square, Westminster. I will conclude my notes upon this subject with the remark that I feel perfectly satisfied that my correspondent must look elsewhere than to the varieties that I recommended for the cause of his disappointment.

T. COOMBER.

The Hendre, Monmouth.

For pretty gardens and lovely flowers read THE FLOWER GARDEN, by T. W. Sanders, F.L.S. An up-to-date work on the formation, planting, and management of the garden, with description and cultivation of flowers and plants adapted for outdoor culture. Price 7s. 6d. net, by post, in box, 8s., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London

SOME DIFFICULTIES IN PLANT CULTURE

It is generally acknowledged that our modern intensive cultivation of flowers, fruits, and vegetables for market purposes is beset with many difficulties. To a visitor who strolls about admiring the regularity, thrift, and fruitfulness of every plant in sight it may seem an easy matter to grow violets, carnations, roses, or chrysanthemums, tomatoes, cucumbers, cauliflowers, strawberries, grapes, or peaches, as the case may be.

Certainly nothing seems easier, and just as certainly no business of life is beset with more difficulties, requires more constant attention, more good judgment, more knowledge derived from painful experience, or more thoughtful consideration of every detail of the business. The passing visitor sees the brilliant successes; what he does not see is the long line of mingled successes and failures, the worries and disappointments, the long experience and sleepless care of years which have led up to this consummation.

If he thinks such results are born full fledged out of Mother Earth, and that all one has to do is to plant seeds or set out cuttings, and wait contentedly for the early and the later rains, let him try for himself. It is usually easy to find some eligible market garden with greenhouses attached for sale, and he can begin at once if so inclined, let us say, on cucumbers or tomatoes, for the early spring market. He has himself paid 8d. to 1s. per lb. for tomatoes, and 6d. to 8d. apiece for cucumbers, and knows there is money in it.

Let us follow our optimistic friend for a time, and see what happens. He starts well and early in the first season. He is up with the lark, and overflowing with energy. Things must "gee."

Let us drop in some months later. The plants are not doing well; the crop has practically failed. What is the matter? The seeds were poor, and did not come up, or germinated slowly and irregularly, or the seedlings damped off in great numbers, necessitating a second sowing, which set the crops back, and brought the product into an overflowing market, with poor prices.

Or the soil was not properly selected, and yielded only inferior plants and stunted fruits, in spite of all care and coaxing. Or, possibly, the crop may have started off well, but the gardener or other help did not understand firing, or the management of ventilation, the plants being nearly roasted at times in spite of the plentiful supply of expensive thermometers hung in all parts of the house, and then suddenly chilled with floods of cold air by way of compensation.

Or, finally, perhaps, the chief trouble was in the use of water. The management of water in hothouses is a fine art. Nothing requires better judgment, and in nothing is our friend less experienced. The plants suffered at times, and in particular parts of the house, from lack of water, and then were drenched by the hired man; or the unsatisfied owner, seeing that things were going wrong, took the watering out of the hands of the foreman, and daily flooded the house himself, according to ideas evolved out of his own inner consciousness.

About this time slugs, woodlice, scale insects, red spider, aphides, root nematodes, and a variety of fungus diseases made their appearance in alarming proportions, and an expert in this subject was sent for. Of course, he found a most interesting set of conditions, and possibly was able to afford the disheartened grower the cold comfort of some good advice about what not to do next time.

This may be an extreme case, and yet there are plenty of such cases every year, and the troubles and failures are not all confined to beginners, or to plants grown in hothouses, for even old growers sometimes experience great losses which might have been avoided.

There are now so many people engaged in growing horticultural produce for market, and competition on most crops is so very close, and the profits so small, that even the most experienced and successful grower must stop every leak in his expense account, and take advantage of every little opportunity for increasing the quantity, quality, earliness, etc., of his crops. This he can do only by a thorough understanding of all the conditions necessary for successful growth, the avoidance of parasitic diseases being one very important consideration.

Competition is not likely to decrease, nor are prices likely to advance very much, and the profits must come as a result of avoiding losses. J. J. WILLIS.

Harpenden.

(To be continued.)

EARLY VEGETABLES AND SALADS.

English versus French Methods.

There are numerous cultivators in gardens all over England who are daily becoming more and more interested in intensive cultivation. One reason why that is so is because employers themselves are inquiring into the methods adopted by Continental nations for supplying the English market with what it evidently requires, viz., early dainty salads and vegetables. Now there are hundreds of people who have been forcing both vegetables and salads in English gardens much further back than I can call to mind, and there are those who say that the new system is no good, or that they have done the same sort of thing for generations. Yes, we have grown these crops for very many years, and for 25 years it has always been my endeavour to annually do all that I possibly could to produce a goodly variety of early vegetables, because they are, practically speaking, the paying part.

Our English methods have for generations consisted in preparing manure, and leaves when procurable, for supplying the necessary bottom warmth, and using ordinary garden soil. In some cases more elaborate preparations have been made, and a mixture composed of old potting soil, leaf-mould, sifted wood ashes, etc., all mixed together, has been used. In very many cases we were content with one crop at a time, and, at the most, two; the secondary crop usually consisting of a few radishes raised from seeds scattered over the bed after planting potatoes, or, if carrots were drilled, perhaps a row of radishes might have been taken from between them. It would have been considered an unreasonable act to sow carrots and radish seed broadcast together, and then to crown the whole thing by planting lettuce on the top. Yet this may be done, and with good results, by careful persons who are interested in living vegetation, and who are never so happy as when extracting all they can from the soil. I venture to say that if we had prepared a hotbed a few years ago, with a foot of manure, at the end of February, wheeled on about 9 inches of garden soil, levelled it down, and sown first of all, carrot and radish seed broadcast all over the bed, then proceeded to cover the seed three-quarters of an inch deep, after which bell glasses were to be placed all over the surface, each to contain five lettuce plants, and the intervening spaces between the glasses to be planted with cauliflowers, we should not have believed it possible to do any good with so many things upon so limited a space. Moreover, all these crops are to mature [illegible] fourteen weeks.

I am perfectly certain that a few dozen of these bell glasses would be of the greatest possible service to any gardener who wants to forward early crops, they are so useful to bring along in varying stages the lettuces, endives, and cauliflowers for occupying the frames. The secret is to have hardy sturdy plants wintering under the glasses, which, when transferred to the newly-made hotbeds, respond at once to the [illegible] warmth, and mature very rapidly. I question, too, if we, a few years ago, had such a choice of highly specialised types of vegetables and salads suited for growing and maturing in such a limited space as many are now provided with. The best stocks of carrots for frame growing are those that produce good roots with but little foliage, although this latter character is altered, as in the case of radishes, by thick sowing, which produces all top and no bottom. Good types are any highly selected stock of Early Nantes, Sutton's Champion Horn, Carter's Long Forcing, Rouge Demi-longue de Caretan-sans Cœur, and Rouge tres Courte a Chassis. The larger-bodied shorthorns that are so serviceable in the open are too pale-fleshed and too coarse in the top for frame or bell glass culture. The Champion Horn type, like the highly selected French Breakfast, and Carmine Olive radish, French Frame and Golden Ball type of lettuce, all revel in rich soil composed of half of the previous year's manure and the other half the ordinary garden soil (providing that it is not clay), turned over and mixed together.

For some weeks past our early salad crops have been by far the most interesting and paying part of our produce, showing that it is not necessary to have elaborate or expensive sites for these cultures. Our own frames and bell glasses are arranged in the frame ground over a hard base. What is of the greatest importance is good rich soil, containing plenty of food, for [illegible] upon the fresh manure, and if the seeds used are scattered judiciously, and foresight in raising salads for successional batches under the bell glasses (which allows the maximum amount of light) brought to bear upon the work, the system will be found to yield excellent returns, without the amount of attention that might be thought necessary. The influence the glasses have upon vegetation in an ordinary way was made strikingly [illegible] in these gardens. By placing a number of cabbage plants the second week in February there were excellent big-hearted cabbages at the end of March; those upon the same bed (uncovered) are more than a [illegible] behind. The loss of water by [illegible] is a great drawback to early crops, and the [illegible] of these glasses is, therefore, [illegible] to them. I am beginning to feel that I have lost something in previous years owing to not having adopted the principle [illegible] say what we may, we must admit that there are possibilities in the system, if it is carried out by persons who thoroughly understand gardening in its best form.

CHARLES FOSTER.

Reading.

"LEATHER JACKETS" OR CRANE FLY GRUBS.

The problem of dealing with root-feeding pests in grass land is always cropping up, writes Mr. Cecil Warburton, Zoologist of the Royal Agricultural Society, in his annual report, which appears in the society's journal for the current year. Any real drastic measures are precluded, or grass land ceases to be such, so that more or less indirect methods of treatment have to be resorted to.

With the assistance of Mr. F. W. Foreman I undertook some experiments in September last, the results of which it is as well to record, though they were mainly negative. Their object was twofold:—

(a) To determine if any treatment would kill the grubs without injuring the grass.

(b) To see if by any means the grubs could be induced to come to the surface so that they might be collected and killed.

A variety of compounds were experimented with, including the vapours of hydrocyanic acid and carbon bisulphide, and solutions of formalin, ammonia, carbolic acid, toluene, and other substances.

A large number of "leather-jackets" were obtained, and the direct effect upon some of them of the various insecticides was observed. Others were introduced into an enclosed plot of grass land, cut off from the neighbouring ground by a sheet-iron fence sunk some inches into the soil.

Hydrocyanic (Prussic) acid.—As the cases immediately under consideration concerned certain circumscribed areas—the putting greens of golf links—it seemed worth while to try whether the vapour of hydrocyanic acid could be made to permeate the soil and kill the grubs underground. In order, therefore, to determine whether sufficient diffusion of the gas would take place to have an effect at any considerable distance, generating tubes were buried, and other tubes containing potassium nitrate were also inserted into the ground some distance away. If the vapour reached them in the soil, they would, on analysis, show traces of its presence. No such traces were found. The soil was somewhat heavy, and therefore more unfavourable to diffusion than many, but the experiment was not encouraging.

Carbon bisulphide. — "Leather-jackets" subjected to the fumes in the laboratory were much convulsed and evacuated copiously. The following morning they were limp, and barely alive. Contact with the fluid killed them. It was obvious that the attenuated vapour which it might be possible to diffuse in the soil would be of little use.

Toluene affected the grubs exactly in the same way as carbon bisulphide.

Carbolic acid.—This substance is generally regarded as particularly destructive of insect life. Moreover, it was found that a weak solution (up to ·5 per cent.) had no visible injurious effect on the grass. Unfortunately, however, neither had it on the grubs. Leather-jackets immersed in it for some time seemed unhurt, and were alive and fairly strong the next morning.

Formalin.—Solutions of .5 per cent. and even .2 per cent. discoloured and injured the grass, and further experiments with it were discontinued.

Ammonia.—Leather-jackets have often been alleged to be particularly susceptible fo the destructive effects of this insecticide, from which some good results were anticipated. A ·5 per cent. solution did not hurt the grass, but an application of a 1 per cent. solution discoloured it, and, in addition to the fear of permanent injury, there was a danger that the more delicate grasses would be killed and the coarser species encouraged. Moreover, the direct effects on the grub as ascertained in the laboratory were not at all satisfactory. Subjected to the vapour of a 1 per cent. solution they were only slightly inconvenienced. Immersed in it, they evacuated so profusely as to become almost transparent, but they were all alive the following morning.

The above experiments made it quite clear that the grubs are remarkably difficult to kill, and that it is highly improbable that any substance will be found capable of destroying them in the ground without greatly injuring the grass.

Some of the grubs obtained were sent in situ, in a turf enclosed in a square tin box. They were all found on the top of the turf when the lid was opened in the morning, and this fact suggested the possibility of inducing the leather-jackets in infested ground to come up to the surface by covering the ground over night. No consistent results were obtained, however, nor did copious waterings with any of the insecticides experimented with bring them to the surface with any uuiformity. That they frequently come up and wander about on their own account, especially in the early morning, is a fact well known, and advantage should always be taken of this habit when it is observed. Rolling at such times cannot fail to be useful. Apart from this it seems impracticable to make war upon the creature in the grub stage in grass land.

It is generally agreed that crane-flies have a partiality for certain kinds of ground in which to lay their eggs, and that rank grass on ill-drained soil is especially sought out for that purpose. It is worth noting, however, that a contrary belief existed among observers on the spot in the case which was under investigation. The fly, it was asserted, might be seen to emerge from the pupa case, pair, and deposit eggs in the immediate neighbourhood all within a few minutes, then flying away to be at once picked off by some member of the huge flock of sea-galls, which were attracted by the plague of insects. Unless the movements of the insects were wrongly interpreted, this observation is one of considerable importance, but I am bound to say that it was not corroborated by anything that came under our notice. For some time after emergence the fly appeared very weak and helpless, and when it did begin to move it made a very lame and halting progress over the ground, in a manner which might suggest the laying of eggs. Exact observations on this point would be of interest. In an attack of the common crane-fly, Tipula oleracea, there are, of course, early and belated individuals, but the great bulk of the flies emerge within the space of a few days, though the precise date will vary with the season. About the second week in September is perhaps the most usual time, and it seems likely that vigorous action against the pest at that time would have a considerable effect. The grubs come up to pupate, and the chrysalids stick up half out of the ground. An observer described them as standing up "like matches" in multitudes on the affected greens, and this, it is stated, is only to be observed during two or three days. Constant rolling or even brushing at such times would seem bound to kill great numbers. It might be also possible at such a period so to dress the land as not only to kill the weakly flies as they emerge, but to deter survivors from laying eggs. At all events, where the attack is constantly recurrent it is clear that all energies should be concentrated on dealing with the pest during these few days.

Fuchsias.—These will now be making very rapid growth, and whether they are young plants or old cut back ones, if they are to make good specimens they must receive every attention. Young plants that are being grown on to make specimens for the open air or for the conservatory must now be shifted into 32's or 24-sized pots, using a good, rich, open compost for the purpose. If pyramids are required the plants must have plenty of light all round them, encourging the central growth, and stopping all side growths at every two or three joints. For standards all side growths must be rubbed out to the height required, afterwards stopping the leader and pinching the resulting shoots until the desired size of head is obtained. If wanted for exhibition from six to seven weeks must be allowed from the date of the last stopping.—Thomas Stevenson, Woburn Place Gardens.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

CŒLOGYNE DAYANA.—There are few more desirable or more attractive orchids than this species. Where grown as a specimen plant with several trailing spikes of its yellow and brown flowers, nothing is more effective for decoration or exhibition. The flower scapes make their appearance at the present season of the year, being produced from the centre of the new growth. As soon as these are observed every encouragement must be given to assist them to develop. There is sometimes a great difficulty in inducing C. Dayana to flower satisfactorily; I find that there is little difficulty experienced in this respect where the plants are grown altogether in an ordinary plant stove, suspended from the roof. Repotting, when needed, should be attended to immediately after the plants have passed out of flower. It is advisable not to repot more frequently than is absolutely necessary, so that when required good lasting material should be used, such as fibrous peat or osmunda fibre, two parts, to one part of chopped sphagnum moss, and plenty of finely-broken crock and silver sand should be intermixed. Care must be observed in turning the plants out of their pots or baskets to avoid damaging the roots. If they are watered a few hours before repotting it will be found that they remove more readily. Clean away the whole of the old potting compost, and where the plants have a number of leafless old back bulbs, the rhizome should be carefully severed so that they may be removed. This not only adds to the appearance of the plants when repotted, but the old bulbs, if potted into receptacles just large enough to contain them, rarely fail to produce new growths, which, in course of time, add to the stock of this desirable orchid. Thoroughly water as soon as repotting is finished. Liberal treatment is necessary at all seasons, but during active growth a high temperature and humid atmosphere are desirable.

C. PANDURATA.—This species is not so extensively cultivated as its merits deserve. Its green and black flowers are always a great attraction. This I find does well also in the plant stove, in baskets suspended near the roof glass, practically under the same conditions as C. Dayana. It has an elongated rhizome between each pseudo-bulb, and thus requires considerably more space than C. Dayana. It should be placed in oblong baskets, and given ample drainage. A few oak leaves should be mixed with the potting compost mentioned above. The flower scapes appear from the centre of the advancing growth, and repotting may therefore be attended to when the new roots make their appearance. During the active season of growth ample moisture is desirable, and as soon as growth is completed, and throughout the dormant season, only sufficient water is necessary to retain the pseudo-bulbs in a plump state.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

CONSERVATORY. — This should now be very gay with such subjects as pelargoniums, amaryllis, calceolarias, schizanthus, etc., and it will be found that these require frequent renewal to keep the conservatory bright. The groups should be lightly arranged, and a maximum amount of air given on all favourable occasions. Groups of plants arranged on the floor are, I think, most effective, and have the advantage of being easily seen. One of the best plants to associate with flowering subjects, for lightness and effect, is Bambusa gracilis, and good examples can be grown in any size pot, from a 48 upwards.

ARUMS. — These are now going out of bloom, and may be put out of doors in a sunny position, where they can be protected in case of frost. Do not withhold water too quickly, but give occasional waterings with liquid manure until the leaves begin to die down, when water may be partially withheld for a few weeks. I prefer to keep them in pots during the summer months rather than plant them out, as I find they do not make quite such strong growth early in the autumn as planted-out ones do, but the flowers are equally good, and somewhat earlier.

POT ROSES.—The majority of these will now be going out of bloom, and if they are H.P.'s or H.T.'s it will not pay to keep them indoors after the flowers are cut, so they should be slightly hardened off, and put out of doors in a semi-sheltered position, and if properly watered and fed, they will throw up some good blooms at a time when the outside roses are going over.

CYCLAMEN.—Corms that are to be grown on for another year should be put out in a pit or frame where they will have an abundance of light and air, gradually withholding water as the leaves die down. Seedlings that have been kept growing in a warm house or pit should now be large enough to pot into 60's, using a compost of loam, leaf-soil, and sand with a nice sprinkling of old mortar rubble and wood ashes. Pot fairly firm, with the corm nicely above the surface of the soil, and replace in a house or pit where they may be kept growing quietly, using the syringe fairly freely to keep down thrips, and give shade during the hottest part of the day.

SEEDLING GLOXINIAS AND BEGONIAS should now be fit to transfer into 48-size pots, and the treatment as advised for the cyclamen should suit them well for a time, especially the gloxinias. Begonias are often planted out the first season, and this is really the better plan where bulbs or corms are the first consideration, as they usually make much finer tubers planted out than when kept in pots. Gradually harden them off in 60's or boxes, as the case may be, and plant out in prepared beds as early as possible in June, keeping them well watered and attended to during the summer, when they will make very fine tubers for the following season.

CHRYSANTHEMUMS.—The present is a very suitable time to stake and stand out chrysanthemums in the open air, whether for exhibition or for decorative purposes, choosing a position for them somewhat out of the wind, or the foliage may be damaged. What little frost we are likely to have now will in no way injure them, providing they have been properly hardened off. My own plants have had the lights off most nights for over a fortnight. — THOMAS STEVENSON, Woburn Place Gardens.

THE FLOWER GARDEN.

BULBS. — These have done remarkably well this season, and it has been my fortune to have seen some very fine collections, especially of narcissi. It is, indeed, remarkable to think what has been accomplished during recent years in this direction; not only in the improvement of varieties, but the methods of planting for bold and pleasing effect. The naturalisation of these charming spring flowers is now more the rule than the exception. Even naturalisation of narcissi requires to be carried out with care and judgment, both as to the arrangement of colour and the shapes of the groups; otherwise much of the charm is lost. Clumps that are so arranged as to present straight lines are generally very objectionable, and this should be guarded against. All the bulbs that have been forced under glass in the spring should be taken care of, and planted out in their respective positions. On very heavy soils the better plan is to make large holes with an iron bar, and fill in with fine light soil, making it fairly firm. As far as possible, arrange the varieties in separate masses.

VIOLETS. — The stocks of the several varieties in favour may now be increased by dividing the old roots and planting them on well-prepared ground, for choice in a fairly shaded part of the garden. Plant out in rows one foot apart each way. To ensure clean, healthy stock, which may be required for planting under glass in the autumn, it is necessary that the plants are kept well supplied with water during the summer months, both at the roots and over the foliage, to prevent red-spider attacking them.

BAMBOOS.—This is the best season during the whole year for transplanting these, and the majority of the varieties will divide quite easily, and grow away freely if a little care is given them. The ground should be deeply worked, and well enriched with short horse manure, and topdressed with the same kind of material. Old plants will be much benefited by judicious thinning, and a good surface dressing of stable manure. Sheltered positions, as far as possible, should be selected for bamboos, as both severe frosts and cold, cutting winds mar the beauty of their foliage.

VIOLAS. — Autumn-struck plants that have been wintered in cold frames should now be planted out in their permanent positions. The soil should be made fairly rich, and the plants be transferred to their new position with a good ball. Make the soil very firm about them, and peg down and stop the growths. Violas produce a charming effect when planted on narrow borders in blocks of colour, which should be so arranged as to present a pleasing appearance.

PENTSTEMONS.—No time should now be lost in planting these out on ground which has been well prepared during the winter months. Fork over and neatly rake down the surface, and allow a good distance between both the plants and the rows. Seedlings should be planted out on rather poor ground, when they will be found to flower much more freely.

ANTIRRHINUMS.—Autumn-struck plants should be planted out in their respective positions one foot apart each way.

HOLLYHOCKS. — Harden off seedling plants, and plant out on good ground quite by the middle of the month.

ANNUALS.—These will pay for pricking off from the seed pans or boxes, before planting them in their permanent quarters. Skeleton pits answer well for this purpose for the majority, where a little protection can be afforded them in case of frosts, but zinnias, salpiglossis, and a few of the more tender kinds will need the assistance of glass for some time yet.—E. BECKETT, Aldenham House Gardens.

HARDY FRUITS.

RASPBERRIES, LOGANBERRIES, AND BLACKBERRIES will now be pushing up a lot of young growths, and three or four of the strongest of these, growing close to the old stools, should be reserved, and trained in for next season's fruiting, while all the others should be pulled up, so that the strength of the plants may be concentrated into those left. Other young shoots will continue to push up during the summer, and these must be removed as soon as they have grown sufficiently long to be handled.

STRAWBERRIES. — These will now be pushing up their flower trusses, and the beds should have a mulching of some light, strawy material, for the purpose of keeping the fruits clean. The first flowers which open generally produce the finest fruits, and if a little of the dry portion of the mulching be drawn lightly over the plants on an evening when frosts seem imminent, it will often be the means of saving these first fruits. Before placing on the mulching, see that the beds are quite clear of weeds, and if no weeds are noticed, it will be beneficial to the plants if the surface is loosened with the Dutch hoe. Thinning is not often practised, unless choice dessert fruits are required, but one is amply repaid for the time spent in removing (as soon as a reasonable crop is set), the surplus fruits and late flowers, the results being that the fruits will be of better quality, the crop quite as weighty, and the strain on the plants much less than if the whole of the fruits had been left to mature.

PEACHES AND NECTARINES.—Continue to remove the surplus growths from these. The usual practice is to leave a healthy shoot growing at the base and on the upper side of the older wood. The young points on the growths which are carrying fruit should be pinched back to the second or third leaf, unless wanted for extension, that the energy of the branch may be concentrated in swelling up the fruit, and in perfecting the young shoot reserved for next year's fruiting. Trees which have reached their extent of wall-space should have the points of the leading growths pinched closely back, but the main branches on young trees should be allowed to extend, but not to such an extent as would tend to weaken the young growths at the base of the trees; endeavour to keep the centre and lower portion of the tree well furnished with healthy young wood. Remove all badly-placed and immature fruits, and reserve those which are swelling up satisfactorily, trying to have the fruits at the final thinning evenly distributed over the trees.

GOOSEBERRY CATERPILLAR. — Examine the trees frequently for any signs of this pest, and destroy every one that can be seen by rubbing the leaf on which the caterpillars are feeding between the finger and thumb. A little attention to this matter at this season of the year will save a lot of trouble later on. Protecting material may be taken away now, as the foliage is sufficiently developed to act as a protection to the young fruits. As soon as the fruits are well set on wall trees, let the syringe be used freely among them during the latter part of the afternoon, using clean soft water; but on the first appearance of aphis or red-spider spray with a reliable insecticide at once.—GEO. WOODGATE, Rolleston Hall Gardens.

THE SAFFRON-COLOURED SAXIFRAGE.

While this plant (Saxifraga mutata) seems to have arrogated to itself the name of Saffron-coloured Saxifrage, there are others as worthy of the name because of their colouring, but as it has already been named thus, we must let it pass. It is a beautiful and interesting species from the Swiss and Italian Alps, and is noticeable even among a large collection of such flowers from the viscid hairs which cover nearly all parts of the plant, and from the colour — almost saffron-yellow — of its pointed petals. The flowers are small, but they are produced on stems which are sometimes a foot high, and the changes in the colouring from saffron to pale yellow as the blooms age, is interesting. Then this interest is increased too by the presence in the centre of each bloom of a bright purple glandular material when it expands.

But, pretty and distinct as is Saxifraga mutata, there is a fly in the amber, as it is not long lived in many of our gardens, and often succumbs to our wet and changeable winters. It is, in fact, treated by many good growers as simply a biennial, and plants are either raised from seeds annually or the offsets are taken off and kept in pots during winter. Only the enthusiast will care to do this, but the less devoted cultivator of alpines will, probably, content himself by giving Saxifraga mutata a dry position on the rockery and by placing over it, to keep off the wet, a sheet of glass, or a small bell-glass. Introduced as far back as 1779, this saxifrage is now a rare occupant of British gardens.

S. ARNOTT

Everyone interested in a garden should [illegible] a copy of the ALPHABET OF GARDENING, by T. W. Sanders. Thoroughly practical information [illegible] to soils, manures, seed sowing, planting, hybridising, budding, pruning, grafting, forcing. Price 1s. [illegible] with explanatory diagrams. [illegible] post 1s. 9d.; cloth, 2s.; by post 2s. 3d., from W. H. and L. Collingridge, 148 and 149, Aldersgate [illegible] London.

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EXHIBITIONS AND MEETINGS.

◆

Royal Horticultural Society.

MAY 4.

On this date the hall was again uncomfortably full of both exhibits and people. Not only the hall proper, but the annexes also were packed with exhibits. Hardy flowers were abundant, and about two-thirds of these might well have been left at home, as they were neither interesting nor useful. It seems quite time the R.H.S. Council put a severe limitation upon the display of the commoner subjects. Orchids were less numerous than usual, daffodils had almost gone since the previous meeting, and tulips were not at their best. Rhododendrons were fine, and cinerarias, early vegetables, auriculas, and carnations were all attractive and interesting. Several of the new plants were of special merit.

FLORAL COMMITTEE.

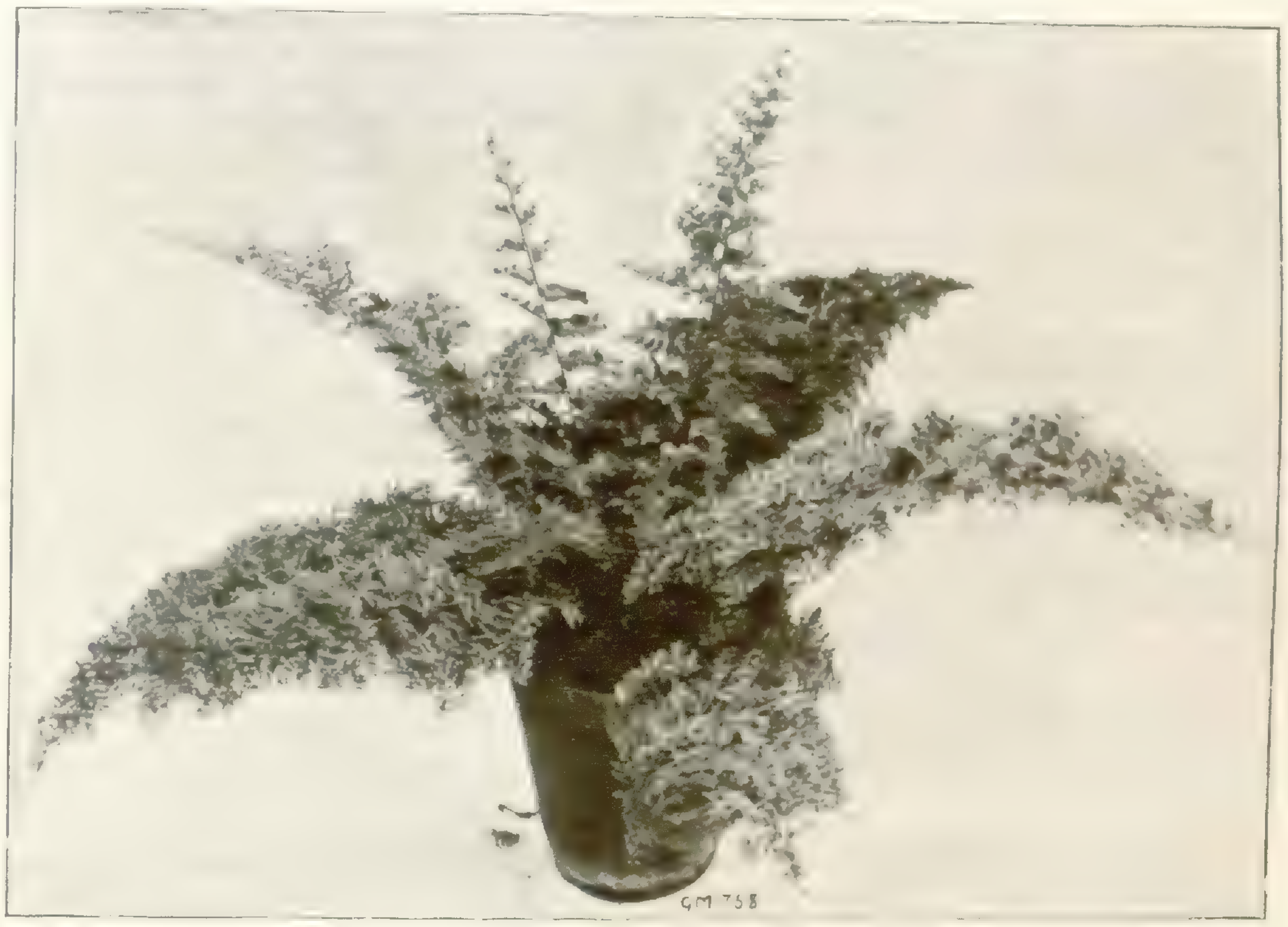
A magnificent group of cut roses, one of the finest we have seen for a long time, was set up in bold fashion by Mr. G. Mount, Canterbury. The blooms were of grand quality, and in great quantity. The varieties were Mrs. John Laing, General MacArthur, Captain Hayward, Mdme. Abel Chatenay, Liberty, Frau Karl Druschki (grand), Mrs. Sharman Crawford, Richmond, Mildred Grant, Ulrich Brunner, Joseph Lowe, and the new Rhea Reid. It was one of Mr. Mount's best efforts, and was evidence of the highest culture. Messrs. Wm. Paul and Son, Waltham Cross, set up a large corner group of pillar roses in great variety, edged with the free-flowering Aennchen Muller. Messrs. B. Cant and Sons, Colchester, were represented by pillar roses and bushes of Austrian Yellow and the vivid Austrian Copper roses. Messrs. Frank Cant and Co., Colchester, had pillar and rambling roses, and a good stand of blooms of Marechal Niel. Very beautiful was the group of the lovely Rhododendron Pink Pearl, put up by Messrs. J. Waterer and Sons, Lim., Bagshot, Surrey.

Mr. Amos Perry, Winchmore Hill, showed a collection of hardy flowers, the fine La Reve tulip showing up well with fritillarias and irises, etc. Messrs. J. Cheal and Sons, Crawley, contributed a collection of flowering shrubs that proved very interesting. Lotus peliorhynchus and the bold Gaillardia Lady Rolleston were features of the group set up by Messrs. W. and J. Brown, Peterborough. Rambling roses in pots were finely shown by Mr. G. Prince, Longworth, Berks, Hiawatha, Blush Rambler, and Crimson Rambler being well represented. The Lyon Rose, Mrs. Longworth, and Frau Karl Druschki were other roses well shown. Scented-leaved pelargoniums were extensively shown by Messrs. Heath and Son, Cheltenham, who also showed numerous hybrid [illegible], such as Shottesham Pet, Prince of Orange, Scarlet Unique, Pretty Polly, Dale Park Beauty, and other old favourites.

Messrs. Jas. Veitch and Sons, Chelsea, were large exhibitors. They contributed a beautiful bank of the charming Schizanthus Veitch's grandiflorus hybrids, the plants all grandly grown, and smothered with their orchid-like flowers; they had a bank of tulips and daffodils, a group of gorgeous Phyllocacti, a group of the handsome Primula Unique (A.M.), the rosy-red cross between P. pulverulenta and P. Cockburniana; Cineraria flavescens (A.M.), a pretty cream-coloured cross between C. Feltham Beauty and Senecio auriculatissima; and a fine group of sprays of Cerasus Watereri. Messrs. Gilbert and Son, Dyke, Bourne, presented a group of the brilliant Anemone fulgens, and the double King of Scarlets, all very beautiful and bright. Mr. W. P. Horton, Cravenhurst, Seaford, Sussex, made a poor attempt at a rock garden display. The bank of Azalea mollis from Messrs. R. and G. Cuthbert, Southgate, again demonstrated the usefulness of this fine flowering shrub. Messrs. Bakers, Wolverhampton, sent violas, polyanthuses, and aubrietias in variety. Mr. M. Prichard, Christchurch, Hants, submitted a collection of choice hardy flowers backed by Japanese maples. Messrs. Hugh Low and Co., Enfield, showed the new white Hydrangea hortensis alba (A.M.), dwarf and standard roses, azaleas, gerberas, pink spiræas, etc. The very interesting Tacca cristata with eleven of its weird, whiskered spikes of dull maroon-purple flowers, from Mr. Bain, gardener to Sir Trevor Lawrence, Bart., Dorking, attracted a great deal of attention; far more beautiful was the white, fragrant Viburnum Carlesi (F.C.C.), from the Burford collection.

Alpines in great variety, and Japanese maples came from Messrs. J. Peed and Son, West Norwood, and a grand bank of splendidly-selected and finely-grown polyanthuses was set up by Mr. S. Mortimer, Farnham. Messrs. G. Jackman and Son, Woking, submitted varieties of Primula Sieboldi, trilliums, Rehmannia angulata, etc. Messrs. Robert Veitch and Son, Exeter, displayed a bank of choice rhododendrons, the set including R. arboreum varieties, R. Campylocarpum, R. Thomsoni, R. Hodgsoni, the grand R. Glory of Penjerrick, and the lovely white R. Dr. Stocker, R. Shillsoni, the fine R. Countess of Haddington, R. Falconeri, and R. cinnabarina. Mr. H. Burnett, Guernsey, again brought up a grand lot of perpetual carnations.

A beautiful and large group of cinerarias was arranged prettily by Messrs. Jas. Carter and Co., Holborn. The centre part was entirely of the elegant Stellate varieties in various shades of colour, and this was margined and flanked by the larger florists' varieties, for which the Holborn firm is famous. Very sweet also was the group of finely-grown heliotropes from the King's Acre Nursery Co., Hereford; Mdme. Fillary, Mdlle. Marie Andre, Lord Rosebery, and Docteur Jeulin were the leading varieties, and there were both dwarf and standard plants. Mr. H. C. Pulham, Elsenham, had a small rockwork exhibit. Messrs. Paul and Son, Cheshunt, sent rare shrubs, including the variegated Catalpa pulverulenta, and Berchemia racemosa variegata. Saxifraga Clibrani came from Messrs. Clibrans, Altrincham: it is a very free-flowered, reddish-purple, mossy variety. Messrs. Dobbie and Co., Rothesay, had another splendid exhibit of pansies and violas, and included a set of blooms cut from plants that were planted in the open field at Marks Tey in the autumn of 1907.



NEPHROLEPIS LYCOPODIOIDES.

A.M., R.H.S., May 4. Messrs. T. Rochford and Sons, Broxbourne. A new fern, with much-divided moss-like fronds of great elegance and beauty.

Sweet peas were brought up for the first time this year by Mr. C. W. Breadmore, Winchester, who had Kathleen MacGowan, the new creamy Princess Juliana, King Alfonso, Audrey Crier, Princess Victoria, and Helen Lewis; Mr. Breadmore also showed a few very fine flowers of popular carnations. Messrs. G. and A. Clark, Dover, showed a few early sweet peas, and a group of hardy flowers in great variety, and a few plants of the new double white marguerite named Perfection, a fine variety for conservatory use, or for making wreaths, etc.

Very pretty, vastly interesting, and unusually attractive were the alpine and show auriculas presented so finely by Mr. James Douglas, Great Bookham, Surrey. It was probably the finest lot Mr. Douglas has yet staged. The alpine varieties attracted our attention mostly, and of these we were specially struck by Daffodil, May Day, Rosy Morn, Old Gold, Teviotdale, Argus, Ziska, Moonbeams, and Queenie. Mr. Douglas also showed big specimens of Myosotidium nobile, the big forget-me-not-like flower from the Chatham Islands. Ferns were finely shown by Messrs. H. B. May and Son, Edmonton, who had a collection of Nephrolepises, notably N. Amerpohli, and N. todeaoides; davallias and gymnogrammas were also shown, and in another group, pansies, petunias, verbenas, and pelargoniums.

Malmaison carnations were again beautifully shown by Mr. A. Grubb, gardener to Cecil F. Raphael, Esq., Porter's Park, Shenley, who arranged a big group of freely-flowered plants of Lady Rose, Old Blush, Princess of Wales, King Arthur, and Maggie Hodgson. Messrs. Phillips and Taylor, Bracknell, contributed a good set of alpine auriculas, Phlox Laphami, and various annuals. Very fine flowers of the popular perpetual carnations, together with a bold bank of forced flowering shrubs, were arranged by Messrs. W. Cutbush and Son, Highgate.

Messrs. T. Rochford and Sons, Broxbourne, sent up the very beautiful Nephrolepis lycopodioides (A.M.), a variety with finely-divided, mossy fronds. Messrs. W. Wood and Son, Wood Green, presented a selection of garden sundries, their shading materials attracting chief attention.

Mr. G. Reuthe, Keston, Kent, brought up

a collection of alpines. Mr. R. Gill, Falmouth, presented some very fine flowers of the choicer Himalayan rhododendrons. Messrs. T. S. Ware, Feltham, sent Primula Sieboldi in great variety, and a fine bank of Androsace Chumbyi.

Messrs. H. Cannell and Sons, Swanley, showed a grand lot of cut pelargoniums in splendid bunches, and a few plants of a grand bright rose-pink single rose named Beauty of Eynsford, staged as a dwarf sport from American Pillar; if it retains its dwarf habit it will be a fine addition.

ORCHID COMMITTEE.

Mr. Maurice Mertens, Mont St. Amand, Ghent, brought over some beautiful odontoglossums and cattleyas. Mr. A. W. Jensen, Lindfield, Hayward's Heath, staged a grand specimen of Cattleya Mendeli with ninety-six flowers and buds. Mr. H. Alexander, orchid grower to Lieut.-Colonel Holford, Westonbirt, Gloucester, showed the magnificent Lælio-cattleya Dr. R. Schiffman Westonbirt var. (F.C.C.)—splendid in form, large, soft purple, with rich violet-purple lip, a grand flower; and Odontoglossum Phœbe Westonbirt var. Messrs. J. and A. McBean, Cooksbridge, showed a deeply-coloured form of Cymbidium insigne, named Rotunda. From Sir Trevor Lawrence's collection at Burford Lodge, Mr. W. H. White brought up several botanical orchids. Mr. F. Wellesley, Westfield, Woking, submitted good forms of Cattleya Mendeli, and Mr. J. Davis, gardener to J. Gurney Fowler, Esq., Glebelands, Woodford, showed the interesting Lælio-cattleya The Baron.

Messrs. J. Cypher and Sons brought up a fine bank of orchids, in which were Lælia purpurata in variety, L.-c. Hyeana, Vanda suavis, Odontoglossum Pescatorei, Dendrobium atro-sanguineum, Scuticaria Hadweni, and Cœlogyne tomentosa, etc. Messrs. Hugh Low and Co., sent up a batch of the pretty Dendrobium barbatulum, D. Pierardi, D. thyrsiflorum, Oncidium pulchellum, and good forms of Cattleya Mendeli. The fine Odontoglossum Andersonianum Crawshayanum, finely grown, was sent by Mr. H. J. Chapman, gardener to N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne. In Messrs. Charlesworth and Co.'s small group of orchids there were Bifrenaria Harrisonæ, Odontoglossum armainvillierense xanthotes, Cattleya Empress Frederick, and Lælio-cattleya G. S. Ball.

Messrs. J. and A. McBean, Cooksbridge, showed Cymbidium Lowianum concolor, Cattleya Mendeli, and the rare Odontoglossum crispum Oakwood Sunrise. Odontioda Vuylstekeæ was shown by Messrs. Wm. Bull and Sons, Chelsea. De Barri Crawshay, Esq., Rosefield, Sevenoaks, again brought up Odontoglossum Theodora, and also Odontioda Charlesworthi Theodora. Mr. H. T. Pitt, Stamford Hill, sent Brasso-cattleya Rosslyn. Mr. J. Rutherford, Beardwood, Blackburn, showed Odontoglossum amabile in fine form, with a grand spike, and several other orchids.

DAFFODIL COMMITTEE.

A large and beautiful display of daffodils, set up by Messrs. Barr and Sons, Covent Garden, was greatly admired. The flowers were fresh and clean, and, in addition to popular kinds, there were good flowers of White Lady, Fire Queen, Lord Morley, Czarina, Odorus rugulosus maximus, Masterpiece, Challenger, Ice Queen, and Warley Scarlet. With the daffodils the Messrs. Barr showed dwarf irises, aubrietias, and the beautiful Tritonia Prince of Orange. Messrs. Sutton and Sons, Reading, showed a beautiful white, citron-cupped daffodil, named Delicata, a strong, free garden variety.

Mr. H. D. Phillips, Olton, Warwickshire, had a group of new and rare daffodils, all very fresh and prettily set-up. Prominent among the named varieties were the fine orange-cupped Seville, Incognita, Rosie, Glitter, Thelma, Homer, Lemon Drop, White Lady, Rosella, Cavalier, Albatross, Duchess of Westminster, and Gloria Mundi. Very brilliant was the display of tulips made by Messrs. Hogg and Robertson, Mary Street, Dublin, who had fine blooms of Clothilde, Pink Beauty, Cerise Gris de Lin, Water Lily, Golden Eagle, Lac van Haarlem, Golden Lion, Lac van Rhyn, La Reve, and La Remarquable.

Messrs. R. Wallace and Co., Colchester, sent up a few tulips, their Darwin varieties being in very good form. Messrs. Wm. Bull and Sons, Chelsea, showed daffodils and tulips in rather stiff bunches. Messrs. G. Bunyard and Co., Maidstone, brought up alpines and early hardy flowers.

Messrs. R. H. Bath, Lim., Wisbech, were represented by a bank of clean and bright tulips, and a selection of daffodils, the latter including Grandeur, Mdme. de Graaff, Homer, Torch, Una, Epic, Will Scarlet, and other good things. Miss F. W. Currey, Lismore, Ireland; Mr. H. Chapman, Rye; and the Rev. G. H. Engleheart, Dinton, each showed a few new daffodils.

FRUIT AND VEGETABLE COMMITTEE.

Particularly interesting was the collection of early vegetables and salads submitted by Messrs. Sutton and Sons, Reading, all fresh and tempting. There was asparagus, Early Market tomatoes, Earliest of All, Golden Ball, Early Paris, and Commodore Nutt lettuces, April cabbages, various radishes, Scarlet Horn carrots, Sutton's Market cucumbers, and Long Parisian turnips. Mr. J. W. Funge, gardener to Mrs. Bischoffsheim, Warren House, Stanmore, sent well-fruited plants of the pale-coloured but highly-flavoured Louis Gauthier strawberry.

Early vegetables were contributed by Messrs. Jas. Veitch and Sons, Chelsea, and these included Ham Green tomatoes, Golden Queen, Paris Market, and Black Crepe lettuces, various radishes, Gradus peas, and Incomparable cabbages. The same firm showed well-kept apples, the best dishes being of Bess Pool, Newton Wonder, Bramley's Seedling, Barnack Beauty, Alfriston, Norfolk Beaufin, and Dumelow's Seedling.

In the amateurs' class for strawberries Mr. H. Gardner, gardener to Lord Foley, Ruxley Lodge, Esher, beat Mr. J. Vert, gardener to Lord Howard de Walden, both showing Royal Sovereign. In the trade class Messrs. J. and F. Chatfield, Southwick, Sussex, secured first prize with Royal Sovereign, Bedfordshire Champion, and La Grosse Sucree.

MEDALS.

Gold.—Mr. George Mount, Canterbury, for roses; Mr. Jas. Douglas, Great Bookham, Surrey, for auriculas.

Silver-Gilt Flora.—Mr. Grubb, gardener to C. F. Raphael, Esq., Porter's Park, Shenley, for carnations; Messrs. Jas. Veitch and Sons, Chelsea, for phyllocacti, etc.; Messrs. Robert Veitch and Son, Exeter, for rhododendrons.

Silver-Gilt Banksian.—Messrs. John Peed and Son, West Norwood, for alpines, etc.; Mr. M. Prichard, Christchurch, for hardy flowers; Messrs. Barr and Sons, Covent Garden, for daffodils and tulips.

Silver Flora.—Messrs. B. R. Cant and Sons, Colchester, for pot roses; Messrs. Wm. Paul and Son, Waltham Cross, for roses in pots; Messrs. Jas. Carter and Co., Holborn, for cinerarias; Messrs. W. Cutbush and Son, Highgate, for carnations and shrubs; Messrs. H. B. May and Sons, Edmonton, for ferns, etc.; Mr. H. D. Phillips, Olton, for daffodils.

Silver Knightian. — Messrs. Sutton and Sons, Reading, for early vegetables and salads.

Silver Banksian.—Messrs. Bakers, Wolverhampton, for alpines; Mr. H. Burnett, Guernsey, for carnations; Messrs. Frank Cant and Co., Colchester, for roses; Messrs. G. and A. Clark, Dover, for hardy flowers; Mr. R. Gill, Falmouth, for rhododendrons; King's Acre Nursery Co., Hereford, for heliotropes; Messrs. Dobbie and Co., Rothesay, for violas and pansies; Messrs. Hugh Low and Co., Enfield, for carnations, etc.; Messrs. John Waterer and Co., Bagshot, for rhododendrons; Messrs. Hogg and Robertson, Dublin, for tulips; Messrs. R. H. Bath, Lim., Wisbech, for daffodils and tulips; Mr. H. Cave, Mangotsfield, Bristol, for daffodils.

Bronze Flora.—Messrs. G. Bunyard and Co., Maidstone, for hardy flowers; Messrs. H. Cannell and Sons, Swanley, for pelargoniums; Mr. S. Mortimer, Farnham, for polyanthuses; Messrs. Paul and Son, Cheshunt, for shrubs; Mr. Amos Perry, Enfield, for hardy flowers; Mr. G. Reuthe, Keston, for alpines; Messrs. T. S. Ware, Lim., Feltham, for primulas.

CERTIFICATES AND AWARDS.

First-Class Certificates.—To Lælio-cattleya Dr. R. Schiffman Westonbirt var., from Lieut.-Colonel Holford, Westonbirt, Gloucester.

To Viburnum Carlesi, from Sir Trevor Lawrence, Bart., Burford Lodge, Dorking.

Award of Merit.—To Saxifraga Clibrani, from Messrs. Clibrans, Manchester.

To Nephrolepis lycopodioides, from Messrs. T. Rochford and Sons, Broxbourne.

To Cineraria flavescens, from Messrs. Jas. Veitch and Sons, Chelsea.

To Primula Unique, from Messrs. Jas. Veitch and Sons, Chelsea.

To Saxifraga decipiens Arkwrighti, from Messrs. Bakers, Codsall.

To Hydrangea hortensis alba, from Messrs. Hugh Low and Co., Enfield.

Norwich Spring Show.

This fixture was held on the 29th ult., in St. Andrew's Hall, Norwich. It was the prettiest arranged show that the Norfolk and Norwich Horticultural Society has held for many years, and great credit is due to Mr. William Smith, the hon. secretary, and his staff. The chief feature was the grand display of narcissi and daffodils. The best came from Mr. George Davison, gardener to Colonel Petre, Westwick, who had the cream of the trumpet kinds, and some seedlings of his own, of great merit. Two of these, named Elizabeth and Julius Cæsar, were awarded first class certificates. The former is remarkable for its perfect perianth. Mr. A. Woodhouse, gardener to the Master of the Rolls, at his Norfolk residence, Letheringsett, made a bold display. A striking feature of his was one group containing just over 100 different kinds in the various types, and the flowers were perfect specimens. The other classes for cut flowers also brought out some keen contests, the principal exhibitors being Mr. Lewis Smith, gardener to Robert Fellowes, Esq., Shotesham Park; Mr. W. Chettleburgh, gardener to Colonel Rous, Worstead; Mr. W. Allan, Gunton Hall Gardens; Mr. George Davison, Westwick; Mr. F. Neave, Lingwood; and Mr. W. Laws, gardener to G. E. White, Esq., Eaton.

The pot plant section was responsible for a remarkable display of stellate cinerarias, four collections of a dozen plants each being staged for prizes given by Messrs. Sutton and Sons. Some of the plants were a yard across the heads of bloom. Messrs. Sutton's representative was so pleased with them that he had a special photograph taken of the batch. Another good feature was the circular group of plants 8ft. in diameter. In this class Mr. W. Palmer, gardener to I. B. Coaks, Esq., Thorpe, won first prize with a most graceful arrangement of pink and white flowers, with light foliage plants. Mr. H. Andrews, gardener to Captain Meade, Earsham Hall, had in his group some fine amaryllis and vandas. There were well-filled classes also for calceolarias, mignonette, pelargoniums, and lilies in pots. Orchids came in strong force from Mr. H. Rider Haggard's gardens at Ditchingham, his very large cymbidiums evoking great interest. Miss Violet Fellowes, Shotesham, also had some fine specimens in this section.

Fruits were represented by strawberries only, Mr. U. Wright, gardener to W. J. Birbeck, Esq., Stratton Strawless Hall, taking first prize for both gathered fruits and half-a-dozen pots. Vegetables were not a large feature, and Mr. W. Chettleburgh took the principal prizes in the section.

Messrs. Daniels Brothers, Lim., Norwich, made a nice display of pot plants of many kinds, and a bold bank of cut anemones. Messrs. Hobbies, Lim., Dereham, showed roses in great variety as bushes and standards, and they were quite up to date, exhibiting Veitchenblau, the blue rose.

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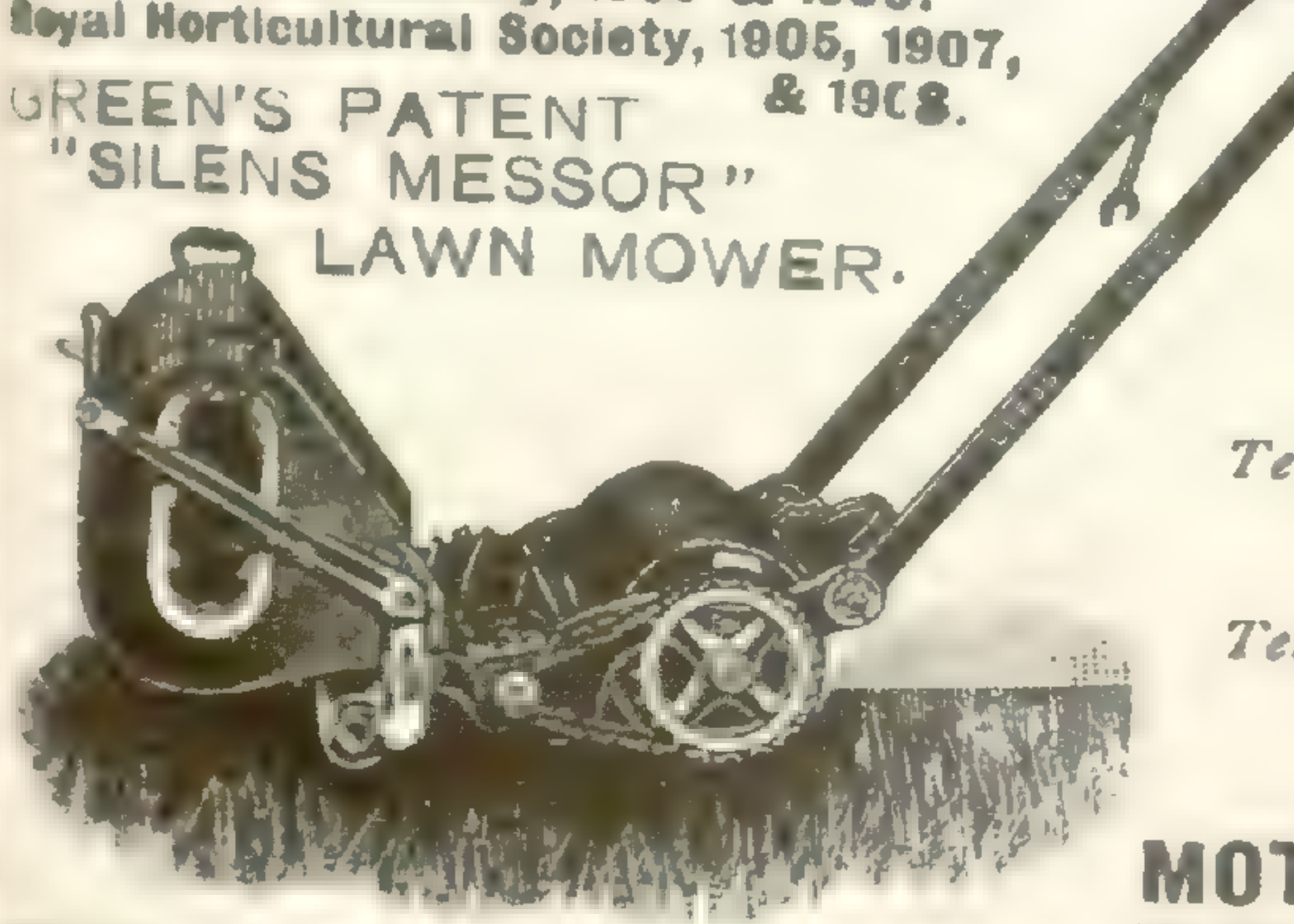

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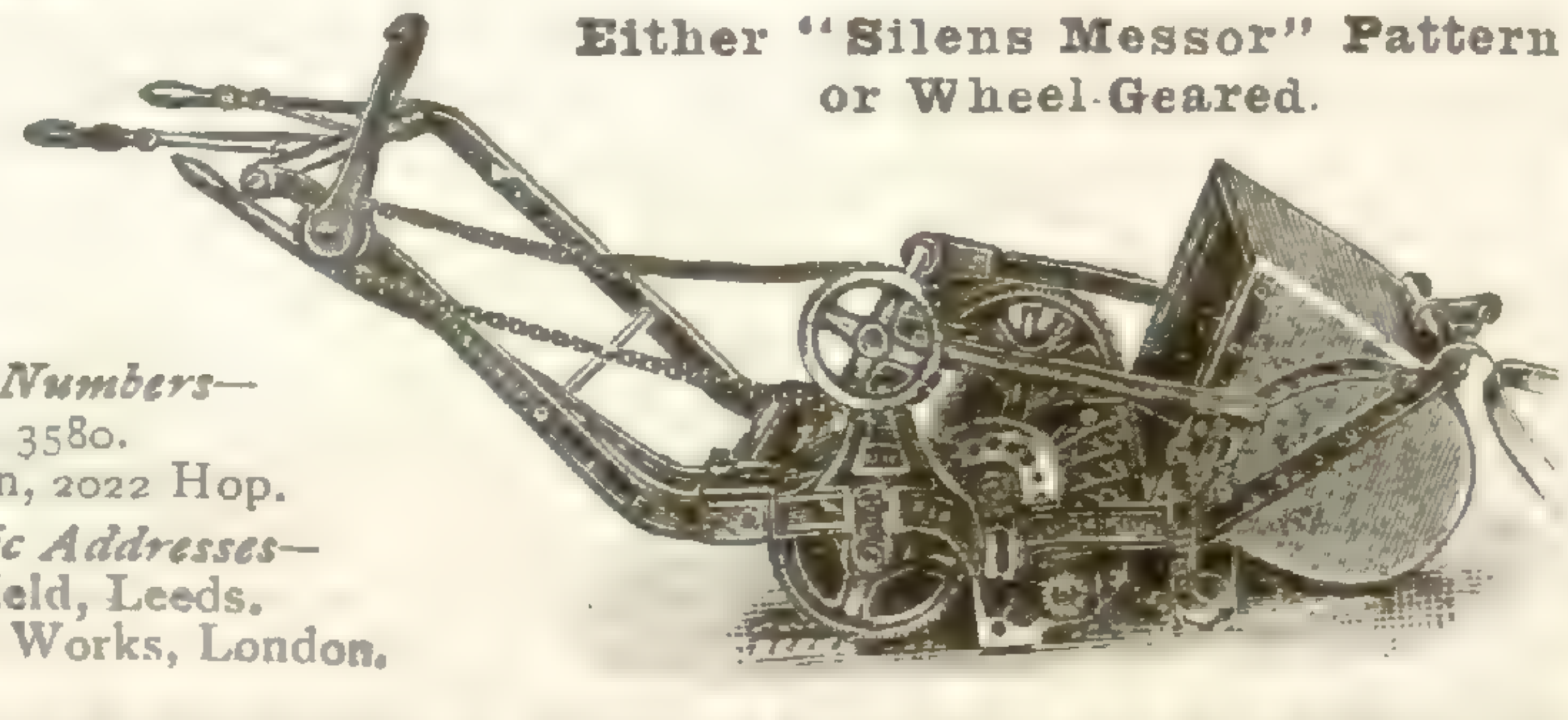

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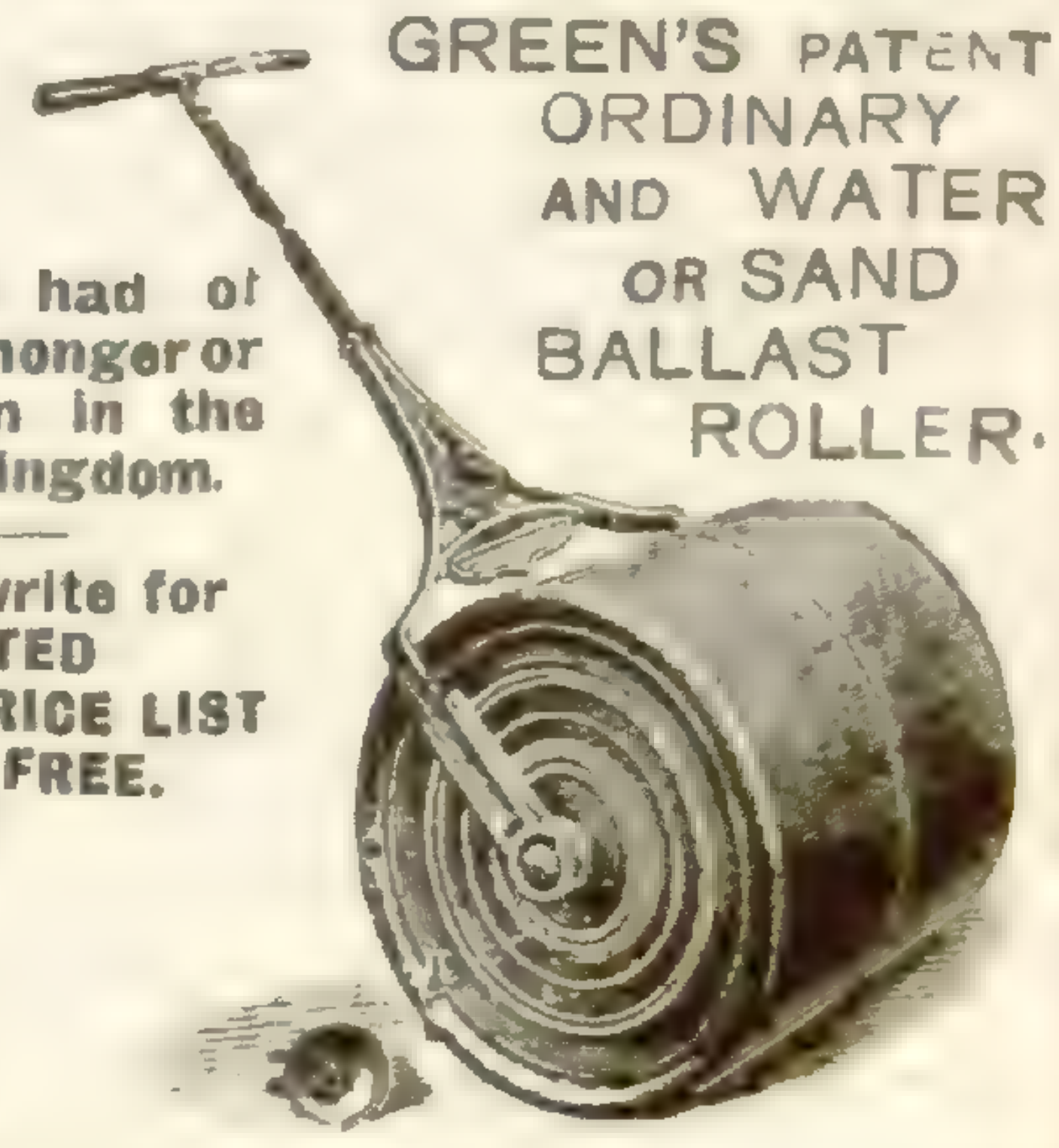

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Mr. R. C. Notcutt, Woodbridge, had a display of flowering trees and shrubs. Messrs. B. R. Cant and Son, Colchester, put up a beautiful display of roses in pots, and also cut blooms, and from a box of seedling blooms of about seven kinds they secured three first class certificates. Messrs. Sutton and Sons, Reading, came along with a brilliant display of cinerarias and winter-flowering stocks. Mr. Daws, of Syderstone, made a good display of his new rhubarb.

Although the show was not patronised to the extent one would like, we are glad to be able to record that the admission money went up nearly £5 over the previous year.

Huntingdonshire Spring Flower Society.

At the fourth show of the above society, held at Huntingdon, there was a record attendance and entry. Messrs. Barr's Daffodil Cup was won by H. R. Darlington, Esq., Potter's Bar; J. Cator, Esq., Woodbastwick, being second, and Miss Linton, Buckden, third. Some splendid trade exhibits included those from Messrs. Barr and Sons, R. H. Bath, Lim., Messrs. J. R. Pearson and Sons, Lowdham; Mr. J. Mallender, Bawtry, with seedling daffodils. Messrs. W. and J. Brown, Perkins, and Laxton sent general spring flowers, and Mr. Reuthe, of Keston, Kent, showed a capital lot of alpines, etc. Lady De Ramsey and Messrs. Laxtons' showed American tree carnations, prominent among which were Harlowarden, White Perfection, and Enchantress, Rose Enchantress, Jessica, and Challenger.

The celebrated Radeski Band discoursed sweet music at intervals with enjoyable results, and altogether it may be said to have been a charming exhibition.

Reading and District Gardeners' Association.

By the kind permission of Sir William Farrer, this association had, on Monday, April 26, the opportunity (a privilege more than once enjoyed before), of visiting the unique gardens at Sandhurst Lodge. A party of between seventy and eighty, which included Mr. Leonard Sutton (vice-president) and Mr. W. Pole-Routh, travelled by the 4.20 p.m. train to Wellington College Station (special accommodation having been provided), several others were picked up at Earley and Wokingham, the number being largely increased at the end of the railway journey by the cycling brigade and members residing in the immediate neighbourhood, until on assembling for tea at the Wellington College Hotel, the party had swelled to about 140.

Tea, provided by the generosity of Sir William Farrer, was at once proceeded with, and at the close of the repast a hearty vote of thanks to Sir William for his hospitality was proposed by the Vice-President, and seconded by the Chairman of the association, the members expressing their appreciation of the kindness shown by giving three hearty cheers. In the unavoidable absence of Sir William Farrer, Mr. Townsend, the head gardener, welcomed the association in the name of his employer, and a move was at once made in the direction of the gardens.

The particular attraction at Sandhurst Lodge at the present season is the unrivalled collection of daffodils, narcissi, tulips, etc., which are grown here, not in the formal fashion one is so accustomed to see them, but by their thousands among the lovely flowering shrubs, under the trees, on the margin of streams and ponds, or grouped in the grass, making a picture that must be seen to be properly appreciated. In the borders, too, daffodils, in conjunction with myosotis and polyanthus, make lovely colour combinations, which clearly indicate the care and skill bestowed by the master hand of the head gardener. When it is mentioned that, apart from bulbs, etc., Mr. Townsend annually plants out, for the adornment of the woodland garden, 3,000 Primula japonica and 6,000 polyanthus, some idea of the lovely effect can be imagined.

Needless to say, no part of the extensive gardens was left unexplored, while Mr. Townsend was ever ready to give the benefit of his extensive knowledge and experience to any member of the party anxious to learn. The time for departure arrived all too quickly, steps being taken in the direction of the S.E.R., compartments having been reserved on the 7.40 p.m. train for those returning by rail. As the train moved off, cheers were given for Mr. Townsend and his staff for the way in which they had contributed to such an enjoyable outing.

RED OR GRIZZLY GRAPES.

There has been no need for me to enter into the controversy raised by Mr. E. Molyneux over an article of mine on the merits of Red or Grizzly grapes, because others with greater experience have shown the value of varieties that, by reason of their red or "foxy" colouring, are, in the main, despised.

Mr. Molyneux must have been a little surprised when he opened his "Journal" of the R.H.S., and turned to page 502, where, among the "Commonplace Notes," is the following:

"There are many indications that the craze for size and appearance in fruit is on the wane, and those possessing first-class flavour are again finding favour. Among new grapes 'Prince of Wales' is sure to take a leading position, because of its splendid appearance, size, and flavour. It originated as a sport from 'Mrs. Pince,' and possesses all the excellent qualities of its parent, with the addition of a handsome bunch of perfect form, a larger blue-black berry of a roundish-oval shape, and a crisp delicious Muscat flavour. At Wisley it has proved a strong, sturdy grower, free bearer, and very free setter. Another remarkably fine grape, by no means new, but seldom seen, is 'Muscat Champion,' one of the boldest berried varieties grown, quite as large as 'Gros Colmar' or 'Canon Hall Muscat,' but of a foxy-red colour, tinged with green; many not only object to this colour, but some might imagine the fruit was not properly ripe; yet, in spite of this, no finer flavoured grape is grown, and where high quality is desired it can be strongly recommended. In the Wisley collection it was much admired for its big bunches, robust habit, and superb flavour. Another red or foxy grape that used to be extensively grown, but is now rarely met with, is 'Grizzly Frontignan'—the best of all the Frontignan varieties—with a long slender bunch of small red berries of the most exquisite flavour. All the Frontignans are delicious, but none will compare with the 'Grizzly.' One of the earliest and smallest berried grapes is 'Ascot Citronelle,' ripening its fruit quite a fortnight before 'Black Hamburgh' growing in the same house; the flavour is excellent, the bunches rather small, but abundantly produced, and the berries a lovely amber tint when fully ripe. For pot cultivation this is a valuable variety. We have nowhere seen or heard of this variety except in the society's gardens. 'Lady Hastings' is another new grape, a sport from 'Muscat Hamburgh,' with all the delicious flavour of its parent, but with a stronger constitution, not so fastidious as to soil and treatment as 'Muscat Hamburgh,' and bearing larger bunches and berries."

Although not all of the note bears directly on the subject of red grapes, I have given it in its entirety, lest I might be accused of omission, and a desire to discredit black and white grapes. As further evidence of the fact that many good flavoured grapes have been set aside by good-looking ones, and that this matter is likely to be put straight in due course, I may say that the request for "eyes" of Muscat Champion grape has been far in excess of the supply.

C. H. CURTIS.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

CAUSTIC DRESSING FOR FRUIT TREES. — G., Erdington: You must be a quite new reader of the GARDENERS' MAGAZINE, or you would know that the caustic soda and potash mixture is entirely unsuitable for use as a fruit tree dressing except when the trees are leafless and dormant. Write us again in the autumn, and we will explain how to prepare and use the mixture

STUDENTS AT WISLEY. — H. C. M., Stroud: The Royal Horticultural Society admits a limited number of young men to study gardening in their gardens at Wisley. Most of these students have the advantage of attending some of the society's meetings and shows, and all are thoroughly trained in every branch of practical horticulture, both in the open and under glass. A laboratory has been built in order that they may be well grounded in elementary chemistry, geology, etc. "It is generally easy to find these young men employment on the completion of their training, in fact, the Council are quite unable to meet the demand for energetic, trustworthy young men, but they must all be workers." For full particulars apply to the Secretary, Royal Horticultural Society, Vincent Square, Westminster, S.W.

BIG BUDS ON BLACK CURRANTS.—M. J., Selkirk: The shoots sent prove beyond all doubt that your black currants are badly infested with the dreaded currant bud mite (Eriophyes ribis). In our issue of May 1, p. 346, and also in our issue of April 24, p. 328, we gave particulars of this pest, and how best to deal with an attack. We refer you to these issues.

GRIZZLY FRONTIGNAN GRAPE.—West Surrey: This highly flavoured grape was introduced in 1654 by Sir Wm. Temple, and was at one time very largely grown, but the advent of big-berried black varieties and its own red or "foxy" colouring led to its disuse. It has a tendency to shank if grown in a cool house, and in tenacious soil. It is easily grown, sets freely, and crops heavily and will succeed with Black Hamburgh where the latter is not given cool-house treatment. It is quite likely you have seen this variety grown on house fronts and verandahs in France, where it is known as Muscat Gris and Muscat Rouge. Excessive cropping and overwatering must be avoided, as these tend to produce shanking. A little more lateral growth may also be permitted in Grizzly Frontignan, as compared with Black Hamburgh.

DISEASED TOMATOES.—G. P., Thame: The specimen sent is suffering from the peculiar form of the leaf-rust disease in which the blotched leaves are accompanied by black stripings on the stems. It is a very destructive plague, and infected plants should be removed and burned, those remaining being sprayed at intervals of about ten days with a weak Bordeaux mixture, or a weak solution of potassium sulphide.

PEACH SOLD FOR THE BENEFIT OF THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—M. J., Exeter: You are not quite correct, because it was a nectarine, and not a peach that was sold for the benefit of the institution. Dr. Hogg tells the story of how Lord Prudhoe received stones of a

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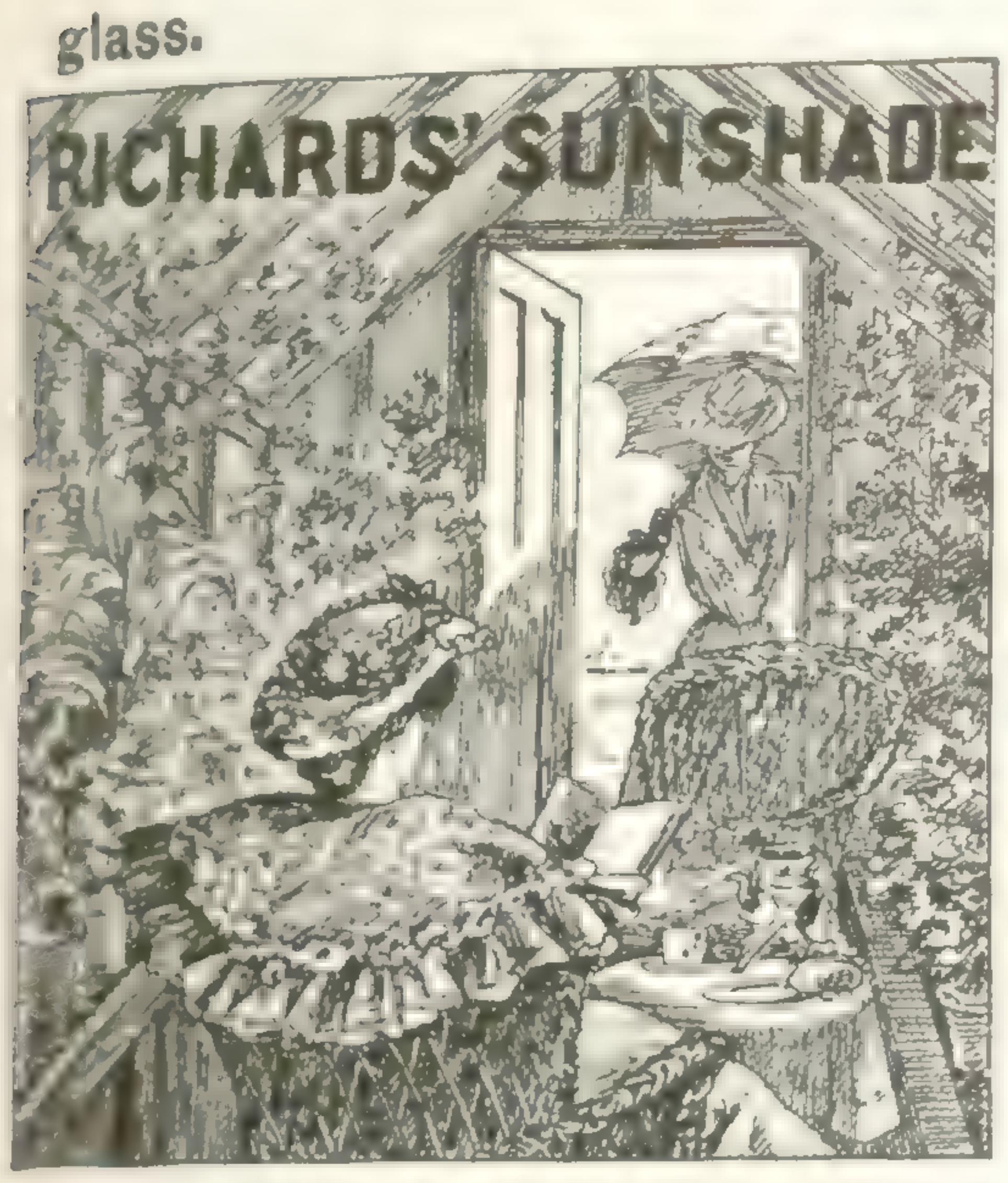

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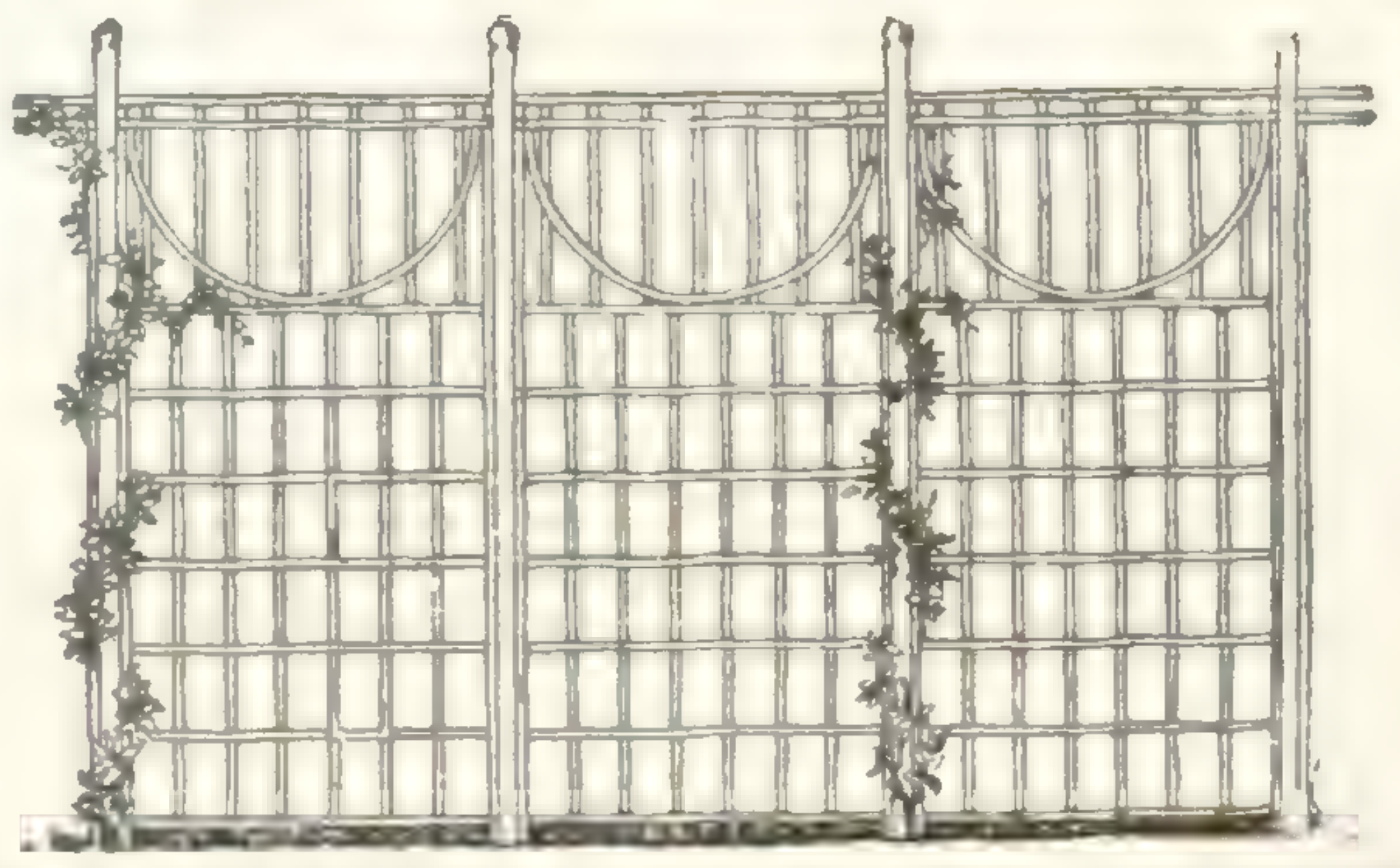

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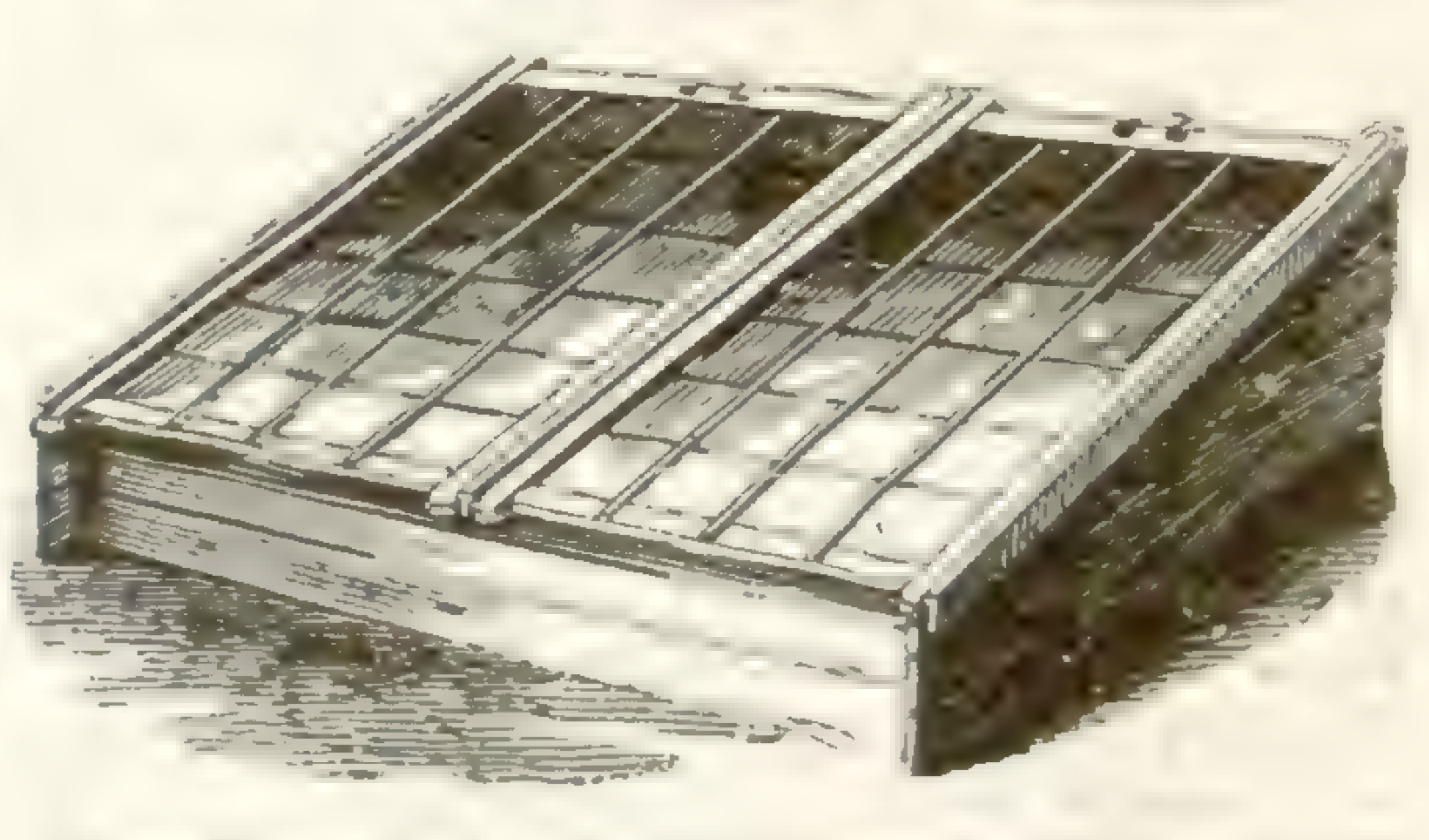

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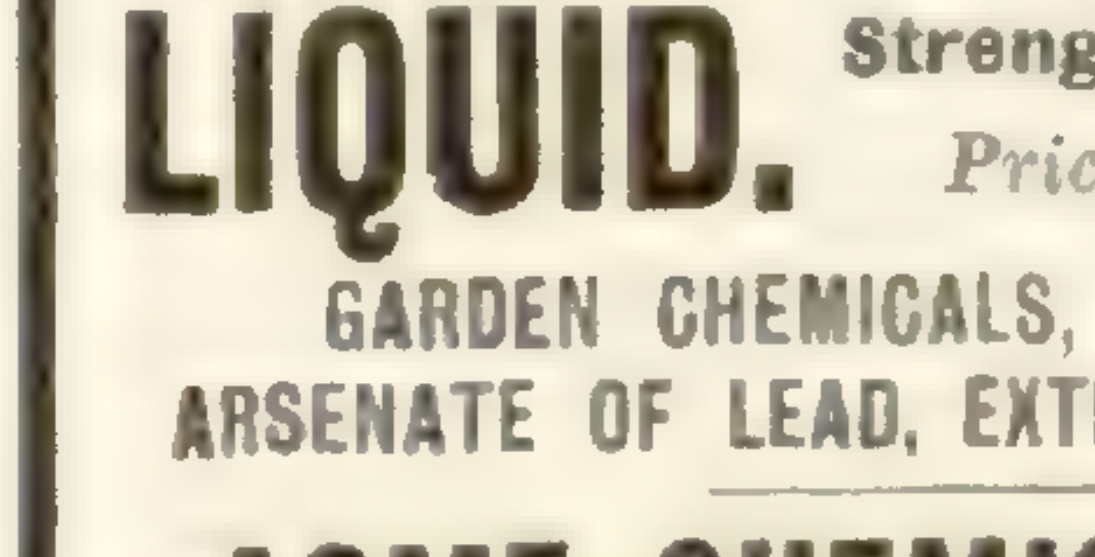

FIG. 1.

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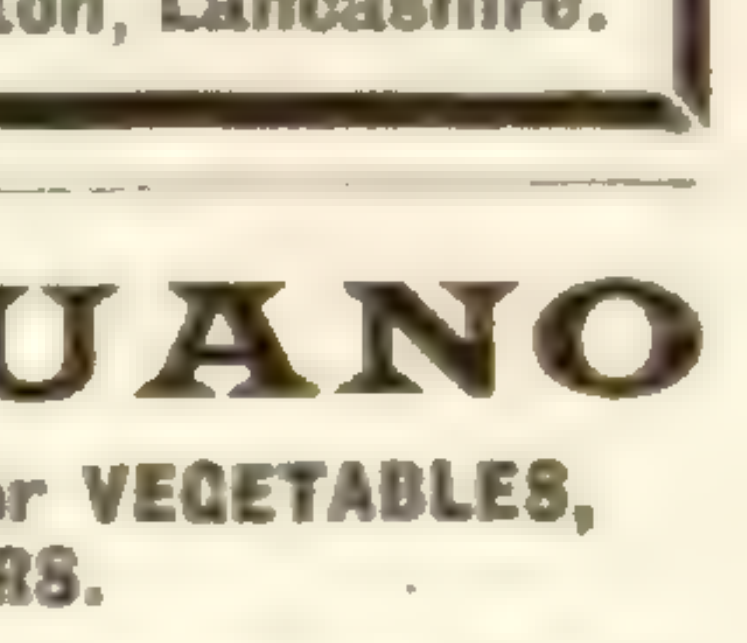

FIG. 2.

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tarine from the Vice-Consul at Aleppo, and these were sown in March, 1843. The first fruits ripened in 1846, and Lord Prudhoe, who had then become Duke of Northumberland, placed the variety in the hands of Mr. Rivers, of Sawbridgeworth, and on May 15, 1850, the stock of twenty-four plants was sold by auction, and realised £164 17s., which his Grace handed over to the fund. The name of Stanwick was given to the nectarine because it was at Stanwick Park the variety was raised.

KESWICK CODLIN APPLE.—C. K. P., Ipswich: This useful old apple was discovered near Ulverston growing among a lot of rubbish behind a wall at Gleaston Castle. It came under the notice of Mr. J. Sander, a Keswick nurseryman, who propagated it and distributed it as Keswick Codlin. As far back as 1813, he spoke in terms of high praise of this apple, which, he said, had cropped regularly at Rose Castle, Carlisle, for twenty years.

SPOTTED MELON LEAVES.—C. B. C., Exmouth: The dull white, well-defined, roundish spots are a sure indication of an attack of the melon spot mould (Cercospora Melonis), a pest that attacks cucumbers also. What are the causes that contribute to an attack we do not know, but excessive root moisture during dull weather appears to produce conditions favourable to an attack. Cut off and burn infected leaves, spray the plants with weak Bordeaux mixture, and attend very carefully to watering and heating.

DIMORPHOTHECA AURANTIACA.—R. D., Ludlow: This is a beautiful and brilliant South African annual, and one that thrives best in poor soil, and in a very sunny position—at least, that is our experience so far. After making their rough leaves the seedlings should be transferred to small pots, singly, otherwise they seem to make little progress for a long time, but when newly potted they root freely, and grow away well in a greenhouse. Duly harden the plants in a frame, and plant out in early June or at the end of May.

ACREAGE OF FRUITS IN GREAT BRITAIN.—N. R. D., Lyme Regis: It is estimated that there are 308,859 acres under fruit culture in Great Britain, apportioned as follows: Apples, 172,643 acres; strawberries, 27,827 acres; currants and gooseberries, 25,590 acres; small fruits in orchards, 23,492 acres; various small fruits, 19,880 acres; raspberries, 8,878 acres; cherries, 12,027 acres; plums, 14,901 acres; pears, 8,911 acres; and other orchard fruits, 41,694 acres.

PUBLIC PARKS AND GARDENS.—B. S., Plympton: A very complete list of the public parks and gardens in the United Kingdom, with their area, superintendents, etc., is published in the "Gardening Year Book for 1909," which can be obtained from the GARDENERS' MAGAZINE office, 148, 149, Aldersgate Street, E.C., for 1s. 2d. post free. The book contains descriptions of the new plants for 1908, and much other valuable information.

NAMES OF PLANTS.

W. A., Harpenden.—Cattleya Schroderæ.

L. C., Crawley.—Dendrobium Devonianum.

O. B. L., Newport.—1, Cotoneaster horizontalis; 2, Azara microphylla.

P. A., Newcastle.—1, Pteris Wimsetti; 2, Davallia elegans; 3, Richardia Elliottiana.

S. S., Rochester.—1, Prunus Pissardi; 2, Berberis stenophylla; 3, Alyssum saxatile citrina.

F. J. B., Widcombe.—1, Magnolia stellata; 2, Masdevallia triaristella; 3, Dendrobium Parishi; 4, Anguloa Clowesi.

C. W. R., Lincoln.—1, Anemone blanda; 2, Pelargonium quercifolium; 3, Franciscea calycina; 4, Pteris scaberula.

D. B. W., Wellingborough.—1, Odontoglossum Loochristiense; 2, O. Adrianæ; 3, O. Andersonianum; 4 and 6, forms of O. crispum; 5, O. luteo-purpureum.

MARKETS.

◆

COVENT GARDEN.

Flowers.

Business is rather slack this week. Daffodils and tulips are very plentiful and cheap.

		s. d.		s. d.
Adiantum cuneatum	per doz. bun.	5 0		9 0
Anemones	per doz. bun.	1 6		2 0
Arums	per doz.	3 0		4 0
Asparagus	per bun.	1 0		3 0
Azaleas	per doz. bun.	4 0		5 0
Carnations	per doz. blms.	2 0		4 0
,,	per doz. bun.	9 0		12 0
Cattleyas	per doz.	10 0		15 0
Croton leaves	per bun.	1 0		1 6
Cypripediums	per doz. blms.	1 6		3 0
Daffodils	per doz. bun.	1 0		1 6
Dendrobiums	per doz.	2 6		3 0
Eucharis	per doz.	2 6		3 6
French fern	per doz. bun.	0 6		1 0
Freesias	per doz. bun.	2 0		2 6
Gardenias	per doz.	1 6		3 0
Gladiolus	per doz. bun.	10 0		18 0
Gypsophila	per doz. bun.	3 0		4 0
Hyacinths, Dutch	per doz. bun.	2 0		3 0
Iris, Spanish	per doz. bun.	6 0		8 0
Lilac, white	per bun.	1 6		2 6
,, mauve	per bun.	2 0		3 0
Lilium auratum	per bun.	2 0		3 0
,, speciosum	per bun.	1 6		3 0
,, longiflorum	per bun.	2 0		3 6
Lily of the Valley	per doz.	6 0		12 0
Marguerites, white	per doz. bun.	2 0		3 0
,, yellow	per doz. bun.	2 0		4 0
Mignonette	per doz. bun.	3 0		5 0
Narcissi	per doz. bun.	1 0		1 6
Odontoglossums	per doz. blms.	2 0		3 0
Pelargoniums	per doz. bun.	5 0		6 0
Roses	per doz.	1 6		6 0
Spiræas	per doz. bun.	5 0		7 6
Stocks	per doz. bun.	2 0		2 6
Sweet Peas	per doz. bun.	2 0		6 0
Tulips	per doz. bun.	6 0		18 0
Tuberoses	per doz. blms.	0 3		0 4
Violets	per doz. bun.	1 6		3 0
,, Parmas	per bun.	2 0		3 0

Fruits.

Grapes, oranges and bananas sell freely and trade generally is good.

		s. d.		s. d.
Apples, American	per barrel	15 0	to	24 0
,, Australian	per box	8 0		12 0
,, English	per bush.	7 0		10 0
,, Nova Scotian	per barrel	15 0		17 0
,, Californian	per case	7 0		9 0
Bananas	per bun.	3 0		10 6
Figs	per box	0 10		1 6
Grapes, English	per lb.	2 3		5 0
,, Almeria	per doz. lb.	4 0		7 0
,, Belgian	per lb.	1 6		3 0
,, Cape	per case	12 0		16 0
,, Guernsey	per lb.	2 0		2 6
Lemons	per case	8 0		12 0
Melons, Guernsey	each	1 9		3 0
Oranges, Jamaica	per case	6 0		10 0
,, Denia	per case	12 0		28 0
,, Jaffa	per case	8 0		12 6
,, California	per case	12 0		14 0
Peaches, Cape	per case	6 0		10 0
Pears, Californian	per case	8 0		12 0
,, Cape	per box	5 0		8 0
,, Catillac	per crate	8 0		10 0
Pineapples, Cape	per doz.	4 0		12 0
Plums, Cape	per case	5 0		12 6
Strawberries	per lb.	2 0		4 0

Vegetables.

A brisk business continues. Salading seakale, and asparagus find ready sales.

		s. d.		s. d.
Artichokes, Globe	per doz.	2 6	to	4 0
,, Jerusalem	per bush.	1 9		2 6
Asparagus	per bundle	2 0		2 6
,, Paris	per bundle	2 0		4 0
,, Sprue	per bun.	0 8		1 0
Beet	per bush.	1 0		2 0
Beans (French)	per lb.	1 6		2 6
Broccoli, Sprouting	per bag	4 0		4 6
Brussels Sprouts	per ½-bush.	2 0		4 0
Cabbage	per tally	4 0		8 0
Carrots	per doz. bun.	1 0		3 6
Cauliflowers	per doz.	2 0		3 0
Celery	per doz. rolls	7 6		12 0
Celeriac	per doz.	1 6		3 6
Chicory	per lb.	0 4		0 6
Cucumbers	per doz.	3 0		5 0
Endive	per doz.	1 6		2 3
Greens	per bag	2 0		3 0
Horseradish	per doz. bun.	8 0		12 0
Kale	per bush.	3 0		4 0
Leeks	per doz. bun.	2 0		2 6
Lettuce, French	per crate	3 0		4 6
Mint	per doz. bun.	2 0		3 0
Mushrooms	per doz. lb.	6 0		10 0
Onions, Pickling	per bush.	3 6		4 6
,, Valencia	per case	10 0		12 0
,, Spring	per doz. bun.	2 0		3 0
Parsley	per doz. bun.	2 0		3 0
Parsnips	per bag	2 0		3 0
Peas, French	per pad.	3 0		4 0
Radishes	per doz. bun.	1 3		2 6
Rhubarb	per doz. bun.	0 9		1 0
Savoys	per tally	7 0		10 6
Seakale	per doz. pun.	10 0		12 0
Spinach	per basket	1 6		2 0
Tomatoes, English	per doz. lbs.	8 0		12 0
,, Canary	per pack.	10 0		15 0
Turnips	per bag	3 0		4 0

LONDON POTATO MARKETS.

Business is quiet and new potatoes come in slowly

		s. d.		s. d.
British Queen	per ton	50 0	to	60 [illegible]
Dunbars	per ton	75 0		80 [illegible]
Epicure	per ton	50 0		65 [illegible]
Evergood	per ton	45 0		55 [illegible]
Sharpe's Express	per ton	60 0		65 [illegible]
Maincrop	per ton	65 0		70 [illegible]
Royal Kidney	per ton	45 0		56 [illegible]
Up-to-Date	per ton	60 0		65 [illegible]
,, Blacklands	per ton	50 0		55 [illegible]
Canary, new	per cwt.	7 0		10 [illegible]

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1909. April 25 to May 1.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	Temperature of the Air. At 9 a.m. Wet Bulb.	Temperature of the Air. Day Highest.	Temperature of the Air. Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
April 25—Sunday	12 54	51	46	58	43
,, 26—Monday	11 0	57	49	64	42
,, 27—Tuesday	3 36	47	46	56	46
,, 28—Wednesday	9 36	53	49	58	42
,, 29—Thursday	7 12	49	45	55	42
,, 30—Friday	8 6	45	41	50	37
May 1—Saturday	10 18	40	43	49	34
Means	(total) 62 42	49	45	56	41

DATE. 1909. April 25 to May 1.	Rain.	Temperature of the Soil. At 9 a.m. At 1 ft. deep.	Temperature of the Soil. At 9 a.m. At 2 ft. deep.	Temperature of the Soil. At 9 a.m. At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
April 25—Sunday	0.02	50	50	48	32
,, 26—Monday	0.21	50	50	48	33
,, 27—Tuesday	0.26	52	51	48	38
,, 28—Wednesday	0.09	50	51	48	37
,, 29—Thursday	0.12	50	51	48	37
,, 30—Friday	0.09	49	50	49	32
May 1—Saturday	0.06	48	50	49	31
Means	(total) 0.85	49	50	48	35

"**Small Holders' Guide.**"—This manual, dealing with the subject of small holdings and their successful management, is now being published by Messrs. W. H. and L. Collingridge, 148, Aldersgate Street, London. The book should prove of much value to all who are interested in a subject that is foremost with dwellers in rural districts. The aim of the volume is to afford information on how to acquire a small holding, and on the best methods of working it when in occupation. The price is 1s. (by post 1s. 2d.); or in cloth 1s. 6d. (by post 1s. 9d.).

Solanums.—These useful berried plants for the winter months should not be neglected. Cuttings that were rooted in February or March should by now be nice plants in 60's, and to ensure them being nicely berried they should be planted out, preferably in a frame on an old half-spent hotbed, in a sunny position. They should be planted from 15 to 18 inches apart in fairly rich soil, and kept close in the frame for a few days until root-action commences, when more air may be given, finally leaving the lights off altogether. As soon as they have taken hold of the soil they should be pinched at about three inches high, and if they do not throw out enough side shoots they may be pinched again, but do not aim at too dense a plant or the flowers will not set so freely as in a loosely-grown one, but try and get the wood to grow freely so that there is a good crop of bloom at once, and when it is seen they are setting freely and the plants are large enough, take out the point of each shoot. This treatment will add to the size of the berries. Old plants may also be treated in this way, but as they are larger, the open ground might suit them quite as well. Frequent syringings will be found necessary, as solanums are very subject to attacks of green-fly.—T. STEVENSON.

TRADE NOTE.

An illustrated pamphlet from the Harrow Nursery Co., Harrow, Middlesex, reminds us that the season is at hand when effective shading materials will be in demand. The Split Bamboo Blinds in which the firm deals, are very serviceable, neat, and inexpensive. The pamphlet gives descriptions and prices of blinds for all purposes.

FORTHCOMING ENGAGEMENTS.

MONDAY, May 10.—United Horticultural Benefit and Provident Society.

WEDNESDAY, May 12.—Royal Society of Arts. East Anglian Horticultural Club.

TUESDAY, May 18.—Royal Horticultural Society: Daffodil and Tulip Committee at 11.30 a.m.; Fruit, Floral, and Orchid Committees at 12 o'clock; Lecture at 3 p.m.; Scientific Committee at 4 o'clock.

TUESDAY, May 25.—Royal Horticultural Society's Great Exhibition at the Inner Temple Gardens, three days.

Kew Guild Annual Meeting at the Holborn Restaurant at 7.30, to be followed by the Annual Dinner.

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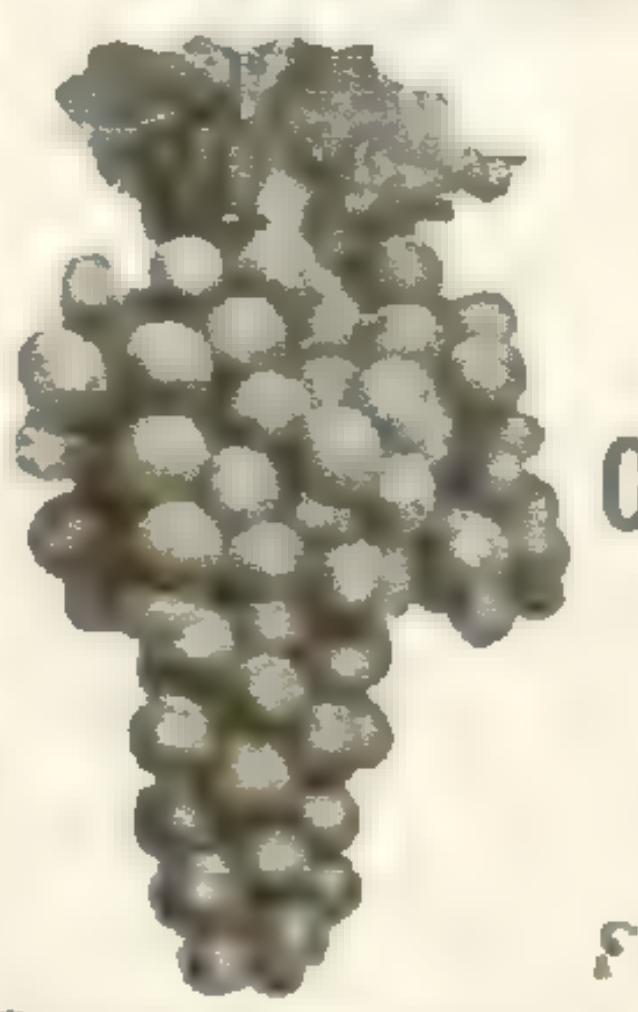

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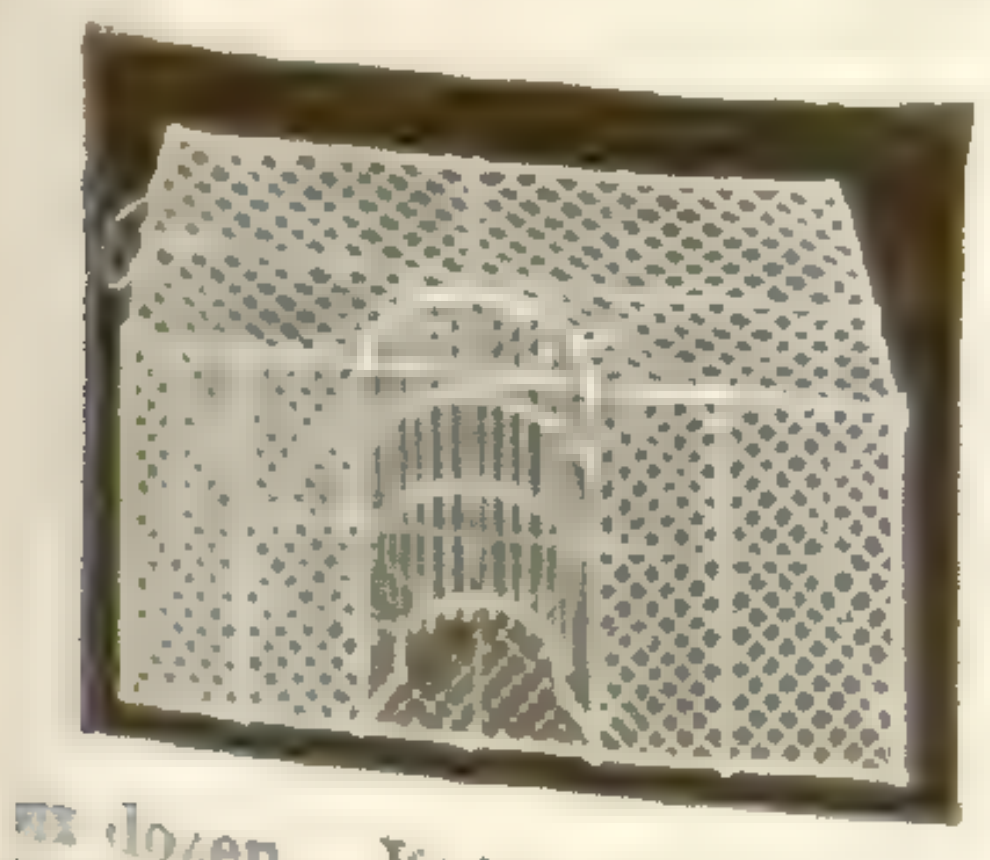

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THE GARDENERS' MAGAZINE.

No. 2,898. Vol. LII.
Reg. at the G.P.O. as a Newspaper.

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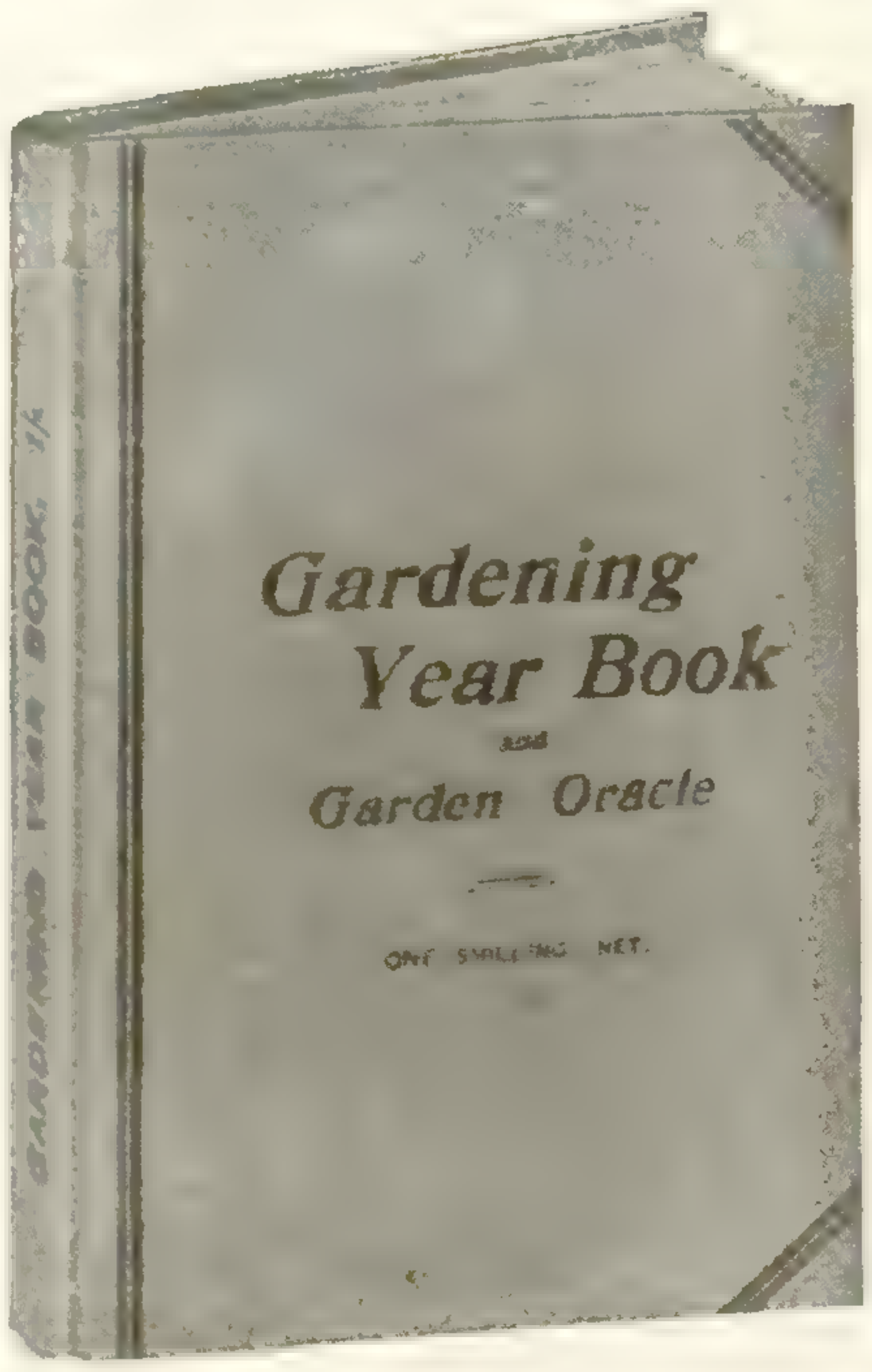

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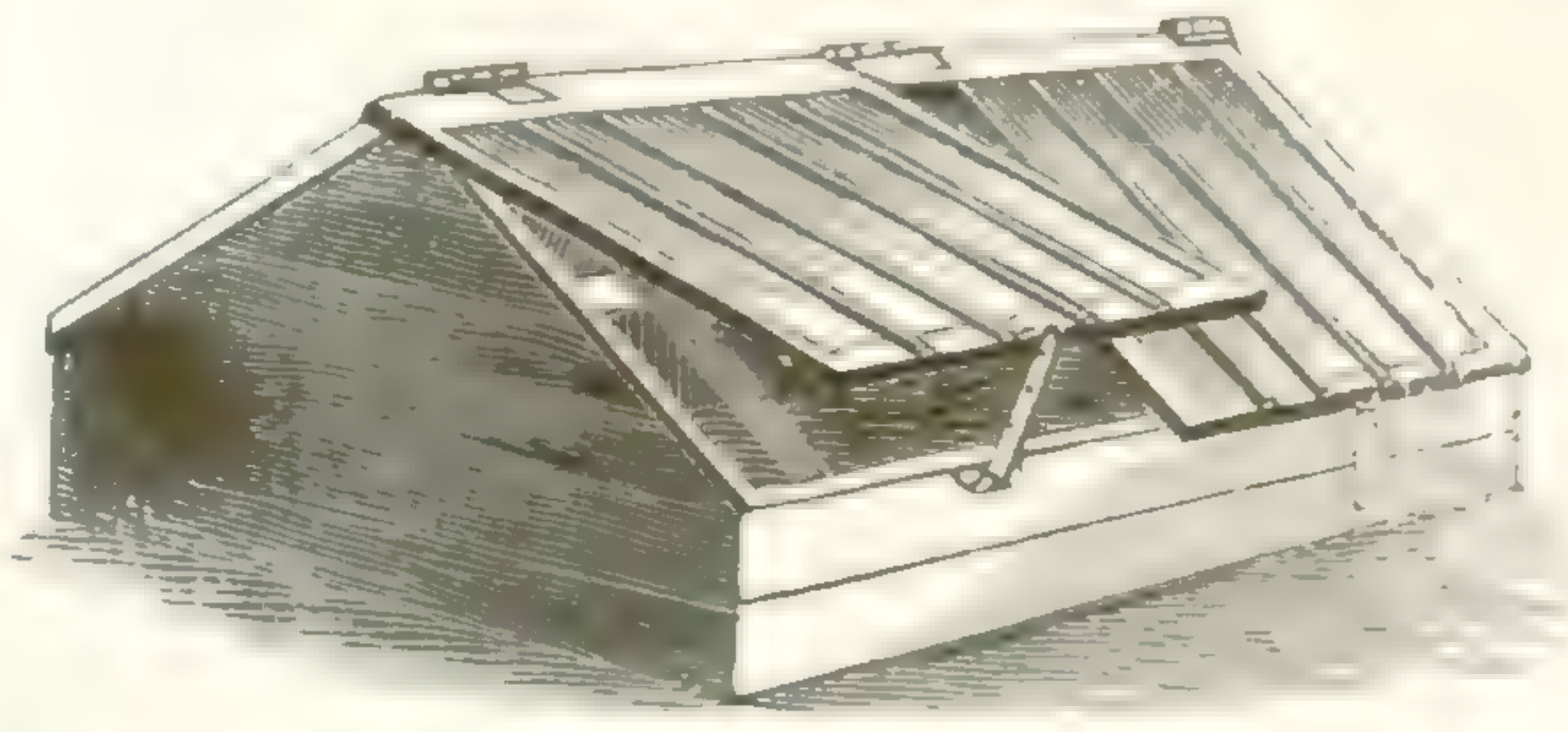

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6ft. " 5ft. "		2	15	0
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12ft. " 5ft. "		4	15	0
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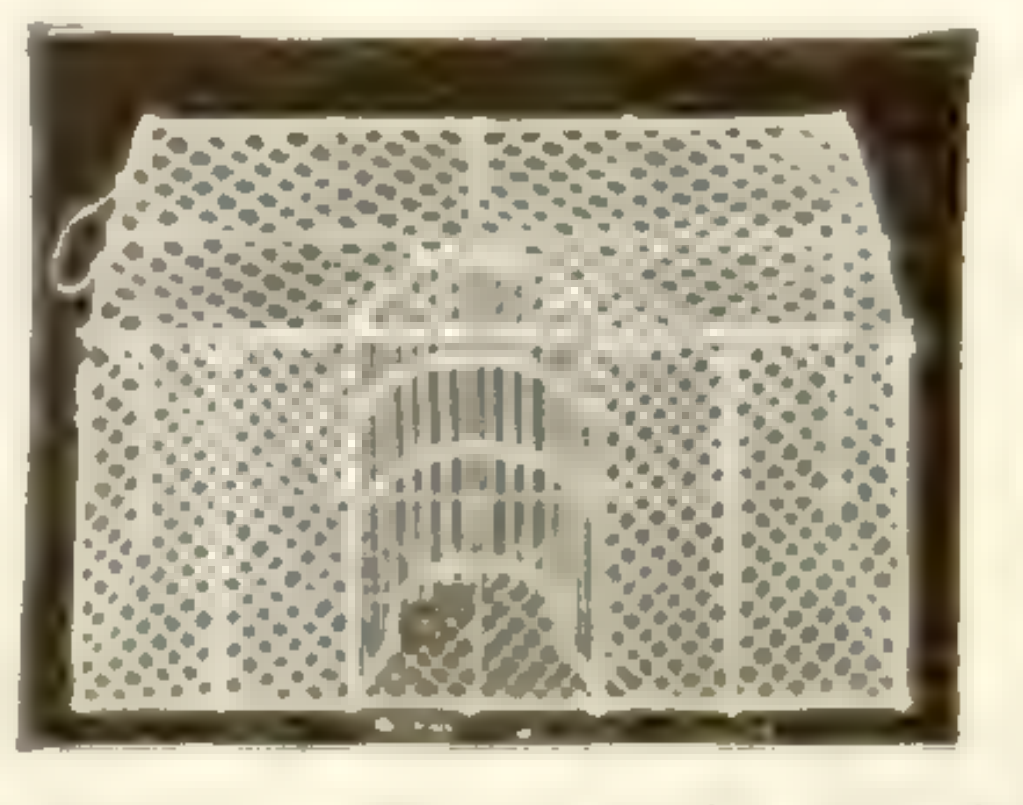

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Employment THE GARDENERS' MAGAZINE Register.

The charge for an Advertisement INCLUDES A FREE ENTRY ON THE REGISTER. Immediate Notice must be given when an engagement is secured.

A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

GARDENER (Head Working), where more are kept; 25 years' practical experience in all branches, Inside and Out, early and late Forcing, Vines, Cucumbers, Melons, Stove, and Greenhouse Plants, Herbaceous Borders; thoroughly reliable, highly recommended; married, without encumbrance. WOODHOUSE, Eastwood Road, Bramley, Surrey.

GARDENER (Head Working or good Single-handed with help); age 30; married, no family; abstainer; life experience Inside and Out; excellent references. BUNCE, 2, Phœnix Buildings, Rainham, Essex.

GARDENER (Head) seeks SITUATION where three or more are kept; age 30; married, two children; six years Escrick Park, five years Campsall Hall; three years as Head at present situation. SKILBECK, Nunthorpe Hall, York.

GARDENER (Head). — H. EDWARDS, Beechy Lees Gardens, Sevenoaks, Kent, is open to engage with any Lady or Gentleman requiring the services of a steady, practical man, conversant with the requirements of a well-kept establishment. 3 years in above gardens as general foreman. Well recommended by past and present employers, who would answer any questions concerning him. Apply as above.

GARDENER (Head working, where 3 or more are kept); first-class experience, both under Glass and Outside; excellent character from present and previous employers; married, no children. J. LIDDICOAT, 20, Carnarvon Road, Barnet.

GARDENER (Head Working).—A Gentleman would be pleased to recommend a thoroughly reliable, steady Man where several are kept; can grow the new Indoor Carnations; 10 years' first-class character from last place; Land and Stock if required; abstainer; married. H. PITTMAN, Twyford, Winchester.

GARDENER (Head, where two or three are kept); life experience; good references; can be highly recommended from present situation; age 29, married, no family; in or near Reading preferred. H. MARSHALL, Manor House Gardens, Cookham Dean, Berks.

GARDENER (Head of two or three); all-round experience in all branches, including all kinds of Fruits and Flowers under Glass; age 35; married; good references; last 6 years Head. S. BUTLER, 4, Alexander Road, Chislehurst West.

GARDENER (Head Working, three or more kept); life experience in all branches of gardening; excellent references; 5½ years in present situation; age 40; 2 children, 14 and 10 years. (Would go abroad.) W. R. CHARLES, The Gardens, Guilsborough Vicarage, Northampton.

GARDENER (Head Working) where two or more are kept; thoroughly experienced in vines, peaches, melons, stove and greenhouse plants, flower and kitchen garden; leaving through employer giving up place; age 30; single. EDWARDS, Alport Cottage, Churchstoke, Montgomery.

GARDENER (Head Working, where several are kept); life experience in all branches; especially Grapes, Melons, Peaches, Cucumbers, and Stove and Greenhouse Plants; also Flower and Kitchen Garden; 21 years in last place, having left through death of employer; good references. C. T. M., 18, Pentland Street, Wandsworth, S.W.

GARDENER (Head Working); life experience in all branches, Inside and Out; married; good references. W. CANE, Sparrows Green, Wadhurst, Sussex.

GARDENER (Head, or Single-handed); life experience, Inside and Out; Orchids a speciality; age 40; one child. J. HARPER, 56, Bates Road, Preston, Brighton.

HER GRACE THE DUCHESS OF DEVONSHIRE wishes to recommend J. THOMPSON to any Lady or Gentleman requiring the services of a HEAD GARDENER, where several are kept; 20 years' experience in all branches. Holker Gardens, Cark-in-Cartmel, Lancs.

J. J. PARKER, Nurseryman, Whetstone, N., confidently recommends an industrious, hardworking HEAD GARDENER; good all-round man; 9 years last place; married; age 40.

LADY MALCOLM, of Poltalloch, highly recommends her HEAD GARDENER; eight years in present place, Head of three; life experience in all branches, age 36; married, one child, seven years. W. BASTIN, Barnardiston Hall Gardens, Haverhill, Suffolk.

MESSRS. LADHAMS, Nurserymen, Shirley, Southampton, can confidently recommend W. GUNSTON, age [illegible], as HEAD WORKING GARDENER to any lady or gentleman requiring the services of a good all-round man, who is conversant with the requirements of a well-kept establishment; excellent references. Apply as above.

MISS DALTON highly recommends GARDENER (Head Working, or good Single-Handed); life experience, 10 years' excellent character, leaving through death; age 34; married, one child, aged 8 years. Apply W. HIGGINS, The Lodge, Darlington, Camberley, Surrey.

A YOUNG MAN (25) seeks SITUATION as SINGLE-HANDED GARDENER, or where help is given; 2½ years' good character. P. MUSTON, Coin St. Aldwyns, Fairford, Gloucestershire.

GARDENER seeks SITUATION as good Single-handed; understands poultry, and no objection to cow; married; age 39; now disengaged; 3 and 6 years good character; Berks or Oxon preferred. Apply W. DEARLOVE, Dorchester, nr. Wallingford, Oxon.

GARDENER (Good Single-handed, or where help is given); age 37; 24 years' experience in all branches; good references. E. SMITH, 5, Havelock Road, Bromley Common, Kent.

GARDENER (Single-handed or otherwise); eight years' practical experience, Inside and Out; married, one child; highest reference. F. WEBLEY, Adlestrop Gardens, Chipping Norton.

GARDENER (Single-handed or with help); good Second's place not objected to; married; age 36; tall; one child; life experience Inside and Out; good references. H. WARNER, 17, Salmestone Road, Margate, Kent.

GARDENER seeks SITUATION, single-handed, or where help is given; age 28; single; life experience in all branches; good references. H. ATTWATER, Ivy Cottage, Horsmonden, Kent.

GARDENER seeks SITUATION, Single-handed or otherwise; age 25; 11 years' experience; good references. A. RANDALL, 40, Victoria Place, East Street, Epsom.

GARDENER (Single or with help); married; experienced; good references. HOARE, 13, Black Horse Road, Sidcup, Kent.

GARDENER (Single-handed, or where help is given) age 35 thoroughly competent in all branches, Inside and Out; highest references. Apply GARDENER, 1, Gillepsie Road, Highbury, London, N.

GARDENER (Kitchen and Pleasure Ground, or small Single-handed) seeks SITUATION; life experience; good reference; married, no family. A. GARWOOD, 65, School Lane, Bushey, Herts.

LEAD Outside or good Single-handed—Young Man with 10 years highest experience in all round work seeks SIT.; excellent references, past and present; married when suited. R. LOCK, Arborfield, Weybridge, Surrey.

MR. F. W. KEMP, Eastcourt House Gardens, Malmesbury, Wilts, can thoroughly recommend J. CLARKE as SINGLE-HANDED GARDENER, with help; experienced fruit, flowers, vegetables, and lawns; Inside and Out; good previous reference, 26; three years second here; married when suited; near London preferred. Apply as above.

FOREMAN (Inside), age 26; 13 years' experience in fruits, plants, etc; the past two years at Old Warden Park; good references. BERRY, The Cottage, Edgware, Middx.

FOREMAN (Inside), age 27, thoroughly experienced in fruits, plants, and decorations etc.; last place 2½ years, Inside Foreman; excellent references. Disengaged. DACK, Farnsfield, Southwell, Notts.

MR. G. WOOLFORD, Wokefield Park, Mortimer, Berks, wishes to recommend H. KING as FOREMAN; Inside or General; age 26, life experience; 4 years' present situation in fruit and plant houses; good knowledge of orchids.

GARDENER (Second); experienced Inside and Out, or Pleasure Grounds. R., 6, Pond Cottages, Dulwich.

GENTLEMAN thoroughly recommends W. SMALL AS GARDENER (second) where 4 or more are kept; 16 years' experience; age 34, married, no children; good characters. KITSCROFT, Eversley, Hants.

MR. E. CLIFTON BROWN wishes to highly recommend G. HARRIS as good SECOND GARDENER; age 28; single; has been his Second Gardener for four years, with good experience Inside and Out; excellent character. Burnham Grove, Burnham, Bucks.

YOUNG MAN as SECOND (Inside and Out); nine years' experience; Bothy preferred. age 23; total abstainer; good references. W. CURTIS, Head Street, Pershore.

GARDENER (Under), age 22, seeks SITUATION; knowledge of both Inside and Out; good reference. N., Red House Lodge, Heatherside, Camberley, Surrey.

GARDENER (Under or Single-handed); 14 years' experience; good references; married; abstainer. PEGG, 30, Woodside Cottages, Churchyard Bottom, Muswell Hill Road, Highgate, N.

GARDENER.—YOUNG MAN seeks SITUATION as UNDER GARDENER in Large Gardens; age 20; 5 years' reference; would live in Bothy. C. RICHES, Pleasant Terrace, Uppingham.

WANTED, a SITUATION as UNDER GARDENER, where three or four are kept; have had 7 years' experience in kitchen garden and lawns; also some knowledge of glass work; 6 years in present place; age 25; single. W. SMITH, The Gardens, Egerton House, Egerton, Kent.

SITUATION COUPON

To the Advertisement Manager of "The Gardeners' Magazine," 148 & 149, Aldersgate Street, London, E.C

For MAY 22, 1909.

Please Repeat my Advertisement.

Name..

Address..

....

Date..........................

THIS COUPON, duly filled up, should be forwarded not later than Tuesday for the next issue.

Situations Wanted—*continued.*

JOURNEYMAN (Inside), 7 years' experience, age 22; good references; disengaged. E. JARVIS, Ida Cottage, 31, Boston Road, Woodbridge Road, Ipswich.

JOURNEYMAN (Inside, or Inside and Out) seeks SITUATION under Foreman; age 23; eight years' experience; well recommended. G. [illegible]UDD, Church Street, Betchworth, Surrey.

JOURNEYMAN (20) seeks SITUATION, Inside or Inside and Out; 5 years present place; good references; leaving when suited. S. RAYMENT, [illegible] Hall Gardens, Stanmore, Middlesex.

IMPROVER (Inside and Out); age 19; four years' experience; can be highly recommended. W. JOHNSON, Crouchmans, Great Wakering, Essex.

MR. MOULAND, Tower Gardens, Belvedere Park, Kent, recommends A. H. HELLYER as IMPROVER in the Houses; has been with me 2 years; age 17; leaving through death. Apply as above.

YOUNG MAN (19) seeks SITUATION as IMPROVER (Inside or Inside and Out); 3½ years present place; well recommended. In or near London preferred. Disengaged when suited. Apply, G. CHANDLER, Butts Road, Alton, Hants.

GARDENER.—YOUNG MAN seeks SITUATION as Under Gardener; would live in Bothy; age 20; good ref. Apply O. BOLTON, Marcham, Abingdon, Berks.

GARDEN LABOURER.—Young married Man requires SITUATION as above; used to horse and hand machines and general garden work; good references; Eastern Counties preferred. A. HOWARD, c/o Green, South View Farm, Kenninghall, Norfolk.

GARDEN LABOURER (39); married, no family; used to both Pleasure Ground and Kitchen Garden work; good scythe and spade hand. W. LING, Firs Cottages, Lambley, Nottingham.

GROOM-GARDENER seeks SITUATION; willing to make himself useful; age 29; married, one child; disengaged; good references. WATERMAN, Bury End, Broadway, Worcestershire.

LAD (18) seeks SITUATION in Nursery; 2½ years' experience in Garden; good character. Write to W., High Street, Botley, Hants.

STRONG YOUTH, age 18, as IMPROVER; 3½ years on Pleasure Grounds and Kitchen Garden; used to machines. J. DEADMAN, Old Cottage, Crooksbury, Farnham, Surrey.

STRONG, willing LAD requires SITUATION as IMPROVER; one year's course in country Gardens; live in preferred; low wage; good references. LARRETT, Poplar House, Ford End, Chelmsford.

WM. NAPPER seeks CLERKSHIP or ASSISTANT CLERKSHIP; Country Nursery near London preferred; active, competent Bookkeeper; considerable experience of the Trade; excellent testimonials. 37, Rotherwood Road, Putney.

YOUNG MAN (age 18) seeks SITUATION on Lawns; used to machines; strong and willing; height 5ft. 10in.; 2½ years' experience. Can be well recommended. Bothy preferred. Apply, RICHINGS, Gardener, Harperbury, Radlett.

YOUTH (16) seeks SITUATION in Gentleman's Garden; Bothy preferred; tall and strong, with 2½ years' experience in Nursery work; used to fires. MANAGER, Charlcombe Nurseries, Larkhall, Bath.

YOUTH (17), strong and willing, Gardener's Son, seeks SITUATION in Gentleman's Garden; two years' experience; good references. A. FEATHERSTONE, Maltby, Alford, Lincolnshire.

YOUNG MAN (24) seeks SITUATION on Gentleman's Estate or Nursery as CARPENTER, PAINTER, GLAZIER, etc.; knowledge of Inside and Outside Gardening; good character. L. TYRRELL, 1, Eagle Avenue, Mill Lane, Chadwell Heath, Essex.

Situations Vacant.

WANTED, experienced GARDENER; Single-handed; married; no children; must be strong and active, and willing to make himself generally useful. Wages 18s. per week, cottage, coal. Apply GLENLUI, Branksome Avenue, Bournemouth.

YOUNG MAN (19 to 20), with good knowledge of Kitchen Garden; live in Bothy; good references and qualifications required. Apply, stating wages, etc., to E. MILLER, The Gardens, Pyrford Court, Woking.

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VOL. LII.—No. 2,89[illegible]. SATURDAY, MAY 15, 1908.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Seeds.

In the spring of the year, when the sowing of seeds is one of the many interesting operations of the garden lover, it probably seldom occurs to the sower what wonderful little bodies he is dealing with. When we consider that in the minutest seed, as in the largest, we have an inconceivably complex organisation embodying all the potencies of the particular species to which it belongs, and, possibly, more species than one, it becomes clear that its apparent simplicity of husk, germ, and associated nutrition covers a multitude of wonders. Its origin, to begin with, is wonderful. The parent plant which bears the seed has at first no sex, it is a structure consisting of stems and foliage, built up by a multitude of cells which have inherited the power of shaping themselves in diverse ways so as to produce the ancestral form. Presently, when the flowering period approaches, these discard the process of building up leaves proper, and create modified ones, which take the shape of petals, stamens, and stigmas. In doing so, the hitherto asexual plant splits its component cells up, as it were, into two sexes, one of which we see embodied in the pollen grains, while the other asserts itself either in the heart of the flower or beneath it in the ovary or future seed vessel. Here a very wonderful differentiation occurs in the cells, and not merely a sexual one. The ordinary cell multiplies itself by having what is termed a nucleus capable of splitting up into two, each division of which then becomes the centre of a new cell, which repeats the operation. Thus constituted, the cell is complete, and multiplies itself practically ad infinitum without external aid. When, however, the pollen and ovary cells are formed, their nuclei divide, and half is extruded or thrown out, by which operation the cells in each case lose the power of dividing again, and so multiplying in the usual way. Now, however, the plant, by innumerable contrivances, according to its kind, makes arrangements to bring these two half cells together, and so enable them by combination of the divided nuclei to resume the process of splitting up and multiplying. How this is done is very wonderful. One set of half cells may be very distant from the other; in fact, they may be on independent plants. A bee or moth seeking honey, gets its body powdered over with the one kind, the male, each pollen grain having within it the half cell in question. The insect flies away, and, visiting another flower of the same kind, leaves some of these pollen grains on the viscid stigma, and, lo! presently each one protrudes a tiny tube, in the tip of which is the half cell, and penetrating between the cells of the stigma, it traverses it, and eventually reaches the other half cell at its base in the ovary. At once the two half nuclei unite, the now complete cell splits up and multiplies, and, aided by the mother plant, forms one or two compact leaves, tightly packed into a shell, and bearing at their base the germ or bud, which eventually develops into another generation. Here we perceive that the seed begins with a single fertilised cell, and yet, when the seed is completed, and germinates, the cells then existent divide into two different classes, one set seeking the light and pushing upward, in order to expand its one or two primary leaves to its vital influence, while the other set, of precisely similar origin, plunges into darkness in the soil below to form the root system, and so supply the foliage above with the needful sap and earthy salts. Another wonder in connection with seeds is their diversity. Every species has its characteristic form of seed, ranging from the almost microscopically minute, up to the large seeds of the nut tribe. Another wonder is lost to us if we purchase seed by the packet, and do not collect it ourselves, and that is the diversity of the pods or other vessels which contain them. Then, again, there is the diversity of the contrivances plants have adopted to scatter their seeds abroad; some, like the poppies, sprinkling them around, as it were, from pepper castors, while others are winged, and wafted afar on the pinions of the zephyr. Obviously, as a little thought will show, we have but crossed the threshold of an infinite museum of wonders by taking seed as the text of our present note.

G M 760

MR. J. W. MOORMAN,
Superintendent of Victoria Park.

Mr. J. W. Moorman, whose portrait we have the pleasure of giving herewith, has obtained considerable prominence among horticulturists in the Metropolis as the result of the excellent work he has accomplished during the period he has occupied the important position of superintendent of the Victoria Park, which, by the way, is the largest of the parks belonging to the London County Council. A native of Devonshire, Mr. Moorman commenced his gardening career at Teignmouth, where he had charge of the garden of Miss Baring Gould, who was an ardent lover of Nature and a good botanist. Subsequently, he occupied positions in various private establishments, among them being Poltimore Park, Devonshire; Poyton Towers, Cheshire; and Sulby Hall, Northamptonshire. While at the last-named seat, Mr. Moorman was offered the charge of the gardens of Coombe Bank, Kingston-on-Thames; this offer he accepted, and remained in charge seventeen years. During his occupancy of this position, Mr. Moorman was a constant exhibitor at the principal London shows, and was especially successful with spring-flowering bulbs, roses in pots, and chrysanthemums. Two gold Banksian medals were awarded him by the Royal Horticultural Society for collections of hyacinths, tulips, and other bulbs, one in 1879, and the other in 1881. Mr. Moorman took part in the formation of the once famous Kingston Chrysanthemum Society, and was a member of committee until he left the neighbourhood. After leaving Coombe Bank, Mr. Moorman entered into an engagement with the Metropolitan Public Gardens Association, and was entrusted with the laying out of Myatt's Fields, the transformation of burial grounds into beauty spots, and other work of a kindred nature. On the transference of Myatt's Fields to the London County Council, in April, 1899, Mr. Moorman was appointed the first superintendent of this open space. The authorities were not slow to recognise his remarkable administrative abilities, and two years later he was promoted to Brockwell Park, and, after a stay there of about two and a-half years, was advanced to the position of superintendent of Victoria Park. Here Mr. Moorman has accomplished such splendid work that, although he has reached the age limit, he has, in the public interest, received an extension until June, 1910.

Opening of Kensington Palace Gardens.—The gardens of Kensington Palace were, for the first time, opened to the public on Saturday, the 8th inst. The alterations that have been made complete the improvements in the Palace and its environment originated by Queen Victoria, when the State apartments were opened to the public. The gardens have been completely transformed, and the old glasshouses, the frames, and potting sheds, in which the large stocks of bedding plants required for Hyde Park, Kensington Gardens, and the other open spaces associated therewith, have been removed. A new entrance has been made to the gardens near the statue of Queen Victoria, and this is connected with the Broad Walk by a gravel walk. Especially interesting is the sunk garden, which is enclosed by four low brick walls, with openings in the middle of each, flanked by stone-capped brick piers, and closed by small gates of wrought iron. Within the sunk garden is a lily pond containing the finest of the hybrid water lilies. The improvements that have been effected in these historic gardens testify in no uncertain manner to the taste and judgment of Mr. J. Gardiner, the superintendent of Hyde Park, Kensington Gardens, and St. James's Park.

Fruits of Foreign Growth were less plentiful in British markets during April than for several years past, the most important decrease being in the imports of apples. The total imports of these fruits was 158,090 cwt., of the value of £125,607, against 261,976 cwt., of the value of £180,042. The imports of apricots and peaches, 2 cwt., of the value of £9, as compared with 1 cwt., of the value of £2, in April of last year. Bananas were imported in increased quantities, the total having been 568,720 bunches, of the value of £156,057, these figures representing an increase in numbers of 92,985 bunches and in value of £23,272. There were decreases in the imports of lemons and in oranges, and an increase in the imports of nuts. The imports of grapes dropped from 5,536 cwt., of the value of £21,192, in April, 1908, to 3,428 cwt., of the value of £15,080 last month. Pears, on the other hand, were received in larger quantities, the aggregate having been 3,019 cwt., of the value of £4,544, or an increase in quantity of 1,153 cwt., and in value of £1,207. Relatively, the imports of plums show a large increase, the total imports having been 107 cwt., of the value of £526, against 8 cwt., of the value of £18, in the corresponding month last year. Gooseberries and strawberries, of which small quantities were imported in April, 1908, have no place in the returns for last month. Unenumerated fruits are of more than the usual interest from the fact that, while there was a decrease in quantity of 5 cwt., there was an increase in value of £1,028, the total imports having been 3,755 cwt., of the value of £6,110. The value of the fruits imported during April aggregated £747,660, or a decrease of £50,800.

Norfolk Park, Sheffield.—This fine open space has been presented to the Sheffield City Council by the Duke of Norfolk, and a notification was made at the meeting of that body on Monday last. Norfolk Park, which, according to the "Gardening Year Book," has an area of 61 acres, is the largest and most beautiful of the open spaces at Sheffield. It was laid out by the grandfather of the present Duke in 1841, and it has throughout this period been open to the public, and maintained entirely at the expense of the present Duke of Norfolk, his father, and grandfather. The value of the park is said to be about £60,006.

Economic Botany and Horticulture.—At the monthly meeting of the Scottish Horticultural Association, Dr. W. G. Smith gave a lecture on economic botany in its relation to horticulture. In his opening remarks Dr. Smith directed attention to the fact that the association had taken an active part in the early development of economic botany in Edinburgh about twelve years ago. Since that time economic botany had made great strides in Edinburgh, where there was now a number of lectureships upon it, and there was the same sort of advance to be found in other parts of the country. Under the heading of economic botany he included everything pertaining to the growth of plants and their diseases, etc. The agriculturist, he observed, seemed to have received better treatment than the horticulturist, as far as assistance from the authorities was concerned, for while these authorities provided for much instruction in agriculture, they did very little to help on horticulture. Dr. Smith then referred to recent progress in the study of inheritance, plant diseases, and other allied subjects. The lecture was illustrated by lantern slides, and was fully appreciated by the large audience.

Spring-flowering Bulbs at Birmingham. During the past eight or nine weeks the Birmingham parks have been aglow with the rich colours of the flowers of bulbous plants flowering early in the year, and those who have made several visits to these fine open spaces have had opportunities for the enjoyment of a succession of floral displays of great beauty. Snowdrops, scillas, and other bulbs that bloom at an early period were sufficiently numerous to produce a pleasing display, and they were quickly followed by the richly-coloured crocuses of Dutch origin, which produced, in the several parks, colour effects of surprising beauty. About 30,000 crocuses are annually planted, and of this large number about 10,000 have a place in the Cannon Hill Park. Later on hyacinths in their thousands yielded freely of their floral wealth, and flowering in association with, or in succession to them, daffodils and tulips contributed liberally to the floral attractions of the parks. The daffodils have been especially attractive, for of these 125,000 bulbs were planted in the beds and borders, the numbers in the several parks being Cannon Hill Park, 50,000; Summerfield Park, 18,000; Victoria Park, 16,000; Aston Park, 16,000; Ward End Park, 15,000; Highgate Park, 6,000; Calthorpe Park, 2,000; and Queen's Park, 2,000. Prominent among the varieties were Emperor, Empress, Horsfieldi, Sir Watkin, Barri conspicuus, Golden Spur, Mrs. Langtry and Cynosure. Of the tulips upwards of 50,000 bulbs were planted, and the most noteworthy of the varieties include Keizerskroon, Proserpine, Joost Van Vondel, La Reine, Cottage Maid, Prince of Austria, and Yellow Prince. Mr. W. H Morter, in thus providing for the entertainment of Birmingham's citizens, must be heartily congratulated on the splendid success he has achieved.

Daylight Saving Bill.—At a recent meeting of the Select Committee on this Bill, Mr. Walter Berry, a large fruit grower at Faversham, expressed the opinion that the Bill would have a highly beneficial effect upon the Kentish fruit industry. Large quantities of fruit were, he said, sent from Kent to the North of England, and strawberries gathered in the morning were delivered in Manchester and Liverpool at 2 p.m. on the same day, and the extra hour of daylight would enable shopkeepers and costermongers to dispose of them while they were fresh and saleable. The change would, he said, sometimes mean the saving of tons of fruit which would otherwise be wasted.

Vegetable Imports. — The increases and decreases in the imports of foreign vegetables were equally balanced last month. The most noteworthy of the decreases was that in the imports of potatoes, which aggregated 217,847 cwt., of the value of £96,669, as compared with 997,392 cwt., of the value of £256,386, in April, 1908. Of onions the imports amounted to 636,789 bushels, of the value of £122,378, these figures representing a decrease in quantity of 111,170 bushels, and an increase in value of £25,324. Tomatoes were received in increased quantities, the total having been 91,975 cwt., of the value of £73,721, and of unenumerated vegetables the value was £72,024, or an increase of £25,669.

Plants for the Leeds Children.—A sum of £75 has been granted by the Leeds Education Committee for the provision of plants for the children in the elementary schools. Aspidistras, ivies, fuchsias, pelargoniums, marguerites, and violas seem to be the favourite subjects. Over ten thousand bulbs were distributed last season, and six hundred packets of seeds this spring.

Curious Effect of Cross Pollination.—The following comes to us from America: Mr. Howard S. Hill, a cucumber grower, of Gardner, Mass., found an orange tree in blossom in his cucumber hot house some time ago. He transferred the pollen from the orange blossom to a cucumber blossom. As the cucumber grew it remained round, like an orange, but it had the skin of a cucumber. When ripe it assumed a bright orange colour, and was pleasant to the taste.

Kew Guild.—The annual meeting and dinner of the Kew Guild will be held at the Holborn Restaurant on May 25. The meeting will commence at 7.30 p.m., and the dinner will follow at the close of the usual business. It is requested that the members of the Guild who intend being present at the dinner, will at once communicate with Mr. Winn, the hon. secretary, Royal Gardens, Kew.

NEW PLANTS, ETC.

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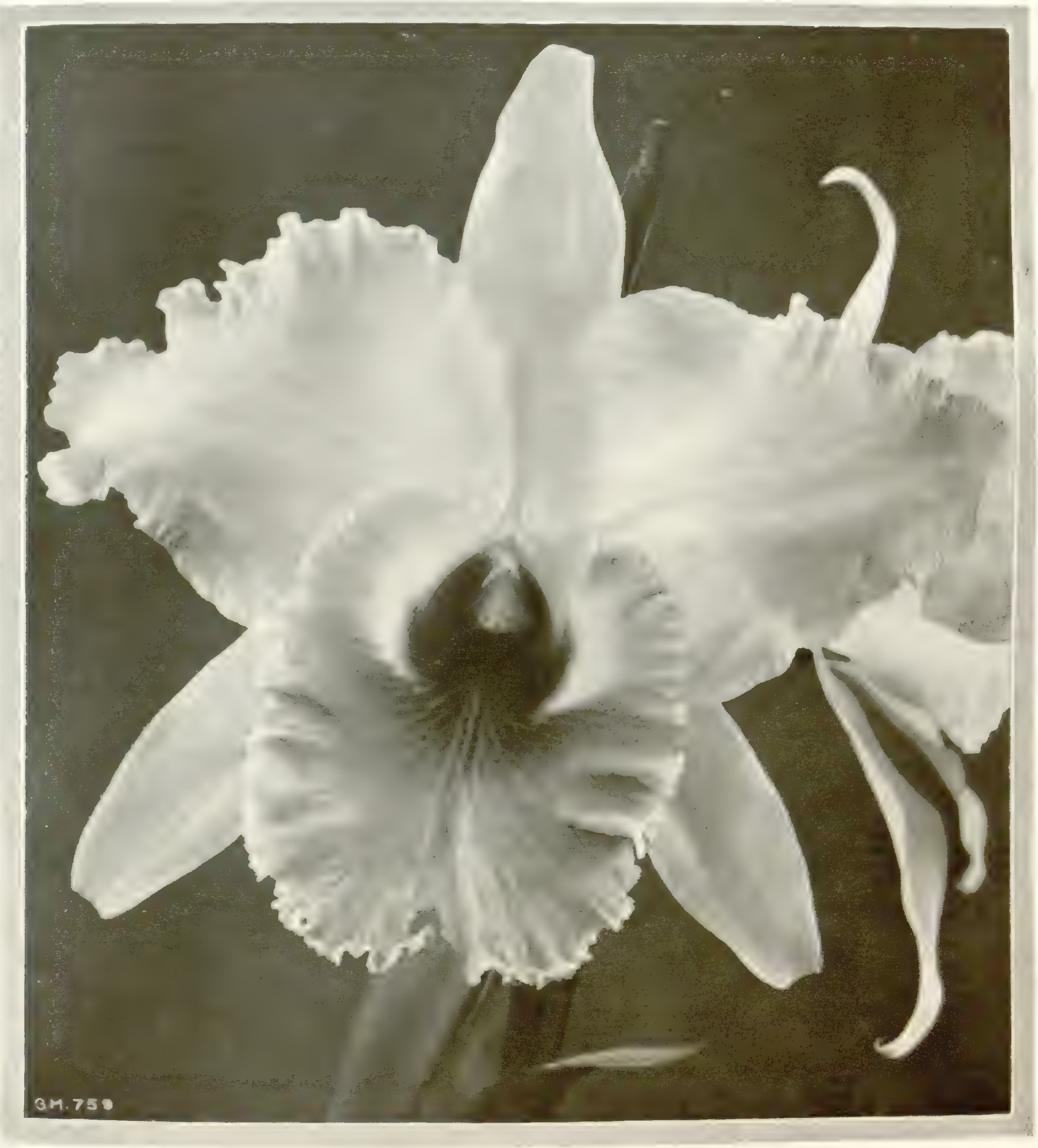
LÆLIO-CATTLEYA DR. R. SCHIFFMAN WESTONBIRT VAR.

This marvellously beautiful orchid, obtained by crossing C. Mendeli with L.-c. Callistoglossa, has every attribute of a fine flower. It is large, substantial, of finest shape, and brilliant colouring. The fine sepals and petals are pale rosy-blush, and the large, broadly expanded lip is beautifully frilled, deep crimson purple, with gold lines and a yellow throat. It is one of the finest of orchids exhibited recently. F.C.C., R.H.S., May 4. Mr. H. G. Alexander, orchid grower to Lieut.-Colonel Holford, Westonbirt, Tetbury, Gloucester.



LÆLIO-CATTLEYA DR. R. SCHIFFMAN WESTONBIRT VAR.

F.C.C., R.H.S., May 4. Lieut.-Colonel Holford, Westonbirt. Flowers soft pale rosy blush, deep crimson purple, and yellow.

VIBURNUM CARLESI.

This early-flowering, sweet-scented species of viburnum is quite hardy, and has proved its merit by standing all through the recent winter unharmed. It produces neat heads of white flowers, and makes a very attractive and useful shrub. We saw a plant flowering out of doors at Kew, near the pagoda, at the end of last week, and the specimen shown last Tuesday week was lifted from the open ground the previous day. An Award of Merit was granted to V. Carlesi on April 14, 1908, and the plant was figured in the Gardeners' Magazine of April 25, 1908, p. 323. It now gains the higher award. F.C.C., R.H.S., May 4. Mr. Bain, gardener to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking.

SAXIFRAGA CLIBRANI.

A strong-growing mossy saxifrage, bearing an abundance of deep red flowers on fairly stout stems. A.M., R.H.S., May 4. Messrs. Clibrans, Altrincham.

SAXIFRAGA DECIPIENS ARKWRIGHTI.

A large-flowered and very free mossy saxifrage, the flowers pure white. Some of the blooms are about three-quarters of an inch across. A.M., R.H.S., May 4. Messrs. Bakers, Codsall, Wolverhampton.

NEPHROLEPIS LYCOPODIOIDES.

This is a very beautiful form of the popular nephrolepises, and one in which the fronds are very finely and freely divided. The plumose character is so greatly developed that the fronds are like dense and beautiful moss. A.M., R.H.S., May 4. Messrs. T. Rochford and Sons, Broxbourne.

PRIMULA UNIQUE IMPROVED.

The plants shown under the above name are stronger than those originally shown as P. Unique at the Temple Show of 1908. The parents are P. Cockburniana and P. pulverulenta. We understand that P. Cockburniana was the seed parent of the first batch, and P. pulverulenta of the present batch of seedlings. The stems and leaves show in marked manner the influence of the latter species, while the flowers, with their orange and red colouring, show the influence of the brilliant P. Cockburniana. A.M., R.H.S., May 4. Messrs. Jas. Veitch and Sons, Chelsea.

HYDRANGEA HORTENSIS ALBA.

This pure white variety of a very popular plant should itself become popular. It carries large heads of pure white bracts. A.M., R.H.S., May 4. Messrs. Hugh Low and Co., Bush Hill Park, Enfield.

CINERARIA FLAVESCENS.

This elegant cineraria is a useful plant, but it is of chief interest because of its parentage and possibilities; indeed, it suggests that ere long we may have a yellow cineraria. The parents are Cineraria Feltham Beauty, and the golden-flowered Senecio auriculatissima. It is very free flowering, with comparatively small leaves, and heads of pale yellow flowers that quickly pale to cream and then to white. A.M., R.H.S., May 4. Messrs. Jas. Veitch and Sons, Chelsea.

GARDENS FOR GATHERING.

There are sentimentalists who hold that flowers should not be picked, that to pluck them is almost as cruel as caging some foreign bird and removing it to an atmosphere in which it is bound to die. The folly of this idea regarding blossoms may be realised when it is remembered that all shrubs need pruning, and that perennial and annual plants thrive best when often relieved of their blooms before fruiting and seed bearing. A row of sweet peas will soon become a mass of yellow stems and leaves alone unless treated in this fashion, for example. The truth is that gathering flowers is no more cruel or injurious than shearing a sheep. Yet, again and again have lady blossom lovers said to me, "Oh, flowers should be left growing, not be torn off and taken indoors to die." In summer heat, or in winter frosts, by the bye, gathered blooms last far longer in water indoors than when left to endure the effects of the weather.

To despoil the lawn flower beds is undoubtedly a mistake in policy, however, for the beautiful floral display should be guarded by all possible means, and blooms only be removed when past their best. It is useful, therefore, to plant portions of the garden for the supply of flowers for gathering, in order that the dwelling-rooms may be constantly adorned by the fairest, most perfect flowers. There is no better way to show these off to visitors during the intervals between public exhibitions.

Gardens for gathering ought to be comparatively large, so that space for full development may be given the different plants; when they are bound to be small only a few kinds of plants should be chosen, each year seeing some special subject chiefly represented. The salpiglossis is an excellent choice, so, too, are scabiouses, centaureas, and poppies. Perhaps the most useful family of perennials, after early chrysanthemums, is that of Chrysanthemum maximum, now that the named varieties show such wondrous variety of form. Hybrid pyrethrums are admirable, if cultivated so that there is a succession of bloom. Sunflowers are more monotonous. Michaelmas daisies, also, though of varied colours and sizes, have a sameness of effect. Where many large vases are to be constantly replenished a fine collection of lupins of all sorts, from the giant tree, in yellow or white, to the small blue or white annual, can be confidently recommended.

The position of the garden for gathering is immaterial, so long as it is in the open; a portion of the kitchen garden can form it if necessary, a section of a meadow be fenced in, dug up, and used for the purpose, or the appearance will be sufficiently good for it to consist of a series of borders and beds in the ornamental grounds, though not of the chief lawn beds.

Sweet peas need not be grown here, since wherever they are cultivated picking must be one of the rules for their welfare. Carpeting by dwarf plants is a mistake, since hoeing around and mulching will keep the chief subjects in better condition, and the number of dwarfs that yield satisfactory blossoms for vases is somewhat limited. Iceland poppies, pinks, and dianthuses, polyanthuses, cowslips, and primroses are indispensable in large quantities.

The best edging for the beds and borders will be tiles, because turf, box, or stones form hiding places for vermin; if slugs or snails are suspected of crossing the paths and entering borders it is a good plan to lay a continuous line of sharp cinders on the soil, exactly behind the tiles, which, if tall enough, will hide this.

Annuals that can be sown out of doors afford quick returns, but it should be recollected that transplanted asters, Phlox Drummondi, snapdragons, cornflowers, etc., come into blossom necessarily sooner. Single asters begin to flower in perfection in late summer, and should be largely represented.

Climbers for gathering are precious, yet often neglected; the Belgian and Dutch honeysuckles, various white and yellow jasmines, clematises, Solanum jasminoides, cobæas, tropæolums, Pyrus japonica, passion flowers are appreciated indoors in addition to roses. Only by generous plantings and sowings can a sufficient supply of foliage subjects, grasses, and myriad-blossomed small flowers, such as the gypsophilas, be kept up to accompany cut blossoms at all seasons. Ivies and hartstongue ferns, euonymus, laurustinus, golden privet, and Berberis aquifolium will prove best during winter; spring may have the fresh young foliage of the snowberry, columbines, etc., and summer and autumn must provide a wealth of waving grasses, together with the tinted leaves of amaranthuses, beets, and perillas.

M. H.

THE GARDEN LILACS.

Lilac-time is perhaps the period of the year that nine persons out of every ten would select as being the one when the outdoor garden is most enjoyable. The days are long, the sun is warm without being overpoweringly hot, young leaves on all sides present their most delicate shades, grass is rich in colour, and flowers abound on all hands. In the midst of this beautiful period it is difficult to imagine any particular plant forcing its presence on us without it is planted in quantity, yet wheresoever lilacs are flowering they are bound to attract attention, for, should their noble inflorescences escape notice, the delicate perfume of the blossoms is sufficient to recall our wandering senses.

The lilacs which attract most notice are the numerous single and double-flowered varieties, and hybrids which have originated from the two well-known species Syringa persica and S. vulgaris. Although lilacs will often grow and flower well year after year without attention, they sometimes become weak, and thickets of spindly growths. In such cases pruning is necessary, and what pruning is done should be done with care. As much as possible of the weak sucker wood ought to be thinned out, then the branches ought to be attended to, and the side growths thinned out. This should be done in early spring in order to obtain a lengthy season of growth. As soon as the shoots are a few inches long they should be thinned, leaving those only that are necessary for the proper development of the plant. This pruning and thinning may be persisted in for two or three years until the plants become strong again, but it must not be carried out too severely, or the bushes may be thrown into excessive flowering, which will do as much harm as would occur if the plants were left untouched.

As soon as the flowers are over it is a good plan to examine the bushes and remove the flower heads, for if seeds are left to develop the plants are seriously impoverished. This is more evident in the garden varieties, which produce immense trusses of flowers, than in the type plants.

The soil most suitable for lilacs is that of a good loamy character, though they are not very fastidious, providing that when growing in poor ground liberal surface dressings of good manure are given. Watering occasionally with liquid manure is attended with good results, especially when the buds are swelling up and young growth is being made.

The propagation of lilacs may be effected in a variety of ways. Cuttings can be rooted, branches may be layered, or the good varieties may be grafted on to stocks of the typical S. vulgaris.

S. vulgaris, the common lilac, is a native of Eastern Europe, and is a widely cultivated plant. Some considerable difference can be detected in type specimens when in flower, particularly in the size and shape of the inflorescence and the colour. A difference in habit occurs also, the wood of some forms being much sturdier than that of others. As a rule, examples are met with in which several main stems spring from a common root-stock, but occasionally a single trunk occurs, with a good-sized head. Such an example may be seen near the Palace, at Kew. This particular specimen is historically interesting, as having been brought originally from the ancestral home of the Hesse family, Rumpenheim-on-the-Main, near Frankfort. For many years this and a fellow plant grew in the garden attached to Cambridge Cottage, the residence of the late Duke of Cambridge. A year or two ago, however, they were transplanted, one being sent to Windsor and the other placed in its present position at Kew. An account of the introduction and history of these specimens may be read in the "Kew Bulletin" for 1908, No. 2, p. 82.

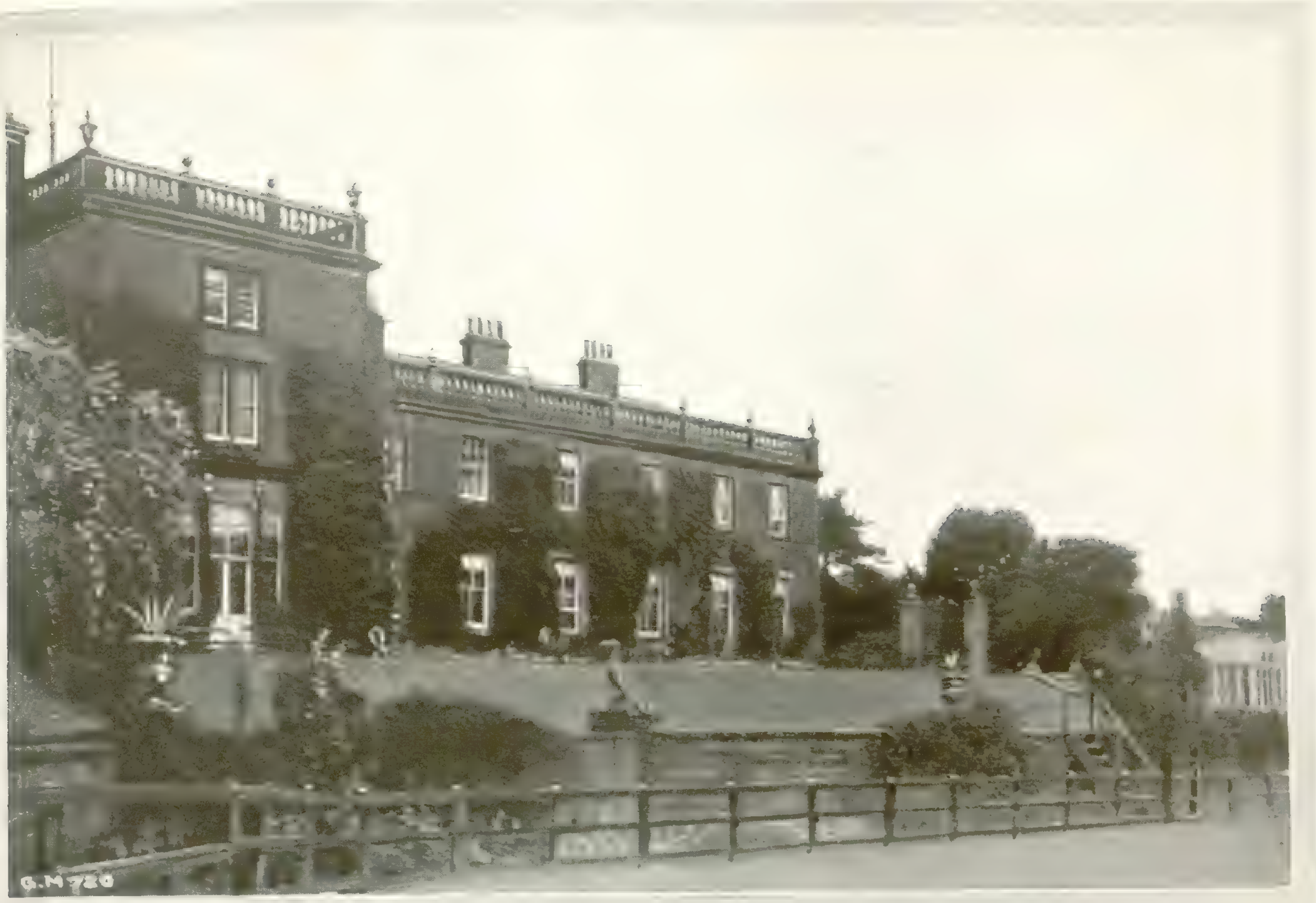
S. vulgaris varies considerably in height, and may be met with varying from 10 to 18 or 20 feet in height. The varieties are many, and present a wide range of colour, some being white, others pale lilac, others again deep lilac, some almost red, others purplish, and one or two with quite a bluish tinge. The flowers vary in size considerably, whilst a large number have double flowers. Of the many varieties, the following are distinct and worthy representatives:

Varieties with single white flowers.—Alba grandiflora, Marie Legraye, Virginalis, Frau Bertha Dammann, Noisettiana. Of other colours, single, Charles X., rose-purple; Dr. Lindley, rosy-purple; La Ville de Troyés, purplish-red; Philemon, dark red; Delphine, bluish-lilac; Souvenir de L. Späth, dark red; and Toussaint Louvretre, dark red. Double varieties.—Alphonse Lavallée, bluish-violet; Doyen Keteleer, pale rose; Dr. Masters, lilac; Emile Lemoine, rose; Grand Duc Constantine, lilac; Madame Casimir Perier, white; President Carnot, lilac; Madame Lemoine, white.

S. persica, the Persian lilac, is a native of Persia and Afghanistan. It forms a rather dense bush, four to six feet high and as far through, with rather small ovate-lanceolate leaves and elegant inflorescences of lilac-coloured flowers. It is an extremely free-flowering plant, and is excellent alike for masses or for isolated specimens. Several varieties are known, the most distinct being alba, with white flowers, and laciniata, with deeply cut leaves. It has been crossed with the common lilac, and a very good hybrid has resulted in S. chinensis, the Rouen lilac. This grows 12 or 14 feet high and as far through. The inflorescences, though larger, resemble those of S. persica rather than those of S. vulgaris, and they are borne with the greatest freedom. It is in every respect an excellent shrub, and ought to be represented in every garden. It is quite probable that some of the so-called varieties of S. vulgaris have a trace of S. persica blood in them.

W. Dallimore

Kew.



HOLEYN HALL, WYLAM-ON-TYNE: THE GARDEN FRONT.

SOME GARDENS ROUND NEWCASTLE—II.

Holeyn Hall.

A near neighbour of Mr. Cookson's is the Hon. C. A. Parsons, whose residence, Holeyn Hall, is half a mile further along the road that leads past Oakwood. The Hall stands on high ground, and commands numerous pretty views across the Tyne valley. It is a substantial stone house, built on a long terrace. The walls are amply furnished with big roses, jasmines, cotoneasters, ornamental vines, and ivies. All these grow in a narrow border that is also well furnished in summer with a combination of hardy perennial and tender plants. The broad terrace walk terminates towards the front entrance in a magnificent pair of iron gates brought home from Italy by Mrs. Parsons. Very beautiful is the design of vine growth, leaves, fruit, and tendrils, and it is exquisitely worked, the whole forming a fine finish to the terrace, and making a garden ornament at once interesting, novel, and handsome.

The terrace is held up by a low wall, and there is a grassy slope between it and the terrace walk. Stone storks and handsome vases surmount the wall, and the latter is being covered with roses and jasmine, while in the border, at its foot, are large breadths of alpine phloxes, veronicas, and other dwarf alpine and hardy herbaceous plants. Near the vine gates, and surrounded by roses and choice flowering trees and shrubs, is a pretty glasshouse that serves the double purpose of conservatory and smoking-room. Easy chairs and rugs invite one to stay awhile; overhead are roses and a fine old Tacsonia Van Volxemi, with its bright pendent blooms; at the back are great masses of Streptosolen Jamesoni, and all around are bright and fragrant flowers, lilies always occupying a prominent position.

Beyond the Hall and its terrace front the broad walk is continued for a considerable distance, but the continuation is masked by a very big arched laburnum, and tall trees on either side, and it provides a bold stretch of garden quite distinct from the other part. Fine deodars, Atlantic cedars, beeches, limes, and English and Irish yews make a grand and graceful background for sweeping borders of hardy flowers, for the bold beds, and the lawns. Hardy perennials are a great feature, and many of the beds are filled with them. Montbretias, Galtonia candicans, campanulas, delphiniums, liliums, and pyrethrums grow finely and bloom profusely. A few beds are devoted to Lobelia cardinalis and begonias, while others are filled with H.P. and H.T. roses, and there is a rose pavilion where the robust climbers display themselves to great advantage. Celosias, stocks, nicotianas, and calceolarias are also used, but the tender subjects are not obtrusive, and the big agaves in the tall vases serve to mark certain points of view.

This broad extension of the terrace is a fine feature, and is quite a surprise to anyone coming from the Hall front. Another surprise is the rock garden, also screened by the tall trees, near the rose pavilion. No attempt has been made to provide a big collection of alpines, but the aim has been to afford ample room for the finest and most attractive subjects. There are splendid masses of the more popular saxifrages, alpine phloxes, and alpine and shrubby veronicas, the latter including a very large V. cupressoides; Acæna microphylla, thickly studded with its red burrs is also a great success. The claims of aquatic plants have not been overlooked, and within the rock garden there is a little pool of water lilies and Aponogeton distachyon.

Further along still one enters the kitchen and fruit departments, these consisting of a series of terraced and walled-in gardens. Hardy fruits are not a success everywhere in the district, owing to the force of the biting winds that sometimes rage with great fury down the Tyne valley. At Holeyn Hall, however, hardy fruits are a good feature, and Mr. Dixon takes full advantage of the walls for the purpose of growing plums, pears, cherries, apples, etc. Even the gooseberries and currants appreciate the shelter these walls afford, and the considerable breadths of these fruits are in fine condition. In the lower part of the garden the young standard apples promise well, and some old trees continue to give good crops. Apricots, on a wall facing south, are particularly successful, and the trees are by no means young. Fan-trained plums carry excellent crops, Denniston's Superb deserving special mention. The most popular wall pears are Williams' Bon Chretien, Jargonelle, Marie Louise, Durondeau, Pitmaston Duchess, Emile d'Heyst, and Doyenne du Comice.

Under glass, too, fruits are well managed, and one might go a long way south to find better Humboldt, Pitmaston Orange, and Pineapple nectarines, and Violet Hative and Royal George peaches. Some serviceable vineries supply excellent fruits, but Mr. Dixon has to wage constant warfare against rats, or these pests would quickly rob the vines of their grapes. Stout zinc discs are placed around the lower part of each rod to prevent the rats from climbing, should they get into the house. One interesting house is filled with roses, trained peach tree fashion on wires near the glass, while against the back wall sweet peas are grown to give early blooms. The kitchen and fruit gardens are not given over entirely to vegetables and fruits, though these have chief place. Toward one side of the garden a broad walk descends parallel with the wall; it is bordered by robust hardy herbaceous plants that supply the Hall with cut flowers; and at intervals there are arches of Dorothy Perkins rose, a variety as popular as ever Crimson Rambler was, and one that is far more beautiful, even if it lacks the brilliancy of the older favourite.

Willow Wood.

A few miles farther up the river than Wylam is the village of Riding-Mill-on-Tyne, and here, on the south bank of the river, is the residence of Drewett O. Drewett, Esq., a gentleman well known among orchid lovers for his fine collection of cypripediums and for the pains he has taken to improve the popular C. insigne by crossing, re-crossing and selection, but still keeping the species pure. It is just possible that there are finer views up the Tyne valley than are to be obtained from Mr. Drewett's study, or from the drawing-room windows of his fine house, but I think they would be difficult to find. Anyway, the scenery is beautiful, and the views extensive, and if there were not any other attractions, it would have been well worth while to build a house and set up a home here for the sake of the views.

The river, often flowing with great speed, comes down from among the far distant hills and curves round to take up a position in the middle of the picture. On either side of the river the banks slope easily upward to fairly high ground. Trees of many kinds abound, and add very materially to the beauty of the scene, while the different kinds of soils, and the varied hues of cultivated land and pasture all add their meed of colour. Mr. Drewett can hardly decide when the picture is at its best. In the spring, when shine and shower chase each other across the valley, and when the trees are breaking into new life, the scene has an exquisite charm. In the golden summer time the colouring is deeper, and there is a wonderful play of light upon the shallows. In autumn a new and brilliant scene is made by the change of colouring among the oaks and beeches and birches. And in the winter, with the trees bare, there is a majestic beauty in the picture when the swollen river is in full flood.

There is as great, or greater variety of scene and colour in the garden around, as the procession of months advances, as in the wonderful view up Tyneside. A goodly collection of choice and beautiful flowering trees and shrubs has been brought together, and many of these are grouped within view of the house. The rock garden is almost at the front door, and so the exquisite beauty of the early alpine flowers can be enjoyed from inside the windows if the weather is unkind. Sedums and saxifragas spread themselves lovingly over the stones, and such beautiful flowers as Androsace sarmentosa, Gentiana acaulis, and Cyclamen europæum, thrive in a whole-hearted manner, the gentian being particularly fine. Romneya Coulteri grows well near by, and a tall Cordyline australis, raised by Mr. Drewett, and planted out, shows that the garden is sheltered from the bleakest winds.

Coniferous trees are plentiful, and there are numerous handsome specimens, including a fine Sequoia gigantea. Several of the bamboos are a success near the little lily pool. B. Metake and B. fastuosa do well here. In the middle of the pool, on a rock, is a large clump of Hemerocallis aurantiaca major, that proves the suitability of the Day lilies for association with water gardening. The stream that feeds the pool comes along a very rocky channel; it appears to come from out a group of rhododendrons, and it murmurs along among a variety of hardy ferns. Mr. Drewett is a great lo hardy ferns, and he has a great bel in the coming popularity of the finer varieties of these elegant plants. He has a goodly collection of the choicer forms, and i steadily adding to it.

In quite another part of the garden, and at some distance from the house, are th neat glass-houses, and the admirably-k fruit and vegetable quarters, and the l ders filled with early chrysanthemums grandly grown—asters, dahlias, roses, other useful subjects that serve to fill flower vases. It sounds rather strange but it is nevertheless a fact, that the kitchen garden is hedged with roses. Everything is beautifully kept by Mr. Ja Renwick, the energetic head gardener, who was formerly at Oakwood, as foreman, under Mr. H. J. Chapman.

Very much might be written about Mr. Drewett's garden, but I must leave a great deal to the reader's imagination, because the orchids demand their share of attention, whatever else is left out. The glass-houses consist of a range of very well-built span-roofed houses; there are stove and greenhouse plants in variety, and in passing, I may mention that tuberous begonias lapagerias, anthuriums, amaryllis, and Begonia Gloire de Lorraine are subjects concerning which Mr. Renwick concedes a few points to the majority of growers.

Orchids there are in abundance, but cattleyas, oncidiums, phaius, dendrobiums, and odontoglossums must all be passed with a mere mention of their existence. This is the home of a cypripedium specialist, and as the genus cypripedium is itself a tall order nowadays, Mr. Drewett has devoted his attention chiefly to C. insigne. Having decided to try and improve this popular old orchid, Mr. Drewett commenced by fertilising C. i. punctatum violaceum, with C. i. Chantini, these being the only varietal forms at that time, and they were al indistinguishable. The result was a two hundred seedlings, none inferior to th

VIEW IN THE FLOWER GARDEN AT HOLEYN HALL.

seed parent, and some much finer, while one, subsequently named C. i. Antares, was far in advance. It has a large, rounded and flat dorsal sepal, almost as large as C. i. Aberdeen, and covered with dark spots.

The fine C. i. Monarch was crossed on to C. i. punctatum violaceum, and three of the seedlings had flowers that were of good size, and with the dorsal sepal less reflexed at the base than in the parents, and had the broad part nearer the apex; one of the three had an almost round dorsal sepal. These varieties were named Monarch II., Monarch III., and Northumbria. Personally, I like the latter best. All the seedlings were finely spotted, and one, Grand Monarch, has a much flatter flower than the rest, while the colouring of the dorsal sepal is like that of C. i. punctatum violaceum. The lip and petals are deep rich chocolate-red, thus forming a very striking, distinct, and beautiful flower. From C. i. Wallacei, crossed with a richly coloured unnamed seedling, came one plant that showed a marked difference in its leaves at an early stage, and consequently it was carefully watched. This gave a flower with very large, bold spots, and the colouring of C. i. punctatum violaceum, and it was named C. i. Gwynedd. It is a grand cypripedium. Another fine seedling, named James Renwick, has resulted from crossing C. Berryanum with C. i. Harefield Hall, and it received a F.C.C. at Manchester in December last.

ARCH OF DOROTHY PERKINS ROSE IN THE KITCHEN GARDEN AT HOLEYN HALL.

All this improvement (and much more) has been effected within about ten years, and nothing but the very best seedlings in form and colour have been retained. The vigour of the plants is surprising, and it is an easy matter to believe that in the C. insigne houses from 400 to 600 flowers could be counted any day during a period of about four months. Twenty years ago the mere suggestion that one could take an orchid species, and, by intercrossing and selection, improve it as a florist improves his carnations and chrysanthemums, would have been scoffed at, but the thing has been done, and the work is being continued, as seedlings can be seen in all stages of growth.

There are other fine cypripediums here, such as C. Germaine Opoix, C. i. Harefield Hall, C. Euryades, C. Actæus Drewett's var., C. Gaston Bultel, C. Minos Youngi, C. Æson giganteum, etc., and a batch of C. Fairieanum crosses that looks very promising. But I must conclude, only stopping to notice that Mr. Drewett uses triangular pieces of glass for orchid labels, and writes the name, number, or parentage with a diamond.

Heaton Park.

Very few cities are blessed with such a fine series of public parks as is Newcastle. When we think of this northern city, we think of coal and its attendant dirt and dust, of great foundries and engine works, and of the clang and clatter of shipbuilding, but we rarely associate the idea of beautiful parks and gardens with Newcastle. Nevertheless, the parks, commencing with Heaton Park and finishing up with Jesmond Dene, form a series probably unequalled in the United Kingdom for natural beauty.

Heaton Park is readily reached by tram from the centre of the city. It is largely used as a playground. Close to the entrance gates are several bowling greens that are well kept and thoroughly well patronised. Steep winding walks, all asphalted to keep them from being washed out by heavy rains, lead down among useful evergreen and flowering shrubs, under deciduous trees of many kinds, to the lower level, where there are other fine bowling greens.

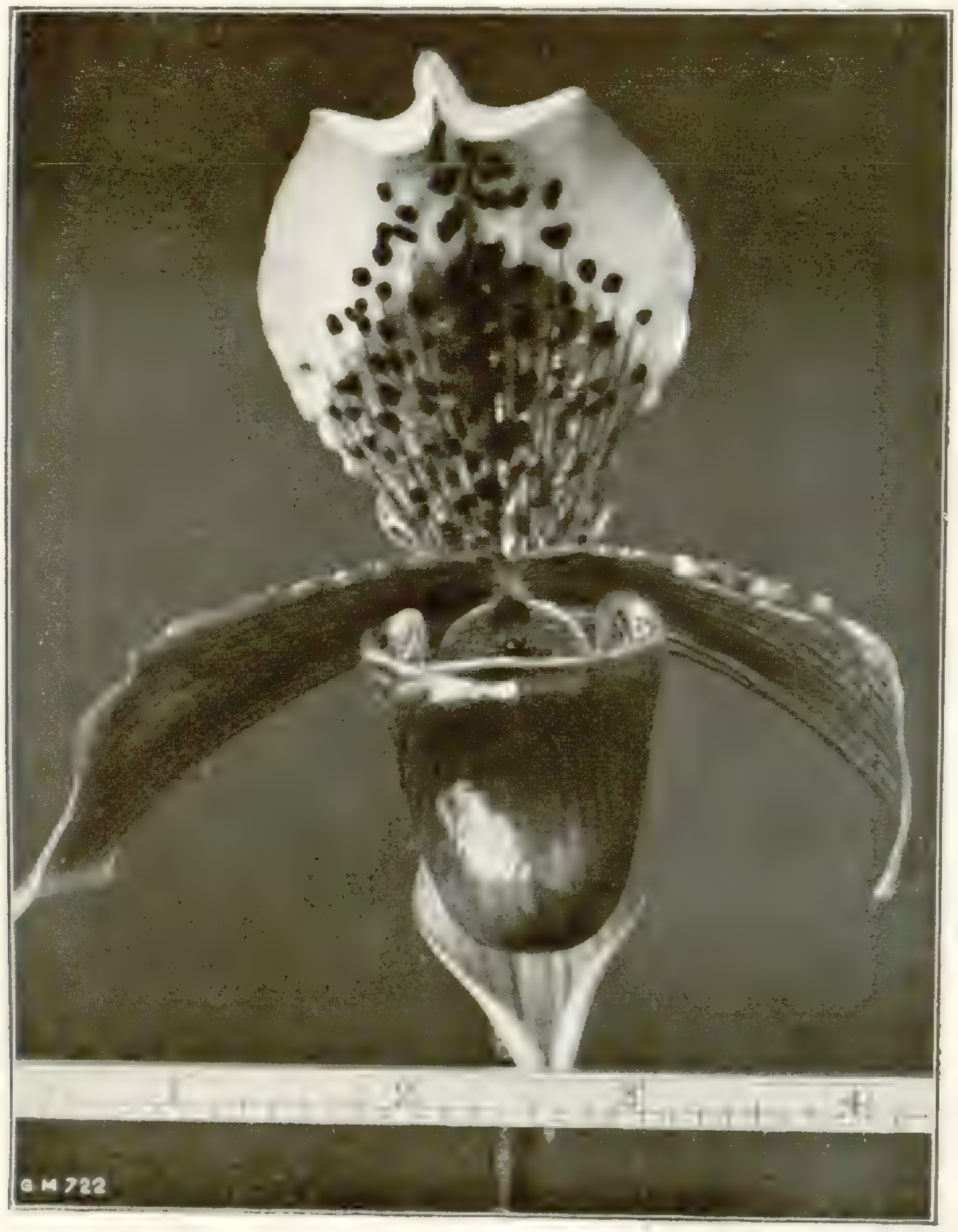
At one end, on a fairly high terrace, which is handsomely balustraded, and has a fine set of steps down to the greens, there is a big glass shelter, a handsome clock, a large aviary, and a small range of plant houses. The greens are almost surrounded by herbaceous borders, but along the terrace side summer bedding is made a great feature. Pelargoniums, early chrysanthemums, dahlias, fuchsias, abutilons, marguerites, and many other subjects are pressed into service for the embellishment of this long sloping border.

The bowling greens are sunk below the general level, and on the paths around there is an abundance of garden seats, from which the games may be watched in comfort. At right angles to the terrace, skirting the green, is a broad walk, grass bordered, and backed by hollies, with tall trees behind. Here, on the grass, are beds of pelargoniums, one variety in a bed; beds of succulent plants that appear to create a great deal of interest, and there are roses of various kinds, and in various forms. All this goes to show that a great deal of time and money are spent upon beautifying even the surroundings of this playground, and no doubt many who come merely for play, or to watch others play the ancient game of bowls, go away impressed by the beauty of the flowers, and with a desire to have flowers and plants in and around their own homes.

Armstrong Park.

Only a road divides Heaton Park from Armstrong Park, a park $52\frac{1}{2}$ acres in extent, that was presented to the city by Lord Armstrong, who made many princely gifts to Newcastle.

Here the ravine, that was scarcely obvious in Heaton Park, opens out so that the park becomes a beautiful deep dene, with hanging woods, and a stream running briskly along the bottom. Nearly all the trees, and they are many, are deciduous



CYPRIPEDIUM INSIGNE GRAND MONARCH.
Raised by Mr. Drewett O. Drewett, at Willow Wood.

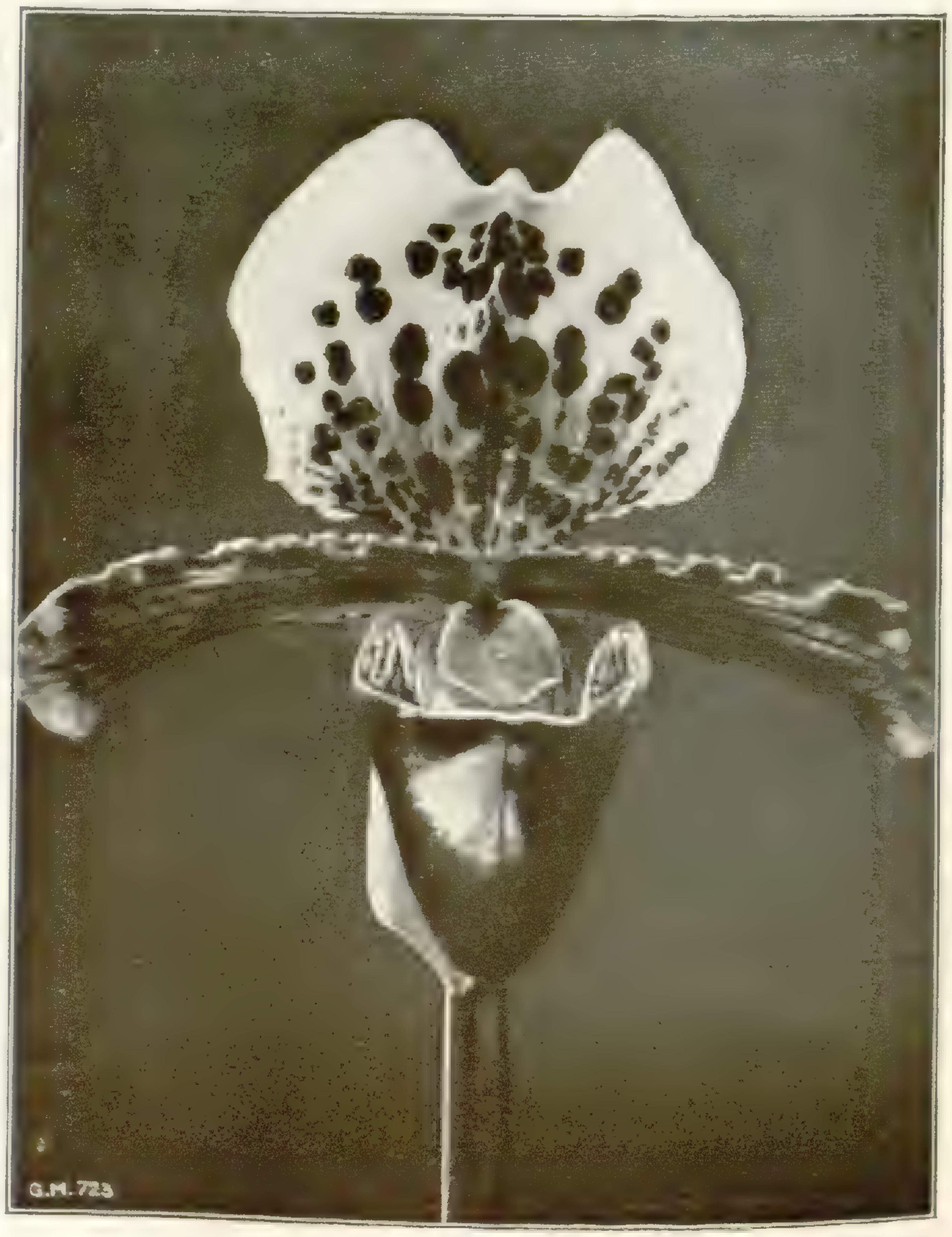
hardwoods, such as oak and beech, but there is an abundance of rhododendrons to provide continuous greenery and beautiful flowers as well. A broad, well-kept, and altogether fine promenade road is carried along the top of the park, and paths turn off from it in many places, leading down the banks to the water below. Magnificent groups of rhododendrons and hollies, and pernettyas, and a collection of heaths, attract attention, while in the wider grass margins along the roadside there are beds of perennials and also of tender summer bedding plants. With the exception of these beds, and a few near either entrance, the park is left as natural as possible. Fortunately, the powers that be have seen the necessity of aiding Nature, and are keeping in view the fact that trees grow old, and old trees decay, and so new planting is being done here and there.

The introduction of groups of flowering trees and shrubs is an excellent feature, but there is a possibility of overdoing this in such a place, for Armstrong Park, like Jesmond Dene, owes its great charm entirely to its natural formation and sylvan beauty, and it is sincerely to be hoped that these will be maintained unimpaired for long generations to come. A word of caution may not be necessary to such canny people as those of Newcastle, but, having seen natural beauty spoiled by "improvements," I venture to make it. One suggestion I would make is that, as soon as possible, the hideous notices to "Keep off the grass" should be consigned to the scrap-iron heap, and be replaced, if necessary, by neater and less ugly ones.

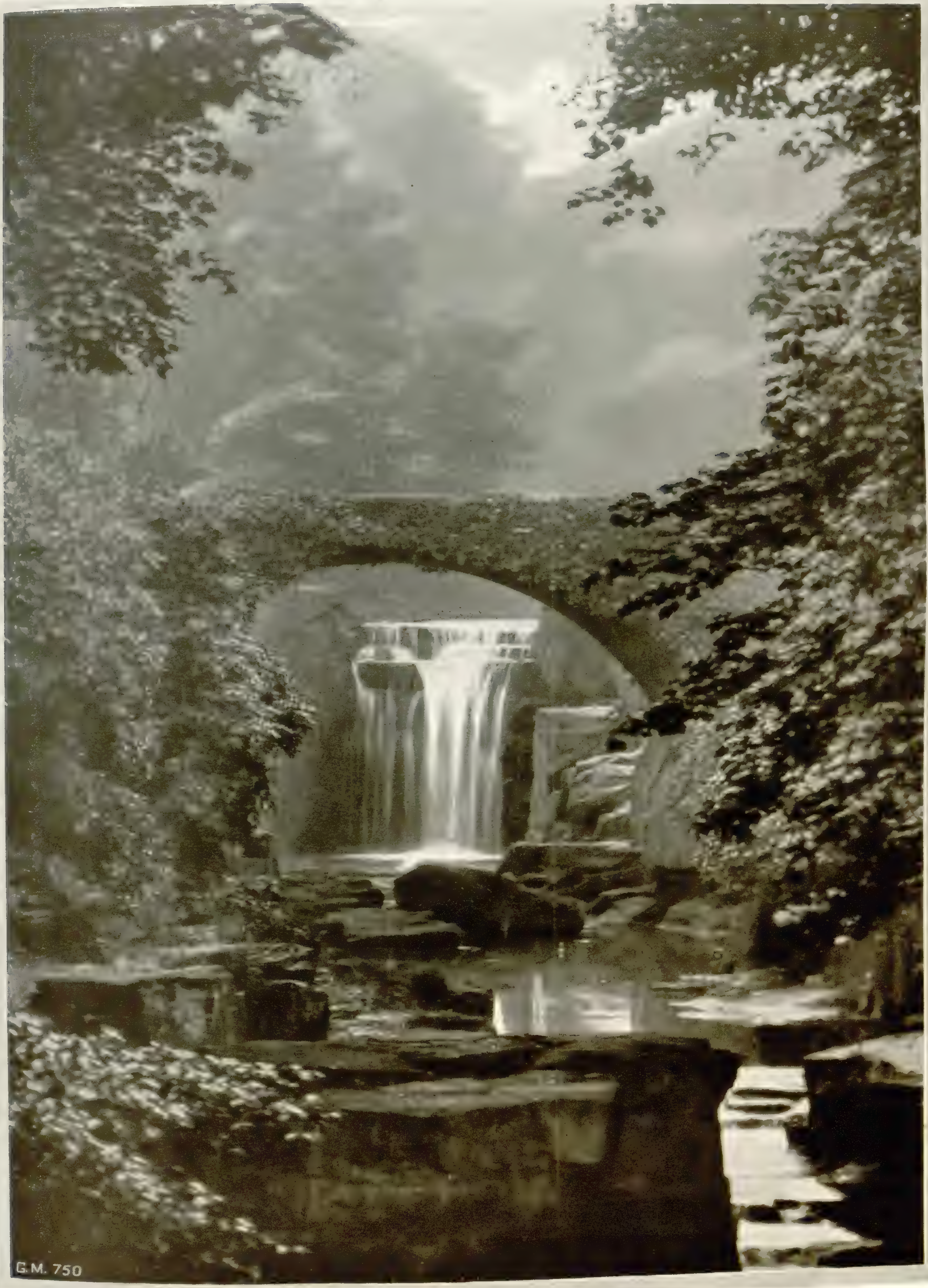
Jesmond Dene.

Those who visit the great and wonderful centres of industry at Newcastle, and are duly impressed with the immensity of the business of this old Northumbrian capital, and yet fail to visit Jesmond Dene, lose a great deal of the interest that attaches to the city, and also the greater part of its beauty. I cannot hope to adequately convey to readers the exquisite natural and romantic beauty of this far-famed dene. In the course of many wanderings among the parks and gardens of many cities, counties, and countries, I have never seen anything like Jesmond Dene. It is the gift of the late Lord Armstrong, and an inheritance the city should be intensely proud of. The Corporation will, one hopes, always regard it as a part of their duty to the city to preserve the natural beauties of Jesmond Dene intact for all time.

From Armstrong Park the connection with Jesmond Dene is by means of a broad bridge that spans the intervening lane. The dene covers about 62 acres, and Mr. W. Wilson is the superintendent. Jesmond Dene cannot be viewed wholly from any one point, because it is long and winding, but this is a great advantage, as innumerable delightful views are presented as one proceeds to explore its charms. I wandered for a long time in the dene, up and down, back and forward, and at every turn new beauties appeared. The deep valley, with its continuous woodlands on the steep slopes, and its stream murmuring along their foot, amid a wealth of rhododendrons and hartstongue ferns, provides a natural garden that many a rich man would give thousands of pounds to possess, and but few, possessing it, would give away to their fellow men. The geography of Jesmond Dene I shall not attempt to describe. I remember a magnificent collection of hardy herbaceous plants near the upper roadway, great breadths of phloxes and violas, big groups of chrysanthemums, masses of dahlias, belts of rhododendrons, beautiful clusters of berberis, an extensive and interesting collection of heaths, a carpet of Gaultheria procumbens, and bold plantings of delphiniums. I remember a broad, sweeping road, with fine planes and maples, oaks and beeches, giving shade and shelter for those who desired to take advantage of the seats beneath. I remember the fine yews and



CYPRIPEDIUM INSIGNE GWYNEDD.
Raised by Mr. Drewett O. Drewett, at Willow Wood.



[Photo: Charles Nicol.

THE WATERFALL AND OLD BRIDGE IN JESMOND DENE, NEWCASTLE-ON-TYNE.

hollies, and the abundance of hardy ferns, the murmur of the breezes, the singing of birds, and the ripple of the water.

Lower down I crossed a small ivy-clad bridge over a stream, and, still further down, passed by the main stream, where the rhododendrons clothed the bank and dipped even into the water itself, and, by divers ways, came back to the outfall of the higher streamlet. Here is one of the most striking scenes in the dene. The stream comes down among natural rock boulders, and old tree stems and roots, the latter partly in the water and partly in the bank. Up above is an old mill, with the old water wheel still remaining, the whole forming a picture, in a setting of trees, that has been copied by artists and reproduced by photographers times without number. The water has been dammed back above the wheel, and falls swiftly and prettily over into the channel below, under the picturesque bridge.

[Photo: Charles Nicol.

A CHARMING WOODLAND WALK IN JESMOND DENE.

Other things that come back to mind are the new plantations of undergrowth in the woods, the young trees that are to carry on the succession of beauty, the patches of lily of the valley, of teazle, of willow herb, of Solomon's seal, and other common beautiful and suitable plants. I remember another garden of hardy perennials and annuals in a lower clearing, and the fragrance of the sweet peas. I remember it was all so beautiful on that fine autumn day that I stayed longer than I intended, and, with only just time to catch my train to the north, had to travel lunchless on to Berwick.

Charles H. Curtis.

EARLY CROPS OF PEAS.

Early peas are among the most highly esteemed of vegetable crops, and much pains are often taken in order to procure them as early as possible. Among the several modes of cultivation that are adopted to secure the desired end, some are better than others; but, owing to the want of available means, all cultivators cannot follow the most satisfactory practice, and each must consequently adopt that which is most suited to his conveniences.

In some cases houses or pits are provided in which to respectively grow and crop (from seeds sown in autumn and winter) either tall or dwarf kinds, as circumstances admit, for yielding very early supplies, but as the gardens in which this is carried out are comparatively few in number, and are likely to remain so, and are, moreover, usually under the supervision of the most skilful of gardeners, I will not dwell upon this description of treatment.

Nor do I think the kind of culture once in general use, though nowadays but seldom applied, viz., that of sowing first early crop outdoors in the autumn, necessary of explanation. Here, owing to the cold, and tenacious character of the soil, we have many difficulties that those placed under more favourable conditions do not have to meet; all the same, I do not recollect us having a crop fail until this spring, and it is owing to this failure, and the fact of others in this district meeting with similar disappointment, that I write these notes.

We sow seeds of Gradus, or some similarly good early variety, in five-inch pots in the middle of February, for the first crop, and place the pots in a newly-started peach house. Here the seeds readily germinate, and in a short space of time the plants are moved into an airy late peach house, and again subsequently into a sheltered position outside, where they remain until fit for planting out, which is done on a mild day upon a warm border, or some other sheltered position, when the soil is in a favourable state for the operation. Suitable trenches are made to receive the balls of soil, which are firmly embedded in specially prepared compost. Plants raised in this manner from seeds sown at the time named are ready for being planted out into permanent quarters quite as soon in the spring, as our soil is usually in a suitable condition for receiving them.

Successional early crops are treated in like manner to the first, and to follow these seeds are sown in narrow turves, about 15 inches long. The turves are grooved on the earthy side, and placed closely together in rows, with the grooves uppermost, upon a firm ash bed placed in a cool pit. The seeds are sown in the grooves, and covered with fine soil. As soon as the plants appear the pit is freely ventilated, and the lights, with a view to thoroughly harden the plants, are entirely removed for a week or so before the plants are put out. At planting time the turves are found to be well filled with the roots of the peas, and they are placed end to end in trenches, and prepared soil is firmly filled in around them.

Considerably earlier, and much better crops result from this way of dealing with early crops than can be secured by sowing the seeds in the borders, especially where the soil is cold and retentive, or when the spring weather is unfavourable, as has been the case this season, as proved by the failures I have alluded to. In our case, on February 20 we sowed our first peas outside, when the soil was in good working order, and selected William the First, on account of its hardy constitution, but even this variety could not withstand the intensely cold, and very wet weather that we experienced during March, for the seeds, with but few exceptions, perished in the ground.

T. Coomber.

The Hendre Gardens.

The Edelweiss.—My experience of this alpine is that seedling plants are not nearly so interesting as those obtained from a good stock, which originally may have been a seedling, but a good form. The ordinary seedlings I have raised and grown have been gaunt, with leaves too [illegible] and lacking that downy surface which makes the true edelweiss so beautiful. I am aware the plants are more liable to damp off, owing to the quantity of down they possess, but the point is to have more plants than one, as there is safety in numbers.

E. M.

Annuals.—The majority of these raised under glass will be much benefited if they are pricked off on a bed of fairly good soil and grown on in cold frames, and planted out permanently toward the end of the month. Another good sowing of seeds of asters, especially of the single varieties, should be made towards the end of the month. These will be found invaluable in the supplying cut flowers in succession to the earlier batches. Seeds sown in the [illegible] invariably allowed to remain too thickly, the result being they become [illegible] starved, and seldom attain to a high standard of perfection. Thin out after the [illegible] leaf is made, allowing reasonable distance, according to the strength of the plant, between each.—E. Beckett, Aldenham House Gardens.

COLOUR IN FLOWERS AND FRUITS.

It is well known that the shade of colour in both flowers and fruits varies in different localities, and, in some instances, to such an extent that it is sometimes difficult to recognise the variety. I grew Lychnis viscaria splendens plena on a rather light soil for a number of years, but could not induce it to produce the rich colour I found on those grown, to all appearance, on the same kind of formation in another neighbourhood. Some of my friends remarked that they must be different varieties, and in order to prove that they were the same I exchanged plants with the grower of the more richly coloured ones, with the result that my soil and treatment produced the pale-coloured flowers I had always obtained, and the soil of my neighbour converted my plant into one of a more decided hue of flower.

This was not merely an isolated case among the plants I then grew, for even geraniums, lobelias, and all out-of-door plants lacked the distinguishing colour of the varieties they represented in a more or less degree. This lack of colour was most marked in red and purple flowers. In the way of fruit my Worcester Pearmain apples only assumed a greenish-red colour, while that variety in the hands of the grower referred to was not only a rich dark red, but also had a polished appearance. Our treatment, in most instances, was identical, and, so far as the eye could tell, the soils were the same. I drew the attention of some eminent gardeners to these facts, and although all gave advice, yet when it was put to the test it proved valueless, so that I had almost despaired of arriving at a solution to the problem.

At this stage one of the professors of an agricultural college happened to call, and as we were looking at a plant of Lychnis dioica fl.-pl., which had washed-out flowers, I asked if he could explain the deficiency of colour. This he did by stating that potash was the chief element in organic colouring, and that my soil was evidently deficient in this alkali. He further explained that the chief constituent of the pigments just within the skin of the apple was potash, and owing to a scarcity of this all-important ingredient in the soil, I could not expect either richly coloured flowers or fruits. Pointing to some rhubarb, a little [illegible], this gentleman remarked, "That plant requires an exceptionally liberal supply of potash, and if you find it languishing under fairly generous treatment, you may safely conclude that it is unable to get sufficient potash to enable it to develop strong growth." I learned then, too, that sulphate of potash and kainit were the best sources of supply of potash, and that the sulphate could be applied at any time, but kainit should only be used in late autumn and early winter.

In order to test the correctness, or incorrectness, of those statements, I applied sulphate of potash to various plants which were growing side by side, of the same varieties. The amount of sulphate of potash employed was about 1½ ounces to the square yard of surface of ground, and the beneficial effect was apparent at the end of the summer in the healthier trees and larger and more highly coloured fruit. There was also evidence of the dressings of this sulphate when applied to bedding and other plants, convincing me that I had found the key to the cause of badly-coloured flowers and fruits, and inducing me to employ it and kainit much more extensively than I would otherwise have done. Of course, it means time, and several applications, before a soil poor in potash can be made rich in this plant food constituent, so that it took some years to work it up to the desirable point, and occasional dressing afterwards to maintain it at this standard.

If any other gardener has a difficulty in securing colour in his flowers or fruit, all other essentials being provided for, I would advise him to try the effect of a dressing of sulphate of potash at the rate stated, and note the result. As this takes time to become diffused in the soil, and to be taken up by the plants, the earlier in spring it is applied the better will be the result.

PEDESTRIAN.

EARLY-FLOWERING CHRYSANTHEMUMS IN POTS

Some of the early-flowering, or border chrysanthemums, which have in recent years become such favourites, make equally as good decorative objects in pots as the later-flowering varieties that need the protection of a greenhouse. One must put aside the idea of the specimen, or exhibition flower when growing the varieties of this section—and it is an artificial method of cultivation at best, and much too formal for many lovers of natural grace and beauty—and simply devote ourselves to the production of decorative plants covered with clusters of bright or sober-hued flowers. As pot flowers they possess one of the same recommendations as when cut, namely, that they keep their freshness longer in living rooms than almost any other flower, and that, not only in the full light of a window, but often in the more or less subdued light of the average entrance hall. I took special note last autumn of a twelve-inch pot of the well-known Horace Martin, which, brought indoors and set in a moderately-lighted hall when it was just getting into its full beauty, showed no signs of beginning to fail until after a fortnight, and after that was kept in fair condition for another ten days by cutting off a few of the earliest blossoms which were fading. I counted, roughly, 130 blossoms when it was at its best, and the whole plant, or group of plants, was clothed with vigorous green leaves right down to the base. People

[Photo: Charles Nicol.

THE OLD MILL AND MILL STREAM IN JESMOND DENE.

Hibbertia Readi.—Far and away the best known of the hibbertias is H. dentata, a delightful climbing plant for the greenhouse, in which structure it will keep up a succession of its golden blossoms throughout the winter months, and often well on into the spring. A second species—H. volubilis—is even a more vigorous climber, but it does not bloom so freely, and the yellow flowers have a most unpleasant odour. From these two species that at the head of this note—H. Readi—differs widely, as it naturally forms a dense twiggy little bush, which will flower freely when not more than a foot high. The leaves are small and narrow, and, like all the other members of the genus, the flowers are yellow. They are, in the case of H. Readi, about the size of a shilling. This hibbertia will succeed under much the same conditions as the eriostemons, chorozemas, and other Australian plants, but the climbing species enjoy more liberal treatment.—W. T.

coming into the house were surprised when told that the plant—for it appeared as only one—had been grown entirely out of doors

Anyone of experience will know that such displays are not obtained by chance, and yet they do not need a great deal of trouble beyond watering, and a little careful tying up and feeding. A poorly-grown chrysanthemum gives no satisfaction either in pots or in the open. Some advocate growing the plants in a nursery border, and taking them up and putting them in pots just before they come into flower. This system may be all very well for the production of cut flowers for market in the latter part of the season, but it does not yield the same results as are obtained when the plants are grown throughout in the pots in which they are bloomed, while the lower leaves generally lose their greenness on being lifted—the sure sign of indifferent culture. As one does not generally want many of these large pots for the decoration of the house, it is worth while taking a little extra trouble to have well-grown and handsome examples.

My plan is to split up some old stools in March or early April, and to put into sixties some nice young pieces bearing roots, and with no old wood attached, and these are then put in a frame. After a month, or perhaps less, they get a move into forty-eights—though this is not absolutely necessary—and then, about the middle or end of May, three plants are put together, in good soil, in a twelve-inch pot, or a size larger if the plants are very strong. When they are well established they are given liquid manure twice a week, and never allowed to flag for want of water, as this soon means the loss of all the leaves along the main stems. The growing points should be pinched out either once or twice during the summer, according to the height and earliness of the plants, and the time at which it is desired they should flower, the later the pinching the later the flowering. Careful tying up is all the further attention needed.

Disbudding for large blooms does not commend itself to most people for these early-flowering varieties, the result being alien to the freedom and grace we usually associate with them, but if a few of the smallest buds are removed so as to leave only three or four blooms in a cluster, the flowers will be finer without any appreciable diminution of the mass of blossom.

As to varieties, most will prefer those which do not generally come into flower before the middle of September, agreeing with the dictum of Mr. William Robinson, that "setting chrysanthemums much before their natural season is a practice of doubtful value in the flower garden." The Japanese type is more effective than the pompon, and the following suggested varieties are all of that type: Market White and Mychett White are still holding their own, the latter being of very bushy habit, but earlier, and the florets narrower than those of the former. Roi des Blancs is perhaps a better flower, but it is of taller habit, and I have not yet tried it for this purpose. For yellow there is still, in my opinion, none better for pot culture than Horace Martin, though the newer school will disagree with me. It needs more pinching though than some,and the flowers have a centre when fully open. Carrie is a paler yellow, but shorter in growth, and more compact. Champ d'Or is a fine yellow, and, I should think, would be good for the purpose. Goacher's Crimson stands alone among the reds, and is very dwarf, and of compact habit, though inclined to come into flower too early for some, reminding them of autumn in mid August. Still, if a long succession is wanted, it is invaluable. Of other darker colours Crimson Marie Masse and Robbie Burns mix well with the yellows, the latter variety being specially handsome by artificial light. Of course, one could name other varieties, but those recommended above will be found very satisfactory, and one does not want a collection for this purpose, one really good variety of any given colour being enough.

ALGER PETTS.

THE LESSER-KNOWN PENTSTEMONS.

In the GARDENERS' MAGAZINE of April 3 Mr. Smith contributes some interesting notes upon pentstemons, and, certainly, there are many species and varieties which are deserving of wider culture. In the matter of beauty they are not a whit behind the large-flowered florists' varieties, and many of them have a hardier constitution by far. Mr. Smith is certainly right when he advocates a well-drained position in the rock garden for pentstemon culture, and to my mind many of the charges brought against pentstemon species as to their inability to withstand much frost, would be more correctly made against damp, wet soil, as this is the most destructive enemy.

With regard to a sheltered position, I have but little faith in that, and would sooner trust the pentstemons in a fully-exposed position, provided they enjoy the maximum sunshine. In a well-drained soil, inclining to poorness, and open to the full effects of wind and sun, you obtain close, hard, fully-ripened growths, which are far better fitted to stand severe weather than plants grown in rich soil and sheltered positions, which would necessarily be softer in the growths, therefore succumbing far more readily to winter's severity.

With reference to Pentstemon heterophyllus, usually regarded as but half-hardy, I may say that a batch of bushy plants, placed out late in the autumn upon a new rock garden, and fully exposed to north and easterly gales, have justified the risk (if any) of late autumn planting, and have come through the winter without a loss. Add to this the fact that other Pentstemons have undergone the same test, and I believe the reader will admit they possess a fair degree of hardiness.

P. Newbury Gem has certainly been of great service for garden decoration, and its good habit and floriferous character are greatly in its favour. But good as Newbury Gem is, it is now outclassed by the newer Southgate Gem, a grand acquisition, which is a trifle taller in growth. The spikes and the individual blossoms are larger, the colour a more brilliant crimson-red, and the white throat more open and defined. For border planting it is superb, and a good future lies before it.

While writing of this group I must also note Myddleton Gem, a delightful rosy pink with a clear white throat. The colouring of this variety is exquisite, and with its light graceful habit and floriferous character, it forms a pleasing addition to plants for select groupings. As far as I can see this variety and Southgate Gem are by far the best of their class at present. The White Newbury Gem is a free-flowering plant, rather taller than the type, but it will not become really popular, as the colour is dull, being anything but a clear pure white.

There are several useful forms suitable for rock-garden purposes, which will prove hardy in the majority of gardens. For instance, the P. glaber group is hardy enough for any purpose. The type is of dwarf close habit, with dense heads of bluish-purple blossoms. The varieties alpinus, a soft bluish-white, cyananthus, a rich violet, and roseus, a deep rose-hued form, differ from the species only in their colouring.

P. pubescens, a rather pretty pale purplish species can be added to the list, and its varieties, pygmæus, a diminutive form, delightful for rock work, and latifolius, with broader foliage and lavender blossoms, are equally worthy of note.

P. cæruleus, which Mr. Smith notes, is truly a useful species, and others which might be utilised freely are the sulphur-coloured P. confertus, and its variety purpureus, a bluish-purple form. P. glaucus is an excellent dwarf with violet-purple blossoms, the miniature P. humilis, with lilac flowers shading to blue. P. Hallii, a splendid dwarf, has violet-mauve flowers. P. Menziesii is a useful sub-shrubby species with blossoms varying from violet to rose purple, and its varietal forms, Newberryi, rose pink, and Scouleri, a useful bluish purple, are valuable.

Enough have been mentioned to show that one is not limited in a choice of pentstemons, and as they are easy of culture and propagation, there is no reason why they should not be seen in the larger rock gardens in increasing numbers. When planting it should be borne in mind that bold groupings are most effective. Pentstemons are glorious en masse, and if they are delightful border plants they are even more charming in the rock garden, especially if grouped on a spot level with the eye. In such a position, with their masses of flower spikes crowding over the rock-face, one secures a fine picture.

P. S. HAYWARD.

BORECOLE CHOU DE RUSSIE.

A winter and spring kale which has made a rapid and popular advance by reason of its hardy constitution, distinct characteristics, and good flavour, is the Chou de Russie. In leaf characters it is suggestive of the Ragged Jack of former days. A review of a plot of these kales called forth a sympathetic remark from a gardening friend during the past winter, who thought, momentarily, there had been a pigeon raid. The lacinate leaves are very striking, and without close inspection may easily lead one to suspect birds have been at them.

Among the many stocks of kales there is a marked sameness of culinary flavour, the old Cottagers' perhaps standing out the more prominently for flavour superiority than others of the winter section. A trial of the Chou de Russie resulted in an immediate verdict as to its distinct flavour, and this, together with the peculiar leaf character, made it at once a recognised and enquired-for vegetable, both at home and in the market. While some kinds, even of the hardy Scotch Curled strains, succumbed to the winter's cold, the Chou de Russie came through the ordeal without much harm. There was the inevitable "scorch" which followed the frost and east winds, and was apparent on so many diverse subjects. But of absolute collapse there was but a very small percentage.

It will thus be clearly seen that three outstanding features of the Russian kale is hardiness of constitution, refined flavour, and distinct leaf characters, a combination which will no doubt lead to extended culture in the near future. These are merits which have been recognised by the R.H.S., and the award of a F.C.C. points to exceptional qualities in such an everyday vegetable.

W. STRUGNELL.

THE "BURBANK" BOOM.

Whatever the actual merits of Mr. Luther Burbank may be as a selective cultivator, the American Press, taking as an example the "Weekly Examiner," published in San Francisco (March 2 and previously) is rendering him supremely ridiculous by the claims it makes for him as a "Wizard" and a "Creator" of new plants.

Recently, in an article of two columns, it adverted to the wonderful Burbank potato, one of Burbank's earliest triumphs forty years ago, which, in one place, was claimed to be "the only potato grown in N. America from Alaska to Mexico, the year's produce running into millions of bushels, sufficient to pave a road right round the world," "a household word in the States," and so on, and yet in another place, this article claimed to be the very first announcement of its existence, which had been kept so secret that even in Santa Rosa (Burbank's home), no one knew of its existence. This was absurd enough, but now two more columns appear, booming the co-operation of two millionaires with Burbank to give the world the benefit of his creations. The first task of these capitalists is to deal with 30,000 unanswered letters, the accumulation of five years, the next is to deal with the potato, and the following "more marvels created":

"The Primus Berry, a union of the raspberry and blackberry, the first recorded instance of a new species, and the Phenomenal Berry, a combination of the California dewberry and the Cuthbert raspberry, a walnut bred with no tannin in its meat, gladioli of greatly enhanced beauty, taught to bloom around their entire stem like a hyacinth, instead of the old way, on one side; a dahlia with its disagreeable odour driven out, and in its place the odour of a marigold. A lily with the fragrance of a violet, and a scentless verbena, giving the intensified fragrance of the trailing arditus (?), fruit trees which will withstand freezing in the bud and flowers, an amaryllis bred from three or four inches to nearly a foot in diameter . . . improved varieties of thousands of grasses. Burbank has changed the chestnut in marked degree. Originally, it bore nuts in ten to twenty-five years. He has made it bear nuts in six months after planting the seed."

The article goes on to state that by crossing a common California black walnut and an English walnut, half a dozen trees resulting "were set out in the hard earth in front of the Burbank place, and in seventeen years these trees stood more than eighty feet in height, with a branch spread of seventy-five feet, and with trunks six feet thick at the height of a man's head."

Starving India is to be saved by the introduction of a cactus "which will grow in the most arid places, and make the most productable (?) stock and human food in the world." "A singular characteristic of this cactus is that it may be cut down and hung up in the air, and for two years afterwards it will produce a crop of fruit, with the only possible sustenance taken from the atmosphere." "Burbank has 150,000 varieties of plums, some trees being grafted to two or three hundred varieties."

The above represent but a portion of the statements made on Burbank's behalf, with which statements are interpolated numerous remarks imputed to him personally between quotation marks, as confirming all these and other marvels, which we venture to think any selective cultivator of standing on this side would hasten to disavow if only on the score of self-respect.

The humour and apparent sarcasm of the thing is enhanced by some accompanying verses, entitled "Tribute to Genius of Burbank the Wizard," in which a number of imaginary new combinations are alluded to, with three comic illustrations to fit.

C. T. Druery, V.M.H., F.L.S.

STOKES' ASTER.

Within the last few years the fine flower known as Stokesia cyanea has assumed greater importance in the eyes of the cultivator of hardy flowers, inasmuch as it has become recognised that there are really two varieties which flower at different seasons, thus satisfying those who have been unable to bloom Stokes' Aster, as they generally knew it, in the open. This variety of Stokesia has long been known, and has been rather largely cultivated in certain districts for the sake of securing its flowers for exhibition purposes at autumn shows. In most places it was found that the blooms were too late in expanding, and that in few seasons was it possible to have it in flower before the buds were pinched by early frosts, so that it was necessary to cultivate it finally under glass to induce it to open its handsome blossoms. Keen exhibitors of hardly flowers at shows in the north were therefore in the habit of cultivating the Stokesia in pots plunged in the open in summer, and taken into a greenhouse in July, so as to forward the flowers and induce them to open in August or September, as the case might be.

While this might serve the purpose of the exhibitor, it was profoundly unsatisfactory for the cultivator of hardy plants in the open, and the result was that the cultivation of Stokesia cyanea was gradually declining, save in the south, and our gardens were being deprived of the handsome flowers of this undoubtedly fine plant.

. Fortunately, however, an early-flowering variety, which has been called Stokesia cyanea præcox, has come to be known, and a fresh popularity has been achieved by Stokes' Aster, so-called because of its resemblance to the perennial asters or starworts. By securing it, the difficulty of having this flower in bloom, even in northern gardens, has been entirely overcome. It will flower in July in the south, and in August and early September in the north, so that it should rapidly make its way into gardens where it has not yet found a place.

Stokes' Aster is a handsome plant, growing about two feet high, the early variety being rather dwarfer, and giving its fine lavender-blue flowers, each about three or four inches across, in considerable numbers. Aster-like in form, they are fine for the border; for cutting for the house; or for exhibition purposes.

To do justice to this handsome plant it should have a good, but not too heavy soil, well manured with old cowhouse stable manure, and deeply dug, while the situation ought to be an open and sunny one. As a pot plant for the conservatory, the late-flowering variety is excellent, treated as are many late-flowering plants by growing it in pots plunged in ashes in the open during summer, taken indoors when about to flower (before danger from frosts appear), and bloomed in a light house. After the flowering is past, the pots may be placed in a cold frame until spring comes round, when they should be plunged in ashes in the open until required again. Plants are increased by division, but seeds may be obtained in the usual way.

In addition to the two lavender-blue varieties, there is a variety of S. cyanea præcox which has white flowers, and which is becoming appreciated by growers of hardy flowers.

S. A.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

MILTONIA VEXILLARIA.—Plants of this species will now be advancing their flower scapes, and at this period particular care will be found necessary, not only to keep insect pests in check, but also to afford every encouragement to enable the plants to develop and expand their blooms to the best advantage. Insect pests, such as thrips, greenfly, etc., can easily be kept in check by spraying at regular intervals, or fumigating with some safe vaporiser. Where plants have in previous years been infested with yellow thrips, it will generally be found that some will appear just when the flowers are being produced, and at such a time it is both difficult and dangerous to the flowers and buds to either dip, spray, or fumigate. It is therefore the more urgent that we should see that these pests are dealt with early, and take no risk with previously infested plants. Dipping is the safest method in such cases. The plants may be plunged in the insecticide to the base of the leaves, but every care must be taken to prevent the insecticide getting into the potting compost.

STAKING.—As the flower spikes advance they should be neatly staked in position, so that the flowers may expand uniformly, and in a position desirable to display them to the best advantage. There are no orchids more attractive or effective for exhibition or decoration than large specimens of M. vexillaria. Their cultural requirements I have so frequently dealt with in the past, and are so well known, that I need not further mention them. True, the flowers are not serviceable when cut as they fade quickly, but the plants, especially small ones, are exceedingly useful for conservatory decoration.

M. BLEUEANA.—I find this does best when grown under slightly warmer and more humid conditions than M. vexillaria. The plants produce more robust growths, and correspondingly larger and better developed flowers. Another point that is probably sometimes overlooked in growing M. Bleueana is that it should be treated as a perpetual grower, for almost before one growth has matured others are found starting from the base of the recently developed or developing growth. Although it is not advisable to give these too much encouragement in their early stages, they need support, and therefore the plants must not be placed under absolutely resting conditions, as in the case of M. vexillaria. I would also advise that any repotting necessary should be attended to as soon as the plants have passed out of flower. I find equal portions of fibrous peat, chopped sphagnum, and oak leaves, intermixed with sand and broken crocks a most suitable compost for M. Bleueana.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

AMARYLLIS.—Give these a light position in a warm house or pit after flowering, to encourage them to finish their growth. Any plants unsatisfactory at the roots had better be repotted. Pot fairly firm in a compost of two-thirds good fibrous loam and one-third composed of equal parts of leaf-mould and cow manure, with a small proportion of sand. Cover the bulbs about two-thirds of their depth, and when growth is finished gradually withhold water to give the bulbs a period of rest.

POINSETTIAS.—When grown in quantity these give a charming and brilliant effect during the winter months. From plants placed in heat early in April cuttings of the finest quality will now be secured, and in quantity, providing the plants have been given full exposure in a fairly well-ventilated structure. Some little difficulty is at times experienced in striking the cuttings, but when taken from sturdy, short-jointed, well-ripened plants, and from three to four inches long, with a heel of the old wood attached, the difficulty is overcome. Insert the cuttings singly in small pots to obviate check at repotting. When plants from eighteen inches to six feet in height are the object in view, propagation must be considerably extended by striking different batches. When the rooted cuttings are once established they should be given liberal treatment in a well-lighted and ventilated house or pit, keeping them near to the glass. A mixture of about four parts good loam and one part each of decayed stable manure, leaf-soil, and sand makes a good potting compost. Avoid over-watering and cold draughts.

GLORIOSAS. — After the winter's rest these ought now to be in active growth, and when they have attained sufficient strength a trellis will be necessary, and the last shift to be given should not be further delayed. Hoyas that have been resting will now need more water at the roots, and the old and new trusses will then soon send forth a crop of flowers, which, in the case of H. carnosa, will be followed by another later in the season.

SPECIMEN ALLAMANDAS. — While in rapid growth these may be shifted into larger pots, and, as it is most essential to produce an even break all over the plants, the shoots should be pinched. But should flowers be required at a certain date, sixteen weeks should be allowed from the last time of pinching or stopping the shoots, to have the plants in bloom. To grow and flower the allamandas successfully, give as little shade as possible; the foliage may not be quite such a dark-green, but short-jointed wood with greater substance will result from such treatment.

GENERAL REMARKS. — At this season when growth is rapid, disfigurement is soon caused by overcrowding, and nothing seems more favourable to the plants than a thorough rearrangement. When plants are grown in lean-to houses they are soon inclined to become one-sided, and to secure well-proportioned plants, space should not be limited.—W. Fyfe, Lockinge Park Gardens.

THE KITCHEN GARDEN.

PLANTING TOMATOES.—If things have gone well with these plants they will now be established in their pots and furnished with a truss or two of flowers nicely set, ready to swell away when placed in their final position. From now onwards whenever the weather is settled and the plants are sufficiently hardened off, planting may be carried out. Whenever possible, the sunniest wall should be given them. Train the plants erect, as cordons, at about eighteen inches apart, and pinch out all side growths to give full exposure to the flowers and fruits as they are formed. It is not desirable to plant in rich soil, but of an open, porous character; after a full set of fruit is secured, feeding and mulching may be liberally carried out with advantage. Allow the plants to settle down before nailing them to the walls.

EARTHING UP POTATOES.—The early-planted potatoes will be in full growth above ground, therefore do not delay in having the fork or hoe well worked amongst the crop and the soil drawn up to the stems. Damage is often done if this is left too long. Where the soil is not in good heart, and the plants require assistance, a sprinkling of an approved potato manure may be given between the rows; wood ashes are valuable to work in amongst the plants at this stage.

MUSHROOMS.—After this date the mushroom house will not be so satisfactory for producing crops, and better results will follow with outside beds. A good position is under the shelter of a north wall. Here an even, moist temperature can be maintained, which is of the utmost importance. The beds may be in a trench about 12in. deep, made thoroughly firm. This will give sufficient heat to run the spawn, and, by covering the bed with moist straw or grass, to produce a moist atmosphere, a steady yield may be expected. The ridge form of bed is also valuable at this season, but a less bulk of manure is necessary than with the usual autumn-made beds. From now onwards during the summer manure is liable to unduly dry during its preparation if much surface is exposed, therefore, it is better to place it in a closer bulk, and turn it frequently during its fermentation.

THINNING YOUNG CROPS.—Such crops as onions, carrots, early beet, turnips, etc., will require timely attention in the matter of thinning. This must be carried out according to the purpose they are grown for. If for exhibition, or any other special object, generous space must be allowed between each plant. For supplying a private establishment medium-sized produce is invariably the most serviceable, and economical. I do not advise in the case of onions, beet, or Shorthorn carrots, a too heavy hand with the thinning; at least, in the case of a large portion of these crops.

PLANTING OUT.—The ground, owing to repeated storms in some parts of the country, has not been in a fit condition for planting, and no purpose would be served in carrying it out in such a pasty state. Seize the first opportunity in the bringing up of arrears, and fix the plantations in quantity and time of maturing according to likely demands, to reduce waste of labour and valuable space to a minimum.

GENERAL REMARKS. — Seakale crowns will be commencing growth. As soon as the strongest shoot can be selected, remove the remainder, only reserving the one. A light dressing of salt at intervals will be helpful to give vigour to the plants. Pull up old broccoli stalks as soon as the heads are cut to avoid loss of valuable plant food. The ground will require a thorough dressing of manure before being cropped again. Keep weeds down before they reach the seeding state. An active hoe during a sunny day is a great factor in securing a clean kitchen garden.—Chas. Flack, Cholomondeley Castle Gardens.

FRUITS UNDER GLASS.

STRAWBERRIES.—These are an important crop now, because it is very desirable that when once strawberries have been sent to table they should be continued until those outside are ready. Be prepared to hold plants back in cold frames, introducing a sufficient quantity each week into houses or warm frames. Thin the blooms early to allow those remaining full opportunity for swelling. Keep the plants in full sunshine or the fruits will not be rich in colour or sweet. Keep the foliage well syringed twice daily in bright weather, and give liquid manure at every other watering until the fruits commence to colour.

PEACHES AND NECTARINES.—The early fruits have now nearly finished stoning; Hale's Early has already begun its last swelling, and as soon as this is seen the border should have a good sprinkling of guano or other fertiliser, and be thoroughly watered. Keep the foliage well syringed, and shut up early in the afternoon; prop the fruits up to the light with wood labels, as the fruits take on a much higher colour, and are well worth the extra trouble taken.

SUCCESSIONAL HOUSES.—Tie down the shoots as occasion requires, but no more wood should be tied in than is absolutely necessary. Every leaf should be given proper room for development. Thin the fruits before they are too large. If the late crops are coming on too rapidly admit air at the apex at night, with just a little heat in the pipes. Have the house well damped down several times daily, and when syringing damp every particle of wall, woodwork, and glass, so that red spider has no chance. Water with a system, that is, know how much water you are giving, and water the whole border; an inch of water is not too much when the trees are full of growth and carrying a good crop, and this about every fortnight at this season in warm houses. It must be remembered that peaches on an outside wall receive water, as rain, up to 25 or 30 inches, and very often good waterings in dry weather as well, which would amount to several inches more.

MELONS.—Fruits that are now reaching maturity should not receive much water, or they will be liable to crack just as they are ripening. The second batch should receive every encouragement by keeping the roots supplied with water, and as the roots appear on the surface add a little more loam and a sprinkling of fertiliser. Pollinate the blooms every day about 11.30 a.m., and as soon as a crop is secured remove the other flowers. Plants may now be prepared for frame culture, and wonderful crops can be grown in frames. Frames that have held bedding plants will make capital places for them if a little fresh manure is added, as a good temperature can easily be kept up. About five plants should be put out to a light 8ft. by 5ft., and by growing several varieties a succession can be secured.

EARLY VINERY.—If the berries have finished stoning the roots should be given a good dressing of manure, a mulch of strawy litter, and a thorough watering. Keep all laterals pinched to one eye at this period. Look over the bunches finally, and cut out any berries that may appear likely to overcrowd, and any stoneless berries, as these disfigure the bunch if allowed to remain. Keep a sharp look-out for red spider.

MUSCAT VINES IN FULL BLOOM.—These must be pollinated each day, especially if the weather is dull, but on a fine sunny afternoon a fine spray with the syringe distributes the pollen and effects a good set. In late houses the growths should be tied down gradually to the wires, and be treated similarly to Muscats at blooming time, though, as a rule, a good tap at midday is all that is necessary if the vines are in a healthy condition, with, perhaps, the exception of Lady Downe's Seedling and Mrs. Pince. See that the roots do not lack moisture, as the grapes will not set well if the roots are suffering from drought. Keep the house a little warmer while the vines are in bloom.—W. A. Cook, Leonardslee Gardens, Horsham.

Ceanothus Veitchianus.—This ceanothus is, as are most of the other members of the genus, a native of California, and, in common with many plants from that region, it cannot be regarded as perfectly hardy. Still, it forms in most districts a delightful wall shrub, and it is also valuable for flowering under glass in early spring, its one great merit being the bright hue of the blossoms, which are in colour so unlike any other hardy shrub employed for forcing. The flowers are borne in dense clusters on the ends of the short lateral branches. This ceanothus has for its immediate allies C. dentatus and C. papillosus; indeed, these species are sometimes confounded with each other. The leaves of C. Veitchianus are small, deep green, with a particularly glossy, almost varnished upper surface. It is one of the many good things whose introduction we owe to William Lobb during his travels in California about sixty years ago. When selections of shrubs are made for forcing purposes, this is undoubtedly entitled to a place among the best. —W. T.

Notes on Bulbous Plants.—Bulbous and tuberous plants, like lilium, eremurus, ostrowskia, etc., are now pushing up their shoots in the open border, and as these are readily injured at this season some protection in the form of light branches placed around the crowns will enable them to withstand spring frosts with impunity. Liliums of the stem-rooting section may with advantage be top-dressed at this season with rich soil, and a light mulching of decayed manure placed around the stems will assist in maintaining a uniform degree of moisture at the roots during periods of drought in the growing season. The various occupants of the bulb border should also be taken in hand at the present time; remove all winter protection, and break up and clean the surface soil, thereby admitting sun and air to the roots, an influence which soon makes itself felt among bulbous plants. Slugs are often destructive among bulbs in early spring, so that preventive measures taken now will have ample reward later, resulting in healthy specimens with perfectly developed foliage.—Thomas Smith.

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EXHIBITIONS AND MEETINGS.

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National Auricula and Primula Society.

MIDLAND SECTION,

MAY 5 and 6.

Fortunately, the holding of the tenth annual show, owing to the lateness of the season, was postponed from April 28 and 29 to the above dates, for it proved the most successful event in the annals of the society, both as regards the number of exhibits and of visitors. Evidently also the cult of the classical old florists' flower is increasing in popularity in the Midlands from the fact that, with one exception, the competitors were confined to local growers, owing, probably, to the date not suiting the southern and northern growers. There was a keen competition in several of the classes, and many of the specimens were of very high merit, and the assemblage of the alpine varieties was unusually large, and the quality of the leading flowers superexcellent.

The most successful exhibitor, taking the show as a whole, was Mr. Charles Winn, Selly Hill, Birmingham, a keen enthusiast (gardener, Mr. T. T. Sheppard), and whose fine honorary exhibit of schizanthuses was much admired. A First Class Certificate was awarded.

SHOW AURICULAS.

The premier class for eight varieties included two exhibitors only, and Mr. W. M. Shipman, Altrincham, scored with excellent examples of Acme, Richard Headley, Mrs. Potts, Shirley Hibberd, Mikado, Abraham Barker, Eucharis, and the notable Harrison Weir. Mr. Charles Winn was a close second with Gladiator, Eucharis, Henry Wilson, Miss Barnett, Mikado, Harrison Weir, Lancashire Hero, and Perseverance. In the class for six varieties the position of the above-named winners was reversed, Mr. Winn having Olympus, Shirley Hibberd, Lancashire Hero, Harrison Weir, Henry Wilson, and Gerald. Mr. E. Danks, Handsworth, was third with Richard Headley, Mr. Henwood, Rev. F. D. Horner, Olympus, James Hannaford, and Rachel.

There were four competitors in the class for four plants, and Mr. Richard Holding, of Bournville, occupied the premier position with excellent examples of Acme, Cleopatra, Diamond, and Mikado. Mr. J. Collier, jun., Ludlow, second with Mrs. Potts, Shirley Hibberd, George Rudd, and Acme. The other winners were Mr. W. H. Parton (gardener, Mr. William Carpenter), F. H. Eglinton, and W. C. G. Ludford.

For two plants Mr. A. Wadley was first with Mrs. Potts and Shirley Hibberd; Mr. R. Holding second with George Rudd and Mrs. Phillips; and Mr. W. H. Parton third with Shirley Hibberd and Mrs. Potts. The other winners were, respectively, Messrs. Lawton and Eglinton. In the class for a single plant—green edge—Mr. H. Miller won with a fine example of Shirley Hibberd. Messrs. Shipman and Eglinton were respectively second and third.

For a grey edge Mr. Shipman was first with George Lightbody, Mr. C. Winn second with Richard Headley, and Mr. W. H. Parton third with R. Headley, and Mr. Shipman and Mr. T. Danks fourth and fifth with R. Headley and Olympus. For a white edge Mr. Shipman was first with Conservative and second with Acme; Mr. W. C. G. Ludford, Four Oaks, Sutton Coldfield, and Mr. C. Winn were third and fourth with Acme. For a self Mr. A. Lawton led with Mrs. Phillips, Mr. R. Holding second with Harrison Weir, and Messrs. Eglinton, C. Winn, and R. Holding third, fourth, and fifth respectively. For a self (yellow, primrose, orange, or buff) Mr. W. Shipman was to the fore with a beautiful example of Daffodil, Mr. C. Winn second with an exquisite Joan Peacock, and Messrs. E. Danks, C. Winn, and R. Holding third, fourth, and fifth with Buttercup—altogether a good quintuple of exhibits.

For two varieties (open to maiden exhibitors), Mr. George Savory, Rotton Park, Birmingham, was first with Argus and Duke of York; Mr. C. Reeves, Handsworth, second; and Mr. A. Egginton, Bearwood, third, with Firefly and Miss Baker. For three show auriculas (local growers' class) Mr. C. Winn was first with Gerald, Gladiator, and Marmion; Mr. E. Danks second with George Rudd, Ruby, and Shirley Hibberd; Mr. A. Lawton third with Gerald, Mrs. Phillips, and Shirley Hibberd. Messrs. Ludford and Eglinton were the remaining winners (nine competed). For three varieties by young amateur growers, Mr. H. W. Miller first, Mr. G. Savory second, Mr. J. Wadley third, and Messrs. F. J. Twist and A. Egginton, fourth and fifth.

ALPINE AURICULAS.

In the class for eight varieties there was a keen contest, and Mr. C. Winn won with fine examples of Mrs. Danks, Argus, Thetis (the latter a popular variety), Ettrick, Majestic, J. F. Kew, and Golden Acme, the other name not ascertained. Mr. W. H. Parton was a close second with Duke of York, Golden Acme, Thetis, Mr. M. Smith, Jack Parton (the latter a F.C.C. last year), Defiance, Mr. Gorton, W. H. Parton (F.C.C. last year); Mr. R. Holding third. Messrs. Eglinton, Shipman, and Danks followed on in the order in which their names appear. For six alpines Mr. C. Winn was again first, staging Ettric, Argus, Richard Dean, J. F. Kerr, Thetis, and Mrs. Danks in fine condition; Mr. T. M. Eglinton second with Argus, Teviotdale, J. F. Kew, Duke of York, Firefly, and Mr. M. Smith; the four remaining winners were Messrs. Shipman, R. Holding, E. Danks, and Ludford.

For four plants Mr. H. Lawton was first with Dean Hole, J. F. Kew, Argus, and Thetis; Mr. A. J. Wadley second with Dean Hole, Argus, J. F. Kew, and Thetis. The remaining prizes in the class were awarded to Messrs. C. Reeves, H. W. Miller, J. Collier, and W. G. Ellison, of Edgbaston. For two plants Mr. A. Lawton was first with Mrs. Danks and Thetis, Mr. Wadley second. Messrs. J. Collier, W. G. Ellison, and Tom J. Stevens were the other successful competitors.

For a single plant, gold centre, Mr. R. Holding won with a fine example of Majestic; Mr. C. Winn second with Dorothy Westmeath, and Messrs. Eglinton, W. H. Parton, C. Winn, and J. Collier completed the coterie of winners with good examples. For a light centre Mr. M. Shipman again led with Patience; Mr. C. Winn second with W. F. Kew, the other successful competitors being Messrs. Lawton, W. H. Parton, A. Wadley, and J. M. Eglinton. For a shaded or slightly shaded Mr. R. Holding scored with Unexpected, a grand acquisition; Mr. C. Winn second with a seedling (unnamed) of great breadth and large yellow centre; Messrs. Parton, Wadley, and Ludford staged promising seedlings, and Mr. R. Holding had George Cadbury.

For two plants (maiden growers) Mr. W. H. Edwards and Mr. A. Hughes, both of Handsworth, won with creditable examples. For three varieties (local growers) Mr. C. Winn led with Golden Acme, J. F. Kew, and Thetis; Mr. E. Danks second. Messrs. A. Lawton, Wadley, and Eglinton were the other winners. In the class for new growers, three varieties, Messrs. T. Stevens, G. Savory, Wadley, Twist, and Ellison were the successful competitors.

SEEDLING SHOW AURICULAS.

For two varieties, Mr. E. Danks was first with seedlings, Mr. Ludford second with David Copperfield and Charles Dickens, Mr. C. Winn third, Mr. R. Holding fourth, and Mr. A. J. Wadley fifth. For a single -green edged—Mr. C. Winn won with Charles Winn (premier), a grand acquisition; Mr. E. Danks second with Diana. For a grey edged Mr. W. C. G. Ludford scored with Barnaby Rudge, and second for an unnamed variety; Mr. Danks third with Mrs. Johnson. For a self, Mr. C. Winn won with a promising acquisition named W. Smith; Mr. R. Holding second with Optimist.

SEEDLING ALPINES.

For four varieties Mr. C. Winn again led with Edith Winn, Dorothy Westmeath, and two others; Mr. R. Holding second, and Mr. W. H. Parton and Mr. W. G. Ludford were the other winners. For two plants Messrs. J. Collier, Tom Stevens, and Wadley were prizewinners with unnamed varieties, and Mr. E. Danks with Tasso. For a gold centre Mr. C. Winn was first, staging Dorothy Westmeath; Mr. Ludford second with Great Expectation; Mr. C. Winn third, and Mr. Miller, fourth. For a light centre Mr. R. Holding scored with Salome, a variety of high merit; Mr. C. Winn second with Edith Winn; Mr. J. Collier third with a seedling from Mr. H. Turner; and Mr. Ludford fourth with Uriah Heep, both of promising merit.

POLYANTHUSES AND FANCY AURICULAS.

For six plants of polyanthuses or primroses, single or double, Mr. J. Collier led; Mr. A. W. Watts second, and Mr. Ludford third. For six pots of fancy auriculas Mr. C. Winn was awarded the first prize for interesting examples of Daffodil, Old Gold, May Queen, Butter and Eggs, Victoria, and Columbine.

Royal Gardeners' Orphan Fund.

The twenty-first annual festival dinner of this useful charity was held on Thursday, May 6, at the Hotel Cecil, Strand, W.C., under the presidency of the Duke of Rutland. There was a large and influential company present, that included Professor Keeble, Mr. N. N. Sherwood, Mr. Edward Sherwood, Mr. E. White, Mr. J. Collingridge, Mr. G. Bunyard, Mr. H. B. May, Mr. Jas. Douglas, Mr. W. Poupart, Mr. W. Howe, Mr. J. W. Moorman, Mr. W. Bates, Mr. W. Anderson, Mr. W. Baker, Mr. G. J. Ingram, Mr. G. Barr, Mr. W. H. Page, Mr. Rochford, Mr. Lane, Mr. T. W. Sanders, Mr. T. Bevan, Mr. W. Alderson, Mr. J. F. McLeod, Mr. J. Sweet, Mr. R. G. Cuthbert, Mr. D. Thomson, Mr. Wm. Thomson, Mr. Martin Rowan, Mr. E. Rochford, etc.

After dinner, and the acknowledgment of the loyal toasts, his Grace, who was very heartily received, on rising to propose the toast of the evening, "Success to the Gardeners' Orphan Fund," said he felt it a great honour to be permitted to propose the toast, but he felt he was not well qualified to deal with it. It was not every institution that in these times was financially sound, but the Orphan Fund was so. It was hardly possible the present year would be so good a one as the past, because the previous festival was a coming-of-age festival, and treated accordingly. But he hoped this year would not be much, if anything, behind the last. In the course of his remarks he told the story of the old lady who wore out the late Dean Hole's patience by asking absurd gardening questions, and who, on asking how the Dean served aphis on roses, was told that he washed them with cod-liver oil every day. He was not quite so ignorant as that old lady, but he felt in such a company of gardeners he had to be careful of what he said. He pointed out that every effort should be made to bring before the notice of all the aims and claims of the Orphan Fund, as nowadays there were so many charitable institutions, and, unless it was kept well before the public, the Orphan Fund would find it increasingly difficult to secure adequate funds. Gardening was not over profitable; it was a most interesting, and, to the community, a most useful occupation, and therefore its charities should be upheld; and he hoped that, whatever the future might hold, the Orphan Fund would not suffer. He thought market gardening just around big towns would soon have to be very gravely considered, as legislation might very seriously affect the trade, and its workers might suffer considerably if present political possibilities were to become facts. He hoped, however, that the public would not forget the Orphan Fund or cease to support it.

Mr. Edward Sherwood, the treasurer, in responding, thanked his Grace for presiding, and referred to the record year of 1908-9, during which the funds were largely increased, and now there were 214 orphans benefiting from the charity; but already there were fourteen applicants for the benefits of the fund at the next election, and to these the committee had granted each about 2s. 6d. per week while waiting for election. He urged the need of more annual subscribers, because the Fund had now greater liabilities than ever. He was glad to see a broader interest being taken in the Fund, and he wished to point out that the Fund was in no sense a metropolitan fund, but entirely a national one, hence the claim for help from individuals and gardening societies all over the country. The Fund was worked cheaply, and Mr. Wynne, the secretary, was now devoting his whole time to the service of the Fund. Management expenses were met now entirely out of dividends from invested funds, consequently all the sums received that evening would go directly to brighten the lives of gardeners' orphans.

The toast of "Gardeners and Gardening" was proposed by Mr. Edward White, who referred to the friendly relations between garden owners, professional gardeners, and the horticultural trade. He thought gardeners were scarcely alive to matters of special interest to them, and he suggested that horticulturists should assert themselves more in the councils of the country, and not allow gardening to be merely an appendix to agriculture. When times were bad gardening was one of the first things to be economised upon but he trusted the fund would not also suffer as a result of bad times. Dr. Keeble, in the unforeseen absence of Mr. Leonard Sutton, replied ably and humourously to the toast, and spoke of the delights of gardening as seen in all the gardens and parks at this season, as evidence of the art and skill of the gardener, an art also evidenced so markedly at the fortnightly meeting at the Royal Horticultural Society. He referred particularly to the skill and patience of gardeners, and to the wonderful creations in flowers, fruit, and vegetables they have given. He also honoured the gardeners who in so many cases have produced these things without any purely scientific knowledge; the scientist often followed a long way after in his knowledge of how the thing was done.

Mr. N. N. Sherwood, who was very heartily received, expressed the pleasure he felt at being again present at the festival, and regretted that ill-health had prevented his attending the dinners for six years. On a previous occasion his sons and himself had given his granddaughter, Maybud Campbell, a nomination to a grant to one orphan, and he now had a grandson, and he proposed to give him a similar nomination. This generous proposal was greeted with loud cheers. Proposing the "Health of the Visitors," Mr. Sherwood said he hoped the visitors had enjoyed themselves, and he trusted they would come again and generously support the charity. Mr. John Douglas ably replied, and greatly interested the audience with his many humorous stories.

The Secretary, Mr. B. Wynne, then read the subscription list, headed by the president with £10, and including £100 from Messrs. Hurst and Son. The total amount subscribed was about £800, the Covent Garden friends contributing £194 9s. 6d.

Mr. H. B. May, chairman of the committee, gracefully proposed "The Chairman," a toast that was very heartily received and duly acknowledged. Mr. Wm. Poupart proposed "The Press," and spoke of the admirable way in which the horticultural Press supported every good cause, and especially the gardening charities. Mr. John Collingridge responded.

An unusually good musical programme was carried out under the able direction of Mr. Turle Lee, the cornet solos by Master Lloyd Shakespeare being a fine feature of the musical items

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, May 4.

Present: Mr. E. A. Bowles, M.A., F.L.S. (in the chair); Sir Daniel Morris, K.C.M.G., Messrs. J. Fraser, J. W. Odell, H. J. Elwes, J. T. Bennett-Poë, A. Worsley, H. T. Güssow, G. Massee, J. Douglas, F. J. Baker, E. M. Holmes, W. Hales, H. Pearson, W. Cuthbertson, A. Rolfe, F. J. Chittenden (hon. secretary), and W. E. Ledger (visitor).

HYBRID NARCISSUS.—Mr. J. Douglas showed specimens of a hybrid narcissus obtained by crossing N. calathinus (which is not quite hardy) with the bicolor trumpet daffodil Weardale Perfection. The hybrid was a white trumpet daffodil with a somewhat short trumpet. It has proved hardy.

VARIATIONS IN PRIMROSES.—Mr. Douglas commented upon the considerable variations often seen in cultivated primroses in the comparative lengths of the style and the positions of the stamens, and showed specimens to illustrate his remarks. The extreme examples of departure from the normal conditions were seen in a flower in which the anthers and the stigma were both level at the base of the corolla tube, and in another where the style projected much beyond the mouth of the corolla tube.

HYBRID SALICES, ETC.—Mr. J. Fraser exhibited living and herbarium specimens of the following:

(1.) Salix fragilis x triandra (alopecuroides Zausch.) gynandrous specimens of the tree, which is normally male. Some of the smaller branches bore female catkins with a few stamens amongst them. The ovary is similar to that of S. fragilis, and the stigmas recall S. triandra. The posterior gland is often changed into one or two ovaries, separate or combined. The stamens are usually three, but in the female catkin there may be one, two, or three ovaries, and sometimes one stamen and one ovary (collateral).

(2.) Salix myrsinites x nigricans (punctata, Wahlb.).

(3.) Salix arbuscula x herbacea (simulatrix, F. B. White). Mr. Fraser also exhibited specimens showing sepalody of the petals in wallflower, and pistillody of the stamens in the same flower, and fasciation of the flower stem of Cardamine pratensis.

BRANCHING IN TULIPS.—Mr. Hooper Pearson showed branched stems of tulips of the Darwin form from a correspondent in France. There were usually four flowers, but sometimes as many as seven from a single bulb. The stems showed some degree of fasciation such as is frequently seen in these tulips. The exhibit was particularly interesting since it was stated that the branching character had become fixed, not only when the plants were reproduced vegetatively, but when they were multiplied by seed.

HYBRID ORCHIDS.—Mr. Rolfe showed flowers of Epidendrum evectum (purple) and E. xanthinum (yellow), and the hybrid raised by crossing them (= E. x kewense of a salmon colour). He also showed flowers of E. x kewense crossed with E. evectum, producing a hybrid having purple flowers (but not of the same shade as E. evectum), and of E. x kewense crossed with E. xanthinum, this cross bearing flowers resembling E. x kewense. When E. x kewense was self-pollinated it reproduced flowers of three sorts bearing great resemblance in colour to E. evectum, E. x kewense, and E. xanthinum respectively.

HYBRID CINERARIA.—From Me[illegible] Veitch, of Chelsea, came a hybrid between Senecio auriculatissimus and a form of the garden cineraria—the hybrid had yellowish white flowers.

VARIOUS PLANTS.—Mr. G. Paul [illegible] specimens of the two shrubs Plagios[illegible] sinense, an interesting plant belonging [illegible] the Rosaceæ, with flowers nearly ap[illegible]ing the Celastraceæ in structure, and [illegible]ing thorns a little distance above [illegible] the leaf axils in addition to the usual [illegible]lary bud, and Gleditschia Delavayi, a species from Yunan. Both of these had proved hardy at Cheshunt, but Mr. Hales stated that the latter had been killed by frost at Chiswick.

Mr. Worsley showed an inflorescence of Oncidium verrucosum var. Rogersi to [illegible]trate the great amount of variation in [illegible] lobing of the labellum seen in this [illegible]

Mr. Elwes exhibited a number of fine flowers of the recently-introduced Regelio-Oncocyclus hybrid irises raised by Mr. van Tubergen. He found that if kept dust dry for about five months they could be successfully grown in this country, and did not die out as the Oncocyclus irises usually do.

Bournemouth Gardeners.

On May 4 Mr. George Garner gave a lecture on "Vegetables for Large and Small Gardens" before a good attendance of members, Mr. Lansley presiding.

This lecture concluded the series of papers for the session, the next meeting being at the gardens of Mr. G. H. Rolls, J.P., Bournemouth, by this gentleman's special invitation, on June 1, at 6.30 p.m.

In addition to the annual outing of the members, a point is made of inspecting some local garden in the month of June each year, confining the visit to the evening time, and very pleasant and profitable, too, are these brief local excursions.

Mr. Garner did not attempt to deal exhaustively with the subject of his lecture on account of the impossibility of doing [illegible]tice to the whole subject in the time [illegible]posal, but gave useful hints on the [illegible]ment of the principal crops which [illegible] needed the close attention of the private [illegible]dener. The due preparation of the [illegible] deep digging, trenching, ridging, and [illegible]ing generally was referred to. Inte[illegible]ping was advised, as it was a good [illegible] in both large and small gardens. Rows [illegible] peas grown north and south, at 9ft. [illegible] with potatoes between, were, said Mr. [illegible]ner, far more remunerative than [illegible] grown close together. Lettuces [illegible] rows of celery always did well [illegible] the extra depth of soil there, and as [illegible] salad plants were soon ready [illegible] waste of valuable space occurred. [illegible] warning was given regarding the [illegible] of such crops as cabbages, cauliflowers, or winter greens between rows of peas or runner beans, as the former robbed the latter of much nourishment, the result being a loss to the grower.

Rotation cropping was another point strongly urged by the lecturer on account of the good effect it had upon the various crops so treated. Such kinds as peas, [illegible] runner, and broad beans, spinach, and [illegible]lar crops should not, said Mr. Garner, [illegible] grown on the same plots year after year, but be put in to follow root crops, [illegible] onions, parsnips, beet, and carrots. [illegible] generally proved very satisfactory [illegible] grown on ground previously occupied [illegible] celery; and winter greens did well [illegible]cession to early peas.

Manure, and its application, was also [illegible] with, the lecturer advising cultiva[illegible] apply it in the autumn in the case of [illegible] soils, and in the spring where [illegible] prevailed, but even in the latter [illegible] month prior to the cropping of the [illegible] possible. Autumn manuring was [illegible] recommended in the case of heavy [illegible] which potatoes were to be grown. A [illegible] selection of varieties of the different [illegible] of vegetables was given, and hints [illegible] treatment of the growing crops.

At the close of the lecture a free discussion took place, several members giving briefly their experience in growing vegetables in the prevailing light soils of the neighbourhood, and others asking questions, which were readily answered.

Votes of thanks to the lecturer and the chairman were heartily accorded, and ended a very enjoyable evening.

Croydon Gardeners' Association.

At its recent meeting this association was favoured with a lecture on "Hybridisation," by Mr. M. E. Mills, Coombe House Gardens, Croydon. The lecturer is one of those very active members of this society who gives his services generously to its welfare, and furthermore, offers his experiences to his fellow-members for them to profit by. Perhaps the finest achievement he has gained in hybridising is Begonia Lloydi, an exhibit of which gained him a silver cup at the Temple Show a few years ago, and this new race of such a popular flower is still being improved upon. In his introduction of his subject, he did not fail to mention the many setbacks one must expect before success attended our efforts, and the student must accept a seeming failure with good heart, for oftentimes in close study of this the remedy may be found and the goal reached.

Nature's methods of fertilisation are principally with wind and insects, and occasionally water helps in her work. Man in his artificial aid cannot do better than copy these methods, and proof of this is given us amply by the many additions he has made of late years. The study of botany is, of course, very essential to the would-be hybridist, for unless he is fully conversant with natural orders and structural organs of the plant he will probably court failure in his experiments. Fixity of type in a new hybrid must be well proved before offering it to the world, and vagaries of character of the parent plants were well described by reference to one of the world's greatest hybridists, Gregor Johann Mendel, in his experiments with the edible pea.

The hybridist must exercise forethought and be blessed with that virtue patience, surmounting difficulties as they appear and profiting by his failures.

A very hearty vote of thanks to Mr. Mills was proposed and adopted by his audience, to which he made suitable response.

Mr. W. Channon exhibited sevan dishes of apples in good condition, and the lecturer put up a nice collection of narcissi, which was much appreciated by the members attending.

During the past nine years this admirably managed and flourishing society has annually held an exhibition of spring flowers on lines wholly distinct from those usually followed, no prizes being offered or any charge made for admission. These gatherings have been remarkably successful throughout, for the members, with commendable public spirit, have liberally contributed of their best, and the residents in Croydon have shown their appreciation of the efforts of the society to provide them with an annual floral feast by attending in large numbers. This year the show was held in the Horniman Hall, and, as on previous occasions, the display produced was remarkable alike for its extent and beauty.

Both private growers and trade cultivators contributed collections of much interest to the exhibition. Mr. F. Oxtoby, gardener to J. J. Reed, Esq., Coombe Lodge, Croydon, exhibited stocks in a high state of development, which, in association with palms and ferns, produced a beautiful effect. Mr. W. Bentley, gardener to D. Nicol, Esq., Park Hill Road, Croydon, contributed a group of much merit, in which azaleas, crinums, schizanthuses, and palms were tastefully displayed. Schizanthus Wisetonensis was splendidly shown by Mr. M. E. Mills, gardener to Frank Lloyd, Esq., Coombe House, Croydon; calceolarias and primulas were contributed in fine condition by Mr. G. Sharp, gardener to Douglas Young, Esq., Strathallan, Croydon, and a superbly flowered azalea was staged by Mr. C. Thrower, gardener to Mrs. Matthew, of Anerley. Mr. A. Edwards, gardener to J. J. Pascall, Ambleside, Addiscombe, arranged a beautiful group of miscellaneous flowering plants; Mr. C. Wateridge, gardener to Otto Hehner, Esq., Woodside House, South Norwood, staged orchids and cinerarias; and Mr. J. Stringer, Hope Cottage, Summer Road, Croydon, contributed a collection of finely developed pansies.

Chief among the trade exhibitors were Messrs. J. Cheal and Sons, Crawley, who had a representative collection of flowering trees and shrubs, and hardy flowers; Mr. T. Butcher, George Street, Croydon, who contributed greenhouse plants in variety; Mr. J. R. Box, West Croydon, and Messrs. E. W. and S. Rogers, Croydon, who staged tulips in great variety. Mr. Harris, Croydon, who staged cut flowers, and Messrs. J. Peed and Son, who had alpines.

Mr. H. Boshier, the hon. secretary, and the members of committee may be heartily congratulated on the success that was achieved on this occasion.

THRIPS ON GARDEN PEAS.

The investigation of a disease of garden peas due to a thrips, which seems to be little known, was fully investigated by Mr. Cecil Warburton, zoologist of the Royal Agricultural Society last year. The results of his investigation are given in Mr. Warburton's annual report, which appears in the issue of the society's journal for the current year, and in view of their importance we herewith reproduce them:

During the past summer many cases of thrips on peas came under my observation. Most people seem to be unacquainted with the disease, and though I have found an occasional reference to it, and there is a Board of Agriculture leaflet on the subject, all the authoritative works on economic entomology are silent about it. Uzel, who has written a monograph on this group of insects—unfortunately in a little-known language, Bohemian—gives a list of plants on which the various species of thrips have been found, but the pea plant does not appear in the list. The German entomologist, Kirchner, is the only one I can find who even mentions it. I believe an article upon it by Westwood appeared many years ago, but I have failed to unearth it. The extent to which this serious pest has been overlooked is somewhat remarkable, for it is quite impossible that the injury it does can have escaped observation. No doubt the very small size of the insect has something to do with it, for it is difficult to credit it with the powers of destruction it really possesses. Probably the failure it causes has generally been put down to obscure weather influences, or in some cases to a fungus attack, especially as a fungoid disease is often found associated with it; but that it is really destructive in itself any member may very readily convince himself by the inspection of a few vegetable gardens next season, when once the nature of the attack has been pointed out.

Appearance of the Disease.

The disease is recognised by the blighted and distorted appearance of the developing pods, which, instead of being uniformly green and straight, are marked with white and straw-coloured blotches and curled to one side. Closer examination shows them to be infested by numbers of small yellow maggot-like creatures. There is no absolute destruction of tissue; if the leaves are perforated or eaten away, this is due to some other pest, but the general effect is a very unhealthy appearance.

To understand exactly what has happened, it is necessary to study the structure of the pea-flower and see how the pod arises. In the very centre of the flower will be found the ovary, or future pod, enveloped in a sheath, from which spring the stamens. Next comes the corolla of white petals, consisting of a large upper petal or "standard," two side petals or "wings" (with dark patches on them) and two lower petals fused together to form a "keel." Outside this is the little five-pointed green calyx. Very soon after fertilisation has taken place, the standard and the wings fall away, and the ovary begins to develop into the pod, generally carrying with it, as it grows, the keel, now detached from the flower base, so that a young pod, say an inch long, is still surrounded by the calyx and the remains of the stamen sheath at its fixed end, while its free end is capped by the detached keel. If diseased, the little yellow larvæ of the thrips will be found mostly concealed under the shelter thus afforded at either end of the pod, and from these hiding places the injury begins and gradually advances over the whole pod. Discoloured patches appear, interrupting the even greenness which characterises the clean and healthy pod. The patches, which are generally whitish, look very much as though the surface had been nibbled away. This is not the case, however, for if the outer skin of the pod be peeled off, it is found to be entire, even over the injured portions. The insects do not bite, though the contrary is sometimes stated. They pierce very minute holes in the skin and suck the sap, and the discolouration is due to the injury thus inflicted on the subjacent tissues. The discolouration is quickly followed by distortion, the pod losing its straightness and curling in a very unsightly manner. Fortunately, as the disease is on the outside of the pod, the seeds are the last to suffer, and quite tolerable peas can often be taken from very disagreeable-looking pods. For ordinary purposes, however, the appearance of the pods is almost as important as that of the peas themselves. Moreover, a stage is often reached where a fungoid disease aggravates the injury done by the thrips, and the whole pod becomes blackened and decayed. When this is the case with the older pods, it will be found that many of these at an earlier stage are killed outright and come to nothing, so that the whole yield may be very greatly reduced.

The Insects Concerned.

The minute insects known as thrips constitute an order by themselves, the thysanoptera. Haliday investigated the English species about seventy years ago, and no one in this country seems to have paid much attention to the group since, though some Continental entomologists have done excellent work upon it. It is quite possible that our ideas with regard to some of the English species require revision. According to Kirchner the species attacking the pea is Thrips cerealium. This ought, of course, to be a species attacking corn, and it has often been identified—probably quite correctly—as the cause of injury to wheat in this country. Uzel, however, states that he has never found it on corn in Bohemia, where the common corn thrips is T. secalina. About fifty British species have been described, all very small insects, less than a twelfth of an inch in length. Most of them are chiefly in evidence in hot-houses, but among outdoor crops three of them attack wheat, potatoes, and onions respectively. Some species are wingless; in others the females only possess wings, while both sexes of yet other species can fly. The wings are very characteristic; they are four in number, and are extremely narrow, and fringed by long hairs. The legs are short, and end in small bladders; indeed, the insect is known in Germany as the "bladder-foot." The metamorphosis is very slight, and the larvæ are much like the adults, except in colour and in the absence of wings. Some years ago there was a great deal of controversy as to whether these insects were really vegetable feeders at all, for apparently well authenticated instances were adduced of species feeding upon scale insects, and upon midge larvæ. It is now quite certain, however, that the carnivorous species, if any, are exceptional, and that most of them feed upon and often greatly injure plants.

(To be continued.)

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

CHRYSANTHEMUM CONFERENCE IN LONDON.—F. E. G., Haslemere: The National Chrysanthemum Society will hold a conference on early-flowering chrysanthemums at Essex Hall, Essex Street, Strand, W.C., on Wednesday, October 6, commencing at 3 p.m. The conference will be held in conjunction with the meeting of the Floral Committee on that date. It is proposed that four papers shall be read, two in the afternoon and two after the adjournment for tea. Mr. R. Witty, Swain's Lane, Highgate, is the secretary of the society, and could give you full information respecting membership, etc.

DISBUDDING PEACHES.—M. P., Weston-super-Mare: The main idea is to leave one shoot close to the base of every fruiting growth, as well as one at the tip. The latter is for the purpose of drawing sap along the growth for the supply of the fruit, and the basal shoot is to supply the fruiting wood for next season. After the crop has been gathered the fruiting shoots are cut away. This is the general method, but where there is ample room for extension and for laying other branches, then more shoots may be permitted to extend. The removal of a few shoots once or twice a week is good practice, as the trees do not then receive a severe check, as they certainly would do if the disbudding were done almost all at once. Remove all foreright shoots, and all that appear between wall and branch.

VIOLAS AND PANSIES.—B. T., Alnwick: We can heartily recommend "Pansies and Violets," a little work dealing with pansies, violas, and violets, written by Mr. D. B. Crane, and published at the GARDENERS' MAGAZINE office, price 1s. 2d. post free; or 1s. 8d. post free, in cloth covers.

HUMEA ELEGANS.—G. B., Leamington: Sow the seeds about the middle of July in pans containing a light mixture of loam and leaf-soil. Water the soil before sowing the seeds, then scatter the seeds thinly, and cover with sand, and place a sheet of glass over the pan. Stand the seed pan in a shady place in a greenhouse, and immediately the seedlings appear remove the covering and afford a light position near the glass. Great care is necessary to avoid overwatering at this period, because the seedlings will collapse wholesale if an excess of moisture is provided. Pot off the young plants singly into three-inch pots as soon as they are large enough to handle, and keep them close for a few days afterwards.

STRAWBERRIES.—D. V., Scarborough: Have the bed thoroughly cleared of weeds and the surface soil loosened with hoe or fork; then give the whole bed a good soaking with liquid farmyard manure, and at once lay down long strawy litter between the rows of plants, and press it closely around each plant also. See that posts and netting are ready for use so that the protecting material may be placed in position directly it is required. A better plan is to put the netting into position as soon as the watering and mulching are completed, because it affords some protection from weather as well as from birds.

DAHLIAS TO PERFECTION.—A thorough guide to the successful culture of these popular flowers is "Dahlias and Their Cultivation," by J. B. Wroe, price 1s. net, by post 1s. 2d., bound in cloth 1s. 6d., by post, 1s. 8d., from THE GARDENERS' MAGAZINE Office, 148, Aldersgate Street, London.

SWEET PEAS.—L. S. B., York: The twelve varieties of sweet peas that headed the audit of the National Sweet Pea Society's show of 1908 were, in their order, according to the number of times shown, as follows: Helen Lewis, Countess Spencer, John Ingman, Dorothy Eckford, Helen Pierce, King Edward VII., Nora Unwin, Mrs. Collier, Black Knight, Gladys Unwin, Jeannie Gordon, and Paradise.

MOSSING LEGGY ANTHURIUMS.—W. R. S., Faringdon: Bind some fresh sphagnum moss firmly around the stem of the plant, close up to the lowest good leaves, and, if possible, allow a band of sphagnum broad enough to envelop any new roots that may have started from the upper part of the stem. Keep the moss moist always. In about three weeks' time cut a deep notch in the stem, all round, below the sphagnum, and as soon as the new roots have sufficiently advanced cut the stem through, pot the plant at once, and keep it in a close, moist place for a week or two before placing it with the general collection of stove plants.

FUNGUS ON ROSE STEMS.—J. S., Hayling Island: Please send us some more specimens of diseased stems as quickly as possible, addressing them to the Editor, Endsleigh, Priory Park, Kew, Surrey.

DODDER SEEDS.—L. S. P., Chertsey: The Board of Agriculture recommends that if a purchaser is not satisfied as to the purity of any seeds he may have purchased, an excellent plan is to sift clover and lucerne seeds, using a sieve of twenty meshes to the inch. Although the seeds of large American dodder are not removable in this manner, those of other dodders are separated with comparative ease. According to Nobbe's experiments, however, this method is not always entirely satisfactory, owing to variations in the size of the clover and dodder seeds. In the case of white clover, for instance, the seeds may approximate in size to those of dodder. To make a cheap serviceable sieve for the purpose a light wooden frame may be constructed about 12 inches square, and 3 inches deep, over the bottom of which a 20-mesh wire screen (made of No. 32 English gauge, round wire) should be tacked. In this one-fourth to one-half a pound of seed may be placed at a time, and vigorously shaken for half a minute. A man should be able to deal with from 5 to 10 bushels per day. It may be remarked that where much seed is to be dealt with a larger sieve would be more useful.

ORCHID COLLECTING.—T. M., Bradford: A fine constitution, plenty of pluck, and a good knowledge of orchids are necessary for a successful orchid collector. You should apply to Messrs. Sander and Sons, St. Albans; Messrs. Charlesworth and Co., Haywards Heath; Messrs. F. W. Moore and Co., Rawdon, Leeds; and Messrs. Hugh Low and Co., Enfield, Middlesex.

.. THE ..
TEMPLE SHOW,
LONDON,
May 25th, 26th, 27th.

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.. OF THIS ..
Great Exhibition by the Royal Horticultural Society in the Gardens of the Inner Temple, will be given in the
Gardeners' Magazine,
May 29th and June 5th.

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NAMES OF PLANTS.

M. C., Bideford.—1, Cytisus præcox; 2, Gentiana acaule; 3, Alyssum saxatile.

S. H. A., Molton.—1, Pyrus baccata; 2, Prunus Padus; 3, Amelanchier canadensis.

A. N. G., Aylesbury.—1, Erica arborea; 2, Rhododendron Luscombei; 3, Caltha palustris.

F. L., Chester.—1, Tiarella cordifolia; 2, Phlox subulata; 3, Iberis sempervirens; 4, Orobus verna; 5, Primula japonica.

P. T. J., Birmingham.—1, Cydonia japonica; 2, Saxifraga Stracheyi; 3, Berberis stenophylla; 4, Odontoglossum Adrianæ.

S. A. W., Horsham.—1, An azalea, not recognised; 2, Ribes aureum; 3, Ornithogalum nutans; 4, Muscari botryoides; 5, very shrivelled specimen, appears to be Sedum cœruleum; 6, not recognised.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1909. MAY 2 TO MAY 8.		SUNSHINE.	TEMPERATURE OF THE AIR.			
			At 9 a.m.		Day	Night
			Dry Bulb.	Wet Bulb.	Highest.	Lowest.
		hr. m.	deg.	deg.	deg.	deg.
May	2—Sunday	11 54	45	40	53	32
,,	3—Monday	11 36	50	44	56	31
,,	4—Tuesday ...	13 48	54	45	63	39
,,	5—Wednesday .	13 48	57	48	64	41
,,	6—Thursday ...	13 54	64	52	67	47
,,	7—Friday	14 0	57	48	61	45
,,	8—Saturday ..	14 12	58	46	67	43
Means		(total) 93 12	55	46	61	40

DATE. 1909. MAY 2 TO MAY 8.		RAIN.	TEMPERATURE OF THE SOIL. AT 9 A.M.			LOWEST TEMPERATURE ON GRASS.
			At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
		ins.	deg.	deg.	deg.	deg.
May	2—Sunday	—	47	49	49	32
,,	3—Monday	—	48	50	49	36
,,	4—Tuesday ...	—	49	50	49	31
,,	5—Wednesday.	—	50	50	49	29
,,	6—Thursday ..	—	51	51	49	41
,,	7—Friday	—	52	51	49	39
,,	8—Saturday ...	—	51	52	49	35
Means ...		(total) —	49	50	49	33

Gazania splendens.—This gazania will succeed where many other kinds of bedding-out plants would prove very unsatisfactory. The orange and black colours of the flowers are not found in any of the ordinary kinds of plants used for the filling of the flower beds in summer. I am always delighted to see this old favourite in a flower garden, as there is no other kind that can be used with the same effect. There are dry borders in most gardens, and also rockeries in exposed positions in many; the gazania is a grand subject for use in both positions. Large masses on a rockery look charming. It only needs a trial, and these plants are then sure to find additional favour in future years.—GEO. GARNER.

Disbudding Bougainvilleas.—The young shoots of bougainvilleas which are growing in a greenhouse temperature will now require disbudding. I have grown B. glabra in the same way as a vine for many years. In the autumn it is partially pruned, that is, the shoots are cut back to within 2ft. from their base. In February the remaining portion is cut hard back, and the plants well watered. In due course new shoots grow strongly, and are thinned out freely. The main rod is trained under the roof of a large greenhouse, and the branches allowed to hang loosely from the rods. The majority of the branches bloom, some being laden with flowers from 3ft. to 5ft. of their whole length. The flowering period lasts for five months.—G.

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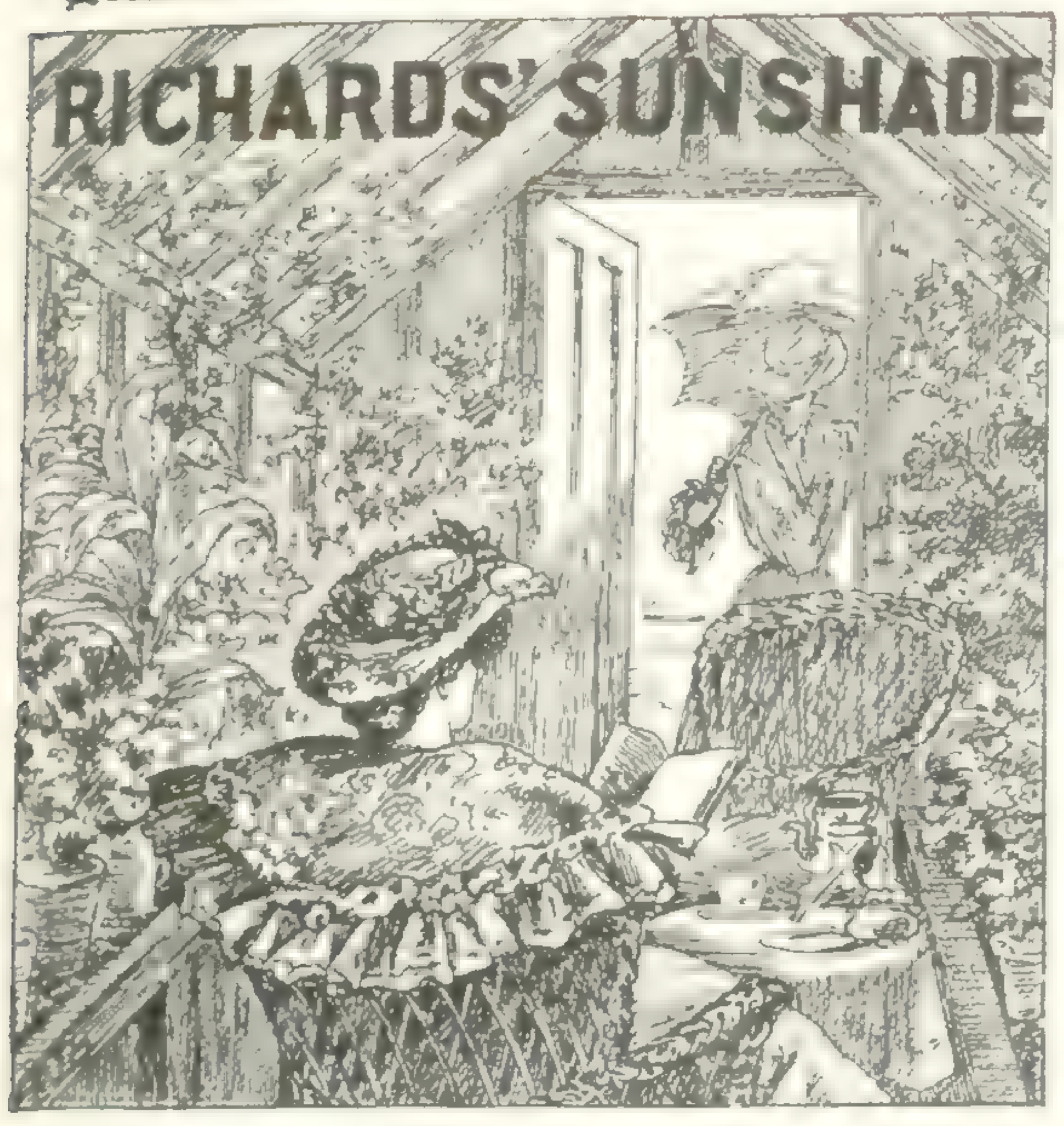
to be overdone and dried up by excessive sunshine. A 1/- packet will shade 100 square feet of glass.



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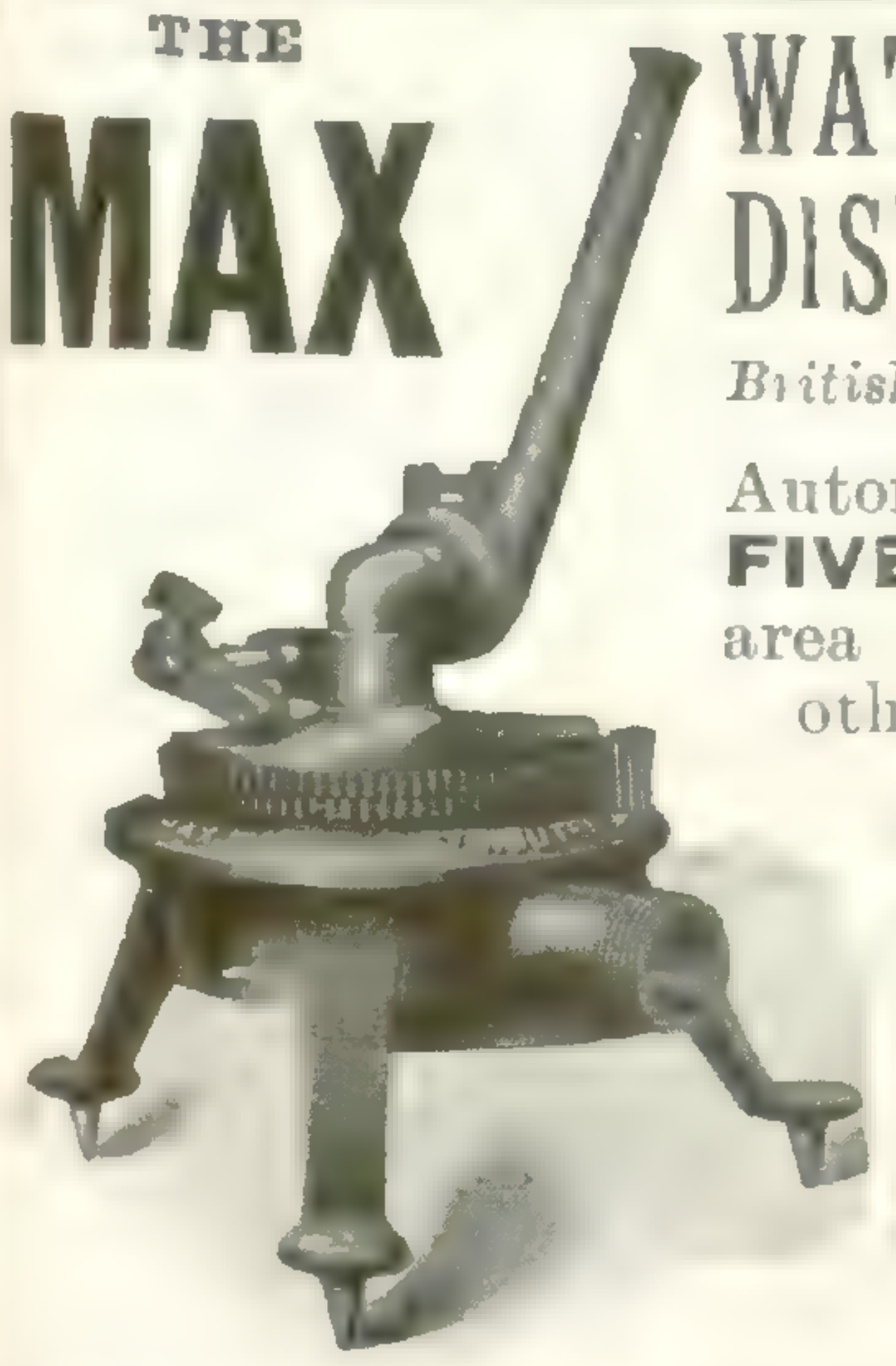

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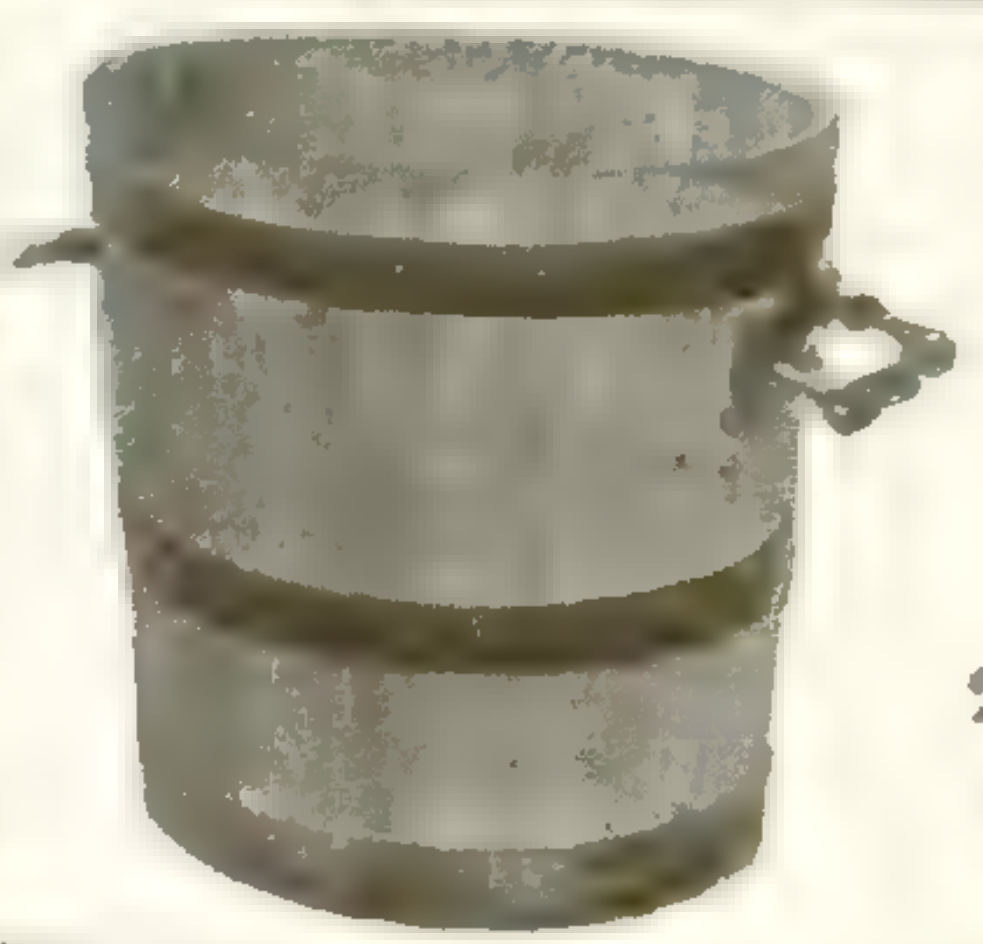

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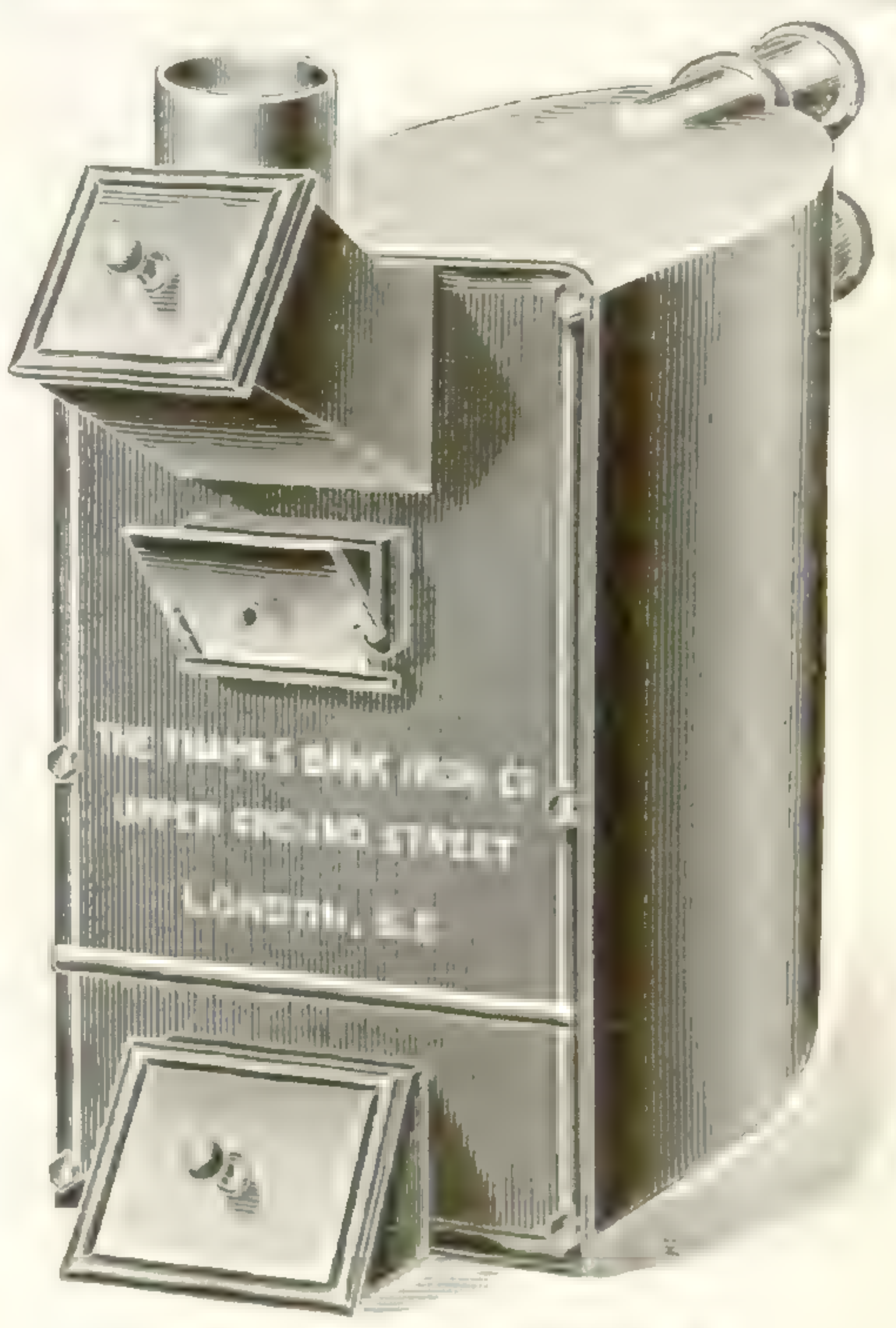

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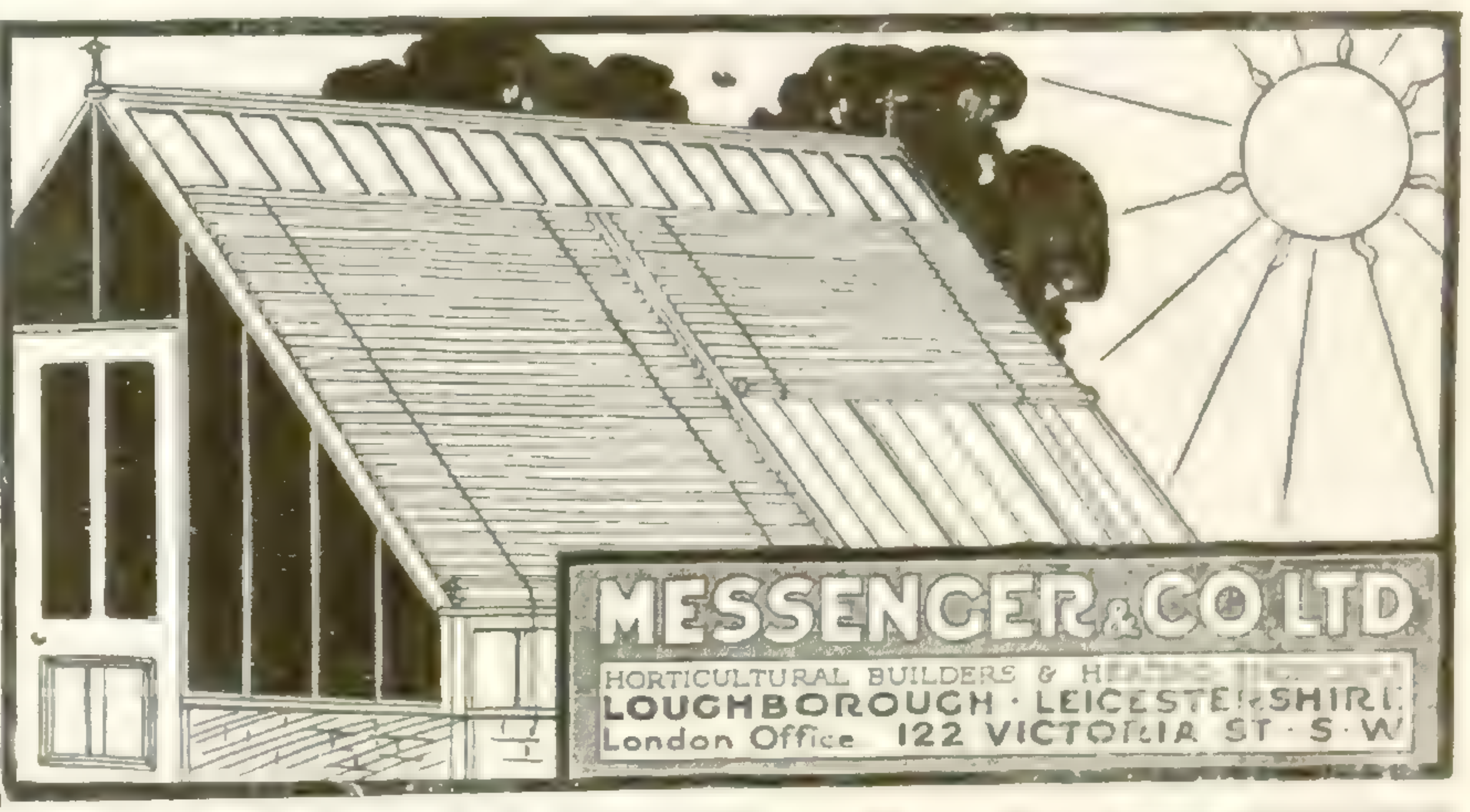
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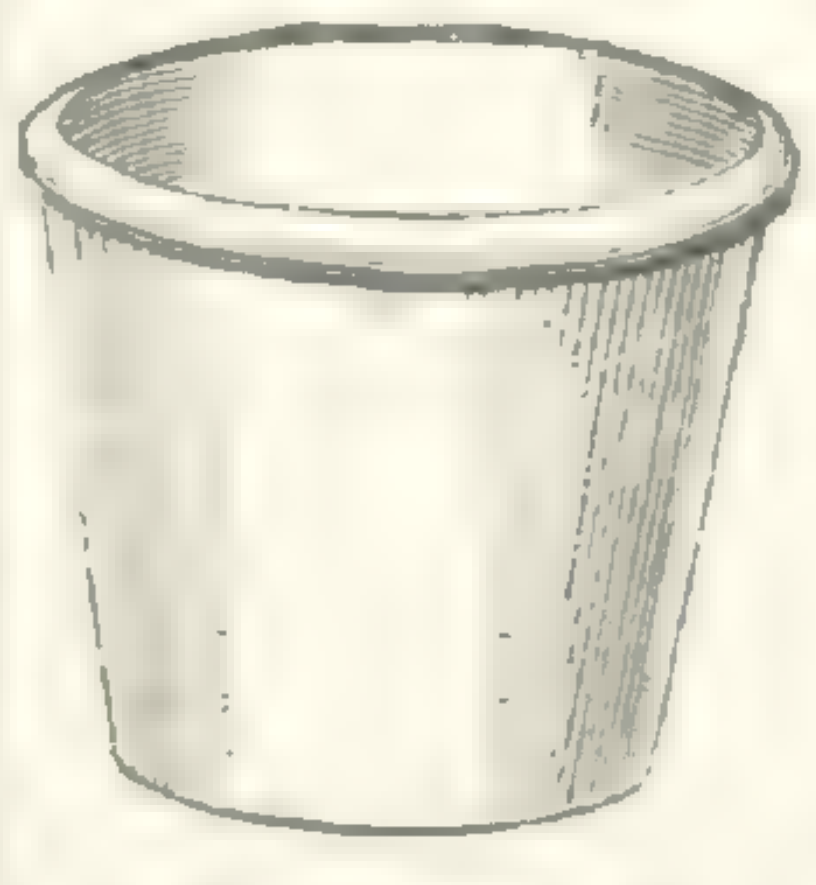

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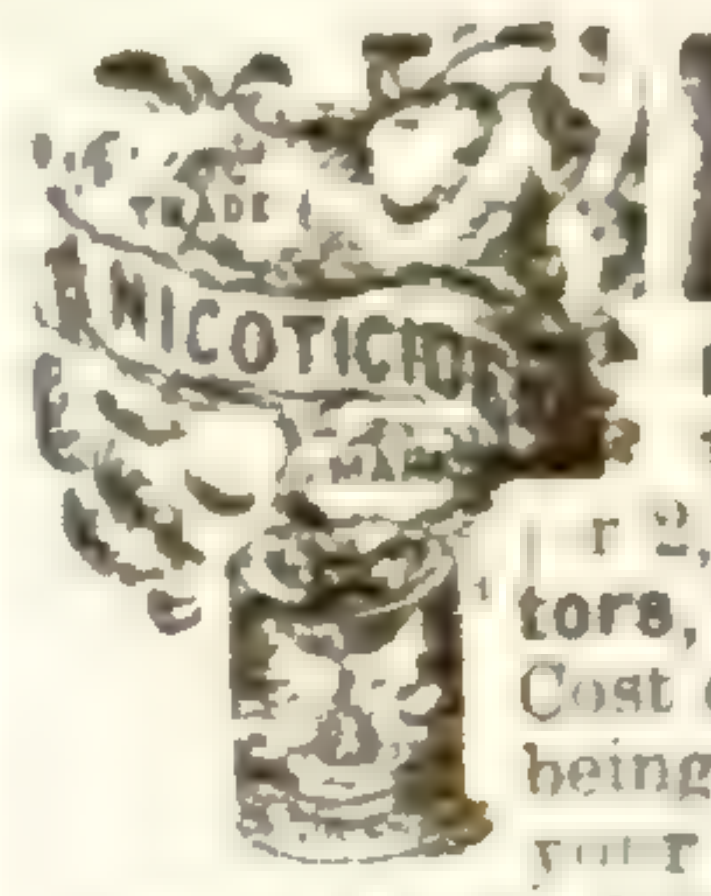

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Asparagus	per bun.	1 0		3 0
Azaleas	per doz. bun.	4 0		5 0
Carnations	per doz. blms.	2 0		4 0
,,	per doz. bun.	9 0		12 0
Cattleyas	per doz.	10 0		15 0
Croton leaves	per bun.	1 0		1 6
Cypripediums	per doz. blms.	1 6		3 0
Daffodils	per doz. bun.	1 0		1 6
Dendrobiums	per doz.	2 6		3 0
Eucharis	per doz.	2 6		3 6
French fern	per doz. bun.	0 6		1 0
Freesias	per doz. bun.	2 0		2 6
Gardenias	per doz.	1 6		2 6
Gladiolus	per doz. bun.	9 0		12 0
Gypsophila	per doz. bun.	3 0		4 0
Hyacinths, Dutch	per doz. bun.	2 0		3 0
Iris, Spanish	per doz. bun.	4 0		6 0
Lilac, white	per bun.	1 6		2 6
,, mauve	per bun.	2 0		3 0
Lilium auratum	per bun.	2 0		3 0
,, speciosum	per bun.	1 6		3 0
,, longiflorum	per bun.	2 0		3 6
Lily of the Valley	per doz.	6 0		10 0
Marguerites, white	per doz. bun.	2 0		3 0
,, yellow	per doz. bun.	2 0		4 0
Mignonette	per doz. bun.	3 0		6 0
Odontoglossums	per doz. blms.	2 0		2 6
Pelargoniums	per doz. bun.	5 0		6 0
Roses	per doz.	1 6		6 0
Spiræas	per doz. bun.	5 0		7 6
Stocks	per doz. bun.	2 0		2 6
Sweet Peas	per doz. bun.	2 0		6 0
Tulips	per doz. bun.	6 0		10 0
Tuberoses	per doz. blms.	0 3		0 4
Violets	per doz. bun.	1 6		3 0

Fruits.

Business continues brisk; oranges, grapes, and strawberries sell readily.

		s. d.		s. d.
Apples, American	per barrel	15 0	to	24 0
,, Australian	per case	8 0		13 0
,, English	per bush.	7 0		10 0
,, Nova Scotian	per barrel	15 0		20 0
,, Californian	per case	7 0		9 6
Bananas	per bun.	3 0		10 6
Figs	per box	0 10		1 6
Grapes, English	per lb.	2 3		5 0
,, Almeria	per doz. lb.	4 0		7 0
,, Cape	per case	12 0		16 0
,, Guernsey	per lb.	2 0		2 6
Lemons	per case	8 0		12 0
Melons, Guernsey	each	1 9		3 0
Oranges, Denia	per case	12 0		28 0
,, Jaffa	per case	8 0		12 6
Peaches, Cape	per case	6 0		10 0
Pears, Californian	per case	8 0		12 0
,, Cape	per box	5 0		8 0
,, Australian	per tray	5 0		6 0
Pineapples, Cape	per doz.	4 0		8 0
Plums, Cape	per case	5 0		12 6
Strawberries	per lb.	1 0		2 6

Vegetables.

There is an excellent demand for salading green stuffs, asparagus, etc.

		s. d.		s. d.
Artichokes, Globe	per doz.	2 6	to	4 0
,, Jerusalem	per bush.	1 9		2 6
Asparagus	per bundle	1 6		2 6
,, Paris	per bundle	2 0		4 0
,, Sprue	per bun.	0 6		0 8
Beet	per bush.	2 0		3 0
Beans (French)	per lb.	0 8		1 0
Broccoli, Sprouting	per bag	4 0		4 6
Brussels Sprouts	per ½-bush.	2 0		4 0
Cabbage	per tally	3 6		4 0
Carrots	per doz. bun.	1 0		3 6
Cauliflowers	per doz.	2 0		3 0
Cucumbers	per doz.	2 0		2 6
Endive	per doz.	1 0		2 0
Greens	per bag	2 0		3 0
Horseradish	per doz. bun.	8 0		12 0
Leeks	per doz. bun.	2 0		2 6
Lettuce, French	per crate	2 0		3 6
,, Cos	per doz.	3 0		4 0
Mint	per doz. bun.	2 0		3 0
Mushrooms	per doz. lb.	6 0		10 0
Onions, Pickling	per bush.	3 6		4 6
,, Valencia	per case	9 0		12 0
,, Spring	per doz. bun.	2 0		3 0
Parsley	per doz. bun.	2 0		4 0
Peas, French	per pad.	3 0		4 0
Radishes	per doz. bun.	1 3		1 6
Rhubarb	per doz. bun.	0 6		1 0
Seakale	per doz. pun.	10 0		12 0
Spinach	per basket	1 6		2 0
Tomatoes, English	per doz. lbs.	8 0		12 0
,, Canary	per pack.	10 0		15 0
Turnips	per bag	3 0		4 6

LONDON POTATO MARKETS.

Business is quiet without any material alterations in prices.

		s. d.		s. d.
British Queen	per ton	50 0	to	60 0
Dunbars	per ton	75 0		80 0
Epicure	per ton	50 0		65 0
Evergood	per ton	45 0		55 0
Sharpe's Express	per ton	60 0		65 0
Maincrop	per ton	65 0		70 0
Royal Kidney	per ton	45 0		56 0
Up-to-Date	per ton	60 0		65 0
,, Blacklands	per ton	50 0		55 0
Canary, new	per cwt.	7 0		10 0

FORTHCOMING ENGAGEMENTS.

TUESDAY, May 18.—Royal Horticultural Society; Daffodil and Tulip Committee at 11.30 a.m.; Fruit, Floral, and Orchid Committees at 12 o'clock; Lecture at 3 p.m.; Scientific Committee at 4 o'clock.

TUESDAY, May 25.—Royal Horticultural Society's Great Exhibition at the Inner Temple Gardens, three days.

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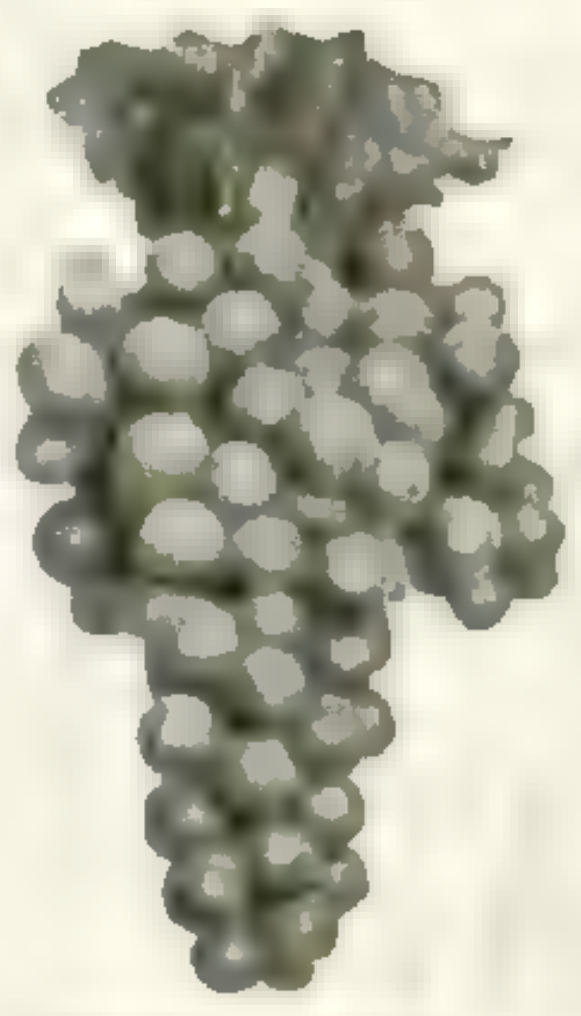

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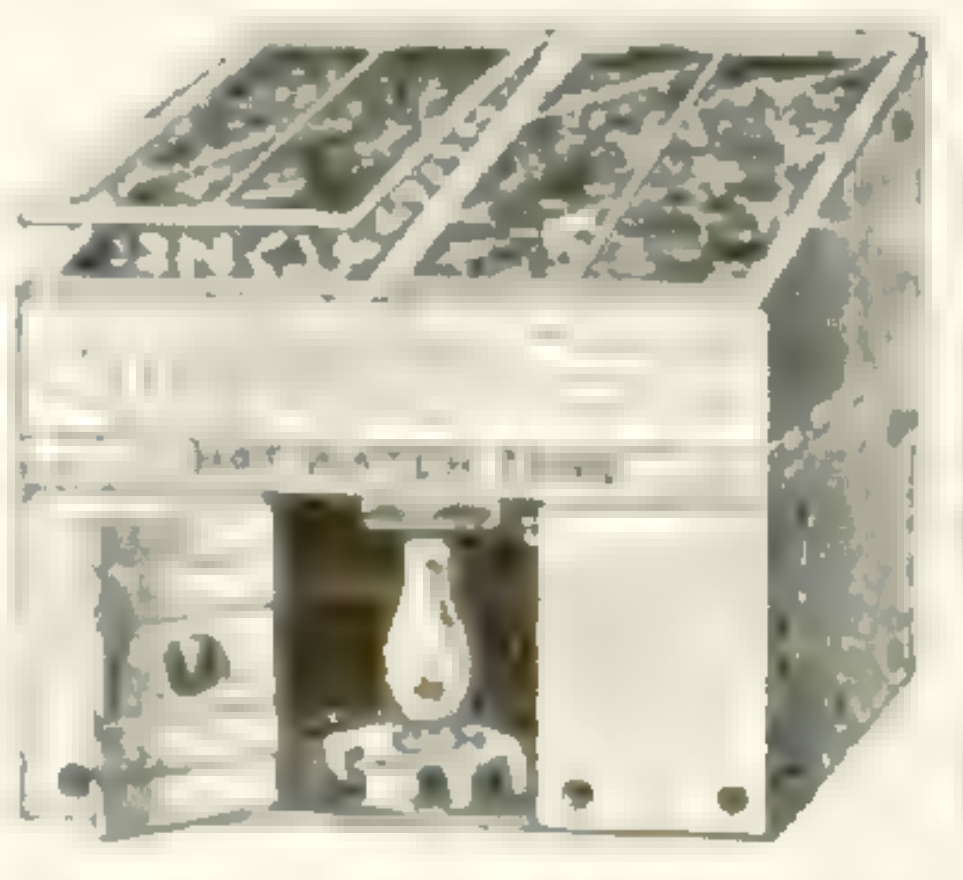

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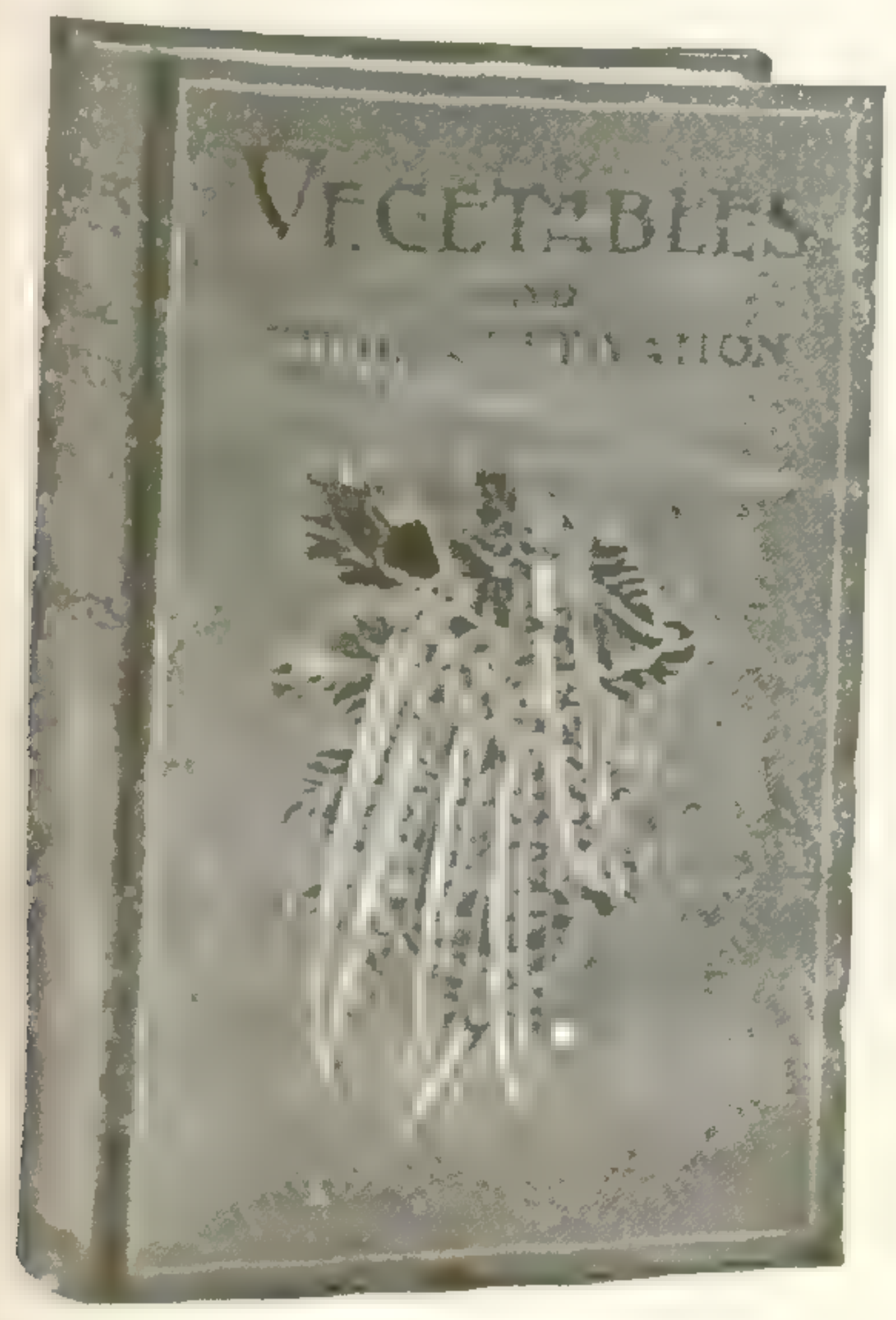

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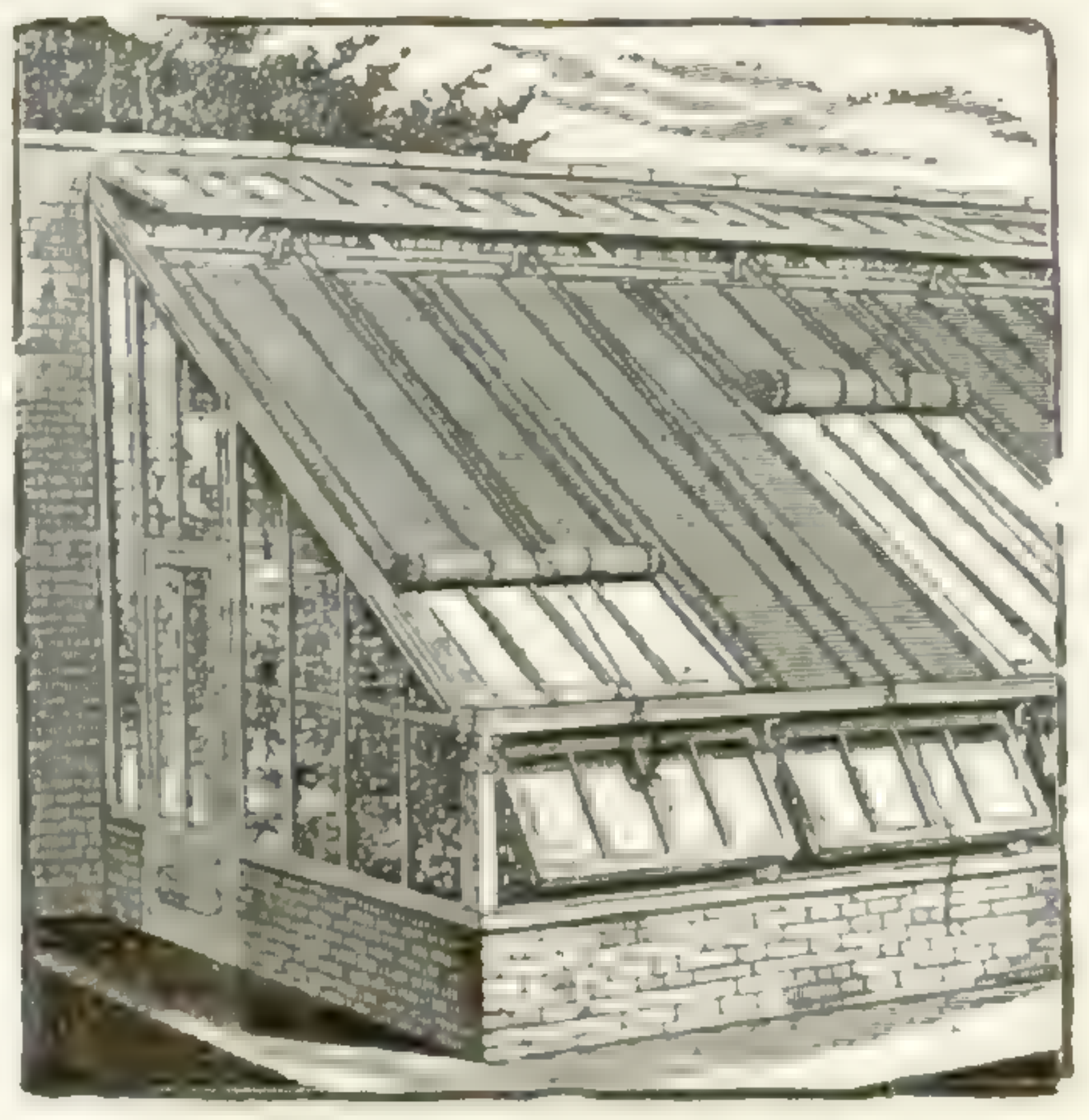

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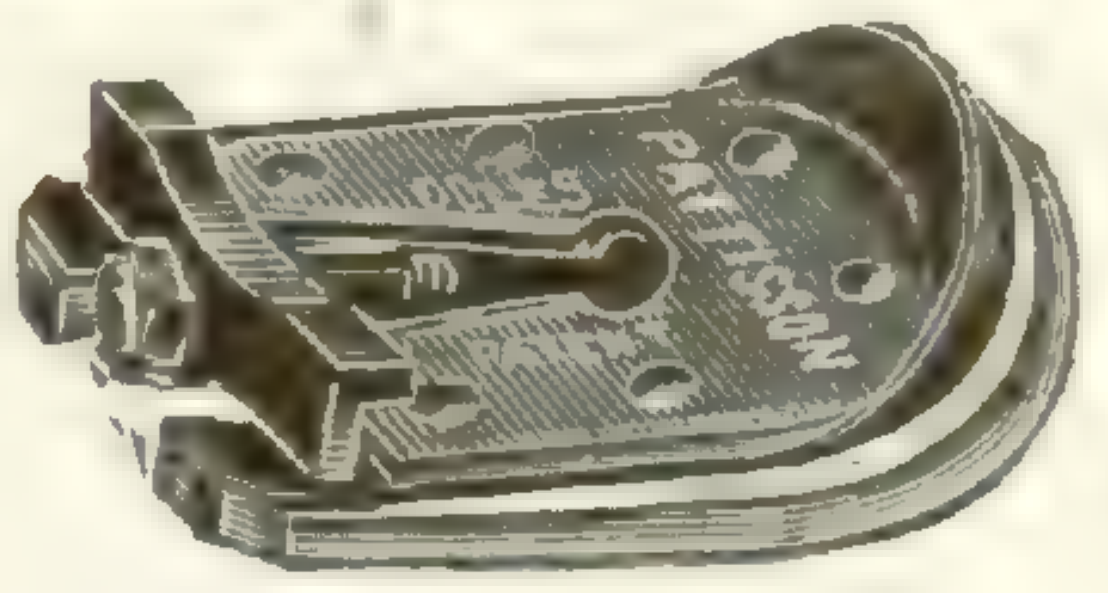

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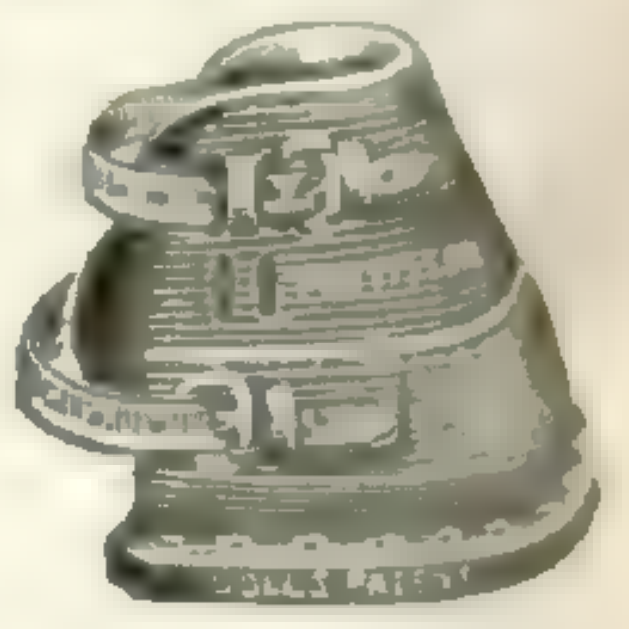

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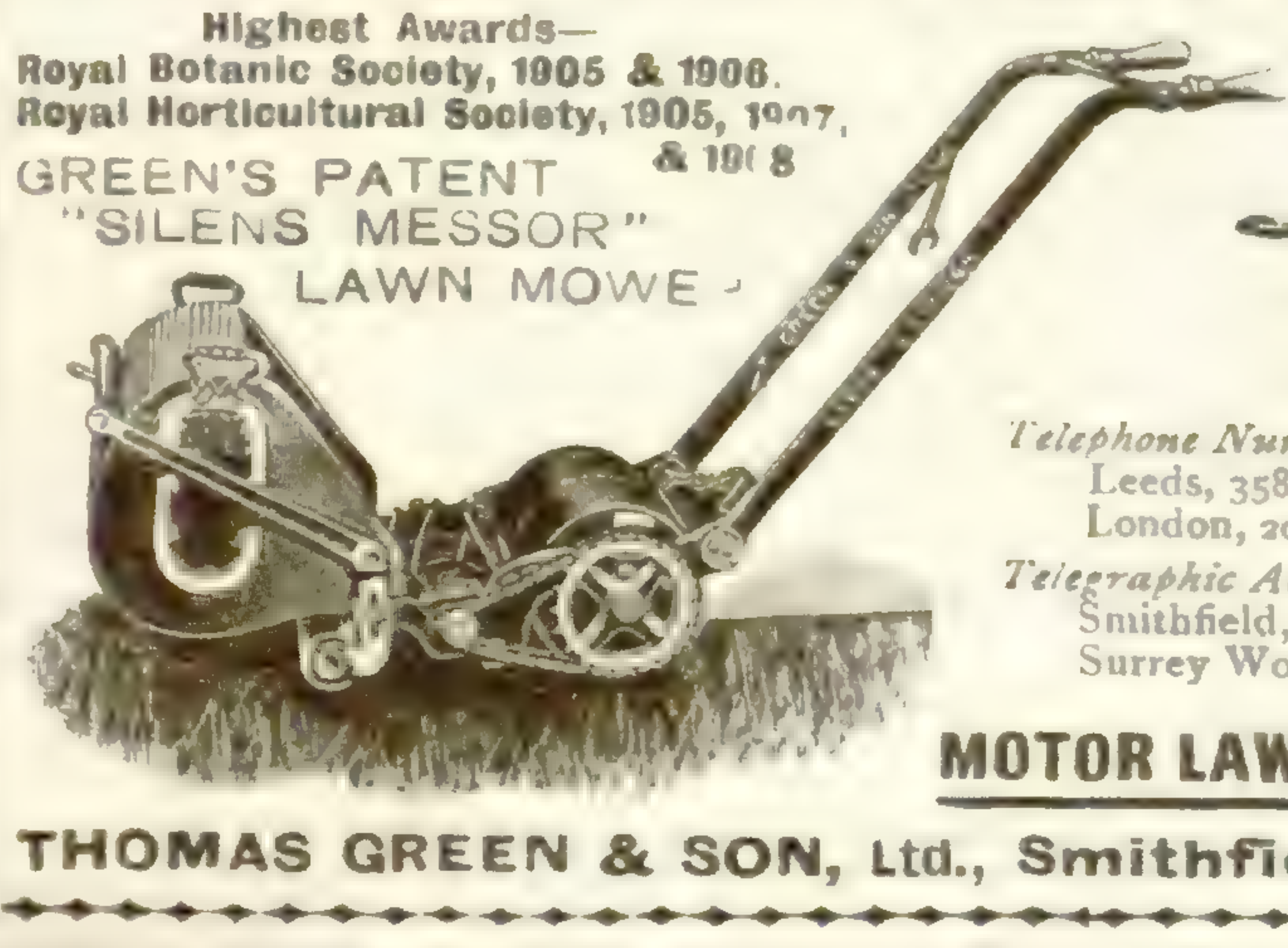

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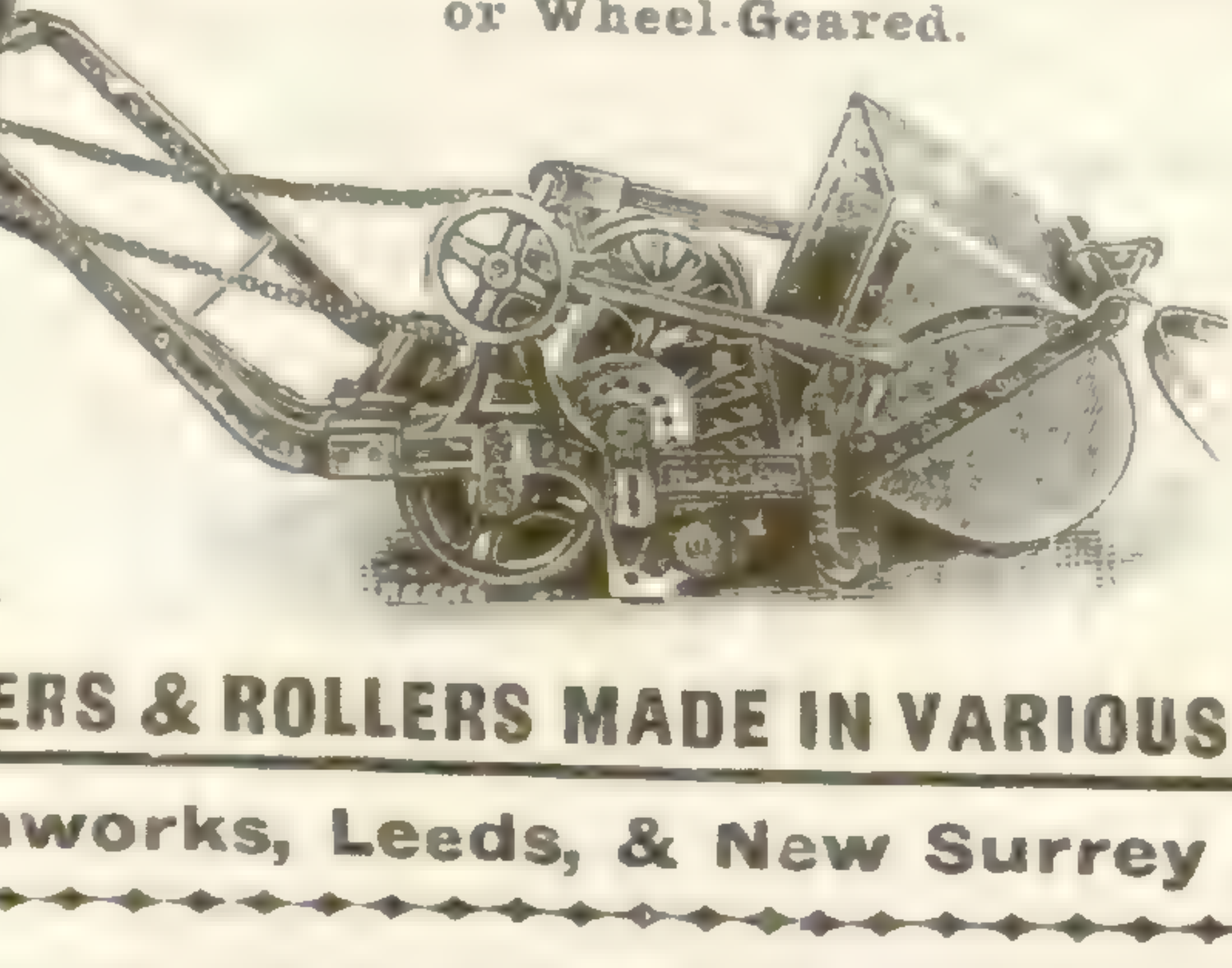

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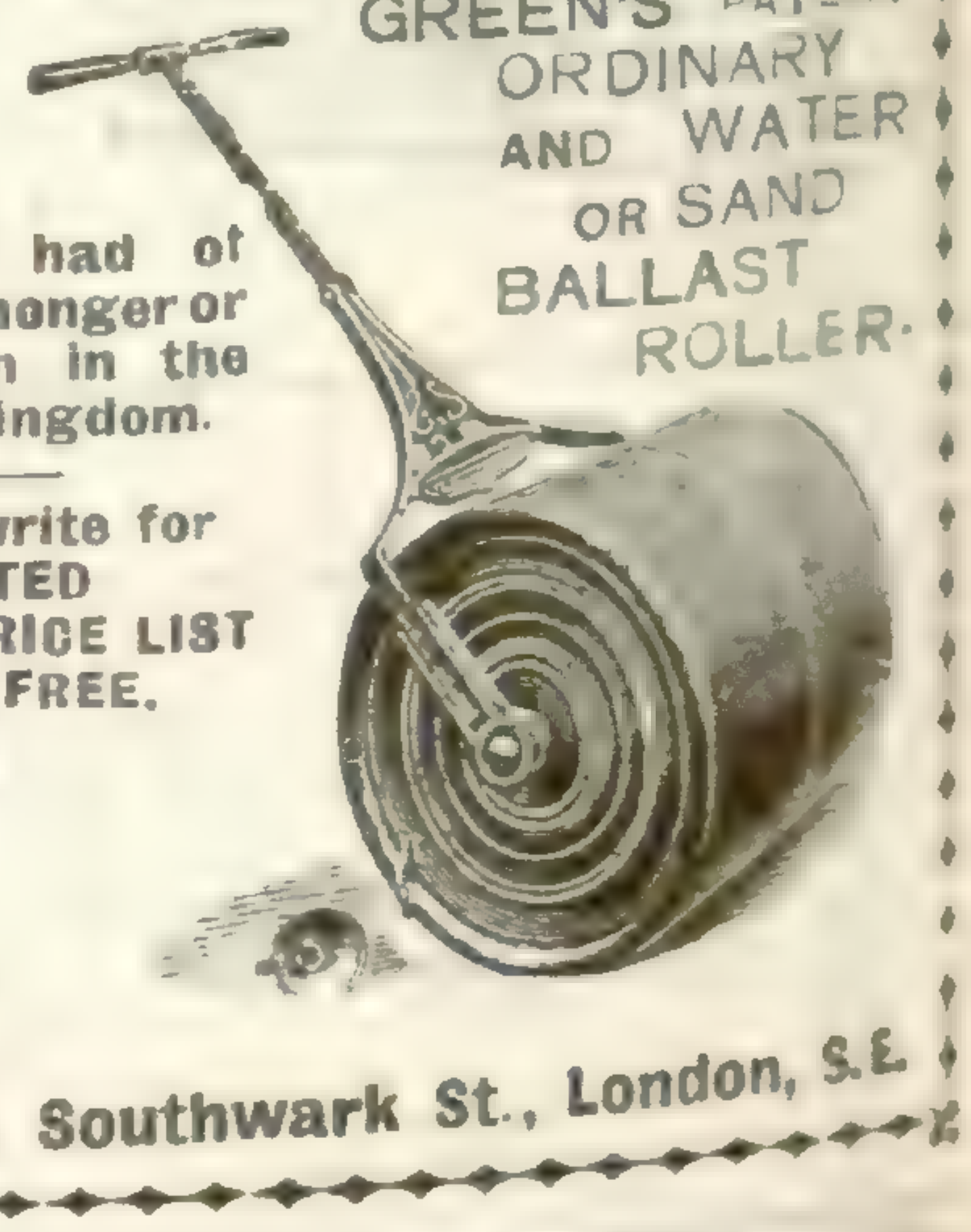

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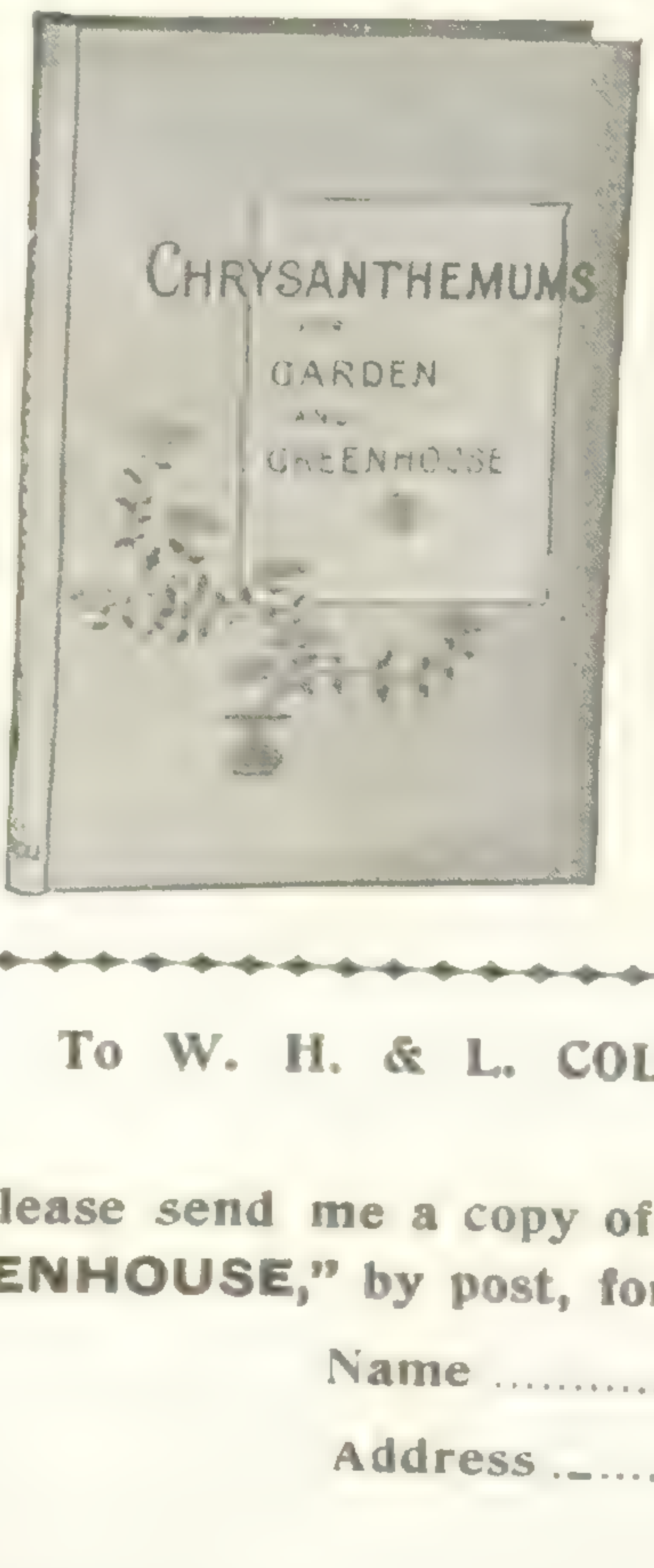

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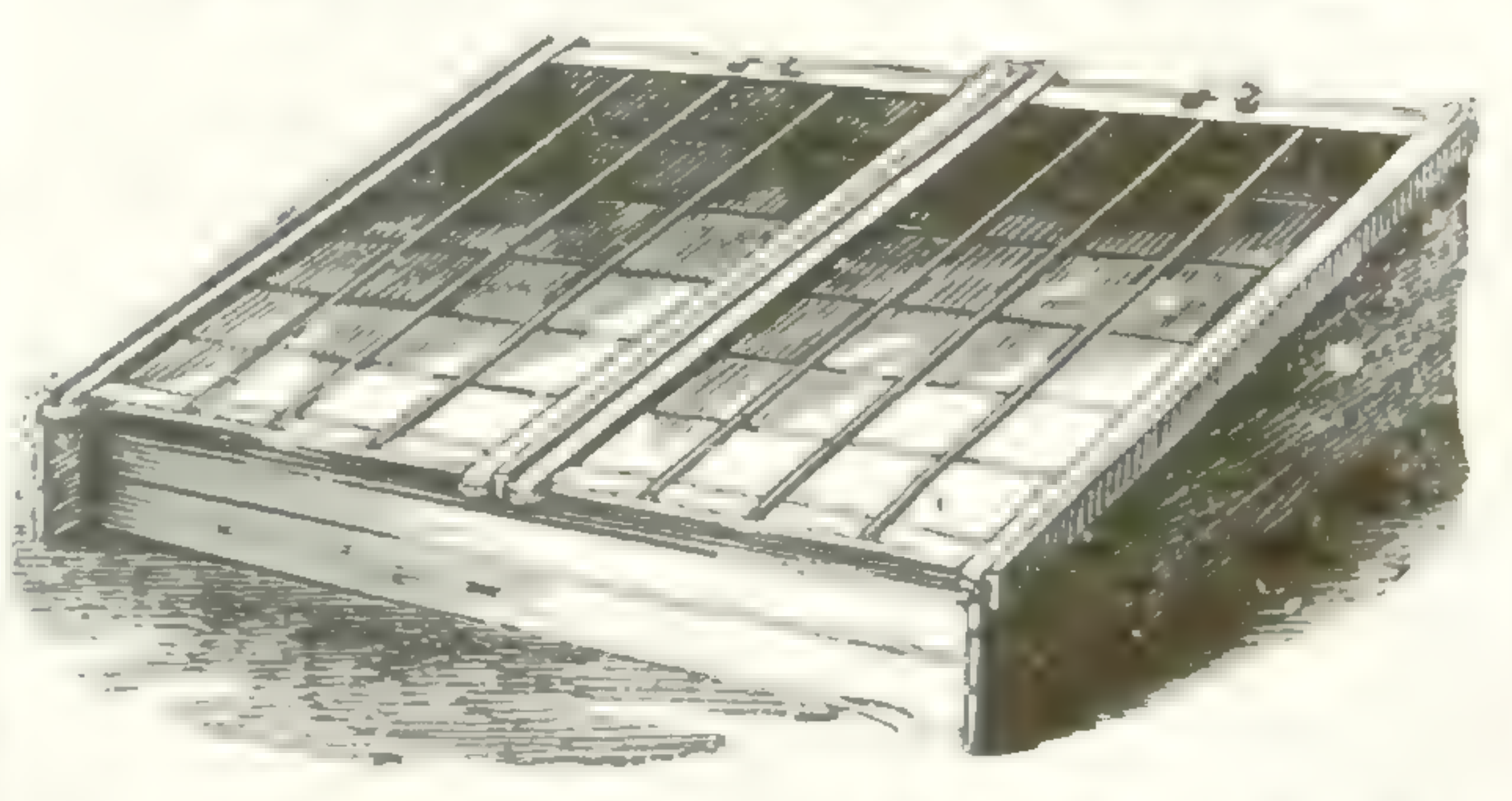

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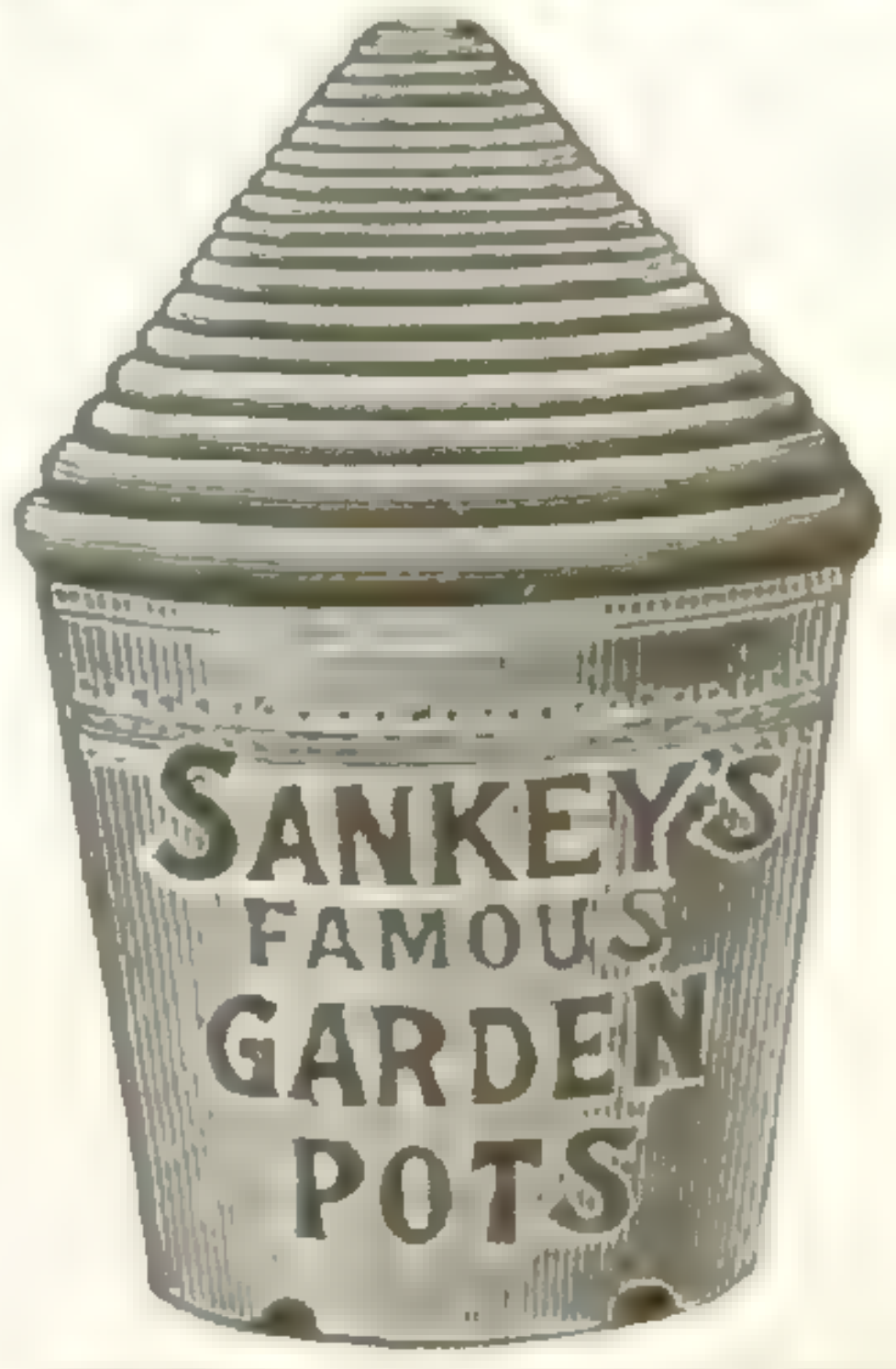

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GARDENER (Head of two or three); all-round experience in all branches, including all kinds of Fruits and Flowers under Glass; age 35; married; good references; last 6 years Head. S. BUTLER, 4, Alexander Road, Chislehurst West.

GARDENER (Head Working, three or more kept); life experience in all branches of gardening; excellent references; 5½ years in present situation; age 40; 2 children, 14 and 10 years. (Would go abroad.) W. R. CHARLES, The Gardens, Guilsborough Vicarage, Northampton.

GARDENER (Head Working) where two or more are kept; thoroughly experienced in vines, peaches, melons, stove and greenhouse plants, flower and kitchen garden; leaving through employer giving up place; age 30; single. EDWARDS, Alport Cottage, Churchstoke, Montgomery.

GARDENER (Head Working, where several are kept); life experience in all branches; especially Grapes, Melons, Peaches, Cucumbers, and Stove and Greenhouse Plants; also Flower and Kitchen Garden; 21 years in last place, having left through death of employer; good references. C. T. M., 18, Pentland Street, Wandsworth, S.W.

GARDENER (Head Working, where two or three are kept).—Mr. SEDEN, West Grinstead Park, Horsham, can highly recommend his Foreman, J. BARRETT, to any lady or gentleman in want of a practical man; age 28.

GARDENER (Head Working); life experience in all branches, Inside and Out; married; good references. W. CANE, Sparrows Green, Wadhurst, Sussex.

GARDENER (Head Working); life experience in all its branches; good references; married (age 41), two children, girl 12 and boy 9. GEORGE ROMNEY, Dolhir Lodge, Plas-yn-Dinas, Dinas Mawddwy, Merionethshire, N. Wales.

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GARDENER (Head Working or good Single-handed).—J. M. KENNEDY, Esq., The Oaks, Firs Road, Kenley, Surrey, wishes to highly recommend H. STONEHAM as a thorough practical man; 12 years' experience in vines, melons, chrysanthemums, greenhouse plants, and general kitchen garden work; age 26; excellent references; leaving through giving up home.

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HER GRACE THE DUCHESS OF DEVONSHIRE wishes to recommend J. THOMPSON to any Lady or Gentleman requiring the services of a HEAD GARDENER, where several are kept; 20 years' experience in all branches. Holker Gardens, Cark-in-Cartmel, Lancs.

J. J. PARKER, Nurseryman, Whetstone, N., confidently recommends an industrious, hard-working HEAD GARDENER; good all-round man; 9 years last place; married; age 40.

LADY MALCOLM, of Poltalloch, highly recommends her HEAD GARDENER; eight years in present place, Head of three; life experience in all branches; age 36; married, one child, seven years. W. BASTIN, Barnardiston Hall Gardens, Haverhill, Suffolk.

MESSRS. LADHAMS, Nurserymen, Shirley, Southampton, can confidently recommend W. GUNSTON, age 35, as HEAD WORKING GARDENER to any lady or gentleman requiring the services of a good all round man, who is conversant with the requirements of a well-kept establishment; excellent references. Apply as above.

WANTED, by the end of June, SITUATION as HEAD WORKING GARDENER, where 3 or more are kept; have gained experience in large establishments, both Inside and Out, including orchids, tree carnations, vines, peaches, and the general requirements of well kept establishments; 3 years present situation; late General Foreman Hume Towers; strictly sober; age 28; married, 2 children; can be well recommended from present and previous employers. Apply E. C. MOODY, 117, Castle Street, Salisbury.

MISS DALTON highly recommends GARDENER (Head Working, or good Single-Handed); life experience, 10 years' excellent character, leaving through death; age 34; married, one child, aged 8 years. Apply W. HIGGINS, The Lodge, Darrington, Camberley, Surrey.

GARDENER (Single-handed or with help); thoroughly experienced; 11 years' good reference; married, one child 10 years old. A. WELLS, Trindles Road, South Nutfield, Surrey.

GARDENER (Single-handed or Kitchen Garden), age 28; married when suited; good references: life experience: strong; disengaged. W. FOWLER, 30, Church Green, Witney, Oxon.

GARDENER (Single-handed or with help); age 27, single, wants SITUATION, 12 years' experience Inside and Out; good personal characte CHARLES EDWARDS, Aldersley Road, Tettenh Wolverhampton.

GARDENER (Single-handed or with help; good Second's place not objected to; married age 36; tall; one child; life experience Inside an Out; good references. H. WARNER, 17, Salmeston Road, Margate, Kent.

GARDENER seeks SITUATION, single-handed, or where help is given; age 28; single life experience in all branches; good references. H. ATTWATER, Ivy Cottage, Horsmonden, Kent.

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MR. G. WOOLFORD, Wokefield Park, Mortimer, Berks, wishes to recommend H. KING as FOREMAN; Inside or General; age 26. [illegible] experience; 4 years' present situation in fruit and plant houses; good knowledge of orchids.

GENTLEMAN thoroughly recommends W. SMALL AS GARDENER (second) where 4 or more are kept; 16 years' experience; age 34, married no children; good characters. KITSCROFT, Eversley, Hants.

MR. E. CLIFTON BROWN wishes to highly recommend G. HARRIS as good SECOND GARDENER; age 28; single; has been his Second Gardener for four years, with good experience Inside and Out; excellent character. Burnham Grove Burnham, Bucks.

GARDENER, age 29, seeks SITUATION as SECOND in Houses, where one or two are kept; can be highly recommended; 3½ years good character. W. CROWHURST, 2, South View Terra Rusthall, Tunbridge Wells, Kent.

GARDENER.—Mr. WOODWARD, Ly[illegible]mere House Gardens, Haslemere, Surrey, would be pleased to recommend A. SMITH as SECOND where two or three are kept, or would take a single place and make himself useful; age 23; good references. Dippenhall Street, Crondale, Farnham, Surrey.

GARDENER (Under), age 22, seeks SITUATION; knowledge of both Inside and Out; good reference. N., Red House Lodge, Heatherside, Camberley, Surrey.

GARDENER (Under or Single-handed); [illegible] years' experience; good references; married; abstainer. PEGG, 30, Woodside Cottages, Churchyard Bottom, Muswell Hill Road, Highgate, N.

YOUNG MAN, age 21, seeks SITUATION as UNDER GARDENER; 6 years' good experience under glass; anxious to gain experience in kitchen garden and pleasure grounds; good references. LAIDLAW, 46, Bemister Road, Winton, Bournemo

SITUATION COUPON

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For MAY 29, 1909.

Please Repeat my Advertisement.

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Situations Wanted—*continued.*

GARDENER.—YOUNG MAN seeks SITUATION as Under Gardener; would live in Bothy; age 20; good ref. Apply O. BOLTON, Marcham, nr. bingdon, Berks.

JOURNEYMAN (Inside, or Inside and Out) seeks SITUATION under Foreman; age 23; [illegible] years' experience; well recommended. G. [illegible] Church Street, Betchworth, Surrey.

MR. A. QUARRELL, 36, High Street, Brecon, can highly recommend GEORGE [illegible]VIES, age 23, as JOURNEYMAN (Inside or Inside and Out); seven years here.

MR. MOULAND, Tower Gardens, Belvedere Park, Kent, recommends A. H. HELLYER as IMPROVER in the Houses; has been with me 2 years, age 17; leaving through death. Apply as above.

LAD (18) seeks SITUATION in Nursery; 2½ years' experience in Garden; good character. Write to W., High Street, Botley, Hants.

MAN seeks charge of ELECTRIC PLANT; had experience in oil engines; willing to fill up spare time in garden; 6 years' reference. P. LESLIE, [illegible] Green, Beaconsfield, Bucks.

SEED or NURSERY TRADE.—HANDY MAN desires Employment; wide experience [illegible] and Retail; excellent education; ab[illegible] reliable; good reference. T. COOPER, 57, Fieldgate Street, London, E.

STRONG YOUTH, age 18, as IMPROVER; 3½ years on Pleasure Grounds and Kitchen Garden; used to machines. J. DEADMAN, Old Cottage, [illegible], Farnham, Surrey.

WANTED, SITUATION as an IMPROVER, age 17, strong and willing; has been in present situation 4 years; total abstainer. Bothy preferred. A. HYLAND, Woodlands, Ticehurst, Sussex.

YOUNG MAN (19) seeks SITUATION as IMPROVER (Inside or Inside and Out); 3½ years present place; well recommended. In or near London preferred. Disengaged when suited. Apply, G. CHANDLER, Butts Road, Alton, Hants.

GARDEN LABOURER.—Young married Man requires SITUATION as above; used to [illegible] and hand machines and general garden work; [illegible] references; Eastern Counties preferred. A. [illegible]WARD, c/o Green, South View Farm, Kenninghall, Norfolk.

YOUNG MAN (23) seeks SITUATION, Inside or Inside and Out, have had previous experience, good refs., and can be well recommended; now [illegible]. G. WALLUM, West Street, Marlow.

WM. NAPPER seeks CLERKSHIP or ASSISTANT CLERKSHIP; Country Nursery near London preferred; active, competent Bookkeeper; considerable experience of the Trade; excellent testimonials. 37, Rotherwood Road, Putney.

YOUNG MAN (age 18) seeks SITUATION on Lawns; used to machines; strong and willing; height 5ft. 10in.; 2½ years' experience. Can be well recommended. Bothy preferred. Apply, RICHINGS, Gardener, Harperbury, Radlett.

YOUTH (17), strong and willing, Gardener's Son, seeks SITUATION in Gentleman's Garden; two years' experience; good references. A. FEATHERSTONE, Maltby, Alford, Lincolnshire.

Situations Vacant.

WANTED, a YOUNG MAN, about 18 or 19, as an IMPROVER, where a capable Man is Head, and one who can make himself useful preferred. Apply, personally to G. J. HARVEY, 18, Highbury Grove, London, N.

YOUNG MAN (19 to 20), with good knowledge of Kitchen Garden; live in Bothy; good references and qualifications required. Apply, stating wages, etc., to E. MILLER, The Gardens, Pyrford Court, Woking.

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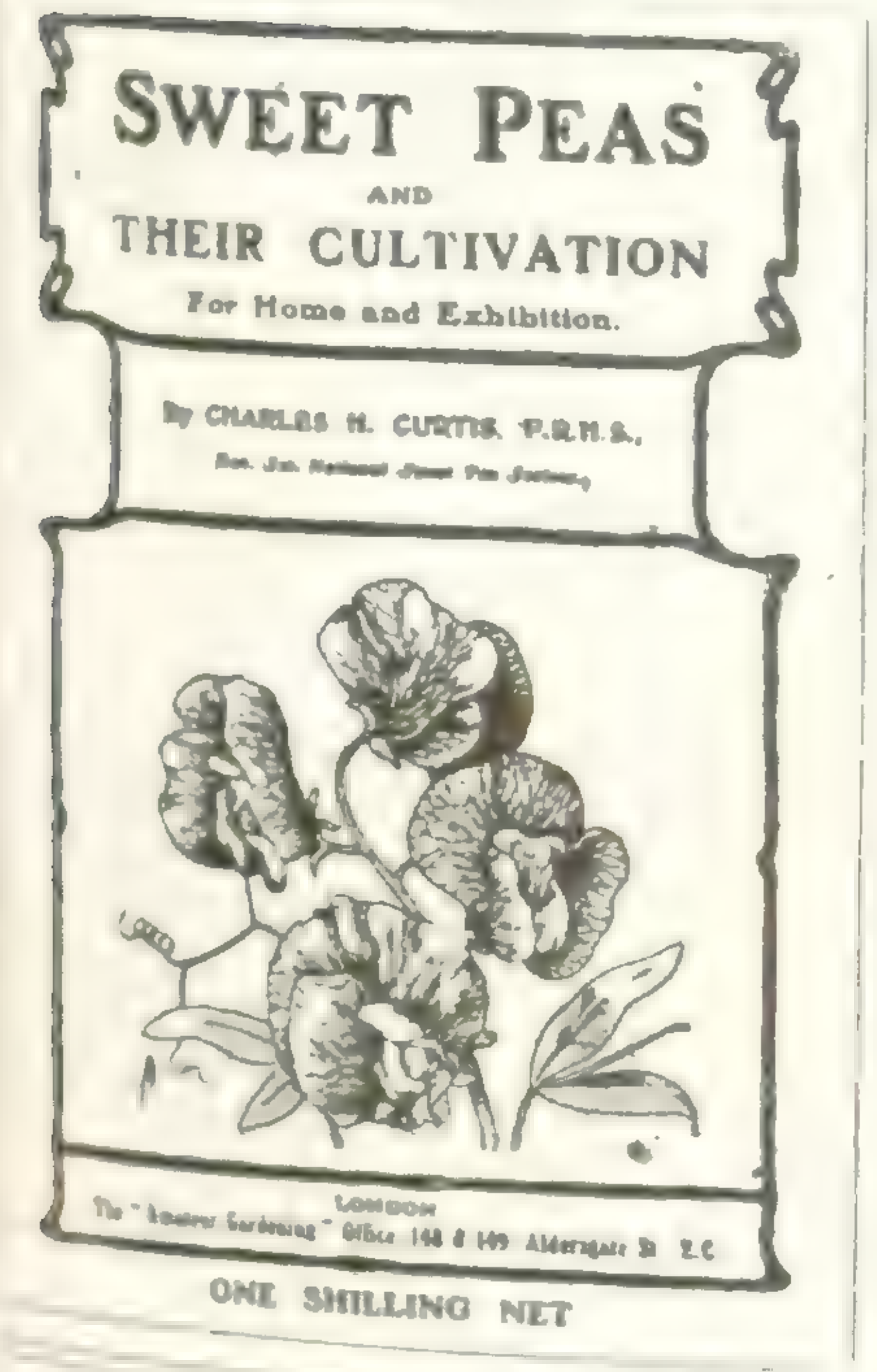

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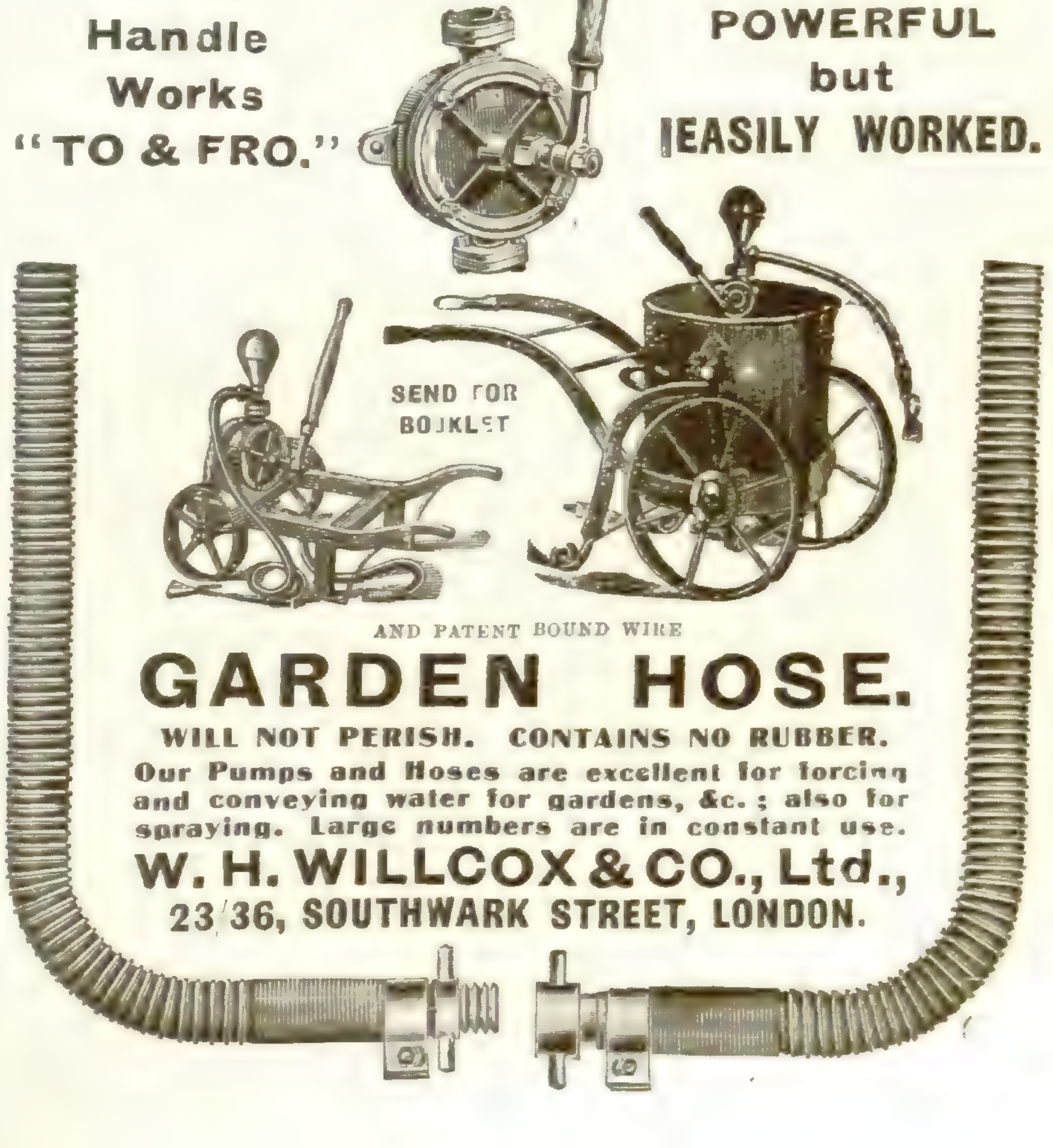

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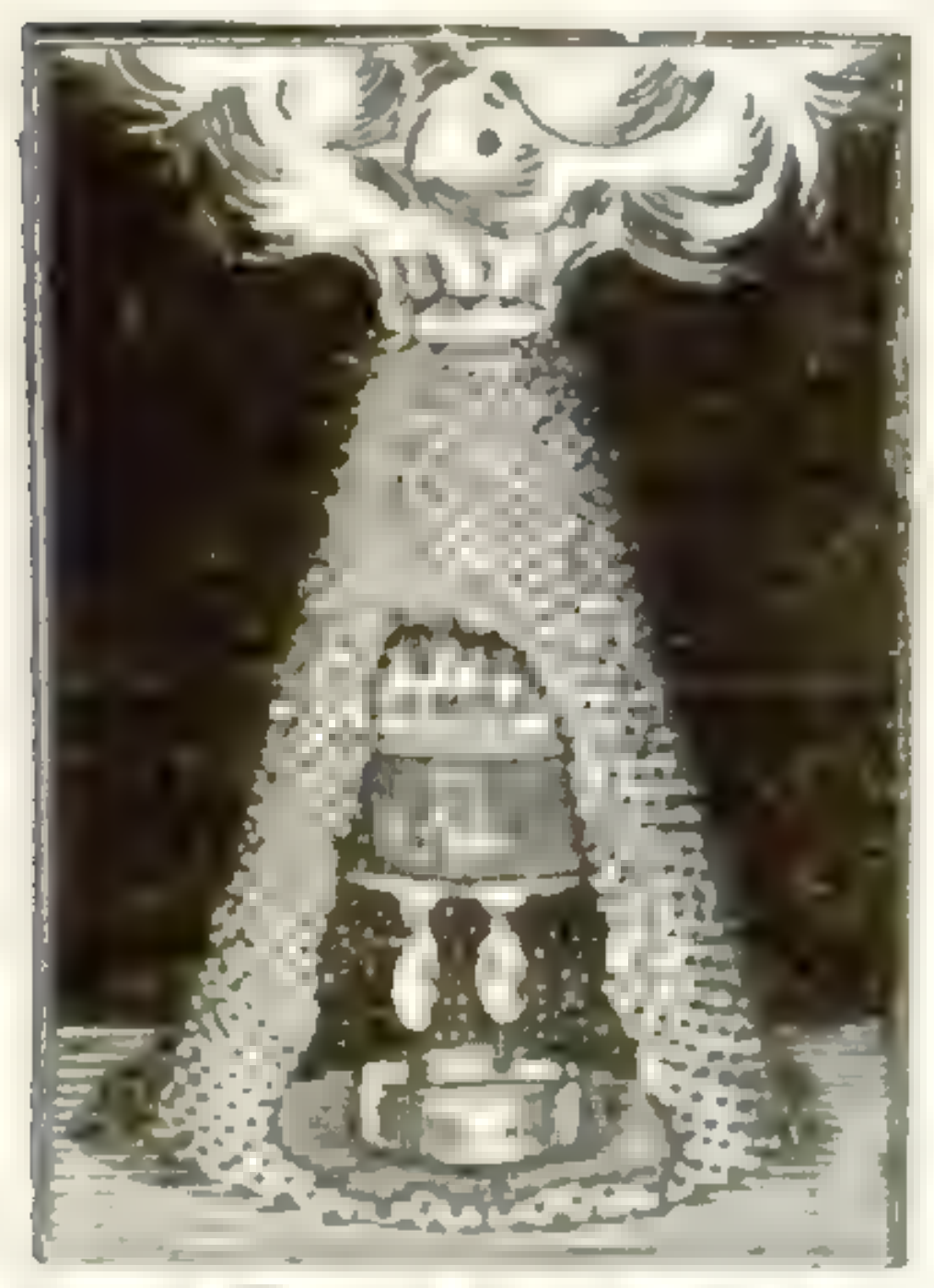

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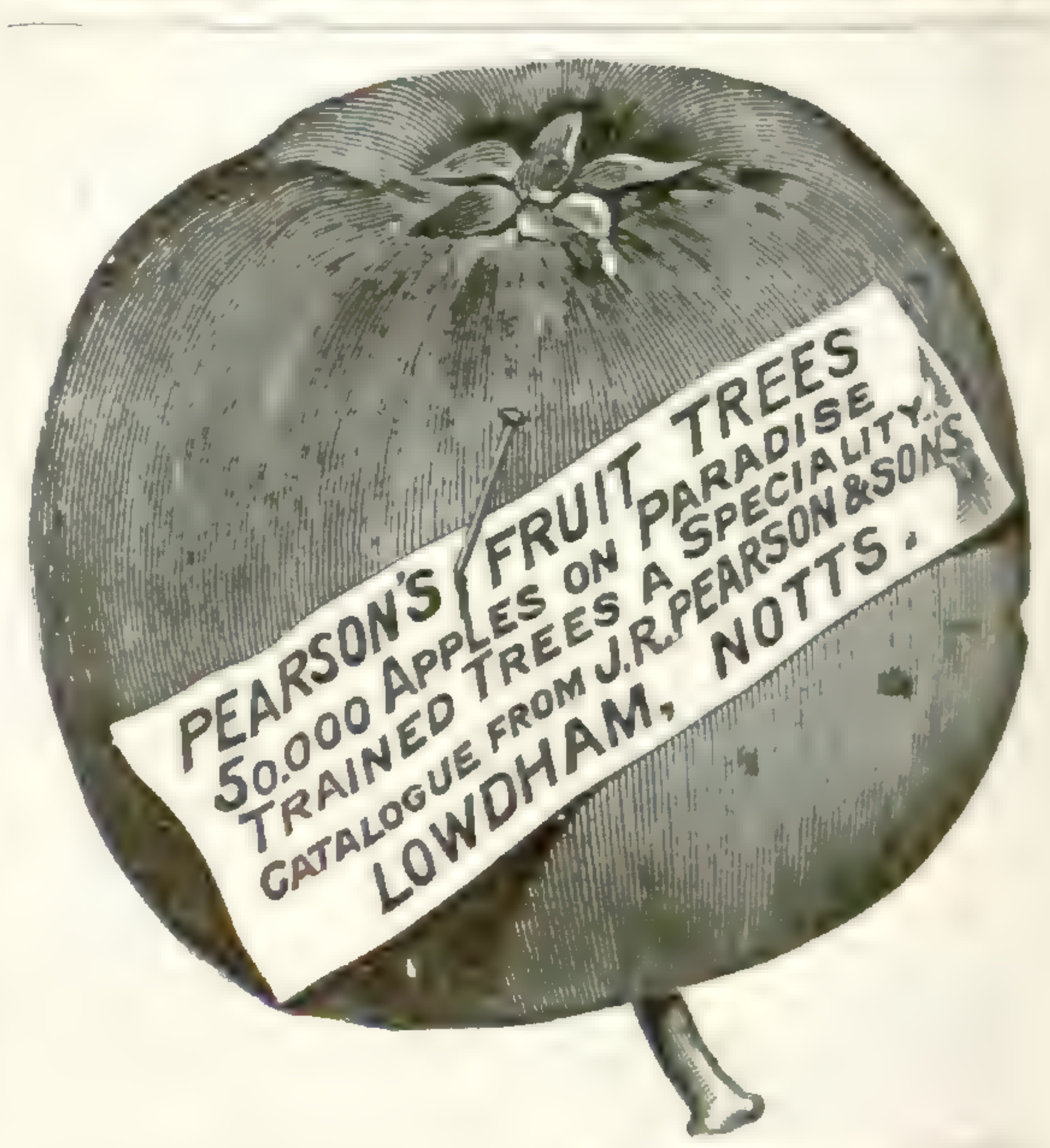
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VOL. LII.—No. 2,899. SATURDAY, MAY 22, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Pollen Grains.

Except in those cases where, as in many of the nut tribe, the conifers, and other genera, the pollen-bearing flowers are distinct from those which eventually bear the seed, and are even borne on separate plants, we shall find on examination of the blossoms borne by flowering plants, that pollen grains are present, usually in great numbers, and borne on stalks surrounding a central larger one, termed the stigma. On closer examination we shall also find that this stigma is really a projection from and continuation of the seed vessel below. In such cases as the poppies there is no stalk, and the stigma appears as a series of ridges on the cover of the seed vessel, which, however, involves no essential difference. To the naked eye the pollen appears merely as a powder loosely adherent to the tips of the stalks or stamens, but under the microscope this powder resolves itself into an immense number of very beautifully shaped bodies, both the form and colour of which vary greatly in different flowers, as does also the size. Thus, in the lily tribe we find them richly tinted with crimson or orange, and the individual grains are found to be of a long oval shape, pitted with small depressions, while in other flowers they may be spherical, bluntly triangular, or pyramidal, covered with pointed projections, or otherwise varied according to the species concerned, no two species being exactly alike. Their size varies roughly in agreement with the length of the stigma, so that in the lily or the evening primrose, where this is very long, we have the grains large, while they are correspondingly small in short styled plants. The reason of this is simple. The pollen grain is really a fertilising germ associated with a certain amount of material calculated to help that germ in its particular work of finding its way to the embryo seed at the base of the stigma, and by fertilising it enable it to perfect itself, and eventually reproduce a plant like the parent. Hence it is obvious that when such a grain reaches the stigma, whether blown to it by the wind or conveyed to it by insect agency is immaterial, it adheres to the viscid tip, and thereupon sets to work to protrude a slender tube within which is the fertilising germ aforesaid, and this tube penetrates between the cells of the stigma stalk at the expense of the nutriment provided by the rest of the pollen grain, and thus makes its way down to the incipient seeds contained in the seed vessel. Obviously a small pollen grain would be unfitted for a long journey, and become exhausted on the way, while equally obviously a large one is unnecessary when the journey is short, and hence the correlation in size mentioned. The number of pollen grains produced is very much larger than that of the embryo seeds, since in whatever manner they are enabled to effect fertilisation, the great majority are bound to be wasted, and, in the case of such plants as are fertilised by wind-borne pollen, the chance of a pollen grain reaching a stigma must be extremely small, millions to one against it. In some of the Canadian pine forests, indeed, the shores of adjacent lakes have been seen to be piled up with wind-borne pollen after breezes which have presumably blown in the wrong direction at the crucial time. None the less, Nature is so lavish in her provisions for reproduction that it is fairly safe to assert that every one of these grains, had it reached a stigma, would have proved its perfection by fulfilling those functions, though perfection means in all such cases the incorporation within the grain of such an infinitely complicated set of potencies as defies human comprehension. Since it appears to be a law of Nature that constant in-breeding weakens the race, there are innumerable contrivances in plants tending to hinder, rather than encourage, the fertilisation of a flower by its own pollen. Thus, in many cases, the stigma remains dry when the adjacent pollen is ripe for dispersion, so that none adheres, and the pollen is carried off by bee, moth, or other insect, to effect its office elsewhere. In the wind-borne pollen above described we see a further and most efficacious method of doing the same thing. Cross-fertilisation, however, is limited by Nature, as a rule, to the same species, insects mostly fly from plant to plant of the same kind, not visiting all sorts indiscriminately. The varying size of the pollen grains, and consequent capacity for tube formation, is another check, but probably the most effective is a sort of sympathetic relation between the viscid tip of the stigma and the proper pollen grains, so that, given a mixture of these with alien ones, the latter lack a stimulus which the former receive, and so a selection is effected. Here and there natural hybrids crop up, but, considering the wide dissemination of varied pollen.

MR. ALEXANDER KINGSMILL.

their occurrence is extremely rare. In conclusion, we would strongly recommend such of our readers as possess a microscope to devote a little leisure to the study of the wonderful pollen grains, whether of weed or floral pet, which they may find in every flower in the garden.

Mr. Alexander Kingsmill, whose portrait we have the pleasure of giving herewith, combines in a quite exceptional manner a strong affection for, and a thorough acquaintance with, the choicer kinds of hardy plants, and, as an authority on alpine and herbaceous subjects, deservedly ranks high among amateur cultivators of the first class. The gardens of The Holt, Mr. Kingsmill's charming residence at Harrow Weald, are wholly of his own planning, and while quite distinct in their main features from those of the conventional type, are free from eccentricities such as are sometimes in evidence when there is a deviation from the customary lines. The gardens are distinct and delightful, and in walking through them one meets with large numbers of beautiful plants that are not, otherwise than at rare intervals, met with in private gardens. This is due to the fact that Mr. Kingsmill not only loves hardy plants, but is well acquainted with large numbers that have not obtained the attention of the general body of cultivators, as well as of those that are in general cultivation. His thorough acquaintance with the immense number of plants that have found a home in his extensive gardens is certainly remarkable, for he is personally acquainted with every one, and can at once locate any particular kind, and give everything of interest that is associated with it. Mr. Kingsmill has for many years past devoted special attention to daffodils, and has raised several varieties of much merit, and has long been a member of the Royal Horticultural Society's Daffodil and Tulip Committee. More recently he has become a member of the Floral Committee, where his thorough acquaintance with hardy plants, trees, and shrubs will be of much value. We would add that we had the pleasure of giving an illustrated account of The Holt gardens in the issue for August 22, 1908.

The Great Temple Show, to be held in the Inner Temple Gardens, London, on May 25, 26, and 27, promises to be one of the finest on record. Our readers will be glad to learn that preparations are already well advanced, and the entries indicate that excellent exhibits of orchids, carnations, roses, alpine and rock plants will be staged. We shall, as usual, give a full and illustrated report of this great gathering in our next issue, and shall describe and illustrate the new plants, flowers, etc., in the issue for June 5.

Dean Hole Medal.—On the death of Dean Hole, who had for so long a period been the president of the National Rose Society, the members of the committee, to perpetuate his memory, set themselves the task of raising a sum of money for the purpose of founding a medal, to be known as the Dean Hole Medal. It was decided that the amount raised should be invested, and that with the income derivable therefrom, medals should from time to time be presented to those who have rendered substantial service in the cause of the rose. A sufficient sum having accumulated to admit of the first medal being struck, the selection of the recipient has engaged the attention of the executive for some time past, and at the meeting of the General Committee, held on Tuesday last, the medal was, by unanimous vote, awarded to the Rev. J. H. Pemberton, in recognition of the merits of his important work entitled "Roses: their History, Development, and Cultivation," which was published by Messrs. Longmans, Green, and Co., last year. We congratulate our much-valued contributor on the honour thus conferred upon him, and the committee on the judgment shown in the discharge of a task by no means free from difficulty.

A Forestry Exhibition will be held at Gloucester in conjunction with the Royal Agricultural Society's show, which will be held from June 22 to 26. This exhibition will be on similar lines to those previously held in the "Royal" showyard. There will also be a competition for prizes for plantations in the counties of Gloucester, Hereford, Wilts, and Worcester.

Portrait of Mr. Harry J. Veitch, V.M.H., F.L.S., etc.—Amid the increasing love of plants and gardens it may possibly be forgotten to what a really vast extent the present and succeeding generations are indebted to Mr. Harry J. Veitch, V.M.H., not only for his invaluable work amongst plants, but also for the assistance he has invariably rendered, personal as well as financial, to the great gardening charities. A few of his friends and admirers (both amateur and professional) are therefore desirous of having his portrait painted by one of our leading artists, in order that it may be hung permanently in the buildings of the Royal Horticultural Society. A sum of six hundred guineas will be required. Of this a very substantial sum has already been received, but it is thought that, amongst many of his friends, there will exist a feeling that an opportunity to subscribe should also be afforded them. It is proposed, should the funds admit, to present each subscriber of one guinea and upwards with an engraving of the portrait. Subscriptions may be sent to either Mr. H. B. May, of Stanmore, The Green, Chingford, or to the Rev. W. Wilks, Shirley Vicarage, Croydon.

A New Gooseberry Mildew Order.—A new order make by the Board of Agriculture and Fisheries with respect to American gooseberry mildew in Great Britain has been issued. The occupier of any premises on which there is a gooseberry or currant bush which appears to be affected with the disease is required to give notice of the fact either to the Board or to the local authority, and precautions are prescribed for adoption in the case of an outbreak. The local authority is directed how to proceed upon receiving notification of cases of the disease, and is empowered under the Destructive Insects and Pests Acts to require certain measures to be taken by the occupier concerned. The landing in Great Britain of any bush brought from any place outside Great Britain (excepting the Channel Islands) is prohibited, with the exception of any currant bush for the landing of which the licence of the Board has been given. Every person who commits any offence under the Acts is liable on conviction to a penalty not exceeding £10. The earlier Orders made under the Acts are revoked.

New Playing Ground for London.—To-day (Saturday) the Prince of Wales will open a playing ground of thirty acres at Fairlop, near Ilford. Two years since several fields then used as arable land were purchased by Mr. E. N. Buxton, on behalf of the London Playing Fields Society. The site was that of the famous Fairlop Oak, around which for many years an annual fair was held. The several fields were thrown into one, the land was levelled and sown with suitable grasses, and the turf is now in a condition that will admit of the various summer games being played without material injury to it. The cost of the purchase of the land and bringing it into its present condition has been £4,500, of which a considerable proportion was generously contributed by the City companies.

British Gardeners' Association.—The annual general meeting of the British Gardeners' Association will be held in the Essex Hall, Essex Street, Strand, London, on Wednesday next May 26, at [illegible] p.m., to receive the annual report of the Executive Council, and to transact other business. Mr. J. Weathers asks us to remind members that they must show their red membership cards for 1909 when entering the meeting. Mr. E. F. Hawes, chairman of the Executive Council, will preside.

Proposed National Vegetable Society.—The attention of all who are in any way interested in the cultivation of vegetables is drawn to a meeting which will be held in the Essex Hall, Strand, London, W.C., on Tuesday, May 25 (first day of the Temple Show), at 4 p.m., for the purpose of forming a National Vegetable Society. Mr. Alex. Dean, V.M.H., will preside, supported by Mr. Owen Thomas, V.M.H., Mr. Charles Foster, Mr. G. Wythes, Mr. W. Poupart, Mr. G. Hobday, Mr. H. Markham, and others. It is hoped that all gardeners and members of the trade will attend and give this movement their heartiest support.

National Rose Society.—The "Arrangements for 1909," in which are included the list of members, schedules of prizes, and the bye-laws and regulations, forms a substantial publication, and indicates in a conclusive manner the remarkable expansion of the society of late years. The amplification of the schedules of the exhibitions at Regent's Park and Luton, on July 2 and 14 respectively, has helped to increase the size of the "Arrangements," but the increase in the bulk is mainly due to the extension of the list of members.

Flower Shows at Birmingham.—The Birmingham Botanical and Horticultural Society have decided to continue this season the practice of holding two summer flower shows at the Botanical Gardens, Edgbaston, during the summer months. The forthcoming shows will be held on June 9 (orchids and early summer flowers) and July 21 (roses and midsummer flowers). Honorary exhibits are invited. Schedules may be obtained from the hon. secretaries, Messrs. Humphreys and Whitelock.

Small Holdings.—In giving particulars in the House of Commons respecting the working of the Small Holdings Act during the sixteen months that Act has been in operation, Sir Edward Stracey stated that during the sixteen months 30,250 acres had been acquired voluntarily, or had been included in schemes submitted. The quantity actually in possession of County Councils was 11,345 acres, which had been acquired at a cost of £370,9[illegible]5, and the acreage leased by County Councils was 10,[illegible] acres. The total value of the land purchased and leased was about £[illegible]. Compulsory orders had been applied for the acquisition of 4,170 acres of land, and the total number of applicants was 23,2[illegible]5, of whom 13,203 were approved, and of the approved applicants 34 per cent. were agricultural labourers. The number of applicants provided for was 2,200, though they were not all in actual possession. The land required by approved applicants extended over 373 600 acres.

Soil Inoculation.—The annual report on the experiments conducted at the Harper-Adams Agricultural College, Newport, Shropshire, are invariably of much interest, and that dealing with the experimental work of 1908 is especially so. At the college, as elsewhere, nitrogen fixing organisms received attention, and trials of nitro-bacterine in conjunction with another culture sent by Dr. Hutchinson, were made. Nitro-bacterine was used in the cultivation of broad beans, red clover, culinary and sweet peas, white clover, scarlet runners, sainfoin, and tomatoes, and Dr. Hutchinson's culture for broad beans and red clover. The trials were carried out in two sets, one in the open ground and the other in boxes of steamed soil. In both sets of trials the seed was dressed, and the plants subsequently watered with more of the prepared dressing in accordance with the instructions issued. There were, of course, control plots and boxes. Briefly stated, the results obtained in the open ground plots were as follows: Red clover (Dr. Hutchinson's culture), "no difference between the plots; many plants flowered and seeded, both strong"; (nitro-bacterine), "growth strong, more plants flowered and seeded in undressed plot than in dressed plot." Broad beans (Dr. Hutchinson's culture and nitro-bacterine), "no difference between the plots." Culinary peas (nitro-bacterine), these were grown in rows 45 feet long and from the dressed row 50lbs. of peas were gathered, and from the undressed row 46lb. Sweet peas, white clover, sainfoin, and tomatoes (nitro-bacterine), "no difference between dressed and undressed plots." Runner beans (nitro-bacterine), "there was a considerable difference between these plots all through the season, the rate of growth being greater on the dressed plot, and flowering commenced much earlier." With reference to the experiment, it is stated in the report that "the results obtained from both the open ground and box trials indicate that on a barren soil the use of the cultures may be attended with some degree of success; but that on ordinary soil, even if it is not in a high state of cultivation, there is little benefit to be derived from the use of either preparation."

Flora of Ngamiland.—The latest issue of the "Kew Bulletin" is largely occupied with a consideration of the flora of Ngamiland, the most remote province of the Bechuanaland Protectorate. There is a capital and very interesting introduction by Major Lugard, who, with his wife, [illegible] F. Lugard, collected the plants enumerated and described by Mr. A. E. [illegible], of the Kew Herbarium. The collection contains 320 dicotyledons, 52 monocotyledons, and two ferns, a total of 374 species, of which 92 are new. The general level of the region in which they were collected is 3,000 feet above sea-level, with hills rising a few hundred feet higher, since the highest elevation recorded on any of the labels is 3,600 feet. The specimens are all well selected, carefully preserved, and mostly very complete, and accompanied by valuable notes on the habit, colour of flowers, etc. Mrs. Lugard also made a large series of very accurate coloured drawings, with dissections, from which much aid has been obtained in preparing the following descriptions. The general composition of the flora of the region appears to be somewhat as follows: Trees about [illegible], varying from 15 to 40 feet in height; shrubs or bushes, 44 or over; succulent plants, about 15; annuals, 58; thorny or prickly plants, 17; climbing or twining plants, about 30, besides many that scramble over bushes or rocks, or creep on the ground; bulbs, 20; and of orchids only two were found. The remainder are mostly herbaceous perennials or shrublets. Most of the specimens flower during the rainy season, i.e., December to February. Yellow is the predominating colour of the flowers, next in order come white, green, mauve, purple, cream, orange, pink, red, blue, greenish or greenish-white, magenta, claret, and scarlet.

A GARDEN TO LIVE IN.

Lovers of the open air become more numerous day by day, and the serene, healthful influences of outdoor life are constantly obtaining more recognition; therefore, it is that the garden is of infinitely greater importance now, and will continue to attain more consequence, than in the old times when our ancestors valued it solely as a frame to the dwelling, a nursery of flowers for the home, or merely a fair weather resort.

To find out how to make the garden a comfortable living room is a study that claims early attention; it is, naturally, in large grounds that most can be done, but a small plot proves almost as convenient if provided with a round shelter with sliding shutters. This kind of summer pavilion does not cost much to build, or can be bought ready for fixing, either with or without a roof. Set in the open, away from trees, it necessarily is a room with all aspects at choice; the southern warmth, or northerly coolness, the vision of eastern or western skies, can be gained at will.

A long-shaped small garden, running north to south, is fairly well provided with living-rooms if it has a shelter at each end; sometimes there is a blank space of the house wall that can be used for the back of a hut, then only the sides, far apart, and a slanting roof, are needed, with a pillar or two to uphold the latter and give ornament. This outdoor room of the house can be so manufactured of rustic wood and red tiles, so climber-covered, that it is quite as pretty as a verandah, only broader and more useful, while its proximity to the door, and therefore to the hall, either at front or back of the building, makes the taking of meals in it involve but little extra work for the servants. Either gravel or pavement should meet the beds cut out for the climbers, and the actual floor of the shelter may be of these, or of beach shingle, red brick, or varnished boards, but should in any case slant from back to front to permit rain water to flow off.

In similar style a small garden running west to east can have north-and-south facing shelters made against the side fences or walls, with perhaps one at each end as well, for, so long as space is not too much sacrificed, there cannot be too many living-rooms. The word summer-house has, in reality, lost its meaning, for we want shelters that can be enjoyed at most seasons, and the only one that might properly be designated as for summer only would require a due north aspect; eastern or morning sunshine can be enjoyed in mid-winter, and the western sun-glow is most delightful of all in autumn.

When we come to the consideration of large pleasure grounds as veritable homes we find that rich possibilities of enjoyment are before us. In addition to open-sided huts facing each aspect, we may have also the pavilion in a centre position, either shuttered, or merely roofed and pillar-supported, after the fashion of a band-stand; there are many reasons why a roof-garden on the top of such a building is to be recommended, for it will have a beautiful original appearance when its plants are luxuriant and its railing all wreathed by the climbers from below; it is bound to give the best panoramic views of the garden, and catch the least breezes of summer, and upon its elevated plateau all the winter sunshine will be experienced.

Then there are arbours. These require time for their builder, so may be seen to perfection only in established gardens. An ivy thicket, hollowed out, the centre of a variegated holly bush, and a venerable Siberian crab trained marvellously about poles and wire, remain in my memory as exquisite arbours of long growth. Our great grandfathers delighted in sweet briar and jasmine for this purpose, or honeysuckle, clematis, and yew or privet. The supports are of little consequence, intended to be entirely hidden when the living wood has been trained into shape. Bean sticks, over-arched and bound securely into shape, are suitable.

A sufficiently tall wall, belt of trees or shrubs, thickly clothed trellis, or a fence running from east to west, will give an agreeable line of shade to sit in; one in another position will serve to shut off cold winds and concentrate sun-warmth. There should be plenty of seats in the open, set where games can be watched or charming floral views admired; these ought to partake of the character of the surroundings; a rock garden, for example, looks best with a seat formed of slabs of rock, boarded for the seat, the wood painted to cunningly resemble the stone; a water-garden seat I once saw was merely the stump of a cut-down willow, from the back of which sprouted delicate branches; a woodland seat may be just a laid-down piece of trunk, flattened on the top, then coloured over, or a bench with back and foot-rail all made out of natural twisted wood. In the neighbourhood of a white stone mansion with pillared verandah of the Italian style a classically-formed wooden seat, painted white could be chosen; the Elizabethan manor generally shows simple benches set against ivied walls in angles; a rude wooden bench on trestle-shaped supports is in keeping with the farmhouse or cottage garden.

Rustic garden furniture, deck and carpet chairs, folding stools, portable footstools and carpets, rush mats, rugs, cushions in variety, should be kept stored in a dry summer-house ready for use. I saw a shelter made in a wall corner the other day that had long, painted box seats, in which small stores were quite safe. The outside of this house was of lattice, the doorway outlined in virgin cork, with pockets ready for trailing plants, but the roof was of substantial deal, green-painted.

Tents are only of real service during summer heat, when set where there is shade, as otherwise they become unpleasantly warm; beneath tall trees they are an admirable shelter, keeping off drip from the branches, strong or cold winds, and the gaze of neighbours or passers-by. During autumn and winter tents can be made great use of in the open places of suburban gardens however. Then the extension, or porch-way roofing of a tent is often the giver of a delightful stretch of shade upon lawn or gravel.

A homely simple shelter may be created by fixing four eight to ten feet tall bamboo or other poles into the ground as a square, and stretching canvas, preferably green, or glazed calico, or striped matting, round on all but one side, fastening it by strings here and there. This roofless room proves very useful, or a piece of the material can be fixed across the whole or a portion of the top if desired.

M. H.

AMONG THE ALPINE FLOWERS.

"And now the young and flowery-kirtled May,
Decks the green hedge and dewy grass unshorn
With cowslips pale and many a whitening thorn."
—Bamfylde.

May came in with a harsher mood than is her wont, yet the flowers have responded smilingly to her call. Some have delayed, but the many have given their beauty with their wonted freedom, and the alpine flowers have borne, and are bearing, their charming blossoms with all their will. From slope and terrace and over rough stone there are sheets of colour and groups of beautiful flowers, each appearing to rival its neighbour or to combine to do homage to fair-handed May. It is difficult to roam among these flowers without wishing that more space were available to recount their beauties, but some must be left unhonoured and only a few can have the imperfect tribute of the pen.

Heaths.

There are some who think that the ericas should have no place in the alpine garden, yet without them we miss many of our most valued and valuable little shrubs. The heaths are in perfect keeping with the other flowers, and their beautiful foliage clothes many places where bareness would be too present for our sense of enjoyment. One of the most enduring in flower is that valued hybrid erica known as Erica hybrida and as E. mediterranea hybrida. Although with me it first came into flower in November last for the season, it is still in bloom, although not so perfect as for months before. Yet a plant which will give us flowers for six months of the year at a stretch is surely invaluable, especially as these months are the most barren of flowers as a whole. Not more beautiful than Erica carnea—understood to be one of its parents —it is more lasting, and no garden where it will grow should be without it. It is a mistake to think that it and other hardy heaths require peat. Mine are almost all without any, but in stony loam, and they are as healthy as plants can well be.

Erica lusitanica or codonoides.

A truly fine heath for the rock garden of some size, is Erica lusitanica or codonoides, which, now that May has well entered upon its course, is very beautiful, with its dark green foliage all bedecked with its deep flesh-coloured flowers. It is taller than many, and low by the base of the rock garden it looks well, while high on the rockery it will assume a more compact form, because more exposed to the stress of the storms. It is universally admired; and, although not a new plant, it is a heath which but few seem to know at the present time.

The Double Apennine Anemone.

While there are many of us who are not greatly enamoured with the double varieties of some of our alpine flowers, it would be pedantry to despise those which have some points to commend them, and there are certain things which in their double forms are exceedingly beautiful or highly interesting. In the latter category one would place the double Apennine anemone, A. apennina flore pleno, whose small flowers are daintily symmetrical, and are charming in their own formal way. Several rows of segments are arranged in a most fascinating way, and few there are who see it who are not charmed with this feature of the flower. Yet it has its defects, and one—and a serious one, in truth—is that it is but a sparse flowerer, when compared with its single sister-flowers. Thus it is of little service as a rock plant where a mass of flower is required, and that wonderfully fine variety of the Apennine anemone called purpurea could give it many points, and yet win hands down as an effective plant. Yet one finds a charm about this double anemone, with its symmetrical light blue flowers.

The Armenian Fritillaria.

There have been few more admired fritillarias in my garden this season than the pretty and quaint little Fritillaria armena, which is one of the almost ideal bulbs for the choice rockery, where as many things as possible are desired which are of truly dwarf habit. It is by no means new, although hardly ever met with in the gardens of the present time, but a clump or two on a good rock garden will be found an acquisition. There are some two or three varieties, but the best and brightest is that often known simply as F. armena, and sometimes as F. a. aurea. It is a very dainty little plant, only some three or four, rarely six, inches high, and having bonny little drooping bells, whose interior is of a bright golden yellow, although the outside is duller in hue. The variety rubra has the flowers more red than yellow, but these do not look so well on the rockery as the others. One may suggest that when this fritillaria is being purchased, a few bulbs should be bought and planted about half an inch apart. If only one is planted it will have little appearance, and, besides, the slugs, which generally seek to deprive us of our "one ewe lamb," will, almost certainly, crop the single one to the ground, although frequently leaving a clump untouched. This pretty little fritillaria is now cheap to purchase in quantity for the garden.

The American Dogs' Tooth Violets.

One need hardly apologise for the introduction of yet another bulbous or tuberous flower, seeing that this time it is one of the most charming of all in the shape of the erythronium, or dogs' tooth violet. Later than usual, I think, the American varieties have again come to charm us, and they may well be commended to all who have in their rock gardens some half-shaded spot, in which to cultivate these most delightful flowers. Our European E. Dens-canis, charming though it is, is eclipsed in grace by its kinswomen from the New World, and some of these are simply exquisite in their growth, their form, their poise, and in their charms of flower and leaf. Some of them are yet in flower as this is being written, and one goes out among them with pleasure to study their lovely flowers of yellow, cream, purple, or pink, and their mottled or marbled leaves of highest beauty. E. giganteum, the pretty lilac E. Hendersoni, E. Johnsoni, with bonny rose flowers, and a few more are yet handsome as they spring up behind the rockwork, and shielded by it and shrubs from the strongest sunshine.

Other Flowers.

Thus might one go on as we walk among the plants and come into the study bringing with us the visions of the flowers we have seen. There are many aubrietias, and sheets of snowy arabis. There are spring phloxes, hanging over the stones and coming full into flower to give in a day or two perfect sheets of blossoms of white and lilac and purple and crimson. There are trailing and erect brooms, the double gorse, flowering quinces, shrubby spiræas, narcissi galore, even yet; golden alyssum, bright polyanthuses and primroses, with allied cowslips and oxlips, and several primula "species." We see bright daisies, many saxifrages, waldsteinias, and the many more of the flowers which Queen Flora places at the command of her subjects when once they have sought and earned her favour—a favour to be won only by its being made the guerdon of love for and admiration of her most beautiful flowers.

S. Arnott.

SCHIZANTHUS RETUSUS.

For the purpose of the conservatory and drawing-room schizanthuses have attained to a high state of popularity within recent years, the advent of the hybrid selections, including Wisetonensis, creating new interest in them. They have no commercial value for the supply of cut flower, and in gas-lighted dwellings the flowers quickly fade even when they are home-grown. But when other means of lighting are employed, and the rooms are not overheated, they will last for at least a fortnight in a good state of freshness. The merits of the hybrid stocks of schizanthus have been often subjects of comment, but the dwarf bright forms of S. retusus do not apparently invite so much criticism. The reason for this lack of enthusiasm on the part of growers may be explained partly because their culture has been so limited, and greater space devoted to the other larger-growing kinds. At the present moment we have a small span-roofed structure devoted to the S. retusus types entirely, and the wealth of brightly-coloured blossom is certainly convincing even to the most casual mind, judged from a spring decorative standard.

Viewed under these limitations one is made to wonder why such easily-grown and intensely bright flowers are not more sought in spring. We certainly do not discourage the claims of the Wisetonensis group, for their multicoloured flowers render them so indispensable for home displays, but we still claim that S. retusus has its own individual value and purpose. In one particular these stand out clearly, and that is found in the later or successive order of their bloom. For the months of April and May these latter stocks are particularly valued, because from autumn-raised seed they afford displays in these spring months, when there may otherwise be a dearth of subject. A very pretty break from the type is S. retusus rosea, the gold crest on the petal of the type being absent in this kind, and the rose shade being pronounced places this in the forefront of favourites. Then there is the white-flowered stock, which afford yet another interesting section.

One great advantage of these retusus types is their dwarf, neat habit. Grown cool they scarcely call for the need of a stake to support their flower spike, and the dense, tuft-like leafage adds a pleasing contrast to their brightly coloured blossom. The popular term, "poor man's orchids," may be more aptly applied to these than to the other types, because of their resemblance in colouring to the Table Mountain orchid. Disa grandiflora. We are convinced that were growers to grow these in rather larger numbers spring impressions would be such as to justify, and more than justify, the extension, because, as we have already intimated, they fill a breach in spring furnishings so usefully and effectively.

W. Strugnell.

Rood Ashton Gardens.

For pretty gardens and lovely flowers read The Flower Garden, by T. W. Sanders, F.L.S. An up-to-date work on the formation, planting, and management of the garden, with description and cultivation of flowers and plants adapted for outdoor culture. Price 7s. 6d. net, by post, in box, 8s., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London

THE FURZE.

"And what more noble than the vernal furze,
With golden baskets hung?"

In answering the question thus put by Hurdis in one of his charming lyrics, there would be no great difficulty in mentioning a considerable number of trees and shrubs that might well claim to possess a greater degree of nobility than the shrub under consideration. But it would not be easy, if indeed possible, to mention one that could well be substituted for it, whether for clothing the open common or producing rich colour effects within the enclosed garden. The furze has a character wholly its own; it blooms with such prodigality that Mary Howitt speaks of it as

"The yellow furze, like fields of gold
That gladden some fairy regions old."

The flowers are not only borne in great profusion, but they are of the richest golden hue, and delightfully fragrant, and when the conditions under which the shrub is grown are favourable to flower development bold groups produce colour effects of unsurpassed richness. The principal season of flowering is confined within the months of May and June, but the golden blossoms are borne more or less freely throughout the year, and this continuity of flowering has given rise to the old Scotch saying that, "When the furze is out of bloom kissing is out of season."

Of the beauty of the furze there should be no occasion to speak, neither should it be necessary to refer otherwise than in the briefest manner to the value of the finest form for planting in spacious pleasure grounds, where sunny positions can be set apart for rather large groups. But it would appear that the shrub is not particularly favoured by planters, and it therefore appears desirable to point out that excellent effects may be produced both in pleasure grounds and parks and on the margin of plantations with its aid. Of this we have unquestionable proof in the Royal Gardens, Kew, and although it is not always practicable to follow in private gardens the example set by great public establishments, there would be no great difficulty in doing so in the case of the furze, the size of the groups being, of course, so modified as to adapt them to the area of the grounds. The shrub appears to the greatest advantage when arranged in groups on the grass, but where the garden is too small to admit of this being done a few groups along the front of the shrubbery border will produce a wealth of blossom that will contribute materially to the attractions of the garden during the principal season of flowering.

Much praise has been lavished upon the furze by old writers, and just as we grow many plants from tropical regions under glass in this country, so was the shrub grown under glass in countries with a lower winter temperature than our own. The species of Ulex only thrive without special culture in temperate climes, and, broadly speaking, it is not indigenous south of France or so far north as Russia. According to tradition Linnæus complained that he had a difficulty in successfully growing the furze even with such aid as afforded by a glass structure. Dillenius, the great German botanist, is said to have been in a perfect ecstacy when he first visited this country and saw the furze-clad commons that form so conspicuous a feature of some of the English counties during the flowering season. It is pleasant to believe that this distinguished botanist was well nigh overcome with delight when he first saw, to quote from Cowper,

"The common overgrown with fern, and rough
With prickly gorse, that, shapeless and deform'd,
And dangerous to the touch has yet its bloom,
And decks itself with ornaments of gold."

But it must, in the interest of truth, be pointed out that the foundation for the belief will not bear a close examination. The earlier writers who gave currency to the tradition do not appear to have been in agreement as to whether Dillenius or Linnæus was overcome by the glorious display of the blossoms of the "resplendent furze," for both botanists are mentioned. Possibly they both enjoyed the beauty of our commons in the time of the furze blossom, when, as Swinburne writes:

"The larks are loud above our leagues of whin;
Now the sun's perfume fills their glorious gold
With odours like the colour; all the wold
Is only light and song and wind, wherein
These twain are blent with shining din."

That they should have admired such "fields of gold," as may be seen in various parts of England is not surprising, for in no other part of the world do such glorious displays gladden the eye of the flower lover. With reference to this, Mr. A. W. Wallace writes, in his "Malayan Archipelago," "I have never seen in the tropics such brilliant masses of colour as even England can show in her furze-clad commons, her glades of wild hyacinths, her fields of poppies, her meadows of buttercups and orchises, carpets of yellow, purple, azure blue, and fiery crimsons."

Gerard endeavoured to extend the cultivation of the furze to the northern parts of Europe, and he states in his "Herbal," that he sent seeds and plants to Dantzic, Brunswick, and Poland in response to applications that were made to him by botanists and others resident in these countries. With regard to the names by which the shrub is known, this old author states in his classic work, "There be divers sorts of

THE DOUBLE-FLOWERED FURZE (ULEX EUROPÆUS FL. PL.) AT KEW.
"The gorse has got its coat of gold, and smells as sweet as clover."—R. Buchanan.

prickly broom called in our English tongue by sundry names, according to the speech of the countrypeople where they grow: in some places furzes, in others whinnes and gorse, and in some prickly broom." There can be little doubt that it is the ulex of Pliny, but by Bauhinus, Dodonæus, and Lobel, and other of the botanists prior to Linnæus, it was known as Genista spinosa, or the prickly broom, and from Linnæus it received the name of Ulex europæus. With regard to its popular names, furze is derived from the Anglo-Saxon fyrs, which was probably given to it from the similarity of the spines to the "needles" of the fir tree. Gorse has been derived from the Anglo-Saxon gorst, or open, in allusion to the open spaces on which it grows, and whin is derived from the Celtic chwyn, which signifies weeds or other plants of no value. With reference to the second of the two popular names, Professor Earle observes, in his "English Plant Names," "I do not know what the Latin word is, but gost is probably the same as gorst. The form gorst is still current in Shropshire, while it is gorse in the north, and goss in Kent. The word is unknown in Devon, where ulex is only called furze, or rather vuzz." In Berkshire the writer has frequently heard the shrub spoken of as goss and fuzz.

The number of species and varieties is not large, and for garden culture two will be sufficient. The common furze, Ulex europæus, is very beautiful, and highly attractive when in bloom, as exemplified by the rich colour effects it is now producing where it is established on open commons and elsewhere. It has also considerable merit as a hedge plant for dry sandy banks and for planting on waste land. Beautiful as it unquestionably is, the species is not equal to the double-flowered form, U. europæus fl.-pl., which alone should be planted in the garden or in park and meadowland contiguous to the mansion and carriage drive. The growth is the same, but the flowers of the double variety are much larger, and so freely produced as to almost hide the foliage, as indicated in the illustration of the fine group on the north side of the Syon Vista in the Royal Gardens, Kew. This is readily propagated by means of cuttings, but established plants are so inexpensive that there is not much occasion to trouble about the raising of stock at home. Cuttings taken in August, and inserted in a bed of soil in an unheated frame, or under a handlight outside, will root freely. The dwarf furze (U. nanus) is a distinct form, attaining a height ranging from twelve to fifteen inches, and flowering during the summer months. It is useful for forming small groups along the front of the shrubbery, but is hardly required in gardens of limited dimensions.

George Gordon

DENDROBIUM NOBILE VIRGINALE.
An exquisitely beautiful pure white variety, raised by Messrs. Armstrong and Brown, Tunbridge Wells.

DECIDUOUS DENDROBIUMS.

There can be no doubt whatever that the deciduous dendrobiums have not received the attention their merits deserve during the past ten years or so. Like many other well-merited and beautiful orchids they have been neglected for no other cause than the influence of popular fashion. The custom in the majority of the orchid establishments at the present day is to specialise, attention being devoted to some two or three subjects, often only one, and I venture to suggest that some of the younger professional orchid growers have little knowledge of many of the plants that were in general cultivation twenty years ago. This is not only to be regretted, but it is also a serious loss to horticulture, when we find so many of the beautiful and otherwise meritorious plants practically withdrawn from general cultivation.

A Revival in Dendrobiums.

I have been more than delighted to find that attempts have been made during the past few months by some of our prominent orchid enthusiasts, to revive the interest in the deciduous section of dendrobiums, by exhibiting collections of the finer hybrids at the Royal Horticultural Society's meetings. Perhaps none have had a more desirable effect than the subject of the accompanying illustration, D. Chessingtonensis, which was exhibited at the meeting held on April 6, from the collection of R. G. Thwaites, Esq., Chessington, Christchurch Road, Streatham (gardener, Mr. R. Black). This is the result of intercrossing D. aureum and D. Wiganiæ. Like most other secondary hybrids, it is very variable, and some most desirable and distinct tints of yellow are found among them. I consider this to be one of the finest introductions of late years, and the whole of the varieties I have seen are worthy of a place in every collection where dendrobiums are appreciated.

The Finest Hybrids.

I have been invited to name a few of the most desirable for general cultivation of the hybrid dendrobiums. I cannot do better than to mention one of Mr. Cookson's raising, namely, D. Sibyl. The delicate tints of purple, shading to almost white, renders it one of the most desirable of the late spring-flowering kinds. D. Brian, with its primrose-tinted flowers, is also highly meritorious, but it has not by any means one of the most robust constitutions, and requires much attention to retain it in a healthy state. Among the best varieties of D. Wiganiæ is the variety D. W. xanthochilum, with its golden-yellow and brown flowers. The varieties of D. melanodiscus are very extensive, and are worthy of every consideration. The same remarks will apply to D. Ainsworthi and its allied varieties, the forms known as D. splendidissimum Apollo and Mrs. Hayward being perhaps the most remarkable. D. Aspasia (aureum x Wardianum) in its best forms, such as D. A. Langleyense, has few superiors; it should have a place in every collection.

The varieties of D. Cybele (nobile x Findlayanum) are all free growing, and most desirable: there are very few inferior forms among them, and as they produce longer stems or flower stalks than most of the dendrobiums, they are more useful for cut flower purposes. D. Murrayi (albo-sanguineum x nobile) has a bold flower with white sepals and petals, and a deep maroon disc. There are many others of the well-known kinds that should also be included, and also others of more recent introduction which should have attention where space will permit. I shall refer to only one of the introductions of recent years, namely, D. Thwaitsiæ (Ainsworthi × Wiganiæ). Both parents of this form are hybrids, and, as a matter of course, considerable variation is found among the offspring. It is a most desirable addition to the hybrid dendrobiums.

Points in Culture.

The culture of dendrobiums is not a difficult matter where proper accommodation is provided for them. But where they have to be grown in association with other plants and shifted from place to place to secure suitable conditions to meet their requirements at the different seasons of the year, they not only require more attention, but it is by no means easy to produce the results one would wish. It is above all desirable to secure a position where only the scorching rays of the sun are broken, as under such conditions little difficulty is found in providing the necessary high temperature, which secures rapid advancement in growth. This is a most essential point under the climatic conditions that usually obtain in this country, and especially such as have been experienced of recent years.

Another condition that is essential to success is having a young stock of plants, either raised from seed or propagated by cuttings. We hear much about large specimens, and these are not difficult to procure in the case of some varieties of the species, but I have invariably found that it is from the young and more vigorous plants that we obtain the best flowers and the most satisfactory return. To procure a succession of young plants annual propagation is necessary. As I have only recently referred to the propagation methods in the Work for the Week columns, there is no need to deal further with the subject of culture here.

Dendrobium nobile virginale.

The so-called albino variety of D. nobile has now been in cultivation for some years, and has become generally distributed in gardens. The most remarkable exhibits that have ever been seen of this most valuable addition were those of Messrs. Armstrong and Brown, of Tunbridge Wells, at the Manchester Orchid Show, in April of last year, and again on April 5 last at the Royal Horticultural Society's exhibition, when over 200 finely flowered plants were included in the group, for which the firm was most deservedly awarded a gold medal.

This variety is considered to be altogether more robust, the flowers are larger and finer in substance than any of the varieties known. It is interesting to note that the whole of the plants shown by Messrs. Armstrong and Brown were raised from seed, the result of crossing a flower with its own pollen, giving another illustration that these so-called sports are fixed characters when in-breeding is resorted to, and reproduce themselves true to their albino characteristics from seed.

The accompanying illustration of D. nobile virginale represents one of the smaller plants included in Messrs. Armstrong and Brown's gold medal group, and [illegible] the freedom with which the variety produces its pure white flowers. The example of D. Chessingtonensis herewith illustrated was also shown by the same firm in their collection, with a considerable number of other fine hybrids.

H. J. Chapman.

[illegible] gardens.

[illegible] GUIDE TO GARDEN WORK.—A handy [illegible] to work in the garden month by [illegible] Gardening Year Book, by George Gordon, [illegible] price 1s. net from booksellers, or by post [illegible] W. H. and L. Collingridge, 148, Aldersgate [illegible] London. The book is freely illustrated, [illegible] cultural details thoroughly practical and [illegible]

ANNUAL STOCKS.

In point of beauty and general utility few annual flowers are more deservedly popular than the innumerable variety of stocks. They well repay care and liberal cultivation from the time the seed is sown until the plants come into flower. One of the best dwarf stocks is All the Year Round, a glossy dark green-leaved variety, only twelve inches in height, with exquisite double white flowers. Princess Alice is difficult to surpass as an all-round white stock for the supply of cut flowers; the foliage is dull grey-green, and the flowers are perfectly double. Mammoth White is a counterpart of the former, growing a little taller, being rarely under two feet in height.

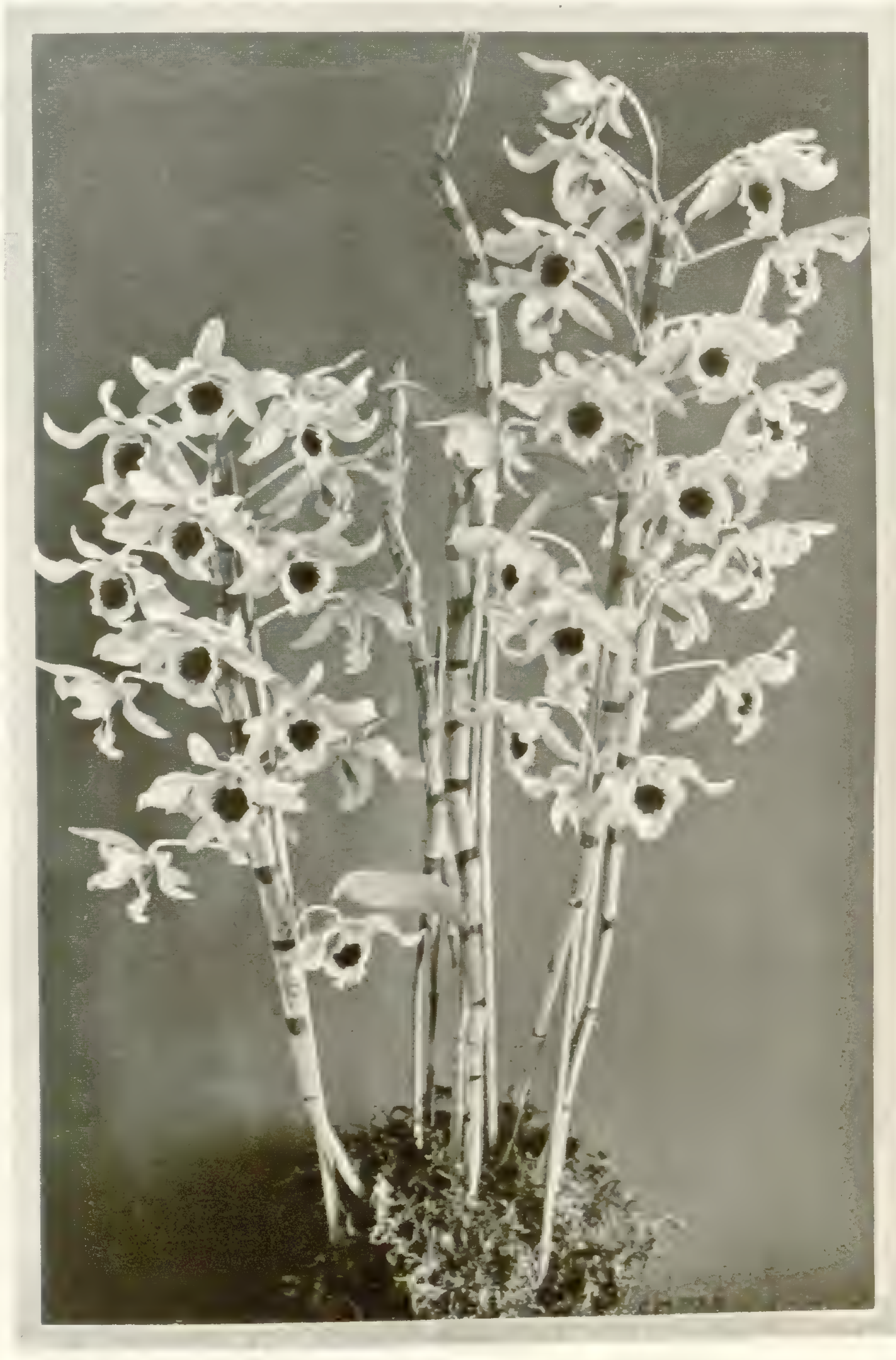
The coloured varieties represented by the dwarf Bouquet and grandiflora types of ten week stock are extremely valuable for massing purposes in beds and borders. In some gardens objections are raised to their restricted flowering season, consequently late sowing is advisable under these circumstances, unless facilities exist for supplementing these when spent, by later-flowering subjects.

East Lothian stocks, especially the wall-flower-leaved sorts, are valuable both for pots and the open ground; plants raised in autumn and wintered in pots in a cold frame will produce their flower-spikes through all the summer; these eventually make bushes three feet or more in height.

Beauty of Nice, Queen Alexandra, and similar stocks, when sown in autumn, potted up, and grown in a cool greenhouse through the winter, produce plants four feet in height, with massive pyramids of blossom over two feet in length. These come into flower along with Schizanthus Wisetonensis and pinnatus in time for Easter, and give a rich display for quite six weeks. These latter varieties, when sown in March, are equally valuable for furnishing an autumn display in the open garden.

Thomas Smith.

Walmsgate Gardens.



DENDROBIUM CHESSINGTONENSIS.

A beautiful hybrid bearing deep golden flowers, recently exhibited at a R.H.S. meeting by Messrs. Armstrong and Brown, Tunbridge Wells.

Lettuce Stansted Park. Those who require a liberal supply of a good cabbage lettuce in April with but a minimum of trouble, would find this a good variety. The present has been a trying season for autumn-planted lettuce, but this variety has passed through the severe frost, wind, and at times excessive rain and snow, in quite a satisfactory manner, and as such it should be recommended to those who have no cold frames or even cloches to aid them in securing April lettuces.—E. M.

RHODODENDRON RACEMOSUM.

A great many species of rhododendron have been introduced from China within the last twenty years, some of which are likely to compare favourably with those that have been common in gardens for many years. The larger-growing species will, however, doubtless be many years before they attain flowering size, but in the meantime many of the dwarf-growing, small-leaved sorts, will prove their worth. R. racemosum was one of the earliest of the species from Western China to be introduced, and it blossomed in this country seventeen years ago. When it first flowered, it was recognised as being likely to prove first-rate for the garden, providing it proved hardy. Subsequent observation has proved that the species is more than worthy of all that was said in its favour at that time, whilst the question of its hardiness for most parts of the country has been proved beyond doubt. It is one of the many beautiful garden plants that were first collected and sent to Europe by that indefatigable French missionary, Father Delavay. He is reported to have collected more than 4,000 species of plants between 1883 and 1896, of which Franchet, who dealt with his collection at the Museum of Natural History, Paris, says 1,500 were entirely new species.

Seeds of R. racemosum were sent to Paris in the first instance, but Messrs. Veitch, of Chelsea, were the first to bring it to notice in this country, about 1892, when flowering plants were exhibited. It was noted in most of the garden periodicals about that time, and in 1893 it was made the subject of a plate in the "Botanical Magazine," t. 7,301. Although it blooms freely when but an inch or two in height, and is frequently met with as a small bush a foot high, it attains larger dimensions, and grows at least to a height of 2½ or 3 feet. When growing well it is of free habit, but in poorer ground it forms shorter shoots and is somewhat dense. The leaves are small and evergreen, glaucous on the undersurface. The flowers have a white ground, more or less heavily flushed with pink, and are borne in axillary and terminal inflorescences, each branch having the appearance of a raceme of flowers.

The flowering period is the latter end of April and early May. In the past it has been rather expensive, which has prohibited its planting on an extensive scale; of late years, however, it has been decidedly cheaper, so in the near future it is quite likely that it will be planted extensively. It has been propagated largely at Kew both from seeds and cuttings, and several large masses are to be found about the gardens. W. D.

THE NEAPOLITAN CYCLAMEN (C. NEAPOLITANUM) IN LEAF.

LILY OF THE VALLEY IN OUR WOODLANDS.

In some of the woods surrounding a private residence in Bournemouth lily of the valley grows luxuriantly, and, while walking through these woods recently with the owner, he pointed out the thriving roots of this flower. The leaves are of grand proportions, and the crowns equally so. The flowers are large, and borne on very strong stems, I am assured. I know that the lily of the valley grows extremely well in the woods near Morecambe Bay, either in Cumberland or Westmoreland; in the last-named county, I believe, but in the Bournemouth instance the plants have no better rooting medium than almost pure sand.

I have grown lily of the valley in large batches in private gardens, both in the shade and also in hot south borders, fully exposed to the sun. In one garden these lily beds covered more than a quarter of an acre of ground, and I found that, where given a deeply-dug friable loam, the position did not matter much, as the plants grew and blossomed equally well in all aspects. In a wood there is always a good deal of shade during the growing period of the lilies. I feel very sure that the lily of the valley should be more extensively grown in our woodlands than it is at present. Perhaps some readers know of instances where the plants thrive in such circumstances. G. Garner.

CYCLAMEN NEAPOLITANUM.

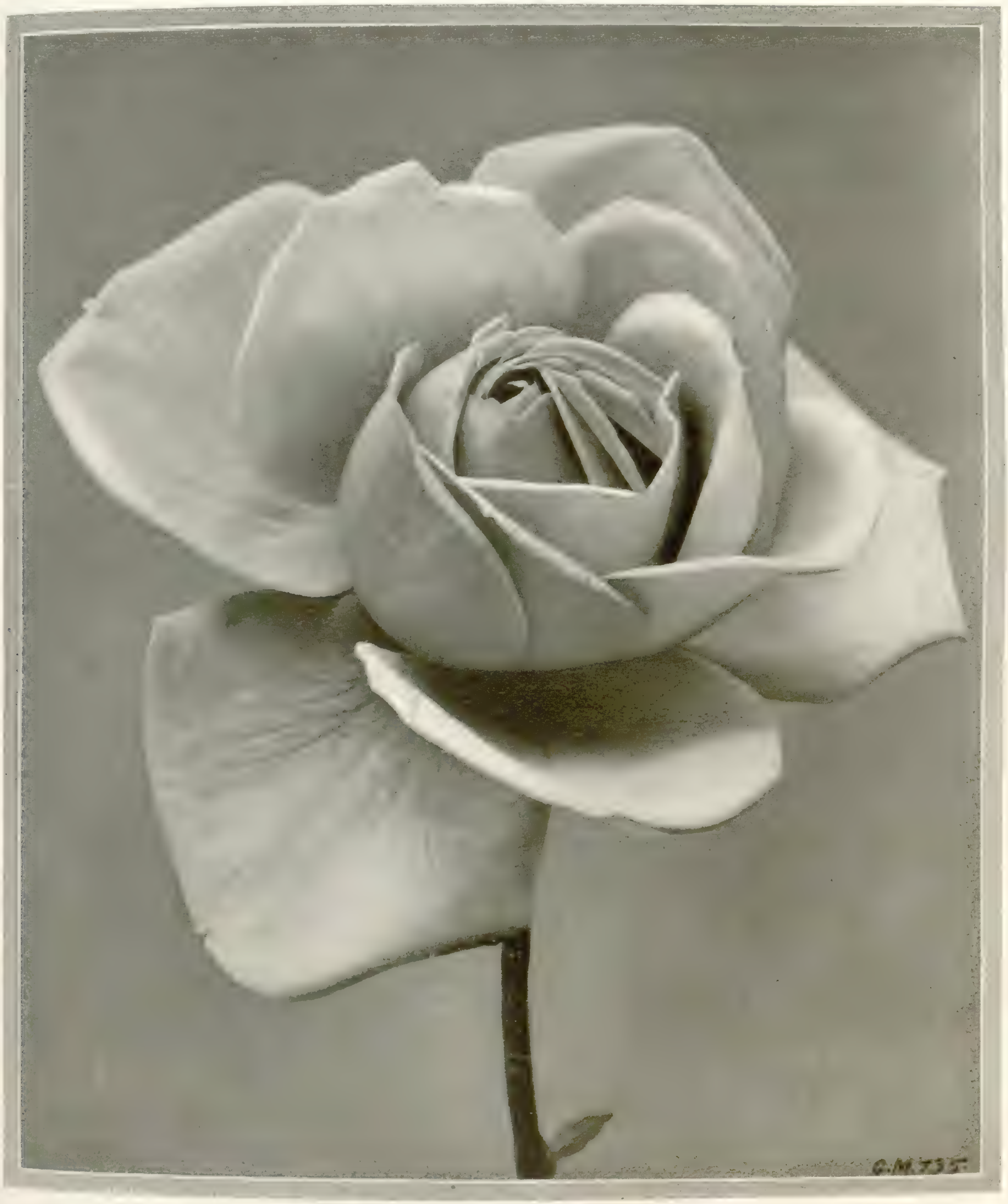
During the autumn the hardy cyclamen are very valuable in the rock garden, and the above species, and its white variety, give a profusion of flowers for about six weeks, but the termination of their attractiveness is not yet. When the flowering period is coming to an end the beautifully marbled foliage is produced, which is doubly welcome at this time, when most plants are losing their fresh appearance. In the Cambridge Botanic Garden a colony occupies about a square yard on the rockery; some of the corms have been there many years, and are now of immense size, as much as six inches in diameter. They are also very useful in the wild garden, and do not mind a position which is naturally dry during the summer, especially under the shade of deciduous trees.

E. J. Allard

THE NEAPOLITAN CYCLAMEN (C. NEAPOLITANUM) IN BLOOM.
The flowers, white or red.

THE LYON ROSE.

The rose that we have the pleasure of illustrating herewith is one of the fine varieties introduced to cultivation by Messrs. Pernet-Ducher in the autumn of 1907. Previous to its distribution this beautiful hybrid tea created much interest among the rosarians who had an opportunity of seeing it in the nurseries of the [illegible] and elsewhere, and it was generally anticipated that it would prove a useful [illegible] to its class. This anticipation has been fully realised, and those who had an opportunity of growing the variety last [illegible] conditions favourable to its full development regard it with much favour. At the second of the two April meetings of the Royal Horticultural Society. Messrs. William Paul and Son, Waltham Cross, included several finely flowered examples in the large and beautiful collection of pot roses they exhibited on that occasion, and the splendidly developed and attractively coloured flowers secured for the plants a full share of attention. The form of the blooms is well shown in the accompanying illustration, and, as indicative of the size, it may be mentioned that the bloom illustrated was one of several growing on a plant occupying a pot of medium size. The colour is exquisitely beautiful, and may be described as coral red suffused with yellow in the centre, shading to shrimp pink towards the margin. The flowers are fragrant, the growth is vigorous, and the flowers freely produced. The National Rose Society describe it as valuable for garden decoration, and the examples shown by Messrs. W. Paul and Son indicate its usefulness for pot culture.



THE LYON ROSE.

A new H.T., exhibited by Messrs. W. Paul and Sons, at a recent meeting of the Royal Horticultural Society. The blooms are of large size, and exquisitely coloured coral-red, yellow, and pink.

Apple Lord Burghley.—For years I attempted to grow this apple here, amongst eighty other varieties, and gave it up as a failure. When I did obtain a crop the fruit was so hard as to be uneatable at any time. Certainly the fruit will keep a long time, but, what of that if it is of no value. The tree was upon an English paradise stock. The soil is inclined to be heavy, but in this case at planting time much foreign matter was added, such as decayed vegetable refuse, wood ashes, and old potting soil. Seldom do I meet with the variety, although my rambles are not confined to one county.—E. M.

PREPARING BEDS AND BORDERS.

All experienced gardeners are fully agreed that the majority of the plants now used for long-continued masses of bloom are as exhausting to the soil, and require to have as good foundations laid for their culture, as many or most of our vegetables. It is a matter of very great importance that the principles of good cultivation, in so far as the preparation of the beds is concerned, should be specially noticed. There are good reasons for fearing that the miserable appearance of many a villa and cottage flower plot owes its origin to the idea that our present flower garden plants do not require careful cultivation, such as would be expected to produce good crops of vegetables. I wish to give prominence to the fact that, in order to produce fine healthy plants and a long-sustained array of bloom in the case of the great majority of the plants used, it is indispensably necessary that the beds be well drained, deeply worked, and well manured.

Few subjects are more exhausting to soil than masses of verbenas, heliotropes, calceolarias, etc., and the unsatisfactory appearance which these frequently present is as often referable to the want of liberal treatment as to anything else. An accumulation of water about a bed of flowers is productive of evils that will thwart the efforts of good management in all other respects; it will keep down the temperature of the soil, prevent the natural action of the atmosphere, and lessen the chances of getting the soil pulverised and sweetened. Every flower bed that is wet should therefore be well drained, as a first step to successful flower gardening. As to deep cultivation the benefits derivable from it are so many that it would be difficult to enumerate them all. It gives a greater degree of openness to the soil, so that the roots can penetrate it more easily, and in dry seasons go down where the soil is more moist, and escape to a greater extent the evils of drought. In wet seasons the superabundant water escapes more freely to the drains or subsoil. Many other benefits might be referred to, but these are sufficient to show that deep cultivation is of much importance in flower beds and borders.

Where it is practicable to carry it out, a rule should be made to trench every other year both beds and borders. This is best done in winter, and a rough surface left, exposed to the frosts, and the beds forked over and thoroughly pulverised before planting time.

The extent to which manure must be applied must be regulated by the nature of the soil, and dryness or wetness generally of the locality. Where the soil is naturally shallow or light, or sandy, it is greatly improved by having a quantity of heavy loamy soil incorporated with it. The best manure for sandy soil is cow dung, which has been in a heap for at least twelve months, and has lost its rankness; the next best is old well-rotted hotbed manure, that is, stable dung well decayed; but for heavy loamy soils well-decayed leaf-mould is preferable. These manures should be applied when the beds are trenched in the course of the winter, and incorporated well with the staple. All rank or partially decomposed manure should be avoided, and when well-decomposed manure cannot be had, spread it over the surface of the bed, and let it lie exposed to the air before digging or trenching it into the soil.

Those who are fortunate enough to have a deep and rather light loamy soil that can be trenched from two to three feet deep, and a dry subsoil, have a great advantage over others who have either a shallow, poor soil, or one that is wet and clayey. It will scarcely be believed by those who have not seen them how vigorously most plants grow and bloom in deep light loam, resting on a dry bottom, which should be the standard to be guided by. Those who have small gardens, particularly near towns, have great disadvantages to contend with, if their soil is naturally bad. Generally, they cannot easily get their few borders either entirely remade, or ameliorated where the soil cannot be wholly replaced. Clay is more effectually improved by turning up the subsoil and mixing it with the best of the surface soil, than by any other means. Road grit or light sand added to it will also improve it, and when soil is sandy and poor the subsoil should be removed, and heavier soil mixed with the best of the natural soil.

It need scarcely be said that, when the soil is naturally unsuitable, the most effectual way of remedying the evil is to entirely remove it to the depth of 18in. or 2ft., and replace with two parts fresh loam and one part decomposed leaf-mould. Where the rainfall is great, and many things, particularly pelargoniums grow too much to leaf, the soil should be raised more above the ground level, and of course, manure should be more sparingly applied generally.

T. B. Field.

Ashwellthorpe, Norwich.

SOME DIFFICULTIES OF PLANT CULTURE.

(Continued from page 360.)

There are at least three classes of growers. First, those who never learn anything except by bitter personal experience. The loss of one or two crops in succession by the attack of some preventable parasite usually affords such a man the needed personal stimulus. There is a second class of growers, who believe it all, know it all, and can give pointers to any expert, but are what might be called eleventh-hour men. Whether from inertia, love of ease, or inability to plan, they never get around to try any preventive until the mischief is done. Such growers are the worst to deal with, since they are pretty certain to apply some remedy when it is too late, and equally certain to declare afterwards that all such remedies are worthless, as they know from "personal experience," having tried them.

There is a third class of growers who are very quick to see, and equally quick to apply, anything likely to add to their success, and these are the growers who make their mark. In the art of the restriction of plant diseases, as in that of modern medicine, an ounce of prevention is worth many pounds of cure.

It is now generally known that diseases which prevail extensively are contagious or catching diseases, and that these are due to parasites. These plant parasites are plants or animals which have in some way lodged on, or gained an entrance into the plant, "host plant" as it is called, and there multiply to its detriment. Many of these organisms are exceedingly small so as to be readily overlooked, and all of them are well provided with means of reproduction. In the case of the parasite fungi, the reproductive bodies developed on a single host plant often amount to hundreds of thousands, and in case of bacteria even to hundreds of millions. These bodies are, of course, very small, requiring good microscopes and other facilities for their study, but if the conditions are favourable a single one of them may be all that is necessary to start disease in a healthy plant.

Why then are not all our plants destroyed outright? There is a constant struggle for existence in all animate nature, and one organism or another prospers according to environmental conditions. Sometimes the advantage is wholly with the host plant, at other times largely with the parasite. Many parasites are very sensitive to light, to heat, to dry air, and perish in a short time if exposed to these conditions. Other parasites will thrive only under unusual conditions of heat and moisture. Many of the higher plants have devised special means for their own protection, such as the physical obstacle of a thick and hard covering not easily penetrated, a waxy covering not easily wetted, a smooth covering from which the water runs off quickly, or have interposed chemical obstacles, such as a sap not adapted to the growth of the parasite.

These then are some of the reasons why all of our plants are not immediately attacked and destroyed.

To sum up or restate the case: First, the parasite is very liable to be destroyed by adverse conditions before it reaches the plant. Second, it must gain an entrance into the plant by its own exertions, or by the help of other organisms, and this may be difficult or impossible. Third, once established, its growth may be effectually stopped by insuperable chemical or physical obstacles.

Not every potential parasite becomes an actual parasite. The difficulties lying in the way are often too great for the organism to overcome, and, consequently, a good portion of our crops escape. The business of the plant pathologist is to find out just what these difficulties are in each case, of each particular parasite, and to teach the grower how he may increase them, and so check or entirely destroy the prevailing evil.

Certain parasitic diseases of plants are peculiarly soil troubles. Their home is the earth. They live and multiply in the soil indefinitely as saprophytes, and yet are always ready to become parasites when there is an opportunity. Not enough attention has been paid to this class of diseases. Among these soil fungi are some of the worst enemies the cultivator has to contend with. They are hidden out of sight, are very difficult to combat by fungicidal treatment, and when a soil area is once well seeded down to one of them it is practically worthless for the growing of such crops as are subject to the disease, the only satisfactory management of the soil in most cases being a long rotation with crops not subject to the attacks of the parasite. These soil fungi manage to get about from one area to another in various ways. Some of them are known to have been distributed in irrigation water, or to have been washed from higher to lower levels by surface water; some have been carried by the workmen's tools, or on the feet of animals. Occasionally man himself digs them up and transports them into hotbeds, greenhouses, or the open garden.

Frequently these fungi creep through the earth for considerable distances, destroying nearly everything they meet, or only certain species of plants. Others distort or corrode underground parts without destroying the plant, among which may be mentioned onion smut, potato scab, the club-root of cruciferous plants, the fairy ring fungus.

Undoubtedly these troubles have arisen, or at least have become intensified. by too frequent growing of the same crop on the same soil, and the best remedy is to be found in a wide rotation.

Harpenden. J. J. Willis.

(To be continued.)

THE IDEAL CONSERVATORY.

It is the fashion of the world to laugh at ideals. Yet all earnest men have ideals, though few attain to them. Without an ideal there can be no purpose—no progress. The ideal conservatory must be planned solely for the purpose of securing the best possible conditions for the plants—abundance of light, plenty of ventilation, a sufficiency of heat, and just enough shading during bright sunshine to break the fierceness of the sun's rays, and thus ensure a longer period of flowering for the plants. The architecture of the conservatory may be distinctly ornamental, provided that its utility as a house for keeping plants in healthy growth and full floral beauty be not thereby lessened. When the beauty of the plants is sacrificed to the beauty of the house then the conservatory is not ideal. The endeavour should be to combine architectural beauty without and floral beauty within, for to argue that the two are antagonistic and mutually destructive is absurd.

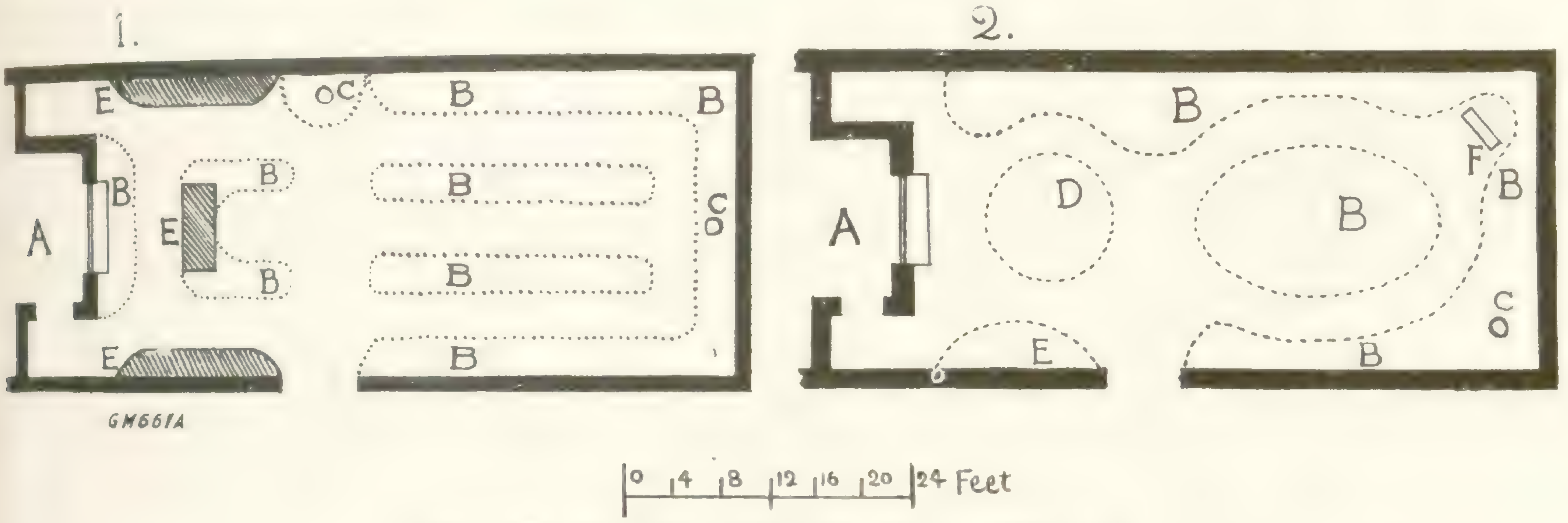
The conservatory being really an indoor garden, the work of the builder should be hidden or toned down, not because it is intrinsically unsightly, but because the array of bright flowers and sombre foliage is more exhilarating to the mind, and certainly more provocative of pleasure. Thus the walls and pillars and tie-rods would be clothed and festooned with creepers, made freely floriferous, without excluding too much light, while hanging baskets, well furnished with ferns and foliage and flowering plants, would seem to lessen the height of the structure, and be a link between the canopy of climbers on the roof and the forest of flowers on the floor. Another quality essential to the ideal conservatory is that the floor be of such a character and the walk of such a width as to ensure comfort in getting about.

In the conservatory there is not the same need for moisture-retaining material, nor the same pretext for parsimony in the matter of space, as in a house used for growing plants. Carefully laid tiles, gravel, cement, or mosaic, form very pleasing floors, the choice of which can safely be left to the will or whim of the owner. I certainly think that the floor should be all over alike, for I hold the opinion that to form stagings and beds which cannot be readily removed, is to deprive oneself of the pleasure of variety in the arrangement. Where the beds and stagings are mapped out, and are not readily removable, the arrangement of the flowers is lamentably limited.

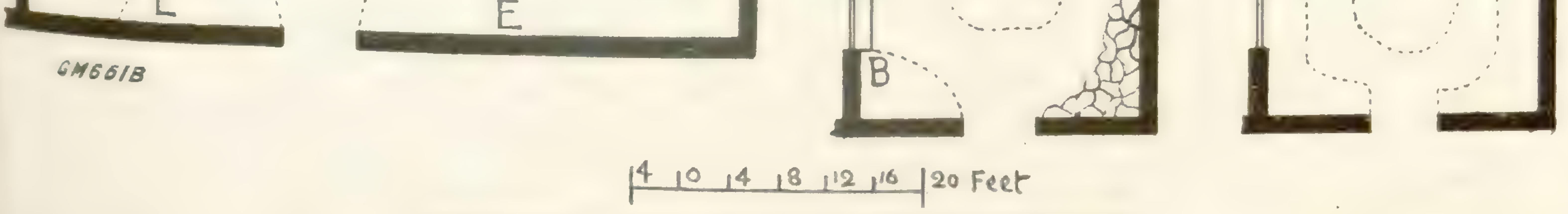
It is really in the arrangement of the plants that the conservatory is made or marred. Now the first and most obvious essential to the arrangement of plants is to possess them. The error of having a conservatory too large is far too general to be ignored. Unless a good supply of seasonable plants can be maintained, the idea of making a conservatory ever gay might as well be abandoned. Where there is always the work of picking over the plants to make them do again, the plants themselves present an exhausted appearance, the arrangement cannot be so natural, the power of artistically blending the colours is limited, and the one on whom devolves the work of arrangement loses all interest. No, the ideal conservatory must bear a proper proportion (in point of size) to the plant houses and to the means of the owner. On no other lines can an ideal conservatory be made or maintained, for if plants have to remain after they have passed the zenith of their glory, the conservatory loses its claim to be considered ideal.

I do not intend to wholly condemn the use of stagings for the display of plants. Such an arrangement is shown in Fig. 3, where a staging runs right round the house, and there is a central bed of rectilineal outline. I do, however, contend these stagings might at times be dispensed with, and other methods of arrangement adopted, such as are shown in Figs. 1 and 2. Let us for a while consider these.

In Fig. 1 (as also in 2 and 3), A is the drawing-room, with a window looking into the conservatory. The three shaded pieces at E are stagings on which comparatively small plants may be arranged. The spaces B, bounded by dotted lines, would be filled with palms and foliage and flowering plants arranged on the floor. C would be statues, the one being opposite the entrance and surrounded with plants, and the other



SUGGESTIONS FOR CONSERVATORY INTERIORS.



SUGGESTIONS FOR CONSERVATORY INTERIORS.

The approach to the conservatory should be made as pleasant as possible. Within the immediate precincts of the ideal conservatory I can imagine nothing better than a sweeping stretch of green sward, thus [illegible] that display of ignorance on the [illegible] those who would compare exotic [illegible] within with the more natural beauty [illegible]. The outer walls of the conservatory should be well clothed with creepers [illegible] by a belt of shrubs, and the [illegible] exterior should give promise of pleasure within and seem to invite and almost [illegible] entrance.

within view of the drawing-room window. In this method of arrangement practically the whole beauty of the conservatory could be viewed from the drawing-room. This may or may not be considered an advantage, but I certainly think it will be conceded that the method is somewhat superior to the prosaic arrangement of Fig. 3; or, at any rate, it makes a pleasant change. We have another pleasing arrangement in Fig. 2, where an oval group is formed on the floor, and is skirted by a border with a wavy outline. A recess is formed at F for a seat, and a statue would stand at C. E would be an arrangement of plants on a staging, and D would be a circular tiered stage, topped by a graceful palm. Given good plants and intelligence in setting them up, this could not, I venture to think, fail to please the most fastidious. Other arrangements are shown in Figs. 4 and 5, which are sufficiently clear to explain themselves.

Where stagings are still used it would, I think, be a distinct advantage, and a novel feature, to cover it first of all with grass for the pot plants to stand on. Shallow boxes made to fit the staging could be filled with soil and sown with lawn grass seed, and in due course cut. As a groundwork I think it would be distinctly pleasing. Then, again, the posts supporting the staging could be enclosed with wire-netting, and the space between the netting and the post plugged with turfy loam, peat, and moss, and planted with small, quick-growing ferns. Where a group is made on the floor a pleasing feature could be formed by putting a verge of grass (about a foot in width) all around it at the bottom, with the part near the pots slightly tilted. The space beneath the staging could also be furnished with some of the numerous plants which are partial to that position, or a rockery could be formed.

Another arrangement which merits trial is to form beds on the floor, made up of ashes or cocoanut-fibre and bounded by a bank of turf, and in these ashes to plunge such plants as Salvia splendens, Salvia patens, Coleus thyrsoideus, zonal pelargoniums, cyclamen, gloxinias, carnations, Begonias Gloire de Lorraine, tulips, hyacinths, and innumerable other plants. Such a feature could not fail to give pleasure. Then, again, I cannot see why the beautiful groups seen at shows, such as Shrewsbury, Hanley, Wolverhampton, and York, could not be imitated where space is available. In the arrangement I have shown in the plans there would be ample room for the modern mode of massing plants in their colours, and a pretty and gracefully undulating effect could be produced. In fact, the arrangement of plants in a conservatory is full of possibilities.

It goes without saying that the method of heating and ventilating the house would be modern and perfect. To obviate the difficulty of watering the baskets, each one could be kept in position by a weight so that they could be pulled down for watering.

In our ideal conservatory there would be perfect harmony of colours, relieved occasionally by sharp, but not displeasing contrasts, the fragrance emitted from leaf and flower would be pleasing without being oppressive, and by the frequent introduction of fresh plants to replace those which were waning, the beauty would be ever changing, ever new. The atmosphere of such a conservatory would be one of joy and peace—such joy and peace as are inseparably associated with the scent and sight of beautiful flowers.

William F. Rowles.

NOTES FROM KEW.

Though it is now a well-known fact, and one often deplored, that hard-wooded plants do not occupy the same position in popular favour that they once did, yet, at the present time, they serve to make a goodly show in the greenhoue at Kew. They are for the most part grouped together, and the representative collection now brought in association occupies considerable space.

Boronias.

The boronias are, of course, well represented, for, though the sober-tinted B. megastigma is nearly over, there are still enough flowers remaining to attract by reason of their delicious fragrance. The newer B. heterophylla, whose bright-coloured blossoms are closely packed for some distance along the shoots is, I think, entitled to rank as the showiest member of the genus, though when at its best, B. elatior runs it closely. As a rule, however, B. elatior is only expanding its earliest blossoms when B. heterophylla is at its best, so that where these plants are grown, a place may well be found for both of them. A species which is well grown at Kew, but rarely met with elsewhere, is B. fastigiata, of rather upright growth. The small ovate leaves are of a fleshy texture, and the blossoms, which are individually about half an inch in diameter, are borne in terminal heads. They are of a mauve-pink colour.

Heaths.

As might be expected, several members of the heath family (erica) contribute their share to the floral display, particularly noticeable among them being Erica canaliculata, with small mauve-coloured blossoms; E. persoluta alba, a popular kind, with flowers of much the same size, but pure white; E. ampullacea, with pleasing rosy-white flowers of a thick waxy texture; and the two popular market varieties, E. Cavendishi and E. Spenceriana. This last-named has a profusion of long-tubed flowers of a pinkish mauve colour, but varying in shade according to the conditions under which it has been grown. Erica Cavendishi is well known for its bushy habit, the deep green of its leafage, and the golden hue of its blossoms.

Epacris.

Of course, by the middle of May most of the epacris are over, but the distinct E. longiflora or miniata, as it is often called, is now at its best. It is of a loose, spreading habit of growth, while compared with the early flowering forms the blossoms are longer and drooping, and on the almost horizontally disposed shoots are seen to very great advantage. In colour they are bright red, tipped with white. The double-flowered E. purpurascens flore plena, better known as E. onosmæflora flore plena, whose little white rosette-like blossoms are closely packed for some distance along the shoots, is also in good condition. When first distributed (about 25 years ago) great anticipations as to its value for decoration were indulged in, but up to the present they have not been realised.

Leptospermum scoparium.

This exceedingly free-flowering member of the myrtle family, known popularly as Captain Cook's Tea Plant, presents quite a mass of its pretty white blossoms, and forms a pleasing feature in the greenhouse. It is of easy culture, and may be kept out of doors during the summer months.

Felicia echinata.

This is a freely-branched, yet upright growing composite, whose terminal flower heads consist of a yellow disk surrounded by mauve-coloured florets, making a bloom about 1½ inches across. The leaves are small, and of a deep green tint. It is decidedly uncommon, but well merits extended cultivation.

Cytisus fragrans.

This member of the broom family, which, under the name of Cytisus or Genista racemosa, is such a popular market plant [illegible] represented at Kew by two distinct varieties. The first, Everestianus, is characterised by flowers of a much richer [illegible] than those of the type, and the second—elegans—has leaves more or less silky, and pale yellow blossoms.

Platytheca galioides.

Known also as Tremandra verticillata and Tetratheca verticillata, this pret[illegible] little Australian shrub is quite distinct from any other occupant of the greenhouse. It forms a bushy little specimen, whose thin wiry shoots are clothed with very narrow leaves arranged in whorls of eight to [illegible]. The saucer-shaped flowers, which are of a beautiful shade of blue, are drooping and supported by long slender stalks. As [illegible] shoots lengthen more buds are developed, hence the flowering season extends over a lengthened period.

Aotus gracillima.

A very showy member of the Australian leguminosæ. The shoots of this are slender, a yard or more in length, and disposed in a graceful arching manner. The small pea-shaped blossoms, which are closely packed throughout the greater part of the length of the branches, are rich yellow, marked with scarlet. They are exceedingly pretty, but from their small size need close inspection.

K

Calceolaria Golden Glory.—A short time since I had an excellent opportunity of seeing in the Exeter nurseries [illegible] well that very fine hybrid calceolaria, Golden Glory, stands the winter in the open ground. The plants, Mr. Veitch informed [illegible] had been growing in the open ground [illegible] two winters; the plants were looking [illegible]markably well, and showed what might [illegible] done with this plant in the open ground. In fact, I am inclined to think the [illegible] ground treatment would suit it best, [illegible]viding a suitable position and favourable [illegible] were given it. It should not be thought that it will thrive best in Devon, as I saw it after two months of frost varying [illegible] gree from 5 deg. to over 20 deg., and at the time of my visit with snow falling. Many other plants would have been noted, but the wintry weather caused us to seek shelter.—[illegible] H. Slade.

Nemesias may be fittingly regarded as in the class of reliable annuals, and although rarities and novelties are experimented upon every year, to these is assigned a place won upon their merits as decorative garden plants. The flowers have many good qualities, being bright in colour, freely produced, and lasting in general effect, due largely to the succession of flowers which originate from the lateral branches. The plants are compact in growth, filling out into shapely bushy specimens; the habit is not too stiff, and, as many colours can be had in selected shades, for this reason nemesias are extremely useful for massing in beds and borders, and when employed as a groundwork to taller subjects the effect is all [illegible] desire. Nemesias amply repay a little extra trouble to secure an early display; [illegible] light soil in a cold frame, and transplanted, they may be placed in their flowering quarters early in May. Nine inches apart [illegible] good distance to plant, and provided the [illegible] is rich and light, failure is an [illegible] need scarcely be reckoned with. [illegible] the prettiest nemesias of recent introduction to gardens is a pale blue form which [illegible] gestive of spring forget-me-not [illegible] flower.—Thomas Smith.

THRIPS ON GARDEN PEAS.

(Concluded from page 385.)

Observations During the Past Season.

When the disease was first noticed, in July, and the peas were well advanced in growth, and it was unfortunately impossible to note the commencement of the attack. The diseased appearance of the pods above described was well established, and the larvæ were readily found. They were less than one-sixteenth of an inch long, orange-yellow in colour, except for the last two segments, which were black. The eyes, especially in the younger larvæ, were of a conspicuous red hue. They were fairly active, and were often seen wandering over the pod, but when feeding they were necessarily stationary, with their piercing jaws plunged into the vegetable tissue.

Nothing was to be learnt concerning the course of the disease from the older pods, so the flowers in all stages of development were carefully examined. Very few of the adult insects were seen at all, and still fewer were caught, for they were very active and flew away immediately on discovery. Such as were seen were in the flowers, and were nearly black in colour.

A great deal of search was necessary before the eggs were found, a large number of leaflets and flowers, old and young, being dissected and subjected to microscopic examination. At last they were found, and uniformly in the same situation. In examining the stamen sheaths of fully developed flowers, pairs of minute red specks attracted attention, and these turned out to be the eyes of tiny young larvæ protruding their heads from the surface of the sheath, in the substance of which the eggs from which they were hatching were buried. These little protruding heads with the already conspicuous eyes had a very quaint appearance, and the examination of a great many stamen-sheaths showed the larvæ in various stages of development and emergence. When their position was once discovered there was no difficulty in finding any number of examples, many stamen-sheaths showing twelve or more of the developing larvæ.

I am by no means sure that this is the only situation in which the eggs are deposited, but I entirely failed to find them anywhere else, though from the progress of the disease it seemed likely that some were laid in the very young shoots before the flowers were developed. At all events, the origin of the disease of the pods was clear enough. The female must crawl into the flower and pierce the stamen-sheath at intervals with her ovipositor, depositing an egg at each operation. While the larvæ are developing, so is the pod, and their future feeding ground is close at hand. When they emerge they have only to crawl on to the adjacent pod which they pierce with their jaws, extracting the sap and mottling the green surface with white patches, at first only at the base, but later at both ends where they find convenient shelter if disturbed. The pod soon looks unhealthy and becomes distorted.

Treatment.

It is very evident from the nature of the disease that it is most important to notice the commencement of the attack and deal with it then. The date when it was first observed made this impossible last season, so that observations of the early stages must be deferred till next year, when pea-plants will be kept under observation from their first appearance above ground. All that is possible at present is to state any facts bearing on the origin of the disease, and any measures which are useful in mitigating its ill effects.

Where do the insects come from? Is the soil where diseased peas have been grown a danger to next year's plants?

Now the thrips do not pass the winter in the larval state, but as mature insects, which usually do not live under the soil but are found, if at all, in flowers or under the bark of trees. During attack I never found the larvæ on the roots of infested peas, and even if they could live there very few roots of the old crop are in the ground at the time the seeds are sown in the ordinary course of pea cultivation. It would seem that the only possible direct connection between two attacks would be in the use of pea-sticks a second time with the thrips concealed under the bark. During November I searched for them in such situations and found two or three species of thrips, but I am not aware that the disease only declares itself after sticking. The attacks are probably not directly connected at all, but arrive quite from the outside, in which case preventive measures would be useless. The insect is obviously common and widely distributed, whether or not the species is really Thrips cerealium. This point requires further investigation, as the larva of that species is described as yellow, without any mention of the black terminal segments. The best hope lies in the discovery of some treatment which shall check it when it first begins to attack the peas.

On the already diseased plants various washes were tried with very slight success. Paraffin emulsions did not reach any large proportion of the insects, which were too well hidden. Arsenic washes were hardly indicated in the case of sucking insects, but they were tried, with no very beneficial result. In some varieties of pea, moreover, the pods would not receive a uniform deposit of the spray, and remained largely unaffected by it.

Distinct improvement, however, resulted from topping the plants, just as beans are topped when suffering from aphis. The topmost shoots seemed to be the main seat of the attack, and the disease was certainly mitigated by their removal. In some cases badly diseased plants so treated put forth a late crop of perfectly clean pods.

RED OR GRIZZLY GRAPES.

I can assure Mr. Curtis that what I saw on p. 502 of the R.H.S. "Journal" relating to grizzly grapes does not influence me in the slightest degree, for two reasons: First, because I do not know who the writer of that note is, and whether he has the opportunity of gauging the opinion of those interested in the subject from a practical point of view; and, secondly, because some part of that note is distinctly in favour of my argument. What could be more conclusive of this than the opening note in reference to the variety Prince of Wales? Here we have a variety that is probably the most showy of any grape, in bunch, berry, and colour when in their natural condition, and possessing the highest flavour any grape can command. This variety is recommended most strongly in preference to any other variety, "Grizzly" not even excepted.

Referring to Grizzly Frontignan, I noted too, on p. 502, which Mr. Curtis quotes freely, "now seldom met with." Does not this prove that grape growers require something more than mere flavour, viz., appearance in colour, especially when they can combine quality and flavour, as in the case of Prince of Wales?

Reference is also made to Lady Hastings, a grape that cannot be excelled for flavour, and has the merit of growing freely, and of not being fastidious. It is a strong assistance to my argument that grapes equal, or superior in point of flavour, plus the enhanced appearance—colour—can be, and are, obtained quite as easily as growing these grizzly varieties only noted for flavour.

E. Molyneux.

Cabbage Early Offenham.—Although not a new variety, this cabbage has done remarkably well this spring, when many other varieties have suffered severely from the severity of the winter. Sown the third week in July, planted out twelve inches apart, there is scarcely a miss in a plot containing over one thousand plants. The hearts are close, green, and of capital flavour; it is a cabbage to recommend to those who require this vegetable in quantity during the month of April.—E. M.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

PERMANENT SHADING should now be put on the roofs of the houses where required. I would recommend that all span-roofed odontoglossum or other cool orchid houses should have a coating of permanent shading, which may either be put on with a whitewash brush or syringed with a fine spraying syringe. Houses with south or west aspects should also be permanently shaded where they contain cool orchids or such kinds as do not require an abundance of light. It is far better to prevent the foliage becoming too much ripened or of a bronzy-red colour at this season of the year, for it invariably happens that when plants become bronzed there is a considerable loss of foliage, and, consequently, leafless pseudobulbs, a condition that does not add to the appearance of the plants. Where permanent shade is used on the warmer divisions it enables the blinds to be removed early in the evening, thereby a considerable benefit is afforded in the matter of obtaining light, which has a much greater obstruction when the blinds are drawn.

DAMPING AND SPRAYING.—With the warmer and longer days damping will have to be done more frequently; it is difficult to lay down hard and fast rules as to how frequently damping down should be done, because the various situations and conditions under which the plants have to be grown are so varied that cultivators must be guided by their own discretion. Where the conditions are bright, and at a reasonable altitude, it will be found necessary to damp the houses, especially the warm ones, two or three times a day. We usually damp about 7 a.m., again about 12, and at closing time, say, about 4 o'clock, or a little before, in the afternoon.

SYRINGING AND SPRAYING.—When the conditions outside are favourable dendrobiums and such-like plants may be freely syringed overhead in the morning and again at closing time. Cattleyas and their allied genera should be sprayed daily when out of flower, but spraying should be done sufficiently early in the day to permit the foliage to become dry before the cool night temperatures are reached. The Mexican lælias and other light-loving plants should be syringed at frequent intervals. The odontoglossums we syringe overhead whenever the conditions are favourable outside. This is best done in the morning, as with the frequent dampings the conditions are not so drying as in the warmer divisions.

VENTILATION.—One of the greatest difficulties I find is to induce the young men to ventilate according to the prevailing outside conditions. With us the present spring has been a remarkable one, although the sun has been very strong during the greater part of the day the prevailing winds have been cold and piercing, and such as to cause much anxiety, especially when the blinds are brought into use. If proper care is not observed, and the ventilation reduced when the blinds are brought into use, there is a rapid fall in the temperature, which is anything but beneficial to plants in an active state of growth. Direct draughts must also be avoided; there is nothing more detrimental than the outside air coming in direct contact with the plants, so that every care is necessary to minimise these dangers at all times.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

REARRANGEMENT.—As most of the bedding plants and others that are required for the embellishment of the lawns and terraces have been removed from the houses, we shall be able to give the permanent occupants considerably more room, and the present will be a very convenient opportunity of giving all the stages a good cleansing. As the rearrangement proceeds all the plants that require it may be given a little artificial manure, sprinkling it carefully over the surface of the soil without putting it too near to the stems of the plants. This is really a better method of applying artificial manure than by giving it in the water, as any plant that does not require it may be passed over; but if given in water it is often a trouble to water some with liquid manure and others with clean water. Endeavour to keep all plants together in one house or pit that require shade, and thus save time.

CANNAS.—These, if treated as advised in March, should now be nicely established in 54's or 48's, and be ready for shifting into their flowering pots (32's). A rich compost should be used, and potting done very firmly. All side growths should be rubbed out as they appear, keeping to one shoot in a pot, and if they are well fed after they are established finely developed spikes of bloom will result. The house in which these plants are kept should be frequently fumigated, as green-fly is apt to be troublesome on the young leaves.

ZONAL PELARGONIUMS that are intended for winter blooming should now be ready for transferring into 32's, and should be given the protection of an unheated frame until nicely rooted, when they may be removed into the open air, and given all the sun and light possible. Plants that are coming into bloom should be encouraged with a little feeding, and a light shade during the middle of the day will help the colour of the blooms.

SHOW, FANCY, AND REGAL PELARGONIUMS should now be making a brave show, and a dry, airy house should be devoted to them. Carefully remove all dead blooms, especially if the weather be dull and wet, but if this is regularly attended to they ought to continue bright for a few weeks longer.

COLEUS.—Where there is a demand for plants in small pots these may still be propagated, and the earlier-rooted examples, if required of large size, should be shifted into 9 or 12 inch pots, keeping them pinched into whatever shape they may be required.

SWEET PEAS that are now blooming in pots should receive copious waterings of liquid manure, and if they are not allowed to become dry they ought to give plenty of bloom till those grown outside come into flower.

PRIMULAS.—Seed of these should be sown, also a small sowing of cinerarias, to be followed by another sowing in two or three weeks' time. It is not advisable to raise either of these plants very early, as by sowing early they come into flower at a time when they are not wanted.—Thomas Stevenson, Woburn Place Gardens, Addlestone.

THE FLOWER GARDEN.

SUMMER BEDDING.—Except in the more northern districts it is generally considered safe to commence putting out the various kinds of plants suited for summer bedding after the 21st of the present month, naturally commencing with those which are known to be the most hardy. But where spring bedding is carried out, the work will be deferred owing to the lateness of the season for a week later than is generally the case. The first consideration will be the preserving and propagating of many of the spring-flowering plants which will be required for another year. The magnificent hybrid polyanthus, which have been so finely developed during recent years, are well suited for this branch of gardening, whether mixed or arranged in colours. Two-year-old plants make the finest display; consequently those which were raised from seed sown last spring should be taken care of and planted out pretty thickly together on fairly good ground, in a rather shady part of the garden. Take care to mark and save seed from the very best varieties. Arabis albida fl. pl., too, should be taken care of, parted up, and planted out firmly in a shady position, when it will root freely; and anything else that may be required for the same purpose. After the beds are cleared, apply a thorough dressing of good farmyard manure; dig deeply, or, better still, trench to a depth of two feet, and if the beds can be allowed to remain for a day or two before planting, so much the better, when these should be made very firm by treading, and raked level. Plant firmly, give a good watering in, and all large plants should be thoroughly secured with good stakes.

THE SHRUBBERIES.—One will now be able to determine to what extent many of our more beautiful trees and shrubs have been damaged during the past winter. I fear that in many cases an irreparable amount of mischief has been done, and especially where means were not taken to afford them some kind of protection. These should be carefully looked over now and the damaged parts taken off; and, where there is any sign of life, the plants will stand a much better chance by severely pruning them back, though in many cases it may be quite to the ground. It is very strange how some things which one might have considered perfectly hardy have suffered with us; while others, which one would not have been surprised at if they had been killed outright, have escaped. For instance, the well-known Berberis Wallichiana; in many cases large plants have been killed right to the ground, and all more or less have suffered, while olearias and veronicas have come through quite unharmed. The ground should be thoroughly hoed, the necessary staking carried out, and newly-planted trees damped overhead in the afternoon.

CLIMBERS.—These, whether growing on pergolas, tripods, buildings, or any other support, will need attention about every week or ten days at this season of the year, or the growths of the fast-growing plants will become so entangled that it will be a difficult matter to separate and arrange them satisfactorily. All roses should be thoroughly syringed with a reliable insecticide, both as a cure and a preventive for aphis.

SEED SOWING.—There are several kinds of seeds which should be sown now on a shady border for flowering next spring. These are wallflowers of sorts, myosotis of sorts, to include Royal Blue, polyanthus, and anemones.

RHODODENDRONS.—These should be thoroughly mulched, either with good peat, leaf-soil, and sand, or good half-decayed cow manure, and thoroughly water if dry weather continues.—E. Beckett, Aldenham House Gardens.

HARDY FRUITS.

FRUIT PROSPECTS this season are exceptionally good, every kind and variety which has already flowered has been literally covered with blossoms, while apples, strawberries, raspberries, etc., appear equally as promising.

INSECTS often become troublesome at this season when the fruit is set, and the young foliage is unfolding itself. Prompt measures should be taken with aphides before they have time to protect themselves by curling up the leaves, or the caterpillars before they defoliate the trees. A safe insecticide should be used to destroy the former, while for the latter I find nothing so satisfactory as the arsenate of soda wash. To make this emulsion, dissolve one ounce of arsenate of soda in a little warm water and pour it into a vessel containing ten gallons of soft water, afterwards dissolving three ounces of acetate of lead, adding this to the former, with one pound of treacle, well stir the whole, and it is ready for use. The adhesiveness of the emulsion to the foliage is largely supplemented by the addition of the treacle to the wash. This emulsion may be used as soon as the young fruits are set, without any damage to these or the foliage.

PEAR MIDGE.—Trees on which there were signs of this pest last season should be closely examined as soon as the fruit is well set, and every fruit seen to be infested should be picked off and destroyed by burning.

WATERING.—The rainfall for April in this district registered only 1.35in., while the bright sun and drying winds which we have been experiencing of late have dried up the soil very much. All young trees that were planted during the past season should have a good watering, and, if not already mulched with manure, let this be done immediately afterwards, to assist in conserving the moisture in the soil among the young roots. The borders by walls will in many instances also be found deficient in moisture; where this is so, give the soil about each tree a thorough soaking. Much fruit may be cast off if the trees suffer from dryness at the roots.

WALL TREES.—As the young shoots that have been reserved for laying in become sufficiently long to tie in, let them be carefully fastened to the wall in their proper positions. Use broad strands of raffia if the walls are wired; but, whether using this or nails and shreds, allow plenty of room for the natural swelling up of the young growths.

STRAWBERRIES.—Remove all flower trusses from the young plants that are required for furnishing the early runners for next year's fruiting. If the weather should continue at all dry, it will greatly assist the plants in producing strong runners if they are given occasional waterings with weak liquid manure; also a slight mulching of well-decomposed manure placed round each plant. Harden off and bed out as soon as ready the plants that have been forced, planting them firmly, and keep the crowns level with the surrounding soil. Well water them in their new positions, and mulch the surface with some good manure. Plants in the fruiting beds will be assisted in swelling up their fruits by a few waterings with liquid manure, being careful to keep it from the fruit and foliage. Netting should be provided and placed over the fruiting quarters as soon as the fruits show signs of colouring, or much damage will be wrought by the birds. It is more convenient, when gathering the fruits, if the netting is supported about four feet from the ground by some stakes and thin galvanised wire or cord.—George Woodgate, Rolleston Hall Gardens.

Gesnera cardinalis.—This differs considerably from most of the hybrid gesneras in forming a firm, solid tuber, whereas they generally make a kind of scaly underground rhizome. The season of blooming, too, does not correspond, for Gesnera cardinalis flowers usually in the spring and early summer months, whereas the hybrid forms are, as a rule, at their best later in the season. A synonym of G. cardinalis is G. macrantha, under which latter name it is often met with. Though it has been known in gardens for nearly sixty years, its native country seems to be unknown, though there is little doubt that it came originally from some part of South America. In a warm house it forms a bright and ornamental feature, as, apart from the flowers, the leafage is decidedly striking. From the firm, solid tuber aforesaid it pushes up a stout stem that reaches a height of a foot or thereabouts. This is furnished with large, ovate, oppositely arranged leaves of a bright green colour, and so thickly covered with hairs as to give them quite a velvety appearance. The flowers, borne in a terminal head, are tubular in shape, about a couple of inches long, and of a bright vermilion tint. Like the leaves, these are densely clothed with hairs, which form a very notable feature. This gesnera is of easy cultivation, as it is during the winter quite dormant, then grows and flowers in the spring or early summer, after which it gradually goes to rest. Its season of blooming may, however, be changed somewhat by varying the length of time during which it is, when dormant, kept quite dry. To start the tubers, shake quite clear of the old soil, and repot in a mixture of loam, leaf-mould, and sand.—W. T.

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EXHIBITIONS AND MEETINGS.

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Royal Horticultural Society.

Notwithstanding that the great Temple show was but a week ahead, there was a particularly fine display on May 18 at the Royal Horticultural Hall. The hall and annexes were filled, and all the committees had to meet upstairs in the smaller rooms. Tulips were a brilliant and striking feature, and these, with the roses, provided the chief attraction.

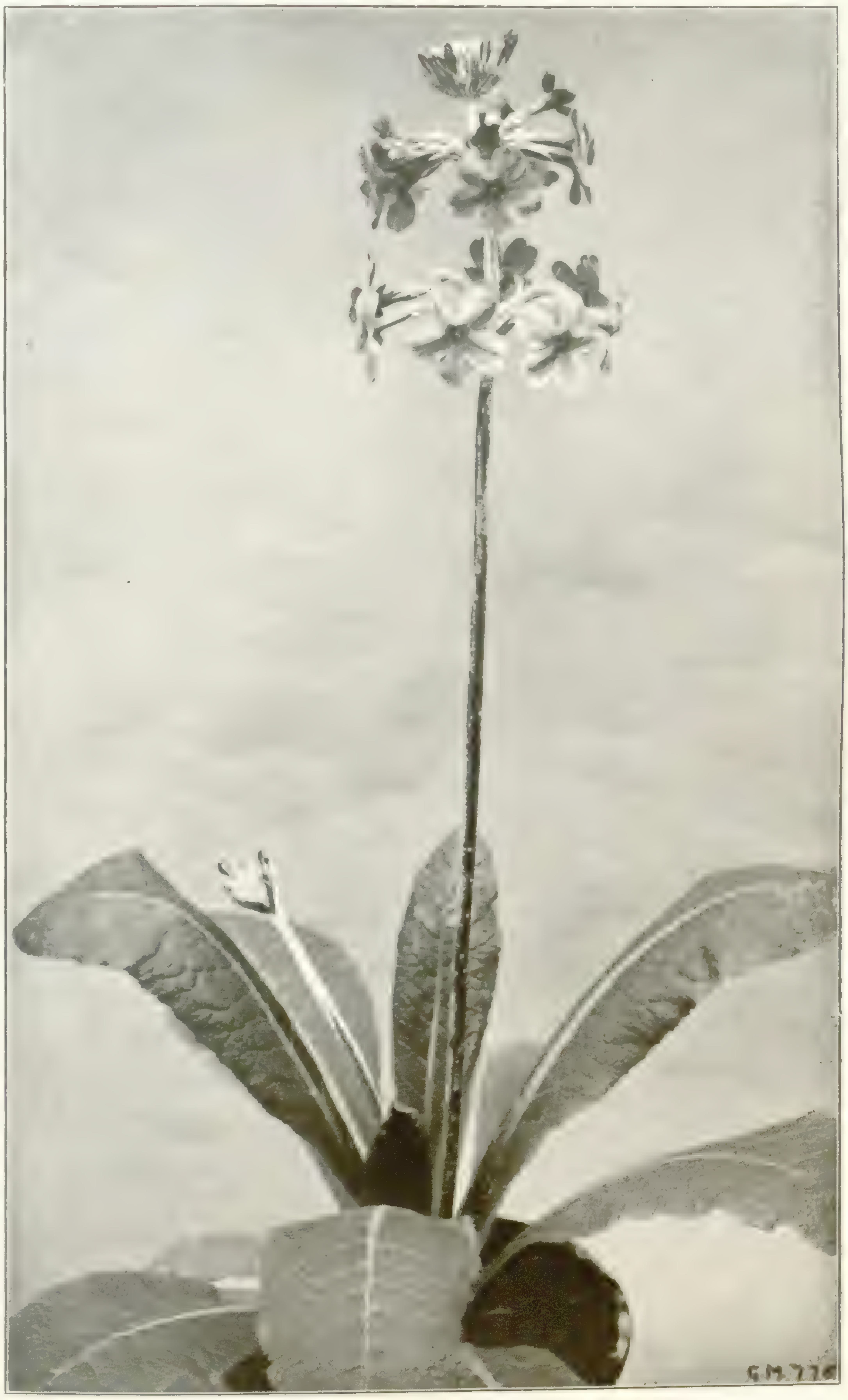
FLORAL COMMITTEE.

Early-flowering shrubs were well displayed by Messrs. J. Cheal and Sons, Crawley, whose vases of Pyrus Scheideckeriana, Kerria japonica, Daphne oleoides, Rhododendron Pink Pearl, and the lovely Exochorda grandiflora, the latter a perfect picture, smothered with white blooms, produced a bright and pleasing display of colour. In Messrs. Hugh Low and Co.'s group the main features were the finely-grown plants of Metrosideros floribundus, blue hydrangeas, schizanthuses, the graceful Aotus gracillima, carnations, and roses. Mr. R. Sydenham, Birmingham, contributed a few bunches of sweet peas, showing The King, H. Eckford, Evelyn Hemus, Etta Dyke, etc. Miss Willmott, V.M.H., Warley Place, Great Warley, showed Cheiranthus Allioni hybrida, a neat and fragrant wallflower. Mr. L. R. Russell, Richmond, sent a prostrate form of Cytisus Andreanus. Mr. Charles Turner, Slough, displayed numerous varieties of Primula Sieboldi, etc.

The group of roses from Messrs. Frank Cant and Co., Braiswick, Colchester, contained some beautiful weeping standards of Dorothy Perkins and a grand lot of cut blooms of the exquisite Marechal Niel. Androsace Chumbyi, Globularia vulgaris, Gentiana acaulis, and Cheiranthus Allioni were delightful gems in a collection of alpines submitted by Messrs. T. S. Ware, Lim., Feltham. The two beautiful new annual chrysanthemums, Morning Star and Lord Beaconsfield, were both largely and splendidly shown, as grown in pots for conservatory decoration by Mr. C. Anderson, gardener to Mrs. Bischoffsheim, South Audley Street, W. Messrs J. Peed and Son, West Norwood, sent [illegible], alpines, and succulent plants.

A magnificent bank of pot-grown roses, arranged by Messrs. T. Rochford and Sons, Turnford Hall Nurseries, opposite the entrance of the hall, was the attraction of the day. [illegible] a very large exhibit, and a high one, [illegible] by palms. There were grand standards of Dorothy Perkins, Lady Gay, and [illegible] Rambler, and great bushes and tall [illegible] of Mrs. F. W. Flight, Wedding Bells, [illegible] Crimson Rambler, Blush [illegible], and Lady Gay. This was a superb [illegible] was a great attraction, and de[illegible]. The firm also showed the Lyon [illegible] Perpetual carnations, forced wistarias, and Azalea mollis, made up a large exhibit from Messrs. W. Cuthbush and Son, Highgate.

[illegible] splendid rhododendrons were exhibited by Messrs. J. Waterer and Sons, Bagshot, and the lovely lilac-pink variety Mrs. C. Stirling was the variety most shown. A few of the newer roses, as well as the old [illegible] Banksian, were exhibited by Messrs. [illegible] and Son, Cheshunt, who also showed vases of choice flowering shrubs. Messrs. G. and A. Clark, Dover, contributed a gay group of tulips, trollius, phloxes, anemones, etc. Messrs. W. H. Rogers and Son, Red Lodge Nursery, Southampton, submitted the bright semi-double pelargonium James T. Hamilton, a very attractive form. Mr. H. Hemsley, Crawley, exhibited alpines and dwarf shrubs, arranged on and among rocks of the celebrated Hackenden sandstone, a particularly good material for rock gardens.



PRIMULA BULLEYANA.
A handsome hardy species, introduced from Western China, and exhibited by Messrs. Bees, Lim., at the Royal Horticultural Society's Meeting on Tuesday last, when a First-Class Certificate was conferred upon it. The flowers are produced in whorls, and are of a rich golden colour, suffused on the outer side with orange.

Calceolaria Profusa (provisional name), a very free-flowering greenhouse plant, bearing a profusion of golden-yellow blooms on much-branched growths, was finely shown by Mr. F. Townsend, gardener to L. Sutton, Esq., Hill Rise, Reading. The origin of this plant appears to be somewhat obscure, but there is no question as to its usefulness for the conservatory. Scented-leaved pelargoniums, as well as a collection of show and regal varieties, were set up by Messrs. Heath and Son, Cheltenham, who also displayed alpine plants in a miniature rock garden. A very beautiful lot of high-class pansies and violas from Messrs. Dobbie and Co., Rothesay, formed a great attraction, as also did the new sweet peas, Masterpiece, Edrom Beauty, Earl Spencer, Mrs. Bell, Mrs. Andrew Ireland, and The King.

Mr. G. Reuthe, Keston, Kent, had many interesting things, notably Embothrium coccineum, Primula pulverulenta, Arnebia echioides, alpine and show auriculas, fine Himalayan rhododendrons, and a small collection of late tulips. Among the roses shown by Messrs. B. Cant and Sons, Colchester, the chief were Hiawatha, Austrian Copper, and Austrian Yellow, Black Rambler, Tausendschon, Mrs. F. W. Flight, and Frau Karl Druschki. Very interesting was the collection of early flowers, all from out of doors, brought up by Mr. W. A. Cook, gardener to Sir Edmund Loder, Bart., Leonardslea, Horsham. The rhododendrons were especially good, and included R. Coombe Royal, R. Blandfordianum, R. cinnabarina, and R. Dalhousie-Victorianum: other fine subjects were Rubus deliciosus, Ranunculus amplexicaulis, Magnolia Lennei, Japanese maples, and the golden Caltha polypetala.

Mr. Amos Perry, Enfield, arranged a very bright collection of hardy flowers, setting up Dodecatheon splendens, Phlox canadensis Perry's var., Lupinus Nootkatensis, Camassia Cusicki, Corydalis nobilis, Weigela præcox, Lithospermum prostratum Heavenly Blue, and Moutan pæonies in variety, with tulips and onco-regelia irises. Some good roses were exhibited by Mr. G. Mount, Canterbury, his leading varieties being Liberty, Mdme. Ravary, Caroline Testout, Mdme. Abel Chatenay, Mdme. Jules Gravereaux, and Richmond. Among several rare shrubs Messrs. Jas. Veitch and Sons, Chelsea, submitted a dwarf and beautiful rhododendron with large rosy-red shaded flowers, named R. Soulei. (F.C.C.).

Mons. H. Correvon, Geneva, showed a tiny group of alpine plants. Messrs. G. Bunyard and Co., Maidstone, contributed well-grown tulips, and a large collection of hardy flowers, flowering shrubs, and the new pink spiræas. Double and single zonal pelargoniums, verbenas in variety, the useful Pelargonium Clorinda, and a very interesting group of varieties of Hartstongue ferns were arranged by Messrs. H. B. May and Sons, Edmonton. Fragrant sweet peas were exhibited by Mr. E. J. Johnstone, Burr's Wood, Groombridge, who showed popular varieties. The fine corner group of roses in pots from Messrs. Wm. Paul and Son, Waltham Cross, did not lack admirers. Standard and pillar plants were extensively displayed, and were finely flowered; Rubin, Elsie, Coquina, Kathleen, Paradise, and Grace Thomson were the leading varieties.

Messrs. Bees, Lim., Liverpool, showed some more new primulas, i.e., P. Bulleyana (F.C.C.), with rich golden blooms on erect spikes, and P. Lichingensis, with deep purple flowers. The large-flowered Incarvillea Bonvaloti and the tiny Primula muscarioides were other interesting plants shown by the Messrs. Bees. Pelargoniums and phyllocacti were extensively displayed by Messrs. H. Cannell and Sons, Swanley, and the same firm had huge blooms of the novel Aristolochia gigas Sturtevanti. A remarkably fine series of varieties of Scilla campanulata was shown by Mr. Maurice Prichard, Christchurch, Hants, whose collection of hardy flowers also included anemones, trollius, phloxes, and hardy orchids. Messrs. Whitelegge and Page, Chislehurst, put up a small collection of alpines. Messrs. Bakers, Wolverhampton, had a fine set of saxifrages, such as S. R. W. Hosier, S. Miss Willmott (A.M.), S. Lady Dean, a large-flowered white, S. Codsall Cream, S. Guildford Seedling, and S. Arkwrighti—all very attractive and beautiful.

ORCHID COMMITTEE.

Orchids were very sparingly shown, and difficult to find. Mr. H. Alexander, orchid grower to Lieut.-Colonel Holford, Westonbirt, Gloucester, showed an Odontoglossum Pescatorei with a spike of 125 flowers, the handsome Lælio-cattleya Zoreaster Rex, and Cymbidium Parishi Sanderæ. De Barri Crawshay, Esq., Rosefield, Sevenoaks, contributed Odontioda Vuylstekæ Crawshayana (F.C.C.), a brilliant orchid.

A large group of Lælia purpurata, submitted by Mr. Howard, gardener to H. Little, Esq., Baronshalt, Twickenham, demonstrated the variableness of this species and the wealth of Mr. Little's collection.

TULIP COMMITTEE.

Across the end of the hall Messrs. R. and G. Cuthbert, Southgate, arranged a very large collection of Darwin and May-flowering tulips, grown in pots. The display was most artistically arranged on a very low staging, and some groups of varieties were arranged higher than the rest. White Queen, La Tulip Noir, Salmon Queen, Ada, Mrs. Moon, Painted Lady, Lord Curzon, Pompadour, Lucifer, and Suzon were especially attractive varieties. A very bright exhibit of late tulips came from Messrs. Jas. Veitch and Sons, Chelsea; all the flowers were clean and bright, notably those of Inglescombe Yellow, Gesneriana lutea, Queen of Roses, Picotee, Bouton d'Or, Suzon, Mrs. Moon, Rev. W. Ewbank, Mrs. Krelage, and Yellow Picotee. The Rev. Canon Fowler, Earley Vicarage, Reading, contributed a small collection of well-grown Darwin and May-flowering tulips.

Magnificent tulips were grouped by Messrs. A. Dickson and Sons, Newtownards, Ireland, and the display included wonderfully large and brilliant blooms of Prof. M. Foster, Duke of Westminster, May Queen, Bouton d'Or, Inglescombe Pink, Gold Vase, Nauticus, Marie, Mr. Farncombe Sanders, Margaret, Pride of Haarlem, and Ravenswing. Mr. A. Allan, gardener to Lord Hillingdon, Hillingdon Court, Uxbridge, showed a few finely-developed late tulips, over bunches of lily of the valley Messrs. Wm. Bull and Sons, Chelsea, contributed a collection of bright tulips.

A bold and brilliant exhibit of tulips, arranged rather low on the stage, by Messrs. Hogg and Robertson, Mary Street, Dublin, was a great success. It included Zomerschoon, Chameleon, Gesneriana lutea, Turenne, Garibaldi, Gala Beauty, and other fine things. Another fine display of tulips was made by Messrs. R. H. Bath, Lim., Wisbech, who had very good flowers of Yellow Queen, Ada, Salmon King, Europe, Gustave Doré, Tak van Poortvliet, Bouton d'Or, Mrs. Moon, Fashion, and White Queen. A wonderfully fine bank of cut tulips from Messrs. R. Wallace and Co., Colchester, was a centre of attraction all the day. There were any quantity of fine flowers, and of such beautiful varieties as Mrs. Moon, Leghorn Bonnet, Inglescombe Pink, Inglescombe Yellow, Loveliness, Psyche, The President (A.M.), Fra Angelica, Inglescombe Scarlet, Millais, Red Standard, and several fine new seedlings.

Tulips were remarkably well shown by Messrs. Sutton and Sons, Reading, who displayed fine flowers of the best May-flowering varieties in a very pleasing manner, and avoided the error of overcrowding. An excellent display of Darwin, May-flowering, and florists' tulips was made by Messrs. Barr and Sons, Covent Garden, who had fine flowers of a great number of varieties, and among the many we made special note of Inglescombe Yellow, Zulu, Margaret, Violet King, the lovely Walter T. Ware, Queen Alexandra, and Gala Beauty.

FRUIT AND VEGETABLE COMMITTEE.

Messrs. Sutton and Sons, Reading, were represented by a very interesting exhibit of Flower of Spring and Sutton's April cabbages, excellent Golden Ball and other lettuces, a fine lot of Early Giant and Ideal peas, radishes, very crisp, the Sutton rhubarb, asparagus, and carrots. It was a fine collection of early vegetables and salading. Messrs. Jas. Veitch and Sons, Chelsea, displayed early vegetables and salading, their long turnips, radishes, Veitch's Model broccoli, carrots, Moore's Cream marrows, lettuces, and cabbages attracting a great deal of attention.

Mr. Beckett, V.M.H., gardener to the Hon. Vicary Gibbs, Elstree, was awarded first prize for a collection of nine kinds of vegetables, and he staged splendid samples of asparagus, Moore's Cream marrows, Perfection tomatoes, Canadian Wonder beans, Matchless cucumbers, Magnum Bonum cauliflowers, Early Giant peas, and May Queen potatoes. Second prizes were awarded to Mr. Staward, gardener to Countess Cowper, Panshanger, Herts, for nine kinds, and Mr. A. G. Gentle, gardener to Mrs. Denison, Little Gaddesden, Berkhamsted, for four kinds. Mr. Staward also showed a collection of lettuces.

Mr. J. W. Barks, gardener to P. Brandt, Esq., Bletchingley, Surrey, submitted dishes of Royal Sovereign strawberries, Alexander peaches, and Hero of Lockinge melons. From the Stour Valley Gardening Society, Westbere, Canterbury, came excellent cos and cabbage lettuces, mushrooms, etc.

A very free cropping strawberry, named George Monro, said to be excellent for forcing, and a very early fruiter out of doors, was shown by Mr. H. Staples, Swanley, and gained an A.M.

CERTIFICATES AND AWARDS.

First-Class Certificate:

To Rhododendron Soulei, from Messrs. Jas. Veitch and Sons, Chelsea.

To Primula Bulleyana, from Messrs. Bees, Lim., Liverpool.

To Odontioda Vuylstekeæ Crawshayana, from De Barri Crawshay, Esq., Rosefield, Sevenoaks.

Award of Merit:

To May-flowering Tulip The President, from Messrs. R. Wallace and Co., Colchester.

To Rose Lyon, from Messrs. T. Rochford and Sons, Turnford Hall, Broxbourne.

To Saxifraga decipiens Miss Willmott, from Messrs. Bakers, Codsall, Wolverhampton.

To Strawberry George Monro, from Mr. H. Staples, Swanley.

MEDALS.

Gold.—To Messrs. T. Rochford and Sons, Broxbourne, for roses in pots.

Silver-Gilt Flora.—To Messrs. Sutton and Sons, Reading, for tulips; to Messrs. Barr and Sons, Covent Garden, for tulips; Messrs. R. and G. Cuthbert, Southgate, for tulips in pots; to Messrs. A. Dickson and Sons, Newtownards, for tulips; to Messrs. R. Wallace and Co., Colchester, for tulips.

Silver-Gilt Knightian.—To Messrs. Sutton and Sons, Reading, for early vegetables and salads.

Silver-Gilt Banksian.—To Messrs. Jas. Veitch and Sons, Chelsea, for tulips; to Messrs. R. H. Bath, Lim., Wisbech, for tulips.

Silver Flora.—To Messrs. H. B. May and Sons, Edmonton, for hardy ferns, etc.; to Mr. G. Mount, Canterbury, for roses; to Mr. G. Reuthe, Keston, for hardy plants; to Messrs. Hogg and Robertson, Dublin, for tulips; to M. Correvon, Geneva, for alpines; to H. Little, Esq., Baronshalt, Twickenham, for lælias.

Silver Knightian.—To Messrs. J. Veitch and Sons, Chelsea, for vegetables and salads; to P. Brandt, Esq., Bletchingley, for fruit.

Silver Banksian.—To Lord Hillingdon, Uxbridge, for tulips; to Rev. Canon Fowler, Earley, Reading, for tulips; to Messrs. Wm. Bull and Sons, Chelsea, for tulips; to Messrs. G. Bunyard and Co., Maidstone, for hardy flowers; to Messrs. J. Cheal and Sons, Crawley, for flowering shrubs; to Sir Edmund Loder, Bart., Leonardslea, Horsham, for choice hardy flowers; to Messrs. W. Cutbush and Son, Highgate, for carnations and flowering shrubs; to Messrs. Dobbie and Co., Rothesay, for violas and sweet peas; to Messrs. Hugh Low and Co., Enfield, for roses and carnations; to Messrs. Wm. Paul and Son, Waltham Cross, for roses in pots; to Mr. Maurice Prichard, Christchurch, for hardy flowers; to Messrs. T. S. Ware, Lim., Feltham, for alpines; to Messrs. J. Waterer and Sons, Bagshot, for rhododendrons; to Mr. Chas. Turner, Slough, for primulas, etc.

Bronze Flora.—Messrs. J. Peed and Son, West Norwood, for alpines.

The Royal National Tulip Society.

The sixteenth annual show of the Southern Section of the above society was held, in conjunction with the ordinary fortnightly meeting of the R.H.S., at Vincent Square, on Tuesday. The show was by no means a large one, for it only filled about half of the annexe on the left of the door. The competition in some of the classes was keen, but taken as a whole, the quality of the flowers was poor. The "feathers" were an exception, and amongst these a William Annibal, which was in Miss Willmott's stand of twelve

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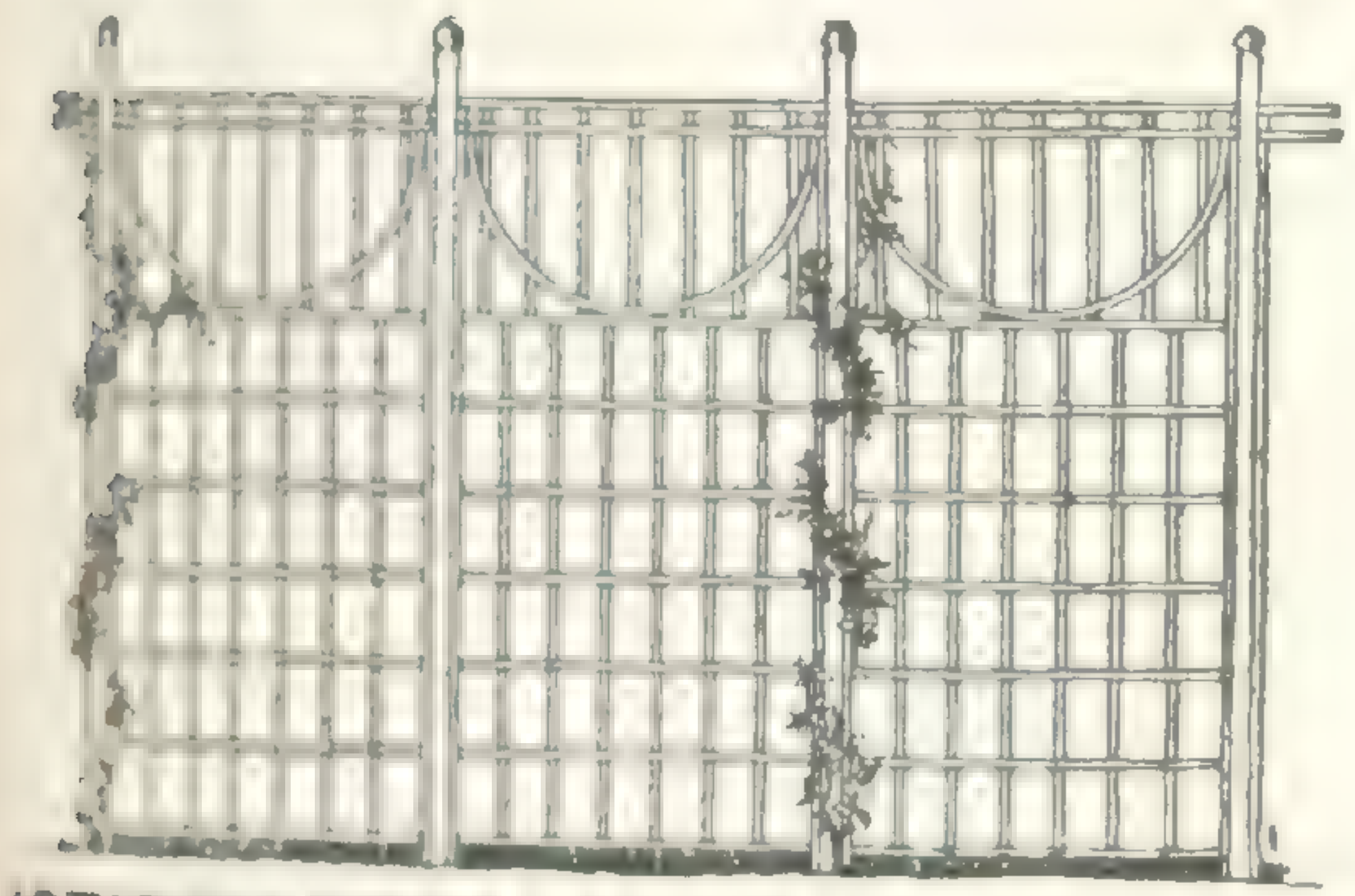

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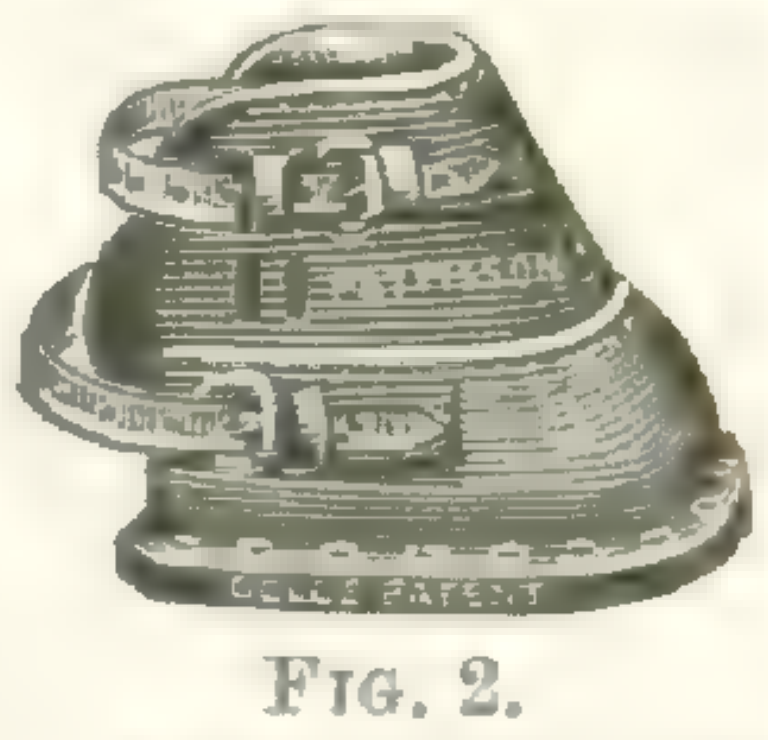

FIG. 2.

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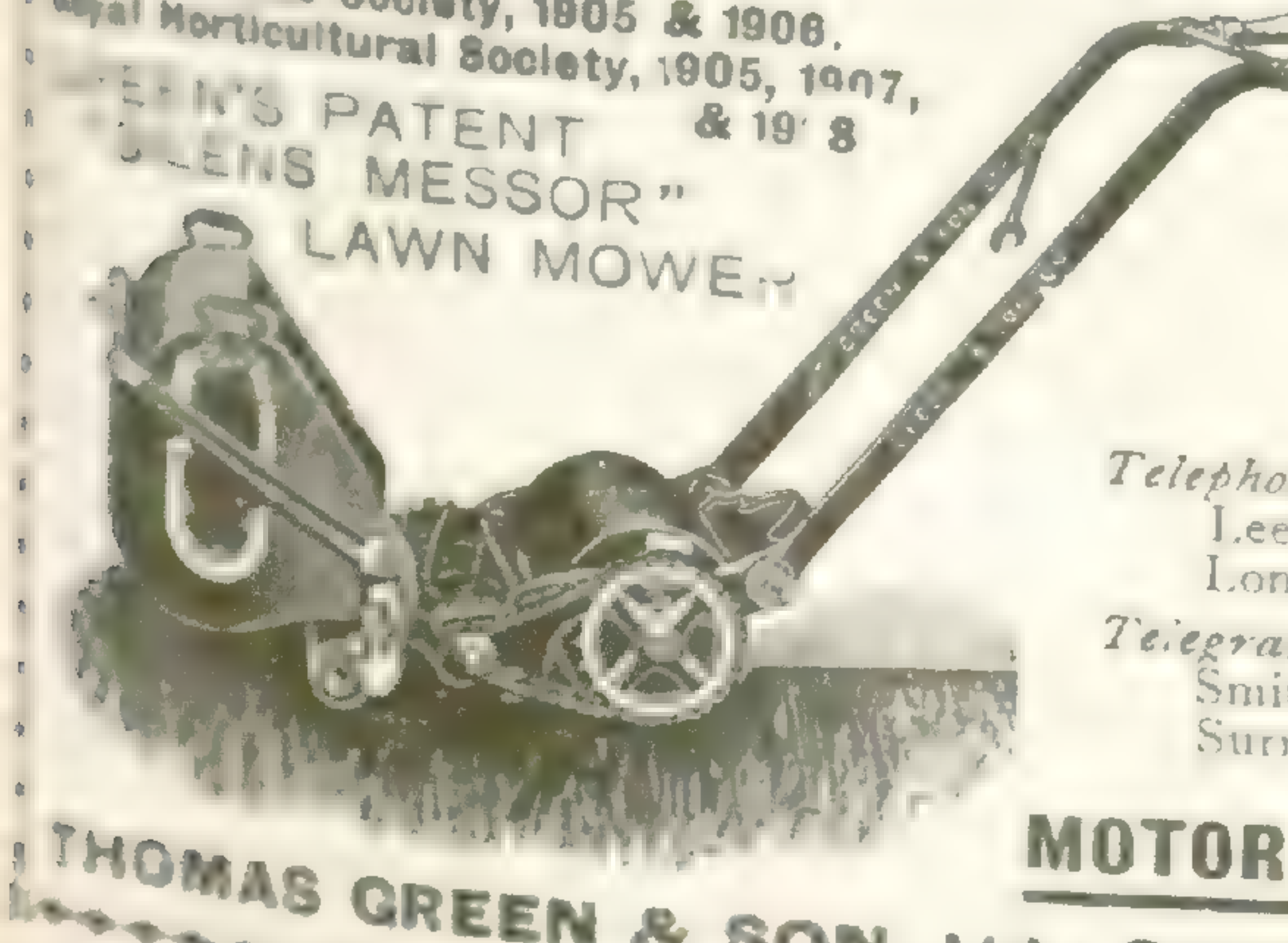

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rectified tulips, was particularly good. Mr. Needham had an excellent Stockport (byblœman), and Mr. Hall a good Sam Barlow (bizarre).

An encouraging feature of the society is the fact that new seedlings are making their appearance, some in a broken state, but the majority as breeders. Mr. A. D. Hall has several hundred blooming in his garden at Cambridge this year. One of his best is a bizarre breeder, which he has named Gleam. It is a most promising flower. We were much struck with the size and freshness of Mr. W. L. S. Loat's collection of May-flowering and Darwin tulips. Unfortunately, the blooms were on very short stems, and in many cases this meant that they were shorn of much of their grace and beauty. This was very apparent in the two smaller classes for Darwins and cottage varieties, where he divided the honours with Miss Willmott. Mr. W. Peters, the hon. secretary of the society, has worked hard for the show, and is to be congratulated on getting together such an interesting collection of flowers. The lateness of the season was visible in many of them, which were shown in too young a state to do them justice.

The following is a list of some of the chief prize-winners this week:

Twelve dissimilar rectified tulips.—1, Mr. C. W. Needham; 2, Miss Willmott; 3, Mr. A. D. Hall.

Six dissimilar rectified tulips. — 1, Miss Willmott; 2, Mr. W. Dunn; 3, Mr. A. D. Hall.

Three feathered tulips.—1, Miss Willmott; 2, Mr. A. D. Hall.

Three flamed tulips.—1, Miss Willmott; 2, Mr. A. D. Hall.

In the single bloom classes Miss Willmott and Messrs. Dunn, Hall, and Needham divided most of the prizes. An interesting class, partly because it perpetuates the memory of the great florist, the late Mr. Samuel Barlow, is that for the best pan of rectified tulips. Miss Willmott was first with Annie Macgregor and William Annibal; Mr. Hall was second with Samuel Barlow and attraction.

National Auricula Society.

(NORTHERN SECTION.)

This exhibition was held at the Coal Exchange, Market Place, Manchester, and an unkindly season robbed it of much of its usual quality. The hot sunny days about Easter started the plants into a forced unnatural growth, bitterly cold nights checked them, and consequently northern-grown stage auriculas were either poorer in size and quality than usual, or not in bloom. Alpine auriculas, not being so exacting in their requirements, have come through the trying time better, but the show would have been better had it been held a week later. It is also distinctly poorer because of the absence of Mr. T. Lord's exhibits, and the refined novelties of Mr. Ben Simonite, whose lamented death about a month ago is a great loss to all who love the auricula. There are, however, some compensations, and a pleasing feature was the prominent position certain of the younger growers are taking, particularly Mrs. Helen Young, of Chorlton, and Mr. Antrobus, of Wilmslow, in stage and alpine auriculas. Polyanthuses were poor, and no exhibitor could be proud of the exhibits the season had allowed him. There were many meritorious novelties in alpine auriculas, and the judges were busy awarding well-deserved certificates. In show auriculas there were few novelties of merit staged. Mr. Bentley's red self Beethoven, which is something like Harrison Weir, was the only one to obtain a certificate.

SHOW AURICULAS.

In competition for the prizes for six, distinct, Mr. W. M. Shipman, Altrincham, occupied the post of honour with excellent examples of Abbe Liszt, Harrison Weir, Richard Headly, Acme, Shirley Hibberd, and Mikado; Mr. J. E. Beaumont, Stalybridge, followed for second place, staging Acme, Rachael, Ruby, Heather Bell, A. Barker, and Mrs. Potts; Mr. J. Stelfox, Stalybridge, was third. In competition for the prizes for four, distinct, Mr. W. M. Shipman was again first, staging as his varieties Acme, Dinham, A. Barker, and Mrs. Potts; Mr. J. E. Beaumont had as his second-prize set George Rudd, Acme, Shirley Hibberd, and Mrs. Potts. The best pair in the open class was that shown by Mr. J. Antrobus, Wilmslow, the varieties being Shirley Hibberd and Ruby; Mrs. Young was second with Gerald and Shirley Hibberd; Mr. W. H. Midgley, Halifax; Mr. A. Preston, Nelson; Mr. T. Sharpe, Kendal; Mr. T. Lomax, Stalybridge; and Mr. J. W. Bentley were also successful competitors in the class. In the corresponding class open to maiden growers only, Mrs. Young, Mr. A. Preston, and Mr. T. Sharpe were the prizetakers in the order of their names.

There was a very good competition in the class for three varieties, open only to amateurs not employing a gardener, and the premier award was made in favour of Mrs. Young, who staged George Lightbody, A. Baker, and Gerald; the remaining prizetakers were Messrs. J. E. Beaumont, J. Stelfox, and J. Fillingham. There was also a class for growers who had not competed previous to 1906, and in this the awards were made in favour of Mr. G. Etherington, Middleton, and Mr. J. Antrobus, the varieties staged being those already enumerated.

The classes for single plants were well filled, and in that for green-edged varieties, Mr. W. M. Shipman was first with Dr. Hardy and second with A. Barker, and Mr. G. D. A. Hall was third with Shirley Hibberd. The other successful exhibitors were Messrs. S. B. Bolton, T. Sharpe, and W. H. Midgley. In the grey-edged class, Mr. M. Shipman was first and third, and Mrs. Young second with George Rudd; Messrs. T. Sharpe and J. E. Beaumont were fourth and fifth with Traill's Beauty. The first and second prizes in the class for white-edged varieties were awarded to Mr. W. M. Shipman, who staged Eucharis and Conservative; Mrs. Young was third with Heather Bell; and Mr. J. W. Bentley fourth with Acme; Mr. J. Stelfox was fifth and sixth; Mrs. Young seventh; and Mr. F. Stringer eighth. The best single self was Mrs. Potts, shown by Mr. J. E. Beaumont, and Messrs. Hall and Stelfox were second and third with the same variety. Other successful competitors were Dr. G. A. Wright, Manchester; Mr. T. Sharpe, and Mr. S. B. Bolton.

In competition for the prizes for seedlings, Mr. J. W. Bentley was first with Beethoven and second with Audrey, and Mr. T. Sharpe was third with an unnamed variety. The premier show auricula was Acme, staged by Mr. W. M. Shipman.

ALPINE AURICULAS (SHADED).

Here Mr. J. W. Bentley was especially strong as evidenced by his taking the first prize in each of the two principal classes. In Mr. Bentley's first-prize six, distinct, were Pegg Colonel Kemp, Goldilocks, Vestal, Dr. P and Mrs. Brindle; Mr. J. Edwards follow for second place with good examples of T Pinch, Eldon, General Botha, and seedlings the remaining prizes in the class awarded to Messrs. W. M. Shipman, Dickins, Worsley, J. E. Beaumont, and Geggie, of Sale. There was a strong petition in the class for four, distinct, the first-prize set, from Mr. J. W. Bent comprised finely developed examples of M Apthorpe, Vestal, Goldilocks, and Luc Mrs. Young, who was second, stag Patience, Thetis, Miss Baker, and Duke York in fine order; Mr. J. E. Beaumont a close third with J. F. Kew, Leon Weber, and Teviot Dale; Mr. J. Stelfox, D G. A. Wright, and Mr. G. D. A. Hall also successful in the class. Mrs. Young tained the premier position in the class pairs, open, and Messrs. T. Sharpe, G. Eth ington, Jack Bentley, J. Antrobus, and Preston shared the remaining prizes. In class for pairs, limited to maiden grow Mrs. Young, Mr. T. Sharpe, and Mr. Ja Bentley were first, second, and third spectively. The prizes in the classes three, distinct, were awarded to Mrs. Young and Messrs. J. Stelfox, G. Geggie, and J. Edwards.

Single specimens were largely shown, an in the class for flowers with yellow cen Mr. W. E. Shipman was first with Fir and fourth with Brenda; Mrs. Y second with Duke of York; and Mr. J. W. Bentley third with Dr. Kershaw and with Child Harold. For varieties with lig centre, Mr. F. Faulkner was first with F and third with a seedling; Mr. G. D. A. H was second with Disley Gem, and Mr. W. Shipman fourth with Brenda. The premier alpine was Duke of York, shown by M W. M. Shipman.

GOLD-LACED POLYANTHUS.

In competition for the prizes fo black-ground varieties, Mr. J. W. Ben was first with Mrs. Brownhill, Tiny, Exile; and Mr. J. Fillingham second Mrs. Brownhill, Trilby, and Exile. In corresponding class for red-ground flow Mr. G. Geggie was first with Sydney Smith, George IV., and Master Fred; and Mr. J. W. Bentley was second with George IV., M ton Favourite, and Sydney Smith. M Young, and Mr. W. Stringer were third and fourth respectively. For a sing black-ground flower, Mrs. Young was with Mrs. Holden; Mr. Lomas second Marie Scholes; Mr. J. W. Bentley third Mr. W. Stringer fourth, with Mrs. Br hill. For a single red-ground flower, Mr. Geggie was first and second with Syd Smith, and Mr. J. W. Bentley was and third with Mrs. Holden.

The premier gold-laced polyanth Marie Scholes, shown by Mr. Lomas. class certificates were awarded as To Mr. J. W. Bentley, for self auricula thoven; to Mr. Geggie, for alpine au J. W. Bentley; to Mr. Faulkner, for alp auricula Frank; and to Mr. Hall, for al auricula Disley Gem.

Birmingham Gardeners' Association.

A visit to the New University, Bourn Birmingham, by about fifty mem Birmingham Gardeners' Associat place on the afternoon of May 12. needless to remark that the esta was thoroughly appreciated by the

The party was first of all through the elaborate entrance the Great Hall, which has a total len 150 feet, a span of 75 feet, and a upwards of 65 feet, and with its leries, magnificent stained-glass large organ, it presented a most feature. Upon either side of the "block" in question are eight shaped blocks forming a 100 feet long and 50 feet wide, septs each 90 feet long and 45 fe voted to special departments. cost of the erection and equipment

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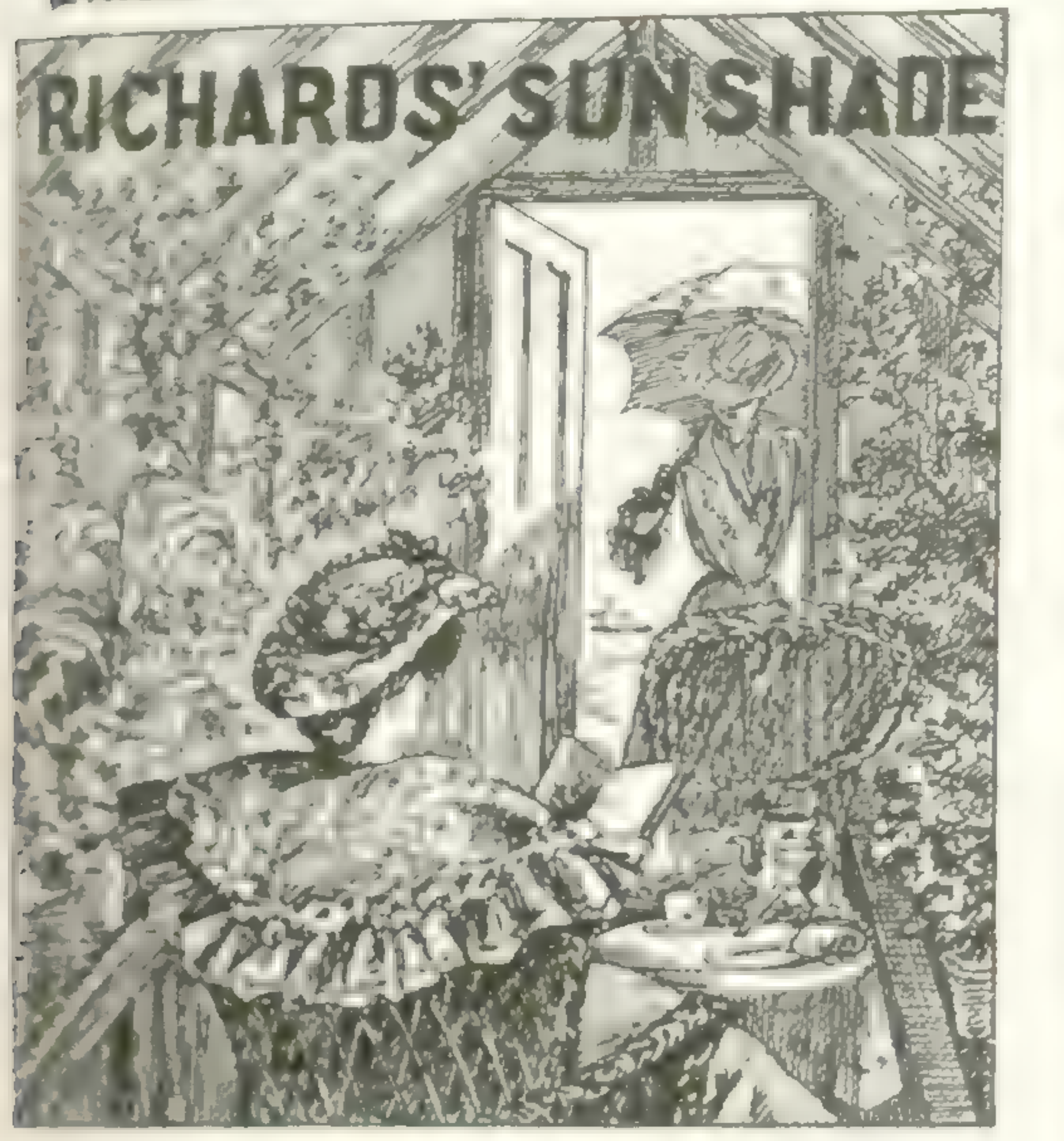

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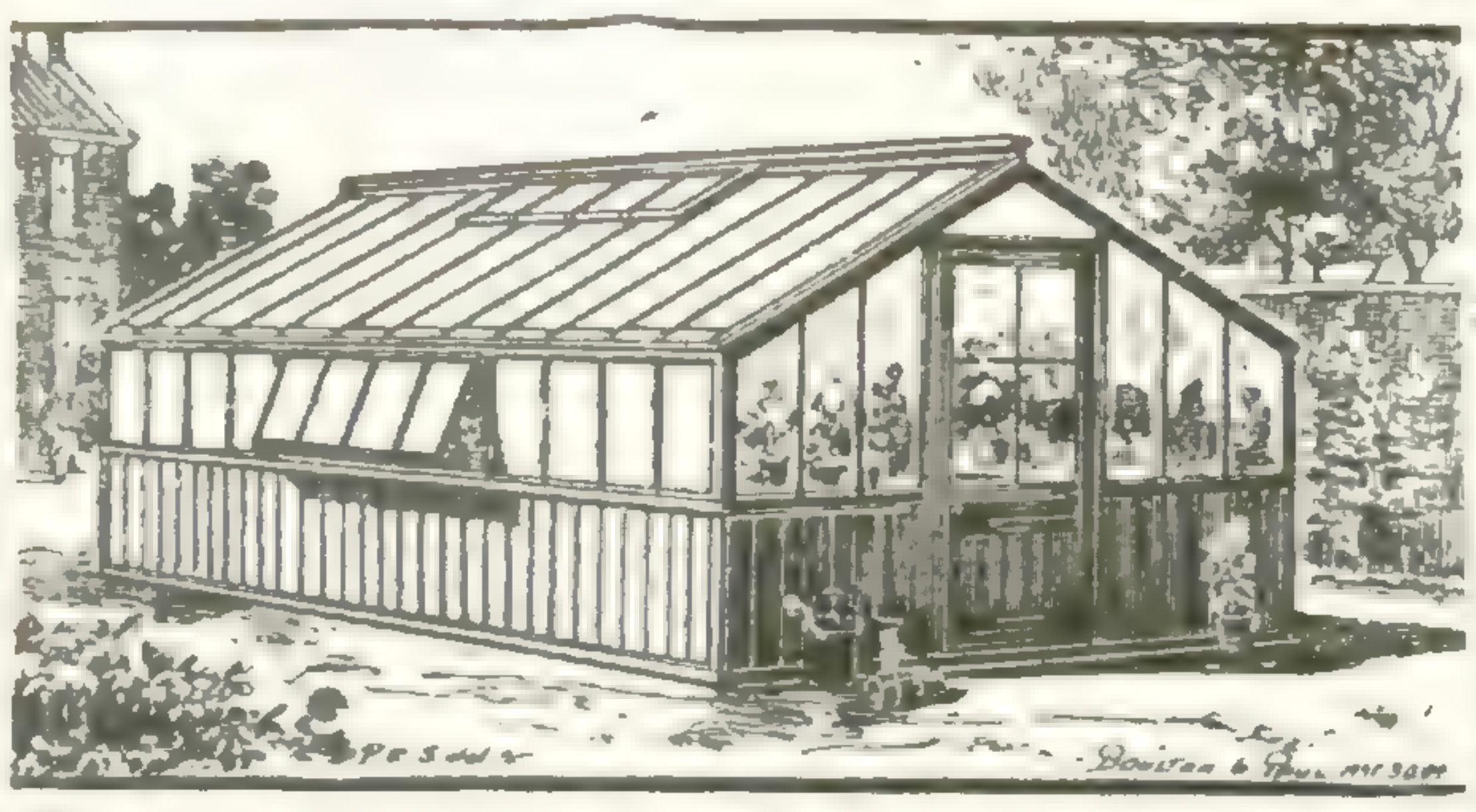

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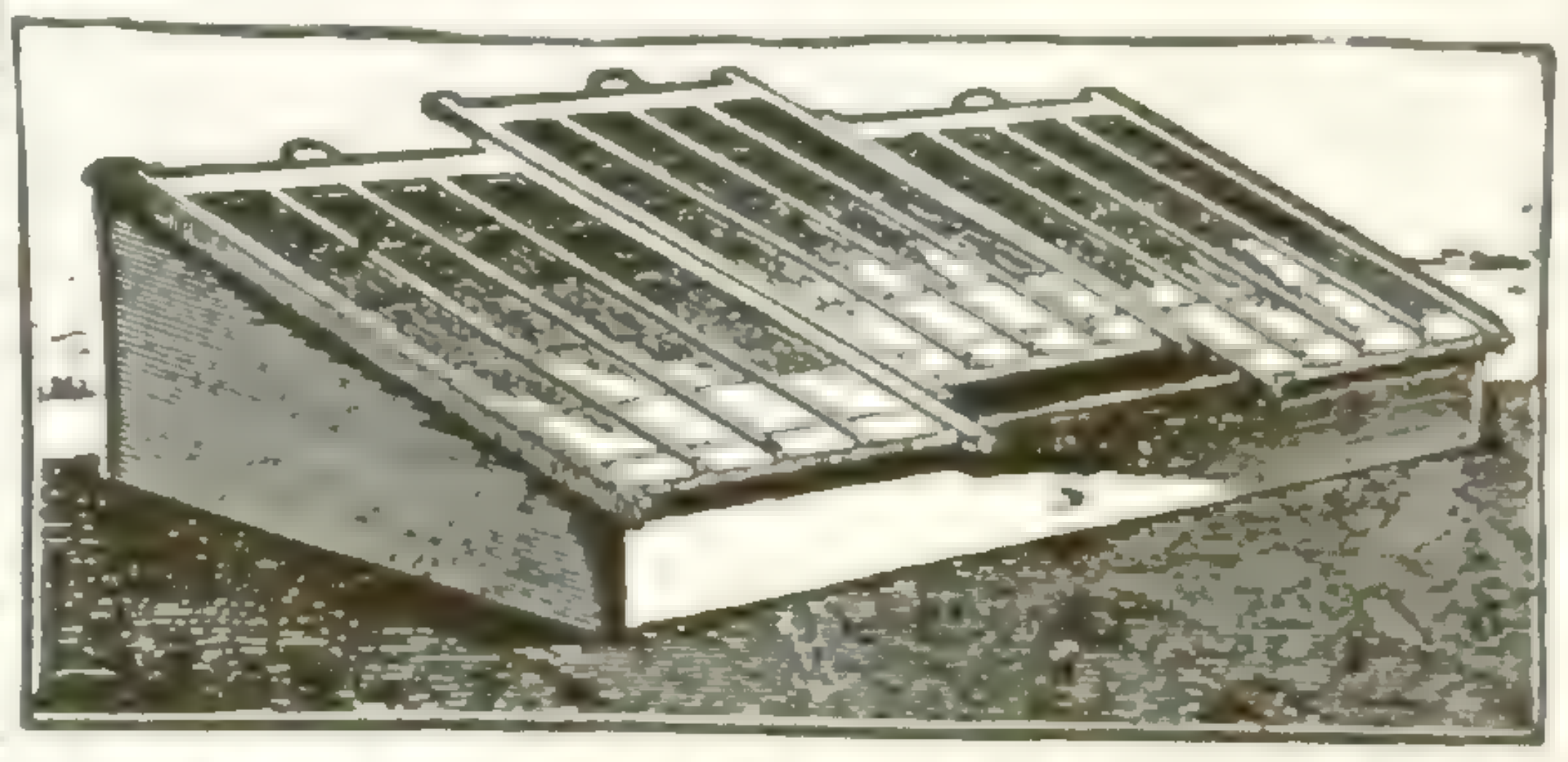

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buildings in question, with sundry others, was £350,000. There are also other blocks in course of erection, also the gigantic clock tower, 325 feet in height, with its roof nearly completed; the cost of these additions will probably exceed £100,000. The clock, which will be illuminated by electric light, has a dial no less than 17 feet in diameter; the bells of the clock are suspended in a turret above the balcony, the largest weighing 6½ tons, or considerably more than "Big Brum" of the Art Gallery, Birmingham. The tower will be fitted with a suitable lift, and eventually will serve as one of the most striking landmarks of the district.

After inspecting the interiors and witnessing a series of demonstrations in the engineering and other departments, the party was conducted over the vast area of ground surrounding the buildings by Mr. Harry Bick (a member of the association), who is superintendent of the grounds. Portions are devoted to cricket, football, bowling greens, etc., and there is also a botanical garden, which is under the immediate directorship of Professor Hillhouse. An interesting object was that of a "boulder" stone, unearthed during the removal of a large quantity of soil in the formation of one of the slopes, and it was retained in situ upon a mound of the substratum. The total area of the University is about 50 acres. In close proximity to the University site is erected a large hostel for women students; the hostel for the men is situated in the city at Queen's College.

The total cost of the buildirgs and equipment of the University is estimated at upwards of £500,000.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1909. MAY 9 TO MAY 15.	SUNSHINE.	TEMPERATURE OF THE AIR.			
		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
May 9—Sunday	11 36	55	44	61	32
„ 10—Monday	12 30	50	44	59	44
„ 11—Tuesday ...	13 36	53	47	67	33
„ 12—Wednesday .	9 42	63	53	72	43
„ 13—Thursday ...	10 6	48	46	54	35
„ 14—Friday	3 48	37	38	48	36
„ 15—Saturday ...	7 6	44	40	52	34
Means	(total) 68 24	50	45	59	37

DATE. 1909. MAY 9 TO MAY 15.	RAIN.	TEMPERATURE OF THE SOIL. AT 9 A.M.			LOWEST TEMPERATURE ON GRASS.
		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
May 9—Sunday	—	51	52	49	24
„ 10—Monday	—	53	52	49	41
„ 11—Tuesday ...	—	52	53	50	25
„ 12—Wednesday.	—	54	53	50	35
„ 13—Thursday ...	0.09	54	53	50	26
„ 14—Friday	trace	52	53	50	29
„ 15—Saturday ...	—	51	53	51	25
Means ...	(total) 0.09	52	53	49	29

FORTHCOMING ENGAGEMENTS.

TUESDAY, May 25.—Royal Horticultural Society's Great Exhibition at the Inner Temple Gardens, three days.

Kew Guild Annual Meeting at 6.30 p.m., at the Holborn Restaurant, to be followed by the annual dinner.

WEDNESDAY, May 26.—Bath and West of England Agricultural and Flower Show; five days.

British Gardeners' Association Annual Meeting at Exeter Hall, 7 p.m.

THURSDAY, June 3.—Linnean Societ meets.

SATURDAY, June 5.—French Horticultural Society of London.

MONDAY, June 7.—National Fruit Growers' Federation, council meeting.

TUESDAY, June 8.—Royal Horticultural Society; committees meet at 12 o'clock; lecture at 3 p.m. on "Some Old Superstitions about Plants," by the Rev. Professor G. Henslow, V.M.H.; Scientific Committee at 4 o'clock.

OBITUARY.

◆

MR. NORMAN C. COOKSON.

It was with feelings of the deepest regret we learned, on Monday last, of the death of Mr. Norman C. Cookson, at Oakwood, Wylam-on-Tyne, late on Saturday, May 15. For some time past Mr. Cookson had suffered severely, and his friends knew his life was in danger, but hoped that he would be spared for many years. It is as a horticulturist of the best type, and as the raiser and owner of a fine collection of rare and beautiful orchids that Mr. Cookson is best known to our readers; but, as it was only a few days ago that we drew attention to the leading features of his beautiful gardens at Wylam (see p. 356), we need not recapitulate, save to say that a vast number of seedlings derived from the intercrossing of the finest orchids have yet to flower at Oakwood, and show the skill and discrimination of the master who has now departed. On April 6, 1907, we gave Mr. Cookson's portrait in these pages, and referred briefly to his business activities. He was interested in mining of many kinds, and his training, keen business ability, and magnificent memory made him one of the captains of industry. He was the head of the firm of Cookson and Co., and of the Howdon Lead and Antimony Works, chairman of the Mickley Coal Company, a director of the Parson's Turbine Company, and held interests in Mexican silver mines, New York metal works, and Cornish tin mines. In his care for the workman in his various businesses Mr. Cookson was a model employer, and he had taken precautions for the preservation of the health of those employed in the lead works long before an Act of Parliament rendered precautions compulsory; and, indeed, it is well-known that the Home Office regarded Cookson's Lead Works as the model of perfection, and representing a state of affairs far beyond what any Act of Parliament could hope to secure. We have seen with our own eyes the way in which the miners of Mickley and their families have been cared for, and how Mr. Cookson used the heat that would otherwise have escaped, to light up the mine with electricity. He encouraged the horticultural spirit among the miners in the Wylam district, and numbered several of the enthusiasts among his friends. In Wylam, West Wylam, and Prudhoe there are homes where tears of sorrow and sympathy have flown freely these last few days, for Mr. Cookson was greatly loved. He was not a demonstrative man, cared not to hear his praises sung, and was always ready to help every good non-sectarian and non-political work. His family built the handsome Institute at Wylam, and he himself at one time provided half the necessary funds for sick nursing at Wylam, and was always a liberal contributor to the funds.

Mr. Cookson was born at Newcastle in 1841, was educated at Harrow, and came to live at Oakwood thirty-five years ago. He leaves a widow, four sons, and two daughters to mourn their loss, and to these we venture to tender our sympathy, and that of our readers, for all the horticultural world mourns the death of Norman C. Cookson, who was laid to rest at Ovingham Cemetery, on Tuesday, May 18.

TRADE NOTE.

The well-known and old-established business of John Forbes, nurseryman, Hawick, has been incorporated as a private limited company under the Companies (Consolidation) Act, 1908, under the name of "John Forbes, Hawick, Limited." We understand that the shares are all taken up by Mr. Forbes and his family, and that the incorporation is made for family purposes only. We wish the new company a continuation of the prosperity which has marked the business hitherto, and recently secured for it the distinction of royal patronage.

ANSWERS TO CORRESPONDENTS.

PLANTS UNDER GREENHOUSE STAGING.—J. E., Norfolk: There are numerous plants all suitable for covering the ground beneath the staging of a warm greenhouse, and they can be readily obtained from any nurseryman. The chief of these are Selaginella Kraussiana, and Helxine Solieroli, both low-growing creeping plants; Tradescantia zebrina, Rex begonias in variety, Fittonia argyroneura Pearcei, and Pteris cretica, etc. If a strong plant of the latter is secured, and the spores are distributed about the soil, and also on the walls behind, many plants will appear presently, and these will probably thrive better than the planted ones.

ORCHID COLLECTOR'S SALARY.—T. M., Bradford: It is practically impossible to give what has been the maximum and the minimum salary for an orchid collector. In the old days, a quarter of a century or so ago, when plant-collecting was quite a business, we remember hearing of £100 a year, with every expense paid from start to return, as a suitable salary. Higher sums have been paid, especially when the collector has had to take considerable risks.

VALUE OF DAFFODIL BULBS.—M. A. J., Marazion: Very much depends upon the bulbs themselves. If they are of good size for the variety, well ripened and weighty, then a fair wholesale price per 1,000 for Golden Spur would be 30s.; Sir Watkin, 25s.; Emperor, 25s.; and Horsfieldi, 25s. Slightly higher prices may be made if the bulbs are very clean and shapely, and useful for retail dealing.

CUTTINGS OF BEGONIA GLOIRE DE LORRAINE.—F. S. S., Nottingham: From the plants that have flowered, rested a little and put into warmth again, new growth should now be appearing, and these form excellent cuttings if taken when about an inch and a-half long. Place them in light sandy compost, and keep in a close propagating frame until rooted. Be careful not to afford an excess of moisture, or the cuttings will damp off.

EPIPHRONITIS VEITCHI.—S. R. L., Manchester: It was in our issue of May [illegible], 1908, that the culture of Epiphronitis Veitchi was dealt with at some length by Mr. H. J. Chapman. He pointed out that the stems that have flowered are constantly breaking into new growth, and these growths may be cut off when the roots make their appearance, and potted in the usual way. Strong shoots may be either laid out in a bed of moss, or they may be cut into short lengths, and inserted as cuttings in a mixture of sphagnum moss and sand, where they readily produce growth. Few orchids lend themselves so readily to propagation as Epiphronitis Veitchi.

SIX KINDS OF VEGETABLES.—H. W., Bucks: From the several kinds mentioned we should select the following as most suitable for a competition in August: Potatoes, tomatoes, peas, cauliflowers, carrots, and onions.

NATIONAL CHRYSANTHEMUM SOCIETY.—F. E. G., Haslemere: We regret that in our issue of May 15, p. 386, we gave the address of Mr. R. Witty, the secretary of the National Chrysanthemum Society, as Swain's Lane, Highgate. We find that Mr. Witty has left the paternal home, and set up a menage of his own at 72, Savernake Road, Gospel Oak, N.W.

HOW TO APPLY FOR AN ALLOTMENT.—L. N., Yeovil: An allotment may be of any size up to five acres. Applicants in rural parishes should write to the clerk of the Parish Council, or to the chairman of the Parish Meeting if there is no Parish Council, and applicants in urban districts should write to the clerk of the Urban District Council or the Town Clerk, as the case may be. They should state the amount of land required and whether arable or grass, and if any particular piece of land is desired it should be mentioned. It does not follow that the Council will be able to obtain this particular land, but the information furnished will be of use to the Council by enabling them to meet the wishes of applicants as far as possible. Where rules have been made by a Council as to the manner in which applications are to be made, the rules should be carefully observed. Allotments cannot be sold to applicants, but may only be let. No allotment may be sublet. Allotment tenants are entitled, on quitting their allotments, to compensation for unexhausted improvements under the Agricultural Holdings Acts, or under the Allotments and Cottage Gardens Compensation Act, 1887.

SMALL HOLDINGS. L. N., Yeovil: The definition of a small holding, according to the Board of Agriculture is as follows: A "small holding," for the purposes of the Small Holdings Acts, means an agricultural holding which is more than one acre and not more than fifty acres in extent. It may, however, exceed fifty acres provided the annual value for the purpose of income-tax is not more than £50. Applications for small holdings should be made to the clerk of the County Council, or in the case of residents in a county borough to the Town Clerk. There is no restriction in the Small Holdings Acts as to the class or sex of persons that may apply for small holdings, except that they must "themselves cultivate the holding." This expression is not to be understood in a narrow sense. The Acts define "cultivation" to mean the use of land for any purpose of husbandry, including the keeping or breeding of live stock, poultry, or bees, and the growth of fruit, vegetables, and the like. Applicants will be expected to satisfy the Council that they have sufficient experience and means to work a small holding with the prospect of success. There is no provision in the Acts for the advance of money out of public funds to individuals taking up small holdings. Councils can purchase or hire land for small holdings either within or without the county or borough. If they are unable to obtain land by agreement, they can, with the sanction of the Board of Agriculture and Fisheries, acquire land compulsorily subject to the restrictions referred to in the case of allotments. Councils have certain powers of adapting land for the purpose of small holdings, including the power to erect dwelling houses and other buildings. Land that has been bought by a Council by agreement can either be sold or let to a small holder, but land taken on lease, or acquired compulsorily, can only be let. The rent to be paid by a small holder will be fixed by the Council at a sum not less than is sufficient to cover the rent or the interest on the purchase money paid by the Council, with the addition of a fair proportion of the cost of adapting the land for small holdings, and a sum to cover management and other expenses.

NAMES OF PLANTS.

Berwick.—Primula rosea.

W. J., Axminster.—1, Dielytra spectabilis; 2, Ginkgo biloba; 3, Odontoglossum

Chester.—1, Phœnix Roebelini; 2, Veitchi; 3, Pandanus utilis; 4, Tillandsia Lindeni.

E. B., Worcester.—1, Clematis montana; 2, Alyssum saxatile; 3, Selaginella; 4, Berberis stenophylla; 5, Taxus baccata.

W., Shotley. — 1, A dark form of Primula cortusoides; 2, Bifrenaria Harrisoniæ; 3, Adiantum formosum; 4, Polypodium vulgare; 5, probably Adiantum affine, not a good specimen to judge from; 6, Dieffenbachia Pearcei, probably, but the leaf is not in character; send a leaf in July or August; 7, Oncidium Van Oosterzeei.

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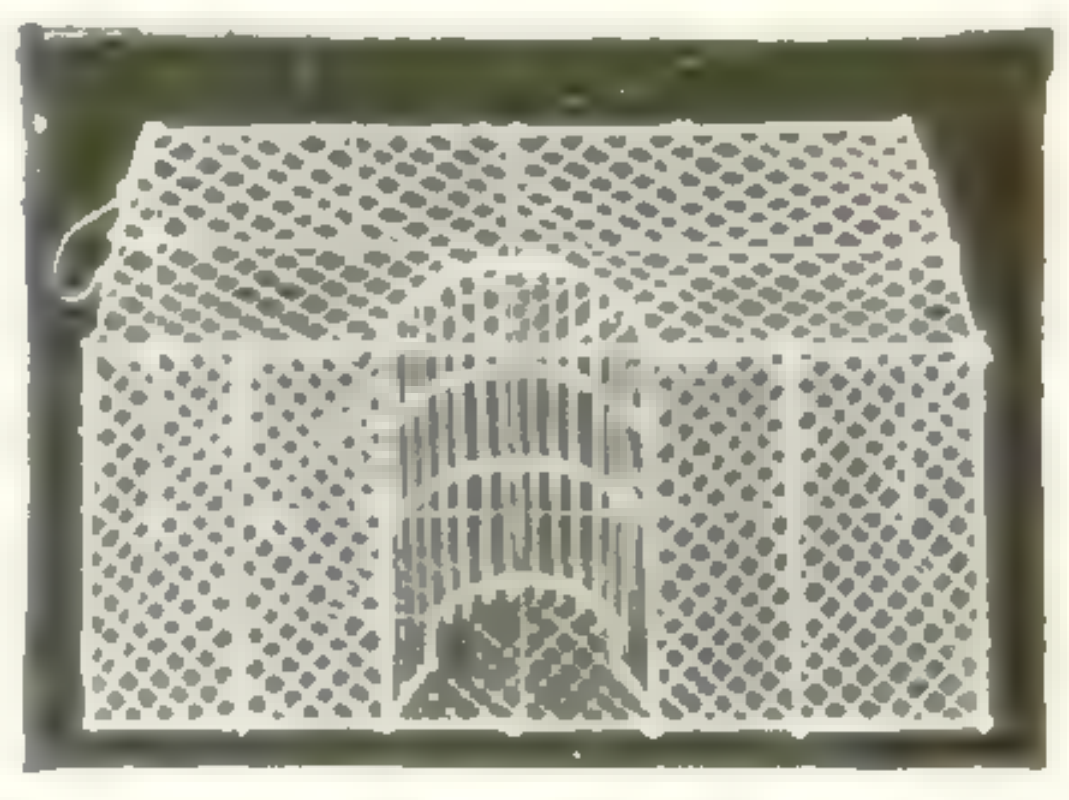

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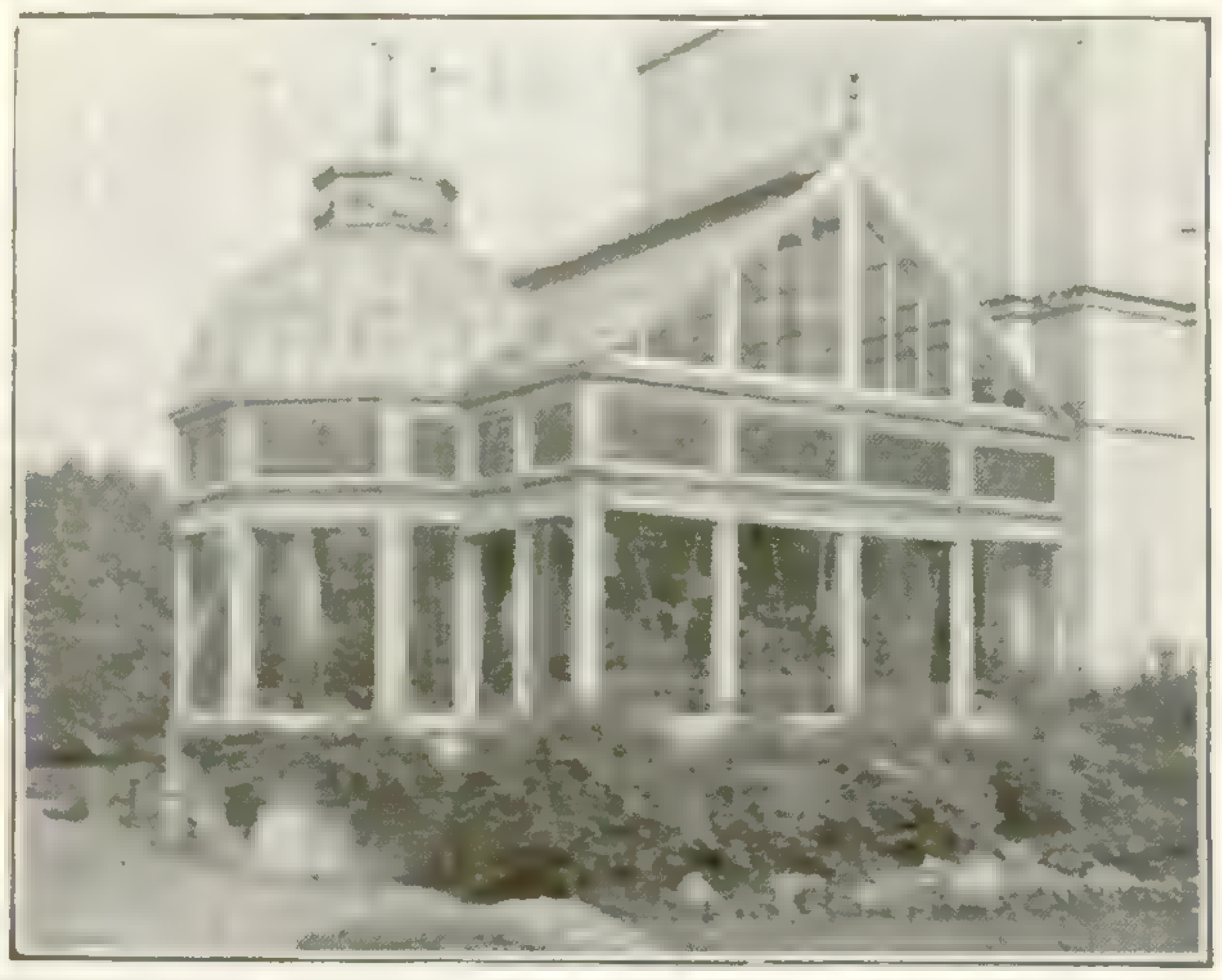

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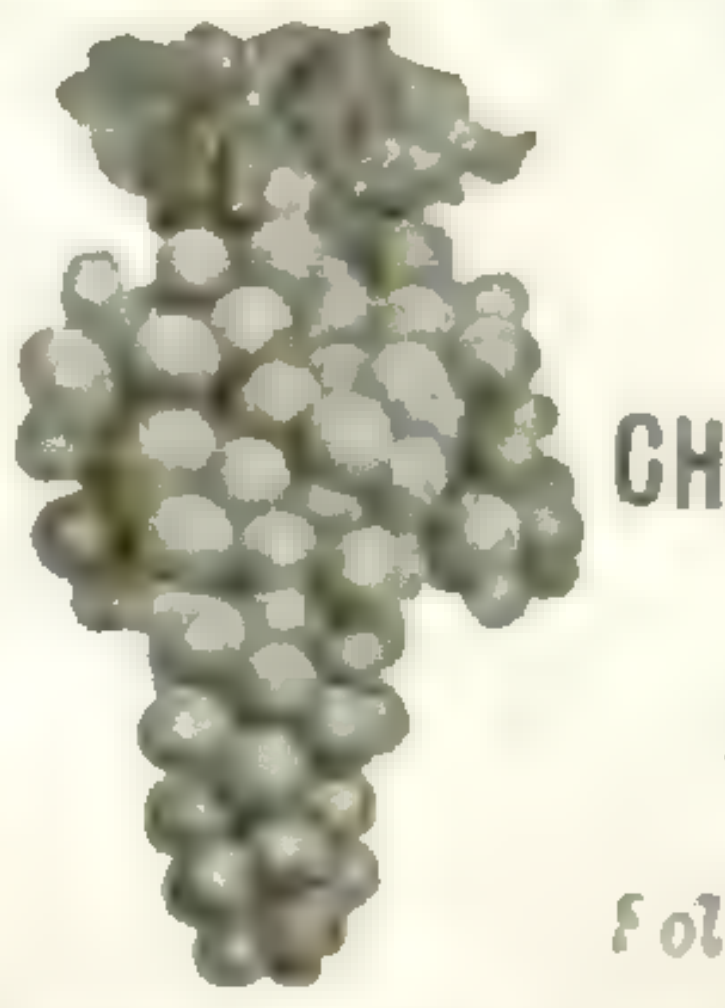

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Size of Tins.
No. 1. To make 25 gallons, **1/9**; postage 3d.
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FOR ROSE AND OTHER MILDEWS.

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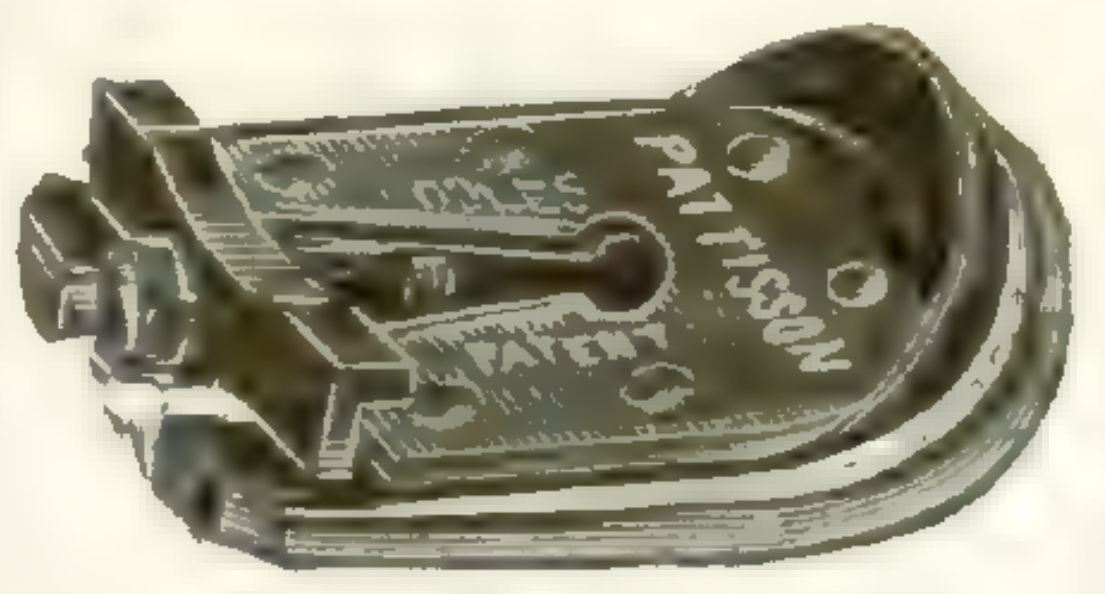

FIG. 1.

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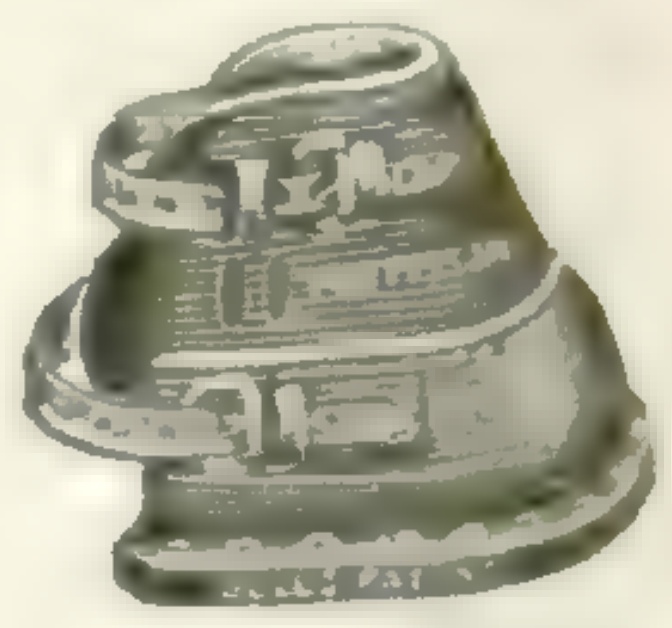

FIG. 2.

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For Flowers Vegetables and Fruit
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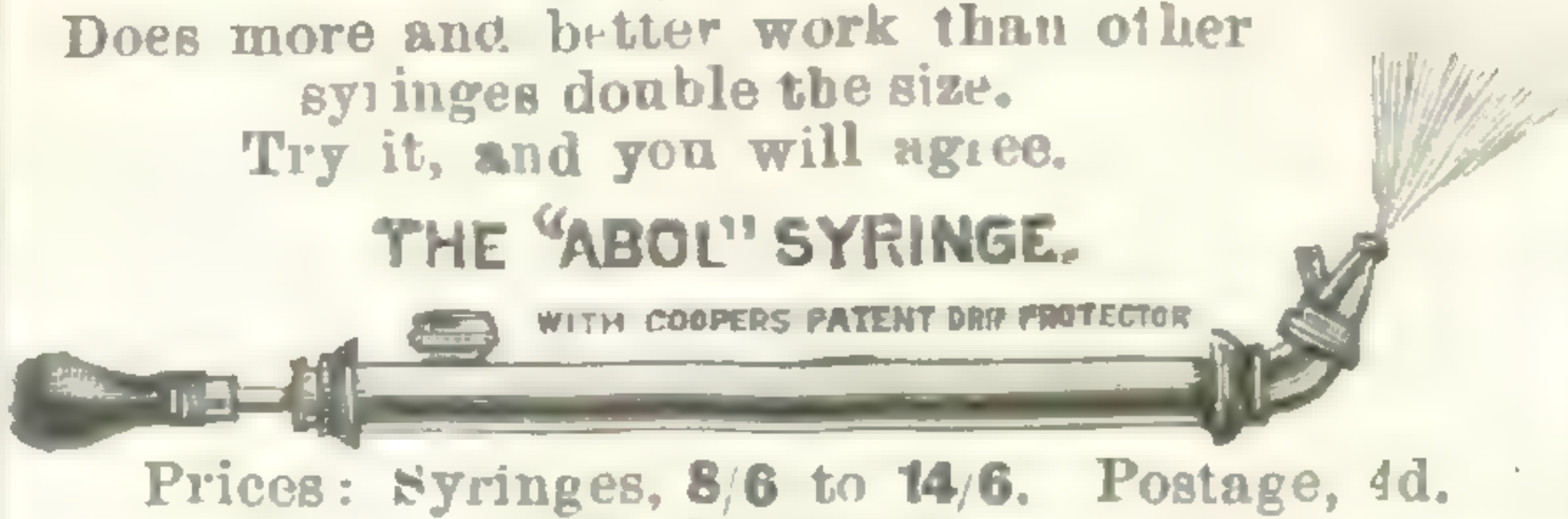
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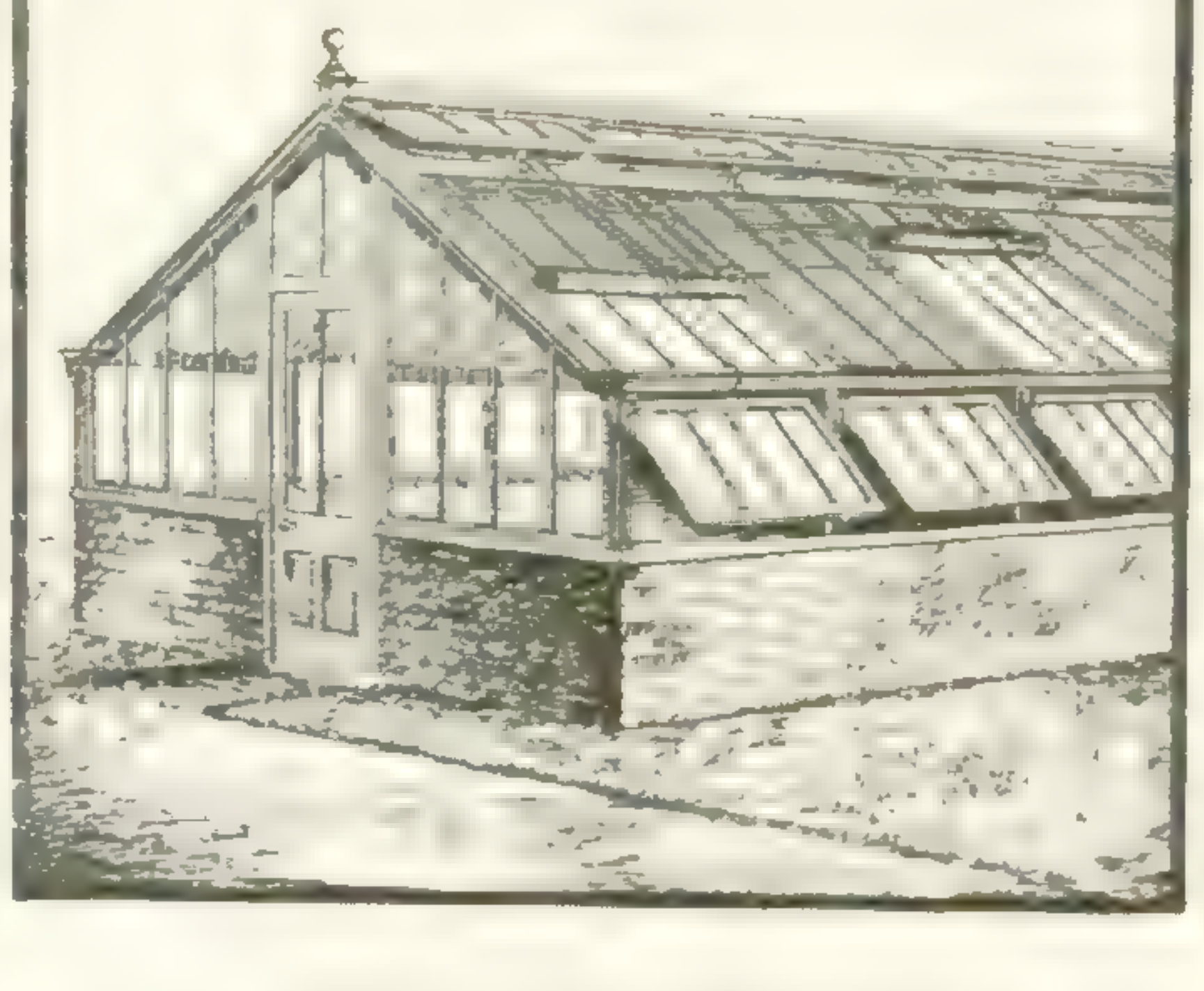
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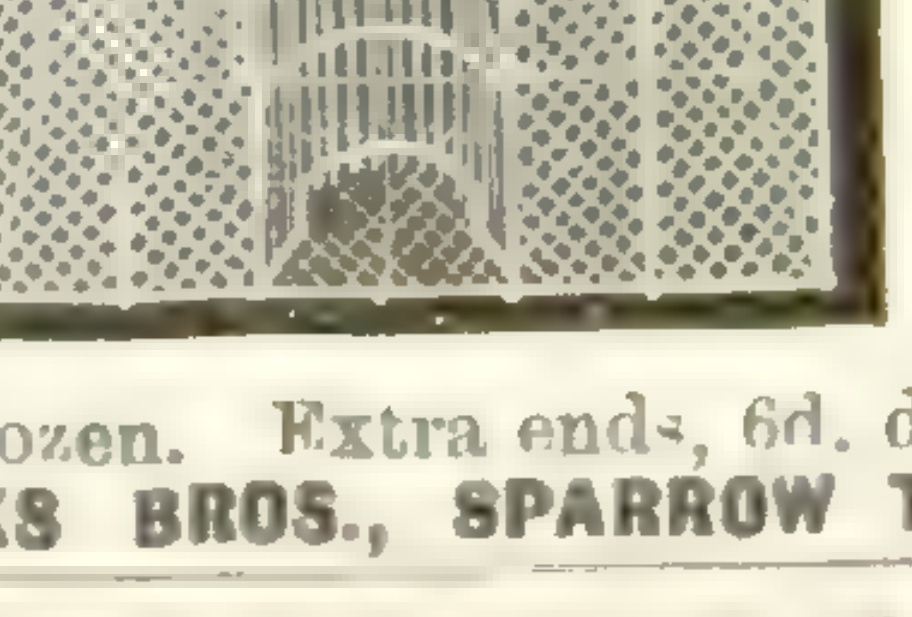

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The charge for an Advertisement INCLUDES A FREE ENTRY ON THE REGISTER. Immediate Notice must be given when an engagement is secured.

A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

GARDENER (Head).—R. HARRIS desires reappointment with Lady or Gentleman requiring a qualified, competent, all-round Gardener; excellent references from leading establishments; age 40; married; 3½ years Head present place; 8 years previous as head. Merton Villas, Rodborough, Stroud, Glos.

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GARDENER (Head of two or three); all-round experience in all branches, including all kinds of Fruits and Flowers under Glass; age 35; married; good references; last 6 years Head. S. BUTLER, 4, Alexander Road, Chislehurst West.

GARDENER (Head Working, three or more kept); life experience in all branches of gardening; excellent references; 5½ years in present situation; age 40; 2 children, 14 and 10 years. (Would go abroad.) W. R. CHARLES, The Gardens, Guilsborough Vicarage, Northampton.

GARDENER (Head Working, Single-handed or otherwise), life experience, age 30; married, no family; wife as Cook or Housework if required.—Address, GARDENER, care of A. Heywood, Esq., 24, Delemere Road, Levenshulme, Manchester.

GARDENER (Head Working) where two or more are kept; thoroughly experienced in vines, peaches, melons, stove and greenhouse plants, flower and kitchen garden; leaving through employer giving up place; age 30; single. EDWARDS, Alport Cottage, Churchstoke, Montgomery.

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GARDENER (Head Working); life experience in all branches, Inside and Out; married; good references. W. CANE, Sparrows Green, Wadhurst, Sussex.

GARDENER (Head Working), where more are kept; 25 years' practical experience in all branches, Inside and Out, early and late Forcing, Vines, Cucumbers, Melons, Stove, and Greenhouse Plants, Herbaceous Borders; thoroughly reliable; highly recommended; married, without encumbrance. WOODHOUSE, Eastwood Road, Bramley, Surrey.

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J. J. PARKER, Nurseryman, Whetstone, N., confidently recommends an industrious, hard-working HEAD GARDENER; good all-round man; 9 years last place; married; age 40.

LADY MALCOLM, of Poltalloch, highly recommends her HEAD GARDENER; eight years in present place, Head of three; life experience in all branches. age 36; married, one child, seven years. W. BASTIN, Barnardiston Hall Gardens, Haverhill, Suffolk.

LADY will highly recommend her GARDENER (Head, where one or two kept); experience Inside and Out; married when suited. Apply TYLER, Dunsfold Villa, Horsell Moor, Woking, Surrey.

MRS. GRAHAM MOON wishes to recommend her Gardener, who has been with her five years, as HEAD where two are kept, or good SINGLE-HANDED; age 32; married, no children; leaving through death. A. JOLLIFFE, Cedar Lodge, Taplow, Bucks.

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GARDENER (Single-handed or with help); good Second's place not objected to; married. age 36; tall; one child; life experience Inside and Out; good references. H. WARNER, 17, Salmestone Road, Margate, Kent.

GARDENER (Single-handed); nine years' experience; good character; leaving when suited; single, age 25. C. TEGG, St. Leonard's Hill, Clewer, near Windsor.

GARDENER (good single-handed, or with help), age 30; married, no family; abstainer; life experience in all branches, especially glass; highly recommended. BUNCE, 2, Phœnix Buildings, Rainham, Essex.

MR. F. W. KEMP, Eastcourt House Gardens, Malmesbury, Wilts, can thoroughly recommend J. CLARKE as SINGLE-HANDED GARDENER, with help; experienced fruit, flowers, vegetables, and lawns; Inside and Out; good previous reference; age 26; three years second here; married when suited; near London preferred. Apply as above.

GARDENER seeks SITUATION, S[illegible] handed or otherwise; age 25; 11 years' e[illegible] perience; good references. A. RANDALL, 40, Vi[illegible] toria Place, East Street, Epsom.

GARDENER seeks SITUATION, single-handed, or where help is given; age 28; [illegible] life experience in all branches; good references. H. ATTWATER, Ivy Cottage, Horsmonden, Kent.

GARDENER seeks SITUATION as [illegible] Single-handed or where help is given; 2½ years [illegible] good character; married when suited. P. MUSTOW, Coln St. Aldwyns, Fairford, Glos.

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MR. E. CLIFTON BROWN wishes to highly recommend G. HARRIS as good SECOND GARDENER; age 28; single; has been his Second Gardener for four years, with good experience Inside and Out; excellent character. Burnham Grove, Burnham, Bucks.

GARDENER (Second, Inside and Out or Head of two); life experience; three years [illegible] months Second present situation; well recommended; age 30; married. NETLEY, Peaslake, [illegible]shall, Surrey.

GARDENER, age 22, seeks SITUATION [illegible] 7 years' experience, Inside and Out, [illegible] well recommended. N., Red House Lodge, [illegible]side, Camberley, Surrey.

GARDENER.—YOUNG MAN seeks SITUATION as Under Gardener; would live in B[illegible] age 20; good ref. Apply O. BOLTON, Marcham, Abingdon, Berks.

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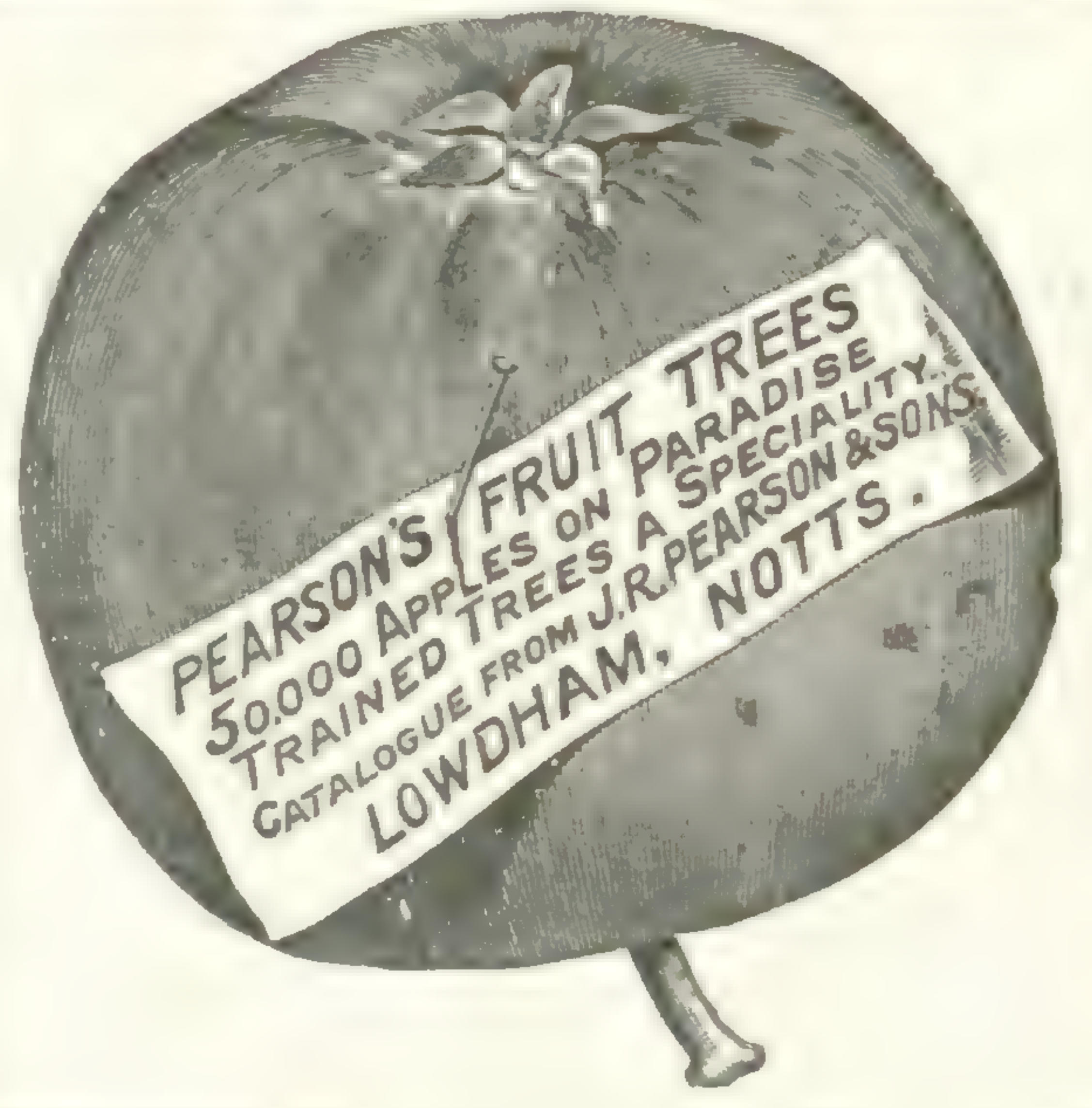
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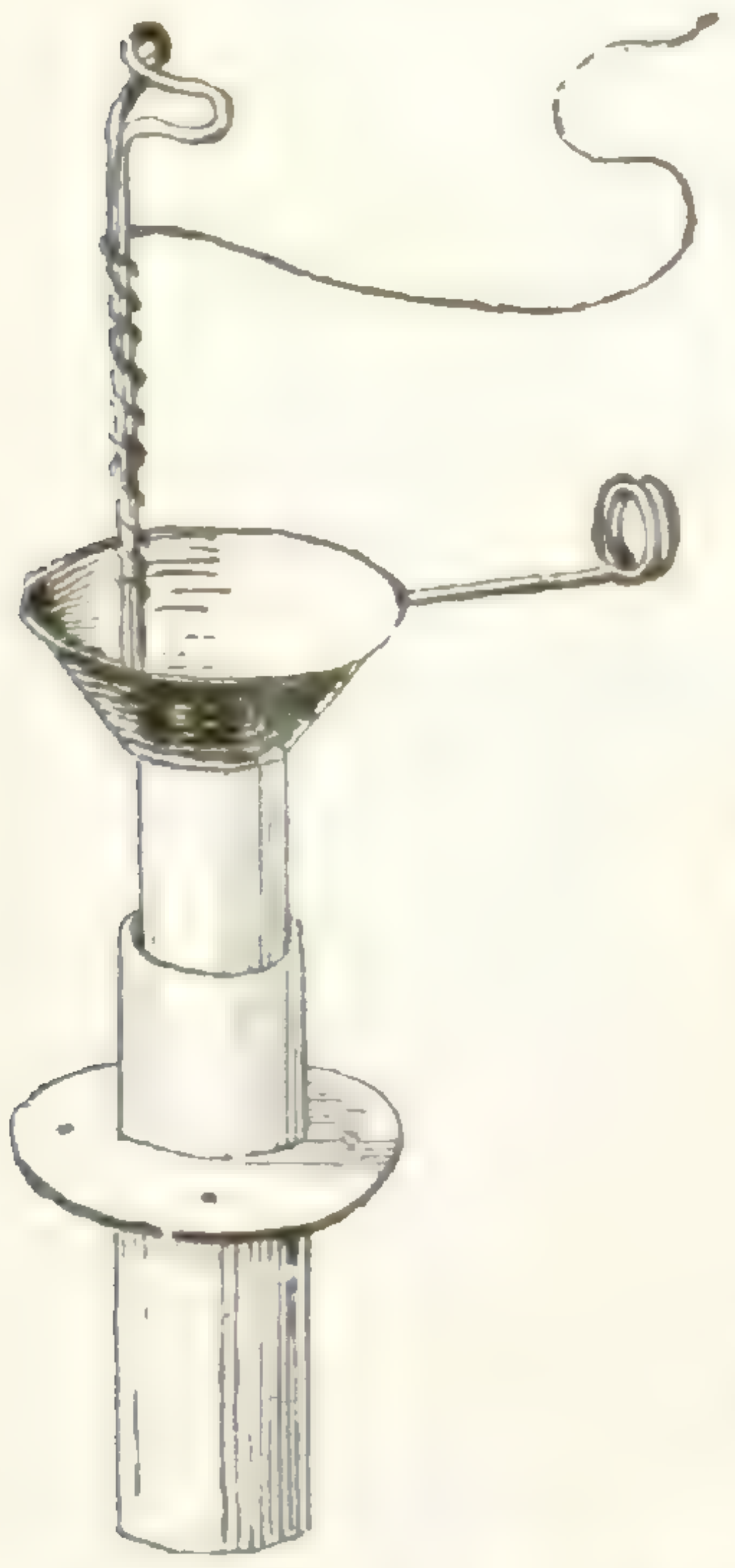

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VOL. LII.—No. 2,900. SATURDAY, MAY 29, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

The Temple Show.

Twenty-two years have run their course since the first of the horticultural exhibitions under the auspices of the Royal Horticultural Society was held in the gardens of the Inner Temple, and throughout this comparatively long number of years there has been a continuous increase in the interest and attractions of the exhibitions, and uniform progress in the development of the horticultural activities of the United Kingdom. There is no occasion we should here speak in detail of the exhibition that has been held during the past week, as the illustrated report which appears in another part of this issue gives the fullest possible information relating to its many features. It will suffice to place on record the fact that it was, as a whole, fully equal to the high average that has been maintained for many years past, and that it was a magnificent demonstration of horticultural enterprise, and a veritable triumph of organisation. We have something more than the ordinary degree of pleasure in being able to speak thus appreciatively of the exhibition, because rumour has it that it may be the last of the series that will be held in the gardens of the Inner Temple, and it is highly satisfactory there should have been continuous progress throughout. Twenty-two years form a comparatively short period in the life of a society that celebrated its centenary some years ago, for there can be no question that during that period the Royal Horticultural Society has exercised a greater influence for good upon the horticultural activities of the country than in any other period of its history. We might, perhaps, go further, and suggest that the society has accomplished more for the advancement of horticulture, as a whole, during the period over which the Temple Shows have extended than in the fifty years by which it was preceded. Whether this be the case or not, the society has accomplished an immense amount of useful work on behalf of gardening, and not the least valuable of its many activities has been the holding of the Temple Shows. These gatherings, wholly unlike those that had been held at South Kensington, and, indeed, unlike those which are held elsewhere, have, by allowing exhibitors to show what they like, within certain limitations, given them opportunities for presenting to public notice plants and flowers of much interest, that, under traditional arrangements, would have been impossible. As the result visitors have had opportunities for becoming acquainted with all that is best in stove and greenhouse, in orchid house and fernery, in herbaceous border and rockery, in shrubbery and plantation, and in bog and water garden. Everything likely to add to the charms of the garden and the home has been heartily welcomed, the exhibitions have proved educationally valuable, and to the object lessons obtained from a visit to them may be traced the greater diversity in the attractions which gardens now possess. That they have also had a stimulative influence upon raisers there can be no doubt, and it was interesting, in walking through the tents on Tuesday, to observe many plants occupying prominent positions that were practically non-existent a quarter of a century ago. Orchid hybridisation had obtained attention long before the Royal Horticultural Society selected Westminster as its headquarters, but the raising of seedlings had not become general, or indeed made much progress, for the orchids at the first Temple Show consisted chiefly of species and well-marked varieties. Of late years the raising of orchids from seed has become so general, and has been carried out with so much success, that the greater proportion of the magnificent display of these fascinating flowers which delighted thousands of visitors during the past week, were mostly home-raised. The number of new forms that have originated during the past two decades from hybridisation and cross-fertilisation in orchids has been surprisingly large. In turning to that storehouse of information, the "Gardening Year Book," we find that for some years past upwards of one hundred new orchids annually have obtained recognition at the Temple Shows and the society's fortnightly meetings. The beautiful race of streptocarpuses now so generally cultivated were unknown: stellate cinerarias are creations of quite recent years, as also are the perpetual carnations, which annually contribute largely to the attractions of the Temple Shows, and are grown in their thousands in private gardens. We had no brightly-coloured kalanchoe to brighten the conservatory; no Wichuraiana roses to give grace and colour to the garden, and beautify the conservatory in advance of the season of flowering outside; and no Pink Pearl rhododendron to enhance the charms of the flower garden. Concurrently with the creation of new classes and forms of plants there has been an enormous development in the cultivation of hardy perennials, and of rock and water gardening, and a largely increased interest in trees and shrubs remarkable for the beauty of their flowers or foliage. At the first of the Temple Shows there were but few trees and shrubs, but now they are

half of gardeninu, and not the least

MR. FRANK READER.

so high a state of development as to constitute a feature remarkable alike for its interest and attractiveness. Reference might be made to other evidence of advancement at the exhibition, but sufficient has been said to show that the progress made has been substantial, and that much of it may be attributed to the influence of the gatherings which have been so successfully held under the auspices of the Royal Horticultural Society in the Temple Gardens.

Mr. Frank Reader.—Not a few of the exhibitors at, and visitors to, the Temple Show during this week will have had cause to be thankful for the extreme courtesy and wonderfully genial manner of Mr. Frank Reader, the cashier to the Royal Horticultural Society. Few men can keep an even temper and a smiling face, no matter what the weather or what the circumstance, like Mr. Reader. He is a right jolly good fellow, and his unfailing memory for faces and for the idiosyncrasies of the Fellows of the society make him an invaluable servant. Under three treasurers he has looked after the finances of the society; under Sir Daniel Morris, the late Mr. Philip Crowley, and now under Mr. J. Gurney Fowler, all extremely capable gentlemen. When Mr. Reader entered the service of the R.H.S., in March, 1890, the annual income was comparatively small, and he has seen it rise from £4,100 to £21,900 a year. The society's investments have advanced from nil to £33,900, with the addition of buildings and equipment worth £40,900, and the Fellowship of the society has risen from 2,050 to 10,507. All this goes to show how greatly Mr. F. Reader's responsibilities have increased during his nineteen years' service. Mr. Reader is, we would add, held in high estimation by his neighbours, as well as by those who have business relation with him, for he occupies the position of churchwarden at Shirley, and is one of the trustees of the Playing Field and Village Institute. It is with great pleasure we present Mr. Reader's portrait to our readers this week, and we know that many will join with us in wishing that he may be long spared to fill his present position at Westminster.

Summer Heat. — There was a marked change on Friday, the 21st inst., in the weather, as compared with that experienced at the end of the previous week. On that date the maximum shade temperature registered in the Royal Gardens, Kew, was 84 degrees. On Saturday, the 22nd inst., the highest temperatures, according to the Meteorological Office, was 82 degrees at Margate and 81 degrees at Westminster. On Sunday, the 23rd, the temperature was equally high in the earlier part of the day, but, later on, it became rather cooler. The maximum of 84 degrees on the 21st inst. was 21 degrees above the averages for that date. There have been only two instances during the past 38 years in which this temperature has been exceeded by one degree, and these are May 30, 1895, when the maximum registered was 85 degrees, and May 26, 1880, when the thermometer rose to 86 degrees.

Royal Botanic Society.—On Tuesday last an extraordinary general meeting of the Fellows was held in the Club House for the purpose of considering the present financial position of the Royal Botanic Society. Mr. C. Brinsley Marley presided, and there was a strong muster of Fellows. It appears that for some time the Council have found that, with the increased cost of the maintenance of the gardens, the expenditure has been in excess of the income. Early in the year the annual subscription was raised from two to three guineas, but a sufficient time has not yet elapsed to enable the society to restore the balance of income and expenditure. The liabilities, including rent, wages, and office expenses, to the end of the year amount to about £5,000, and the Council hope to receive from fêtes and Fellows' subscriptions about £2,000. In considering the ways and means, it was at first thought that a donation of two guineas from each of the Fellows would be sufficient to pay off the adverse balance, but it was found that a donation of three guineas would be required. A motion to that effect was submitted by Captain J. Sparks, a member of Council, but Mr. Cecil Raleigh thought the society should not, in its present position, adopt half measures, and moved an amendment that donations of five guineas be invited, and in the result the amendment was carried.

Rhododendron Pink Pearl.—With reference to the origin of this beautiful rhododendron, Messrs. John Waterer and Sons, Lim., write: "Having noticed in recent issues of 'The Field' letters dealing with the origin of our hybrid rhododendron Pink Pearl, we think it might interest your readers to know that this most beautiful plant was raised by us in our nurseries at Bagshot. The many suggestions that have been made as to the possible parentage of this plant are, in many cases, very wide of the mark. It is obvious that we are not going to give away what is a valuable trade secret by exposing the parentage of Pink Pearl, as we have yet considerable hopes of raising even better varieties. It is somewhat hard lines that the only people who are really responsible for this plant have not been credited with raising it!"

Sale of Weed Killers and Insecticides.—At a recent meeting of the Birmingham Watch Committee, it was decided to grant licences to several seedsmen carrying on business in the city. In moving the granting of the licences, Alderman Sayer said that the applications were from the leading seedsmen of the city. They had all been in the habit of selling insecticides and weed killers more or less of a non-poisonous character. Where there had been preparations of a poisonous character it had been their custom to send the orders to the chemist, and the public had been somewhat inconvenienced by the delay. The chemists urged the danger of the sale of these articles, but that seemed a small point, because most of the trades used poisonous substances in their business, and the very fact that the seedsmen would sell these poisons in a particular manner seemed to the sub-committee a safeguard. The committee had the reasonable requirements of the public to consider, and gardeners would naturally go to the places where they bought their seeds and implements.

A Fortunate Gardener.—The late Dowager Duchess of Marlborough left Mr. F. Chamberlain, her gardener at the Deepdene, a legacy of £500.

Hop Shoots, which have long been used in Belgium as a table vegetable, are being sent to Covent Garden by the Belgian growers, and are retailed at sixpence per pound. The shoots that are being marketed are, as a matter of course, the green growths made in the open; but in Belgium blanched shoots produced early in the year by covering the roots with some light fermenting material or by placing the roots in a mushroom house are the most highly esteemed. Many years ago it was the practice in some country districts for the working classes to obtain supplies of the shoots from plants growing in the hedgerows. But with an extension of cottage gardening, the practice has largely decreased, if it has not wholly died out.

The "Gardeners' Magazine" in Siam.—We are daily receiving evidence of the continuous extension in the circulation of the Gardeners' Magazine abroad, as well as at home. Not so long since we mentioned that one of the firms advertising in its pages had received orders from several different parts of Russia. Now we have the pleasure of stating that H.R.H. Prince Chumphorn of Bangkok Siam, has for business purposes placed himself in communication with Messrs. H. Lane and Son, of Great Berkhamsted, as the result of the firm's advertisements in these pages. In writing to us with reference to the latter, Messrs. H. Lane and Sons observe, "It is really wonderful how the Gardeners' Magazine gets about."

Keeping Qualities of Large Onions.—It is assumed by a considerable proportion of cultivators and a large number of consumers that large onions, such as those usually seen in winning collections of vegetables at exhibitions, do not remain in a sound condition for so long a period as those of a medium size. There is some justification for the belief that large onions do not keep well, but this is wholly due to the course of procedure adopted in their production. It is simply a question of proper maturation, for when so grown that they become ripened in August, the largest specimens of Ailsa Craig, and other types grown for exhibition, will keep equally as well as those of such varieties as James' Longkeeping, grown under ordinary conditions. We have had an interesting proof of this during the present season. Early in April, Mr. E. Beckett, V.M.H., gave a lecture on the production of vegetables for exhibition at a meeting of the Twickenham Gardeners' Association. The cultivation of onions received, as a matter of course, a full share of attention, and at the close of the lecture the question was asked whether large onions, produced under the conditions that had been stated, would keep. As a proof that they will keep for many months after ripening, Mr. Beckett promptly handed round three bulbs of Ailsa Craig, weighing about 3lbs. each, that had formed part of the collection with which he had obtained premier honours at Shrewsbury in the previous August. We were present at the meeting, and at the close, Mr. Beckett handed us two of the bulbs that we might have an opportunity of seeing how much longer they would remain sound. One bulb showed signs of growth on May 7, and the other eight days later, but both were perfectly sound at the commencement of activity, and, when cooked, were so delicately flavoured that one could wish such onions could be obtained from the greengrocers in the usual way. Nine months had elapsed between the onions having been lifted and used, and this assuredly is as long a period as one could expect them to keep perfectly sound.

Fixation of Atmospheric Nitrogen. The paper read at the meeting of the Royal Society of Arts on Wednesday, 26th inst., was by Mr. Sam Eyde, who, with Professor Birkeland, both of Norway, discovered practical means of fixing the nitrogen of the atmosphere, and thereby producing nitrate of lime to replace the nitrate of soda now so largely used as a fertiliser.

ANTIRRHINUMS.

The increasing prevalence among genuine flower lovers of the modern taste for natural grace and beauty of form in plants is shown even in the humble snapdragon. Though we still see "Dwarf Gems" and grotesque striped forms, on the other hand we do not often see the sorts which grow four or five feet high, with lanky stems. The antirrhinum is never at its best when it is other than a graceful plant of free growth, and it is not easy to imagine any improvement upon the strain which some of the leading nurserymen are now sending out—strong-growing selfs attaining a height of some two feet, with large, broad-lipped flowers in a somewhat loose spike, and not closely compacted like the common toadflax (Linaria vulgaris). Self colours are preferred by most, though some like the white throat and the yellow or orange lip.

For flowering the first year seed should be sown under glass in February or early March, the seedlings so obtained making handsome plants from early July onwards. If the soil is a dry one they may be depended upon to stand any ordinary winter, and make fine, large, shrubby plants the following season; but if the soil is a heavy one, especially if it is in a damp situation, a mild or severe winter may be equally fatal to them. For standing the winter it is best to sow early in July, either in the open ground or in pans, and prick out the seedlings on a bed of firm, and not too rich, soil in a sunny position, where most of them will stand the winter.

Plants which have flowered seem to have much less power to stand the winter than young ones, and so have either young or old plants which are moved in the late autumn. When the conditions of soil and climate are so adverse that they cannot be depended upon to stand a normal winter, it is best to pot up the July seedlings in sixties, and either sink them in cinder ashes in the open, or, better, put them in a frame for the winter. Given plenty of air the large majority may be expected to survive, though some always die without apparent cause.

Antirrhinums are common objects on old walls, from which it may be inferred that they like old mortar rubbish, and, as a matter of fact, this is one of the best things to mix with the soil, which should be firm, with little, if any, fresh animal manure in it, the latter often resulting in the withering away of plants in an otherwise inexplicable manner.

The uses to which antirrhinums may be put in the flower garden are very varied. For rows, or other places in formal flower beds, they always seem to me rather out of place, partly because it is usual to employ the dwarf forms for this purpose, and partly because I do not care to see hardy flowers associated with tender ones. Their most suitable position in the garden, as a rule, is in the mixed border, amongst plants of low growth, on the rockery, and on dry banks or walls; and although, on account of their growing in any dry place, it may seem a pity to give up the better parts of the garden to them, yet they are often used with very good effect on semi-permanent beds of hardy flowers.

When visiting the Royal Horticultural Society's summer show two or three years ago in the grounds of the Royal Hospital, Chelsea, I noticed in the Ranelagh Gardens a large bed of iris planted in clumps some two feet apart, while the interspaces were occupied by antirrhinums of various colours. The effect was very pleasing, the foliage of the irises, which were then off flower, helping to show up the gorgeous colouring of the antirrhinums, while the bed, being in a dry place, exposed to the sun all day, the latter were extremely floriferous, without any undue rampancy of growth. I employed them myself in a somewhat similar way last summer. Following a bed of daisies, I planted out early-flowering chrysanthemums in the middle of June straight out of pots, in groups of three. I planted between the groups small antirrhinums, which had been raised from seed some three months previously. The latter flowered profusely, just overtopping the chrysanthemums in July and August, and really making a handsome bed of themselves. By the time the best of the blossom was over the chrysanthemums had grown well above them, and soon they crowded them out altogether. As a method of getting three floral displays on a bed in one year it may serve as a suggestion for others.

When buying seed, obtain the best strain procurable, and, though the effect of one colour only may be best, I should advise a mixed strain, unless some particular colour is wanted in the garden scheme, as it provides more interest. About 80 per cent. of the seedlings from good seed may be expected to come true to colour, and a good many of the remainder not far out. When planting out seedlings from mixed seed the colours can be foretold in a broad way by the colour of the stems and leaves of the young plants.

When a good strain has been obtained in sufficient variety to satisfy the owner—and there may be some disappointment even when a good price has been paid for the seed—it is worth keeping and propagating by means of cuttings, as seed saved from specially good specimens cannot be depended upon to come true when the plants selected are surrounded by others of dif-

TEMPLE SHOW.—ROSE LADY GODIVA (MESSRS. PAUL AND SON).
A beautiful rambling rose with pale flesh-pink flowers, grown in pillar form.

ferent colours. Cuttings may be taken in June or early July, the shorter laterals broken off at the junction forming the best material for the purpose. Put round the sides of pots with a little sand, and set in a house or cold frame, they strike in about a month, and may be potted off into sixties and kept in a cold frame for the winter. They make a tuft of young shoots at the base during the autumn, and so make good-sized bushes the following summer, flowering in early June.

Antirrhinums on an old wall give so good an effect that it is worth while taking a little trouble to establish them there.

TEMPLE SHOW.—TULIP DR. HARDY (MESSRS. BARR AND SONS).
A fine flamed florists' variety; flowers yellow and maroon.

The best time to sow the seed is in early August, so that the late summer and autumn rains may cause the seed to germinate and give the young seedlings time to push their roots deeply into the mortar before the frost comes. They will flower the next season, though the plants will still be small, but the second year they will make fine handsome plants. If the seed is sown in the spring there is a chance of a long period of dry weather, so that either the seed does not germinate or the little seedlings are dried up in a hot June before they are sufficiently established. When once established in such a position they may be trusted to take care of themselves.

Alger Petts.

HINTS FOR SUMMER BEDDING.

In view of the fact that the bedding-out season is now with us, I venture to offer a few remarks as to the disposition and arrangement of plants, and, at the outset, it may be said that it is possible to create beautiful and artistic effects with a very limited number, and also that it is an easy matter to bring about inharmonious muddle, through the indiscriminate use of large numbers of varieties.

The skilful association of colours is responsible for the beauty found in flower beds that are laid out and planted with taste, and happily it is very seldom that we find glaring mistakes in this matter nowadays. Something in the shape of a revolution was effected in the style of bedding out some years ago, and, in order to keep pace with the times, simplicity must be the watchword; combinations that are soft and pleasing are the attraction, as opposed to the displays that made one blink under the old methods. It is not at all unusual for flower beds to be tenanted by three or four distinct sets of plants during the summer, and both stove and greenhouse plants, with roses, perennials, biennials, and annuals are pressed into service, and under these conditions monotony is out of the question.

It may prove of interest if I give particulars of a few beds which struck me as being highly effective last season, and altogether one of the best was composed of Begonia Lafayette, arranged eighteen inches apart, Mesembryanthemum corditolium variegatum acting as a carpeting, and Vitis variegata, Abutilon Sovitzi, and Eulalia gracillima variegata used as dot plants. A huge oblong bed contained a rich crimson single begonia of immense build, the plants two feet apart, and here Centaurea candidissima compacta provided a very fine carpet, while a deep blue verbena formed a foot wide framework. It will occur to the cultivator that violas, Niphetos, Bullion, or Skylark, also the wonderfully floriferous Kœniga maritima, would be very suitable and just as effective as carpeters. A strikingly beautiful combination was seen in deep yellow antirrhinums with Salvia patens towering above them, Verbena Defiance providing a very wide belt.

One cannot well conceive anything more lovely than Celosia plumosa in company with Lilium lancifolium rubrum, L. l. roseum, or L. l. album, and we cannot find anything to equal Viola lilacina as an edging, and it should take the form of double lines. As a foliage bed of medium size, the following produced a very pleasing effect: Groups of Coleus Verschaffelti, Cineraria maritima, Iresine Lindeni, Pelargonium Crystal Palace Gem, and a wide edging of Fuchsia Meteor. The beautifully marked Zea quadricolor was arranged 3ft. apart over the whole. Purple-flowered ten-week stocks, with large and well-flowered examples of Fuchsia Ballet Girl, and panels of blue and white lobelia, with a single plant of croton-leaved beet, and Anthericum variegatum arranged in the centre of each panel respectively, proved very effective.

Bush and standard hydrangeas, enormous plants of Agapanthus umbellatus, and groups of Canna President Faure, with a splendid mass of Phlox Drummondi grandiflora forming a belt eighteen inches wide, struck a bold note. It was a happy idea to bring Pelargonium West Brighton Gem and pure white Iceland poppies together, and the purple lobelia seemed quite at home with them. Quite one of the loveliest beds I have ever seen was composed of groups of half a dozen Lobelia cardinalis Firefly arranged four feet apart, the intervening space being filled with the snowy Kœniga maritima, while a two-feet wide edging of Viola lilacina encircled the whole bed, which, by the way, was of enormous dimensions. Half a dozen perfect specimens of Dracæna indivisa contributed both dignity and grace to this bed. Very fine was a mixture of Lilium longiflorum, Acalypha tricolor, and Iresine Lindeni, the bed being edged with Chlorophytum variegatum, and the same may be said of [illegible] plants of Bouvardia Humboldti cory[illegible] flora, with a carpet of blue violas, and [illegible] edging of Stellaria graminea aurea. [illegible] merous beds were noted containing ca[illegible] tions and violas, a happy combination, [illegible] in this case it is advisable to grow the [illegible] named in pots in order that they may [illegible] removed without check after flowering.

I have said nothing about ivy-leaf [illegible] goniums in specimen form, but their [illegible] as also that of fuchsias, Strep[illegible] Jamesoni, and heliotropes, is too [illegible] known and appreciated to need comm[illegible]

Walter H. A[illegible]

BULBS.—A practical treatise on the cultivation of hardy, hothouse and greenhouse bulbous and tuberous rooted plants is "Bulbs and their Cultivation," by T. W. Sanders, price 2s. 6d. net, or by post 2s. 10d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

HOME-MADE INSECTICIDES.

Among the many difficulties a gardener has to contend with, in order to keep his plants in a vigorous state of health, and secure satisfactory yields of fruits and vegetables, insect pests are perhaps the most troublesome to thoroughly overcome. True, there are so many preparations on the market for specific purposes that an inexperienced grower is apt to conclude he has nothing to do but apply a dressing of this or that to exterminate a certain foe, and has to learn from practice that a knowledge of the life history of the insect, and repeated applications of an insecticide, is essential to success.

It is necessary to know how old the insect is before it lays eggs, and how long the eggs require to hatch, to be able to deal with it in a systematic manner. A dressing of quassia extract compound will kill all the green-fly it touches, but it does not affect the eggs, so that the evil may be as bad in the course of a week as it was when first attacked. Immediately after the dressing some of the eggs will hatch, and the insects thus brought into life will lay eggs in their turn, and fresh broods be provided to harass the plant cultivator. Have the plants affected syringed with this, or some other efficacious insecticide, say twice a week for a fortnight, or month, as the case may be, the evil will be got rid of. In most instances it will be found advisable to err on the side of syringing with an insecticide too often and too long than in not applying it often enough, or for too brief a period. To stamp mealy bug out of a garden I once had charge of, all the plants affected were confined to one house, and regularly syringed with a reliable insecticide every Friday evening for three months, with the result that, so far as I know, not a mealy bug has been seen there since, and this is over twenty years ago. In dealing with all insect foes our methods must be organised and persistent, if we hope to attain success, and a reliable specific must be employed in each case. It is a want of method and knowledge of the life history of our insect pests which often leads us to fancy that certain preparations for specific purposes are not effectual as a permanent remedy, and induces many to try experiments with concoctions of their own, with ruinous consequences. In a wide and varied experience I have rarely found any of those home-made preparations of much value as insecticides, and more often than otherwise, seen most disastrous results follow their application. I invariably find, too, that those who take upon themselves the compounding of preparations for the destruction of insect life have no knowledge of chemistry, or the action of certain substances on the tissues of plants. Their idea seems to be simply to find something that will kill insect pests, and, as a rule, the crudest and most injurious substances are experimented with. A favourite subject utilised for this purpose is petroleum—the most penetrating of all oils, and the most inimical to plant life. Wise experimenters would test the effects of their concoctions on useless plants, but, in many instances, the egotistical inventors apply it with an unsparing hand, and kill both insects and plants. Not long ago I came across three vineries and two peach houses where all the plants were killed to the ground by an application of one of those crude mixtures containing petroleum. The peaches were useless and had to be replaced, but the vines [illegible] growths from the base. Recently [illegible] another vinery where the vines had undergone similar treatment. In every instance the gardener in charge tried to convey the idea that the unhappy state of his plants was due to some special manure, or other influence outside his control, and found it hard, at least so far as appearances went, to realise that the mishap was due to the injurious substances in the mixture the vines had been painted with.

Some of these crude insecticides have contained arsenic—a substance employed in the preparation of some weed destroyers. With a special insecticide for a certain insect, for no insecticide will act inimically on all, and this employed in a thoroughly organised manner, a perfect cure may be expected; but, home-made mixtures of various substances, of which the nature is not understood, should be handled with very great discretion if mishaps like the foregoing are to be avoided, and reputations saved from blemish. Pedestrian.

TEMPLE SHOW.—TULIP INGLESCOMBE PINK (MESSRS. ALEX. DICKSON AND SONS).

A beautiful May-flowering variety, with large pink flowers.

Large White Cabbage Butterflies.—I have never before seen so many of these butterflies about so early in the season. In town and suburban gardens they almost swarm on bright, sunny days. Gardeners must be on their guard, and protect their crops of cabbages and turnips. The eggs will be found in clusters on the undersides of the leaves, and these eggs should be destroyed forthwith. It is not a difficult matter to examine a small or a medium-sized patch of plants now, but very tedious and ineffective to try and do so later in an endeavour to get rid of the resultant caterpillars from the hearts of the plants.—Geo. Garner.

WATERING AND MULCHING WALL FRUIT TREES.

The inexperienced cultivator may overlook the fact that the soil around the roots of fruit trees near walls is at all times drier than in the open quarters of the garden. I have lately noticed certain trees growing in a naturally light soil in my own neighbourhood, suffering from insufficient water at the roots. Some of the leaves even were turning yellow; the cold nights and prevailing east winds aggravating the evil of over-dryness at the roots.

Not only should water be judiciously given, but a mulch of half-decayed manure and some lumpy fibrous turf mixed with it, be applied as a top-dressing directly the water has soaked in. Very often one sees the border soil trodden down very firmly over the roots of the trees, owing to the tramping to and fro of various persons who attend to the trees and other crops growing in the wall border.

A firm rooting medium suits fruit trees better than a loose one, but the firmly-trodden, smooth surface prevents the water soaking in when it does rain, and the early potatoes and other crops get the benefit owing to the soil around them being looser. I always make a point of keeping the surface of the border over the roots of the fruit trees well moved with the Dutch hoe, and so let in the air and water in a natural way. Geo. Garner.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

VANDA TERES.—There are few orchids more useful and attractive than this species. The plants cannot be regarded as difficult to grow, for there are none of the orchids that will submit to artificial cultivation more readily than V. teres, but difficulties are frequently experienced in inducing the plants to flower satisfactorily; in fact, unless the plants can be submitted to suitable conditions, they may be grown for years without ever showing signs of a flower. Where a house, or a portion of a house, can be set apart for their cultivation, so that the plants can be placed in a position where they may obtain the full benefit of all the available light, flowering is generally satisfactory.

POTTING.—V. teres requires to be repotted or top-dressed annually, for the dry state of the potting compost during the prolonged resting period usually causes the sphagnum moss to die, thus necessitating top-dressing. The best time to attend to repotting is immediately after the plants pass out of flower. Where the plants are placed at the end of a span-roofed house with a southern aspect, or in a position where they may be trained near the roof glass, they are well suited by being planted in boxes or troughs. These should be amply drained with clean broken crocks. The potting compost should be of about equal proportions of peat or osmunda fibre and chopped sphagnum moss, intermixed with a liberal sprinkling of broken crocks or charcoal to retain it in an open and porous state. It will be found that some of the plants will annually become leggy through the loss of the lower leaves, so that when repotting is done the stems should be cut down, so as to keep the roots in the potting compost. Thoroughly water as soon as repotting is completed, shade the plants for a few days afterwards, and freely syringe overhead, and maintain a hot, humid atmosphere. As soon as they have recovered from the effects of repotting, afford the plants full advantage of the sunshine.

RESTING.—A saturated state of the atmosphere must be maintained throughout the growing season, but as soon as the growth reaches maturity, water should be gradually withheld, and for about a period of four months no root moisture is necessary beyond an occasional syringing to keep the terete stems and foliage plump. The dry conditions must be maintained until the flower spikes make their appearance, and then the necessary encouragement to produce flowers must be afforded.

TEMPLE SHOW.—MAXILLARIA SANDERIANA (MESSRS. J. CYPHER AND SONS).
A distinct and handsome species.

PROPAGATION.—To increase the stock, lay the ends of the stems that have been removed on a bed of sphagnum moss, or even on the surface of the boxes in which the plants are growing, they will generally produce new growths in due course, which may be potted and grown on in the usual way as soon as new roots make their appearance.

VANDA HOOKERIANA is worthy of every consideration, and is a most desirable companion for V. teres. The hybrid V. Miss Agnes Joachim has a robust constitution, and must have full exposure to the sun to induce it to flower in a satisfactory manner. The cultural conditions otherwise are the same as that required for V. teres.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

FERNS.—The ferns that were repotted early in the year will have their pots now well filled with roots, and will benefit by applications of weak liquid manure; to further the development of the fronds, give plenty of space between the plants. This will also prevent damping.

ADIANTUMS required for cutting should be removed to a slightly cooler house. The late adiantums should have been repotted and then placed in a cool house, and not syringed overhead. These cool-grown plants are better for supplying fronds than others grown in much warmth, and a number should always be kept in reserve. During bright sunshine ferns will now require to be shaded, but the shading should be partial. Perpetual shade will soon spoil the plants.

FERNS IN HANGING BASKETS will now require abundance of water to keep them in good condition, frequent soaking in a water tank being necessary. Any refurnishing of baskets that was overlooked should be given attention, and a moist house will be necessary for a short time. There are many species of ferns that make good basket plants, such as davallias, Nephrolepis davallioides, N. exaltata, N. tuberosa, and others, and moisture in the growing season is of the utmost importance to all.

TREE FERNS, such as dicksonias, lomarias, alsophillas, and cyatheas, throwing up their fronds, should have their stems syringed several times daily, thoroughly wetting every part to encourage growth. Remove unsightly fronds to make room for the new ones. Bind sphagnum moss round the stems of sickly plants to encourage new roots.

GYMNOGRAMMAS, when growing freely suffer if syringed. They do well in the driest and warmest part of the house. Slugs are very troublesome, and destroy the young growths, if not diligently looked after and killed. Collect and pot the small plants often found growing on walls, etc. Pteris serrulata should be grown in a cool house if the fronds are intended for cutting, as these are then more lasting. Diluted liquid manure frequently applied to the more robust species will benefit them.

CLOSE ATTENTION will now be necessary to the inmates of the stove. Although the winds may be cold the sun is powerful, so careful shading and ventilation will be necessary. Avoid cold currents of air by only using the top ventilators, and to correct injurious dryness frequently damp and syringe, and keep the evaporating pans full. To check red spider and thrips, throw plenty of water about at closing time, and again in the evening, if thought necessary. Crotons will now need copious supplies of water and weak liquid manure. Palms not repotted should be assisted with weak liquid manure to give the new leaves strength. Dracænas, aralias, and all similar plants that have filled their pots with roots, if intended for large specimens should be repotted. Frequent sponging is necessary to keep them clean.—W. Fyfe, Lockinge Gardens.

FRUITS UNDER GLASS.

PEACHES AND NECTARINES.—The fruit of trees that were started in the beginning of the year will now be nearly [illegible], especially such varieties as Hale's Early [illegible] Alexander peaches and Early Rivers [illegible] Cardinal nectarines. Plenty of air [illegible] now be admitted, as free ventilation [illegible] help to give good flavour. Syringing [illegible] be discontinued over the fruit, but the [illegible] and floor should be kept damp. On no account neglect the watering of the borders, but if the borders have been kept in [illegible] condition they will not require much [illegible] till the crop has been gathered. As soon as this has been done a good watering will be necessary, and the foliage syringed [illegible] daily, as it is essential to keep the [illegible] clean and healthy. In gathering the [illegible] avoid damage by undue pressure, [illegible] they are gathered place in a box or [illegible] containing a layer of wood wool, over [illegible] should be placed soft tissue paper, [illegible] place in a clean, cool room free [illegible] They are best when used as soon after gathering as possible. Trees in succession [illegible] must be kept thoroughly well syringed and watered, and the young shoots [illegible] The houses should be ventilated [illegible] fine mornings, and the ventilation gradually increased, so that any sudden rush of air is carefully avoided. The borders may receive a good dressing of guano or some approved artificial fertiliser, and a mulch of manure from the farmyard will be beneficial, especially if the borders are subjected to much sunshine. Where the borders are shaded by the trees a mulch is not important.

TEMPLE SHOW.—NEW AMARYLLIS (MESSRS. R. P. KER AND SONS).
New varieties of a fine strain of these handsome bulbous plants.

ORCHARD HOUSE TREES. — Where trees of various kinds are being grown in pots, and are not plunged, it will be necessary to attend to the watering twice daily as any shortage in the supply may ruin the crop, but when the pots are plunged they do not require such frequent waterings, and syringing should be done whenever practicable. Keep cherries and plums free from aphis, and this is best accomplished by syringing.

MELONS.—Plants ripening their fruits will now require less water. The fruits should be cut as soon as ripe or they will crack. One can generally tell by the odour and by the stem showing signs of parting from the fruit. Plants in successional houses should be well syringed and shut up in the afternoon with a good sun heat; if the temperature runs up to 95 degrees no harm will be done. Melon plants that are being prepared for frames should be put out as soon as ready.

EARLY VINERY.—Where the crop is approaching maturity, as it should be if the vines were started at Christmas, a little air should be constantly admitted both at the top and bottom, to prevent sweating. Damp the floor and walls to keep down red spider.

MUSCAT HOUSES.—Muscats have set well, and are going away rapidly. In the thinning take away all small imperfect berries, and cut the footstalks close. Try and make one thinning suffice, as better shaped bunches are secured by this practice. Close the house early, and shut up with a brisk temperature. Water liberally, and sprinkle a little stimulant on the border and wash in. Damp down occasionally with [illegible] water, and give air early in the morning. Stop all laterals at the first joint.—F. A. Cook, Leonardslee Gardens.

THE KITCHEN GARDEN.

WINTER BROCCOLI, KALES, ETC.—If seed was sown as advised, the young plants will have attained their rough leaves, and be large enough to prick out from the seed bed. Select a well-tilled and sweetened soil that has not previously been cropped with this class of plant, at least for a year or two. Allow six inches between each plant, and arrange the varieties and quantities of each, as far as can be judged, to meet the requirements of the household. Till root action has commenced in the new soil give careful attention to watering to avoid check from undue flagging of the leaves.

CELERY.—The main sowing that was made in March, and the young plants later pricked out in cool frames, will, in many cases, or at least during the next week or so, be ready for planting out in the trenches. This is much better carried out before the plants are too large and become drawn up weakly. Previous to lifting them give a thorough soaking of water to the roots, and carefully retain a ball of earth to each. Plant moderately firm, and give another watering to settle them in their new quarters. If the weather is hot and bright a slight shade will be of benefit for a few hours during the middle of the day, and a sprinkling of water over their leaves late in the afternoon will also assist them to stand the check from the transplantation.

LETTUCES.—Seeds will require to be sown frequently, and in cool quarters of the garden, for the next two months at least. North borders are invaluable during this season of the year in producing succulent lettuce. Make the soil rich, and give ample moisture at the roots during their growth. Cos lettuces are much more satisfactory during the summer than the cabbage varieties, as they travel better if sent away, and they are not so liable to become limp in the salad bowl.

SPINACH.—A sowing of this valuable vegetable should be made every fourteen days, to guard against a scarcity, as, being so subject to bolting during hot weather. Sow in a deep, rich soil, thin the plants early, and apply water plentifully when the weather is dry. A supplementary crop to this, of the perennial spinach, is of value in case of failure of the above, and if a sowing has not been made during this year it is advisable to make one to replace the older sowings.

SECOND SOWINGS OF CAULIFLOWER.—These plants will now be about ready to plant out in succession to the earlier plantings, and if all things go well will form a supply till the Walcheren and Autumn Giant varieties turn in. Give the plants liberal treatment, with good soil, and assist them into growth by frequent applications of water if the weather continues dry, till they are established again.

GENERAL REMARKS. — The forcing ground will have accomplished its purpose by this, and such crops as potatoes, carrots, etc., remaining may now have the lights entirely removed. If necessity requires it such crops as cucumbers and melons may be obtained from the frames before they are again required for the protection of crops in the autumn. Should they not be required, have the lights carefully stored away. Clear away any protecting material remaining round the heads of seakale stools and rhubarb crowns, and prick in about the roots a dressing of rotten manure to invigorate them.—Chas Flack, Cholmondely Castle Gardens.

TEMPLE SHOW.—CALTHA PALUSTRIS TYERMANI (MESSRS. R. WALLACE AND CO).
A dwarf golden-yellow marsh marigold, of much value in the bog garden.

NEW PLANTS, ETC.

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ROSE THE LYON.

This new rose promises well, and was a striking feature at the White City in 1908. The colour is delightful, but difficult to describe. Deep reddish rose is the basal colour, and the inner side of the petals is flushed with salmon-buff or apricot. In the bud state the colour is deep reddish-apricot. A.M., R.H.S., May 18. Messrs. T. Rochford and Sons, Turnford Hall, Broxbourne, and Messrs. Hugh Low and Co., Enfield.

RHODODENDRON SOULIEI.

This is a beautiful low-growing Chinese species, with deep green leaves, that at first, together with the young growths, are reddish. The flowers are very large, flattish, bright rose-pink, with red shading. Some of the flowers shown were almost four inches across. Perfectly hardy, and growing about a foot high, this should prove an admirable plant for the rock garden or for bordering larger-growing kinds. F.C.C., R.H.S., May 18. Messrs. James Veitch and Sons, Chelsea.

ODONTIODA VUYLSTEKEÆ CRAWSHAYANA.

A very handsome and distinct variety of the cross between Odontoglossum Pescatorei and Cochlioda Noezliana. It has finely-formed flowers, and is of a deep clear crimson-scarlet, with a golden crest. The colouring is not broken up, as in the original hybrid that caused such a sensation a couple of years ago. F.C.C., R.H.S., May 18. De Barri Crawshay, Esq., Rosefield, Sevenoaks.

SAXIFRAGA DECIPIENS MISS WILLMOTT.

Another useful and distinct saxifrage, with large white flowers borne on dark red-brown stems. The base of each flower is marked with red-brown. This variety is apparently a strong grower: it certainly flowers with great freedom, and is very attractive. A.M., R.H.S., May 18. Messrs. Bakers, Wolverhampton.

TULIP THE PRESIDENT.

A very handsome May-flowering tulip, with shapely elongated blooms of a rich bright red colour, suffused with orange. The base is dark, and expanded flowers are very beautiful. A most effective variety. A.M., R.H.S., May 18. Messrs. R. Wallace and Co., Colchester.

PRIMULA BULLEYANA.

A tall-growing Chinese species collected by Mr. G. Forrest. It has leaves like those of a polyanthus, and tall, erect, whorled spikes of orange-yellow flowers. The latter are not very large, but they are freely produced. We figured this interesting new species on p. 403. F.C.C., R.H.S., May 18. Messrs. Bees, Lim., Liverpool.

STRAWBERRY GEORGE MONRO.

This new strawberry may be described as a very early and exceptionally free-fruiting Royal Sovereign. It is useful alike for forcing and outdoor culture. A.M., R.H.S., May 18. Mr. H. Staples, Swanley.

TEMPLE SHOW.—RHODODENDRON SOULIEI (MESSRS. J. VEITCH AND SONS).

A new Chinese species. F.C.C., R.H.S. Flowers bright rose-pink.

DESCRIPTIVE FERN NAMES.

As enquiries occasionally reach me which indicate a need for a little guidance as to principles which rule, or ought to rule, the naming of varietal forms of ferns, some of which are now and then sent to me with names which are not properly applied at all, I venture to cite a few points germane to the matter.

Varieties fall roughly into three categories, viz., crested or tasselled, plumose or extra feathery, i.e., more divided than the normal, and curios, or forms varied eccentrically. The crested section varies greatly in degree of terminal tasselling or branching, from a mere forking of the tips of the fronds to a repeated branching from the base, which may transform the normally flat frond into a mass resembling a ball of moss. This section may be graded as follows: Furcate, digitate, multifid, or polydactylous; these terms should only be applied when the divisions do not divide again, the tassel being flat, and the divisions pointed. Cristate, percristate, and grandiceps, apply in their order (1) to crests in which the strands of the tassels terminating the fronds and side divisions divide again into minor tassels; (2) to forms where the pinnules or tertiary divisions are tasselled; and (3) when the terminal frond tassel is very heavy. Corymbiferous may fit when the crests are bunchy rather than fan-like. Ramose forms, in which the main rachis or midrib of the frond divides so as to split it up into secondary fronds, may be indicated according to the extent of the branching, as ramosum or ramosissimum or ramulosissimum, while if this branching be associated with terminal division as well, the prefix "ramo" may be applied to the other descriptive terms, thus: ramo-digitatum, ramo-cristatum, or alternatively, cristatum-ramosum, percristatum ramosum, and so on.

By attention to these gradational terms a fair idea can be conveyed of the tasselling or branching character, and this, when associated with other characters, such as the plumose or extra feathery types, which owe their beauty primarily to an extension of the frond division on otherwise normal lines, so that a once-divided or pinnate fern becomes bi, tri, or even quadripinnate, may be conjointly indicated by prefixing the term "plumosum." The true plumose forms are, however, distinguished by a more delicate or papery texture than the normal, and are usually either quite barren of spores or comparatively so. To indicate greater subdivision, coupled with normal texture, we have, therefore, other terms, such as bi-pinnatum, tri-pinnatum, quadripinnatum, decompositum, and dissectum, and if such forms be crested the descriptive term in that connection can be added.

There are, especially in the Athyria or Lady Ferns, a great number of distinct forms, in which the general shape of the divisions varies, and these variants can hardly be classified. In a general way, however, the adoption of the above rules will cover a very large number of forms, as they constitute a rational guide to the naming of seedlings, which may vary too much from a recognised named parent to receive the same name, and thus [illegible] the purchaser.

The descriptive names, it is to be noted, should be written to agree with the botanical gender of the species, thus: Athyrium f.f. furcatum, Lastrea pseudo-mas furcata, and so throughout the names suggested, to which the English form is given above to simplify description.

Chas. T. Druery, V.M.H., F.L.S.

FIGHTING THE FROST.

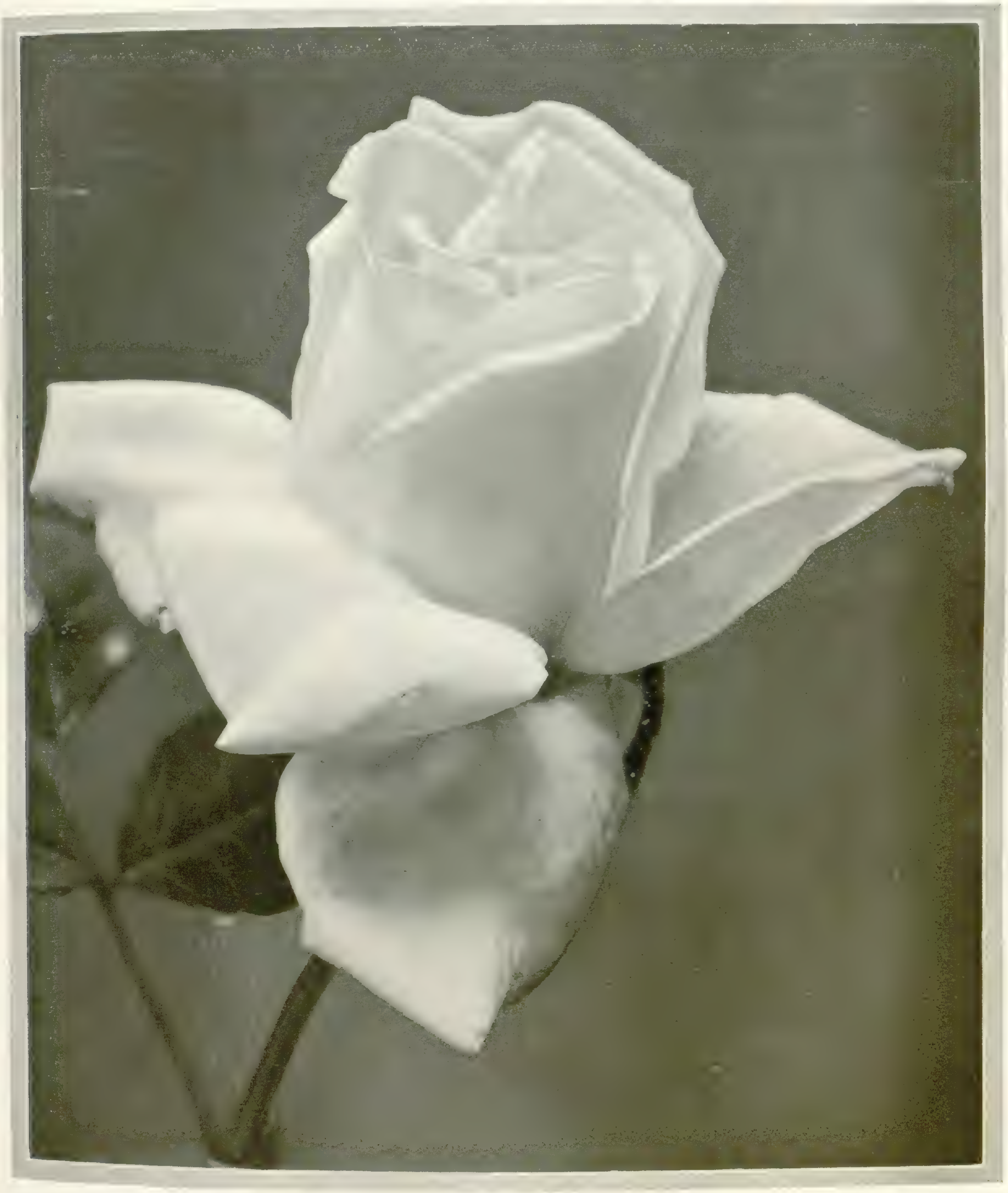
There is scarcely any more potent factor the question of the success or failure of ttempt to grow fruit in this country "Jack Frost," and anything which provide a means of combating its dread ts is at least worthy of the most serious consideration of all who own fruit trees have them under their care.

The economic question as to whether it will pay to incur the expenditure on apparatus and fuel, such as I shall describe, is one upon which we are not prepared at the moment to express a very decided opinion; but I am sure of this, that in private gardens where questions of ways and means are not of such consequence as the production of first-class home-grown fruit, one or other of these systems will be found of inestimable advantage. For several years, both on the Continent and in America, considerable experiments have been tried, with rubbish fires, open coal fires, and even briquettes made from sawdust and crude petroleum.

All who have any connection with gardens are doubtless aware that it is on the clear, still nights that there is danger from frost, and that a cloudy atmosphere is the very best safeguard from its destructive influence.

Following out this idea, fires of rubbish were lighted round the plantations on the windward side, in order to make a smoky cloud, or "smudge." Considerable difficulty was found in obtaining sufficient material of the right sort for the purpose, and also in preventing such large fires as were necessary from becoming dangerous to the adjacent bushes and trees by bursting into flame, so this method was, after some time, abandoned. Coal was then tried both in heaps on the ground and in iron baskets, the latter being found necessary as considerable draught was needed to make it burn properly.

This latter course was adopted with the idea, not so much of preventing the frost from falling by the use of artificial clouds, as to thoroughly heat up the atmosphere in that particular spot, warding off the frost by means of the increased heat and by the motion of the ascending currents of the hot air, and descending currents of colder. At first this was found very expensive in operation, and recourse was had to mixtures of substances, such as crude petroleum, naphtha, and simil



TEMPLE SHOW.—ROSE ALBATROSS (MESSRS WILLIAM PAUL AND SON).

A fine new ivory-white hybrid tea variety.

materials which give off a fair heat and much smoke when burning, but unfortunately they also gave rise to sticky black smuts, which covered the leaves of the immediately surrounding trees, and also caused considerable inconvenience when operations were conducted anywhere near dwelling-houses. Such substances, it was found, could only be used where there were no other crops to become spoilt by these filthy residues of combustion.

A substance has, however, now been produced, which the inventor claims has none of these drawbacks, and will fulfil all that is required for the purpose of frost prevention. When first lighted, it produces a dense black smoke and considerable heat, warming up the atmosphere, and setting in motion the currents of air. When this has been accomplished, a wet sack is thrown over the fire, whereupon a thick white smoke is produced, lasting for a considerable period, hanging well in the air, and forming an excellent artificial cloud.

The apparatus for using this fuel, called a "pot," consists of an upright cylinder of iron perforated with holes, having in the centre a tube also perforated to act as a draught-producing chimney, the space between being filled with the patent fuel, only the application of a lighted match being necessary to set the latter going.

Since the first trials at Evesham, this "pot" has been made with a hinge in the middle, so as to pack fairly flat and facilitate storage during the seasons when they are not required. Mr. Stainforth, of Evesham, the inventor, estimates the cost of the stoves at £3 per acre, and the cost of the fuel at 15s. per acre, including the labour of putting out the pots and filling. The fuel can be re-used, and is not damaged by exposure to the weather, so that the pots can stand out in the plantation from the first opening of any blossom until all danger of frost is passed without need for any covers or protection of any kind.

Of course, to some extent, the lighting, putting out, and relighting continually of the material, produces some waste, but a little extra can be added at any time.

TEMPLE SHOW.—NEW BEGONIA MRS. JOHN BRINSMEAD (MESSRS. T. S. WARE, LIM.).

A handsome double variety, with finely-formed flowers.

So much for the hanging smoke system. Now, however, there is upon the market a competitive system, depending for its success upon the production of heat, such as we have mentioned above.

A syndicate of Colorado growers, where, by the way, smudging has to be practised to be able, sometimes, to save even the trees, has placed on the market here a "pot" for burning coal, and they maintain that their system is the most efficient. The "pot" consists of an inverted cone of sheet iron, perforated with holes at the bottom, resting in a circular wire stand, supported on three twisted wire legs, and also having a cover which is arranged to stand about three inches above the top of the pot. A piece of waste, saturated with oil, is put in the bottom, then some wood, and lastly 15 to 20 lbs. of coal, and when the cover is put on, the heater is ready for action.

Fifty of these heaters are required to the acre, and at some recent demonstrations at Heston, they were lighted in three minutes by two persons. Temperature readings inside and outside the area were taken, and it was found that the heat was raised 4 degrees, the outside readings being 32 degrees.

At Swanley the work of lighting up was accomplished even more speedily, in 1½ minutes, and, as the general temperature was lower, 30 degrees, even better results were achieved, a gain of 6 degrees being obtained in a little over an hour.

It will thus be seen that it is possible in actual practice to so heat the atmosphere as to ward off frost, but whether the expense of material and labour will be justified by results remains to be seen."

By the use of coal as a fuel, the pots need re-charging each time they are used, and the covers need to be kept on, otherwise the wood and waste might become damp and not light up readily. It is to be hoped that considerable experiments will be made with both systems in actual practice, so that we may know whether heat to drive off the frost, or a hanging smoke to prevent it settling, and also, a point, by the way, which was omitted in reference to Mr. Stainforth's system, to prevent the too-rapid thawing out of the bloom, if it is unfortunately frozen, be the most efficient for use in this country.

Whichever is proved the better system it will be seen from the foregoing remarks that there is now a possibility of fighting frosts, so as to make it possible to grow some of the finer and more tender sorts of fruits, particularly of pears, in the open, with a greater chance of success, and with a considerable diminution of labour to the covering of the trees with mats every night, such as used to be the practice years ago.

Fred. W. Hammond.

Brentwood.

ROSA SERICEA.

This is usually the earliest species of rose to open its blossoms, and it may often be found in flower about the middle of May. It is rather widely distributed through N. India and China, and has been brought into great prominence during the last few years by reason of a very interesting variety with large red spines which has been received from the latter country. The type forms a large bush, 5 or 6ft. high, and 8 or 9ft. across, with cream-coloured flowers a couple of inches in diameter. The spines of this do not exhibit any special characteristics, but those of the variety, which is known as pteracantha, are very large, bright red, and more or less transparent when young. They beset the stems thickly, so that a plant in full growth is a very striking object.

The fruit of both the type and the variety is orange or orange-scarlet, and is very ornamental. Either plant is worthy a position in a shrubbery, whilst the variety is worth placing in a good position on a lawn. To succeed with it rich soil should be provided.

W. D.

Vegetable Marrows.—If the beds are not in readiness for the plants do not delay to make them ready; plant as soon as possible to enable them to grow away without a check, for if allowed to become too pot-bound, or any other way neglected, valuable time is wasted during their recovery. It may be necessary to afford slight protection for a time by placing hand lights over the plants after planting out.—Chas. Flack.

THE GREAT TEMPLE FLOWER SHOW,

MAY 25, 26 and 27.

A glorious rain ushered in the twenty-second great exhibition of the Royal Horticultural Society, held in the gardens of the Inner Temple, by permission of the Treasurer and Benchers. In brilliance, quality, and variety this display was rather better than those that have gone before, though, with the advance in quality and arrangement that has characterised the more recent Temple Shows, it is difficult to say just where the present show is better than others, or even how much it is better.

There were the usual five tents, three close to the Embankment, and two big ones besides. There was also a small overflow tent at the end of the refreshment tent. Altogether there was 13,000 feet of staging space under canvas, and 20,000 space out of doors, and every available inch was fully occupied. Some idea of the immensity of the show may be gathered from the fact that it was nearly ten times as large as the largest show that can be squeezed into the Royal Horticultural Hall.

Notwithstanding the staging space provided, every exhibitor had to be content with about a quarter of the area he would have liked, consequently it comes to this—that the Royal Horticultural Society's prestige is now so great that, if it had command of sufficient space, it could annually hold a show four times as large as the present one. The Temple Show is now a great institution, a fashionable function, a great horticultural gathering, and a national, nay, an international, affair, for from France, Belgium, Germany, Italy, and America come those interested in flowers and plants, and no doubt from other countries also.

The twenty-second Temple Show will long be remembered. Perhaps it will be the last of the series held at the Inner Temple. The restrictions placed upon the society and upon exhibitors have increased of late, until now they have become positively irksome. We grant that the Benchers have done horticulture in general, and the R.H.S. in particular, good service in allowing their pretty gardens to be used for the great show, but, on the other hand, the Benchers, and their families and friends, have had the grandest annual European show made free to them, and the value of the tickets given them for the privilege they grant must be worth, face value, [illegible] £500. No other liquid refreshments but tea and coffee were permitted on the grounds this year, and the outdoor displays, with one exception, were confined to the area adjoining the No. 4 tent, and to a space on either side of the short walk in front of the chambers of the Benchers. The tea tent was moved to the other side of the path from its usual site, and this opened up a considerable lawn space that was good to look upon, and very refreshing. Another restriction imposed upon the society rendered the preparation for the show a difficult matter: it was that no noise should be made from 11 a.m. until 5.30 p.m., lest the Benchers should be disturbed, and so Mr. S. T. Wright, the society's genial superintendent, had to restrain his men during the daytime, and urge them on at night and early morning. We must confess that the extra hours thus imposed upon Mr. S. T. Wright did not appear to have undermined his constitution. These restrictions, and [illegible] seem to point to one thing, i.e., that the Benchers of the Inner Temple do not want the show held in their gardens. But [illegible] want? Well, it is a year from now to next May, and the fates may be kind enough to show the way long before then.

We congratulate the exhibitors on their [illegible], and on the results achieved, and we heartily [illegible] our meed of praise to those who have had to bear the brunt of the great task in preparing for and conducting this grand exhibition of horticultural skill. The Rev. W. Wilks, Mr. S. T. Wright, Mr. Reader, Mr. Gaskell, Mr. Harry J. Veitch, Mr. H. B. May, Mr. W. A. Bilney, and others who have helped, have done their work well, and under rather trying conditions, for even the best-tempered of exhibitors is apt to be ruffled when his space is so severely cut down, and when, on arrival, he finds but two entrances available for the bringing of his goods, and these blocked by vans of other exhibitors, and also when his assistants must need go outside the show ground for their much-needed refreshments.

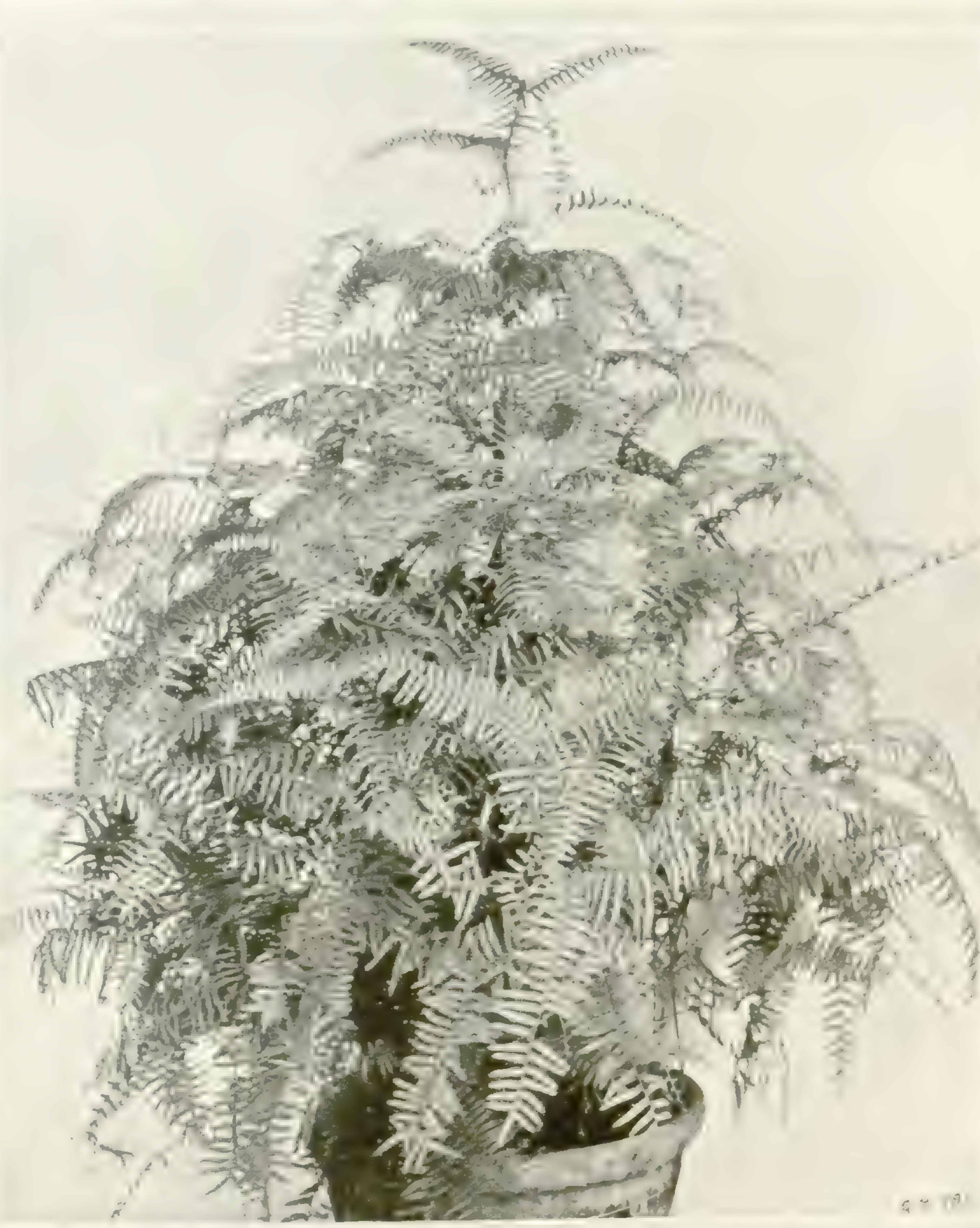
But it was a great show, and one of which Britishers may well be proud. In the matter of novelties there was nothing of transcendent merit or rarity.

ORCHIDS.

The orchids were once again a magnificent feature of the great show, and they filled the great central space in the big tent with their wonderful beauty and colour, and variety of form. Hybrid odontoglossums were a distinct feature.

Mr. Collier, gardener to Sir Jeremiah Colman, Bart., Gatton Park, Reigate, occupied a prominent position in the central part of the great tent, and arranged thereon a beautiful exhibit of orchids. The general design was two large mounds or cones, composed of cattleyas, lælio-cattleyas, and miltonias, with odontoglossum spikes arching out from among them. Between these groups the centre of the display was filled in with Cymbidium insigne Sanderæ, bright epidendrums, and a magnificent group of Miltonia vexillaria. Either flank was filled with Cymbidium Lowio-eburneum, C. Lowianum, and odontoglossums in variety, and along the front of the whole display a very large number of interesting orchids were arranged in a setting of moss and asparagus; Epiphronitis Veitchi, the sensitive Bulbophyllum barbigerum, B. Lobbi colossus, Cypripedium callosum Sanderæ, Maxillaria Sanderiana, and many botanical orchids were included.

A magnificent array of choice orchids was very boldly and charmingly arranged by Messrs. Sander and Sons, St. Albans. The group was set out in two big bays, with a bold central mass of orchids between, and high groups at each end. It was a splendid design, and everything was shown up well. Taking the centre first, this was composed chiefly of hybrids of which Lælia (Brassavola) Digbyana is one parent, hence big fringed lips were a feature. L.-c. Digbyana-Mossiæ.



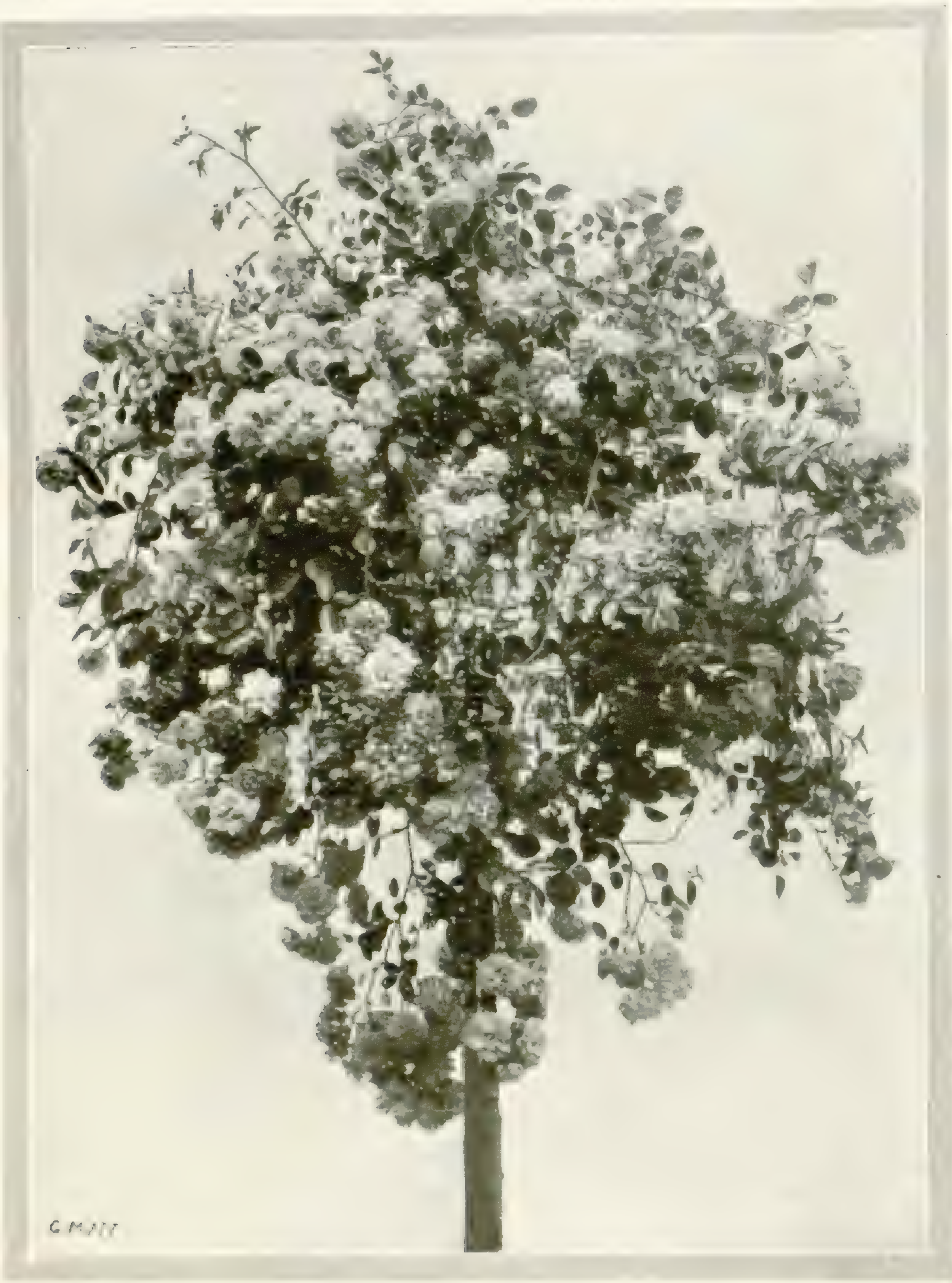
TEMPLE SHOW.—GLEICHENIA RUPESTRIS GLAUCESCENS (MESSRS. J. HILL AND SONS).

A beautiful form of this elegant greenhouse fern.

L.-c. D.-M. Queen Alexandra, and L.-c. Digbyana-Schroderæ, were grandly shown and largely represented. Spikes of Odontioda Devossiana and Phalænopsis Rimestadtiana came well out from among the lælio-cattleyas, and the top of the group was surmounted by a big Cyrtopodium St. Legerianum, surrounded by gorgeous spikes of Oncidium Marshallianum. In the end groups Cattleya Mendeli, Dendrobium thyrsiflorum, and odontoglossums figured largely, and in the bays the choicest of choice things were grouped with a few of the more popular lælio-cattleyas, cypripediums, and odontoglossums. The very beautiful and extraordinary Odontoglossum crispum Solum, that was such a feature of the show two years ago, carried a spike of fourteen blooms; Miltonia Bleueana Mrs. F. Sander, very chaste; Odontoglossum Stella, O. Macnabiana, O. Adriana in great variety, Cattleya Mendeli Mrs. E. Benson, and batches of Cypripedium bellatulum and C. niveum were other notably fine things in this fine group.

A particularly fine group of orchids came from F. Menteith Ogilvie, Esq., The Shrubbery, Oxford, who has now a very large and choice collection of plants. The grace of the very large number of odontoglossum spikes was a feature of the display arranged by Mr. Balmforth, Mr. Ogilvie's gardener. A huge central specimen of Cymbidium Lowianum, and two groups of albino cypripediums were prominent features, these latter including C. callosum Sanderæ, C. Maudiæ. and C. Lawrencianum Hyeanum. The background was of Lælio purpurata, Cattleya Mossiæ, and C. Mendeli; and the front centre was filled in with four plants of the beautiful Cattleya Dusseldorfi, carrying a total of thirty white flowers. Prominent choice orchids along the foreground included Odontioda Vuylstekeæ, O. Bradshawiæ, several unnamed odontiodas, O. Charlesworthi, Odontoglossum luteo-purpureum Vuylstekeanum, O. percultum, a fine O. eximium, and Cypripedium Rothschildeanum. It was a splendid amateur's contribution.

Another big orchid exhibit was the one from Messrs. Armstrong and Brown, of Tunbridge Wells, whose general design was two bays, one on either side of a big mound, and with high flanking ends. Giant specimens of Cymbidium Lowianum crowned the ends, their spikes arching out over lælias, cattleyas, and odontoglossums in great beauty and variety. The centre was a beautiful group of odontoglossums arranged in a bed of light maidenhair ferns. A few of the best of these were O. crispum Trianæ, O. ardentissimum Mrs. Temple, O. percultum, O. Ossulstoni, O. amabile, O. Lambeauianum, O. crispo-Harryanum, and the deeply-coloured O. Armstrongæ. In the little dells there were groups of cypripediums, and here C. glaucophyllum, C. bellatulum, C. callosum Sanderæ, C. Rothschildeanum, and C. grande atratum were all good. A few of the other notably fine things were Lælio-cattleya G. S. Ball, Cattleya Skinneri alba, Brasso-cattleya Veitchi, L.-c. Mercia, Cœlogyne pandurata, Cattleya Dusseldorfi var. Undine, and Dendrobium nobile virginale.



TEMPLE SHOW.—ROSE DOROTHY PERKINS (MESSRS. FRANK CANT AND CO.).

A splendidly developed standard specimen of this beautiful pink rambling rose.

Messrs. Hugh Low and Co.'s contribution, from Enfield, was hardly so well put up as usual, the flower pots were too much in evidence. They had charming varieties of Cattleya Mendeli and C. Mossiæ, and Odontoglossum Pescatorei, Oncidium phymatochilum, Cymbidium insigne Sanderæ, Oncidium pulchellum, and Epidendrum bicornutum and Dendrobium Jamesianum were all represented. Odontoglossums provided the bulk of the display made by Messrs. William Bull and Sons, King's Road, Chelsea, and conspicuous among these were the new seedling O. crispum Minoru, heavily blotched with red-brown. O. c. Mabel, O. c. Mikado, O. c. Diadem, O. Harryano-crispum, O. luteo-purpureum, and Odontioda Chelsiensis were all charming in grace and colour. Dendrobium Wardianum, Cattleya Mendeli, and Cymbidium Lowianum were also freely represented.

Messrs. Stanley and Co., Southgate, presented a small group of odontoglossums and cattleyas. They showed Lælia purpurata The Queen, pure white, and C. Mossiæ vestalis, with white sepals and petals, both of these being very distinct. Mr. J. Robson, Bowdon Nurseries, Altrincham, showed some beautiful forms of Odontoglossum crispum, O. Lambeauianum, other very fine hybrid odontoglossums, and an odontioda, but not anything was named.

Mons. Chas. Vuylsteke, Loochristy, Ghent, brought over a few exquisitely beautiful odontoglossums, and these were O. conspicuum, O. insuetum, O. eximium rotundiflorum, O. Aglaon (F.C.C.), a grand flower, richly coloured with chocolate-red; O. Princess Victoria Alexandra (F.C.C.), with rich red-brown flowers, having every segment beautifully margined with blush white; and O. mirum Emperor of India (F.C.C.), a big red-brown flower margined and marked with white, and with a deep golden crest. All these were wondrously beautiful and distinct.

From his Grace the Duke of Marlborough, Blenheim Palace, came a high-pitched bank of orchids arranged by his gardener, Mr. Hunter. Dendrobium densiflorum was freely used in the background, with Lælia purpurata, and varieties of the latter were set out all over the group, among miltonias and odontoglossums, and with Chysis bractescens, trichopilias, and the fragrant Cattleya citrina. Mr. Gould, gardener to Mrs. Wood, Glossop, put up a collection of orchids, wherein Cymbidium Lowianum, Dendrobium atro-violaceum, Cattleya Mossiæ, Odontoglossum crispum, and miltonias were conspicuous.

A very light and elegant arrangement of orchids was made by Messrs. Moore and Co., Lim., Rawdon, Leeds. Phalænopsis Rimestadtiana, carrying grand spikes of its [illegible] white flowers, formed a telling central [illegible]ture, and fine forms of Odontoglossum [illegible]pum coming from among Cattleya M[illegible] and C. Mendeli made up the corners. [illegible] the foreground, all set out clear from [illegible] another, were Odontoglossum A[illegible]liersense, O. Rolfeæ, O. Phœbe, O. pe[illegible]tum, O. crispo-Harryanum, Odontioda V[illegible]stekeæ, Trichopilia Backhousiana, Ang[illegible] Clowesi, and other good things.

Odontoglossums and miltonias were [illegible] effectively grouped by Messrs. Cyp[illegible] Sons, Cheltenham, and the former [illegible] O. concinorum, O. amabile, O. La[illegible]num, and various new hybrids. W[illegible] were Cattleya Dusseldorfi, Maxilla[illegible]deriana, with its quaint flowers, [illegible] and a fine representation of [illegible] This firm had also a fine set of [illegible] Mossiæ, a big plant of Cypripedi[illegible]childeanum, and a large Stanhopea [illegible]

One of the finest of the many [illegible]rangements of orchids was the [illegible] set up by Messrs. Charlesworth and [illegible] Haywards Heath, who occupied their [illegible] place in the big tent. In their group they had a wonderful variety of subjects, all charmingly associated. The chief plant was Oncidium Charlesworthi (F.C.C.), a grand species with big brown and gold flowers. Odontoglossums were a leading feature, and among these we made special note of O. crispum Queen Maud, the new O. Thompsonianum, a lovely pure white O. crispum, O. Othello Golden Glow, very fine; O. Pescatorei, nd O. P. Charlesworthi, and O. Harryano rispum with three spikes. There were seve- al plants of the beautiful Odontioda Vuyl- tekeæ, O. Charlesworthi, O. Heatonense, and O. lutetia, Lælio-cattleya Eurylochus (F.C.C.) with bright red-buff flowers was very attrac- ve, and the newly-re-introduced Trichopilia ackhousiana was largely shown. L.-c. Gol- n Glory, Renanthera Imschootiana, Brasso- ttleya Queen Alexandra, Cymbidium insigne [illegible], Cypripedium grande, Ærides Houl- [illegible], Cattleya intermedia alba, B.-c. [illegible]tia, and the yellow Sobralia xanthotes [illegible] a few among the many other good [illegible] exhibited.

TEMPLE SHOW.—BEAUTIFUL DOUBLE BEGONIAS (MESSRS. SUTTON AND SONS).

An excellent strain of these gorgeous flowers.

he exquisitely beautiful Vanda teres was [illegible]ntly shown by Mr. G. Reynolds, [illegible] to Leopold de Rothschild, Esq., [illegible]sbury Park, Acton. The whole group [illegible] of this lovely orchid, in pots, in [illegible], and in long boxes, every plant carry- [illegible] of spikes of mauve-pink blooms. his plant is always remarkably well man- aged by Mr. Reynolds, and this was one of best groups of it he has staged. In a tting of maidenhair ferns these orchids red a very great attraction.

Mr. Richard Ashworth, Ashlands Hall, ewchurch, contributed some charming dontoglossums, and a fine plant of Dendro- m Victoria Regina, but unfortunately rdly any of the fine odontoglossums were med.

FLOWERING SHRUBS.

beautiful bank of hardy azaleas was set y Messrs. R. and G. Cuthbert, of South- . A kind of groundwork was formed by s of such telling varieties as A. mollis onse Levallee, A. mollis x sinensis An- Koster, Occidentalis magnifica (new), lentalis delicatissima (new), Glory of Bos- and others. Standing up above these tandard specimens of Comte de Ker- Occidentalis exquisita, Florodora, te de Gomer, and a host of other charm- things. In the top tent also Messrs. thbert had a number of azaleas, which own in pots on the table—not a good the way, to set them off to the best [illegible] one saw the same stamp of [illegible] as in the big group. The single Ghent variety called Fanny took the attention of a good many people.

Pink Pearl was the absorbing feature in the bank of rhododendrons set up by Messrs. J. Waterer and Sons, Bagshot, and never have we seen this telling variety shown in finer form. Other varieties well worthy of mention were Marquis of Waterford, Lady Eleanor Cathcart, Mrs. Holford, Michael Waterer, John Walter, Mrs. E. C. Stirling, Strategist, and Gomer Waterer. With roses on one side of them, and exotics on the other, these rhododendrons did not fail to assert themselves, and were much admired.

Messrs. James Veitch and Sons, Lim., Chelsea, show hardy flowering plants just as well as they show everything else, and their groups are always put up with artistic taste. Right in the middle of this fine exhibit was a display of Wistaria sinensis, with a standard plant of the white form, alba, in front, and there was also well-grown specimens of Hydrangea paniculata grandiflora, Rhododendron Pink Pearl, Azalea Anthony Koster, Styrax japonica, with a few clematises and Wichuraiana roses. Another feature about the group was the pleasing blending of colour.

GREENHOUSE PLANTS.

We should have known, without looking at the exhibitors' name, that the splendid bank of flowers which filled one end of the big tent came from Suttons, because somehow it bore the unmistakable Sutton stamp. In the centre was a mass of Cineraria stellata, flanked on the right and left by glorious calceolarias, and further on, on each side, groups of schizanthuses, with double begonias and gloxinias dotted about here and there. Conspicuous in the exhibit was Sutton's carnation-flaked clarkia—a very pretty thing—and nemesias in variety. As a margin along the front was the greenest of green turf arranged perpendicularly.

The scent of a bank of heliotropes set up by the King's Acre Nursery Company, Hereford, was attractive enough to draw people to it, but this was not everything, as the plants were well grown, and the varieties numerous. Gorgeous is the word that best describes the bank of hippeastrums set up by Messrs. Ker and Sons, Aigburth, Liverpool. There was a wonderful array of varieties, and amongst them were splendid specimens of Bacchus, Scarlet Queen, Monarch, Silver King, Salmon King, The General, Emperor of India, and a host of others.

Turning from hippeastrums we passed to something equally showy in the cannas which came from Messrs. Cannell, Swanley. They were a grand lot, well grown, and well set up, and when we say that all the best varieties in the canna world were represented this says a good deal. Visitors to the Temple Show are familiar with Messrs. Cannell's cannas, but better they have never seen them. The same firm also set up a few plants of Spiræa Peach Blossom, fuchsias of various types, and a compact little collection of phyllocactus, in which the neat flesh-coloured variety German Empress called for favourable comment.

Messrs. Louis Van Houtte, Ghent, set up an exhibit of Gloxinia striata Count J. de Hemptinne, but there was nothing particularly striking about the plants or flowers. Messrs. W. H. Rogers and Sons, Lim., Red

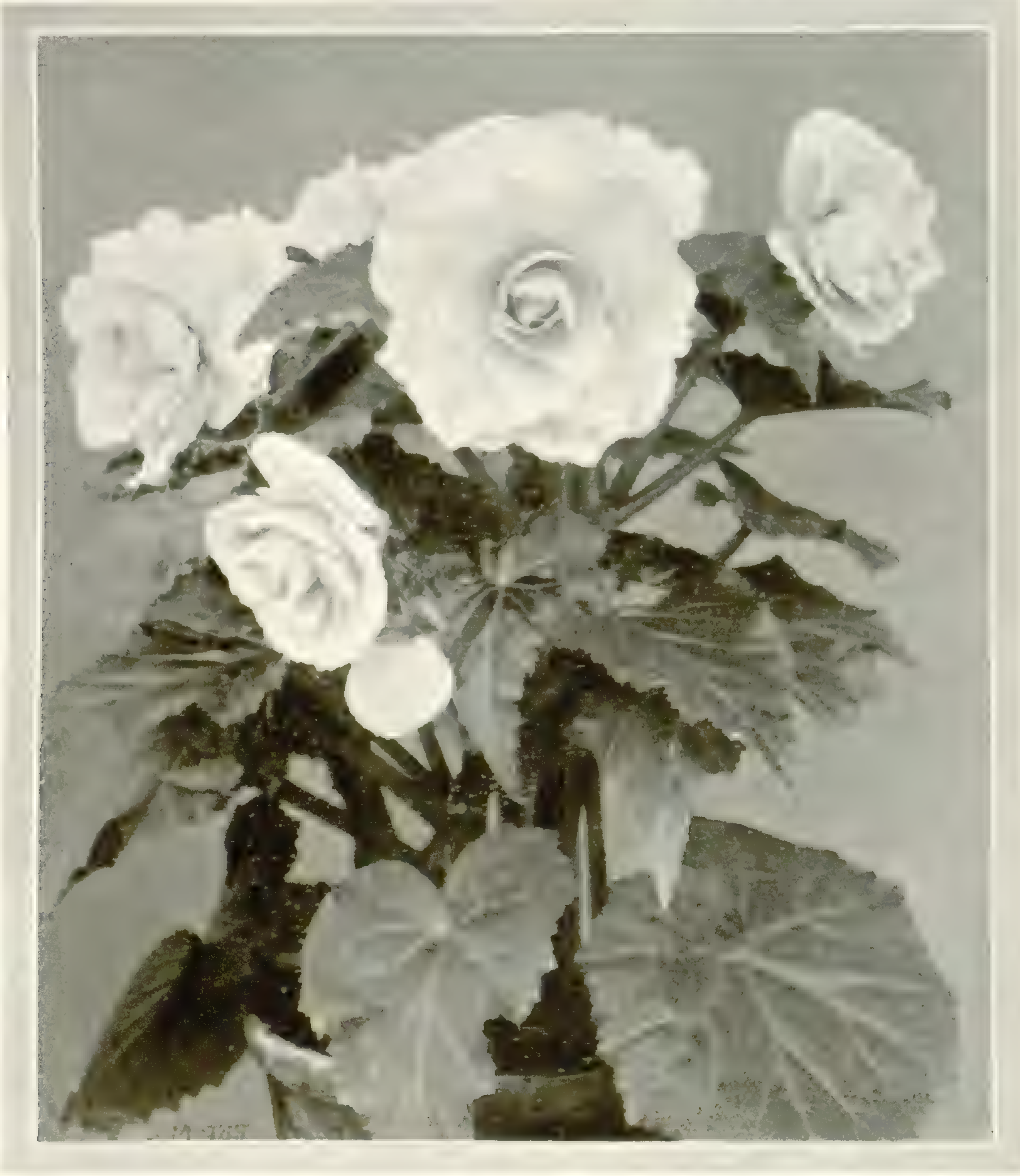
TEMPLE SHOW.—TRICHOPILIA BACKHOUSEANA (MESSRS. CHARLESWORTH AND CO.).

A rare old species, newly introduced. Flowers white and yellow.

Lodge Nursery, Southampton, set up a collection of plants of a new scarlet double pelargonium called James T. Hamilton. The trusses are large, and the habit good.

Wickham Noakes, Esq., Selsdon Park, Croydon, set up some of the best-grown specimens of greenhouse calceolarias that were to be seen in the show. The plants were fine examples of good culture, and reflected credit on the gardener, Mr. W. Howarth. Mr. T. Hobbs, gardener to Vivian Phillips, Esq., Crofton Court, Orpington, also staged a lot of well-grown calceolarias. The flowers were wonderfully fine, and the plants were striking examples of good cultivation.

Fancy pelargoniums seem to have gone nearly out of fashion at Temple Shows, but Messrs. Godfrey, of Exmouth, made an attempt to revive them by setting up a collection of seedling varieties, which included Acquisition, Duke of Devonshire, Ruby, Success, and Exmouth Rival.



TEMPLE SHOW.—NEW BEGONIA MARIE NICHOLAS (MESSRS. BLACKMORE AND LANGDON).

A beautiful double variety with rich pink flowers.

Messrs. J. Carter had a big exhibit of greenhouse plants, which were arranged in what can now be called the typical Carter style. There were well-furnished baskets of schizanthuses overhead, with the same plant in pots beneath, well-flowered gloxinias, and streptocarpuses, cinerarias in variety, double begonias, and a few carnations, all on the centre stage, while in banks in corner recesses of the tent were new Spiraeas Queen Alexandra and Peach Blossom, finely grown cinerarias, Brilliant Prize, and a lot of calceolarias that were perhaps arranged rather too flat.

The Hon. Vicary Gibbs (gardener, Mr. E. Beckett) staged a fine lot of new hybrid streptocarpus, edged with Isolepis gracilis. There was a wide range and pleasing variety of colour amongst the flowers.

Messrs. Hugh Low and Co. had a showy exhibit which contained good specimens of Hydrangea hortensis caerulea, the bottle-brush tree, Pelargonium Clorinda, a few azaleas, schizanthuses, and spiraeas. Bright and brilliant was the display of large-flowered hybrid schizanthuses set up by Messrs. Garaway, Bristol. The plants were well grown and much admired. No more effective exhibit graced the tables in the long tent than the greenhouse plants from Messrs. Veitch, of Chelsea. We were much taken by the delightful little double white pelargonium, with leaves of green and white, and the plants of Lobelia tenuior were much admired. Calla Elliottiana, streptocarpuses of pearly whiteness, cannas in variety, gloxinias, kalanchoes, Cineraria Feltham Bouquet, Cineraria Boule de Neige, Streptosolen Jamesoni, and a number of new hybrid gerberas were included in this interesting exhibit. Nothing in the whole display was more pleasing than the groups of Cinerarias Fairy Queen, Feltham Beauty, and Antique Rose.

From Messrs. W. and J. Brown, Stamford, came an interesting group of plants, which included a charming double white marguerite called Perfection, Verbenas Miss Willmott and King of Scarlets, Lotus peliorhynchus, and Heliotrope Lord Roberts. An attempt to revive an old order of things in the way of trained azaleas was made by Mr. Charles Turner, of Slough. The plants, which were conical in form, had the merit of being not too stiffly trained, so that the charming flowers showed to good advantage. Messrs. Toogood, of Southampton, showed greenhouse calceolarias, which would have looked better if they had been arranged less stiffly.

CLEMATISES.

Once again we have to record a group of clematises from Richard Smith and Co., Worcester, not so large as some we have seen at past Temple Shows, but made up of nicely grown stuff, which displayed a freedom about the training that we like to see. To mention just a few of the many varieties, we were favourably impressed by Sensation, President, Marie Lefebvre, and Willisoni. In the splendid exhibit of clematis from Mr. George Jackman, of Woking, there was the unmistakable stamp of excellent cultivation. The specimens without an exception were well grown, and furnished with beautiful flowers, while the arrangement left little room for criticism. Amongst the varieties the following called forth many favourable comments: Nelly Moser, Fairy Queen, La France, Lanuginosa candida, Mrs. Hope, Mrs. George Jackman, Lady Londesborough, Lady Neville, Henryi, and Princess of Wales. In this exhibit one saw what it is possible to do with these plants when a choice selection of varieties is grown and the cultivation is right.

ROSES.

The Queen of flowers was once more beautifully represented at the Temple Show, and in one corner of the big tent Messrs. Paul and Son, Cheshunt, arranged a superb group of splendidly-grown pot roses. The great feature of the display was the beautiful tall weeping standards of Hiawatha, Dorothy Perkins, White Dorothy Perkins, Lady Godiva, and the new single Buttercup. These fine plants were a trifle crowded towards the back, and needed greater height to display their charms. The groundwork of the group consisted of dwarf plants of Paula, Queen of Spain, Dean Hole, David Harum, Mildred Grant, Mrs. Brocklebank, Wm. Shean, Mrs. A. Ward, Rhea Reid, Lady Roberts, and Richmond and other lovely hybrid tea roses, and over these rose large bushes or standards of Souv. de Pierre Notting, Madame Hoste, Frau Karl Druschki, Princess Charles de Ligne, Maman Cochet, Victor Hugo, and the pretty Goldfinch. Altogether this was a great effort.

A grand group of roses was put up by Messrs. William Paul and Son, Waltham Cross, who, as usual, had superbly flowered specimens of Lady Gay and Dorothy Perkins roses grown in pillar form, and literally smothered in blooms. Other varieties similarly grown and equally well flowered were Crimson Rambler, the glorious Tausendschon, the new single White Fairy, and Philadelphia Rambler. Below these beautiful plants were dwarfs of the newer varieties such as Elaine, David R. Williamson, J. B. Clark, the fine white Albatross, Margaret, Marquis de Sinety, the lovely Lyon rose, Pharisaer, and Mrs. Dudley Cross. It was a delightful display, and showed how beautiful, useful, and popular the free-flowering rambling roses are. Standard roses of such pleasing varieties as Niphetos, Souv. de Pierre Notting, Florence Pemberton, and Madame A. Levavasseur were shown by Mr. Charles Turner, Slough, associated with dwarfs of popular H.P. and H.T. varieties.

Messrs. H. Cannell and Sons, Swanley, startled everyone with their extraordinarily beautiful exhibit of the new rose-pink single rose American Pillar. The plants were very fine, and so also were the specimens of Baby Rambler, Maman Levavasseur, Minnehaha and Dorothy Perkins, but American Pillar overpowered all else in the display.

Messrs. Frank Cant and Co., Braiswick Nurseries, Colchester, had a delightful exhibit of roses, showing the rambling varieties freely. Hiawatha, Dorothy Perkins, Tausendschon, and Minnehaha were very good, and Persian Yellow was a great attraction. Lady Roberts, delightful as ever, occupied the place of honour among the [illegible] flowers, and with this we were [illegible] pressed; also Princess Mertchersky, Marechal Niel, Mrs. A. Ward, Ethel Brownlow, and Souv. de Pierre Notting, J. B. Clark, and White Maman Cochet.

Rambling roses were the great feature of Messrs. B. Cant and Son's rose display in No. 4 tent. Blush Rambler was very charming, and contrasted with Philadelphia Rambler and Crimson Rambler, while the Goldfinch, and Hiawatha added other colours and attractions. Excellent blooms of Frau Karl Druschki, Joseph Lowe, Maman Cochet, and Marechal Niel were also staged in considerable numbers. At the end of the [illegible] of long tents near the Embankment Messrs. Hobbies, Lim., Dereham, set up a large group of roses, and made a great feature of tall standard plants of the rambling roses, and it is surprising what good standards Dorothy Perkins, Minnehaha, Paradise, Seagull, and Lady Gay, make. These standards [illegible] raised high above pillar roses and dwarfs of many kinds, the smallest rose being the little bedding polyantha variety named Apple Blossom, a charming little rose. The "blue" Veitchenblau was also represented.

Once more Mr. George Mount, of Canterbury, staged roses remarkably well, and throughout the whole of the first day it was not an easy matter to get near the exhibit of roses that proved so attractive. The deep green leathery foliage and blooms of Ulrich Brunner, Joseph Lowe, [illegible] Karl Druschki, and Mrs. John Laing [illegible] most impressive, and the flowers were shown on long stalks in Mr. Mount's well-known style. A pleasing background was formed by varieties of the Rambler type, and perhaps the feature of the exhibit was the collection of the new H.T. Rose Joseph Lowe. Captain Hayward was shown in fine form, and altogether it would be impossible to speak too highly of this exhibit.

Messrs. Dickson and Sons, of Nowtownards, [illegible] a choice little collection of new roses, which attracted much attention. Amongst the most pleasing were Margaret Molyneux, Mrs. David Jardine, George C. Waud, Lady Ursula, and Mrs. Cornwallis West.

FRUIT AND VEGETABLES.

There was a distinct touch of familiarity [illegible] the fruit trees in pots which came from Messrs. T. Rivers and Son, of Sawbridgeworth, and they were as good as ever. Tempting [illegible] appearance were the well-coloured fruits [illegible] Nectarine Seedling 101—apparently a [illegible] introduction—while other varieties [illegible] are now well known, including Cardinal [illegible] Early Rivers, showed up well. Amongst [illegible] Peregrine was strongly represented, [illegible] to give variety to the collection was a fruited specimen of Grape Ferdinand [illegible] Lesseps in a pot, Early Rivers and Frog-[illegible] Bigarreau cherries. Altogether the [illegible] was worthy of the reputation of the [illegible]

Rhubarb alone made up the exhibit sent by Mr. T. E. Dawes, Syderstone, Norfolk, and amongst the varieties represented was Dawes' Challenge, of which there was staged a tremendous clump weighing 168lb.

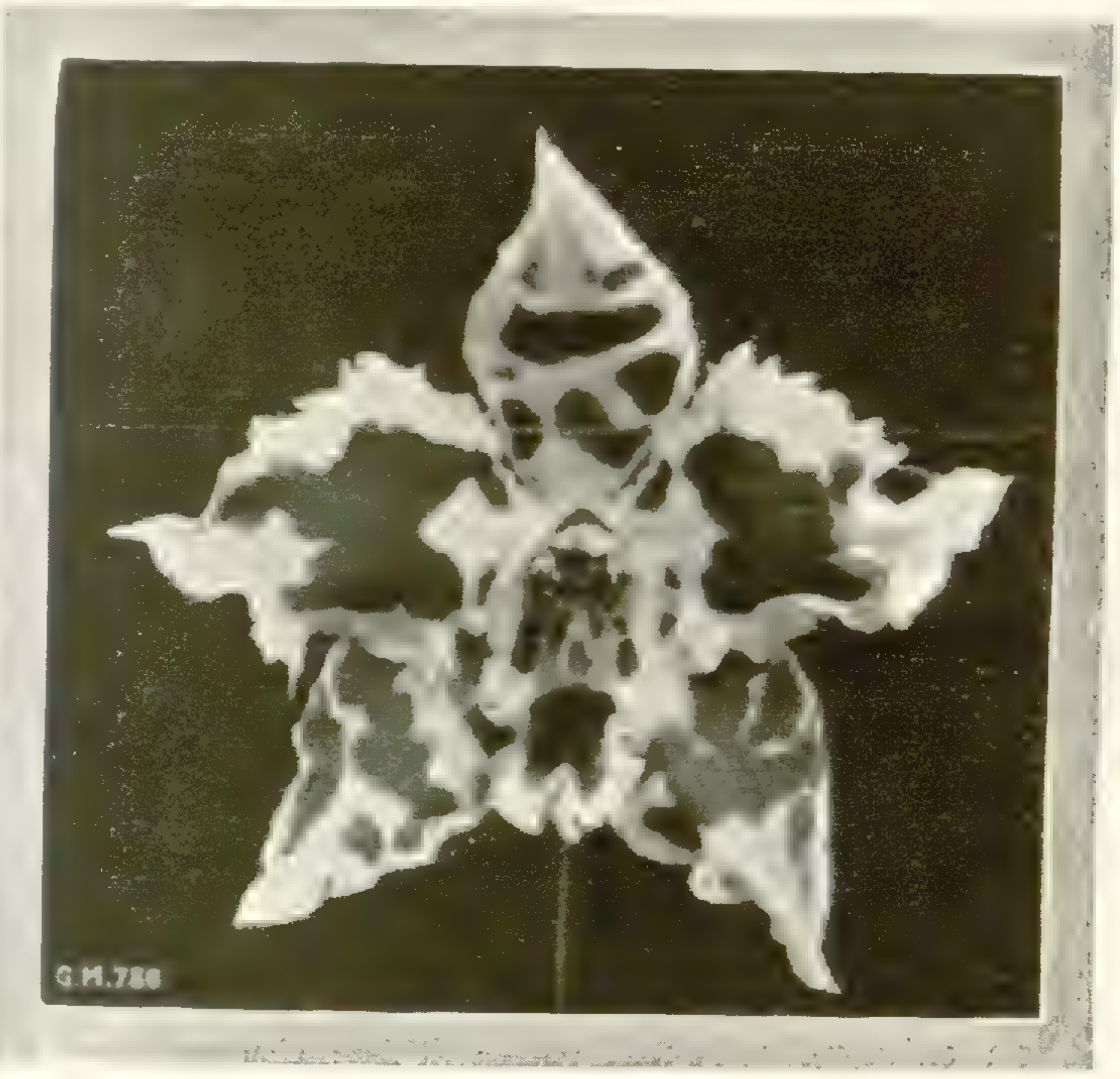
[illegible] Brothers, of Bedford, were, of [illegible] represented by strawberries, and the [illegible]-looking fruits shown in baskets made [illegible] to try the flavour. Amongst the [illegible] conspicuous was the well known Royal [illegible], but we also noticed Bedford [illegible], and a new, but somewhat dull-[illegible] variety called Reward. An element [illegible] was introduced in the presence of [illegible] of Cardinal nectarine, and Duke [illegible] and Hale's Early peaches.

[illegible] J. and F. Chatfield, Southwick, were represented by a small, but [illegible] exhibit of strawberries, in which there [illegible] some splendid fruits of Royal Sovereign. Cucumbers, long, green, and fresh, [illegible] from Mr. S. Mortimer, of Farnham, Surrey. Amongst the varieties staged [illegible] Mortimer's Bounteous, Tender [illegible], and Improved Telegraph. Ar-[illegible] in front of the cucumbers were several [illegible] of Tomato Sunrise. The Thatcham [illegible] and Flower Company, at Newbury, set [illegible] collection of forced vegetables, which [illegible] carrots, turnips, lettuces, radishes, [illegible] and mushrooms, with a host [illegible] for garnishing. There was too [illegible] the latter, and we cannot speak [illegible] the method of arrangement

[illegible] J. Harwood, of Colchester, staged a dozen bundles of giant asparagus, [illegible] we never wish to see finer samples. [illegible] Messrs. Sutton stage vegetables [illegible] always something worth seeing, and this occasion was no exception to [illegible]. The potatoes made a good exhibit in themselves, and young tubers of numerous varieties were shown in Sutton's own [illegible] style. Clean and fresh were the exhibits of White City, Harbinger, Ideal, King Edward VII., Reliance, Sutton's Seedling, and others, and the forcing capacities of the above and others were clearly demonstrated.

The miscellaneous collection of vegetables staged by the Reading firm was unique, and high quality was the keynote throughout. We noticed neat little heads of Sutton's April cabbage, crisp-looking Golden Ball lettuces, fine tomatoes of the variety Winter Beauty, peas, green, and carrying a dense bloom, and represented by varieties Duke of Albany, Early Giant, and Duchess of York. There were short, thick stems of the Sutton rhubarb, white broccoli, and still whiter cauliflowers, Sutton's Market cucumber, and marrows that could not be other than tender. Altogether, the exhibit was worthy of the firm, which means a great deal.

Messrs. George Bunyard and Co., of Maidstone, again proved that they are not only masters of the art of growing fine fruit, but also storing it. The splendid specimens staged were such as would have been good in November, but simply splendid in May. We noticed Striped Beefing, Newton Wonder, Annie Elizabeth, Alfriston, Betty Geeson, Smart's Prince Arthur, and Alden's Everlasting in the best of condition, and included in the exhibit was a remarkably fine dish of Uvedale's St. German pear.



TEMPLE SHOW.—ODONTOGLOSSUM CRISPUM MINORU (MESSRS. W. BULL AND SON).

A distinct variety remarkable for its handsome markings.

FERNS.

Ferns were grandly shown by Messrs. J. Hill and Sons, Barrowfield Nurseries, Edmonton: this firm had splendid specimens of Davallia fijiensis elegans, Nephrolepis todeaoides, N. Amerpohli, Gleichenia rupestris glaucescens, Platycerium Villincki, P. grande, Cyathea Scheideri, and Lomaria discolor. Mr. H. N. Ellison, West Bromwich, contributed a collection of ferns, displaying gold and silver gymnogrammas, davallias, and maidenhair ferns in great variety. The newer nephrolepises were well represented in this exhibit.

Messrs. H. B. May and Sons, Edmonton, submitted a bank of splendid exotic ferns, the huge specimens of davallias and nephrolepises attracting a great deal of attention. These ferns were exactly opposite the begonias, and formed an admirable foil for the brilliant colours. Platyceriums were excellent, and so were the lygodiums, the newer nephrolepises and Polypodium Schneiderianum.

CARNATIONS

Very beautiful were the splendid flowers of popular perpetual carnations submitted by Mr. A. F. Dutton, Iver, Bucks, who had lovely vases of Enchantress, White Enchantress, Winsor, Beacon, Mrs. T. W. Lawson, Fair Maid, Britannia, and the crimson Harlowarden. These were all in tall glass vases over maidenhair ferns. Messrs. Bell and Sheldon, Guernsey, showed magnificent carnation blooms, and set up very fine sets of The President, Marmion, Mikado, Helen Gould, Mrs. H. Burnett, Lady Bountiful, White Enchantress, and Mrs. T. W. Lawson.

A great variety of carnations came from Mr. C. F. Waters, Balcombe, Sussex, whose brightest samples were of Victory, Progress, Aurora, Britannia, Harry Fenn, Ceres, and Helen Goddard. Messrs. R. H. Bath, Wisbech, contributed excellent flowers of Beacon, Fairy Maid, Winsor, Winona, White Enchantress, and other popular perpetual carnations. Mr. Hayward Mathias, Medstead, Hants, had a bright and attractive group of carnation flowers, in which Cecilia, Mrs. H. Burnett, Rose Pink Enchantress, White Enchantress, Melody, Britannia, and Lord Welby were excellent. Mr. C. Engelmann, Saffron Walden, was another exhibitor of excellent carnations, and he had superb flowers of his new crimson Carola (A.M.) set amid beautiful blooms of popular kinds.

Messrs. Hugh Low, of Bush Hill Park, made a grand display with carnations. Overhead, suspended in bowls, hung huge Malmaisons and a beautiful crimson variety Britannia; Pink Enchantress was very fine, as also was White Enchantress, and we were much struck with the beautiful flowers of Black Chief, Winsor, and Red Lawson. The scarlet flowers of King Arthur were of great size, and the exhibit from end to end gave unmistakable evidence of splendid cultivation. It would be difficult to conceive a finer display of carnations.

Mixed in with roses, and giving a pleasing phase of variety, were the carnations shown by Messrs. W. Cutbush and Sons, Highgate. The varieties, White Perfection, Enchantress, Lady Coventry, Marmion, and Defiance, were much admired, and each and all were represented by finely grown specimens. The American Carnation Company, Sawbridgeworth, had a big and effective display of cut carnation blooms. Most of the popular varieties were represented, and set up with taste. Mr. W. H. Page, Tangley Nurseries, Hampton, showed a few big vases filled with splendidly grown carnation flowers, amongst which the varieties Mrs. T. W. Lawson, Beacon, Winsor, Britannia, and White Enchantress were especially noteworthy.

BEGONIAS

Gloriously beautiful were the tuberous begonias shown by Messrs. T. S. Ware, Lim., Feltham. This firm has a great reputation for these flowers, and admirably sustained it on this occasion. The plants were well grown, and the flowers splendidly developed, while they represented a wonderful variety of colours. Maud Nickells, Maggie Mercer, Marchioness of Bute, Mrs. Stoneham (a fine yellow), W. Marshall, Mrs. J. Brinsmead, Mrs. A. Paget, George Pike, and Mrs. Ernest James were a few choice varieties that greatly attracted us.

Superbly gorgeous were the double begonias shown by Messrs. Blackmore and Langdon, Twerton-on-Avon, Bath. The flowers were of immense size and substance, particularly those of Mrs. G. F. Fry, Marie Nicholas, the lovely pink Millicent, Pink Pearl, Mrs. D. Paterson, Mrs. W. L. Ainslie, Mrs. P. Clowes, and the exquisitely fringed and frilled varieties. Very beautiful, too, were the baskets of Begonia carminea and B. Mrs. Wilkie, vivid orange.

Messrs. J. Laing and Sons, Forest Hill, made up a small exhibit of double begonias in various forms and colours. The charming and graceful Begonia Lloydi was admirably shown by Mr. Mills, gardener to F. Lloyd, Esq., Coombe House, Croydon. This has double pendant flowers, and forms a lovely basket plant as well as a good conservatory subject in pots. There are now many colours represented, from white to deep red, and almost to yellow.

SWEET PEAS.

The sweet peas from Messrs. E. W. King and Co., Coggeshall, Essex, were very bright, especially the bunches of Helen Lewis, Mrs. W. King, the lavender Mrs. E. Noakes, Cream Spencer, Constance Oliver, the rich Sterling Stent, and the blue Lord Charles Beresford. Mr. C. W. Breadmore contributed a very large exhibit of well-grown sweet peas, and his best examples were of Helen Lewis, Constance Oliver, Dazzler, George Herbert, Marjory Linzee, Queen Alexandra, Audrey Crier, and Mrs. C. W. Breadmore.

The sweet peas from Mr. Robert Sydenham were a fragrant lot, and, in addition to popular varieties, the group contained Helen Grosvenor, Flora Norton, Paradise Ivory, Syeira Lee, White Gem, and several seedlings.

Prettily arranged and excellent in quality were the sweet peas set up by Messrs. G. and A. Clark, of Dover. The Duchess, Rosie Adams, Apple Blossom, Helen Lewis, Chillon, and Norma were a few of the varieties staged. Some beautiful vases of sweet peas were staged by Mr. W. R. Chaplin, of Waltham Cross, and in the receptacles were arranged such varieties as Henry Eckford, Helen Lewis, Helen Pierce, Dorothy Eckford, Evelyn Byatt, and Primrose Spencer, all in the pink of condition.

Not a large, but an extremely beautiful display of sweet peas was that set up by Messrs. Dobbie and Co., Rothesay. Mid Blue, Masterpiece, Princess Victoria, New Crimson, and Mrs. Henry Bell were amongst the principal varieties. Mr. H. J. Jones, of Ryecroft, Lewisham, made a speciality of sweet peas this year, and a beautiful lot of flowers were staged by him. The flowers were shown on long stalks in glasses, in three tiers, and a host of varieties were represented. One that appeared to attract attention was a novelty called Sterling Stent.

Messrs. G. Stark and Son, Great Ryburgh, are to be commended on their collection of sweet peas. The flowers were perhaps a trifle small, but the colours were nicely blended, and the arrangement of the whole exhibit was pleasing. Miss Hemus, of Upton-on-Severn, the well-known sweet pea specialist, had a compact little exhibit, in which a number of her novelties were displayed.

STOVE PLANTS.

Tall dracænas, elegant aralias, tree ferns, and bold anthuriums, with caladiums, asparagus, amaryilis in variety, various stove foliage plants, and the new pink Queen Alexandra marguerite were staged in the large tent by Messrs. William Bull and Sons, Chelsea. Bold and brilliant caladiums, bright crotons, gorgeously-flowered anthuriums,and graceful dracænas were set up by Mr. L. R. Russell, Richmond.

Messrs. John Peed and Son, West Norwood, were extensive exhibitors of caladiums, and they displayed good specimens of Charlemagne, Mrs. Box, John Peed, Henry Lovatt, the pale Silver Queen, W. E. Gladstone, Madame J. R. Box, and many others, the leaves perfect in form, and of delightful colouring.

The magnificent exhibit of stove plants arranged by Messrs. James Veitch and Sons, Chelsea, was one of the great attractions of the big tent. Every plant was a perfect specimen. Towards the back were giant specimens of Mrs. J. Box, The Mikado, Rose Laing, Louis A. Van Houtte, and Baron A. de Rothschild caladiums. In the centre was a group of Cattleyas Mendeli and Mossiæ, with Brasso-cattleya Veitchi carrying five immense flowers, and fine spikes of Disa Luna. The crotons on either side were superb, notably Dayspring, Thomsoni, and caudatus tortilis, while anthuriums of the Scherzerianum group, Rex begonias, bertolonias, and tillandsias, with handsome alocasias, assisted to make up a fine exhibit.

Messrs. Sander and Sons, St. Albans, contributed a fine exhibit of stove plants, and in it the newer things that gained prominence were Bowenia spectabilis serrulata, Caladium Superb, Clerodendron Campbelli, Bougainvillea Sanderiana variegata, Fourcroya Watsoniana, Pinanga Micholitzi, Gloriosa lutea and Bromelia tricolor. The exquisitely marked bertolonias from Mr. L. R. Russell, Richmond, were greatly admired by lovers of foliage plants, their blue and silvery veins and spots, and their wonderful shades of green proving a great attraction.

OUTSIDE DISPLAYS.

One of the prettiest as well as the most novel exhibits in the show was the tasteful Japanese garden arranged outdoors by Messrs. J. Carter and Co., Holborn. There were miniature rock gardens, dwarfed trees here and there, stone lanterns and bronze storks, a little mountain clad with conifers and maples, and with its little waterfall and colonies of ferns. There was a little bridge over the little lake, and the latter had its complement of gold fish and water lilies. The exhibit was a delightful one, and created a vast amount of interest.

Messrs. J. Cheal and Sons, Crawley, had a gay exhibit of Japanese maples, clematis, Pink Pearl rhododendron, delightful Ghent and mollis azaleas, cytisuses, spiræas, lilacs, viburnums, the yellow Quercus concordia, and the variegated form of Dimorphanthus mandschuricus. Messrs. H. Lane and Son, Great Berkhamsted, had a brilliant exhibit of Anthony Koster and other azaleas, Pink Pearl and other rhododendrons, and pillar and dwarf roses, cytisuses, etc., out of doors. Messrs. Carter Page and Co., London Wall, showed pansies and violas in pans in front of a standard of Pelargonium Clorinda. Mr. Clarence Elliott, Six Hills Nursery, Stevenage, contributed a small rock garden, and Mr. Maurice Prichard submitted an alpine garden of considerable size, well-furnished with phloxes, incarvilleas, primulas, saxifrages, androsaces, hardy orchids, rhododendrons, etc.

Very boldly constructed was the bog and water garden designed and planted by Messrs. Jas. Backhouse and Son, York. Large masses of rock were used, and between these were colonies of gentians, saxifragas, campanulas, primulas, Daphne cneorum, hardy cypripediums, ramondias, alyssums, etc.; while on the higher parts roses and azaleas and rhododendrons were effectively disposed, and attracted an immense amount of attention.

Messrs. W. Cutbush and Son, Highgate, contributed a bold rock garden display, surmounted by rhododendrons. The front was almost entirely a lake, with water-loving plants growing in the water, and bog plants along the margins. There was a waterfall down amid ferns, and there were colonies of azaleas on the higher ground. Primula japonica, gentians, aquilegias, trollius, pæonies, and a fine lot of eremurus and liliums were other features of beauty.

Quite an interesting little bed of pleasing colour was made by Mr. Amos Perry with Lithospermum prostratum Heavenly Blue. This is a pretty little plant, and well worth growing. Messrs. Gunn and Sons, Olton, had a display of their Viola cornuta purpurea outdoors as well as inside the tent. The Misses Hopkins had a specimen of their rockwork outside, but we thought the stone had been too liberally used.

Messrs. J. Veitch and Sons, as usual, had a grand display of flowering plants in the open. Eremurus robustus, rhododendrons, primulas, cannas, azaleas, and other things were included, the whole making up a very fine display. The roses and carnations displayed outside by Messrs. Hugh Low and Co., were a grand lot; the blooms of the carnations were fine, and the standard roses of the rambling type were much admired. Mr. L. R. Russell, Richmond, set up a collection of plants. Messrs. W. Fromow and Sons, Chiswick, were, of course, represented by acers, and we question if the firm has ever set up a finer collection of these interesting foliage plants.

Acers, azaleas, hydrangeas, and lilacs were the chief items in the outdoor group arranged by Mr. R. C. Notcutt, Woodbridge. Peacocks and all sorts of fantastic things in box were shown by Messrs. J. Piper and Son, Bayswater. A beautiful bank of hardy rhododendrons was shown by Messrs. John Waterer and Son, Bagshot, interspersed with acers and other foliage plants. Messrs. Thomas Cripps and Son, Lim., Tunbridge Wells, were represented by a large and excellent display of acers, and in the centre of the exhibit was a fine bank of Pink Pearl rhododendron.

The corner rockery arranged by Messrs. Pulham and Son, London, looked as if it was a permanent institution, so natural and complete did it look. Messrs. W. Cutbush and Son were represented by topiary work. A rockery, with a natural-looking pool in the middle, was arranged by Messrs. R. Wallace and Co., Colchester, and the whole of the furnishing was quite unique.

Messrs. Barr and Sons' pigmy trees, dwarf and ancient, after the manner of these Japanese freaks, were there, and, as usual, they aroused a considerable amount of interest. Messrs. H. B. May and Sons, Upper Edmonton, had a very interesting collection of plants outside. The background was formed of ferns, and in the centre were standard pelargoniums and heliotropes, with baskets of verbenas and other things underneath. In this exhibit was a number of strikingly coloured coleuses. Mr. V. Slade, Taunton, exhibited a collection of zonal pelargoniums, but the trusses were by no means so fresh looking as they must have been when they left the nursery.

HARDY FLOWERS.

A very bold, beautiful, and striking exhibit of hardy flowers was arranged most attractively by Messrs. R. Wallace and Co., Colchester. The central feature was the eremuri, and Lilium japonicum Colchesteri, L. Marbon, and L. Browni was particularly fine, but the groups of Colvillei varieties of gladiolus, the ixias, the big poppies, Lilium elegans, L. excelsum, and L. longiflorum, were all very good, and the hardy orchids and the large rosy heads of Allium Rosenbachianum were other attractions. Tulips were also shown in variety, including the new variety named The President.

Tulips and irises shown by Messrs. R. H. Bath, Lim., Wisbech, made a grand blaze of colour in No. 4 tent. Of the former they had very fine examples of Flambeau, Margaret, Mdme. Krelage, White Queen, Ada, New Moon, Inglescombe Pink, Europe, Marcella, Mr. Farncombe Sanders, La Tulipe Noir, and Gala Beauty. Messrs. T. S. Ware, Lim., Feltham, provided a miniature rock garden display with phloxes, Viola pedata bicolor, dodecatheons, aquilegias, Trillium stylosum, saxifragas, and hardy orchids.

A display of violas was set up by Messrs. Bakers, of Wolverhampton. The flowers, which were very fresh, were nicely set up, and all the principal varieties were represented. The same firm also had a varied display of hardy flowers, which contained a host of interesting things. Mr. H. H. Crane, of Highgate, had also a very nice lot of violas, which were tastily set up in shallow bowls filled with wet sand. The foliage used, however, did not seem to be quite appropriate to violas.

Messrs. Lilley, Guernsey, were represented by a pleasing collection of flowers, which included gladioli, irises, ixias, and sparaxis in interesting variety. Messrs. George Jackman and Son, Woking, set up a big and interesting exhibit of hardy flowers. Amongst other things we observed Trollius Orange Globe, Lupinus polyphyllus roseus, Cypripedium spectabile, pyrethrums, and irises. Messrs. [illegible], of Exmouth, showed a collection of Oriental poppies, which came in for conconsiderable attention.

Some of the most magnificent blooms of tulips we have ever seen were set up by Messrs. Alex. Dickson and Sons, Newtownards, Co. Down, Ireland. The severe heat of the tents made many of the large blooms hang their heads somewhat, but there was no mistaking the quality, substance, and colour of these superb flowers. A few of the finest varieties were Eric, Inglescombe Pink, Clara Butt, Europe, Sultan, Duke of Westminster, White Queen, Eureka, Mr. Farncombe Sanders, Galatea, J. Ruskin, and Bouton d'Or, the latter grandly represented. Messrs. Hogg and Robertson set up a most interesting collection of Irish tulips. The flowers were very fine, and included all the best varieties in this section of bulbous plants. A very pretty exhibit was that sent from Messrs. Gilbert and Son, of Bourne, Lincs. It was composed entirely of anemones, the most striking of which was King of the Scarlets. Aquilegias, delphiniums, a fine lot of Heuchera sanguinea Shirley, and a cluster of Lupinus polyphyllus Rose Queen, were the chief features in the bank of hardy flowers arranged by Messrs. B. Ladhams, The Shirley Nurseries, Southampton, but there were numerous other flowers in the collection worthy of notice. Mr. N. Lewis, Bridgwater, set up a neat little collection of hardy flowers, the principal feature of which was the St. Brigid anemones. A dwarf polyantha rose, called Jessie, shown by H. Merryweather and Sons, Lim., is a pretty little variety with flowers of scarlet hue.

Big scented clusters of lilacs were exhibited by Messrs. Paul and Son. A number of varieties were represented, both single and double, giving visitors an illustration of the beautiful things there are in the lilac family. Tasteful to a degree was the collection of new hybrid centaureas set up by Messrs. Jarman and Co., of Chard. The Bride, Bridegroom, and Honeymoon were the chief varieties, and in the collection we noticed several charming new sweet peas. One does not expect to see dahlias shown in May, but Messrs. Carter Page and Co. had an interesting collection of [illegible] varieties. Messrs. G. and A. Clark, Dover, showed a grand lot of hardy flowers, which included the stately Eremurus himalaicus, Pyrethrum John Malcolm, Phlox canadensis Laphami, and Marguerite White Perfection, the latter a novelty with pyrethrum-like white flowers.

A large display of hardy flowers was made by Mr. M. Prichard, of Christchurch; many beautiful things were represented, including poppies, irises, pyrethrums, and pæonies. From Mr. John Forbes, of Hawick, came a [illegible] collection of phloxes, pentstemons, [illegible], violas, and Black Vesuvius pelargoniums. Messrs. W. Bull and Sons, Chelsea, were represented by a showy collection of [illegible] in great variety. Messrs. Amos Perry, Enfield, set up a most interesting lot of [illegible], amongst which were pretty phloxes, [illegible] in variety, tree pæonies in a number of shades of colour, as well as alyssums, thalictrums, and poppies. Taken altogether, there was no exhibit in the hardy flowering section of more interesting character. Quite unique was the collection of polyanthuses and auriculas staged by Messrs. Storrie and Storrie, Glencarse, Perth, N.B., and this exhibit attracted considerable attention. Sweet and [illegible] were the miniature mountains of lily of the valley set up by some exhibitor whose name did not appear. Densely blue was the [illegible] of Viola cornuta purpurea shown by Messrs. Gunn and Son, Olton, Warwickshire, and we noticed that the flowers were very much admired.

Messrs. G. Bunyard and Co., Maidstone, were represented by a grand lot of hardy flowers, amongst which poppies, tulips, delphiniums, pyrethrums, irises, and pæonies were represented. Mr. A. J. Harwood, Colchester, set up a very interesting collection of varieties of Primula Sieboldi that was much admired. Messrs. W. Artindale and Son, Sheffield, set up a very nice lot of violas, which were arranged in a pleasing manner.

Messrs. Harkness and Sons, Bedale, showed some very fine trolliuses, notably King Cup, Orange Globe, Buttercup, and Triumph, all splendid flowers in yellow shades. Messrs. R. P. Ker and Sons, Liverpool, staged the pink variety of Queen Alexandra marguerite in fine condition. Messrs. Bees, Lim., Liverpool, again showed their new primulas Bulleyana and Lichiangensis.

Rather too crowded in arrangement, but made up of a host of interesting flowers, was the exhibit sent by Mr. R. C. Notcutt, of Woodbridge. Most of the principal flowers in the hardy flower section were represented. Messrs. George Mallet and Co., Cheddar, had a fine exhibit of hardy flowers, containing the things mostly seen in such collections. Messrs. G. Reuthe, of Keston, had a grand lot of hardy flowers in bewildering variety. Exceptionally fine were the tulips, rhododendrons, magnolias, azaleas, and daphnes, but other things were equally worthy of mention. The display of hardy flowers from Turnbull's Direct Supply Company contained some interesting flowers. From Messrs. Reamsbottom and Co., Alderborough, came an interesting exhibit of anemones and mimulus. The colours were extremely pleasing, and some beautiful varieties of these interesting flowers were displayed.

Perfect in form and beautiful in colouring were the pansies and violas staged by Messrs. Dobbie and Co., of Rothesay. The arrangement of the flowers left little room for criticism, and there was a freshness about them that was very striking. Yards of tabling were occupied by a splendid show of tulips from Messrs. Barr and Sons, Covent Garden, and it is hardly necessary to add that everything good in the tulip world was included. The same firm also staged an interesting collection of hardy flowers, which included irises in great variety, geums, pyrethrums, and phloxes. Along the front of the exhibit was a tasteful arrangement of alpine plants. Messrs. Hobbies, Lim., Dereham, sent an interesting but rather crowded collection of irises. Lilac flowers, and a beautiful lot of them in variety, were staged by Mr. Charles Turner, of Slough, and sweet was the aroma they gave off. All the best varieties were represented.

ROCKERIES AND ALPINE PLANTS.

The King's Acre Nursery Company filled a long stretch of tabling with alpine flowers interspersed with stones, arranged in undulating form. Considerable taste was displayed in the arrangement of the rockery set up by Messrs. Bakers, of Wolverhampton. Stone was used boldly and to advantage, and amongst the flowers were alyssums, Edrianthus serpyllifolius major, Dianthus cœsius, aquilegias, and saxifragas.

Small but tasteful was the rockery arranged by Messrs. Geo. Mallett and Co., Cheddar, and apparently growing amongst the stones were to be seen many gems of the alpine section. Forming the groundwork of an exhibit which was flanked by hardy flowers, Messrs. G. Reuthe, Keston, arranged a most interesting lot of alpines, which were arranged in a deceptively natural manner. Messrs. J. Cheal and Sons, of Crawley, are masters of the art of setting up miniature rockeries, and once again they had a most interesting exhibit. All sorts of beautiful little things were arranged in pockets and crevices, and the display as a whole had a most natural appearance. Another pretty rockery was that which came from the Craven Nursery, Clapham, and amongst the flowers shown were Primula farinosa, Saxifraga aizoon rosea, and Edrianthus serpyllifolius. The arrangement of this exhibit was extremely pleasing. Not the least interesting exhibit of rock plants in the show was that set up by Messrs. W. Artindale, of Sheffield. Primulas were very fine, as also were alyssums, and the style in which the plants were displayed was quite pleasing.

Natural in its arrangement, and filled with pretty and interesting flowers, was the rockery set up by the Guildford Hardy Plant Company. We wonder what weight of sandstone was used by Mr. H. Hemsley, of Crawley, in the make up of his rockery, but it must have been very considerable. The stone, however, was used to advantage in showing up the many charming flowers that were nestling in the crevices. The exhibit was a most interesting one.

MISCELLANEOUS.

A few exhibits that evaded us in our first tour of the great show are now included here, as they were discovered too late for inclusion under their right headings.

A charming exhibit of rambling roses, set up as pillars and arches by Mr. G. Prince, Longworth, Berks, was delightfully novel in design. Lady Gay, Yellow Banksian, Hiawatha, Dorothy Perkins, and Minnehaha, were well represented, and below these Mdme. Jean Dupuy, Richmond, The Lyon Rose, Souv. de Pierre Notting, and Earl of Warwick were very beautiful.

Very pretty were the new hybrid gerberas sent by M. R. Adnet, Cap d'Antibes, France. The blooms were of large size, and ranged from white through pink and rose shades to yellow, orange, and scarlet. Some had very long florets, while others had very shapely blooms and broader florets. The flowers were delightful even after their 1,000 miles journey.

Mr. S. Mortimer, Farnham, Surrey, showed good blooms of the popular varieties of carnations, and he set them up in a most attractive manner. Mr. Hunter, gardener to his Grace the Duke of Marlborough, Blenheim, set up a table of finely developed perpetual and Malmaison carnations; Robert Craig and Enchantress were particularly good.

CERTIFICATES AND AWARDS.

Orchid Committee.

First Class Certificate.—To Lælio-cattleya Eurylochus, from Messrs. Charlesworth and Co.; to Oncidium Charlesworthi, from Messrs. Charlesworth and Co.; to Odontoglossum mirum Emperor of India, from Mons. C. Vuylsteke; to Odontoglossum Aglaon, from Mons. C. Vuylsteke; and to Odontoglossum Princess Victoria Alexandra, from Mons. C. Vuylsteke, Loochristy.

Award of Merit.—To Cattleya Mossiæ, Gatton Park var., from Sir J. Colman, Bart., Reigate.

Botanical Certificate.—To Oncidium Retemeyerianum and Sigmatostalix Eliæ, from J. Birchenall, Esq., Alderley Edge, Cheshire; Bulbophyllum Lemniscatoides, and Gongora quinquenervis, from Sir J. Colman, Bart., Reigate.

Cultural Commendation.—To Dendrobium Victoria Regina, from R. Ashworth, Esq., Newchurch, Manchester.

Floral Committee.

Award of Merit.—To Rose Coquina, from Messrs. William Paul, Waltham Cross, and Messrs. Hobbies, Dereham; Rose Margaret, from Messrs. W. Paul, Waltham Cross; to Carnation Carola, from Mr. C. Englemann, Saffron Walden; to Begonia Pink Pearl, from Messrs. Blackmore and Langdon, Bath; to Rose (polyantha) Mrs. Taft, from Messrs. Low and Co., Enfield; to Iris Sir Dighton-Probyn, and to Iris Sir Trevor Lawrence, from Mr. Amos Perry, Enfield; to Ficus australis variegata, from Messrs. Sander and Sons, St. Albans; to Ptychoraphis Siebertiana, from Messrs. Sander and Sons; to Marguerite White Perfection, from Messrs. G. and A. Clark, Dover; to Rose American Pillar, from Messrs. H. Cannell and Sons, Swanley; and to Rose Jessie, from Messrs. Merryweather and Son, Southwell.

GOLD MEDALS.

To Messrs. Charlesworth and Co., Haywards Heath, for orchids; to Messrs W. Cutbush and Son, Highgate, for rock garden plants; to Messrs. James Veitch and Sons, Chelsea, for stove foliage plants, herbaceous plants, flowering plants, trees, etc.; to Messrs. R. Wallace and Co., Colchester, for tulips, lilies, pæonies, irises, hardy plants, and water garden; to Messrs. William Paul and Son, Waltham Cross, for roses, trees, and shrubs; to Messrs. Paul and Son, Cheshunt, for roses, lilacs, and new shrubs; to Messrs. H. B. May and Sons, Edmonton, for exotic and hardy ferns and flowering plants; to Mr. H. Burnett, St. Margaret's Guernsey, for carnations; to Messrs. J. Waterer and Sons, Lim., Bagshot, for rhododendrons, flowering and evergreen shrubs.

SILVER CUPS.

To Sir J. Colman, Bart., Gatton Park, Surrey, for orchids (gardener, Mr. J. Collier); to Leopold de Rothschild, Esq., Gunnersbury Park, W., for Vanda teres (gardener, Mr. G. Reynolds; to Mrs. Kershaw Wood, Glossop, Derbyshire, for orchids and gloxinias (gardener, Mr. J. Gould); to Messrs. Armstrong and Brown, Tunbridge Wells, for orchids; to Messrs. Sander and Sons, St. Albans, for orchids and foliage plants; to Messrs. J. Veitch and Sons, Chelsea, for hardy flowering plants and shrubs; to Mr. L. R. Russell, Richmond, S.W., for flowering trees and shrubs; to Messrs. J. Carter and Co., Holborn, W.C., for flowering plants (begonias, carnations, gloxinias, etc.); to Messrs. Barr and Sons, Covent Garden, W.C., for hardy plants and pigmy trees and herbaceous; to Messrs. G. Jackman and Son, Woking, for clematis and hardy plants; to Mr. A. Perry, Enfield, for tree pæonies and herbaceous plants; to Mr. G. Reuthe, Keston, for alpines, rhododendrons, tulips, and rare shrubs; to Messrs. H. Cannell and Son, Swanley, for cannas, cacti, and phyllocactus; to Messrs. J. Cheal and Sons, Crawley, for trees and shrubs, alpines, and rock garden; to Messrs. Bell and Sheldon, Guernsey, for carnations; to Messrs. F. Cant and Co., Colchester, for roses; to the Craven Nursery Company, Clapham, Lancaster, for alpines; to Mr. G. Mount, Canterbury, for roses; to the American Carnation Nursery, Sawbridgeworth, for carnations; to Messrs. T. Cripps and Son, Tunbridge Wells, for Japanese acers, etc.; to Messrs. Alex. Dickson and Sons, Newtownards, for tulips and roses; to Messrs. Hobbies, Lim., Dereham, for roses; to Messrs. J. Backhouse and Son, Lim., York, for miniature rock garden; to Messrs. R. and G. Cuthbert, Southgate, N., for azaleas; to Messrs. R. P. Ker and Son, Liverpool, for amaryllis; to Messrs. W. Cutbush and Son, for clipped trees and carnations, roses, etc.; to Messrs. Sutton and Sons, Reading, for greenhouse plants; and to Messrs. T. Rivers and Son, Sawbridgeworth, for fruit trees in pots.

Sherwood Cup (value £21), for group of orchids, to F. Mentieth Ogilvie, Esq., for orchids; silver cup to Sir Jeremiah Colman, Bart., Reigate, for orchids. For a group of orchids not exceeding 75 sq. ft.—(Veitch Memorial Medal and £5), to the Duke of Marlborough; and small silver cup, to Mrs. Kershaw Wood, of Glossop. The silver cup for a quite small group of orchids was not awarded, but the second prize, a silver Flora medal, was granted to R. Ashworth, Esq., Manchester.

SILVER-GILT AND SILVER MEDALS.

Silver-gilt Knightian. — To Messrs. G. Bunyard and Co., Lim., Maidstone for fruit trees in pots; and to Mr. S. Mortimer, Farnham, Surrey, for carnations, cucumbers; and tomatoes.

Silver-gilt Flora.—To F. A. Lloyd, Esq., Coombe House, Croydon (gardener, Mr. M. Mills), for a group of begonias; to Mons. R. Adnet, Cap d'Antibes, France, for hybrid gerberas; to Messrs. J. W. Moore, Lim., Rawdon, Leeds, for orchids; to Mr. M. Prichard, Christchurch, Hants, for alpines and rock plants; to Messrs. Bakers, Wolverhampton, for violas, sweet peas, rock garden, and herbaceous plants; to Messrs. T. S. Ware, Lim., Feltham, for begonias, carnations, etc.; to Messrs. Blackmore and Langdon, Bath, for tuberous begonias; to Messrs. R. H. Bath, Wisbech, for tulips and carnations; to Messrs. H. Low and Co., Enfeld, N., for orchids, carnations, and roses; to Mr. C. Turner, Slough, for roses and azaleas; to Messrs. B. R. Cant and Sons, Colchester, for roses; to Mr. A. F. Dutton, Iver, Bucks, for carnations; to Messrs. J. Peed and Son, West Norwood, for caladiums; to Mr. C. F. Walters, Balcombe, for carnations; to Messrs. J. Hill and Son, Lower Edmonton, for ferns; and to Messrs. W. Fromow and Son, Chiswick, for Japanese maples.

Silver-gilt Banksian Medal.—To Mr. W. H. Page, Hampton, for carnations, liliums, roses, etc.; to Mr. R. C. Notcutt, Woodbridge, for hardy flowers; to Messrs. W. Bull and Son, Chelsea, for orchids, foliage plants, and cut flowers; and to Messrs. R. Smith and Co., Worcester, for clematises.

Silver Knightian Medal.—To Messrs. Hughes, Jones, and Peers, Thatcham Fruit Farm, Newbury, for vegetables and salads; to Mr. R. Stephenson, Burwell, Cambridge, for asparagus; to Messrs. J. and F. Chatfield, Southwick, Sussex, for strawberries; and to Messrs. Laxton Brothers, Bedford, for strawberries.

Silver Flora Medal.—To the Hon. Vicary Gibbs (gardener, Mr. E. Beckett, V.M.H.), Elstree, Herts, for streptocarpus; to Wickham Noakes, Esq. (gardener, Mr. W. Howarth), Selsdon Park, Croydon, for calceolarias; to Mr. H. Mathias, Stubbington, Hants, for carnations; to Mr. A. R. Upton, Millmead, Guildford, for alpines; to Mr. J. Piper, Bayswater, W., for trained box trees; to Misses Hopkins, Shepperton, for alpines and rock plants; to Mr. C. Engelmann, Saffron Walden, for carnations; to Messrs. Cypher and Sons, Cheltenham, for orchids; to Messrs. G. and A. Clark, Lim., Dover, for hardy flowers, plants, etc.; to Mr. C. W. Breadmore, Winchester, for carnations, etc.; to Messrs. Dobbie and Co., Rothesay, for herbaceous plants; to Messrs. Hogg and Robertson, Dublin, for tulips; to Mr. H. Hemsley, Crawley, for alpines and rock plants; to Messrs. H. J. Jones, Lim., Lewisham, for sweet peas, etc.; to Mr. W. R. Chaplin, Waltham Cross, for sweet peas; to Mr. J. Green, March, for carnations; to Messrs. E. W. King and Co., Coggeshall, for sweet peas; to Messrs. Ladhams, Lim., Shirley, for hardy flowers and plants; to Mr. W. H. Lancashire, Guernsey, for carnations; and to Mr. George Prince, Longworth, for roses.

Silver Banksian Medal.—To Messrs. Stanley and Co., for orchids; to Messrs. W. Artindale and Son, Sheffield, for alpines, etc.; to Messrs. G. Mallett and Co., Cheddar, for rock and herbaceous plants; to Mr. W. H. Page, Hampton, for carnations, roses, etc.; to the King's Acre Nurseries, Lim., Hereford, for alpines and herbaceous; to Mr. C. Elliott, Stevenage, for miniature rock gardens; to Mr. H. N. Ellison, W. Bromwich, for ferns; to Messrs. Gunn and Sons, Olton, for hardy herbaceous, etc.; to Mr. Frank Lilley, St. Peter's, Guernsey, for gladioli and bulbous plants; to Messrs. Storrie and Storrie, Perth, for polyanthus and auriculas; and to Vivian Phillips, Esq. (gardener, Mr. T. Hobbs), Orpington, for calceolarias.

FORTHCOMING ENGAGEMENTS.

THURSDAY, June 3.—Linnean Society meets.

SATURDAY, June 5.—French Horticultural Society of London.

MONDAY, June 7.—National Fruit Growers' Federation, council meeting.

TUESDAY, June 8.—Royal Horticultural Society: committees meet at 12 o'clock; lecture at 3 p.m. on "Some Old Superstitions about Plants," by the Rev. Professor G. Henslow, V.M.H.; Scientific Committee at 4 o'clock.

LONDON POTATO MARKETS.

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Up to Date	per ton	60	0		75	0
„ Blacklands	per ton	50	0		60	0
Canary, new	per cwt.	12	0		14	0
Jersey, new	per cwt.	18	0		21	0
Algerian, new	per cwt.	10	0		11	0

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EXHIBITIONS AND MEETINGS.

◆

East Anglian Horticultural Club.

This club again had a most excellent show, at its May meeting, of flowers, fruits, and vegetables. Mr. W. Shoesmith, gardener to F. W. Harmer, Esq., Cringleford, staged some exceptionally good strawberries, large and well-coloured; and apples, for so late a date, were fine examples. The educational side of the club was added to by the receipt of four splendid essays in a competition upon "The Cultivation of Herbaceous Flowers." The practical side of gardening was much evidenced by all the writers; some dealt with the names of flowers too freely, and lost points against those who gave the preparation of the border and planting in better detail. The judges, Messrs. L. Smith. T. G. Bishop, and H. Goude, gave their awards as follows: 1, J. Ewing, Stoke Hall Gardens; 2, Mr. D. Howlett, Thorpe; and 3, Mr. C. Matthews, Thorpe.

The members decided to hold a summer outing this year on July 15, and, if permission can be obtained, Earsham Hall, the seat of Captain Mead, J.P., was the place decided upon for the visit. There is a rock garden of very large dimensions there, and many other treats for horticulturists.

British Gardeners' Association.

LONDON BRANCH.

At the recent meeting of this branch an important lecture on "Nitrogen Fixation in Plants" was given by Professor W. B. Bottomley, M.A., of King's College, London. On rising, Professor Bottomley said he had been greatly interested in the questions and the answers given during the business part of the meeting, and he thought the British Gardeners' Association was capable of doing good work for gardeners.

He outlined the work of bacteria in the soil, illustrating it by some remarkable lantern slides. The extraordinary rapidity with which these soil organisms multiplied was clearly shown. Important experiments had, he said, been carried out, which at at no very distant date would have a far-reaching effect in the culture of plants. The escape of free nitrogen was very great. All were well aware that leguminous plants were able to absorb nitrogen from the air, but he proposed to deal principally with those plants incapable of doing so. Details of the trials conducted at the Royal Horticultural Society's Gardens at Wisley were given, and expressed the wish that all gardeners willing to give nitro-bacteria a fair trial would experiment.

There was a good discussion, in which Messrs. E. F. Hawes, J. Weathers, A. J. Hartless, V. Cockram, and H. Cowley took part. A very hearty vote of thanks was then passed to Professor Bottomley for his valuable lecture.

Birmingham Gardeners' Association.

The second summer outing took place on May 19, and a visit was made to Highbury, the residence of the Right Hon. J. Chamberlain. The party of about fifty members were met at Highbury by Mr. J. Deacon, the head gardener, who conducted them through the houses and grounds, pointing out new features and the development of old ones. The Dutch garden, the lake, and the rock garden and herbaceous collections were greatly admired by all, and proved most attractive. The orchids proved another great attraction, and the collection was examined under the guidance of Mr. Mackay, the orchid grower.

Mr. T. Humphreys proposed that a vote of thanks be sent to Mr. J. Chamberlain, and this was unanimously carried, as were votes of thanks to Mr. Deacon and Mr. Mackay for their very great courtesy during the afternoon.

TRADE NOTES.

Water distribution forms an important factor in garden management, and with a fuller recognition of this fact increased attention is being paid to the improvement of the appliances by which water used in gardens may be distributed. One of the most noteworthy of the appliances to which we have had our attention called is that known as the Max Water Distributor, which combines simplicity and efficiency in a very marked manner. This distributor is so small and compact that it stands only nine inches high, and so powerful that the water, in course of distribution, may be made to cover an area of 5,000 square feet. Unlike the [illegible] sprinklers commonly used, it distributes an even quantity of water to every part of the area covered, and may be readily adjusted to cover areas of any shape and size within the range of the machine. The action is perfectly automatic; the water from the hose, in passing through the machine, actuates a small turbine, from which the power is taken to regulate the delivery [illegible]. Two gear wheels are attached to the nozzle, the one rotating the device, while the other is a cam which, by means of a link motion and cam wheel, deflects the nozzle more or less from a vertical position, and this variation ensures an even distribution of the water over the whole surface. We have formed a high opinion of the [illegible] of the Max Water Distributor, and [illegible] that our readers should apply to the Max Patent and Manufacturing Company, Westcombe Hill, S.E., for prices and particulars.

The endless trouble of weeding gravel paths free may be wholly avoided by the judicious use of a well-tried weed killer, and those experienced in garden management are careful to take advantage of [illegible]. In this connection may be mentioned the Eureka Weed Killer, which has for many years been supplied to many of the [illegible] estates and gardens, and not a few of the smaller gardens in the United Kingdom. The Eureka Weed Killer is manufactured by Messrs. Tomlinson and Hayward, [illegible], who also make an excellent [illegible] for destroying green-fly, etc., under the name of Eurekatine. This firm has recently issued a useful booklet entitled "[illegible] in Garden and Greenhouse," which will be sent free on application to their Department A.

ANSWERS TO CORRESPONDENTS.

RHODODENDRONS.—F. A., Chard: We have dealt with the subject at various times and in various ways, but we will keep your request in mind, and endeavour to grant it at an early date.

APPLE FARMING.—E., York: There are several matters to be carefully considered before entering upon apple farming for a living, and one of the first is the amount of experience you have as a fruit grower, and your readiness to work hard. Other points are the accessibility of a market, soil, and situation, and the amount of capital you can command to stock the farm and keep things going until the fruit becomes remunerative. We believe a good living can be made out of the business, but unless you have experience, and ability as a grower and seller, we do not advise you to enter it.

FAILURE WITH MELONS.—Puzzled, Swansea: The melons are suffering from a bad attack of eelworm, and nothing you can do will preserve them. Clean all soil and plants out of the house, and thoroughly clean every bit of wall, woodwork, and glass, and dress all brickwork with hot limewash, to which paraffin is added. Obtain new soil from another source, and some strong young plants, and start again.

DAMAGED ROSE SHOOTS.—J. S., Hayling Island: The damage to the rose shoots is not due directly to fungus attack, although a little common mould was present on the surface of some of the dead portions. The growths have been severely frozen, probably just as the sap was rising, and so the evil effects were not apparent until the demand of the green growths and leaves laid a strain upon the stems that they could not stand. The tissues have been so injured as to be incapable of fulfilling their functions, and, consequently, they have gradually died, and made the black and brown patches. You can only cut back the damaged portions to healthy wood, and encourage new growth.

CLUSTER-FLOWERED TOMATOES.—L. A. V., Stourport: Tomatoes, like many other highly-selected and highly-cultivated plants, are very subject to freakishness, and seem to delight in "going astray" when circumstances give them the opportunity. Certain varieties seem more liable to produce densely-clustered flower trusses than others, and great care ought to be taken not to save seed from fruits produced in such clusters, or, better still, on the plants that yield such clusters. In addition to some inherent tendency to freakishness, it must be admitted that tomatoes do many queer things if starved, suddenly checked, or grown too freely, and we think the tendency has been accentuated by a check received while the plants were more or less root-bound in the small pots, and allowed, perhaps, to become severely dry. Pinch out the dense clusters, or severely thin them with pointed scissors, and allow the strongest of the new growths to take the lead. A little weak liquid manure will help the new growth to get away, but this must not be given in such a way as to cause rank and unfruitful growth.

BORROWING BOOKS FROM THE LINDLEY LIBRARY.—M. E. W., Gravesend: The regulations are that anyone requiring the loan of a book to be taken from the library must make written application to the secretary, and books will be granted on the following conditions, viz.: (a) That the borrower be personally known to one or more of the officers of the society, or at least shall produce satisfactory references. (b) That the borrower sign a receipt for the volumes before removing them from the premises, in a book provided for that purpose (or by postcard if unable to do so in person); undertake to restore the books in good condition, and generally to comply with the regulations. (c) That not more than three volumes be lent to one person at the same time. A certain discretion will be used as to what books shall be lent out, but, as a rule, un-

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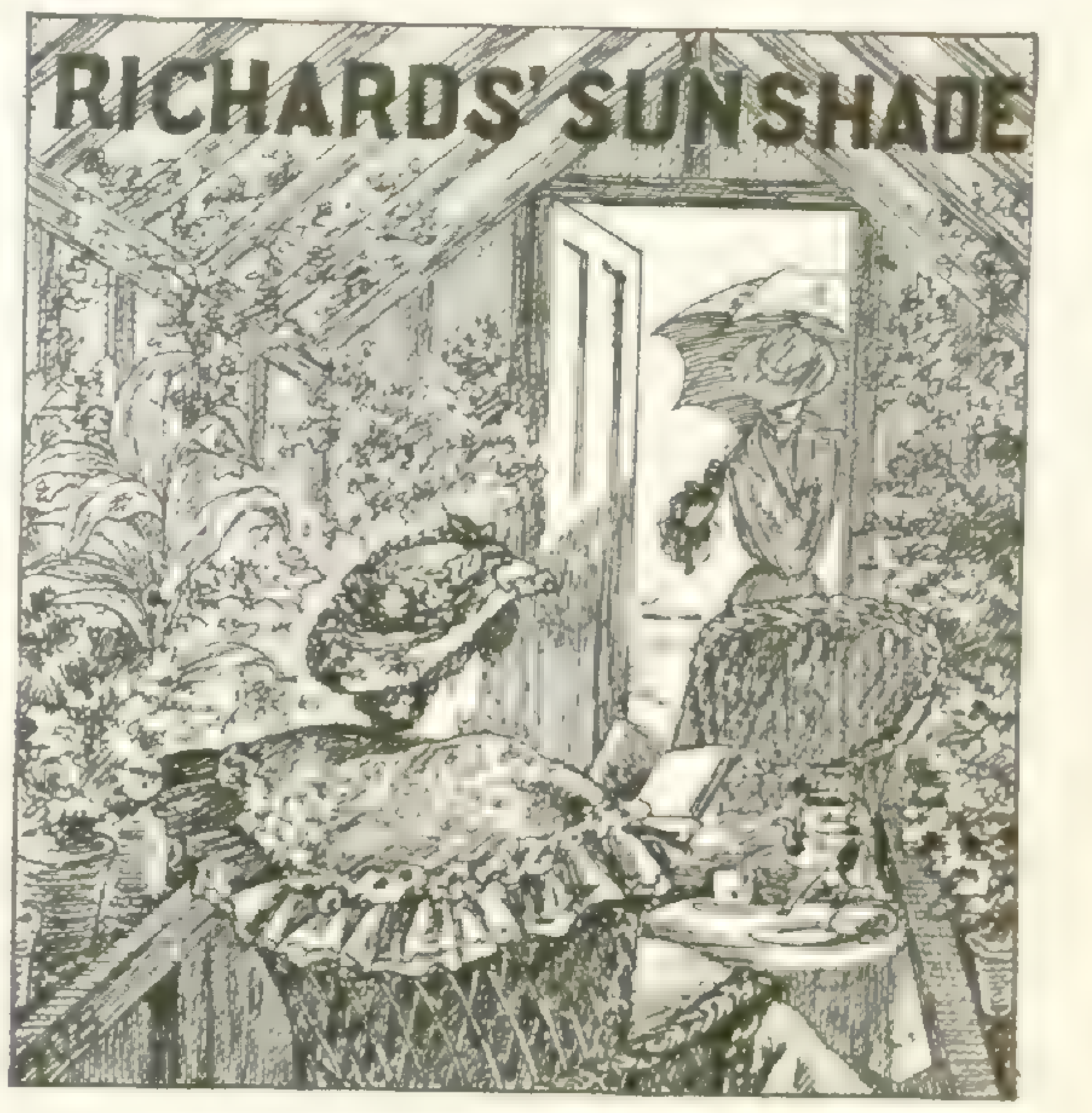

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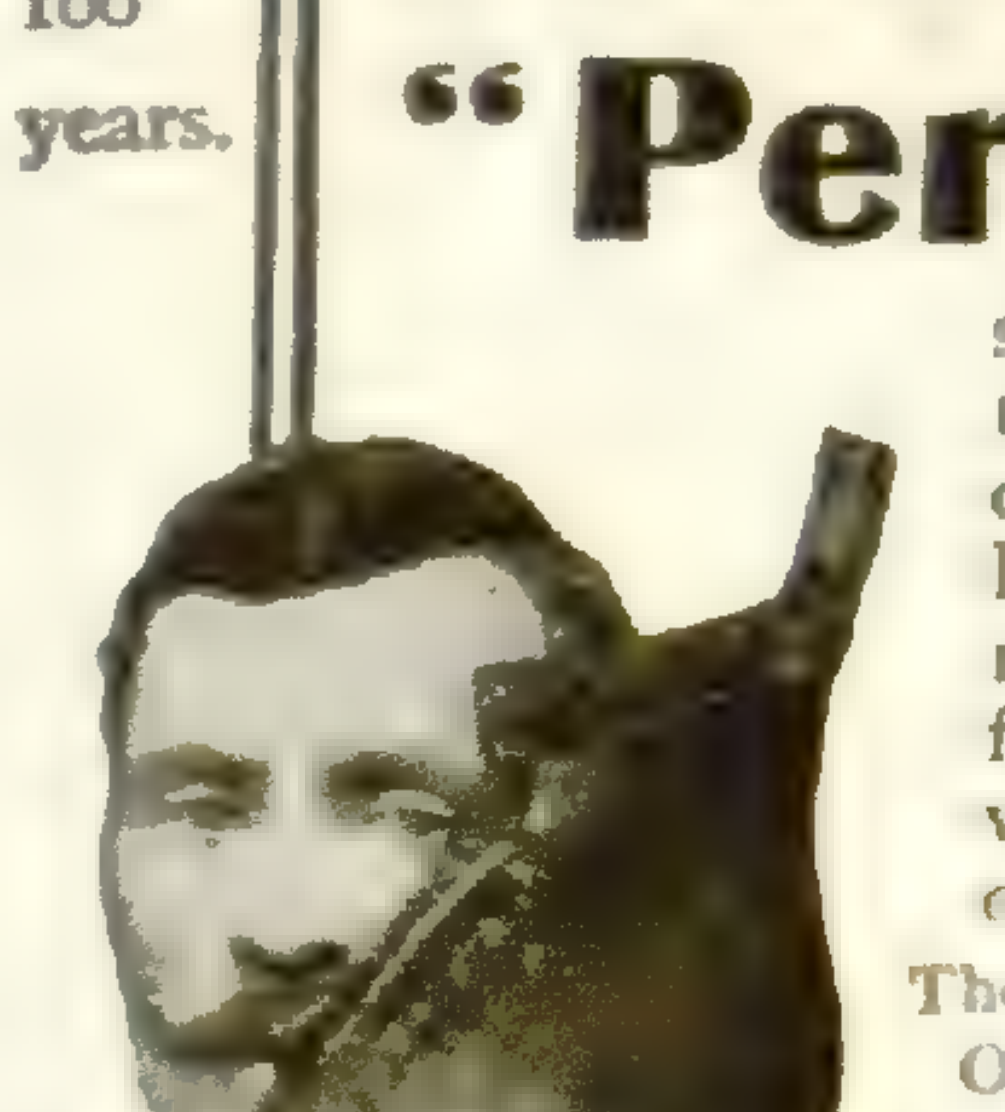

bound periodicals, expensively illustrated works, and works of common reference, which are likely to be in frequent requisition within the library itself, must not be removed from the premises. All books borrowed must be returned to the library within one calendar month from the date of issue, but an extension of time may be granted on application.

SWEET PEA CULTIVATION.—K. G. A., Celbridge: We consider "Sweet Peas and their Cultivation" the best book dealing with the fragrant and popular annual. It is written by Mr. C. H. Curtis, the hon. secretary of the National Sweet Pea Society, who grows the flower extensively and well, and it is published at the office of the GARDENERS' MAGAZINE, 148, 149, Aldersgate Street, E.C., from whence it can be obtained for 1s. 2d. or 1s. 8d., post free, according to whether you obtain stiff paper or cloth binding. You had better hurry up with your order, as we understand the present edition is nearly exhausted.

MULCHING SWEET PEAS.—H. W., Luton: It is a mistake to mulch sweet peas while the soil is cold or very dry. Thoroughly clean the ground between the rows and plants, after staking is finished, and then, after a warm day or two, soak the ground with water, and apply a mulching of short manure. We prefer to apply the mulch a few hours after the soaking, the next day for instance, first dressing the ground lightly with some fertiliser, or soot, and hoeing this in. If the work is done well there will be no need for drawing the mulch aside for further waterings, as water will soak through into the ground, and carry with it the manurial properties of the mulch.

DISEASED HELLEBORES.—X. O., Tunbridge Wells: We do not recognise the disease, but we are making investigations, and will hope to give you an answer next week.

PERPETUAL CARNATIONS OUT OF DOORS.—L. D. W., Winchester: We believe there is a great future for perpetual-flowering carnations as summer-flowering plants out of doors, and have on several occasions drawn attention to the success of the few experiments made in this direction. We agree that, as a rule, some carpeting plant should be used when the carnations are of some size, and they should always be strong plants, with good growth and flower buds, when planted at the end of May, and arranged in a bed or grouped in a border. We have just planted a fair-sized bed with strong plants like those suggested, and, for carpeting, have used annual gaillardias. Blue or yellow violas would probably do as well, but we had not these to spare, and so used the gaillardias. Do not use red or pink flowers under the carnations, as it is hardly likely these would look well under varieties of pink, salmon, or red shades. Kœniga maritima does not suggest a suitable groundwork, as this little plant produces a dense mass of white, which would not serve to show up the lighter carnations, though it might do for deep crimson varieties, and for deep yellows, when we get them. Let us know what you use, and with what success.

TROPICAL FERNS AND REX BEGONIAS.—C. C. A., Warwick: Tropical ferns differ little in their cultural requirements from the general stock of stove plants. In consequence of the more delicate texture of their fronds, they should have rather more shade than is advisable for crotons and dracænas, but from recent experience it has been found that ferns require much less shading than was considered necessary for their well being. When grown in a house by themselves a permanent shading, either of canvas or some wash may be used, although roller-blinds are preferable. Adiantum cuneatum, and other ferns grown for the supply of fronds for arranging with cut flowers, should have plenty of light without exposure to the direct rays of the sun, as the fronds will then be firmer and stand better. Ornamental-leaved begonias thrive under the same conditions as the majority of ferns, and when planted in association with them, they grow vigorously, affording a charming diversity of leaf colouring, and presenting a delightful contrast to the elegant aspect of the ferns.

DYING PEACH BRANCHES.—Almond, Matlock: The shoot sent indicates a very unsatisfactory state of affairs. The tree has evidently been badly managed in the past, and this mismanagement has spoiled its constitution. Probably the soil is poor and has lacked moisture. There is no fungus growth present, but there has been a good deal of gumming; it is also likely that mismanagement has had some effect upon the junction of stock and scion, thus still further weakening the tree. Root out the tree, and in the autumn plant a thriving young tree in new, sweet soil.

NAMES OF PLANTS.

A. G. R., Islip.—A, Staphylea colchica; B, S. pinnata.

B. J., Caversham.—1, Pyrus Scheideckeri; 2, Rubus deliciosus.

J. R., Halifax.—1, Thuia dolobrata; 2, Cupressus Lawsoniana erecta viridis.

H. A., Gloucester.—1, Odontoglossum ardentissimum; 2, Sophronitis grandiflora; 3, Masdevallia ignea.

S. G., Horsham.—1, Saxifraga Stracheyi; 2, Ginkgo biloba; 3, Exochorda grandiflora; 4, Cytisus præcox.

M. V. R., Richmond.—1, Rhododendron Veitchi; 2, Primula japonica; 3, Androsace Chumbyi; 4, Saxifraga decipiens.

S. C., Bristol.—The specimens sent were very poor ones, and, being packed in dry moss and paper shavings, they were badly shrivelled on arrival. No. 1 we do not recognise; 2 is probably Pyrus Scheideckeri; and 3, a form of Pyrus malus.

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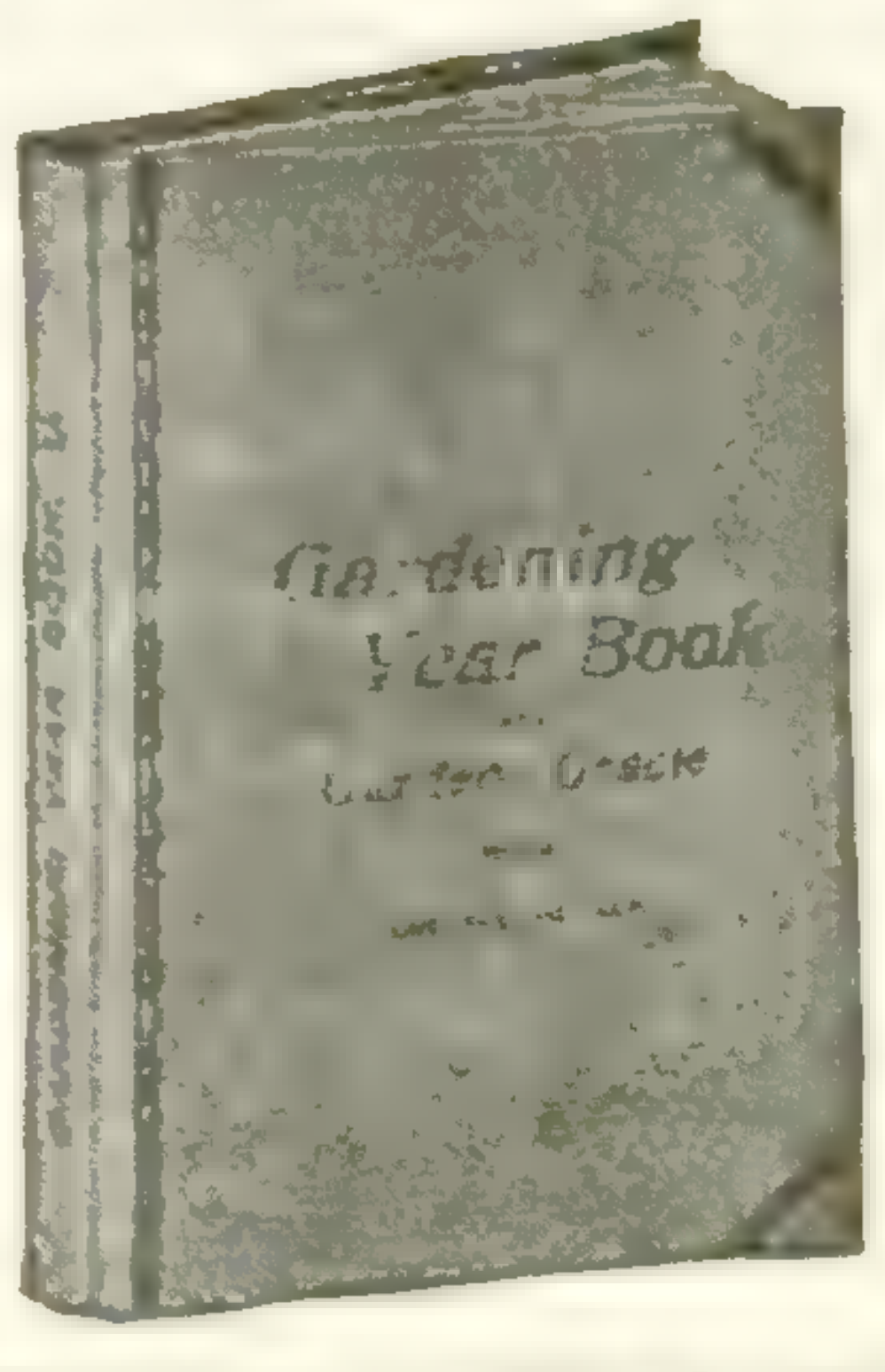

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Asparagus	per bun.	1 0	[illegible]
Azaleas	per doz. bun.	4 0	[illegible]
Carnations	per doz. blms.	2 0	[illegible]
,,	per doz. bun.	9 0	12 [illegible]
Cattleyas	per doz.	10 0	12 [illegible]
Croton leaves	per bun.	1 0	1 [illegible]
Cypripediums	per doz. blms.	1 6	3 [illegible]
Daffodils, double white	per doz. bun.	1 6	[illegible]
Dendrobiums	per doz.	2 0	[illegible]
Forget-me-nots	per doz. bun.	2 0	[illegible]
Eucharis	per doz.	2 6	3 [illegible]
French fern	per doz. bun.	0 6	1 [illegible]
Gardenias	per doz.	1 6	[illegible]
Gladiolus	per doz. bun.	6 0	[illegible]
Gypsophila	per doz. bun.	3 0	4 [illegible]
Iris, Spanish	per doz. bun.	4 0	[illegible]
Lilac, white	per bun.	1 6	[illegible]
,, mauve	per bun.	0 6	[illegible]
Lilium auratum	per bun.	2 0	3 [illegible]
,, speciosum	per bun.	1 6	3 [illegible]
,, longiflorum	per bun.	2 0	3 [illegible]
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,, Sprue	per bun.	0 6		[illegible]
Beet	per bush.	2 0		[illegible]
Beans	per lb.	0 6		[illegible]
Cabbage	per tally	3 6		[illegible]
Carrots	per doz. bun.	1 0		[illegible]
Cauliflowers	per doz.	2 0		[illegible]
Cucumbers	per doz.	2 [illegible]		[illegible]
Endive	per doz.	1 0		[illegible]
Greens	per bush.	1 0		[illegible]
Horseradish	per doz. bun.	8 [illegible]		[illegible]
Leeks	per doz. bun.	2 0		[illegible]
Lettuce, French	per crate	2 0		[illegible]
,, Cos	per doz.	3 0		[illegible]
Mint	per doz. bun.	2 0		[illegible]
Mushrooms	per doz. lb.	6 0		[illegible]
Onions, Pickling	per bush.	3 6		[illegible]
,, Valencia	per case	9 0		[illegible]

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1909. MAY 16 TO MAY 22.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	Wet Bulb.	Day Highest.
	hr. m.	deg.	deg.	deg.
May 16—Sunday	8 30	49	43	55
,, 17—Monday	5 0	44	42	55
,, 18—Tuesday	7 40	54	47	[illegible]
,, 19—Wednesday	14 0	56	49	66
,, 20—Thursday	12 5	66	53	[illegible]
,, 21—Friday	11 5	68	58	[illegible]
,, 22—Saturday	12 25	67	59	[illegible]
Means	(total) 70 45	58	50	[illegible]

DATE. 1909. MAY 16 TO MAY 22.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.
	ins.	deg.	deg.	deg.
May 16—Sunday	0.06	50	52	[illegible]
,, 17—Monday	trace	51	52	[illegible]
,, 18—Tuesday	0.02	5[illegible]	51	[illegible]
,, 19—Wednesday	—	51	52	[illegible]
,, 20—Thursday	—	53	53	5[illegible]
,, 21—Friday	—	55	54	51
,, 22—Saturday	—	57	55	51
Means	(total) 0.08	52	53	50

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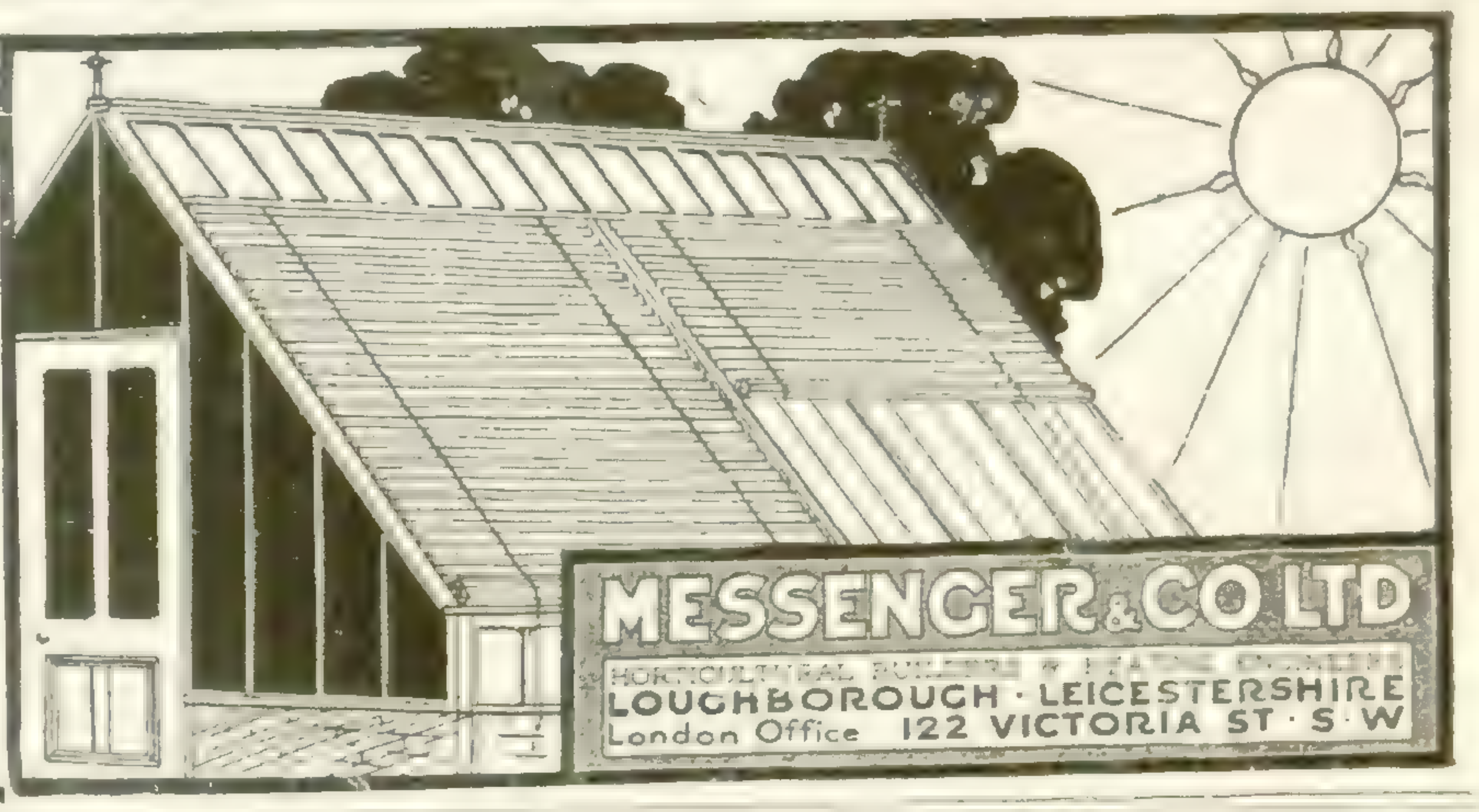
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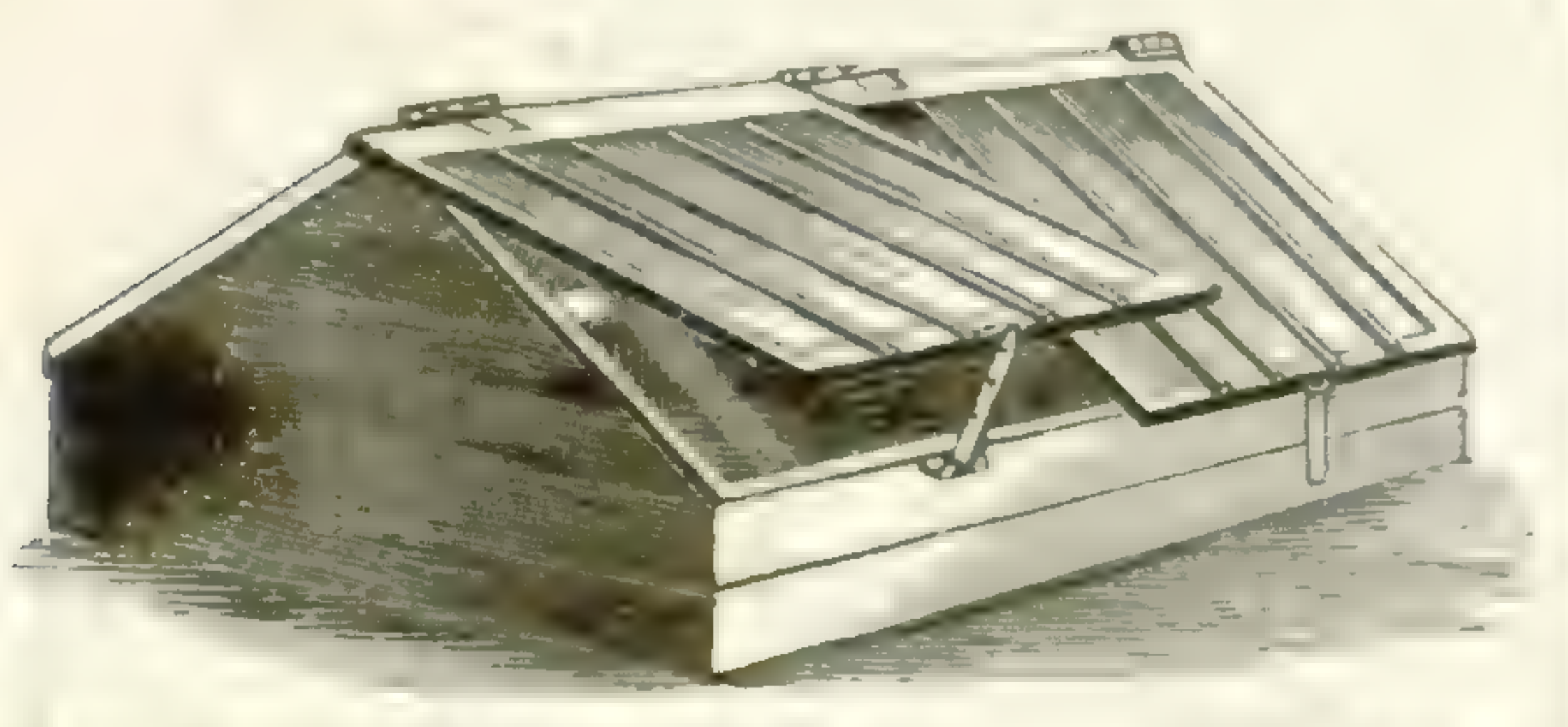

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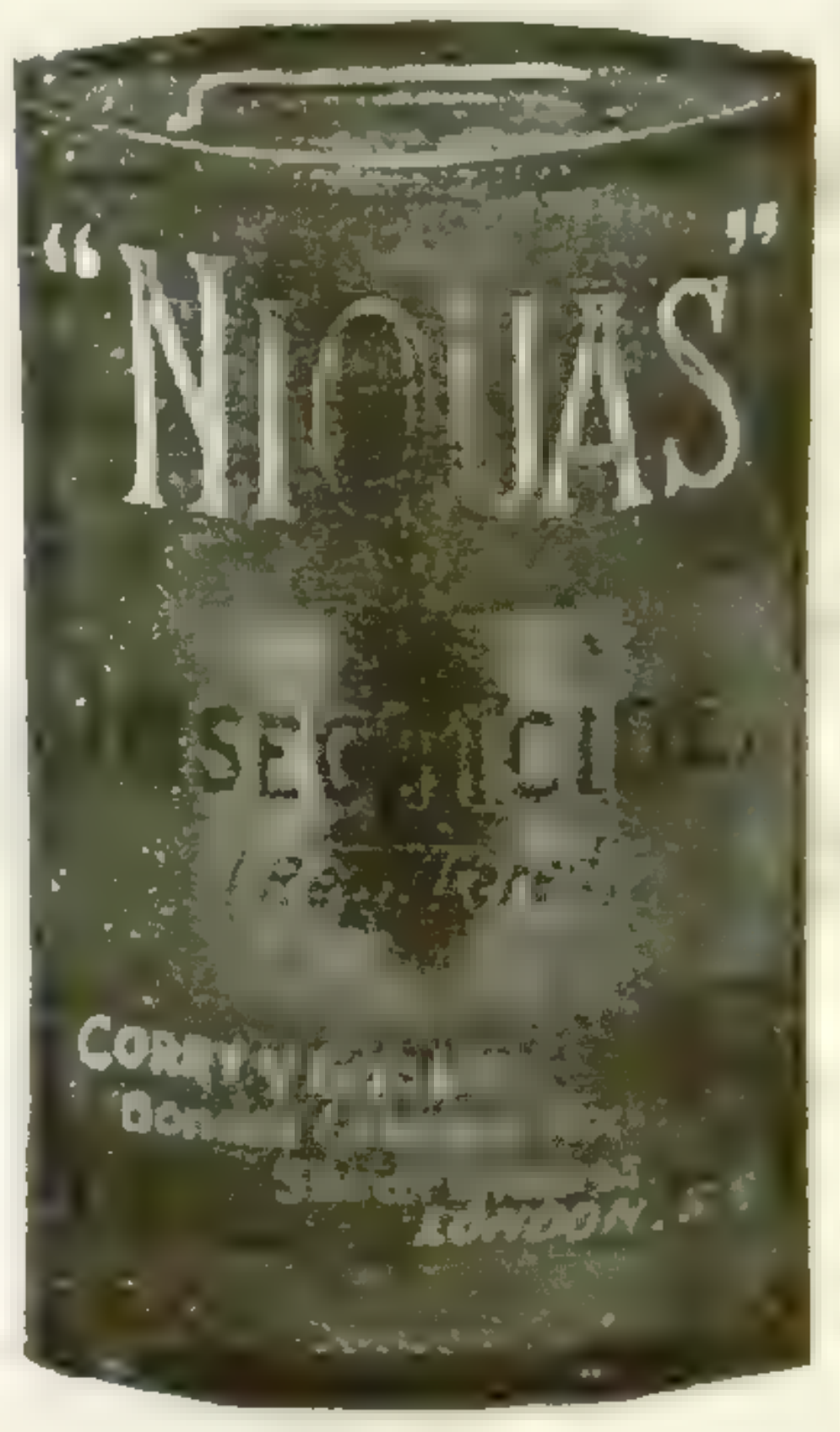

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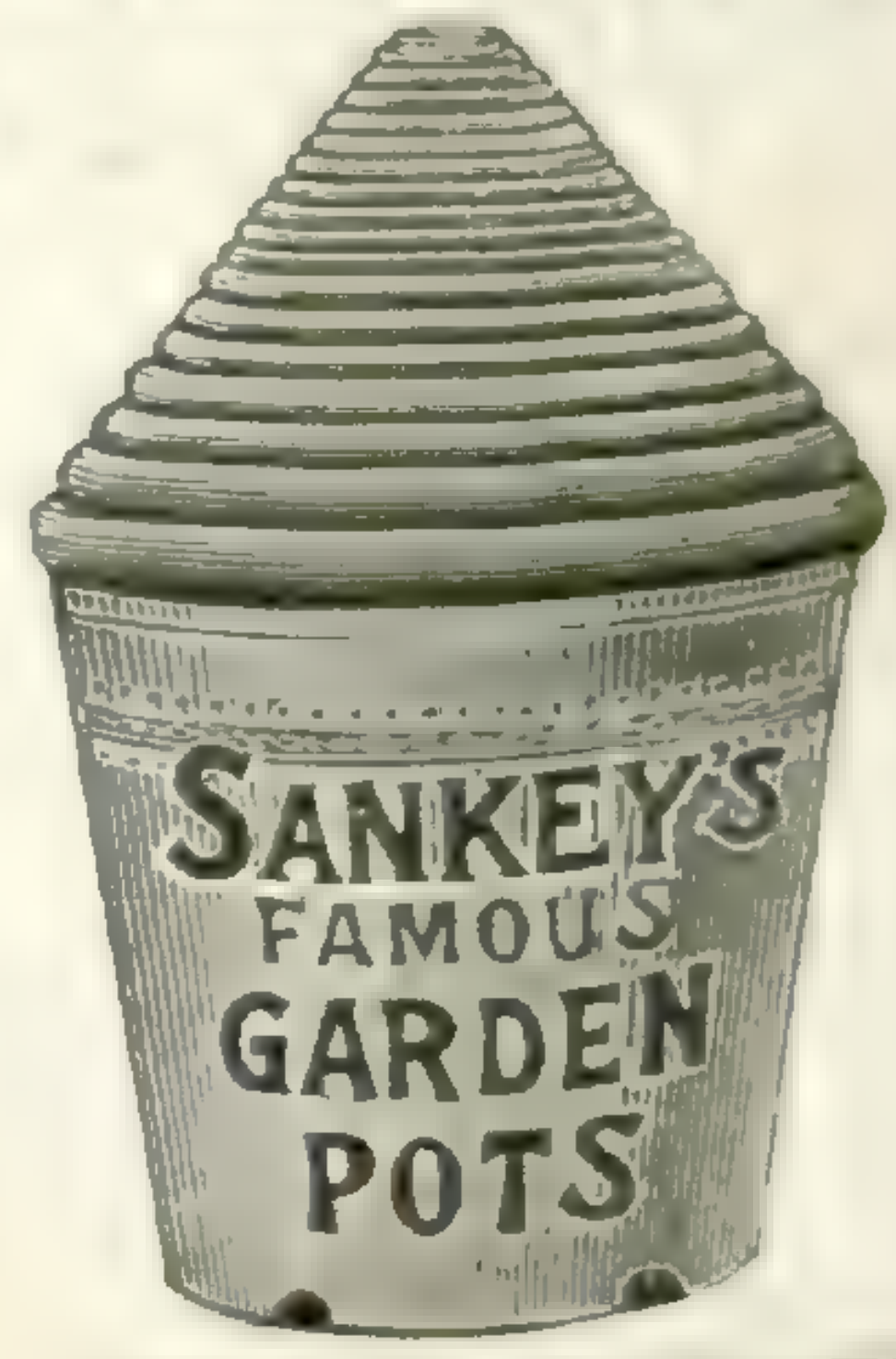

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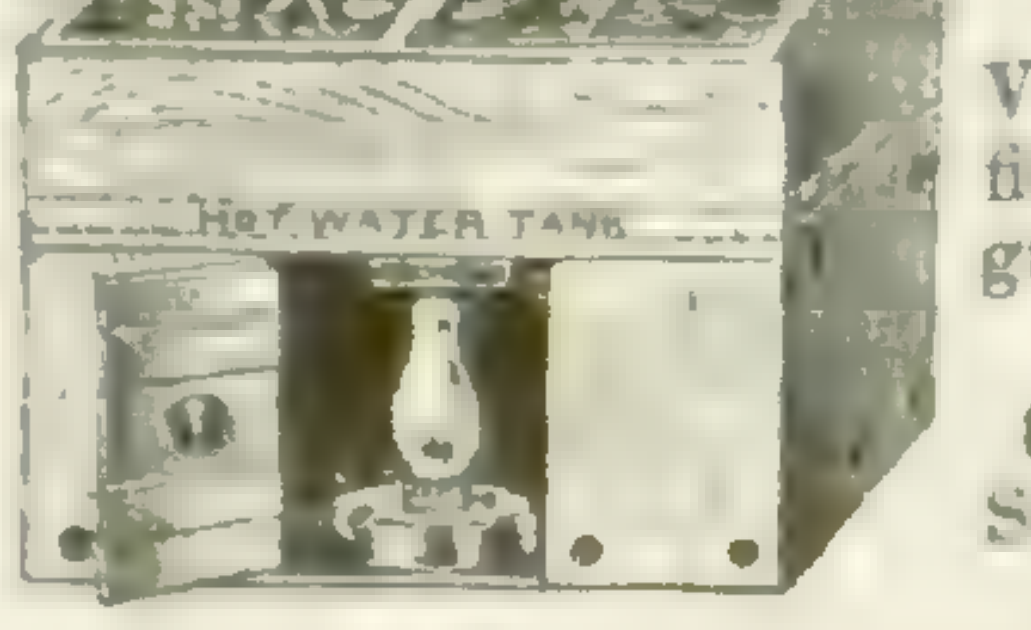

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See page vi.)

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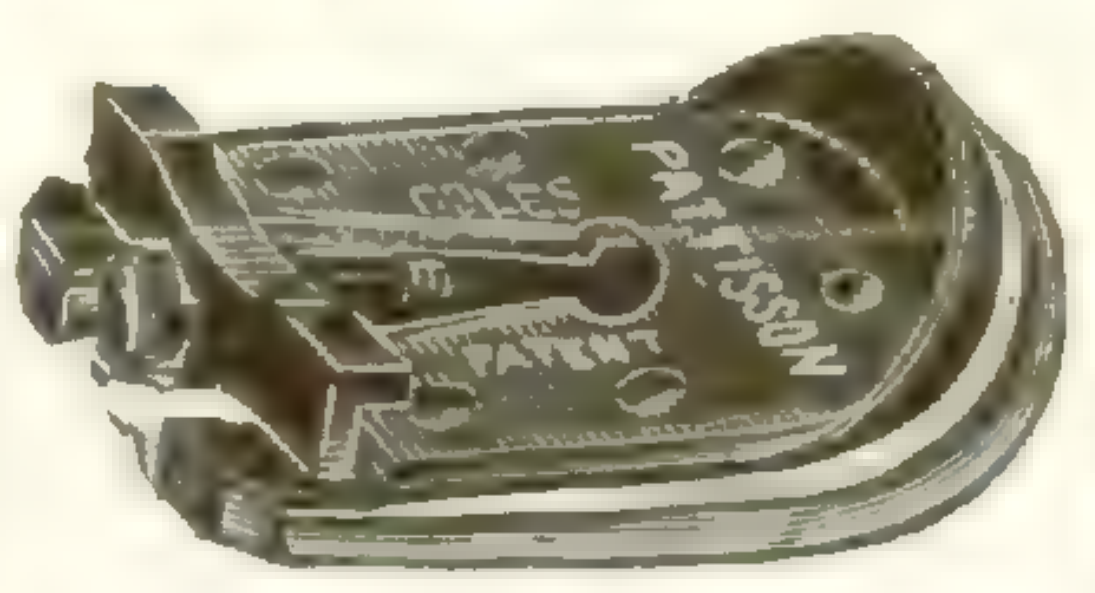

Fig. 1.

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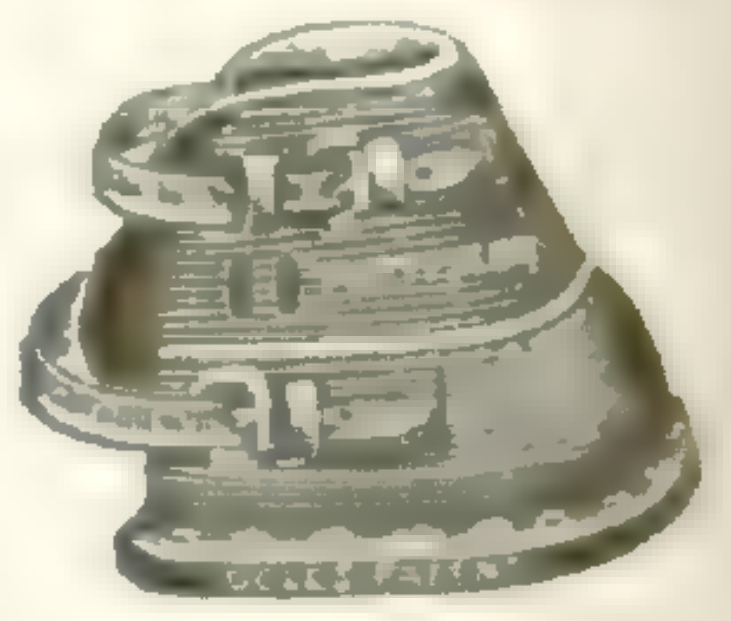

Fig. 2.

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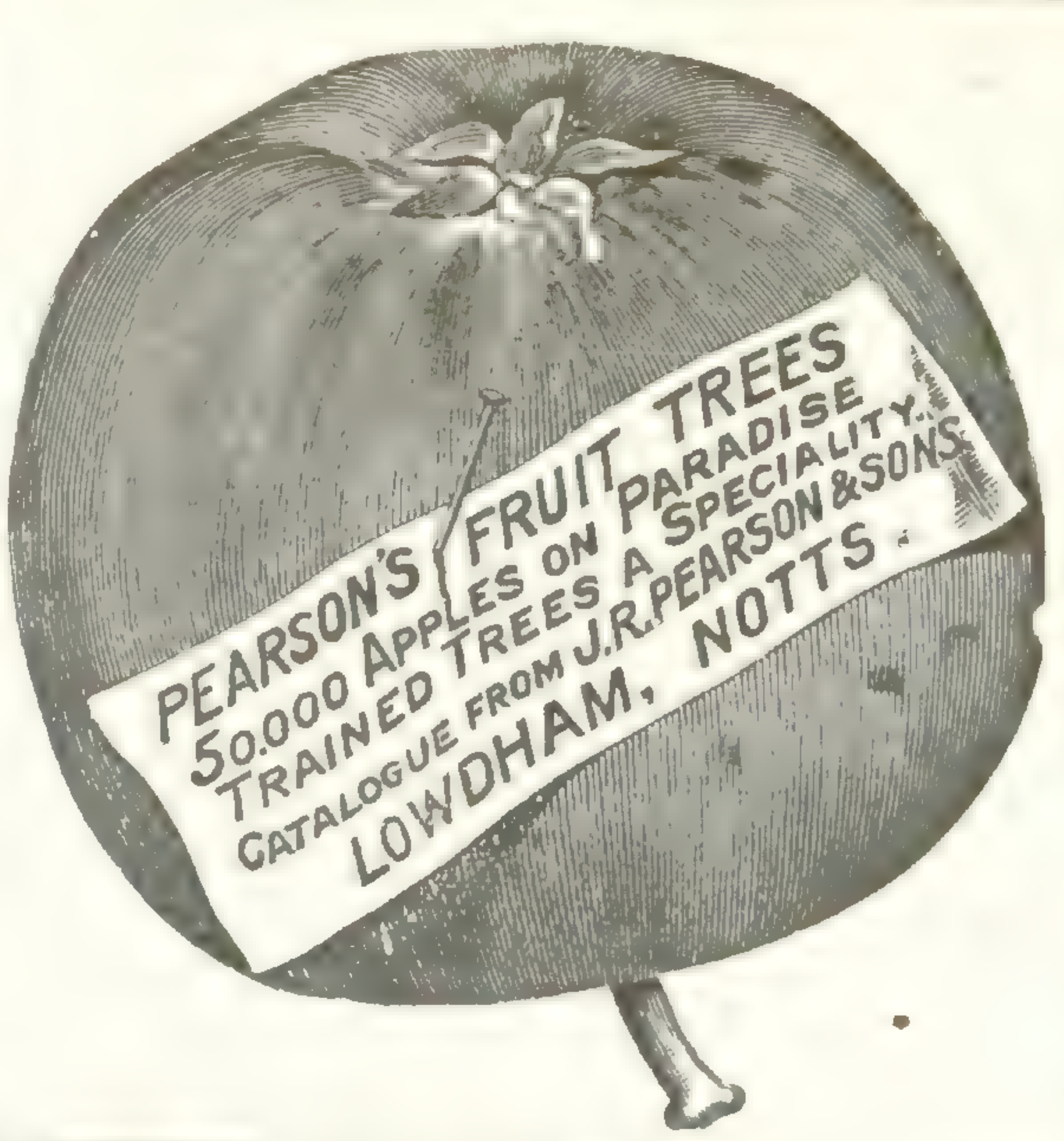
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Employment THE GARDENERS' MAGAZINE Register.

The charge for an Advertisement INCLUDES A FREE ENTRY ON THE REGISTER. Immediate Notice must be given when an engagement is secured.

A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

GARDENER (Head) seeks SITUATION where three or more are kept; age 30; married, two children; six years Escrick Park, five years Campsall Hall; three years as Head at present situation. SKILBECK, Nunthorpe Hall, York.

HER GRACE THE DUCHESS OF DEVONSHIRE wishes to recommend J. THOMPSON to any Lady or Gentleman requiring the services of a HEAD GARDENER, where several are kept; 20 years' experience in all branches. Holker Gardens, Cark-in-Cartmel, Lancs.

CANON HICHENS wishes to recommend his GARDENER (Head Working) where three or more are kept; life experience in all branches; 5½ years in present place; two children, youngest .. W. CHARLES, Guilsborough, Northampton.

MR. NEWBERRY (Head Gardener to the Earl of Verulam) will recommend his late Foreman as HEAD of 3 or 4; age 32, abstainer; 16 years' general experience; disengaged. T. BUTT, Home Cottages, School Road, Whyteleafe, Surrey.

J. J. PARKER, Nurseryman, Whetstone, N., confidently recommends an industrious, hard working HEAD GARDENER; good all-round man; 9 years last place, married, age 40.

GARDENER (Head Working, where two or three are kept).—Mr. SEDEN, West Grinstead Park, Horsham, can highly recommend his Foreman, J. BARRETT, to any lady or gentleman in want of a practical man; age 28.

GARDENER (Head Working).—A Gentleman would be pleased to recommend a thoroughly reliable, steady Man where several are kept; can grow the new indoor Carnations; 10 years' first-class character from last place; Land and Stock if required; abstainer; married. H. PITTMAN, Twyford, Winchester.

GARDENER (Head, where two or three are kept); life experience; good references; can be highly recommended from present situation; age 29, married, no family; in or near Reading preferred. H. MARSHALL, Manor House Gardens, Cookham Dean, Berks.

GARDENER (Head Working), good, practical life experience in all branches, Inside and Out; early and late forcing; especially good with melons, violets, and chrysanthemums; 9 years with last employer as Head, can have excellent references. H. TURNER, 4, Glenton Street, Peterborough.

GARDENER (Head Working of one or more); thoroughly qualified; life experience in all branches; good references as to character and abilities, understand Land and Stock; Wife Poultry. W. FOOTE, Ash, Stokefleming, Dartmouth.

GARDENER (Head Working), thoroughly experienced Under Glass and Outside; also herbaceous plants; excellent character from present and previous employers; married, no children. J. L., 20, Carnarvon Road, Barnet.

GARDENER (Head Working), where more are kept; 25 years' practical experience in all branches, Inside and Out, early and late Forcing, Vines, Cucumbers, Melons, Stove, and Greenhouse Plants, Herbaceous Borders; thoroughly reliable, highly recommended; married, without encumbrance. WOODHOUSE, Eastwood Road, Bramley, Surrey.

LADY MALCOLM, of Poltalloch, highly recommends her HEAD GARDENER; eight years in present place, Head of three; life experience in all branches; age 36; married, one child, seven years. W. BASTIN, Barnardiston Hall Gardens, Haverhill, Suffolk.

LADY will highly recommend her GARDENER (Head, where one or two kept); experience Inside and Out; married when suited. Apply TYLER, Dunsfold Villa, Horsell Moor, Woking, Surrey.

MRS. GRAHAM MOON wishes to recommend her Gardener, who has been with her five years, as HEAD where two are kept, or good SINGLE-HANDED; age 32; married, no children; leaving through death. A. JOLLIFFE, Cedar Lodge, Taplow, Bucks.

MISS DALTON highly recommends GARDENER (Head Working, or good Single-Handed); life experience, 10 years' excellent character, leaving through death; age 34; married, one child, aged 8 years. Apply W. HIGGINS, The Lodge, Darrington, Camberley, Surrey.

GARDENER (Single-handed or with help); good Second's place not objected to; married, age 36; tall; one child; life experience Inside and Out; good references. H. WARNER, 17, Salmestone Road, Margate, Kent.

GARDENER (Single-handed); nine years' experience; good character; leaving when suited; single, age 25.—C. TEGG, St. Leonard's Hill, Clewer, near Windsor.

GARDENER, good Single-handed; well up in all branches; middle-aged, no family; excellent reference. "GARDENER," 44, Richmond Road, Stamford Hill, N.

GARDENER (Single-handed or otherwise), thoroughly reliable; experienced Inside and Out; married; age 30; one child; excellent reference; disengaged. Apply A. PLUMRIDGE, Ivy Cottage, Temple Bar, Cosham, Hants.

GARDENER (good single handed, or with help), age 30; married, no family; abstainer; life experience in all branches, especially glass; highly recommended. BUNCE, 2, Phœnix Buildings, Rainham, Essex.

GENTLEMAN highly recommends his GARDENER (Single-handed); experienced Inside and Out; age 27; married. T. DENINGTON, 84, Cottage, Peabody's Estate, Herne Hill, S.E.

GARDENER seeks SITUATION, single-handed, or where help is given; age 28; single; life experience in all branches; good references. H. ATTWATER, Ivy Cottage, Horsmonden, Kent.

GARDENER seeks SITUATION as good single-handed or where help is given; 2½ years' good character; married when suited. P. MUSTOW, Coln St. Aldwyns, Fairford, Glos.

MR. F. W. KEMP, Eastcourt House Gardens, Malmesbury, Wilts, can thoroughly recommend J. CLARKE as SINGLE-HANDED GARDENER, with help; experienced fruit, flowers, vegetables, and lawns; Inside and Out; good previous reference, age 26; three years second here; married when suited. Apply as above.

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FOREMAN (Inside); age 25; 11 years' practical experience in Vines, Peaches, Cucumbers, and Plants; life abstainer; good references. E. CARTER, Stanley House, Eastern Plaistow.

GARDENER (Second, Inside and Out, Head of two); life experience; three years months Second present situation; well recommended; age 30; married.—NETLEY, Peaslake shall, Surrey.

GARDENER, age 22, seeks SITUATION, 7 years' experience, Inside and Out; well recommended. N., Red House Lodge, side, Camberley, Surrey.

GARDENER.—YOUNG MAN seeks SITUATION as Under Gardener; would live in age 20; good ref. Apply O. BOLTON, Abingdon, Berks.

YOUNG MAN, age 24, seeks SITUATION under Gardener; three years' good character; Army Reservist. W. GRAY, Row Hill, Surrey.

JOURNEYMAN (Inside or Inside and or small single place); single; age 25, well recommended.—W. M., Goring-by-Sea,

JOURNEYMAN (Second, Inside), age Mr. T. SILLENCE, Nonsuch Park, wishes to recommend E. PAYNE as above, experience; 18 months last place. E. PAYNE, Coombe, Hedley, near Epsom.

YOUNG MAN seeks SITUATION UNDER JOURNEYMAN; over 4 years' experience under Glass; moderate wages accepted Bothy; excellent testimonials. WALTON, Twickenham Road, Leyton, Essex.

LAD (18) seeks SITUATION in Nursery; years' experience in Garden; good character. Write to W., High Street, Botley, Hants.

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COLIN F. CAMPBELL, Esq., recommends House and Estate HANDYMAN; married; age 34; 4 years' excellent character; carpentry, paperhanging, glazing, hotwater fitting, and willing to be generally useful. E. ROBERTS, 3, Kings Road, St. Albans.

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SITUATION required as GARDEN age 15; some experience; strong and good reference. FRANK DAVIES, Pixley, Ledbury.

SITUATION COUPON

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For JUNE 12, 1909.

Please Repeat my Advertisement.

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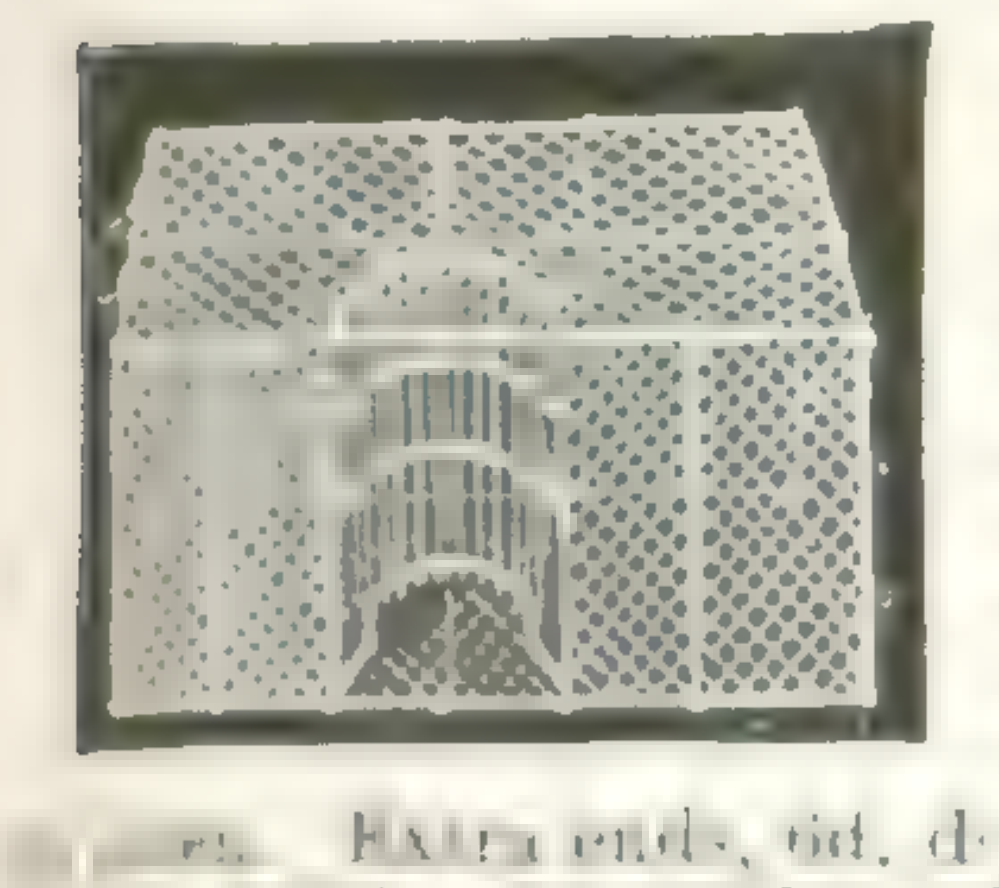

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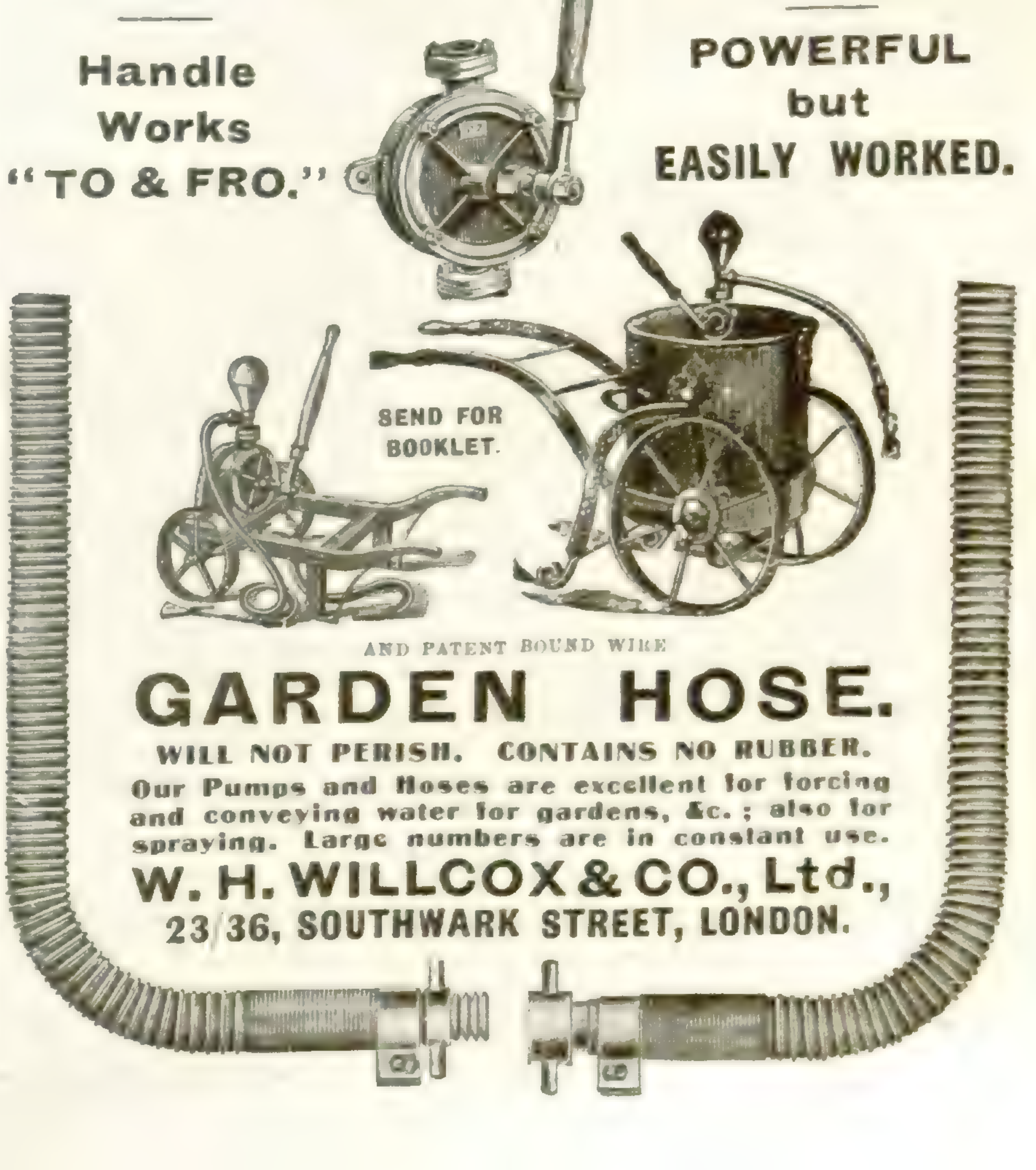

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True of the great purposes of life, it is equally true of the work that claims our service, or attracts our leisure; for, in order to do well, we must know the way to do it. To adapt the quotation to our own end, "To Grow or not to Grow, that's the question." Which simple sentence serves as a contrast in words that expresses the difference between knowledge and ignorance.

Upon which side of the contrast are we working? You and I? Within us the inborn desire to excel: How may we do so? The question is one of means. Indeed, we need but to handle the opportunity. The means are at our side. To-day, we have our information in a nutshell; that is to say, the reader of "CLAY'S SUCCESSFUL GARDENING" obtains for the small sum of NINEPENCE a gardening library, each page of which is full of the very information he needs—a horticultural library within the compass of a single volume.

The lately published fourth edition of this book contains 276 pages of knowledge that will be power to us, if we but take the simple means to possess it. Whether growers of rare and exotic varieties, or cultivators of the garden simply for general effect, the work will guide us by many a suggestion, for THE GARDEN UNDER GLASS and THE GAY GARDEN sections are full of instruction upon these subjects. The culture of FRUITS and VEGETABLES is made easier for us by capable writers. For the specialist there is the latest cultural detail, and the most recent selections are given of the following popular Flowers and Fruits: Begonias, Carnations; Chrysanthemums; Daffodils; Dahlias; Lilies; Roses; Sweet Peas; Violas and Pansies; Bulbs; Cucumbers, Melons, and Tomatoes for Profit. This list does not exhaust the many subjects treated of. For practical arrangement of areas devoted to garden cultivation there are such treatises as: Indoor Gardens; Suburban Gardens; Rock Gardens; Practical Work, simplified by means of detailed descriptive and outline sketch; Insect Pests and Their Extermination; Work for Every Month; Hints upon Sowing Flower and Vegetable Seeds.

For the Exhibitor there is a complete vade mecum provided in the noticeable contribution by the veteran journalist and judge, Mr. John Wright, V.M.H., entitled "GROWING AND SHOWING." If a lifelong devotion to horticulture and a repute of the highest be a qualification, then here is the writer, and here his work. "Points for Exhibiting and Rules for Judging" are stated and developed with admirable judgment and deliberation.

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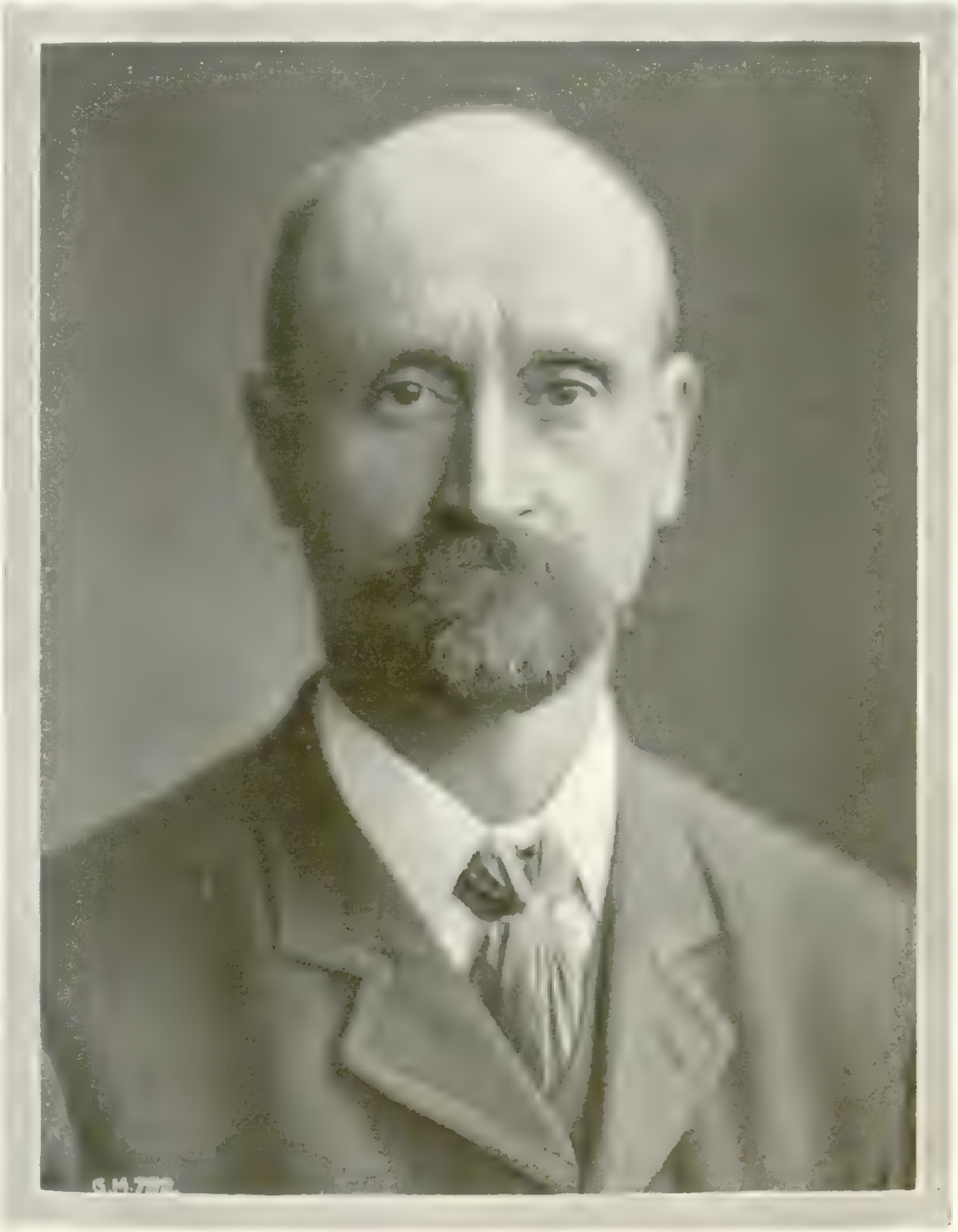
VOL. LII.—No. 2,901. SATURDAY, JUNE 5, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

The Royal Botanic Society.



MR. ARTHUR K. BULLEY.

The financial position of the Royal Botanic Society, as disclosed by the figures given at the extraordinary meeting of the Fellows held on the 25th ult., and referred to in our last issue, was sufficiently serious to justify the gravest apprehensions on the part of those who are especially interested in the society. Unfortunately, the position is more serious than was indicated by those figures, and the Fellows will have to provide a much larger sum than was anticipated in order to enable the society to meet its liabilities during the current year. At the meeting mentioned above Mr. Brinsley Marley, the treasurer, who presided, stated that the liabilities, including rent, wages, and office expenses to the end of the year, would amount to about £5,000, and that the Council hoped to receive from fêtes, subscriptions, etc., about £2,000, leaving an adverse balance of about £3,000 to be met. The Council proposed, as the best means of paying off this large sum, that each Fellow should make a donation of five guineas. To this proposition an amendment was moved by Mr. Cecil Raleigh that the Fellows be invited to contribute five guineas each. The amendment was carried, and on the 28th ult. a meeting was held for the purpose of confirming it. At this meeting Mr. Brinsley Marley again presided, and at the commencement of the proceedings he stated that the figures given on the previous Tuesday were not accurate, and that the financial position was more serious than they had thought to be the case. That such a statement should have been necessary is difficult to understand, because it is not unreasonable to suppose that before the Council called the Fellows together for the purpose of inviting them to provide the funds necessary to meet the year's liabilities a very careful estimate of the financial position would have been prepared. The total liabilities, he said, amounted to £8,656, or about £3,656 more than previously estimated. The details of this large sum included: trade accounts, £1,727; rent, rates, and taxes, £1,187; loans from the bank, £1,942; loans from the members of Council, £1,300; loan from Mr. Brinsley Marley, £1,050; and the estimated expenses of the garden to the end of the year, £2,500. The estimated receipts were £308 from subscriptions, £700 from garden parties, £300 from the refreshment contract, and £200 from golf. Assuming the estimated receipts to be realised, the deficiency will be £7,148, a sum so large as to give rise to a feeling of doubt as to whether it will be raised by donations. In referring to this point Mr. Brinsley Marley said that if the 1,484 Fellows and Life Fellows gave a donation of five guineas each, a sum of £7,686 would be produced. As showing the urgency of the case, Mr. Brinsley Marley stated that two days before the meeting a writ for £400 had been served, and if the members of council had not provided the money, the gardens might have been closed. In addition to the liabilities for the year, there is a debenture debt of £25,000, and it was suggested that as the assets would not exceed £5,000, the debenture holders would do well to meet and consider the present position. At the close of the discussion, Mr. Cecil Raleigh's resolution, "That in order to relieve the society from its grave financial position, and enable it to carry on its work, each Fellow do subscribe a minimum sum of five guineas to the fund necessary to protect it from bankruptcy," was carried unanimously, and with some signs of applause. Should the whole of the Fellows act in accordance with the resolution and give a donation of five guineas each, the society will be placed in a position to pay its way and to retain the possession of the gardens for another year. This, we hope, may be done, in order that the society may have time for fully realising its position, and making such changes in its constitution and policy as will restore, in some degree, at least, its vitality, and place it in a position to again engage in useful work. The Royal Botanic Society has accomplished much splendid work in the advancement of horticulture during the seventy odd years of its existence, and, with its unique opportunities, it should now occupy a high position among the leading horticultural societies of the United Kingdom. Unfortunately, its governing body have not for a comparatively long period been sufficiently in touch with botanical and horticultural activities to be in a position to appreciate the changes that have been in progress during the past quarter of a century, both in the public taste and methods of procedure in the garden. Consequently, when the Fellows and the flower-loving public became somewhat tired of the specimen plants and other objects that had constituted the chief features of the exhibitions held during the first half century of the society's history, such changes as were made were not sufficient to enable the shows to retain their hold upon public attention. The result has long been known to those who take an active interest in horticultural matters, and is brought prominently into notice by recent events. What steps should be taken with a view to the restoration of the society to a position of usefulness is fairly clear to those who are fully acquainted with the trend of public opinion in relation to horticulture, and who are also able to appreciate the teachings of history. Whether the work of reform will be entered upon vigorously by those responsible for the conduct of the Royal Botanic Society, or whether the policy that has brought about the present unsatisfactory state of things will continue, it is impossible to say. We are not very hopeful as to the future of the society, because the greater part of those upon its Council, and those whose voices are ever lifted up in opposition to whoever is in power, are in no sense closely associated with either horticultural or botanical pursuits.

Mr. Arthur K. Bulley, whose portrait we present in the present issue, is a remarkable man. He has for long been an enthusiast in matters horticultural, and he has a wonderful and interesting collection of plants in his garden at Mickwell Brow, Ness, Cheshire. No stately terraces or gorgeous and formal flower garden adorn the front of his house, but there are great masses of golden furze just where they were when the builder commenced operations near by. The general arrangement of the garden is unique, and gives evidence of the owner's love of the natural and distaste of the artificial. A notable feature is the arrangement of plants that bloom together in certain months of the year, so that every month, from earliest spring to latest autumn, there is one border always at its best. Mr. Bulley's enthusiasm and love of plants led him some few years back to send Mr. Forrest out to China and Thibet, to travel in search of new and rare plants. His enterprise has been greatly rewarded, as our columns have testified, but there are more good things to follow. The same enthusiasm and a desire to provide work for as many men as possible, led Mr. Bulley to establish the nursery and seed business known as Bees, Lim., of Sealands, Chester, and Liverpool. Mr. Bulley is an idealist and a strong believer in that socialism that aims at giving all possible help to those who are willing and able to profit by it, and then do their share in helping others. There is room for many more men of Mr. Arthur K. Bulley's enthusiastic and enterprising stamp. We may add that Mr. Bulley is a cotton broker in Liverpool, and that his fine garden at Ness, overlooking the Dee and commanding grand views of the Welsh Hills is always open to the public, and at the entrance gate is a prominent notice announcing, "All are welcome. Please keep to the paths."

Dublin Gardens.—We shall give an illustrated account of the gardens in and about Dublin in the issues of the Gardeners' Magazine for June 19 and 26. The gardens illustrated and described will include those of Powerscourt, Kilruddery, Carton Park, and Straffan House; and the Glasnevin Botanical Gardens and the People's Garden, Phœnix Park.

Gardeners' Royal Benevolent Institution.—The seventieth annual festival of this excellent charity is to be held at the Hotel Metropole on June 23, and the chair is to be taken at 7 p.m. by Lionel de Rothschild, Esq., who has just issued the following earnest appeal: "As I am to have the pleasure of presiding at the seventieth anniversary festival dinner in aid of the funds of the Gardeners' Royal Benevolent Institution, on June 23 next, at the Hotel Metropole, I venture to ask for the kind assistance and support of all lovers of flowers and gardening. This national horticultural charity whose cause I have undertaken to plead, has been established seventy years. During this time it has distributed £122,000 to gardeners, horticulturists, and their widows in distressed circumstances, and is now affording permanent aid to 241 persons—men and widows—at an annual cost of over £4,000. To meet this expenditure the only assured income is about £950. The remainder has to be made up by subscriptions and donations, and it is to this end that I am earnestly soliciting your generous aid. In addition to its expenditure in permanent allowances, the charity also gives immediate temporary assistance in pressing cases of distress amongst gardeners and growers, as well as florists. I may mention that the Prince of Wales is president of the charity, which for many years has enjoyed the patronage of the Royal Family. I hope very much that you will be able to accept the accompanying invitation to the dinner, but, if you are not able to do so, may I have the pleasure of adding your donation to my list?—Believe me, yours faithfully, Lionel de Rothschild."

The Masters' Lectures.—The first of the series of Masters' Memorial Lectures, to commemorate the late Dr. Maxwell T. Masters, is to be delivered on June 22 at the Royal Horticultural Hall, Vincent Square, Westminster, at 3 p.m., by Professor Hugo de Vries. The lecture is entitled "Masters' Vegetable Teratology." The president, Sir Trevor Lawrence, Bart., will preside.

Trial of Perpetual-flowering Carnations.—The Perpetual-flowering Carnation Society has decided to hold a trial of perpetual-flowering carnations in the open ground at the Royal Botanic Gardens, Regent's Park, in order to test the suitability of varieties for open-air culture. Members of the society who decide to take part in this trial are requested to forward plants to Mr. E. F. Hawes, at the above address, who has undertaken to conduct the trials. Plants should be forwarded carriage paid as early as possible, and a list of varieties sent by each member. The trials will be inspected by the Floral Committee, marks given according to merit, and the results issued in due course.

The Temple Show.—With reference to their absence from the Temple Show, Messrs. Kelway and Son write: "As we have been asked why, after exhibiting for so many years at the Temple Show we have not done so this year, and as our absence may give rise to comment injurious to our interests, we should like to be allowed to explain that we withdrew our application and ceased our preparations when we found that only 30 square feet (about 7½ft. by 4ft.) of space could be allotted to us. The smallness of the area given to us last year (50 square feet) created an impression sufficiently detrimental to our business. We are glad that the show is so deservedly popular, but are sorry that an area sufficient to show off leading exhibits cannot in each case be provided, and that therefore, for the first time, we were not able to be represented. We were not present, but we are told that large banks of strains of seedling plants and other groups or exhibits which were accepted from other firms, occupied considerable space, and were naturally much admired. We should add that in response to our protest we were offered, on Saturday evening, 90 square feet, but this was too late for us to prepare and send an exhibit for the show which opened on the following Tuesday."

Rhododendrons at Regent's Park.—Messrs. John Waterer and Sons, of Bagshot, are again holding a magnificent exhibition of rhododendrons in the gardens of the Royal Botanic Society, Regent's Park. The plants are set out in beds and borders, so as to produce a rhododendron garden, and this garden is under canvas. The exhibition opened on June 3, and will continue throughout the present month.

Pansies and Violas from Hawick.—From Hawick, Mr. John Forbes sends us a large gathering of pansies and violas, which for many years past have formed an important feature in his well-known nurseries. Mr. Forbes has achieved much success as a raiser, as well as a cultivator of these two classes of flowers, and the blooms now before us exemplify the great wealth of his collection in varieties of quite exceptional merit. The violas show how wide is their range of colouring, and how admirably adapted are both the selfs and the varieties having more than one shade of colour in their flowers for the embellishment of beds and borders. The attractive combinations of colours afforded by the second of the two at once attract attention, while the selfs impress one by their usefulness in the production of broad colour effects in the garden. Prominent among the selfs are Purity, white; Sir Robert Pullar, Ariel, and Max Kolb, various shades of blue; Pembroke and Royal Sovereign shades of yellow; John Forbes, royal purple; and J. B. Riding, bright claret. Especially noteworthy among the fancy pansies, which have now attained to a high state of development both in form and colouring, are Kayii, Earl of Annesley, Lusitania, Gabriel, George Peacock, Elliott Murray, James Wigan, and Beatrice. It is gratifying to know that pansies and violas are rapidly increasing in popularity.

Messrs. Dobbie and Co., Rothesay, are a title and address that has grown wondrously familiar during recent years, but while the title is likely to remain for long years to come, we shall soon be wanting to forget the above address. In short, the headquarters is to be moved from Rothesay to Edinburgh. Several years ago the firm had large seed grounds in Hampshire, and then it developed a farm at Orpington, but now it has its own property at Marks Tey, Essex, where both flower and vegetable seeds are extensively grown, and the whole place is kept in fine style. The move of the headquarters from Rothesay to Edinburgh marks another stage of the enterprise that has characterised the firm ever since Mr. W. Cuthbertson became senior partner.

Experiments at Woburn.—The experiments that will be carried out at the Woburn Experimental Station during the current year include, (1) an extensive series of trials on field crops of the two new nitrogenous manures, nitrate of lime and calcium cyanamide, as compared with nitrate of soda and sulphate of ammonia; (2) the inoculation of leguminous crops (lucerne and white clover); (3) further trials with magnesia in different forms, including magnesian limestone and magnesium lime, on potatoes; (4) experiments on grass land to test the difference in (a) continuous mowing, (b) continuous grazing, and (c) alternate mowing and grazing.

Duke of Bedford's Thorney Estate.—About 12,000 acres of this estate has been bought by the Commissioners of Woods and Forests, the limit which the funds at their disposal will allow. The tenants of the remaining 7,000 acres have been informed that they have the first option of purchasing their holdings.

NOTES FROM THE SAAS VALLEY.

A goodly proportion of the thousands of persons who visit Zermatt are unaware that at Stalden, the first station on the Zermatt Railway after leaving Viege, in the Rhone Valley, another long and romantic valley descends to meet the main Visp Thal. This, the Saas Valley, is the last of the many valleys south of the Rhone before the Simplon is reached, the famous pass through which the long tunnel was pierced a few years ago.

The wonderfully engineered Zermatt Railway was built on the Abt system, to avoid the necessity of making costly cuttings and embankments, which would have been the case if a regular gradient of 1 in 36 had been chosen, the difference in level between Viege and Zermatt being 3200 feet; but by the Abt system of two central lines of alternate teeth fitting into cogs underneath the carriages, various degrees of inclination may be surmounted without danger, and this railway, in some places, rises as much as one foot in eight.

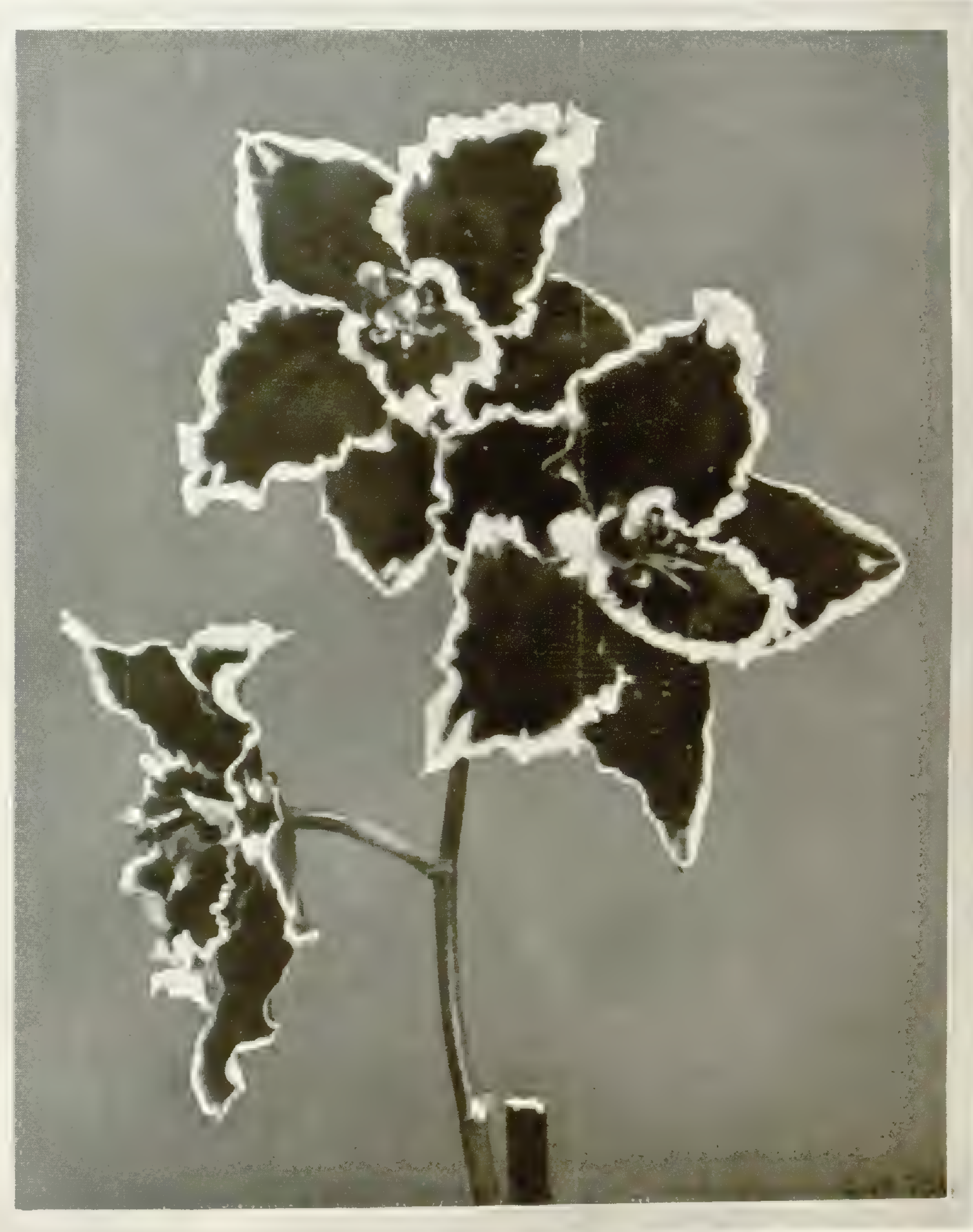
On leaving the railway at Stalden, where one's luggage may be posted to Saas Grund or to Saas Fee, according to which place one decides to stop at, the only road is a good mule path, up which everything is carried on muleback. Vines are left behind, and so are such sun-loving plants as Ononis Natrix, Medicago falcata, Delphinium Consolida, and Colutea arborescens with its large, dilated capsules. The river Visp is crossed by a single span 150 feet above the torrent below; then the path rises rapidly, and good views are obtained of the mountains north of the Rhone, the prominent pyramidal peak of nearly 13,000 feet being the Bietschhorn. The Saas Valley runs nearly north and south, and it extends from Stalden to the Monte Moro Pass, on the Italian frontier, leading down to Macunaga. The greater part of the valley as far as Almagell is fairly populated and extremely picturesque, but the upper portion is very wild and sterile, and probably was never permanently inhabited, though there is a collection of rude stone huts as far as the Distel Alp, which is 7,120 feet above the sea, and about an hour beyond the desolate Mattmark Lake. One of these huts bears the date 1774, and another 1835, but all were totally unoccupied by men or cattle in the middle of June last.

The first village between Stalden and Saas is called Eisten, and shortly afterwards the little hotel at Hutegg comes in sight, and it is the only inn between Stalden and Saas. About here may be found Pyrola uniflora and P. minor, Geranium [illegible], Erysimum pumilum, Lychnis Flos-Jovis, Orchis sambucina, Pedicularis [illegible], etc. Cattle are grazing on the available patches of herbage, and they seem [illegible] in the first few weeks of their [illegible], after having been confined all the [illegible] months in their too small and stuffy houses. These patches of pasture in the valleys are called Vorsassen, and every [illegible] in a Swiss valley has certain rights [illegible] pasturage on certain Vorsasseu, where [illegible] eat as much fresh grass as they [illegible] before they are driven up to the [illegible]. An "alp" is a mountain pasture used in summer, and sometimes in [illegible]-speaking Switzerland it is called [illegible]. A day, varying according to [illegible], is fixed by the owners of these [illegible], but not before which the cows may be sent to the alps; this event is called [illegible] "Alpfahrt," and it generally takes [illegible] in the first half of July, and the [illegible] the cows are on an "alp" is about sixty days each summer, for by the middle of September they are generally on the Vorsasseu again, where, in some cases, they remain throughout the winter in stables, without being brought further down the valleys.

When the cows are taken up to the highest alps many frequently go together, accompanied by men or boys to look after and milk them, and to make the cheese; and, previously, they have been busy taking to the lowest huts on an "alp" the great copper utensils used for cheese making. But on the Vorsasseu of the Saas Valley women or girls are generally in charge of the cows, which are usually in ones, twos, and threes, and as the women spend most of the day in this way they are frequently seen with their knitting, and tending a small child or baby, as well as a cow or two. In this valley it is quite a common thing to meet a woman smoking a clay or a briar pipe.

The houses in the Saas district are typical Swiss chalets of wood, which, toning to a rich dark brown, afford so picturesque a feature in the landscape, familiar to every visitor to Switzerland. Often the chalets are built on a stone foundation, the ground floor being usually occupied by the cows and goats, and frequently an indescribable medley of objects, both living and dead, may be seen there. The smaller chalets are almost always of wood alone, and sometimes they are pitched high above the damp ground on short stone pillars surmounted by a round flat piece resembling a mushroom, just as occasionally in England ricks of hay and straw are raised above the ground and the ravages of rats.

Above Hutegg some of the rocks in the stream have been hollowed in an extraordinary manner by the torrent, reminding one of the way in which deep holes or "moulins" have been scoured out by stones whirled round and round by the force of water at the bottom of a glacier, and so well seen in the glacier garden at Lucerne. The flora becomes more alpine here, Lilium Martagon and the beautiful Aquilegia alpina being seen in places. A fine waterfall leaps over the cliff on the west, and one of the typical wooden bridges crosses the river here, and in the stony bank beside it were masses of the beautiful deep pink blossoms of Primula viscosa, while the great sulphur anemone formed an exquisite object in the pasture adjoining. Yellow daffodils, just as they grow in England, were in full bloom early in June in a meadow nearer Saas Fee at 5,800ft.



TEMPLE SHOW—ODONTOGLOSSUM PRINCESS VICTORIA ALEXANDRA.
A handsome hybrid with finely-formed flowers, deep red-brown, margined with blush.
Shown by Mr. C. Vuylsteke. F.C.C., R.H.S., May 25. (See New Plants.)

In about three and a-half hours' steady walking from Stalden Saas Grund or Sass im Grund is reached. The word Saas is probably derived from the Italian Sasso, meaning a stone, for the valley is very stony, and Saas is a relic of the Italian colonisation of the valley in the thirteenth century, but later Teutonic influence has so altered the local names that it is often difficult to make out their original Italian form. The word Grund means the flat part of a valley.

Saas is a dirty village, 5,125 feet above the sea, but the Hotel Monte Moro is clean

TEMPLE SHOW—CARNATION CAROLA.

A remarkably distinct and beautiful perpetual-flowering variety: the flowers large, of fine form, and the colour bright vivid crimson. Shown by Mr. C. Engelmann, A.M., R.H.S., May 25. (See New Plants.)

and comfortable, and in the neighbourhood of scenery of the first order, but it is necessary to walk ten minutes further up the valley to obtain the magnificent view of the grand circle of mountains comprising the Täschhorn and the Dom. The Dom is the highest mountain entirely in Switzerland, for although the supreme summit of Monte Rosa is in Swiss territory, much of the mountain is within the Italian frontier, as every schoolboy knows. In the valley just above Saas two rare Arctic plants have been found—Carex incurva, which was first discovered in Scotland and named by Bishop Lightfoot, is very rare in Switzerland. Pleurogyne carinthiaca is an even scarcer Arctic plant. It resembles a large-flowered Gentiana tenella, and grows in similar damp places. The larger Swertia perennis of like situations might be cultivated in English water-gardens, for it is a distinctly handsome plant. Astragalus alpinus, Phaca australis, and Androsace septentrionalis also grow here.

Although several large hotels at Saas Fee, 700 feet above the valley, have deprived Saas of any great importance as a climbing centre, some people prefer the lower village, with its peaceful valley bounded by pretty fir woods and small fields of cultivated ground, to the shut-in and more savage appearance of Saas Fee, which has no luxuriant pine forests in the foreground to set off the splendid array of glaciers and monster peaks. Instead there is a somewhat dreary monotony of moraines descending from the glaciers, for these glaciers have been retreating for about thirty years, and parts of the huge moraine, where once a glacier descended quite close to the village, are now sparsely covered with larches of spontaneous growth, some of the trees being already twenty or twenty-five feet high.

Above Saas we find Draba incana, D. carinthiaca, Oxytropis campestris, O. Halleri, Aretia Vitaliana, and many other interesting plants; while in June the Gletscheralp is decorated with the beautiful blossoms of Primula longiflora mingled with anemones.

In ascending above Saas Grund towards the Mattmark Lake there is only one village, at which spot a fine cascade descends. The route becomes wilder and wilder, and early in the season one has to cross, not without some difficulty, the remains of avalanches of snow, or of snow and rocks and mud. Just at the top limit of the larches, at about 6,600 feet, a huge moraine descends to the west side of the stream, forming a great expanse of scree of enormous height. Then a fine hanging glacier empties its lower end into the actual stream below the path, and some black alpine choughs are seen sailing slowly over the ice. On the return journey these birds were, curiously, replaced by numbers of alpine swifts flying over the glacier. There is another moraine on the north side of the Allalin glacier which shuts in the Mattmark Lake.

The Mattmark See is a small lake, about a mile long, but greatly silted up with sand, so that it appears very shallow. The path which skirts the east side is in June frequently embedded in avalanches, so that the greatest care is needed, for it is so easy to sprain an ankle, if no more, in places of this sort. At last we arrive at the little Mattmark Hotel (6,966 feet), which is not yet opened for the season, and a hundred yards beyond is the famous Blauenstein, a huge boulder of green serpentine about fifty feet high, which, with two smaller masses near by, have been carried down by one of the glaciers when, during the early part of last century, it extended into the plain.

The flora near the lake is interesting, and it comprises the lovely pink Saxifraga oppositifolia, a plant which extends well within the arctic circle in Spitzbergen and elsewhere; Ranunculus pyrenæus and R. glacialis, gentians, anemones, pink and red primulas, mezereon, the rare little bulbous Lloydia alpina, occasionally seen on Snowdon and in the Scotch Highlands, and a species of gagea carpets the ground with its bright yellow star-shaped flowers.

Amidst the wildest scenery the path continues as far as the Distel Alp, where, as already mentioned, are some rude stone huts of exactly the same colour and material as the surrounding rocks, and being built into the natural contour of the ground so that the snow shall easily fall off them, they are hardly visible at a short distance. These huts usually have a small cowhouse on either side of a sleeping-room, approached by three or four outside steps and often there is a sort of kennel for the goats all under the same roof.

About two more hours over the snow slopes and we are on the top of the Monte Moro Pass, from which is obtained one of the very finest views in the whole range of the Alps.

H. Stuart Thompson.

Tibouchina semi-decandra. This is our old friend Lasiandra macrantha or Pleroma macrantha, under which name it became popular many years ago. There was, however, and still is a widespread idea that it must be considered as a warm house plant, yet at Kew, where it is employed to clothe the end of the greenhouse, it has mounted up to the apex of the roof, is in robust health, and in its season of flowering is profusely laden with its rich purple blossoms. It is certainly one of the finest plants we have for such a purpose, and is at its best when many of the summer occupants of the greenhouse are on the wane. There is a variety known as floribunda, which blooms more freely in the shape of small plants than the type, but for clothing the roof or end of a greenhouse the typical kind is preferable.—W.

Gillenia trifoliata is a valuable plant for grouping among moisture-loving subjects. It starts late into growth; [illegible] at any rate, it is later than the spiræas, and produces slender purple-red stems clothed with small spiræa-like foliage coloured similar to the stems, and in moist ground it reaches three feet in height. The flowers are produced upon the extremity of the current shoots, and are white, with a strong tint of the rose. The greatest beauty of the plant lies in the leaf colouring, which is most pronounced at the extreme periods of vegetative growth. In summer the foliage is a [illegible] russet-brown, but with the advance of autumn this colour changes to purple and crimson, the richest colours predominating in positions fully open to sun, and at that season it is conspicuous among herbaceous subjects. The coloured stems and leaves are often prized when cut for associating with flowers or other autumn-tinted foliage.—Thomas Smith, Walmsgate Gardens.

TURNIPS.

It is well known by experienced cultivators that more than ordinary pains must be taken in order to keep up throughout their season a regular supply of turnips of good quality. In dry seasons, and chiefly upon light, warm soils, this undertaking is often beset with some difficulties, and under these circumstances, unless he takes special care, the grower is almost certain to meet with failures that will cause blanks in his supply. This need not, however, happen so commonly as it is known to do, and, if proper cultural means are available, and good use is made of them, a good supply may be maintained.

TEMPLE SHOW—A BOLD ROCK GARDEN.
Tastefully arranged and planted by Messrs. Backhouse and Son.

In the first place, it is important that suitable varieties be selected for the special cultural methods, in order to be successful through the different seasons of the year. Notwithstanding that there is a fairly plentiful number of excellent varieties suitable to grow for early, mid-season, and late crops, it is not necessary to have any considerable number. In fact, three varieties in ordinary cases, are all that will be really required—i.e., one for early, one for general, and one for late supplies.

Crops under Glass.

With a view to secure nice young roots as early in the year as is practicable, the first crops should be grown under glass, but this need not be an expensive or very difficult affair, for ordinary frames answer admirably for the purpose. The difficulty about this matter does not usually arise from the cultural skill required to attain success, but more often, though they can be simply and easily supplied, from the lack of the necessary conveniences. A commencement, to provide dishes in May, should be made at about the middle of February by sowing Early Milan, which answers well for this mode of culture, while another valuable variety for the purpose is Early Long Forcing. Successional sowings may be made under glass at as frequent intervals as necessity and convenience permit.

The seed should be sown in fine soil, placed conveniently near to the glass, and timely attention need be paid to the thinning, watering, etc., of the plants. A leading point, however, in this kind of culture, is to attempt forcing only by gentle means; particularly is this so with reference to bottom heat, all that is required, or, indeed, can be safely employed in this way, being mild warmth, which may be best afforded by tree leaves lightly mixed with stable litter.

Early Outdoor Crops.

Sowing turnips very early outdoors is, at the best, a venturesome proceeding, but in favourable localities, when the weather permits and the soil is in suitable condition, a small sowing of Early Milan should be made by the middle of March, upon a south border in drills a foot or fifteen inches apart, the soil being worked fine. Small sowings of this variety should follow at frequent intervals, by which practice an early supply of young, fresh roots may be kept up; and should some of the plants bolt, as they are likely to do from very early sowings, no serious loss will take place.

Mid-season Crops.

For sowing from about the middle of April until the end of July, there is no variety so valuable as is a good selection of Snowball. This well-known and generally valued kind, both for exhibition and ordinary use, is of perfect shape, and excellent flavour, has a white flesh, and remains in good condition for a considerable time, and though it is best under ordinary circumstances to make small sowings of it often, rather than large ones less frequently, it is nevertheless advisable to make a comparatively large one early in May. The summer crops are invariably the most difficult to manage, especially during long spells of dry weather. Therefore, the land upon which they are grown should be well manured, and otherwise thoroughly cultivated, and if a partially shaded position is available so much the better. As a check to the "turnip fly," frequent dustings with soot will be found beneficial, and in dry seasons the surface soil between the rows of plants should be kept stirred, and efficient watering should be given, and infinite benefit results from mulching the crops after the plants attain convenient size, with manure from mushroom beds, or with flaky leaf-soil.

Late Crops.

Red Globe cannot be surpassed for late crops, while for summer use, as a companion to Snowball, it is equally valuable. It is excellent in flavour, solid, and keeps well, if properly stored in a cool place before it becomes damaged by frost. For late supplies it should be sown in August and September, and in mild winters valuable small fresh roots may be secured from sowings made even as late as early October. We depend upon it entirely for late use. Where yellow varieties are esteemed, Orange Jelly is very deserving of being freely sown for yielding late supplies of small, well-shaped roots that keep a long time in good condition.

T. Coomber.

The Hendre Gardens.

Gooseberries, Red and White Currants.—Pinch out the points of the young growths on these, and remove entirely a few of the weaker ones when found growing too thickly. The leading shoots should be left ~~a little~~ longer than the side growths, the latter being shortened to six inches, and the leaders to ten inches. The extreme points of these young shoots are very often at this season infested with aphis, but this pinching process will invariably clear the bushes from these pests.—Geo. Woodgate.

TEMPLE SHOW—A PRETTY ALPINE GARDEN.
Arranged by Messrs. W. Artindale and Son, and tastefully planted with alpine plants.

HOEING.

The experience of many years has convinced me that the hoe is one of the most indispensable implements in the garden, and that it is rarely used enough. This conviction was deepened when, during a very hot period of the summer, I went over some large gardens where about fifty gardeners are employed, and saw gangs of half a dozen or more engaged in hoeing, while the surface of the beds and borders, and all among the shrubs, of which there was literally a considerable acreage, looked like a seed bed. We have all seen plants make a spurt after they have been hoed, and sometimes even fancied that they have increased in size instantly, as they appear to do after two or three minutes' rain. No apology is necessary, therefore, for dealing briefly with this subject, and this I propose to do in its twofold aspect of conservation of moisture and aeration of soil.

The fact that wet-looking, beaten-down soil will, after hoeing appear dry in an hour or two in favourable weather, leads some people to think that hoeing makes the soil dry, but that is quite a delusion. When soil lies firm on the surface moisture rises from below by capillary attraction, and as fast as it is evaporated, a fresh lot comes up to take its place, and thus the surface continues to look damp. When the surface is loosened, the capillary tubes are broken up, and the spaces between the particles of soil are so large that the capillary power is much reduced, and therefore, when the soil particles become dry they remain so. Hence, hoeing lessens the rate at which the soil parts with its moisture, the loose surface acting as a mulch.

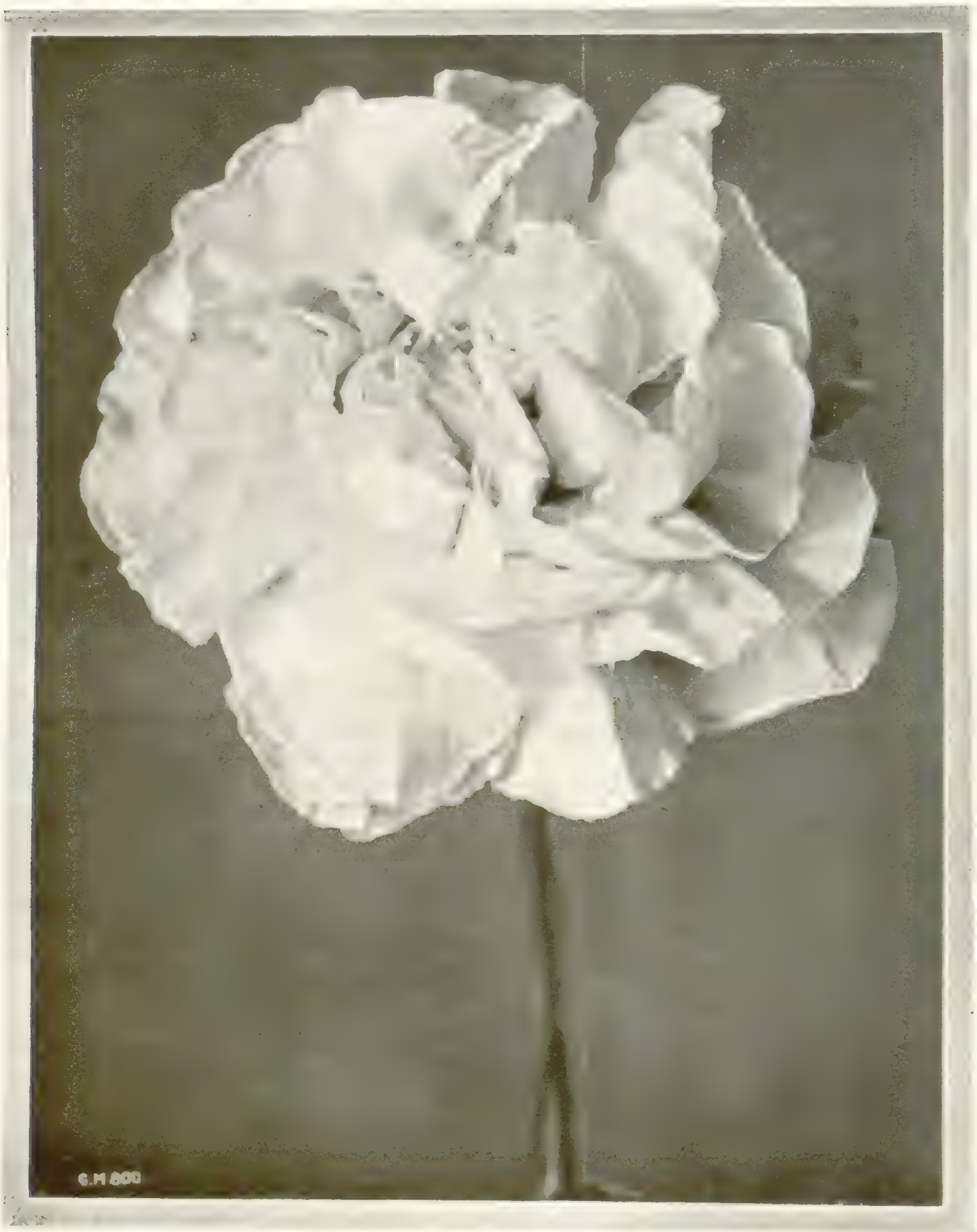
Therefore when we know that certain soil will become dry all too quickly in the spring, as in fruit tree plantations, permanent beds and borders, etc., the surface should be hoed as soon as it is dry enough in the spring, and all through the summer whenever any rain beats it down. But when we want any soil to become dry for planting or sowing, the stirring of the surface should then be deferred till it is becoming dry enough below. One often sees people with small town gardens, perpetually watering with a rose in the summer, so that the whole of the beds and borders are in a caked condition, the result being that much of the water runs off or only sinks in a very little way, and the hot sun dries it up; and not only that, but the close condition of the surface favours the rise of moisture from below as long as there is any left, and thus it is quite possible that, unless the watering is repeated very frequently, the soil a foot down may be drier than if no watering had been done, but a little timely hoeing done instead.

Then, as regards the aeration of the soil. If the growing tips of the roots were examined under a high magnifying power, they would be found to consist of an aggregation of delicate cells of protoplasm, not very unlike those in some parts of the human body. Continued observation under favourable conditions would show that these cells were rapidly growing and multiplying by a process of division, and thus fresh living substance was constantly being formed. These cells, being alive, need air to obtain that supply of oxygen without which they are unable to carry on their vital processes, like the cells in our own bodies, and if air could be excluded altogether they would die. Hence, in waterlogged soil plants make but little root because the interstices of the soil which should be filled with air are filled with stagnant water instead, thus preventing fresh air getting to the roots. Similarly, when the soil forms a cake on the surface, especially if this cake is of an impervious nature, as in a clay soil, but little air can reach the roots, except such as is forced in by atmospheric pressure, as the water below drains away or is lost by evaporation at the surface. The result is that the roots suffer from want of air, and the living cells not being able to grow and multiply freely, the plant grows but little, like individuals in similarly unhygienic conditions. Hence the rapid increase of growth which is often observed to follow the breaking up of such a crust with a hoe, and the thin growth, which results from incessant watering.

But this is not the only benefit derived from the aeration of the soil, for the latter is full of living germs, some of which are breaking down the complex organic substances in the soil—unexpended manure, and the decaying organic matter generally which is included in the term humus—into simpler bodies, which can be used by the plant, while others are converting one of these products of decomposition—ammonia—into the only form—nitrate—in which the majority of plants are able to absorb that nitrogen which is such an essential of all growth. Without free admission of air the soil becomes sour, and then some of the most important classes of germs cannot work, the manufacture of a valuable supply of plant foods being thus stopped or greatly hindered. Hence the frequently stirring of the surface soil adds to its fertility, and, by the breaking up or consumption of the humus, causes the soil to be very tender, so that the surface is in a friable condition.

Thus hoeing improves the mechanical condition of the soil, conserves its moisture in dry weather, is indispensable to the preparation of valuable plant food in the soil, and assists the entry of oxygen so necessary to healthy root formation.

Alger Petts.



TEMPLE SHOW—CARNATION MRS. TOWNSEND.
An effective yellow-flowered border variety. Shown by Messrs. Jarman and Co.

Carnations.—Malmaison carnations will now be well forward in bud, and should receive every attention in respect to water, and frequent applications of liquid manure will greatly help them. The winter blooming varieties, if still indoors, will also be producing strong flower stems, and the same treatment will suit them admirably. Any of the plants that are producing good shoots, but not showing bloom, would make fine dot plants in the borders during the summer, or a bed of them makes a very fine display indeed. The young plants are now in vigorous growth, and may have the points of the shoots taken out to encourage a more bushy habit. If nicely rooted they should be shifted into 48's, using a compost similar to that advised in a previous calender; the plants may be placed in a quite cold frame, where the lights should be entirely removed as soon as the roots begin to run freely in the new soil. Frequent syringings with well-diluted soot water will not only keep down green-fly and red spider, but will keep the plants generally in a healthy condition.—T. Stevenson, Woburn Place Gardens.

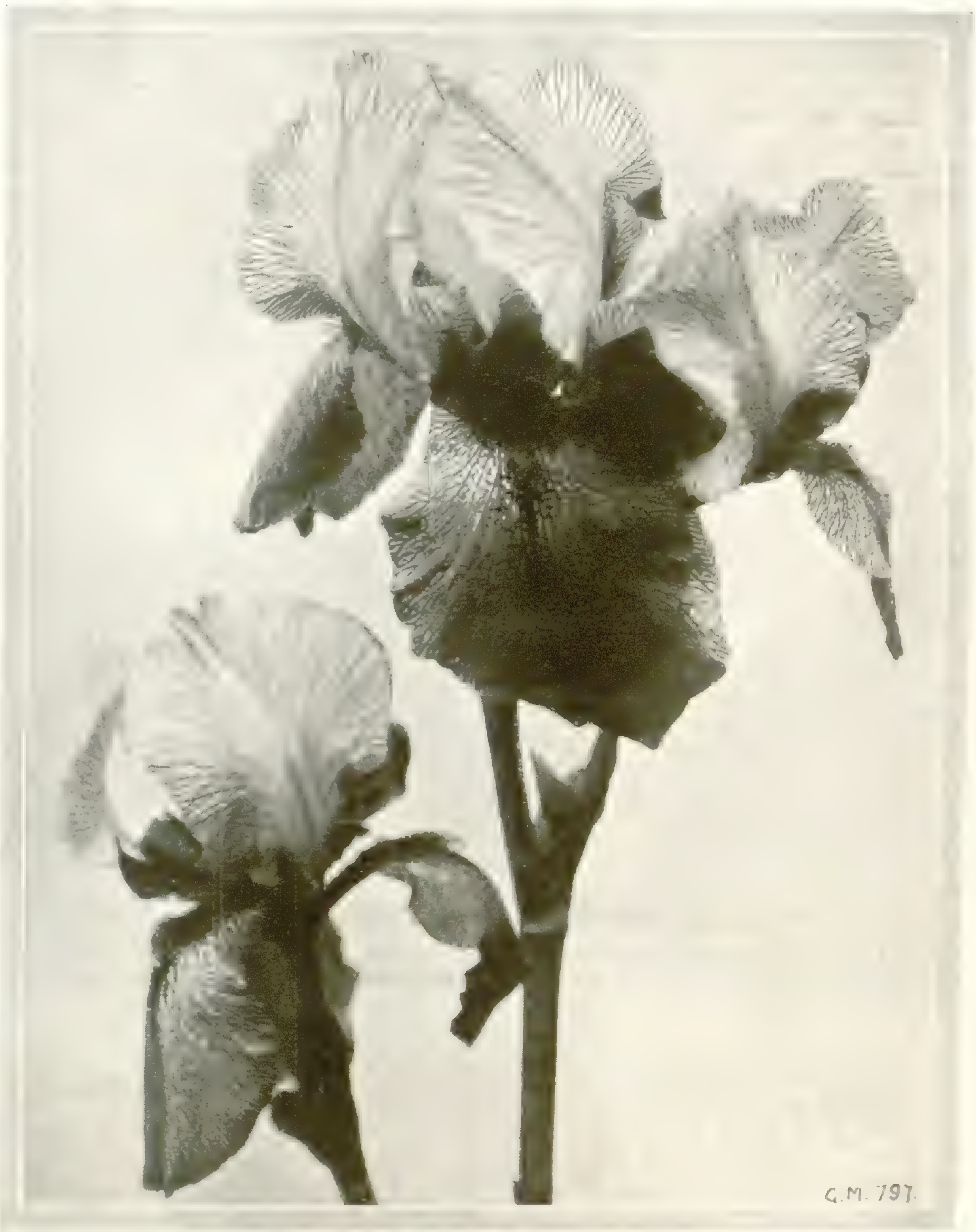
THE TIME OF INSECTS.

We have arrived once more at the season of activity in woodland, orchard, and garden; at the moment of writing fruit trees everywhere are in full growth, and many of them have been beautiful with blossom. The outlook is promising, and unless something comes along to upset calculations, there is no apparent reason why crops should not be bountiful. Just so, but it is in May and June that fruit crops run the gauntlet, and if Jack Frost does not trouble us with his unwelcome presence, we are reminded that at the time when fruit trees are commencing to swell up their fruits, insect pests of different kinds are satisfying their voracious appetites at the expense of the fruit grower. The danger of frost is bad enough, but the risk ends with the exit of May, and we take hope and comfort in the fact that it is not every season that we suffer through this trouble. Insect pests, on the other hand, are a hardy annual at this time of the year; they always appear in numbers great or small, and do more or less damage, and very often when we get frost as well, climatic conditions are often blamed for damage done by living pests.

Except amongst gardeners and commercial fruit growers who have made a study of insect pests, the notions held about them amongst country folk are very hazy. Only in a few cases are the habits and life histories of common pests studied at all, and if teachers in schools are on the look out for material for Nature study, they have a splendid field here, because if we are to induce people to take any real interest in these matters, we must begin with the boys at the village school. The older folk make no attempt at discrimination at all, but include insect pests of every description under the comprehensive heading of "blight," and many of them have very vague ideas as to the origin of insect foes. "I doubt we shall have no fruit, the trees are dreadfully blighty," is an expression not infrequently heard in May and June, and there the matter ends, for the rank and file of growers do not concern themselves as to what particular insects are doing the damage, nor take any steps to protect their crops.

There is no mistake, however, that blight, to use the common expression, is a terrible evil at this time of the year, and one realises this when we see trees breaking into growth and beautiful with blossom one day, and then a short time after filthy with vermin, crippled and stunted through the ravages of the pests, and, what is worst of all, fruitless or nearly so. According to an old saying, familiarity breeds contempt, and this apparently applies to fruit pests as it does to other things, for people in the country who are in touch with the injurious insect life about them, and suffer through its ravages, take no trouble, except in solitary instances, to make themselves acquainted with the forms and habits of their enemies. While this apathy remains, blight will continue to wage its deadly warfare, crops will be lost, and returns will be affected, because if any battle with insect pests is to be really effective it must be general all along the line, not a case of a solitary individual here and there fighting, and the rest of the community harbouring the pests that the few valiant ones are trying to eradicate.

Full credit is due to those who have done and are doing their best to supply fruit growers with the arms and ammunition for fighting blight. Apparatuses for spraying have been improved considerably in recent years, and we have insecticides galore, but in spite of this spraying is yet in its infancy. On the grounds of expense, and through lack of faith in its effects, coupled with a certain amount of native conservatism, there are many who will not spray at all, while others are disappointed, inasumch as they have sprayed in winter, and made their trees clean and fresh looking, but this has proved ineffectual of preventing damage from pests in the spring and summer. Of course, the scientist can explain the reason, but the grower has spent his money, got tired of spraying, and, refusing to listen to explanations, he gives it up. This is a pity, for fruit growers should have patience with the men who are trying to help them, and remember that they have to learn as they go along.



TEMPLE SHOW—IRIS SIR DIGHTON PROBYN.

A charming variety with large handsome flowers, the colour rich purple, veined with blue. Shown by Mr. Amos Perry. A.M., R.H.S., May 25. (See New Plants.)

We have proceeded far enough to know, however, that one spraying is not enough. By winter spraying we may clean trees, and remove a good many of the natural harbours of insect pests, but this is not enough to prevent attacks in the spring and early summer. Caterpillars, suckers, midges, and aphis make their appearance from secret lurking places, and a second spraying becomes essential. The grower asks what he shall use, and when half a dozen people advise as many different washes, no wonder he gets a bit confused, like the sick patient when doctors disagree. It is a knotty question, this subject of spraying, when one considers the expense, the doubtful results, the possibilities of a glutted market, and other points; but still there are signs sufficient to prove that spraying has come to stay.

The time of insects is a season of anxiety to everyone who grows fruit, and every credit is due to growers who fight the pests to the utmost in their power, and if the means they use do not prove to be as successful as they would wish, do not throw up the sponge at once and vent their rage on the scientist who recommended the insecticide. It is by perseverance alone that problems are mastered, and the one under notice is not an exception. One can have a certain amount of sympathy with the fruit grower who sits on the fence, is ready to take up the fight, but is waiting till the days of experiment are over, and absolutely effective means of eradicating pests have been introduced. The men who one can have little patience with are the apathetic ones, the don't-care class of individuals, who have no faith in anything nor anybody, and never take any steps to eradicate common foes either in their own interest or that of their neighbours. These are the men who this season, as in past years, will do nothing themselves, but look with critical gaze on the well-meaning efforts of their neighbours, and rejoice if the methods the latter adopt do not prove a complete success.

H.

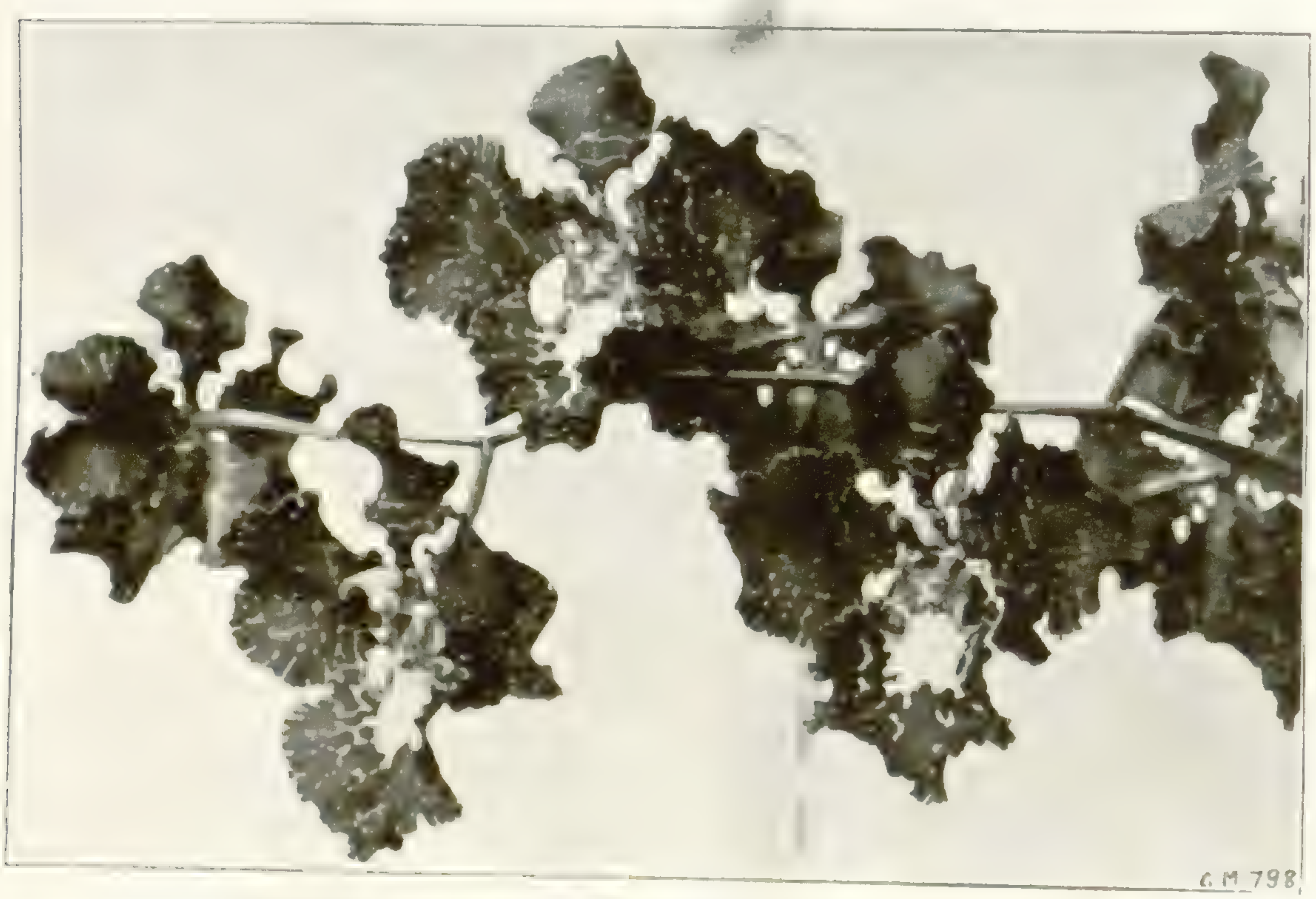
IN THE ROSE GARDEN.

Unable to be at the Temple Show myself this year, I yet had many messages sent me about the condition of roses and prospects for the fast approaching season. Very general are the complaints about the late frosts early in May and prevalence of keen, searching winds. From the reports we must congratulate ourselves upon the way our own plants have come through. Several growers complain that their promising maiden growths of eighteen inches to two feet are cut down to the base. This is evidently worse on the east coasts than anywhere in the south.

Just before pruning our roses—more particularly those grown as standards—we had some very promising heads left, but the severe frost completely killed them; not only the rose growth, but briar stems as well. This was our chief loss. Fortunately, our maiden buds were very backward, being fully exposed upon high ground, and so they were scarcely pushing up during the trying time of early and mid-May. The rose maggot is attacking work, weeds or no weeds. There is no better time than the present to put on artificial manure, and if you can apply this during showery weather, and hoe as soon as possible, I think the effects are much better. At present we are drawing up soil to our maiden dwarfs very much after the same style as if earthing up potatoes.

I notice a great preponderance of dormant buds that were worked upon the standard briars last summer. Many of these have not even started, and yet they appear sound. But if we look into them closely a large number will be found injured by frost, especially where the small piece of rose bark is fitted upon the stock. This is in no way the fault of the budder, because, if clumsily inserted, the bark would have turned brown and the bud be dead by the autumn.

As the season advances there will be need of some support to young growth upon maiden standards. A stake sufficiently long to go into the ground and secure both briar stem and rose growth is preferable, but where there is a large number, many tie a thin hazel stick to the briar stem and secure the rose to the upper portion of the stick.



TEMPLE SHOW ONCIDIUM CHARLESWORTHI.

A distinct and handsome species; the flowers of large size, the colour bright brown with golden markings. Shown by Messrs. Charlesworth and Co. F.C.C., R.H.S., May 25. (See New Plants.)

Roses on walls and pergolas, especially the former, are likely to be much infested with insects, and I am convinced we do not use the syringe freely enough. Even water alone is a grand cleanser. No insects approve of it, but the plant does. A little insecticide is very helpful, but a very free use of water itself can be strongly recommended. On walls and corners of houses the plants are exposed to greater variations of temperature, and those in the warmest nooks will almost sure to be covered with greenfly, etc. With the sun very strong, the situation dry, and the great absorption of moisture by the walls, we need supply more root moisture than is generally the case, and now that growth is vigorous a liberal application of liquid manure will be beneficial. Here again I would advise double the amount of plain water mixed with the same quantity of liquid manure than is usually the rule.

Where a few rose blooms of extra size and quality are wanted, disbudding will need attention as soon as you can pick out the side buds.

A. Piper.

growth very much, and needs constant hand-picking. Dealt with thoroughly now there is little further bother with this pest, while any neglect means loss of bloom almost to the extinction of the first crop, especially when the growths are retarded by uncongenial weather.

We are busy among standards now, and no time should be lost in examining the stems of newly-planted briars and reducing the side shoots to two or three of the most promising that are nearest to the height we want the future rose tree to be. This greatly facilitates budding, and strengthens the required shoulders. Some of our most forward will be ready to bud by the end of June, and all that were left over from last year are ready now as soon as one can obtain the buds. Here we find a great advantage with buds grown under glass, our pot plants producing ripe, sound buds beneath their last crop of flowers, while those from the open are too young and soft early in the season.

We have had a very dry and trying time, but as I write there are welcome showers, although very cold for the date. Constant hoeing has kept the beds clear from weeds, but I would still keep this implement at

THE LOCUSTS OR FALSE ACACIAS.

Amongst trees suitable for ornamental planting, the Robinias or False Acacias have several recommendations, for, in addition to the foliage being of a dainty and pleasing character, the flowers are showy and freely produced, and the larger-growing species, when mature, are often of very picturesque appearance. The number of species is not large, but there are a great many varieties, some of which are very distinct either in habit, foliage, or flowers.

The genus is a North American one, the several hardy species being found in the Southern or Eastern United States. The first species to be introduced into Europe was the Common Locust, Robinia pseudacacia, and, according to Mr. G. B. Emerson in "Trees and Shrubs of Massachusetts," it was introduced into France either in 1601 or 1635, the exact date not being known. The difference in the dates is accounted for by the fact of Linnæus founding the genus Robinia in honour of the introducer, one of the French horticulturists, Jean Robin, or his son Vespasian, but which there appears to be some doubt. Soon after its introduction into France, it appears to have been received in England, where it has been in cultivation until the present day.

Cultivation.

The Robinias are not difficult trees to deal with, for they thrive alike in light and heavy soil, providing it is not naturally wet. For very light soil they are well suited, and fine specimens are often found growing in little else than sand. In moderately good soil growth is rapid, and it is no uncommon thing for young trees of the stronger-growing sorts to add six feet or more to their height annually. As they advance in age, however, growth in height is less rapid, whilst spread of head is increased. Attention to pruning is necessary during early life, for, if the tree kinds are allowed to form a number of rival [illegible] they are less able to withstand the strain [illegible] rough winds than those with single trunks and evenly balanced heads of branches. Propagation may be effected by seeds in the case of most of the species, and in other instances by root cuttings, or by grafting on stocks of R. pseudacacia. The kinds that assume the stature of trees form excellent lawn specimens, whilst they are also admissible for groups in parks, etc. The dwarf growers are also serviceable for lawns, and may also be included in shrubbery borders.

Economic Properties.

In some countries the leaves and young branches are used to some extent for fodder for cattle, but the timber of the larger-growing species is the principal asset. The best Robinia timber has been likened to the best oak for strength, durability, and elasticity, and it is used extensively for various purposes in the United States. According to Loudon, in his "Arboretum et Fruticetum Britannicum," the Common Locust was boomed largely for planting for timber in this country during the early part of the last century. The reason for this was that William Cobbett visited the United States during 1817 and the two following years, and was convinced that "nothing in the timber way could be so great a benefit as the general cultivation of this tree." He, it is stated, on his return from America, set up as a nurseryman, and grew this tree largely under the name of Locust. People were so [illegible] with the tree, and thought that [illegible] only held the correct plant, that he was unable to produce it fast enough to supply orders, whilst many other nurserymen had large stocks of the same tree which they were unable to sell. It is, however, as an ornamental tree rather than a timber tree that it is now planted, though it would doubtless be found of value on certain kinds of soil. W. Dallimore.

(To be continued.)

SPRING FLOWERS AT BOURNEMOUTH.

In an exquisite setting of trees, shrubs, and verdant lawns, the beds of spring-flowering plants look exceedingly gay at the present time in Bournemouth. In fact, I have never seen them look so well before, and it has been my privilege to inspect the gardens nearly every year during the past quarter of a century. At the first casual glance the visitor might be excused for thinking that the predominance of yellow and primrose colours was not pleasing. But the very boldness of the bedding-out scheme commands admiration. Mr. J. B. Stevenson, the able superintendent of the very extensive public parks and gardens of Bournemouth, has not hesitated to produce bold effects, and never failed. There is ample scope for them. At the present time yellow colours prevail. Later, other colours will show up in masses, so that the changes, right up to the end of the spring bedding season, are very agreeable and most attractive.

The majority of the beds are formed on both sides of a broad central and beautifully curving path which leads through the valley gardens from the heart of the town to the pier. These beds are large ones, and mostly planted to form pairs. The following are a few of the arrangements: Aubrietias as a groundwork, yellow tulips as dot plants, and double white daisies—a broad band of them—as an edging. Scarlet tulips and polyanthuses mixed, a very pleasing combination. Double daisies as groundwork with scarlet tulips, and an edging of aubrietias. Pansies as a groundwork, narcissi dot plants; white violas as an edging. A really grand pair of beds. Wallflowers, Narcissus poeticus dotted among them, and dwarf yellow wallflowers as an edging.

Anemones and narcissi were very effective in the borders. Violas as a groundwork with tulips were exquisite; as also were beds filled with pink and white tulips, and aubrietia forming the groundwork. A large fountain was enclosed in scroll-work formed of the following flowers: Wallflowers, dark red and pale yellow, tulips in clumps over a carpet of double white daisies; rose tulips and purple aubrietias; anemones, narcissi, and tulips over violas, all combined to fill this noble-looking border.

At the entrance to the gardens from the pier broad bands of polyanthuses bearing huge trusses of flowers encircled a plantation of firs and other kinds of trees under which narcissus were growing in groups in a quite natural state. Near by was another attraction, a plantation bounded by narcissi and three rows of hyacinths in red, white, and blue colours. Clumps of rhododendrons in full flower, plants in herbaceous borders, narcissi in the grass amidst palms, bamboos and shrubs, down to the edge of the clear stream which courses through the gardens to the sea, form a few of the present features of these delightful pleasure grounds.

Geo. Garner.

Professor G. L. Goodale, who has during the past thirty years been Fisher Professor of Natural History and director of the botanic garden at Harvard, will retire in September next, when he will have completed his seventieth year. Professor Goodale has been associated with the botanical department of the Harvard University since 1872.

WORK FOR THE WEEK.

◆

THE ORCHID HOUSES.

SUMMER - FLOWERING CYPRIPEDIUMS.—There are several species and hybrids that flower in summer and are in every way suitable for extensive cultivation in gardens where the facilities of a stove or an intermediate house is provided. They are also, in most cases, plentiful, and, therefore, procurable for a modest outlay. Some of these are among the oldest orchids in cultivation, but are none the less beautiful, useful, and deserving of recognition. C. barbatum, and its varied forms are really unsurpassed when they are grown into large specimens, the free-flowering characteristics rendering them suitable for exhibition purposes, while the durability of the flowers leaves nothing to be desired when used as cut blooms for decorative purposes. The older hybrids that have had C. barbatum as one of their parents, such as C. Harrisianum, S. selligerum, C. Swanianum, C. W. Lloyd, and those also which have resulted from the intercrossing with the winter-flowering kinds, are, in most instances, exceedingly useful for supplying cut flower.

CYPRIPEDIUM LAWRENCEANUM is a noble form, which can be grown under the same conditions as the abovementioned, and possesses equally free-flowering characteristics. It does not require much pot room, and is best treated with annual repotting. In dealing with imported plants of C. Lawrenceanum it will be found that they have in their native habitat been producing a succession of growth annually, and they rarely attempt to make side or back breaks, yet, if these back growths are carefully examined, it will be seen that they possess dormant buds, capable of producing new growths. The same remarks will apply to plants that have been in cultivation for a number of years. These dormant buds rarely start into growth unless something detrimentally affects the leading growth or the rhizome which connects the growths becomes damaged or severed. It is well, therefore, at the annual repotting, to cut the rhizome asunder, leaving only the growth that has recently flowered, and possessing a new growth. These back growths should all be put into small pots, and it will be found that where new growths are produced they quickly make roots, when they should be given more root room.

C. CURTISI I consider to be the most easily cultivated of the whole section of summer-flowering cypripediums, but for preference I would recommend that it should be grown in a stove temperature, or where the temperature of the house is maintained at 60 degrees in winter. It will grow under cooler conditions, but I have not found it so vigorous. It is very free-flowering, and the blooms last for several weeks in perfection. This species blooms rather later than the foregoing, and is most serviceable for the late summer exhibitions. The hybrids from this species are most desirable, and possess the vigorous constitution of this parent.

C. CALLOSUM and the albino C. c. Sanderæ are now plentifully distributed, and they may be grown in an intermediate house under the same conditions as C. Lawrenceanum. The hybrids also of this species are worthy of every consideration. The best time to repot this section is when the new roots make their appearance.—H. J. Chapman, Oakwood Gardens.

TEMPLE SHOW—ROSE AMERICAN PILLAR.

A lovely single variety of robust growth, and producing its large rose pink flowers in huge trusses. Shown by Messrs. H. Cannell and Sons. A.M., R.H.S., May 25. (See New Plants.)

CONSERVATORY AND GREENHOUSE.

CHRYSANTHEMUMS.—During the present month there will be a good deal of work in connection with chrysanthemums, and where potting has not already been done it must be taken in hand at once. The plants are very liable to suffer if left too long in the 32-sized pots, where good blooms are required, whether for exhibition or any other purpose. An early shift into the pots in which they are to bloom is one of the essential points. Everyone knows that a fairly rich turfy loam is the best for chrysanthemums, to which has been added leaf-soil, wood ashes, bonemeal, soot, and sand. When mixing the materials do not be afraid to add plenty of material for the lightening of the soil, particularly if the loam is at all heavy. It is much easier to give water than to get the plants dry again after a very wet spell if the soil is close in texture. For large blooms I prefer to use No. 12 pots, and potting should be done very firmly, leaving a space of at least two inches for top-dressing during the season and for watering. After potting it is advisable to stand them quite pot to pot for a few days, for the convenience of frequent syringings, also after being well watered in the second day after potting, the plants will require very little more water until they commence rooting, when they may be put further apart in their permanent quarters, and staked.

DECORATIVE VARIETIES should also receive attention as soon as the others have been dealt with, and 9in. or 16-size pots will be found large enough for all varieties, though some of the singles, such as Ladysmith and Miss Mary Anderson, of the early-flowering varieties will be found very useful if kept in a size smaller pot, viz., 24's. If small plants are required, say, in 48's, the present is a good time to propagate these, and they will be found to make quite nice plants if kept moving. All the single and decorative varieties I grow quite naturally, and as hard as possible, never pinching them at any time. I find they make quite as good, or better shaped plants, and give as good flowers as when stopped two or three times during the growing season.

FERNS that were potted up early in the spring will now be growing very freely, and in the case of adiantums will require attention to see that none of the fronds are turning yellow by becoming too thick in the centre. This often is the case where they are grown under vines or elsewhere, and heavily shaded. Liquid manure may be used to stimulate growth. If good specimen plants are wanted of pteris, nephrolepis, aspleniums, gymnogrammas, microlepis, etc., they should be potted on before the roots become at all crowded round the sides of the pots, and many of them will make very fine plants within a year. Should the fernery, however, be unduly crowded some of the larger specimens may be placed here and there on pots on the vine borders, where they will grow very freely in the partial shade.

CARNATIONS.—The Malmaisons will now be making a good display, and to keep the blooms fresh for as long a time as possible it will be advisable to shade pretty heavily during the heat of the day, or, better still, remove to a lean-to house having a north aspect. It is not, however, always convenient to remove them. It is also wise to adopt some means for keeping the bees from the flowers, as they collapse as soon as fertilised. Border varieties that are growing in pots should be freely syringed, and liquid manure given them as they produce their flower stems. They may, of course, be brought in to fill up the house as the Malmaisons go out of bloom.

BEGONIAS.—Seedlings that are intended to be grown on out of doors to make tubers for next year should now be ready for planting out. The bed should be carefully prepared for them, adding some leaf-soil and old potting mould to the ordinary garden soil. They should be arranged about one foot apart each way, and about five rows in a bed. If they have been carefully hardened off they will not require shading, but plenty of water right through the season is essential, and this should be given towards evening, when the sun has somewhat lost its strength.

HERBACEOUS CALCEOLARIAS. — Seed of these should now be sown, using a nice light compost. The pots or pans should be filled and watered thoroughly some time previous to sowing, as often the seed is washed about when the watering is done afterwards. After the water has drained away sow the seed thinly, and give a slight sprinkling of sand, but not sufficient to entirely cover the seed. Place in a cold frame or house where sun will not shine upon the surface. The soil will not require watering till after the seed germinates. — Thomas Stevenson, Woburn Place Gardens, Addlestone.

THE FLOWER GARDEN.

THE ROSE GARDEN.—Many of the more tender roses suffered severely during the past winter, but where hard pruning has been done the growths are coming away strong, and the promise is generally good. The plants should be carefully examined, and every trace of maggot removed as far as possible. Frequent syringings should be given to the young growths, using a reliable insecticide both to destroy and prevent the attacks of aphis. The roots should be kept well supplied both with water and liquid manure, and the beds frequently hoed. Remove all stock suckers, and on light, drying soils give a good mulch of half decayed manure.

BORDER CARNATIONS.—These will require staking, and the surface soil should be constantly moved with the Dutch hoe. To ensure good flowers disbudding should be resorted to, and spent mushroom-bed manure should be placed between the rows to a depth of about two inches. Give plenty of water during hot, dry weather.

HERBACEOUS BORDERS. — The chief work in connection with this department will consist of staking and tying. This requires to be done with some care and forethought, or the pleasing effect of many kinds of plants will be quite marred. Endeavour as far as possible to allow each plant to attain its natural habit. The most hideous form of supporting plants is to bunch the stems tightly together to one stake. Many of the dwarfer kinds and varieties may be made secure with short brushy sticks placed about and around them, and the tall, stronger-growing subjects should receive several medium-sized stakes in preference to one or two stouter ones. Many of the moisture-loving plants will require to be kept well supplied with water, and the quality of the flowers will be much improved if liquid manure is given. Take care the stronger-growing kinds do not overcrowd and seriously injure some of the more fragile and beautiful ones. The borders should be kept thoroughly clear of weeds, and the surface frequently stirred with the Dutch hoe.

SUMMER BEDDING. — Complete the planting of the more tender subjects with as little delay as possible. Though the season is somewhat a late one nothing would have been gained by getting the more tender kinds out too early.

WALKS AND DRIVES.—Well-kept walks and drives are not only a pleasure to walk on, but add very considerably to the appearance of gardens and grounds. Every opportunity after rain should be taken to have these thoroughly rolled. Edges should be neatly trimmed and all rubbish cleanly swept from them. See that the catch pits are cleaned out after heavy rain. Since the introduction of the various kinds of weed-killers the labour in keeping paths free from weeds has been much curtailed. Now is a capital time for making use of these, and the best time to apply them is after rain, when the gravel has become moderately dry again. The greatest care is necessary to keep the weed-killers and the utensils used in a place of safety.—E. Beckett, Aldenham House Gardens.

HARDY FRUITS.

FRUIT TREE SUPPORTS.—Young pyramidal trees should have a stake fixed in the centre, that the leading growth may be fastened to it and encouraged to grow straight. This stake will at the same time prevent the growth being broken off by rough winds. If it is wished to have perfectly trained trees, it will be necessary to fasten a light bamboo cane or hazel twig to each main branch, and secure the leading shoot to it. Cordons, whether single, double, or treble, that have not yet attained their full length, should have the extension growths supported as recommended for pyramids. Espaliers, until they are furnished with the upper tier of branches, should have a support for the leading upright growth, and, when this is well extended above the position for the next tier of horizontal branches, select a couple of young buds that are found in the proper position, and are pointing in the right direction, and stop the main shoot at the next bud immediately above these, this will cause the young buds to push. The top one must be trained upright, and the next two growths in opposite directions. Great care is necessary in fastening these young shoots to the trellis, as in this stage they are easily broken off.

FIGS.—Remove without delay all surplus growths, bearing in mind when performing this operation that the leaves attain a large size, and unless plenty of room is left between the young branches it will be impossible for the foliage and wood to become properly ripened. Tie in the young shoots left as soon as they are long enough, and take out the point of each when it has made six leaves. Trees that are growing in a restricted border require copious supplies of water during the summer, and a light dressing of some approved chemical manure should be sprinkled over the border previous to applying the water, as soon as the young fruits are seen.

VINES.—Train in the young canes that are required for extension or for filling up the places of worn-out rods. Tie [illegible] in sufficient of the young shoots as there is room for, and remove all others not required. As soon as the young bunch is discerned, take out the point of the growth a couple of leaves above the fruit. Spray the vines on fine days early in the afternoon and take care that the border is kept well supplied with moisture. Keep a sharp look-out for red spider, and on the first appearance well spray the foliage on three alternate evenings with an emulsion made by dissolving one ounce of liver of sulphur in a little warm water, and, when ready, pour into a vessel containing four gallons of soft water, boil half a pound of soft soap in water and add to the former, well stir the mixture, and it will then be ready for use.

SWEET CHERRIES ON WALLS.—Train in the leaders, also young growths that may be required to fill up vacant positions. [illegible] pinch back all laterals to within five or six leaves of their base. Make sure that the trees are perfectly free from insect pests, because after the fruit has commenced to colour no insecticide may be used, or the fruit will be spoilt. Keep the borders in good condition as to moisture, and on the first signs of colouring let the fruits be protected from birds by netting, fixed well away from the trees.—Geo. Woodgate, Rolleston Hall Gardens.

Viburnum Carlesi.—Little more than a year ago—that is to say, on April [illegible] 1908—an award of merit was given by the Royal Horticultural Society to Viburnum Carlesi, a very pretty flowering shrub from Corea. It proved in many gardens to be a very desirable shrub, and the opinion was expressed that it would before long receive the higher award of a first-class certificate. One has not had to wait long for this, as on May 4 a specimen from Sir Trevor Lawrence's garden was regarded as worthy of the honour. Those who keep their copies of the Gardeners' Magazine (and everyone should do so) may, by referring to the number of that journal for April 24 of last year, see a life-like illustration of a flowering spray of this most desirable member of the Viburnum family. Unlike that popular shrub, the Laurustinus (Viburnum Tinus), it is deciduous, and the leaves, which are more or less pubescent, are somewhat like those of the Wayfaring Tree (Viburnum lantana). The flowers of V. Carlesi, which are borne in terminal rounded clusters, suggest in general appearance some of the greenhouse [illegible]tias. They are reddish in the bud state, but when fully expanded are white, and of thick, wax-like texture. The pleasing fragrance is another notable feature of the flowers of this viburnum. It has proved to be quite hardy, and will doubtless in time become generally grown. At present it is fairly scarce and expensive, having only been distributed in the autumn of 1905.—W. [illegible]

NEW PLANTS, ETC.

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ONCIDIUM CHARLESWORTHI.

This is a large and beautiful species, belonging to the handsome section of oncidiums of which O. crispum may be taken as the type. The blooms are of large size, and excellent form, the segments so broad as to make up almost a round flower. The colouring is rich bright brown, through and around which run thin lines of golden-yellow, the combination making up a very handsome flower. This is a distinct and fine addition to the genus, and, if it is available in quantity, it is certain to prove popular. F.C.C., R.H.S., May 25. Messrs. Charlesworth and Co., Haywards Heath, Sussex.

ODONTOGLOSSUM MIRUM EMPEROR OF INDIA.

This is a very large-flowered hybrid, and not only are the blooms large, but they are of good form and great substance. The colouring is deep red with marginal lines and bars of rosy-blush. The lip is very bright red, and has an orange crest and rosy markings. It is a striking odontoglossum, and its colouring is very distinct and handsome. F.C.C., R.H.S., May 25. Mons. Chas. Vuylsteke, Loochristy, Ghent.

ODONTOGLOSSUM PRINCESS VICTORIA ALEXANDRA.

This was one of the great attractions at the Temple Show, and created a great deal of interest. The spikes carried three flowers of fair size, but these were of excellent form and remarkable colouring. The latter was intense red-brown, or chocolate-red, and every segment had a neat margin of rosy-blush that set off the deeper colour perfectly. The lip was of similar hue with the addition of a deep yellow crest. It was a striking novelty. F.C.C., R.H.S., May 25. Mons. Chas. Vuylsteke, Loochristy, Ghent.

ODONTOGLOSSUM AGLAON.

Another fine hybrid of excellent form and splendid colouring. The flowers are rich chocolate-red with rosy margins and markings. The lip is very bright, the margin is almost white, and the crest deep orange-yellow. F.C.C., R.H.S., May 25. Mons. Chas. Vuylsteke, Loochristy, Ghent.

LÆLIO-CATTLEYA EURYLOCHUS.

A very bright and beautiful new hybrid, derived from Cattleya Shofieldianum and Lælio-cattleya Lady Miller. The flowers are about four inches across, and as the segments are broad and rounded the flowers are of excellent form. The colouring is rich orange-scarlet on sepals and petals, but the basal portion of the lip that encloses the column is orange-yellow, and the neat rounded apex is deep crimson, with a thin edge of deep rose running all round the frilled margin. A very pretty and attractive orchid. F.C.C., R.H.S., May 25. Messrs. Charlesworth and Co., Haywards Heath, Sussex.

CATTLEYA MOSSIÆ GATTON PARK VAR.

A handsome variety, with very broad lilac-coloured petals and similarly coloured sepals. The lip has a yellow throat, and this colouring extends almost into the frill at the end of the tubular portion. The apex is freely marked with bluish-purple over a paler ground. A.M., R.H.S., May 25. Sir Jeremiah Colman, Bart. (gardener Mr. Collier), Gatton Park, Reigate.

IRISES.

Sir Dighton Probyn.—A fine bearded iris with large bold flowers. The falls are reddish with a small crimson blotch at the end of the dull orange crest. The standards are purplish, with red veins. A.M., R.H.S., May 25. Mr. Amos Perry, Enfield.

Sir Trevor Lawrence.—Another handsome tall, bearded iris, of great size and substance. The broad standards are electric blue with dark veins, and the falls are purplish-blue with reddish veins over the lighter base, and a yellow crest. A.M., R.H.S., May 25. Mr. Amos Perry, Enfield.

FICUS AUSTRALIS VARIEGATA.

The typical Ficus australis is an evergreen stove plant very much like the ever-popular F. elastica. The new variety differs from the type in having very brightly variegated leaves, that, in the case of the quite small plants shown, were about five inches long by three inches broad. The pale green midrib has an irregular area of deep green on either side, but this does not extend to the apex. There are also small areas of greyish-green running into the deeper shade, but all the rest of the leaf is light yellowish-green. Grown as small plants, six inches to a foot high, F. australis variegata is a very useful foliage plant. A.M., R.H.S., May 20. Messrs. Sander and Sons, St. Albans.

CARNATION CAROLA.

We have previously referred to this magnificent perpetual-flowering carnation. It is a grand flower, both in size and colour, the latter being both deep and brilliant, and in no sense dull. The petals are fringed, very large, and substantial. Stems and calyx are excellent, and in size the variety stands out well among its compeers. A.M., R.H.S., May 25. Mr. C. Engelmann, Horneybrook Nurseries, Saffron Walden.

BEGONIA PINK PEARL.

An exquisitely beautiful double tuberous begonia, with large blooms that are a delightful shade of pink, with a suspicion of salmon in it. Each flower is about six inches across, and composed of broad, thick petals that retain their fine form until they fade instead of collapsing and reflexing, as in so many varieties. One plant, in a 32-sized pot, carried eight of these splendid blooms. A.M., R.H.S., May 25. Messrs. Blackmore and Langdon, Twerton-on-Avon, Bath.

MARGUERITE WHITE PERFECTION.

In this very useful variety of a popular greenhouse and bedding plant the flowers are large, of the purest white, and in most cases very double, the central florets having developed like ray florets, so as to form a pyrethrum-like flower. In a few instances the centre is corona-like, as in Queen Alexandra, a variety from which White Perfection has descended. A.M., R.H.S., May 25. Messrs. G. and A. Clark, The Nurseries, Dover.

ROSES.

Jessie.—This is a new, interesting, and useful little rose belonging to the dwarf polyantha section. It has a very neat habit of growth, and flowers very freely, producing large clusters of double, bright crimson blooms. The variety is described as perpetual flowering, and as having the merit of keeping its colour instead of developing magenta-purple shades as it fades. A.M., R.H.S., May 25. Messrs. H. Merryweather and Sons, Lim., Southwell, Notts.

American Pillar.—Without a doubt this is one of the very finest of the new roses,

TEMPLE SHOW—A CHARMING JAPANESE GARDEN.
Arranged by Messrs. James Carter and Co.

and it was the most striking variety at the Temple Show. It is of free, robust habit, and wonderfully floriferous, producing immense branching heads or trusses of big single flowers. Each flower is from two to three inches across, brilliant rosy-pink flushed with red, and with a lighter base to each petal that makes a delightful setting for the central cluster of golden anthers and stamens. On one head of bloom, by no means the largest we could find, we counted forty-eight flowers and buds; a few flowers were fallen, about twenty were expanded, and there were about twenty buds to follow up the display. A.M., R.H.S., May 25. Messrs. H. Cannell and Sons, Swanley, Kent.

Margaret.—A very beautiful hybrid tea rose, with big shapely blooms of a lovely pink shade, slightly flushed at the base of the petals with salmon. The shape of the flower is suggestive of Maman Cochet. The petals are very stout and broad, and the flowers are very fragrant. This promises to be a useful garden and exhibition rose. A.M., R.H.S., May 25. Messrs. William Paul and Son, Waltham Cross.

Coquina.—This rose improves with acquaintance. It is a single-flowered rambling variety, with neat, bright green foliage and elongated trusses of shell-pink flowers, each bloom about an inch across, and rather cup-shaped. The petals do not open out flat as in many single roses. Coquina is a most profuse bloomer, and makes a charming pillar rose. A.M., R.H.S., May 25. Messrs. William Paul and Son, Cheshunt.

Mrs. Taft.—This is a free-growing polyantha variety, every growth producing an erect spike or truss of neat double flowers. The colour is deep rose. Each flower is about an inch across, and has a fairly long stalk, so that the trusses are light and elegant. It makes a very good pot plant, as well as a good bedder. A.M., R.H.S., May 25. Messrs. Hugh Low and Co., Enfield.

PTYCHORAPHIS SIEBERTIANA.

An elegant palm with gracefully arching leaves, that have numerous narrow deep green divisions. New or rare palms are not often placed before the public nowadays, consequently a newcomer creates a good deal of interest, as did this one. A.M., R.H.S., May 25. Messrs. Sander and Sons, St. Albans.

OBITUARY.

MR. F. W. CRUMP.

We regret to record the death of Mr. Frederick William Crump, which occurred at the Madresfield Court Gardens on the 31st ult., from cancer. Mr. F. W. Crump, who was in his twenty-fifth year, and a son of Mr. William Crump, V.M.H., had given promise of attaining a high position as a marine engineer, and much sympathy is felt for his parents in the loss they have sustained by his untimely death.

Diascia Barberæ.—This interesting subject is easily raised from seed sown under glass in spring, and treated in all respects similar to half-hardy annuals. It succeeds in any light rich soil, forming bushy specimens some 15 inches through, and about the same in height; the flowers are hooded, each having a short keel or spur, and are produced upon wiry stems in the forms of erect spikes. The lower flowers on each stem open first, and a succession is maintained throughout summer as the spikes elongate. The flowers are produced very freely, so that the plant can be employed to excellent purpose for massing in beds and borders, and as seed is only sparingly produced, the floral display is never adversely influenced by this process, as is the case with the majority of annuals, and, consequently, the flowering season extends into late autumn. The colour of the flowers is chamois-rose, though a small percentage have pale orange-coloured flowers. I have seen it stated that Diascia Barberæ is perennial on dry soils, but this is contrary to my experience upon well-drained limestone soil.—Thomas Smith.

THE PRINCIPLES OF HEREDITY.

At the meeting of the Royal Society of Arts held on May 12, Dr. Arthur Dendy, F.R.S., Professor of Zoology in King's College, delivered, under the Aldred Trust, a lecture on the principles of heredity as applied to the production of new forms of plants and animals. In view of the interest that is being taken in the matters dealt with by Dr. Dendy, we reproduce herewith, by the courtesy of the society, the lecture in a slightly abbreviated form.

The history of the progress of mankind is the history of the wresting of one secret after another from the book of Nature, and of the application of the knowledge thus acquired to the control, for the benefit of man, of the natural forces by which he is surrounded. The investigations of the physical sciences have resulted in an incalculable amelioration of the conditions of human existence, and have at length paved the way for the attack upon those problems which are more particularly concerned with life itself. The conquest and control of the inorganic world are far advanced. The physical forces of inanimate nature are yoked to the service of man; but what of life? How far can we control, how far can we even hope to control the forces which determine the character of living things, the character of man himself? This is the problem before us, and you will at once see that it is of such a nature that we cannot, in the brief time at our disposal, do more than indicate some of the lines along which the attack is being led, and some of the successes which have already been achieved.

The development of any science may be roughly divided into two stages: the observational, in which it is thought sufficient to observe and record what takes place in nature uninfluenced by human interference, and the experimental, in which the observer puts his own finger into the pie, and thereby intentionally modifies the result. Man might almost be defined as the experimental animal, and the same instinct which causes a small boy to throw a stone at a street lamp, for the pleasure of observing the effect of his action, leads, also, when properly directed, to the discovery of such things as radium and wireless telegraphy.

Biology is only just entering upon the experimental stage. We have too long been content to take our walks quietly in the dimly-lit streets of nature, without ever troubling ourselves to break a lamp in order to find out where the light comes from.

Observation, however, has enabled us to survey the ground, nor has experiment been entirely wanting. During the last hundred years we have learnt much of the nature of the problem which we wish to solve. Physical and chemical science have led the way, as they always must. The discovery of the microscope and the improvement of microscopical technique have taught us much concerning the physical and chemical composition of living things.

Cell Theory.

After the discovery of protoplasm, or what Huxley so aptly termed the physical basis of life, one of the greatest intellectual triumphs of the nineteenth century was the elaboration, by numerous biologists, of the cell theory. We know now that the body of every living organism is, with certain apparent exceptions which do not seriously affect the general result, built up of one or more minute nucleated masses of living protoplasm, the cells or organic units. In the simplest plants and animals, for the most part visible only with the aid of a microscope, the entire body is but a single cell, a single speck of gelatinous protoplasm, usually with a differentiated nucleus somewhere near the middle. From this simple condition, through endless grades of ever-increasing complexity, we pass to the higher and larger plants and animals, in which many millions of nucleated protoplasmic cells are united together in one individual body and variously modified in structure for the fulfilment of a vast variety of different functions.

We have also learnt that these microscopic cells are capable of self-multiplication by division, and that it is upon this property of the cell that the growth and development of all living organisms depends, for however complex the adult plant or animal may be, it always starts life as a single cell unit, or, to speak more accurately, of a cell unit which is formed by the combination of two cells, the male and female germ-cells or "gametes."

For some time it was supposed that with the discovery of the cell and its nucleus we were approaching the limit of the microscopical analysis of the animal or vegetable body. The researches of the last thirty years, however, have revealed a perfect microcosm of elaborate structure in the nucleus itself, the outstanding feature of which is the appearance, at the time when division is about to take place, of a number of bodies to which, on account of the avidity with which they absorb certain dyes, the name "chromosomes" has been applied. That these chromosomes must be of vital importance to the organism which possesses them is clearly indicated by several facts. Thus they are nearly always constant in number, not only in all the cells of the body, but in all the individuals of any particular kind or species of plant or animal, though differing in number in different species; and at every ordinary cell-division the equitable halving of each individual chromosome is effected by means of a complex mechanism specially adapted for the purpose, in the elaborate process which is termer karyokinesis or mitosis. No less remarkable is the fact that, at a certain period in the life history of each individual, half the number of chromosomes present are thrown out from those particular cells from which the sexual reproductive cells or gametes are destined to arise. Thus it happens that the nucleus of the germ cell of an animal or plant, whether male or female, has only half the number of chromosomes which we may consider to be characteristic of the species. But, before the egg-cell can begin to divide and thus develop into a new organism, it has to be fertilised by the sperm cell. The act of fertilisation consists in the complete fusion of the male and female gametes or germ-cells to form a compound cell or zygote. Each parental nucleus brings with it half the proper number of chromosomes, and thus the zygote, or fertilised egg, starts life with a full complement of these bodies, half of which are derived from each parent.

These facts, thus baldly narrated, but established beyond the possibility of doubt, seem to indicate that the chromosomes are extremely important things, and not a few biologists are inclined to regard them as the actual bearers of the characters which an organism inherits from its parents. We cannot say that this view is yet firmly established, but we shall see that it fits in very well with the results of experiments on heredity, and we may at any rate adopt it as a provisional hypothesis. We must be careful, however, to guard against looking upon even the chromosomes, minute as they are, as simple bodies, for each one is probably made up of many thousands of units, which are quite beyond the limits of microscopic vision, and it is these that are supposed to be the representatives, so to speak, of the different characters which are transmitted from cell to cell and from generation to generation.

Observation has thus enabled us to establish the existence of a material foundation for the transmission of characters from parent to offspring. We know that every child, if not exactly a chip of the old block, is certainly a combination of chips from two old blocks, and that the protoplasm which forms the material basis of all living things is continuous by means of the germ-cells or gametes, in an unbroken stream from one generation to another. At each act of sexual reproduction, however, two such streams are mingled, and the offspring receives half its initial stock of protoplasm from one parent and half from the other, each half bringing with it all the potentialities which may have been derived from a long line of ancestors.

The Problem of Heredity.

We must now direct our attention to the results which have been obtained by the experimental method of attacking the problem of heredity. In the early part of the nineteenth century much attention was paid by horticulturists to experiments on the hybridisation of plants, and many such experiments are, of course, still being frequently performed. It was soon found that, within certain limits, it was possible to fertilise the flower of one variety of plant with the pollen of another variety, and in this manner to alter the character of the offspring. Many crosses or hybrids between different varieties were thus obtained, differing in various ways from the parent plants. It was also found that by repeatedly fertilising the flowers of one variety with the pollen of another the descendants of the first could be entirely changed into the second. This clearly proved that all the distinctive characters of the male parent were in some way represented in the pollen grains, and could be transmitted by these to future generations, but it also proved something more: it proved that it was possible to eliminate the special characters of the female parent, or at least to prevent them from manifesting themselves in the offspring.

We must remember, of course, that the process of fertilisation in plants, as in animals, consists essentially in the union of two sexual cells, or gametes, of which the female egg-cell is contained in the so-called "ovule" in the "ovary" of the flower, and the male sperm-cell in the pollen grain.

As a rule, it is only possible to bring such experiments to a successful issue when working with closely related species or varieties. The flower of one kind of orchid, for example, may perhaps be fertilised by the pollen of a different orchid, but the pollen of such a plant as a lily would probably not have the slightest effect upon it.

The first observer to throw a clear light upon the meaning of the remarkable results obtained by hybridisation was Gregor Johann Mendel, a native of Austrian Silesia, born in 1822, whose work has recently attracted so much attention. As Abbot of Brünn, he was the happy possessor of a garden, and presumably also of that peace and quiet which are so essential to intellectual work. He was not content with merely casual experiments in hybridisation. In the seclusion of his cloister he had time to think about what he was doing, and he attacked the problem in the true scientific spirit. Unfortunately for science, however, his seclusion was a little too complete. He was content to publish his results in 1865 and 1869 in the proceedings of a local natural history society, where they remained buried and almost unnoticed for more than thirty years. Thus, by the irony of fate, our own illustrious countryman, Charles Darwin, the hundredth anniversary of whose birth we celebrated this year, never heard of those remarkable discoveries which bid fair to solve some of the problems in which he himself was so deeply interested.

(To be continued.)

The Lyon Rose.—I was pleased to see such an excellent illustration of this rose in the GARDENERS' MAGAZINE, p. 397, which represents the variety in its true character. At the time the illustration appeared I had a small plant in a four-inch pot carrying one fully-developed bloom, the result of a graft put on in January of this year, which proves what a valuable rose this will be for obtaining plants of that character for various forms of decoration. Its growth is quite vigorous, and the blooms are supported on stiff, erect well-foliaged stems. As you say, the colour is exquisitely beautiful. I do not know another variety quite so attractive in colouring. The yellow overlying the coral-red is indeed exquisite. Growing in the open, too, this rose promises well, and I shall be much surprised if this variety does not become immensely popular.—E. MOLYNEUX.

NOTES FROM SCOTLAND.

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The Season's Prospects.

It is feared that the hopes and high anticipations of horticulturists and others engaged in the raising of crops for the early markets, have been considerably modified by the devastation wrought by the almost Arctic severity of the weather during the past week. The most trying period occurred on the mornings of the 15th and 16th, when several degrees of frost were registered in the most highly-favoured localities; while in many others, snow and frost to an extent very seldom experienced so late in the season, prevailed.

As a result of this, the early potato crops are everywhere badly injured, the flourishing appearance presented a week or more ago being changed completely, as in many instances, not a green leaf remains. In others, where the crops were within the tempering influence of the sea breezes, the damage is less, but still a check is given from which the plants will not quickly recover. In this it is marvellous how a shoot here and there escapes injury, while all others around are destroyed, and this may sometimes be witnessed with two shoots ascending from one tuber, the one being reduced to pulp and the other scarcely discoloured.

It is fortunate in some respects that the season is so late, as maincrop varieties generally have not yet made an appearance above ground, and therefore, presumably, are safe.

The Fruit Crops.

Hardy fruits of all kinds that have already passed the flowering stages gave great promise of full crops, as the bloom was profuse and the weather generally favourable to its setting.

Plums, cherries of dessert kinds, peaches, and early pears were, and still are, very promising, and most varieties of each species are bearing full crops; but whether recent low temperatures will cause the fruit to fall prematurely remains to be seen. Gooseberries and currants are equally satisfactory, and strawberries, though less advanced, give promise of an abundant show of blossom. In this particular district, the frost came at a time when but few fruit trees were in full bloom, the kinds mentioned being mostly past that stage, and strawberries, Morello cherries, and apples being, with few exceptions, more backward, have probably thereby escaped.

Flowering Shrubs and Trees.

Huge bushes of Rhododendron Russellianum and a few other varieties, for which this place is famed, were, at the time stated, at their best, but now nearly every truss of bloom is destroyed. The young growths of larch, and many evergreen trees and shrubs have suffered severely, as also have many deciduous kinds, as the beech, sycamore, lime, and elm; and in respect to these the charming beauty and freshness of spring, so much appreciated by everyone, is sadly marred. JAMES DAY.

Galloway House, Garlieston,
Wigtownshire.

Licences to Sell Weed Killer.—In many parts of the country considerable objection is being raised by chemists against the granting of licences to seedsmen and nurserymen permitting them to sell weed killers, and other poisonous substances used for agricultural and horticultural purposes. We have not heard of a definite refusal to grant such licences, but at Cardiff, Dundee, and elsewhere the opposition has been very strong.

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EXHIBITIONS AND MEETINGS.

◆

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, May 18.

Present: Mr. E. A. Bowles, M.A., F.E.S. (in the chair); Professor A. H. Church, F.R.S., Dr. A. B. Rendle, F.R.S., Dr. A. Vœlcker, F.L.S., Messrs. R. H. Curtis, H. J. Veitch, V.M.H., W. Cuthbertson, A. W. Sutton, V.M.H., W. Hales, A. Worsley, G. Gordon, V.M.H., J. T. Bennett-Poe, H. T. Güssow, F. J. Baker, L. Crawshay, W. Fawcett, F. J. Chittenden (hon. secretary), and E. H. Wilson (visitor). The committee heartily welcomed Mr. E. H. Wilson on his return from his journey of botanical exploration in Western China.

ROSE WITH FOLIAR SEPALS.—Lieut.-Colonel J. W. Currie, F.R.H.S., of Norwich, sent a specimen of the Rose Niphetos having one of the sepals developed into a perfect leaf with five leaflets and stipules well developed. While the peculiarity is not rare, so perfectly developed a specimen as this is seldom met with.

RANUNCULUS AURICOMUS. — Dr. Rendle showed specimens of the depauperate form of R. auricomus with one or two petals only in some flowers, and in others the petals scarcely developed. This species often has very imperfect flowers.

SALIX PENTANDRA.—Mr. J. Fraser showed specimens of the flowers of Salix pentandra in which the posterior gland had proliferated and given rise to two or three small pistils in addition to the normal one. He pointed out that in the genus populus belonging to the same family as salix there is a perianth, and that Bentham had regarded the gland in salix as homologous with the perianth of populus. He found on examination of the frequent cases of abnormal development of this gland or disc in Salix pentandra, considerable grounds for believing Bentham's view to be the correct one. Frequently the gland became so much developed that it grew almost three parts round the pedicel of the ovary.

VIOLA LUTEA AND V. LUTEA AMŒNA.—Mr. Fraser also showed specimens of these two violas collected in meadows at considerable elevations in Scotland. He said that the Scotch raisers of the garden violas had used this species in their formation, and from it had been derived the perennial habit of these species. Mr. Cuthbertson corroborated the statement, saying that this had been the case in 1859 and 1860, but he thought that little good could be likely to arise by re-crossing the species with the violas of the present day, since they were so generally hardy and perennial. He had planted over 100 varieties in an Essex garden in October, 1907, and had found that a very large proportion of them had survived even the severity of the past winter, the varieties Royal Sovereign and Bullion being particularly noticeable in this respect.

FROST INJURY.—Mr. F. J. Baker showed leaves of peas having white patches upon them from Cambridgeshire. They seemed to show signs of albinism, but were also injured by frost. It is possible that the latter was connected with former phenomenon, since, as Professor Church pointed out, the albino spots upon a leaf always contain a larger percentage of water than the green parts, and thus are probably more liable to injury by frost than the green parts. There is also always less lime and potash in the white parts of a variegated leaf than in the green.

PRIMULA HYBRIDS. — Mr. H. J. Veitch showed a series of crosses between Primula pulverulenta and P. Cockburniana. These are both native of Western China, the former being of a rich purple colour and perennial, and the latter orange. The series was as follows:

P. pulverulenta ♀ x P. Cockburniana ♀ gave P. x "Unique" (cerise), while the reciprocal cross gave P. x "Unique Improved," differing somewhat in colour from "Unique," being somewhat darker, but of similar habit. These hybrids are perennial.

P. Cockburniana ♀ x P. x "Unique" ♀ gave a plant bearing terra-cotta flowers nearly the colour of P. Cockburniana, but with the habit of P. pulverulenta, to which the foliage bore a great resemblance. This would appear to be perennial, since the plant which flowered last year is again in bud.

P. pulverulenta ♀ x. P. x "Unique Improved" ♀ and P. x "Unique" ♀ x P. pulverulenta ♀ were almost identical in colour of flowers, just a little brighter than P. pulverulenta, while when the plant raised by crossing P. Cockburniana and P. "Unique" was fertilised from that raised by crossing P. x "Unique" and P. pulverulenta, the colour of the flower showed a greater variation from P. pulverulenta, and was of a warm cerise.

ABNORMAL TULIP (NEW SEEDLING VARIETY).—A correspondent sent specimens of abnormal tulips, which were in all respects normal florists' breeders, except that the three inner petals of each possessed a couple of small spurs near the base pointing inwards. The malformation is constant, and recurs each year; it is found in all the offsets that have arisen from the original seedling, and is evidently characteristic of the variety. Both plants were normal, as were all the other seedlings raised from the same parents; indeed, no similar structures in a tulip bloom have fallen under the raiser's observation either among tulip species or some 1,500 other seedlings of florists' tulips. Somewhat similar formations to these are sometimes met with among tulips, but no member of the committee had before seen specimens where the abnormality was so regularly and symmetrically developed.

ORCHID HYBRIDS.—Mr. G. Wilson sent flowers of seedlings of the cross Dendrobium nobile album x D. Findleyanum (= D. x "Cybele"). All the seedlings which had flowered (about sixty) had borne coloured flowers approaching D. nobile, with one exception, where the flowers were white with a faint pink tinge.

PISUM SP., ETC.—Mr. A. W. Sutton showed plants in flower of the wild pea collected in Palestine, which he had before exhibited, and of P. quadratum, to demonstrate the fact that the two were not identical. The seeds of the two are very similar to one another, but the mature plants differ particularly in the amount of serration of the leaves.

Mr. Sutton also showed the plant of asparagus which had been collected in the Himalaya, but the committee desired to see it again when it was in flower.

IMPATIENS X COMORICOMA.—Mr. H. J. Veitch showed, on behalf of Messrs. Cayeux and Le Clerc, of Paris, plants of the hybrid impatiens x comoricoma raised from I. comorensis and I. auricoma, the former with rose flowers, the latter with yellow, those of the hybrid being "rouge chaudron eclairé de jaune soufre, striées de carmin sur les bords intérieurs des pétales latéraux." The anterior sepal of I. comorensis is white, and of I. auricoma yellow, while in the hybrid it is yellow striped in the lower part with carmine. A table comparing the hybrid with its parents is given along with an account of the raising of the hybrid in the "Revue Horticole," September, 1908, pp. 427-428.

UNCOMMON CONIFERS.—From Sir Edmund Loder, Bart., Leonardslee, came branches with cones of the uncommon conifers Larix Griffithi and L. americana.

Kew Guild.

The annual meeting of the Kew Guild, held at the Holborn Restaurant at the close of the first day of the Temple Show, instead of on the eve of the show, was not so well attended as usual. Mr. Watson presided. There was an undercurrent of distrust evident in respect to the "Forward Movement," and five members of the committee, including the secretary and treasurer (Messrs. W. N. Winn and H. H. Thomas) resigned as a protest. The meeting felt, however, that these gentlemen were sufficiently strong to prevent the management from launching into matters outside the province of the guild, and consequently re-elected them all. The balance on the year's accounts showed a profit of £32 6s. 2½d., and the capital account stands at £332 6s. 2½d.

The annual dinner was presided over by Dr. Burrell, M.A., the medical officer for the Royal Gardens, Kew, who urged the cultivation of the Old Boy spirit of brotherliness, and pointed out that the importation of controversial matter into such a body as the guild was certain to prove disastrous.

Mr. E. H. Wilson, the celebrated collector, responded for "The Guild," and he pointed out that the gathering was an unusually small one, and there was a sense of "something wrong" abroad, and this did not tend to increase that adhesion and love of the members that was so marked a characteristic of Kewites as he had found them in all parts of the world. What was the matter? When proposing "The Chairman," Mr. Watson made it evident what was the matter, as his speech—an excellent one—was an argument for the use of the guild and its members as a means to advance Socialistic views, and the argument fell flat. Dr. Burrell traversed the points raised by Mr. Watson, and, judging from the applause that punctuated his remarks, the great majority of the members were in sympathy with him, and not with the ideas set forward by Mr. Watson.

We append the report and balance-sheet:

BALANCE-SHEET, 1908-1909.

RECEIPTS

	£	s.	d.
Balance from 1907-8	£20	9	2
Life Subscriptions	16	0	0
Annual Subscriptions and Sales	15	3	6
Balance on Annual Dinner	0	2	6
Interest on £300 New South Wales Stock...	9	19	6
Interest on Deposits in Post Office Savings Bank	0	12	2
Advertisements in Journal	13	0	0
Total	£75	6	10

EXPENDITURE.

	£	s.	d.
Secretary's Honorarium	£5	0	0
Postage and Stationery	3	0	3½
Printing and Freight of Journals	31	9	6
Preparing and distributing resolution re policy	3	10	10
Balance 1908-09	32	6	2½
Total	£75	6	10

CAPITAL ACCOUNT, April 30th, 1909.

LIABILITIES.

	£	s.	d.
Thomson Bequest	£92	8	6
Life Subscribers' (269) Fund	239	17	8½
	£332	6	2½

ASSETS.

	£	s.	d.
£300 in New South Wales 3½ per cent. Stock	£300	0	0
Deposits in Post Office Savings Bank	32	5	8
Cash in hand	0	0	[illegible]
	£332	6	2½

Audited and found correct, 14th May, 1909.

H. H. THOMAS, Treasurer.
W. N. WINN, Secretary.
C. P. RAFFILL, } Auditors.
H. COWLEY,

ANNUAL REPORT.

"The committee beg to present the report for the year ended April 30, 1909. The receipts for the year amounted to £54 17s. 8d., including 16 life subscriptions. The total number of life members is now 269. The expenditure was £43.

"The annual general meeting took place, as usual, at the Holborn Restaurant. Mr. Watson presided. A report of the proceedings will be found in the 'Guild Journal' for 1908, p. 402. The resolution adopted at the last annual meeting with regard to the 'Journal,' etc., was submitted to the whole of the members, and the result is recorded in the 'Guild Journal' for 1908, p. 410, "The Forward Movement.' It will be seen that a large majority voted for the resolution. In consequence of this decision the following members of the committee have decided to resign Messrs. W. Dallimore, H. Spooner, W. Hales, W. N. Winn (secretary), and H. H. Thomas (treasurer). It will be necessary, therefore, for this meeting to elect members to replace them. Rule III., with respect to the retirement of members, will be in abeyance this year.

"The annual dinner took place, as usual, at the Holborn Restaurant, Mr. W. W. Pettigrew was in the chair. There were 86 members present.

"The committee regret to have to report the death of the following members: Messrs. G. Nicholson, H. Millen, W. R. Elliot, D. Stalker, and Mrs. R. Ward (Jessie Newsham).

"The auditors for the present year are Messrs. C. P. Raffill and H. Cowley."

Bristol Gardeners' Association.

The first meeting of the new session was held on May 27, at St. John's Parish Rooms. Mr. W. E. Budgett presided over a large attendance. Mr. Brooks gave a lecture upon "Fads and Fancies of Gardeners and Gardening." The lecturer gave some reminiscences of visits he had made to gardens in his travels, mentioning the peculiar fads of many gardeners, some having a perfect mania for buying everything new offered, others had fixed dates for sowing seeds. In fact, none had more fads and fancies than sons of the soil. The Chairman opened the discussion, and was followed by several others. An interesting part of the proceedings was the presentation of silver medals to three young members for making the maximum number of attendances during the past session—Messrs. House, jun., Coombs, and Whiting; two others received framed certificates, only missing once. Three new members were elected.

For three bunches of hardy flowers Mr. Binfield was first, Mr. Holt second. Judging by points, Mr. Garnish was awarded three for six bunches of sweet peas; Mr. Thoday two, for a collection of vegetables; Mr. Scott two, for carnations; Mr. Curtis two for a renanthera; Mr. Shelton two for dendrobium thyrsiflorum; and Mr. Bird two for calceolarias. Votes of thanks to lecturer and chairman closed a most successful meeting.

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VEGETABLE CULTURE IN THE VALE OF EVESHAM.

From a most interesting article, entitled "Market Gardening in the Vale of Evesham," contributed to the "Journal" of the Royal Agricultural Society by our friend Mr. James Udale, we extract the following notes on vegetable culture:

"The path is called the Little Abbey Lane, and covers what were formerly the cloisters of the great church from the gardens of the monastery. These gardens, which were in cultivation by the monks of Evesham more than one thousand years ago, formed the beginning of that great market-garden industry which has now become so widely extended in the town and neighbourhood, and gives to the district the title of 'The Garden of England.'" This quotation from Smith's valuable publication, "Evesham and its Neighbourhood," briefly indicates the earliest site and commencement of a most important and flourishing industry in the county of Worcester. And although this industry now extends from its centre at Evesham into Warwickshire and Gloucestershire, yet nearly the whole of it is in Worcestershire.

Fifty or sixty years ago the total area of land devoted to market gardening and fruit growing near Evesham has been estimated at from 500 to 600 acres; now (December, [illegible]) the total area within a radius of ten miles of Evesham devoted to this industry is estimated at 15,000 acres. The area within seven miles of Evesham alone is estimated at 10,000 to 12,000 acres; the present area being supposed to be about double what it was twenty-five years ago, so rapidly has the industry extended.

The pioneers fifty-five years ago were men of such well-known names as Myatt, Mas[illegible], Cole, New, and Byrd; to these men belongs the credit due for continuing and more firmly establishing such profitable and prosperous work. To the late Mr. [illegible] Myatt we are indebted for "Myatt's Early Prolific" potato, "Myatt's Early Offenham" cabbage (the best for commercial purposes), "Myatt's Victoria" rhubarb, several strawberries of sterling merit, and other vegetables and fruit.

In more recent years young men of good family and education have settled in the district and embarked in market gardening with more or less success; but bearers of the old names—descendants of those previously mentioned—occupy the leading positions.

It is not uncommon, also, to find instances where steady, industrious labourers commence with an allotment; then take a larger [illegible] and in three or four years more we find these men fully developed market gardeners, with their four, six, or ten acres of garden, horses and carts, and living in their own new, well-fitted, and well-furnished homes.

Of the eight main vegetable crops grown, the estimated area is as follows:

	Acres.
Asparagus	700—1,000
Cabbage (for cutting in March and April)	1,000
Beans (runner)	500
Marrows	200—250
Onions (for use as salad in the early months of the year)	150—200
Lettuce (for use in March and April)	100—120
Peas	2,000—2,500
Radishes	70—80

These are supplemented by early cauliflowers, broad beans, ridge cucumbers, parsnips, leeks, Jerusalem artichokes, and herbs.

Tomatoes are largely, and often profitably, grown in the district in the open air. Of these it is estimated there are grown 250 acres. During 1908 one man alone had 30 acres of tomatoes—a risk which some men would not care to take.

Wallflowers (gillies) and narcissi are largely grown as catch crops under the fruit trees, and are valuable aids to keeping the balance on the right side of the ledger. Violets also are grown to some extent in beds and borders in the open; and white pinks are grown as a profitable edging to the paths.

With regard to successional crops or rotation of cropping, this necessarily varies with the individual grower, and the kind of crops he cultivates. Broadly, cabbage is followed by the tomato crop, spring onions are followed by Brussels sprouts, radishes are succeeded by marrows or ridge cucumbers, or both, and broad beans are grown at intervals between, to form shelter. Often early cauliflowers are grown under hand glasses, and marrows between them. These, in turn, are succeeded by peas (early) or runner beans, and sometimes Brussels sprouts. Cauliflowers, if not taken, as before mentioned, under hand glasses, are planted after spring cabbage, the latter being cleared from the ground when quite young. The cabbages will have been dressed with some kind of fertiliser, and will thus leave the soil in "good heart," and quite capable of carrying another "green" crop without becoming unduly exhausted.

As animal manure is very scarce, other sources of plant food have to be utilised; and such fertilisers as fish guano, soot, nitrate of soda, and blood manure are very largely used. In a lesser degree recourse is had to muriate or sulphate of potash, kainit, bonemeal, and superphosphates.

There are six vegetable crops at least which receive special attention, viz., asparagus, cabbage, marrows, radishes, peas, and lettuce.

Asparagus, in value if not in area, stands first. It is grown, in almost all cases, in single rows, at 3ft. or 3ft. 6in. apart; but occasionally it is seen in narrow beds containing two rows, with a wide path or trench between. No special preparation of the soil is made, or required, for this crop. Sometimes the seed is sown where the plants are to remain; by this procedure some time is saved, but there is a consequent variation in the strength of the plants, and the size and quality of the asparagus produced. It is better to sow the seed in a bed, very thinly, in April, and to plant it out in the April of the following year, selecting the best plants only for the purpose. The subsequent cultivation mainly consists of manuring, earthing-up, cutting, and re-earthing during the season of cutting, weeding, diligently searching for the asparagus beetle (neglect of this being a frequent cause of failure), cutting down the stems in November, and levelling the ridges.

Cabbage, though equal in area, is seldom of the same value per acre. The seed for this crop is sown on beds in July. The young plants are planted out in September, and sometimes in October, in rows about 15in. apart, and about 12in. from plant to plant in the rows. They are frequently hoed, and in January and February dressing with fertilisers commences. The stimulants and hoeings promote early growth, and nice young cabbages are ready for cutting some time in March.

Marrows.—Sometimes these are raised from seed sown in pots, and placed in artificial heat in a greenhouse, frame, or hotbeds; but more usually the seed is sown where the plants are to grow and fruit. In the latter case holes are made at certain distances apart—the distances depending on whether the ordinary rambling plant be grown, or whether they be "bush" marrows, the latter being compact plants, about 4ft. across, and very fruitful; a forkful of manure is placed in the holes, the soil returned, a ring of metal 3in. or 4in. in depth, and about 12in. in diameter, is placed thereon, three or four seeds are sowed, and a disc of glass placed over the ring. This is done about the end of April. Some covering is required on cold and frosty nights, and various materials are used for the purpose; particularly is this protection from cold required when the seedlings are through the soil. With the warmer days and nights of June the glass is entirely removed, and the marrow plants fully exposed.

Early peas are usually sown in January, in rows 18in. to 24in. apart, on sheltered plots and protected borders. Sticks are seldom used, dwarf varieties only being grown. Harrison's "Eclipse," "William

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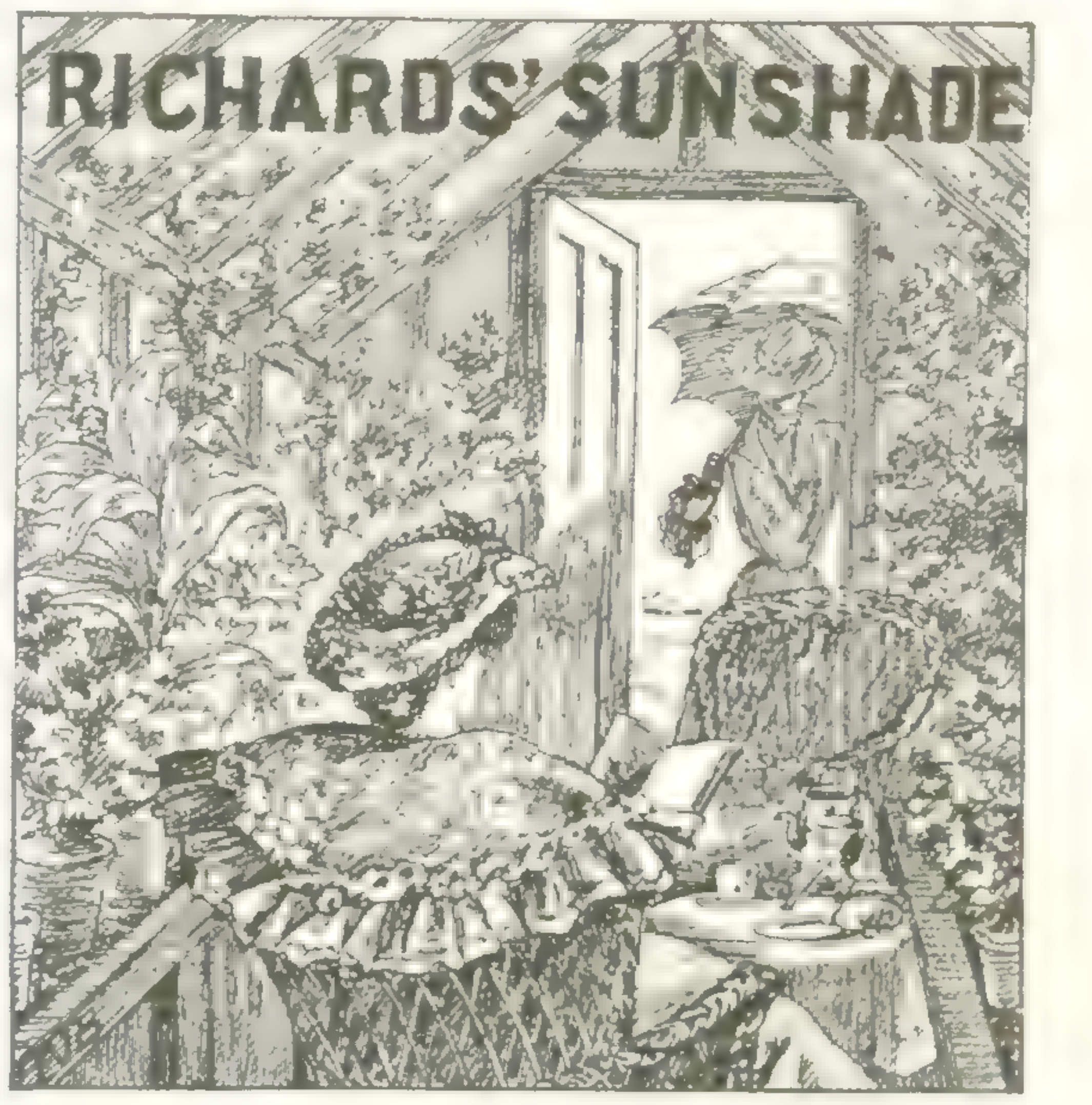

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Hurst," "Daisy," and "Senator," being the varieties most favoured.

Lettuce.—A hardy variety of cabbage lettuce named "Schofield" is the variety mainly cultivated. The seed is sown early in August, and at the end of September strong plants are obtained for transplanting in breadths under the shelter of plum trees, from which, at that time, the fruit has been gathered. The soil must be fertile and clean; the lettuce plants are placed 6in. to 8in. apart, and beyond a little watchfulness for slugs, sparrows, and larks, little more attention is given to the crop.

Radishes—especially the earliest crops—are not so easily obtained as the general public think. Tender and juicy radishes can only be obtained from rich soil—soil rich in plant food and humus. The earliest crops are sown in December on borders sloping to the south, and these are sheltered from the north either naturally or artificially—often both. The seedlings are very tender in January and February, and easily destroyed; hence it is not uncommon to have to sow twice, and even thrice, to obtain a crop of early radishes. After the seed is sown and lightly raked in the whole border is covered with clean new straw. When the seed has germinated and the seedlings appear, this protective covering of straw has to be carefully removed on favourable days by a very long-handled rake, and be again returned over the seedling radishes in the evening; since, if they are not exposed to light they will perish, and if they be exposed to frost they will likewise perish. So the lot of the radish grower can hardly be described as "a happy one." Birds are troublesome to the later crops grown on the open plots, and these are scared by boys armed with various, and more or less harmless, weapons.

Tomatoes also must be considered as a special crop in and around the Vale of Evesham, and it has come into favour within the last twenty years. They go to supply the English and Scottish markets with cheap fruit during the months of September and October; and if the grower can obtain five or six farthings per pound clear he is amply repaid by a good crop. All are grown in the open, "glass" being conspicuous by its absence from such an important horticultural centre. The few gardeners who have one or two warm greenhouses supply their neighbours with young tomato plants at a cheap rate per thousand during the latter half of May. These are planted in rows about 4ft. apart, and 30in. or 3ft. apart in the rows, and tied and trained to a stout stick about 3ft. high. As previously stated, one man has grown 30 acres of tomatoes in 1908, but usually the area devoted to them by individual growers varies from half an acre to four acres.

FORTHCOMING ENGAGEMENTS.

SATURDAY, June 5.—French Horticultural Society of London.

MONDAY, June 7.—National Fruit Growers' Federation, council meeting.

TUESDAY, June 8.—Royal Horticultural Society; committees meet at 12 o'clock; lecture at 3 p.m. on "Some Old Superstitions about Plants," by the Rev. Professor G. Henslow, V.M.H.; Scientific Committee at 4 o'clock.

WEDNESDAY, June 9.—East Anglian Horticultural Club.

Royal Cornwall Show, at St. Columb; two days.

MONDAY, June 14.—United Horticultural Benefit and Provident Society.

TUESDAY, June 15.—Royal Meterological Society's Annual Dinner.

WEDNESDAY, June 16.—York Floral Fête and Gala; three days.

THURSDAY, June 17.—Linnean Society Meeting.

TUESDAY, June 22.—Royal Horticultural Society, Committees meet at 12 o'clock; at 3 p.m. the First Masters' Memorial Lecture on "Masters' Vegetable Teratology," by Prof. Hugo de Vries Scientific Committee at 4 o'clock.

WEDNESDAY, June 23.—Gardeners' Royal Benevolent Institution, Festival Dinner at the Hotel Metropole.

SATURDAY, June 26.—Windsor Rose Show.

TUESDAY, June 29.—Southampton Rose Show; two days.

Brighton Rose Show; two days.

Canterbury Rose Show.

ANSWERS TO CORRESPONDENTS.

SWEET PEAS.—S. J., Hertford: Thin out the growths to about three per plant, and loosely secure those retained to the supports. It is a great mistake to allow a large number of growths to fill up the available room, and so crowd each other that good foliage and good blooms are impossible.

N.C.S. FLORAL COMMITTEE.—M. M. E., Donnybrook: The Floral Committee of the National Chrysanthemum Society consists of eighteen members exclusive of the officers of the society, who are members ex-officio. This body makes awards to varieties "that may be considered new, or which after a few years' culture may have developed unexpected high quality, or are not so sufficiently in commerce as to be generally known: and will consist of a First Class Certificate of Merit and a Commendation. Awards will be made by show of hands. A majority of at least three-fourths of the members of the committee present is necessary for the variety to obtain a First Class Certificate of Merit. Should it fail to obtain a certificate, a Commendation may be given to it provided it is supported by a three-fourths majority of those present. Exhibition, decorative, market, and all other varieties will be judged by the same standard. Votes of thanks and medals to collections of new varieties or meritorious exhibits will be awarded at the discretion of the committee."

PAMPAS GRASS.—A. M. W., Whitchurch: It is rather late in the season to remove and divide a large clump of pampas grass, but if everything is in readiness, and you can give extra care and attention in the matters of shading and watering, the work may be successfully done now.

ASPARAGUS BEDS.—R. N. G., Boston: A light dressing of nitrate of soda, about half an ounce to the square yard, finely broken up, applied after rain or a good watering, and then watered in, would assist the plants materially. When cutting ceases give the beds copious supplies of liquid manure, to encourage strong growth and plenty of foliage, because unless these are produced the prospects of a good crop of heads next year will be very poor.

SEEDLINGS OF ANEMONE JAPONICA.—B. H. G., Lincoln: Seeds of Anemone japonica very rarely ripen in this country, and so far as we remember there are only two home-raised seedlings, i.e., Lord Ardilaun and Lady Ardilaun, neither of which have the robustness of the type, though they are very beautiful. The variety Whirlwind came from America, and the double Coup d'Argent was raised in France. By a process of semi-starvation, in pots, and the use of a greenhouse, it might be possible to ripen seeds.

PLANTING OUT TOMATOES.—F. P. T., Rainham: If you have strong plants in 48 or 32 sized pots, each with one or two trusses of fruit set, then you may at once proceed to plant these out against south or south-west walls, or on sunny borders. Plant firmly and water in if necessary. Provide a stick for each plant in the border, and secure the other plants to the wall or to a stick placed close to the wall. Do not permit side growths to remain, but keep the plants to single stems, and take out the growing point when four or five trusses of fruits have set.

SIZES OF ROSE BOXES.—T. G., Westbury-on-Severn: We cannot do better than give the regulation of the National Rose Society with regard to boxes for exhibition roses. It is as follows:—All blooms exhibited (except where specially directed in the schedule to be shown in vases or otherwise) must be staged in boxes of the regulation size, viz., 4in. high in front and 18in. wide, and of the following lengths, all outside measurements: For 24 blooms, 3ft. 6in. long; for 18 blooms 2ft. 9in. long; for 12 blooms, 2ft. long; for 9 blooms, 1ft. 6in. long; and for 6 blooms, 1ft. long. In the above boxes for single blooms the tubes must be 5in. apart each way from centre to centre of the tubes.

LOGANBERRY.—D. G., Wolverhampton: Cut back the canes to within a few inches of the ground line; this will enable the plants to thoroughly establish themselves and make good canes for fruit production next season.

KAINIT AS A LAWN DRESSING.—G. W. P., Moreton: Kainit is an excellent lawn dressing but not for present application. If you mix 6lb. of kainit with 3lb. or 4lb. of basic slag, and distribute the mixture evenly over about 40 square yards of lawn in the autumn, the grass will have had a suitable dressing, and will profit materially from it. If this dressing is followed in the spring by a dressing of superphosphate at the rate of 4lb. per 40 square yards, it will be a decided advantage. Write us again in the autumn.

NAMES OF PLANTS.

J. H., Llandovery.—Alyssum saxatile.

S. E. J., Babbacombe.—Rhododendron Keysi.

M. C., Carnarvon.—1, Fraxinus Ornus; 2, Saxifraga Geum.

T. G. C., Chester. — 1, Begonia semperflorens gigantea; 2, Anguloa Clowesi; 3, Epidendrum vitellinum majus.

F. A., Worthing. — 1, Apparently a fine form of Asphodeline lutea; 2, Tiarella cordifolia; 3, Pulmonaria angustifolia.

F. L. W., Hull.—Cytisus biflorus; 2, Laburnum Adami; 3, Lupinus polyphyllus; 4, Phlox canadensis; 5, Daphne Cneorum.

H. P., Poole.—1, Gentiana acaulis; 2, Anchusa italica; 3, Æthionema coridifolium; 4, Lonicera etrusca; 5, Helonias bullata.

A. R., Norfolk.—1, Nephrodium Otaria, commonly grown in gardens as Lastraea aristatum; 2, Pellæa rotundifolia; 3, Polystichum aculeatum, a good form; 4, Cyrtomium falcatum; 5, Pteris tremula; 6, Asplenium bulbiferum; 7, Pteris longifolia; 8, Pteris cretica; 9, not recognised, send when in flower; 10, Curculigo recurvata.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1909. May 23 to May 29.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
May 23—Sunday	10 36	69	59	76	49
„ 24—Monday	13 18	63	55	72	44
„ 25—Tuesday ...	0 6	54	53	60	51
„ 26—Wednesday .	4 36	51	47	58	47
„ 27—Thursday ...	4 24	55	51	59	48
„ 28—Friday	10 42	57	52	64	44
„ 29—Saturday ...	13 48	59	53	65	49
Means	(total) 57 30	58	53	65	47

Date. 1909. May 23 to May 29.	Rain.	Temperature of the Soil. At 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
May 23—Sunday	—	59	56	51	41
„ 24—Monday	0.67	58	56	52	34
„ 25—Tuesday ...	0.06	59	57	52	51
„ 26—Wednesday.	0.42	56	57	53	42
„ 27—Thursday ...	0.05	56	56	53	47
„ 28—Friday	0.08	56	56	53	38
„ 29—Saturday ...	—	57	56	53	49
Means ...	(total) 1.28	57	56	52	43

LONDON POTATO MARKETS.

Trade is slow and prices show no alteration.

		s. d.		s. d.
Dunbars	per ton	75 0	to	95 0
Evergood	per ton	45 0		60 0
Maincrop	per ton	65 0		75 0
Royal Kidney	per ton	45 0		60 0
Up-to-Date	per ton	60 0		75 0
„ Blacklands	per ton	50 0		60 0
Canary, new	per cwt.	10 0		14 0
Jersey, new	per cwt.	16 0		19 0
Algiers, new	per cwt.	10 0		11 0

MARKETS.

◆

COVENT GARDEN.

Flowers.

There has been the usual lull after the holidays. Supplies are good and prices steady.

		s. d.	s. d.
Adiantum cuneatum	per doz. bun.	5 0	9 0
Anemones	per doz. bun.	1 6	2 0
Arums	per doz.	2 0	4 0
Asparagus	per bun.	1 0	3 0
Azaleas	per doz. bun.	4 0	5 0
Carnations	per doz. blms.	2 0	3 6
	per doz. bun.	9 0	12 0
" Malmaisons	per doz.	8 0	12 0
Cattleyas	per doz.	10 0	12 0
Croton leaves	per bun.	1 0	1 6
Cypripediums	per doz. blms.	1 6	3 0
Daffodils, double white	per doz. bun.	1 6	2 6
Forget-me-nots	per doz. bun.	2 0	3 0
Eucharis	per doz.	2 6	3 6
French fern	per doz. bun.	0 6	1 0
[illegible]s	per doz.	1 6	2 6
[illegible]	per doz. bun.	6 0	9 0
Gypsophila	per doz. bun.	3 0	4 0
Iris Spanish	per doz. bun.	4 0	8 0
Lilac, white	per bun.	1 6	2 6
mauve	per bun.	0 6	1 0
Lilium auratum	per bun.	2 0	3 0
" speciosum	per bun.	1 6	3 0
" longiflorum	per bun.	2 0	3 6
Lily of the Valley	per doz.	6 0	12 0
Marguerites, white	per doz. bun.	1 6	3 0
[illegible]te	per doz. bun.	3 0	6 0
Odontoglossums	per doz. blms.	2 0	2 6
Poppies	per doz. bun.	3 0	6 0
Pelargoniums	per doz. bun.	4 0	6 0
Roses	per doz.	1 6	6 0
Sweet Peas	per doz. bun.	2 0	5 0

Fruits.

Business continues steady; oranges, gooseberries, and strawberries sell readily.

		s. d.	s. d.
Apples, Australian	per case	8 0	13 0
" Tasmanian	per case	9 0	14 0
" Californian	per case	7 0	9 6
Apricots	per box	0 9	1 3
Bananas	per bun.	3 0	10 0
Cranberries	per case	13 0	14 0
Cherries	per box	0 9	1 2
Gooseberries	per peck	2 0	2 6
Grapes, English	per lb.	2 0	5 0
Guernsey	per lb.	1 0	2 6
[illegible]	per case	8 0	22 0
[illegible] Guernsey	each	1 0	2 6
[illegible] Denia	per case	12 0	25 0
" Jaffa	per case	8 0	10 6
[illegible]	per doz.	4 0	16 0
Pears, Australian	per tray	3 6	6 0
Pineapples	each	2 0	4 0
Strawberries	per lb.	0 6	1 0
" French	per crate	15 0	20 0

Vegetables.

[illegible]ffs and salading are now plentiful and [illegible]. Business is good.

		s. d.	s. d.
[illegible]es, Globe	per doz.	2 6	to 3 0
Jerusalem	per bush.	1 9	2 6
[illegible]s	per bundle	1 6	2 0
Paris	per bundle	1 6	2 0
sprue	per bun.	0 6	0 8
[illegible]	per bush.	2 0	3 0
[illegible]	per lb.	0 6	0 8
[illegible]	per tally	4 0	7 0
[illegible]	per doz. bun.	1 0	3 6
[illegible]	per doz.	2 0	3 6
[illegible]	per doz.	2 0	3 6
[illegible]	per doz.	1 0	2 0
[illegible]	per bush.	1 0	1 6
[illegible]t	per doz. bun.	8 0	20 0
[illegible]	per doz. bun.	2 0	2 6
French	per crate	2 0	2 3
Cos	per doz.	3 0	3 6
[illegible]	per doz. bun.	1 6	2 6
[illegible]ms	per doz. lb.	6 0	10 0
Pickling	per bush.	3 6	6 0
Valencia	per case	9 0	12 0
Spring	per doz. bun.	2 0	3 0
[illegible]	per doz. bun.	1 6	2 3

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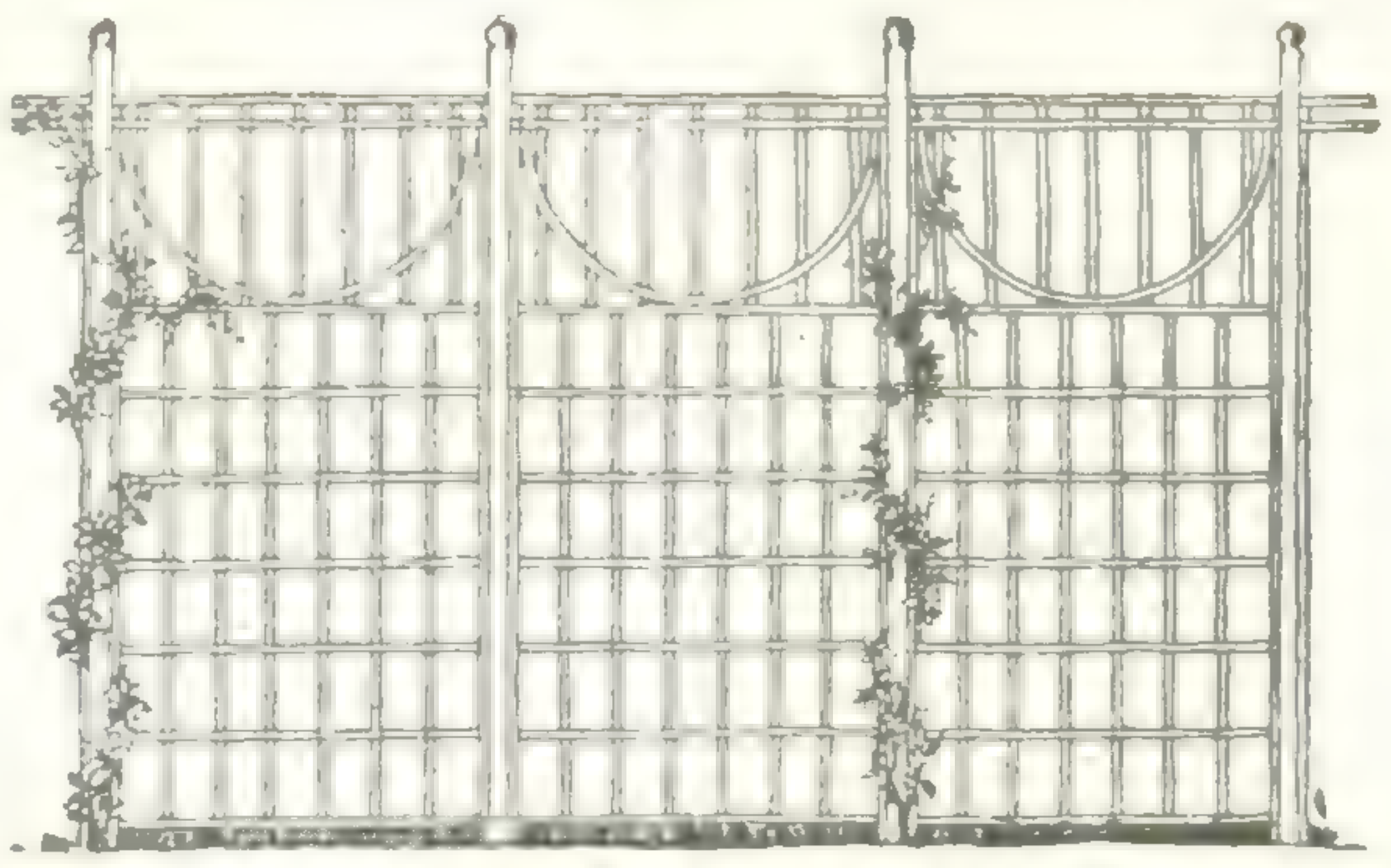

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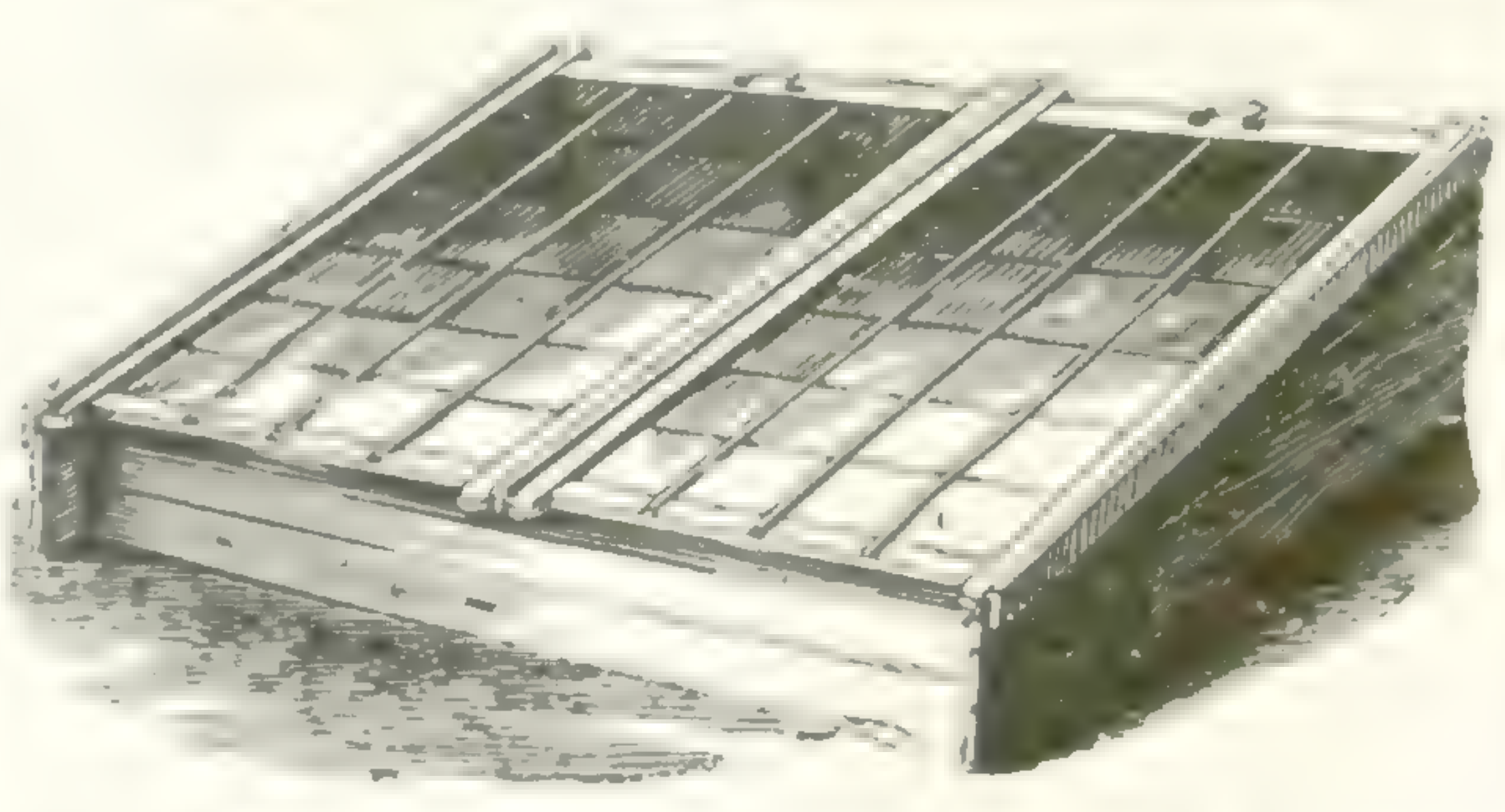

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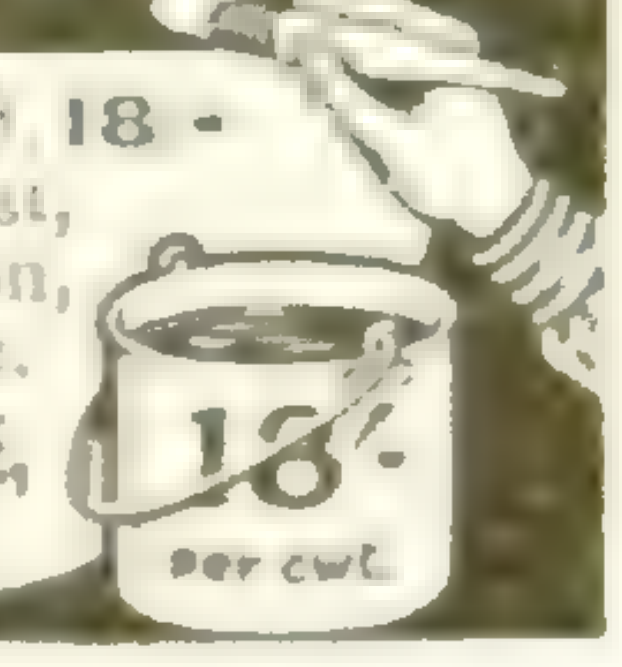

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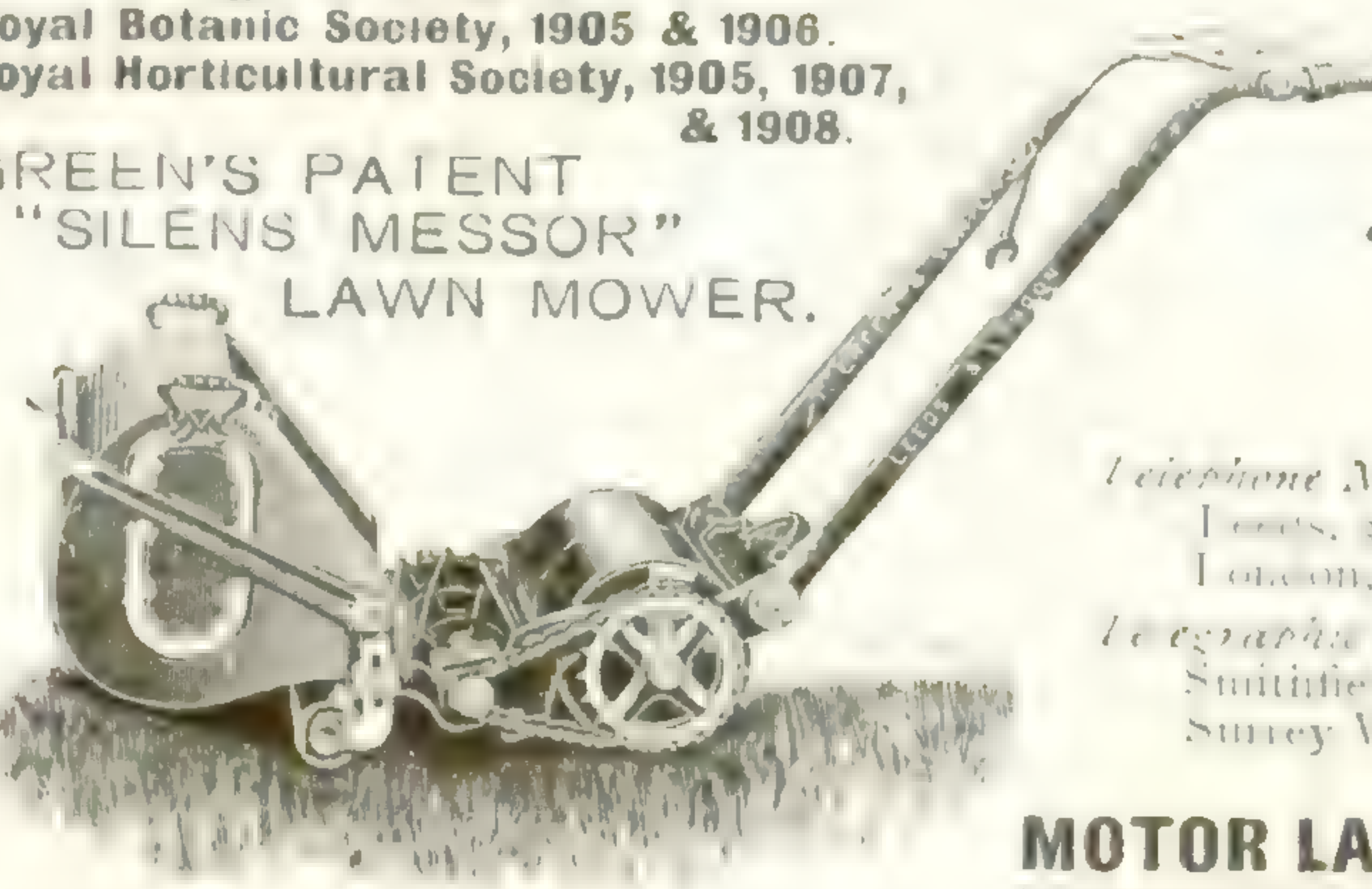

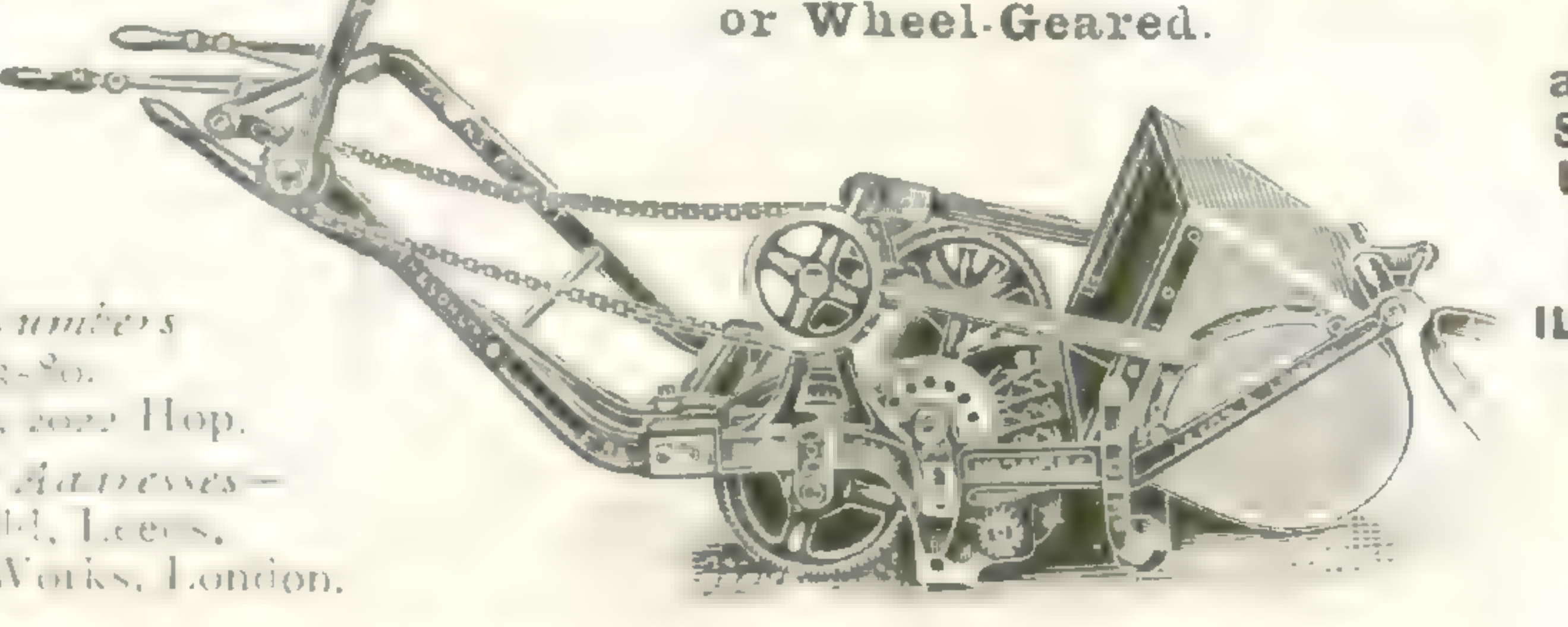
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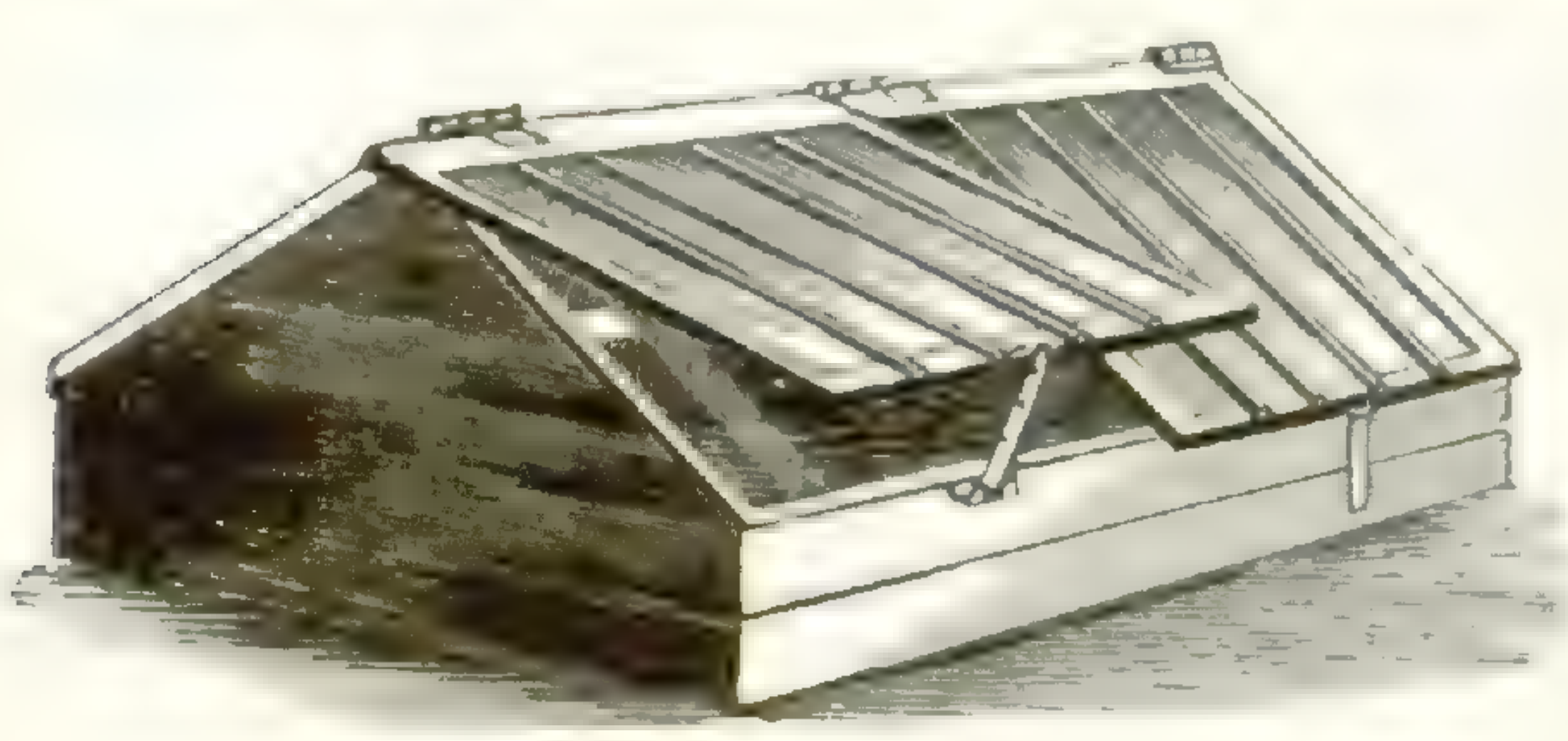

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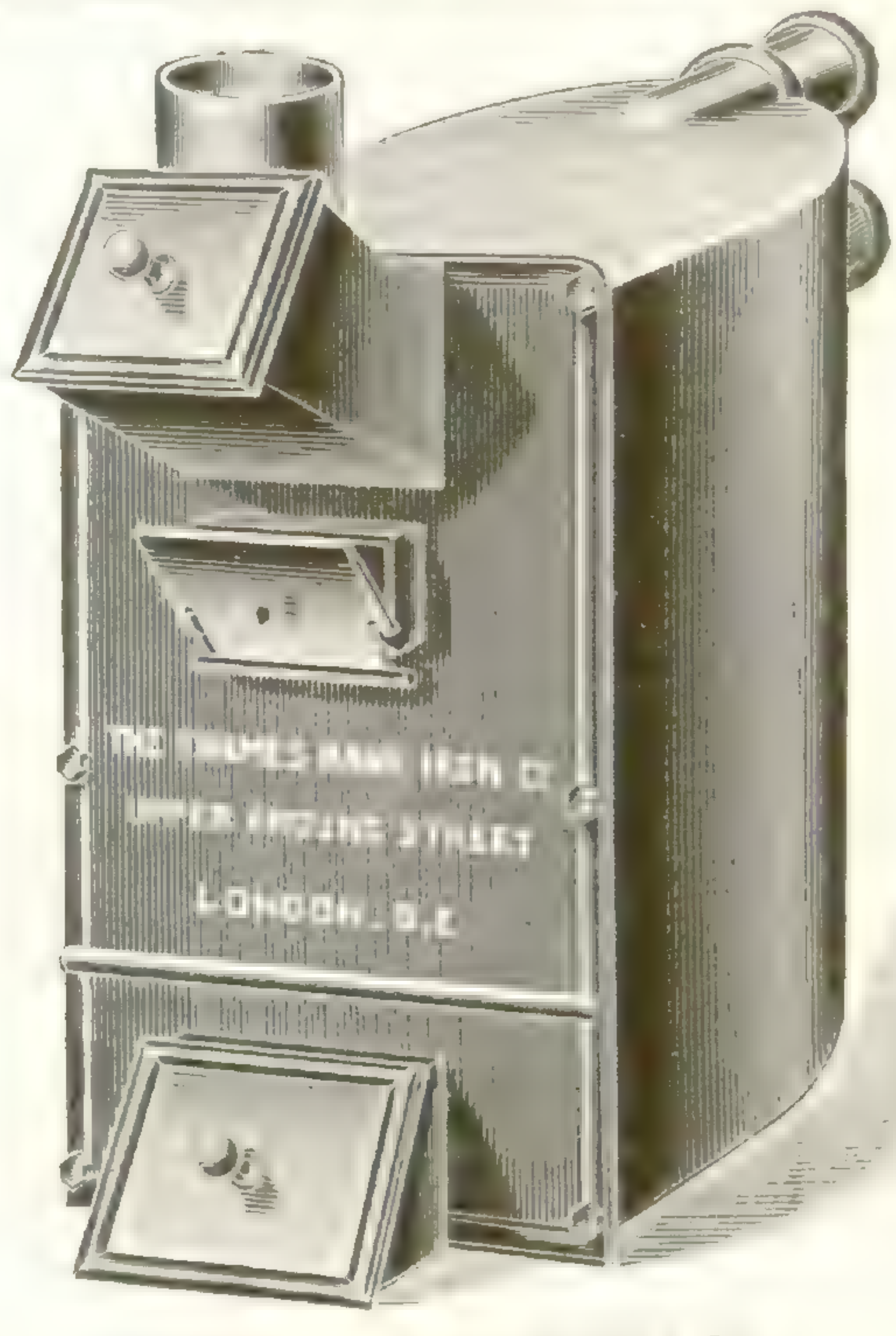

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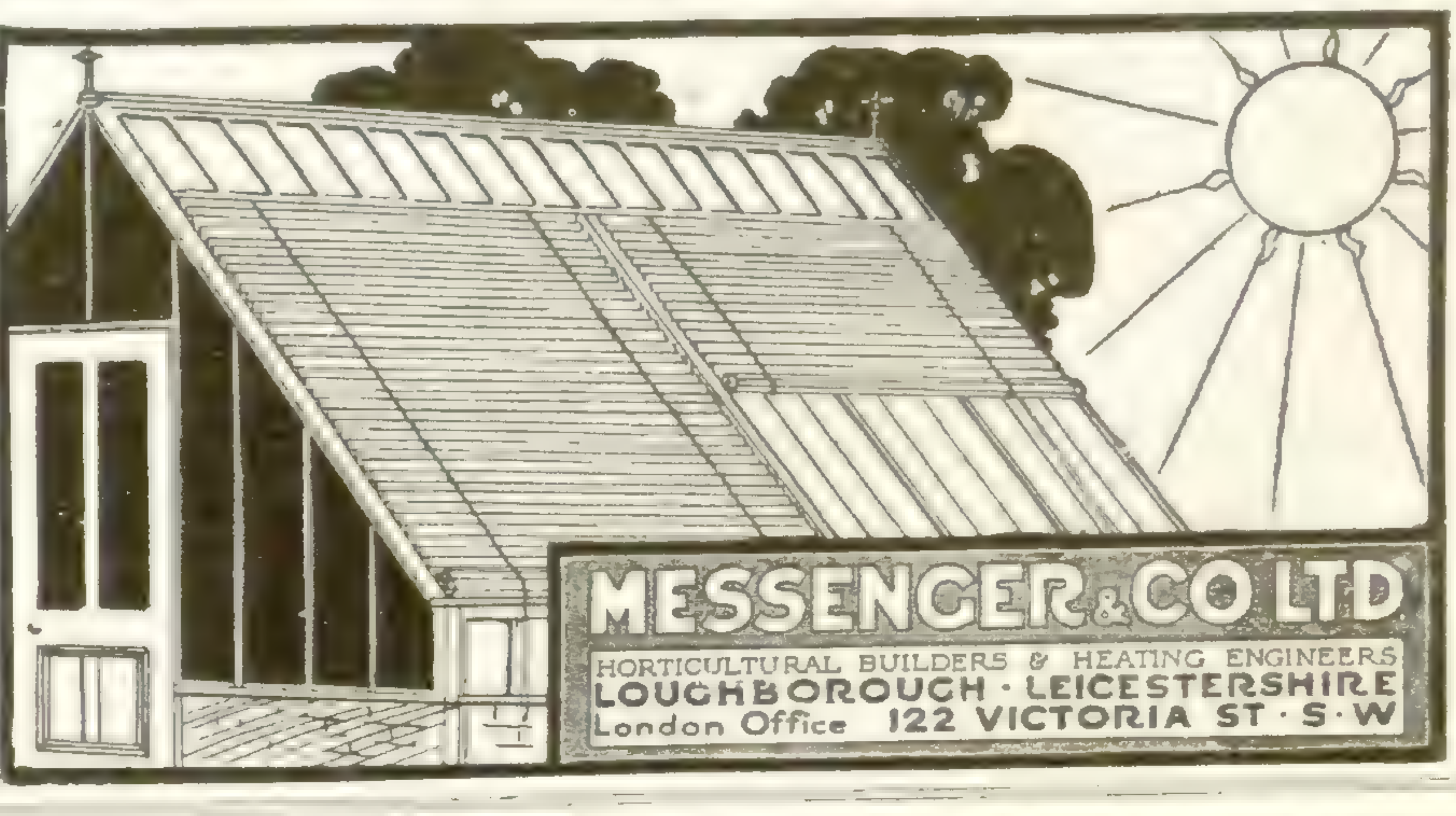

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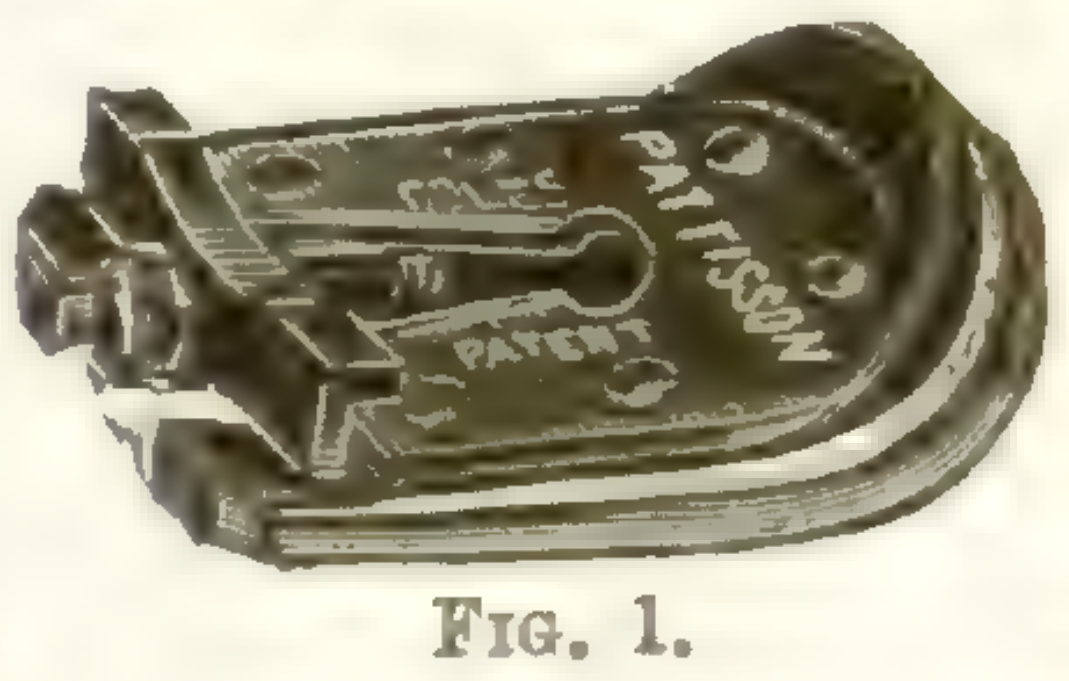

FIG. 1.

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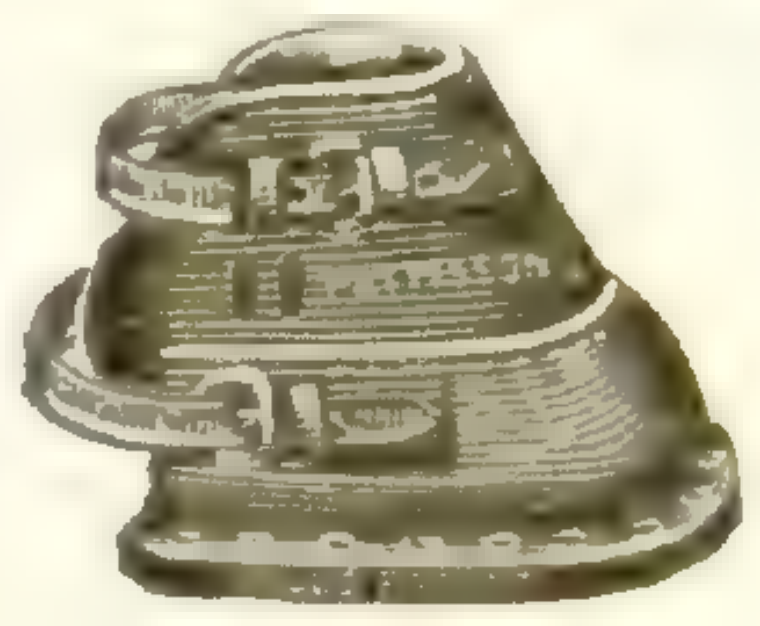

FIG. 2.

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Situations Wanted.

GARDENER (Head) seeks SITUATION where three or more are kept; age 30; married, two children; six years Escrick Park, five years Campsall Hall; three years as Head at present situation. SKILBECK, Nunthorpe Hall, York.

GARDENER (Head, where two or three are kept); life experience; good references; can be highly recommended from present situation; age 29, married, no family; in or near Reading preferred. H. MARSHALL, Manor House Gardens, Cookham Dean, Berks.

HER GRACE THE DUCHESS OF DEVONSHIRE wishes to recommend J. THOMPSON to any Lady or Gentleman requiring the services of a HEAD GARDENER, where several are kept; 20 years' experience in all branches. Holker Gardens, Cark-in-Cartmel, Lancs.

J. J. PARKER, Nurseryman, Whetstone, N., confidently recommends an industrious, hard-working HEAD GARDENER; good all-round man; 9 years last place; married; age 40.

GARDENER (Head Working, where two or three are kept).—Mr. SEDEN, West Grinstead Park, Horsham, can highly recommend his Foreman, J. BARRETT, to any lady or gentleman in want of a practical man; age 28.

GARDENER (Head Working).—A Gentleman would be pleased to recommend a thoroughly reliable, steady Man where several are kept; can grow the new indoor Carnations; 10 years' first-class character from last place; Land and Stock if required; abstainer; married. H. PITTMAN, Twyford, Winchester.

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GARDENER (Head Working), thoroughly experienced Under Glass and Outside; also herbaceous plants; excellent character from present and previous employers; married, no children. J. L., 20, Carnarvon Road, Barnet.

GARDENER (Head Working), where more are kept; 25 years' practical experience in all branches, Inside and Out, early and late Forcing, Vines, Cucumbers, Melons, Stove, and Greenhouse Plants, Herbaceous Borders; thoroughly reliable; highly recommended; married, without encumbrance. WOODHOUSE, Eastwood Road, Bramley, Surrey.

GARDENER (Head Working); Scottish, would like a Situation in South England; experienced in all branches; age 40. J. F., care of Braid, 4, Albany Street, Leith, Scotland.

LADY MALCOLM, of Poltalloch, highly recommends her HEAD GARDENER; eight years in present place, Head of three; life experience in all branches; age 36; married, one child, seven years. W. BASTIN, Barnardiston Hall Gardens, Haverhill, Suffolk.

MRS. GRAHAM MOON wishes to recommend her Gardener, who has been with her five years, as HEAD where two are kept, or good SINGLE-HANDED; age 32; married, no children; leaving through death. A. JOLLIFFE, Cedar Lodge, Taplow, Bucks.

GARDENER (Head or Single-handed, with help), age 35; married; life experience Inside and Out; good reference from present and previous employers. J. NICHOLLS, 54, Loder Road, Preston Park, Brighton.

GENTLEMAN wishes to very highly recommend first-rate HEAD WORKING GARDENER; life experience; age 35. F. C. VINALL, Woodside, Caterham, Surrey.

MISS DALTON highly recommends GARDENER (Head Working, or good Single-Handed); life experience, 10 years' excellent character, leaving through death; age 34; married, one child, aged 8 years. Apply W. HIGGINS, The Lodge, Darrington, Camberley, Surrey.

MESSRS. LADHAMS, Nurserymen, Shirley, Southampton, can confidently recommend W. GUNSTON, age 35, as HEAD WORKING GARDENER to any lady or gentleman requiring the services of a good all-round man, who is conversant with the requirements of a well-kept establishment; excellent references. Apply as above.

GARDENER (Single-handed); 10 years' experience; good character; leaving, and being married when suited; age 24. L. KEELER, 79c, Falve Park Road, Putney, S.W.

GARDENER (Single-handed or with help); good Second's place not objected to; married, age 36; tall; one child; life experience Inside and Out; good references. H. WARNER, 17, Salmestone Road, Margate, Kent.

GARDENER (Single-handed or otherwise), thoroughly reliable; experienced Inside and Out; married; age 30; one child; excellent reference; disengaged. Apply, A. PLUMRIDGE, Ivy Cottage, Temple Bar, Cosham, Hants.

GARDENER (Single-handed or where help is given); good experience Inside and Out; married, no family; age 37; excellent references. J. A. S., The Gardens, The Mount, Oatlands Park, Weybridge.

GARDENER (good single-handed, or with help), age 30; married, no family; abstainer; life experience in all branches, especially glass; highly recommended. BUNCE, 2, Phœnix Buildings, Rainham, Essex.

GENTLEMAN highly recommends his GARDENER (Single-handed); experienced Inside and Out; age 27; married. T. DENINGTON, 84, Cottage, Peabody's Estate, Herne Hill, S.E.

GARDENER seeks SITUATION as good Single-handed or where help is given; 2½ years' good character; married when suited. P. MUSTOW, Coln St. Aldwyns, Fairford, Glos.

MR. F. W. KEMP, Eastcourt House Gardens, Malmesbury, Wilts, can thoroughly recommend J. CLARKE as SINGLE-HANDED GARDENER, with help; experienced fruit, flowers, vegetables, and lawns; Inside and Out; good previous reference; age 26; three years second here; married when suited. Apply as above.

FOREMAN (Inside), aged 26.; 12 years' practical experience; well up in the cultivation of Fruit and Plants, for Exhibition if required; also House and Table Decorations. DAVIES, Pantybarcut, Llanderfel, Merionethshire.

FOREMAN or SECOND (Inside and Out); Fruit and Plant, good knowledge of Orchids; age 27; well recommended. WILLIAM WARREN, 37, Albion Terrace, Albion Road, Hounslow, Middlesex.

GARDENER (Second), age 23; seven years' experience, Inside and Out; well recommended. G. E. KETTLE, Kings Ford Cottage, Colchester, Essex.

GARDENER, age 22, seeks SITUATION; 7 years' experience, Inside and Out; can be well recommended. N., Red House Lodge, Heatherside, Camberley, Surrey.

GARDENER.—Gentleman wishes to highly recommend his well-trained GARDENER (Under), with seven years' experience; age 24; single. E. BROOM, Station Road, Kintbury, Berks.

GENTLEMAN highly recommends his GARDENER; good experience of Outside work; single, age 24. Apply, R. PRITCHARD, Belsize, Rickmansworth.

GARDENER.—YOUNG MAN seeks SITUATION as Under Gardener; would live in Bothy; age 20; good ref. Apply O. BOLTON, Marcham, nr. Abingdon, Berks.

UNDER GARDENER; aged 21; good experience; Inside preferred and Bothy; good references, etc. H. W., c.o., Wickens, George Street, Farncombe.

JOURNEYMAN, age 23, seeks SITUATION in or near Birmingham; eight years' experience; five years at Oteley Park; good references. Apply to W. EDGERTON, Catmore Gardens, Oakham, Rutlandshire.

JOURNEYMAN disengaged; R.C.; understands Melons, Cucumbers, Tomatoes, and usual Plants under Glass; well recommended; London preferred. Please state terms to FISHBOURNE, Ballyfin, Ireland.

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AS IMPROVER in good establishment; age 21; six years' experience Inside and Out; good references. Apply to H. GILBERT, Head Gardener, Westfield House, Wimborne, Dorset.

WANTED, SITUATION as an IMPROVER, age 17½; strong and willing; has been in present situation 4 years; total abstainer. Bothy preferred. A. HYLAND, Woodlands, Ticehurst, Sussex.

WANTED.—SITUATION as IMPROVER, Inside and Out; age 19; has been in present Situation 3 years. A. SEARS, Milgate Park, Bearsted, Maidstone.

A YOUNG MAN, 20 years of age, seeks SITUATION in gardens, outdoor, private, or market gardens; experience in private gardens for 2 years. Address, REDDING, Tysoe, Kineton, Warwick.

YOUTH, age 19, of respectable family, seeks SITUATION as IMPROVER; 3½ years' experience Inside and Outside; wages, 15s. H. CARYL, 3, Parliament Hill Road, Hampstead, N.W.

GROOM-GARDENER or GARDENER (Single-handed or Under); married, no family; good reference. T., 2, Elizabeth Terrace, Peel Road, South Woodford, Essex.

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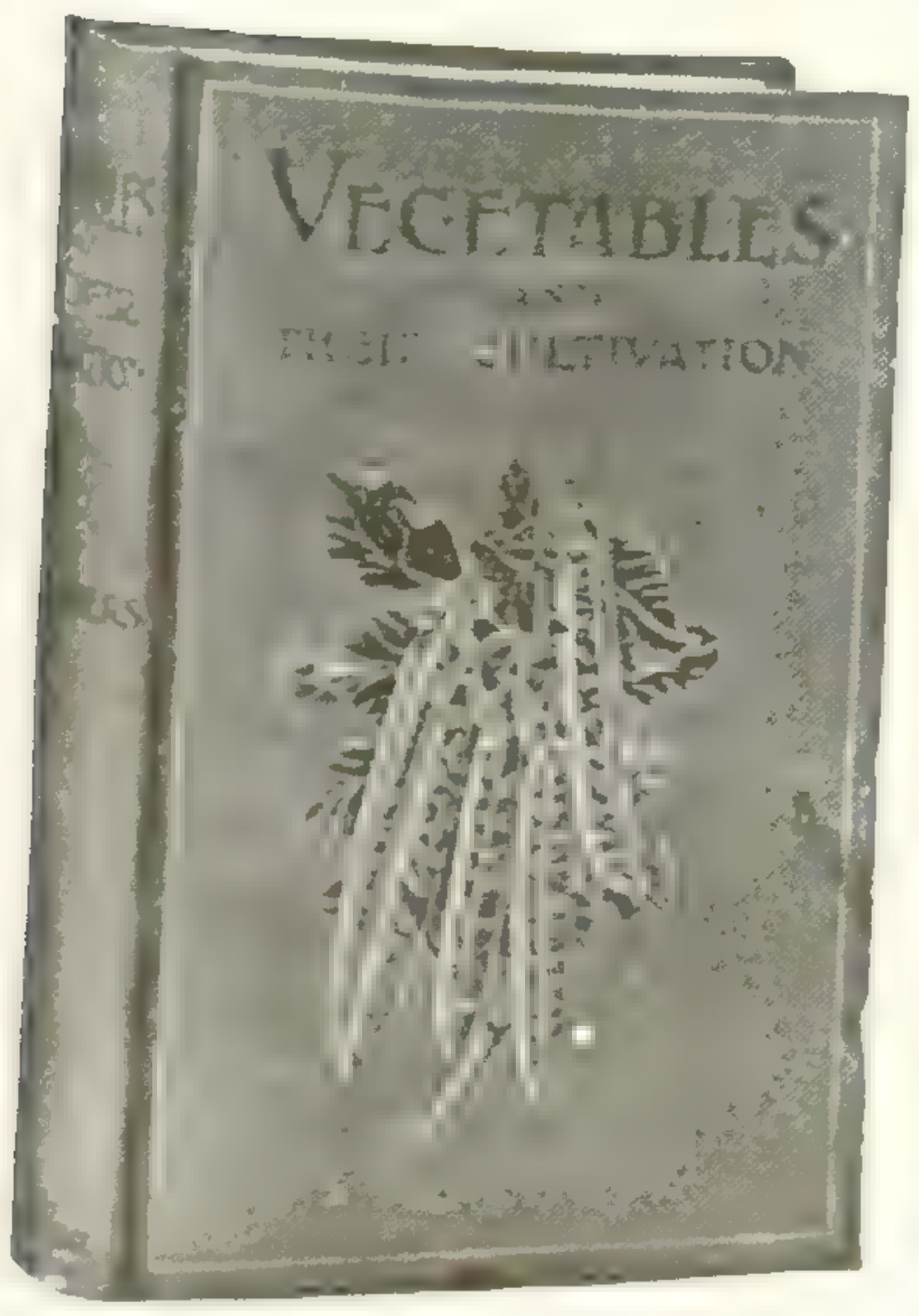

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VOL. LII.—No. 2,902. SATURDAY, JUNE 12, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Bunched Flowers at Exhibitions.

At the Temple Show the remark was made by more than one observer, that the old-fashioned system of displaying cut flowers in dense bunches was reasserting itself, a fact aggravated in many instances by the bunches being again so densely packed together that the individual grace and beauty of the flowers exhibited were entirely sacrificed. For some time past it has been a matter of congratulation that the methods of floral display in this connection have greatly improved, fewer blooms being used, and these arranged in such a fashion in vases and other fitting receptacles, as to permit of their natural beauty of habit and form being properly appreciated. Doubtless the exigencies of restricted space may be pleaded as some excuse at shows of the Temple description, but a glance at the offending exhibits is sufficient to show that the excuse is a poor one, dozens of flowers being employed where half, or even a quarter of the number would have served to much better advantage, while the choicest flowers in the collection were often difficult to discover amidst the crowd of mediocrities. Exhibitors, in short, in their anxiety to display their stocks, forget that quality and not quantity should be their watchword. It is only necessary to watch the passing stream of visitors to note how they stop and admire an exhibit which is judiciously and so artistically arranged on the few but choice principle, and, on the other hand, to note its unchecked and uninterested flow past a long array on market stall lines, a garish mass of chaotic colour wherein the individual beauty of its components is entirely lost. The trade exhibitors are naturally the greatest sinners in this respect, and many of them would do well to study the art of window dressing as exemplified in many of our high-class West End shops, wherein the fundamental idea is to display to the very best advantage, and in the most harmonious combinations, the "specialties" which they offer to the public. Nature, left to herself, abjures the "bunch" system: she may, and indeed does, create wonderfully beautiful mass effects, as we may see in the alpine sheets of aubrietias, arabis, etc., or on a larger scale in rhododendrons and azaleas, but if we examine these masses we find that every individual flower has its allotted space. In the process of growth there is a delicate adjustment of length of branch, stem, and stalk to attain the vital object that, at the critical period of the bursting and expanding of the floral buds, the insect world may have a fair and square view of the honey-bearing calyces, whose bright colours attract them for the purpose of fertilisation. The practised bouquetiste recognises this principle in her artistic arrangement of roses, lilies, orchids, or the thousand and one other flowers which, in these happy days for florists and flower lovers, are at her disposal; and it is this principle which the exhibitors of cut flowers at our shows should adopt and adhere to to the utmost, deleting a very large percentage indeed in favour of the balance. Flowering plants and decorative foliage plants are not so much handicapped, but even with these there is room for improvement as regards spacing and arrangement, and it was remarked at the Temple that, in view of the restricted space, it was hardly fair that many square yards should be devoted to mass displays of hundreds of practically the same strain of plants, despite of the fine effect due to judicious arrangement. We are glad to note that the Council of the R.H.S., in connection with the forthcoming Holland House Show, specially request that all groups should be less crowded, and that masses of colour should be broken up by the use of green foliage. It would be far better if exhibitors would be content to show less and confine it to the best of their produce only, and it is to be hoped that this will be taken to heart and acted upon. If not, it would have a very salutary effect if the group committee of judges would make a note of the offenders for consideration later, when the allotment of space for future exhibitions is under consideration. An award of demerit now and again would not be out of place, and is only too often deserved.

MR. G. FORREST.
A Celebrated Collector of Chinese Plants.

Mr. George Forrest.—Among the band of intrepid travellers who have risked their lives and encountered many difficulties to enrich our gardens and plant houses Mr. George Forrest must take a prominent position. It was in 1904, on the recommendation of Professor J. Bayley Balfour, that Mr. Forrest, then at the Royal Botanic Gardens, Edinburgh, was engaged by Mr. Bulley (of Bees, Lim.), to explore the higher plateaux and mountain ranges of N.W. Yunnan and S.E. Tibet for the purpose of collecting new and rare alpines. During his three years' service he made several journeys into Tibetan territory, and found the flora even richer than had hitherto been supposed. For some time he collected on the high ranges to the west and north of Talifu, covering most of the hunting ground of the famous Père Delavay, and, besides securing many new species, obtained seed of a number of the gems of the natural orders, ranunculaceæ, primulaceæ, saxifragaceæ, ericaceæ, etc., contained in his collections. A few of these are now being placed before the horticultural world, but by far the greater number, and finer species, have yet to appear. North and west of Talifu he found the country extremely difficult of negotiation, consisting of a mass of huge parallel ranges, the watersheds of the Salwin, Mekong, and Yangtze rivers. Besides the natural difficulties of the country, he had continuously to overcome more or less active hostility on the part of the Chinese officials, and the lamas, who, for their own purposes, oppose, so far as lies in their power, the entrance of any European, for any object whatsoever, to the country under their jurisdiction. In the summer of 1905, on his second journey to the mountains of the Salwin-Mekong divide, in lat. 28°-29° N., Mr. Forrest narrowly escaped with his life. The lama world had been greatly disturbed by the Younghusband mission to Lhassa; also at the time there happened to be great friction between the local Chinese authorities and the lamas of Batang and the Upper Mekong, with the result that the whole country was incited to revolt by the lamas. At that time Mr. Forrest was working the district north-west of Tsekou, on the Mekong-Salwin divide, a station of the French Roman Catholic Tibetan Mission, having made that place his base. After several months of weary anxiety and suspense he was finally surrounded by a band of some 7,000 to 8,000 armed lamas and Tibetan soldiers. The mission house was utterly destroyed, the two missionaries of the station being captured, and, after three days' frightful torture and mutilation, brutally murdered. Most of the native Christians, converts of the missionaries, were killed or carried into captivity, and of seventeen collectors and servants in Mr. Forrest's employ, sixteen lost their lives. After exceptional hardship he escaped, but lost the result of four months' hard work, results which would undoubtedly have astonished botanical and horticultural circles. In the following year Mr. Forrest attempted to penetrate the same region, but was prohibited doing so by the Chinese authorities, and had, temporarily, to abandon the project. Nevertheless, the results have been excellent, and no one, except those who have traversed the country, can conceive of the richness of the flora, the bulk of it composed of those orders which are of the greatest value for horticultural purposes. Later on Mr. Forrest made a journey up the valley of the Salwin, north from Tengyueh, covering nearly 100 miles of unexplored country, but, the greater part of this valley being tropical or sub-tropical in its climate, the journey was most unproductive.

Gardens around Dublin.—As briefly announced in our issue of the 5th inst., we shall give a fully illustrated account of some of the more important of the great gardening establishments in and around Dublin in the issues of the Gardeners' Magazine for the 19th and 26th inst. Among the private establishments that will be illustrated and described are Powerscourt, Kilruddery, Carton, and Straffan House; and the public gardens will include Glasnevin Botanical Gardens and the People's Garden, Phœnix Park.

Unseasonable Weather. During the past fortnight the character of the British climate for extreme variability has been amply vindicated. A fortnight since the temperature was so abnormally high that if it did not establish a record, it has only been exceeded in May twice during the past thirty-eight years. A week ago, for a like period of three days, the temperature was so low that on the 4th and 6th inst. the maximum reading was only 52 degrees, or 32 degrees below the maximum temperature recorded during the warm period a week previous. During the past thirty-eight years there have been only five days in June when the maximum temperature has been equally low, and two only in which the maximum has been lower, the lowest having been in 1903. when, on June 19, the maximum was 50 degrees. The week ending June 6 was remarkable also for the small amount of bright sunshine, none having been recorded at Westminster on the last four days. A period of cold wet weather is by no means exceptional in the early part of June, especially between the 3rd and 7th of the month.

Honour to Mr. R. Wilson Ker.—We have much pleasure in announcing that on Tuesday last the council of the Royal Horticultural Society conferred the honour of the Victoria Medal of Honour upon Mr. R. Wilson Ker, of Liverpool. This well-known horticulturist has accomplished such splendid work in the cause of gardeners and gardening that the pleasure we feel will be shared by all who are acquainted with what he has accomplished.

Jubilee of R.H.S. Committees.—The value of the standing committees in the conduct of the work of the Royal Horticultural Society is admirably exemplified by two interesting facts. One is the long period that has elapsed since two of the committees were established, and the other the continuity of all the committees, there not having been a break in the work of any one of them. The Fruit Committee was established in 1858, and the Floral Committee in 1859, and consequently one attained its jubilee in 1908, and the other completes its half-century of activity this year. To fittingly mark this important event in the history of these two committees the council will entertain the members at dinner at the Hotel Windsor on the evening of July 7, the second day of the Holland House Show.

York Floral Fete and Gala.—We would remind our readers that this great horticultural gathering will be held on Wednesday next and two following days; and mention that the exhibition has, we understand, the promise of proving one of the best that has yet been held in York. We shall give a full report in our next issue.

Mr. Charles Foster has received the distinction of being admitted, honoris causa, as an Associate of the University College, Reading. The associateship was conferred by the Principal (Mr. W. M. Childs, M.A.), at the recent annual reunion of old students in the college hall. Mr. Childs said they admitted with much pleasure Mr. Foster as an Associate of the college, but the pleasure was mingled with regret because he was leaving them to take up a very important appointment elsewhere. It was six years since Mr. Foster came to take a most important charge in relation to the department of horticulture, and no one had contributed more than he had done by his practical knowledge, remarkable skill, and incessant perseverance to the growth of that horticultural work to its present high state of efficiency. They all wished him success in the new field of effort upon which he was entering.

Visit to East Burnham Park.—With their usual generosity Mr. and Mrs. Harry J. Veitch have invited the members of the standing committees of the Royal Horticultural Society to East Burnham Park on Thursday, July 1. We are quite sure that all who possibly can will avail themselves of this invitation to "play a friendly game of cricket" and inspect the treasures of Mr. and Mrs. Veitch's garden and home.

Harry Veitch Portrait Fund.—We have received from the honorary secretaries to the fund that is being raised for the purpose of obtaining a portrait of Mr. Harry Veitch, V.M.H., painted by an artist of the highest eminence, a list of the names of those who have sent in their subscriptions or signified their intention of subscribing. This list contains over one hundred and sixty names, and is of much interest as further evidence of the high estimation in which Mr. Veitch is held, and the readiness with which all classes of horticulturists have co-operated in raising the fund necessary. We are asked to state that others who may be desirous of co-operating are requested to intimate their intention at once, as the list must be closed in a few days' time. It is hoped the fund may allow of sending a photogravure to every subscriber of £1 1s. and upwards. Cheques should be made payable to either Mr. H. B. May, Stanmore, Chingford, or to the Rev. W. Wilks, treasurer, Shirley Vicarage.

Orchid Committee Outing.—At the meeting of the Royal Horticultural Society's Orchid Committee, on Tuesday last, Mr. Charlesworth, through the chairman, Mr. J. Gurney Fowler, invited the members of the committee to visit his new orchid establishment at Haywards Heath, on Friday, June 25. Mr. Charlesworth, who has long been a prominent member of the committee, said that he wished the members to assemble at the Royal Horticultural Hall on June 25, and he would provide motor cars for their conveyance to the Haywards Heath nurseries, and back again to town.

Finsbury Square.—The leases of the houses surrounding Finsbury Square are in the point of falling in, and when the time comes for their surrender a great development scheme will be proceeded with by the Ecclesiastical Commissioners. In the meantime it is proposed, if the sanction of the residents can be obtained, to throw open to the public the small, but beautiful garden now exclusively reserved for the enjoyment of the householders.

Taxation of Open Spaces.—At the monthly meeting of the Metropolitan Public Gardens Association attention was drawn to the proposals in the Finance Bill for taxation of land, and it was agreed to make representations to the Chancellor of the Exchequer with a view of securing the exemption of all areas in or near towns used as parks, gardens, playing fields, and the like, which, although in private hands, are valuable air spaces, and in many other ways add so much to the amenities of town life.

Nature Study Exhibition.—An exhibition was held by the Nature Study Society in the gardens of the Royal Botanic Society on the 4th and 5th inst. The exhibition was thoroughly representative and of much interest. On the second day a lecture on "The Romance of Forest Life" was delivered by Mr. Martin Duncan. The lecture was devoted to observations made in the New Forest, and at the commencement Mr. Duncan showed on the screen a series of beautiful views taken within its boundaries. Passing on to describe the bird and animal life to be found in the forest, he touched upon the habits of owls, bats, which came out while he was engaged in trying to photograph the owls by flashlight, the toad, the mole, and British snakes. Mr. Duncan, in concluding his remarks, expressed his warm approval of the scheme now on foot to have the New Forest kept as a naturalists' reserve.

Manures for Potatoes.—The conclusions of Messrs. Porter and Gaut, from the experiments conducted by them for the Lancashire County Council, are to the effect that a heavy dressing (20 tons per statute acre) of farmyard manure results in a smaller return per ton of manure used than is the case with a moderate dressing (10 tons) of farmyard manure. A moderate dressing of the latter, in conjunction with a suitable dressing of artificial manures, is capable of producing a larger and a more profitable crop than a heavy dressing of farmyard manure alone. A "complete" dressing of artificial manures—i.e., containing the three constituents, nitrogen, phosphates, and potash in conjunction with farmyard manure, gives the largest crop and the highest profit per statute acre. The doubling in turn of each of the constituents in the "complete" dressing does not result in a satisfactory profit, and may, in some cases, result in a heavy loss. Where no farmyard manure is obtainable, large and profitable crops can be grown with the aid of a "complete" dressing of artificial manures.

Hanley Horticultural Fete is a municipal affair, and has now grown to be one of the largest and most comprehensive of the several horticultural exhibitions held in the Midlands. The fête is held in Hanley Park, close to Stoke-on-Trent Station, and this year the date fixed is July 7 and 8. In the new schedule we find that a fine silver challenge cup is presented for the best trade display. The total value of the prizes for a group of plants arranged for effect is £85 9s.; and for a group of orchids £30, with a silver challenge cup added to the first prize. Very liberal prizes are offered for roses in the eleven open classes, and sweet peas are well catered for. A decorated dessert table class forms the chief item in the fruit and vegetable section, and the premier award is £10 10s., and a special prize of the value of £3 3s.; for a collection of twelve dishes of fruits the total prizes offered amount to £21, with £3 added for prizes for decorative arrangement. Prizes for vegetables are chiefly provided by seedsmen. There are, altogether, ninety-nine classes provided, and a copy of the schedule can be obtained on application to Mr. William Poulson, Town Hall, Hanley.

Bacteria and Non-leguminous Plants.—To a recent meeting of the Royal Society Professor W. B. Bottomley contributed a paper on the effects of nitrogen-fixing bacteria on non-leguminous plants. It was stated, in the course of the paper, that bacterial cultures prepared from the algal zone of cycas tubercles taken from below the surface of the soil always contain a species of azotobacter associated with Pseudomonas radicicola. Pure cultures of these organisms were obtained, and it was found that when they are growing in association there is an increased assimilation of free nitrogen. In cycas tubercles the bacteria live, usually imbedded in a slime, in the open spaces of the algal zone, and the projecting cortical cells presumably absorb the nitrogenous products of bacterial activity. Experiments made to ascertain to what extent, if any, a mixed culture of pseudomonas and azotobacter applied to the roots of other non-leguminous plants might influence their growth, the nitrogenous bacterial products being absorbed directly by the plant, gave the following results: Pot experiments with oats grown in sand dressed with phosphates, potash, and lime. Treated pots watered with the mixed-culture solution gave an increase of 76 per cent. Field experiments with barley on limed plots of 484 square yards. Seed only treated with bacterial culture. Yield per plot: Untreated, 608lb.; treated, 691lb.; increase, 83lb. Galtonia candicans grown in sandy soil, manured and limed, 250 bulbs of equal size in each bed. Weight of bulbs when lifted and dried at end of season: Untreated, 69lb. 3oz.; treated, 82lb. 1½oz.; increase, 12lb. 14½oz. Parsnips, grown in garden soil, manured and limed. Untreated, 68 roots weighed 22lb. 14oz.; average per root=5.38oz.; treated, 65 roots weighed 26lb. 10oz., average per root, 6.55oz.; increase per root, 1.17oz.=21.7 per cent. In all the experiments the soil was treated with lime before the mixed culture was applied.

Kirtlington Park, the seat of Sir George J. E. Dashwood, has been purchased by Lord Leven and Melville. The Kirtlington Park estate extends over several thousand acres, and is of considerable historical interest. It appears to have been for a long period a demesne of the Sovereign, and in 1420 it passed to Henry V. The mansion, erected in 1746, stands in a finely-wooded park of about 700 acres, and contains some fine carvings by Grinling Gibbons.

Removing Leaves from Transplanted Roses.—The National Rose Society's "Annual" for the current year contains a note from Mr. O. G. Orpen on the removal of leaves from rose trees transplanted early in the autumn, for the purpose of reducing the evaporative surface. The matter is of interest to fruit growers as well as rosarians, and we herewith reproduce the note: "For several years, when moving roses in the autumn which were in active growth, I have made it a practice to remove the foliage, and, I believe, in each case with good results. The difference between plants so treated this last trying autumn, and those on which the foliage had been left, is so marked that I feel I may venture to draw attention to it in a short note. I do not for a moment suggest that there is anything novel in this procedure, and there may be something to be said against it, but I should like some of those amateurs who have never tried it to do so with a few plants next autumn. Teas and hybrid teas are generally in more active growth at transplanting time than hybrid perpetuals, and when such are lifted in bright or drying weather, and all the foliage left on, even though they may be replanted at once under favourable conditions, they soon look very sorry objects. And this, I think, is not to be wondered at when it is remembered what a mutilation of the roots has, in the majority of cases, taken place. It means at least the loss of those small roots and root hairs by means of which the plant draws from the soil the water it constantly requires to meet the drain caused by the evaporation from its young shoots and leaves. The water which the roots absorb fills up and distends the many vessels in the stems and leaves, and, if this supply is suddenly cut off, and there is no reduction of the surface from which water is transpired, not withered leaves only, but (much worse still) withered and shrunken stems must be the result. To-day (January 9) I have examined the roots of some defoliated dwarfs, planted in November, and I find they have started rooting in a most satisfactory manner, while the stems are plump and sound, very different from those planted at the same time and not so treated. I am aware that it is now held that the aerial parts of plants absorb moisture, but this can be only under favourable conditions, and even then the transpiration from the leaves—if many—must be greater than the combined supply from this source and through the damaged roots."

VARIATION.

By those who merely study the subject of variation in animals and plants in a general and more or less superficial way, it is regarded as an exceptional phenomenon, by which now and again the selective breeder or cultivator is able to profit either by obtaining new types or enhancing the character of older ones. Those, on the other hand, who study the minutiæ of organic life, recognise it as universally prevalent, and it is probably quite safe to say that no two natural creations are such exact replicas of each other in all respects as to be entirely indistinguishable. This seems a very daring thing to assert when we consider the infinite myriads of organisms which exist, from the huge to the microscopic; but we must remember that minute size in this connection by no means implies simplicity of type, such as would preclude variety of character, since even the organic germs which defy definition by the highest power of our microscopes are built up of an incalculable number of molecules, so that the chance of an arrangement on precisely the same lines is not only infinitesimal but practically non-existent.

How much more, then, is this the case when the organism is large and of obviously complex character, where myriads of millions of cells are aggregated and differentiated to perform various functions and build up varied organs for varied purposes. Clearly the chance of exact agreement in any two individuals is decreased in precise proportion to such complexity, and the wonder would be, not that a difference should be observed, but that an identity should occur. Thus, if we take a packet of seeds, and examine them individually, with a lens if need be, we shall speedily perceive the existence of differences; and if we continue our research, we shall soon become convinced that no two are likely to match each other precisely. Scatter such seed, say mustard seed, on a flat soil surface, and when they germinate examine the young plants, and again, no two will start active growth in precisely the same way, both roots and cotyledons will differ, and, although the initial differences will be largely determined by the relative positions of the germinal point and the soil, so that in some cases the protruded rootlet may have a straight course downwards and in others may have to twist over, the cotyledons being affected in like fashion, but on reversed lines, we should find that this is only one factor in the variety observed, and that were this avoided by careful adjustment of the germinal point downwards, there would still appear an individuality in every youngster, even in the infantile two-leaved stage.

Despite, however, this innate capacity of differing individually, the tendency of each individual is to adhere to a more or less definite family type; as a rule, it inherits that tendency strongly enough to ensure that in general character it will resemble both the parental form and also that of its immediate relatives, so that an immense number of individuals, forming a species, may be identical in the general characters they display, the only variation being in the details of their make, largely determined by the nature of their particular environments. Thus they may be stunted or robust, according to their subjection to uncongenial or congenial conditions of growth; but it is a very open question whether long exposure to opposite conditions would lead to the differentiation into two types to suit them without a capacity surviving in each type of resuming its old form in its old environment, unless variation of another class, viz., "sporting" or mutation, has come in as a factor. In dealing with this class of variation, we are brought into contact with one of the most puzzling biological problems, since it differs extremely from that mere individual variation of which we have treated both in degree and in character.

Every organism and every part of that organism originates with a single cell, and in this cell, as a rule, there is an inherited tendency to multiply itself on definite lines, and form definite structures on purely parental lines, and assuming the parents to belong to one and the same species, the usual result is the reproduction of the parental form, a process which goes on from generation to generation, it may be for ages, and which thus perpetuates the existence of a species. With "sports," or "mutations," however, forming the second category of variation, this continuity of type is suddenly broken, the mother cell of a seed, or one produced by a spore, either of its own initiative, so to speak, or inspired by a modified pollen cell, or antherozoid, it is immaterial which, or it may be, an inspired asexual mother cell of a bud, throws off the parental impulse to proceed on the old lines, and in some subtle fashion conceives and carries out a new plan embracing, it is true, the general generic characters, but involving more or less marked modifications of structure, colour, or other characters, of which there may have been no obvious trace at all in the parents. More than this, and herein lies one of the salient differences between mere individual variation and mutational variation, these new characters are so thoroughly impressed upon the organism that they are reproduced in the offspring, generally truly, but sometimes in varied degrees, less and greater, the latter of which are naturally the selective cultivator's opportunities.

There is abundant evidence to prove that these sudden departures from the normal type and assumption of a new one are, as a rule, purely spontaneous, in the sense that they are not induced by hybridisation or any recognisable external factor. That hybridisation is not in question is proved by the fact that a large number of natural fern sports have originated in solitary indigenous species, while no species known possessed the new characters as specific types. That change of environment or peculiar conditions are not incentives to mutation, is evidenced by the fact that the abnormal plants are found sometimes so closely associated with normal ones of the same species, that the roots have to be disentangled from each other. Until recent years these "sports," or "mutations," were regarded as of no scientific importance, the botanist condemned them as "monstrosities," classing them apparently with "freaks" of the Barnum description, regardless of the fact that, unlike those deformities, they were not only often very beautiful, but since they reproduced themselves truly from their spores or seeds, they fulfilled all the practical conditions of new species.

Lately, however, quite other views have prevailed. Some five-and-twenty years ago the writer, having taken up the study of variation in our native ferns, advocated the view that much might be learnt by the scientific study of the phenomena presented, and, as it happened that about that time certain discoveries were made in that particular connection which justified that view, a long series of monographs and papers from some of our most eminent botanists have been published by the Royal Society and the Linnean Society, which have revolutionised the previous ideas and established many quite unexpected biological facts. Furthermore, Professor Hugo de Vries, in his "Theory of Mutation," has strongly advocated the view that these sudden "sports" may have played a material rôle in the evolution of species, a view now shared by many. The great enigma, however, of "What induces mutation?" still remains unsolved. It is comprehensible that plants should widely vary when alien potencies are introduced by hybridisation, but it is quite another thing when a cell, as we have described, apparently spontaneously adopts a new plan, and, to all intents and purposes, a "special creation" results, for which evolution on the old theoretic gradational lines, has no place at all. Thus, "Natura non facit saltum." can certainly no longer be maintained.

Chas. T. Druery, V.M.H., F.L.S.

THE LOCUSTS OR FALSE ACACIAS.

(Concluded from page 437.)

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The Best Species and Varieties.

R. neo-mexicana.—This is a little known but highly ornamental tree of vigorous habit, and very like the larger-growing forms of the Common Locust when not in flower. The leaves are from 6in. to 12in. long and of a fresh green hue, even at the end of summer. The flowers are rose-coloured, and borne in dense racemes, four inches or so long, in June, a further crop of blossoms appearing on the secondary growths in August. It is found on the eastern slopes of the Rocky Mountains, and extends from S. Colorado to New Mexico, South Utah, and Arizona, at elevations varying from 4,000 to 7,000ft. Several specimens are to be seen growing at Kew, at which establishment the first specimens were received 22 years ago.

R. pseudacacia.—The Common Locust is widely distributed in all the Western States, and is said to attain the largest dimensions in Kentucky and Tennessee, where, in good soil, it attains a height of 80ft., with a trunk diameter of 4ft. Its value as a specimen and street tree is well known in our southern counties, but it is not used to so great an extent in the north. The dainty pinnate leaves have always a fresh appearance, whilst the drooping racemes of fragrant white flowers are particularly pleasing in June. An old tree often presents a very picturesque appearance, the trunk being deeply furrowed and the bark rough and rugged, whilst the branches are frequently curiously twisted. It is not, however, the type that requires attention here, so much as the varieties, of which there are very many. In very few gardens would a full collection be desirable, and a limited selection of the best is appended

R. p. Decaisneana.—A distinct variety, which produces larger leaves than the type and fine racemes of pink flowers. It is a very vigorous grower, and a form called flore-rubro, with deeper coloured flowers, is also an excellent tree.

R. p. fastigiata.—This forms a distinct break from all other varieties, its habit being similar to that of the Lombardy poplar. Like other fastigiate habited trees it is very useful to plant as a relief amongst those with round heads.

R. p. aurea.—Where a break of colour is required in the garden, this variety may be used, for the leaves, which in other respects are similar to those of the type, are of a pretty golden hue.

R. p. inermis.—A spineless variety of slow growth, often used, grafted on tall stems, to form mop-headed specimens for small gardens. It stands cutting back well.

R. p. Rehderi.—This is a dwarf variety of slow growth, forming a miniature tree, ranging in height from a few feet to 15ft.

R. p. monophylla.—The chief characteristic about this is, that the number of leaflets is greatly reduced, whilst those which are borne are of large size. Sometimes but one leaflet appears, at others three, and sometimes an indefinite number, but never many. It is a very effective variety, and generally admired. There is a form with similar leaves, but with secondary branches of a pendulous character; if anything, it is the more desirable of the two. This is also a form with a fastigiate habit.

R. p. robusta Vignei.—This variety is conspicuous amongst others by reason of the peculiar lightness and grace of its elegant foliage. The leaves are as long as those of the type, but neater and more delicate. It forms an excellent lawn tree.

R. p. bella rosea.—One of the better-known varieties, which bears rose-coloured flowers freely.

R. p. tortuosa.—In this variety the branches are somewhat twisted and contorted, the same remarks applying to the leaves. It is very distinct amongst others.

Some 40 other varieties are known, but those described will be found a distinct set.

R. viscosa.—Under the name of "Clammy Locust," this species was introduced from Georgia and Carolina, where it inhabits the sides of mountain streams. It forms a tree 20 to 40ft. high, peculiar, by reason of its viscid branches and curiously burred trunk. The flowers are rose-coloured, and borne in short, dense, upright racemes, and are not fragrant like those of the former species.

R. Kelseyi.—Sufficient time has not elapsed since the introduction of this species to know to what height it will grow in this country, though it looks as if it will form a small tree. The leaves are made up of eleven or occasionally more leaflets one to one and a-half inches long, and barely half an inch wide, terminated with a stiff, hair-like point. The flowers are rose coloured, and intermediate in size between those of R. pseudacacia and R. hispida. The flowering period is June, and the flowers are followed by fruits three inches or so long, thickly covered with stiff reddish-brown hairs. It is found in the Southern States.

R. hispida.—This concludes the species in cultivation. It is the rose acacia of the Southern United States, and forms a straggling bush rather than a small tree, and, as it suckers freely, a thicket of branches is formed. The branches are long and brittle, and are thickly clothed, especially on the young wood, with brownish spines or stiff hairs. The leaves are pinnate, eight to twelve inches in length, with large leaflets. The flowers are rose coloured, about the size of those of a culinary pea, and borne four to six together in loose racemes. Under cultivation it has not been known to fruit, and even in a wild state fruits have rarely been found. There is a variety known as inermis, which is a great improvement on the type, and should always be planted in preference to R. hispida. It can be recognised by means of its spineless branches and denser racemes of larger flowers

W. Dallimore

USEFUL GUIDE TO GARDEN WORK.—A handy all-round guide to work in the garden month by month is the Gardening Year Book, by George Gordon, V.M.H., price 1s. net from booksellers, [illegible] 1s. 3d., from W. H. and L. Collingridge, [illegible] gate Street, London. The book is freely [illegible] and the cultural details thoroughly pra[illegible] up to date.

WISTARIA MULTIJUGA ALBA.

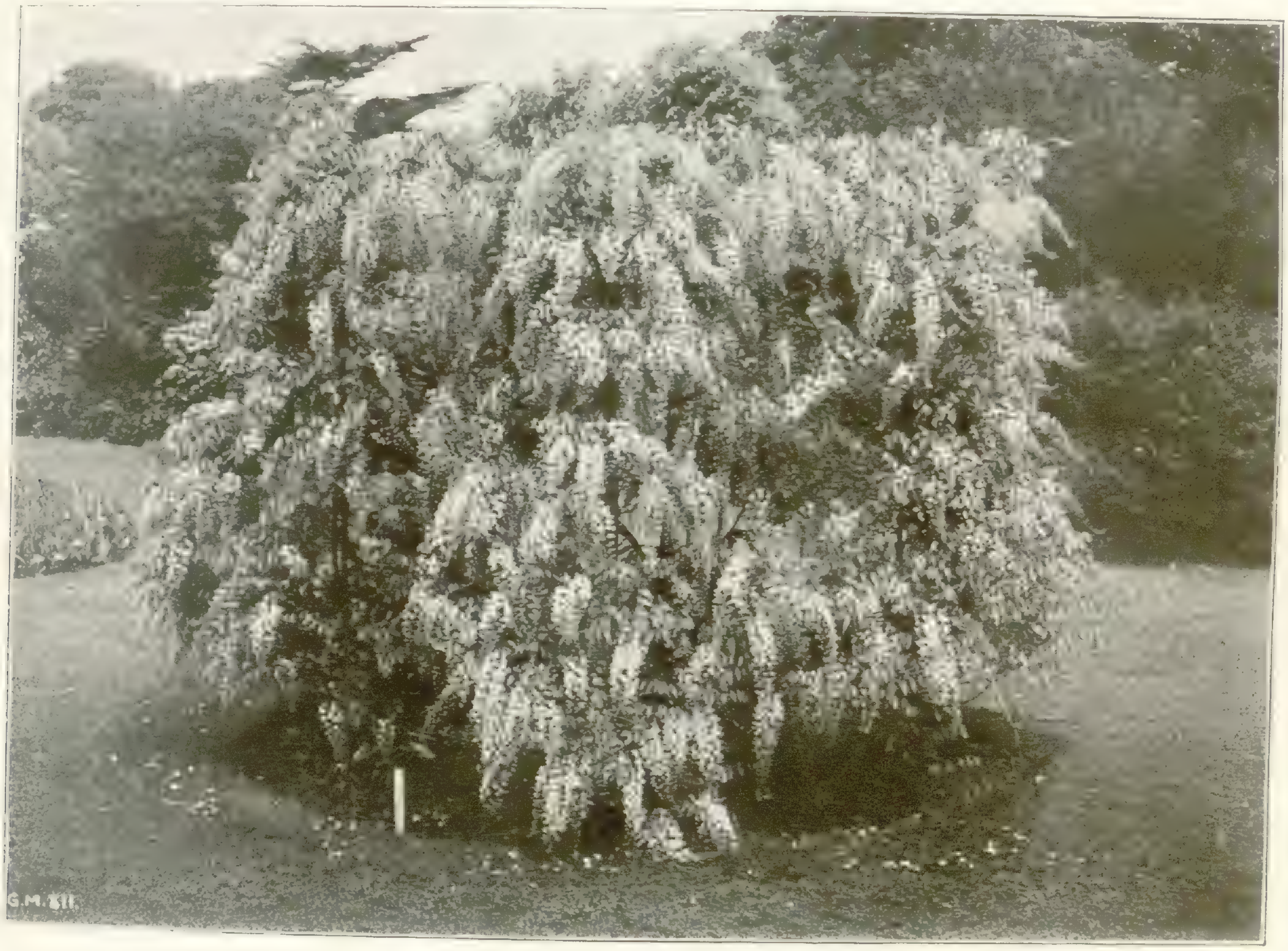
The typical form of the Chinese wistaria (W. chinensis) is one of the most popular of hardy climbers, and, as the result of the favour with which it is regarded by flower lovers of all classes, it is well represented in many thousands of gardens, and contributes liberally to their attractions during the season of flowering, which usually commences before May is far advanced. This naturally affords one much gratification, for, while one of the most beautiful of the hardy plants of scandent habit, the Chinese wistaria can be successfully grown without any serious difficulties having to be surmounted. Reference is made to the Chinese species because it has enjoyed a high degree of popularity from its first appearance in this country nearly a century ago, while its Japanese relative (W. multijuga), introduced thirty-five years since, has received but little attention from the general body of garden lovers. Why this Japanese species should not have been regarded with much favour is not easy to understand. It has two strong points that should appeal to the planter, and of these, one is its surpassing beauty, and the other its adaptability to a very simple course of culture. It might be suggested that the books published of late years have not dealt so generously with this fine climber as they might have done, and that the authors of some have not been particularly successful in showing a thorough acquaintance with its characteristics.

This species has been described as not particularly free in blooming, but the evidence in support of the description is certainly not conclusive. We have only to refer to the many illustrations of Japanese gardens that have been published in this country during the past twenty years for proof that this wistaria is prodigal in the production of its flowers when at home. It does not, of course, necessarily follow that because a plant blooms freely at home it will do so in a foreign land, but there is ample proof that in this country, provided the conditions are favourable, W. multijuga will annually bloom with remarkable freedom. It certainly flowers freely enough at Kew, and there must be many thousands of gardens in England where it might be grown with a similar degree of success. This is the species so largely utilised in Japan for training over the tea-houses, on trellises and other supports, both in public resorts and in private gardens, and the flowers which, individually, are smaller than those of W. chinensis, are borne in racemes, ranging from eighteen to twenty inches in length. The colour is an exquisite shade of purple-lilac, and the crowds of elegant racemes produce a delightful effect.

Not less desirable than the typical form is W. multijuga alba, which, as indicated by its varietal designation, has white flowers. The freedom with which the long and elegant racemes are produced is well shown in the illustration given herewith of the fine specimen that at the present time constitutes one of the most attractive of the many good features of the Royal Gardens, Kew. The effect would, perhaps, have been more striking had the photographing of the specimen been delayed until the whole of the flowers had been fully developed, but I have been anxious to call prominent attention to the specimen while there is an opportunity for seeing it in the full flush of its beauty.

The specimen, which is formed by five or more plants, that were put in their present position five or six years ago, is about seven feet in height, and has a diameter of about nine feet. The growths are supported by four stout stakes placed at equal distances apart round the circumference of the bed, and one in the centre, and braced together at the top and bottom. The typical form is trained to the central support, and the lilac-purple flowers present a pleasing contrast to those of the white form. The specimen occupies a position on the north side of the gardens and within a short distance of the new water garden. The large circular bed near the tropical lily house that for some years was occupied by Carmine Pillar rose, is now devoted to the typical W. multijuga and its white variety, and, as the framework is considerably higher, the effect should be even better than that produced by the specimen illustrated, when the plants fill their allotted space.

G. G.



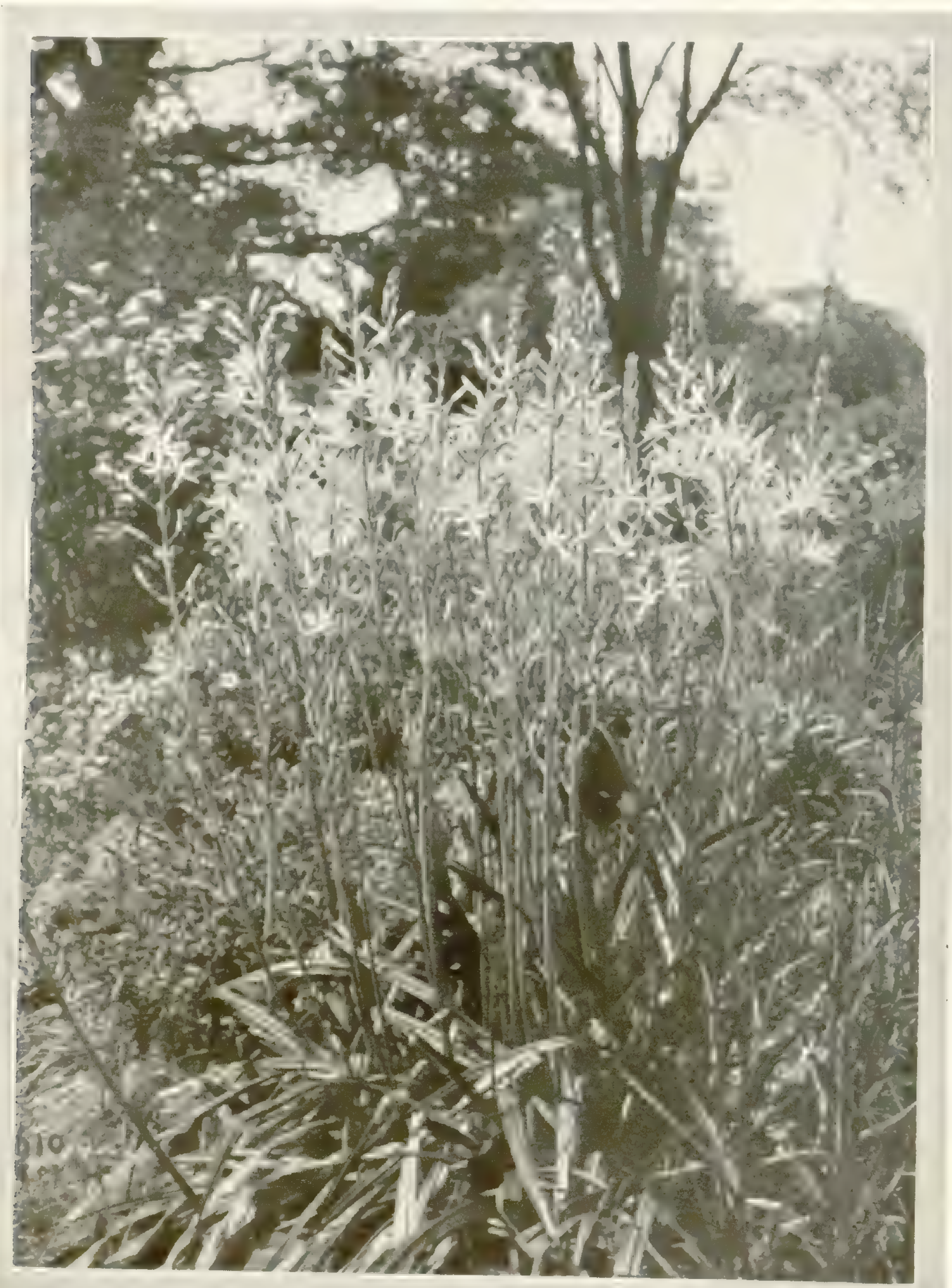
WISTARIA MULTIJUGA ALBA.
A remarkably fine specimen of this beautiful pure white hardy climber in the Royal Gardens, Kew.

Dimorphotheca aurantiaca.—Closer acquaintance with this plant deepens the conviction that it will become a most popular plant. Its beauty goes without question, but to the gardener its robust, free-growing qualities will most directly appeal. It germinates freely indoors in early spring, and is never capricious about damping off. From seed box to pot it transplants with perfect ease, and it is never in two minds as to growing. I planted my first batch outdoors in April (before Easter), at the foot of a south wall, and on May 5, the first flowers were fully expanded, imparting a rich colour to the spring garden, and a most welcome addition to the plants for adorning gardens in the open-air during summer. It is also a beautiful subject for growing in pots in an amateur's greenhouse, and to those whose facilities are limited in this direction I can recommend it as one of the easiest plants to flower. Seed sown at intervals from the beginning of February will give plants to flower from April throughout summer.—Thomas Smith.

CAMASSIA LEICHTLINI.

Camassia Leichtlini (S. Wats.) is certainly the finest species of this altogether attractive genus. It is more robust, not only in constitution, but also in its proportions, than any of the others. I find I planted it first in 1897, and I think started with two or three bulbs only, and now, as the accompanying illustration shows, more than 25 spikes were borne by their descendants,and two years ago I lifted the clump, and planted only about half of the bulbs in this original site.

It was figured in 1877 in the "Botanical Magazine," t. 6,287, as C. esculenta var. Leichtlini, but is now accorded specific rank, and so entered in the Index Kewensis. Discovered by Mr. John Jeffrey in British Columbia in 1853, it was not introduced to Britain apparently until sent to Kew by Herr Max Leichtlin in 1872, where it flowered in 1873.



CAMASSIA LEICHTLINI.
A finely-grown specimen in the gardens of Myddleton House, Waltham Cross. The typical form which has creamy-yellow flowers.

The typical form has flowers of a very distinct shade, a creamy-yellow, with a tint of green in it, and is very effective in a mixed border or in the rock garden. I have a small group (not the large one here shown) now in flower, the spikes rising up into a large bush of Rubus deliciosus, and the effect is very charming. I much prefer the blue form of this plant, however, known as C. Leichtlini (blue), in bulb lists. It is of a fine rich purple shade of blue, and quite as robust as the typical form. I grow a clump of it among wide groups of dwarf almond, and every year I am delighted with the effect of its tall spikes of blue coming out above the tender green leaves and last few pink flowers of the amygdalis.

Besides these there is a fine set of seedlings, the best of which I got from Messrs. Barr some years since. Purple King is one of the finest deep blue-purple flowers I know, and the pure white form makes a worthy companion to it. I grow both on a raised ledge of the rock garden, with a carpet of Erica herbacea and E. hybrida.

White Fritillaria meleagris comes up through the pink heaths in early spring, followed by these two camassias, and later still by Brodiæa congesta. This has proved a very satisfactory bit of planting. I am always more pleased over discovering a combination of plants that will prove good helpmates than any other phase of planting and grouping. Not only does one enjoy the contrast of the mingling colours and forms, but there is a vast satisfaction in feeling you have economised space that must almost equal that of the celebrated child recorded in Punch, who, when charged with being wasteful in eating jam and butter, answered that it was through objects of economy, so that one piece of bread should do for both.

E. Augustus Bowles.
Myddelton House, Waltham Cross.

YARROWS FOR THE ROCK GARDEN.

Achilleas, or yarrows, are beautiful little plants for the garden, and as they are as well suited for the small rockery as for the rock garden of large dimensions, they deserve the full consideration of all who are looking cut for the best flowers for these purposes. Some of the plants in the genus Achillea are too tall for our object, but from the remainder we can choose eight or nine which will form a basis of selection, and this without including among them any which cannot be purchased from the trade, or any which should cost more than ninepence per plant.

As all are of easy culture in pure loam, or loam with the addition of sand and grit, with a little lime in some form or other, and full exposure to sun, little need be said in the way of cultural directions, as they will thrive well in a level part of the rockery or jammed in between two stones. We may thus proceed at once to consider the various species best suited for our purpose as already indicated.

Achillea argentea.

First we may take the Silver Yarrow, Achillea argentea, a delightful little species, giving us pretty mounds of silvery-white foliage and a profusion of small white flowers. This is one of the prettiest of the dwarf forms, and as its height is only some six inches or so, while it blooms through June and July, it is a valuable plant for the rockery. It is thoroughly hardy, and forms a beautiful little thing, whether in or out of bloom.

Achillea Clavennæ.

Clavenna's Yarrow is a worthy rival to the silver one, and is of much the same character, producing, as it does, a plentiful supply of silvery leaves, finely cut, as, indeed, are those of A. argentea, and giving us also a great number of its little white flowers from April to June. Its earlier flowering is useful ofttimes, but it should not be cultivated to the exclusion of its sister flower, whose later flowering is most valuable. A. Clavennæ grows to about six inches in height.

Achillea Hausmanni.

Hausmann's Yarrow is another very desirable little species, of almost the same height as the preceding, but the leaves are not quite so white—at least I have not seen them so silvery in tone—but also prettily cut, and looking most pleasing when the plant has attained a good size. The little mound of leaves is prettily covered with white flowers, small in size, but in corymbs of considerable numbers of blooms. It flowers about the same time as the silver yarrow.

Achillea Huteri.

Huter's Yarrow is another very charming little species of achillea, flowering from May to June, and remarkably pretty, with its mounds of white, finely-formed leaves, and its many little white flowers. Growing only about six inches high, it is one of the most appreciated of the dwarf members of the race.

Achillea moschata.

The Musk Yarrow is not nearly so well known as the preceding, and it can hardly be said that it is of equal merit, as its leaves are not of the silvery tone which renders the others so valuable, even when out of flower. They are bright green, but their beautifully cut formation gives them a pleasing aspect, while the white flowers which are generally produced from June to September, are useful in their time. It is about six inches in height.

Achillea sericea.

One of the most charming of all the species of yarrow, A. sericea rather dislikes our climate, and in some winters is seriously injured by the wet lodging in its foliage, which is soft, fine, and silky, so that it has been aptly called the silky yarrow. Its main charm lies in this foliage, which is wonderfully beautiful, but its flowers are not so free or so beautiful as some other species. It is rather trailing in its habit, and looks beautiful hanging over a stone. Its height is about six inches.

Achillea tomentosa.

The Woolly Yarrow is a distinct-looking little yarrow, with a creeping habit, and giving rather woolly leaves, finely cut, and plenty of little yellow flowers in flat heads. It prefers a dry situation, and grows only about half a foot in height. This is a really good species, distinct from the majority of the dwarfer ones.

Achillea umbellata.

The umbel-flowered yarrow is prized mainly for its pretty foliage of a beautiful silvery-white, and its generally neat habit. It is usually from four to five inches high, and its flowers, which are in corymbs, are white. It flowers from June to September.

In speaking of these flowers I have refrained from referring to A. ageratifolia, which is best known as Anthemis Aizoon, but which seldom appears in gardens as an Achillea. It is well known as a charming species, its silvery foliage and white flowers being most pleasing. Propagation of all these species is effected by seeds, division, or cuttings. S. Arnott.

RHODODENDRONS AT REGENT'S PARK.

Although we have now a wealth of flowering trees and shrubs during the springtime, and also a considerable number that carry on the scene of beauty into May and through June, it is not easy to conceive a garden of any pretensions in which rhododendrons do not occupy a prominent position. The great majority of garden rhododendrons are more or less evergreen, and thus are useful at all seasons of the year, but it is during May and June that they contribute so liberally to the beauty of the garden and pleasure grounds.

Rhododendrons are not difficult plants to grow, provided lime is not present in the soil in any quantity. It used to be considered quite necessary to provide a quantity of peat when it was proposed to fill a bed or border with these grand shrubs, but we are wiser now, and though peat is an excellent rooting medium for them, it is by no means essential, consequently the very considerable expense that the provision of peat would necessitate in some places need not be incurred. Good loam, some leaf-mould, and some old hotbed manure well mixed together will suit all the garden rhododendrons admirably.

In not a few gardens rhododendrons are plentiful, but they are often seedlings that have arisen and been allowed to survive in the struggle for existence; or they may be old and comparatively worthless varieties, planted only for the woodland margins or for cover. In such cases it seems a real sin to allow good space to be occupied by poor varieties, when such excellent ones can be obtained cheaply. One needs to examine a good collection of rhododendrons to discover how varied are the colours, forms, and markings of the varieties, and when we see these latter in first-rate condition we readily realise their differences, and some will appeal to us more than others. Not everyone has the time to pay a visit to a nursery where rhododendrons are, and for long have been a speciality, but even such a visit is not essential to those who are proposing to make a selection, for Messrs. John Waterer and Sons, of Bagshot, Surrey, have brought a splendid selection of plants and varieties to the gardens of the Royal Botanic Society, Regent's Park, and arranged them in the most delightful manner to form a rhododendron garden. This garden is under canvas, and laid out in long borders and beds of various sizes, with grass margins and ample pathways. Moreover, the garden is not on a dead level, consequently excellent views over it are obtained from the higher points, and splendid masses of colour greet one's gaze from the lower points.

Nearly 2,500 plants are set out to form this fine exhibit, an exhibition that is probably the largest in the world set up by any one firm. The plants vary from young dwarf stock, about 2ft. high, up to tall bushes and standards 10ft. high. There is a beautiful display of bloom at present, but hardly such a blaze of colour as is seen sometimes when the exhibition opens, but this is by no means a disadvantage, as it ensures a fine display all through the present month.

RHODODENDRON MRS. E. C. STIRLING.
Large trusses; flowers blush pink.

Conspicuous among the many splendid varieties raised at Bagshot is Pink Pearl, the pearl of hardy rhododendrons, its magnificent trusses of pink blooms standing out prominently and grandly. The new Mrs. E. C. Stirling, that was a great attraction at the recent Temple Show, is another distinct variety, with big trusses of blush-pink flowers. Gomer Waterer seems better than ever, and the bold blotches of Francis B. Hayes make it a very striking rhododendron. In rich rose or scarlet shades the varieties Helen Waterer, Michael Waterer, Mrs. John Waterer, John Waterer, Kate Waterer, Frederick Waterer, make up a fine set, that carry on the traditions of the firm. Among white or light colours we were struck by the beauty of Chionoides, Duchess of Connaught, Exquisite, Madame Carvalho, Minnie, Mrs. Walter, Sappho, Queen, and Princess Christian. But one might go on at great length naming varieties, for all the good things on view have their own special merits.

Besides the rhododendrons there are Japanese maples, beautiful kalmias, and a fine group of viburnums, the whole making up an exhibition worth going a long way to see.

An additional attraction is a group of Japanese pigmy trees and a collection of alpines, irises, ixias, etc., arranged in a separate tent by Messrs. Barr and Sons, of Covent Garden.

Rain and Shine at Leonardslee in May.—Mr. W. A. Cook writes us that rain to the total of 1.54in. fell at Leonardslee in May, on ten days, the total for the first five months of the year being 8.61 in., as against 10.91in. for the corresponding period of 1908, and 2.84in. for May, 1908. The highest temperature for May was 133 degrees in the sun on the 23rd, and 80 in the shade on the 22nd, while the lowest temperature on the grass was 29 degrees on May 1. Highest temperature in the sun for May, 1908, was 134 degrees; in the shade 75 degrees; and the lowest on the grass, 35 degrees.

ASTILBE NOTES.

The popularity of the astilbes and spiræas for waterside and bog gardening is becoming more noticeable as time wears on, and certainly there are few subjects which are more decorative for the purpose in hand than those under our present notice.

The issue of the GARDENERS' MAGAZINE for May 24 contained interesting notes upon the spiræas and astilbes, and, without treading the same ground as the writer of those notes, I wish to further advocate the merits of many fine forms, chiefly of hybrid origin, with the view of extending as far as possible the collections of astilbes at present grown in our English gardens.

BEGONIA PINK PEARL.

A handsome double-flowered tuberous variety, bearing large salmon-pink flowers. A.M., R.H.S., May 25. Messrs. Blackmore and Langdon.

The splendid work already rendered by the hybridist is fully exemplified by the beauty of those delightful forms, Queen Alexandra and Peach Blossom, which are already enjoying a vogue in our English gardens. These pleasingly coloured gems are the result of crossing the old favourite Astilbe japonica with A. chinensis, and the offspring certainly show an advance in beauty upon the parents. But while these fine forms are becoming well known, the splendid hybrid forms raised by Messrs. Lemoine, of Nancy, are deserving of a wider recognition, and though some of the earlier acquisitions have found their way into various gardens, yet one would endorse the plea for an extended knowledge and better recognition of the finest forms at the hands of our garden lovers.

The collection raised by the famous French firm is not lacking in numbers, and a brief survey of the chief of them may perhaps be of interest to the reader, especially as some good coloured varieties are amongst the number. The fine hybrid rutilans (Brilliant) represents a pleasingly novel colouring which should ensure it something more than a passing notice. It is very free, both in growth and blossom, and the plumy spikes of blossom are coloured rosy-carmine, which passes into rosy-mauve with age. Its companion, rubella, is a notable free-growing hybrid, with enormous plumy panicles of delightfully shaded rosy-pink blossoms. It is of a strong, bushy habit of growth, and the spikes are produced in great quantity. The bright-hued carminea, with its tall, erect panicles of deep carmine blossoms, which shade to mauve, is of pleasing appearance, being more graceful than many forms, by reason of the lightly-flowered plumes.

Féerie, or Enchantment, is a noteworthy hybrid, with a tall, graceful habit, and very refined foliage of a blackish-green hue. The masses of blossom are of great size, while the colouring is a pleasing flesh colour.

Semaphore, again, is tall, with branching flower spikes, with a tendency to incline at the apex. The colouring is soft pink, passing to a creamy shade with age. Mousseline, which may be rendered Muslin to suit out English tongue, is a compact variety, with close, well-filled flower spikes. These are inclining at the top, and the colour of the blossoms is rosy-lilac. In Nébuleux (or Cloud of Mist) we note another with close-growing flower spikes, well filled, with foliage of a light pleasing character. Dame Blanche (or White Lady) is a pure white, dwarf in habit, with compact and showy spikes of blossom. Amazone, with its tall, erect habit, and its light effective appearance, presents a pretty appearance, as the colouring is white, shading to carnation.

Other useful forms include some fairly well-known hybrids, among which are Silver Sheaf, a good white, with a reflection of rose in the blossoms; Snowy Sheaf, a grand pure white, with bushy habit, and plumy, well-filled flower spikes; Rosy Cloud, with its soft rose-coloured blossoms; Snowy Plume, a compact flowered form, a clear white in colour; and Panache, a graceful, branching blush-white. Equally good, but hardly so well known, are pyramidale, a fine erect gem, with large branching spikes, clad with milky-white blossoms. Olympe, a notable pink variety, with good lightly-flowered spikes of tall growth. Girandole is a pleasing blush-coloured form; and Geyser, an effective creamy-white, with a good compact habit.

The fact that such a range of astilbes are so readily obtainable, together with those grand species Davidi and grandis, and the old favourites, Thunbergi, rivularis, etc., should lead to extended plantings of these subjects. Where the bog garden and watersides are features, a good collection of astilbes will be of especial value for creating delightful picturesque effects. Given a good loamy soil, moderately enriched with decayed manure and leaf-soil, the astilbes will prove themselves capable growers, and the luxuriance of foliage and blossom (secured by giving them a good rooting medium will more than compensate for any little trouble in this direction.

Certainly, the newer astilbes merit an extended trial, which will probably mean an increase in popular favour.

P. S. HAYWARD.

CARRIAGE DRIVES.

Ostentation in the case of a carriage drive is not in keeping with the quiet and charm of a garden, especially when the drive is of considerable length. A free planting of shrubs, in groups, rather than in long borders, backed by trees, forms a fine setting for the carriage way, especially if the grass is well kept around these groups. In our opinion the only parts of a carriage drive where a regular display of flowers should be made are those near the gates, lodges, and house-front. Such a display may be accompanied by statuary and vases, but these must be used with the greatest care or a suggestion of extravagance will be at once apparent. The accompanying illustration of a carriage drive in a Teignmouth garden shows what can be done with shrubs, neat lawns, and summer bedding plants in vases. In this case, the channelling on either side of the drive is of an expensive character, and excellent from the point of usefulness, but rather too obvious for such a position. A well-cut grass edging would probably have sufficed, and if the vases had been set back from the edge a couple or three feet they would have been more pleasing.

LAWNS.—Those who desire to make a new lawn or bowling green, or to renovate and maintain existing ones in good condition, can have no better guide than "LAWNS AND GREENS," by T. W. Sanders, price 1s. net, by post 1s. 2d.; bound in cloth 1s. 6d., by post 1s. 9d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

SOME DIFFICULTIES OF PLANT CULTURE.

(Continued from page 398.)

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Distribution of Plant Diseases.

Another method of distribution of plant diseases is that caused by insects. This is of very common occurrence, but has not received the attention from the cultivator which it deserves.

The gnawings, borings, and punctures of insects, injurious as these often are, can by no means be reckoned as the whole of the injury which they do, and sometimes they are the least part of it. As carriers of disease, insects are no less potent in the vegetable than in the animal world.

The bacterial wilt of cucumbers, melons, and allied plants is of frequent occurrence, and often does great injury. It is due to a very sticky white organism, which fills the water passages, and thus brings about a sudden collapse of the plant. Wilting vines are very full of virulent sticky germs, ready to be carried away on the beak or jaws of the first visiting insect, and deposited on the surface or in the interior of the next plant that is bitten. Dr. Erwin F. Smith states that he examined nearly a thousand freshly-blighted leaves, and found small gnawed places inside of the wilted area of every one, and in such relation thereto that the wilt appeared to have proceeded outward from the bitten places. The disease is readily killed by exposure to bright sunlight and to dry air.

The rôle of mollusks (snails and slugs) in the dissemination of fungoid and bacterial diseases is also an important one. The subject is new even to scientific men, and most cultivators know nothing about it. Nevertheless, the indirect damage done by these animals as carriers of disease germs is often immensely greater than the immediate and visible injuries they induce by feeding. Mr. G. Wagner published recently an interesting paper on the spread of fungi by snails. He experimented with various downy mildews. Snails of various sorts were transferred from diseased to healthy plants and the disease appeared on the latter; the snails were fed with various parasitic fungi and a subsequent examination of the excreta of the snails showed the spores of these fungi passed through the animals uninjured, and in condition to germinate. Finally, the dung of these snails was dissolved in water and painted on the leaves or stems of host plants, and the disease followed. Mr. Wagner thinks that fungi are very commonly distributed by snails.

The bacterial rot of cabbages, cauliflowers, and broccoli is a disease tolerably well known to market gardeners. It blackens the veins of the leaves and the woody rings in the stems, causing the leaves to wilt, and sometimes to fall off, and prevents the formation of heads, or spoils those which have already formed. The disease is due to a micro-organism, and is disseminated in various ways, frequently by means of the common greenhouse slug. Insects are probably also carriers of this disease.

A very common danger is the spread of parasitic diseases by way of the manure heap. Farmyard and stable manures always contain a great variety of organisms, most of which are harmless to plants. Occasionally, however, some parasite gets into the manure heap; here it finds a congenial place for external growth, and is finally hauled out by the unsuspecting cultivator, and put just where it can do him the most damage. Sometimes the spores of these parasites find their way in through the fodder or bedding of the animals, but they are also, probably, occasionally introduced along with mouldy or rotting vegetables and rubbish, or by diseased plants which have been thoughtlessly thrown into the farmyard or piggery, or on to the manure heap, instead of being burnt as all such diseased plants should be.

Manure, and more especially that intended for the greenhouse or glass-frame, should at least be kept free from the rubbish of plants that have been attacked by parasitic diseases, and ought to be thoroughly composted and rotted before it is used.

Many diseases are distributed in seedlings, bulbs, buds, and cuttings, and too much care cannot be exercised in their selection. Among these diseases may be mentioned the Easter lily disease, certain violet and pansy diseases, and the hyacinth bulb disease. Some bad cases of the spread of club-root disease by young plants of the cabbage and broccoli family from infected seed beds have been seen by the writer.

But perhaps the most wholesale manner of distribution of plant diseases is through the medium of irresponsible commercial cultivators.

In this way all sorts of fungi and insect pests are spread from one end of the country to the other. Many examples might be adduced. I have seen a whole plantation of black currant trees destroyed by the currant-mite transmitted in young nursery stuff. There is no good reason why all this nursery stock should not be fumigated or otherwise treated in a dormant condition. If done properly the scales, fungoid germs, and insects would be destroyed without injury to the plants.

Of the diseases of the greenhouse, perhaps the worst are rust of chrysanthemums and carnations, leaf-spot disease of violets and roses, rot of cucumbers, melons, and tomatoes, and the wet rot of hyacinths and

PART OF AN EFFECTIVE CARRIAGE DRIVE IN A TEIGNMOUTH GARDEN.

allied plants. It is not enough to pick off the diseased parts. They must be disposed of properly. Loss may result from throwing diseased leaves or plants under the benches. If this is the only method of disposal they might almost as well be left in place. It is always best and safest to burn all infected plants or portions of plants picked off.

Harpenden. J. J. Willis.

(To be continued.)

BIG CROPS OF MELONS.

As a rule, the majority of cultivators do not obtain as many melons from a given space as they ought. The plants are put out about 3ft. or 3ft. 6in. apart, and from each one from three to six fruits are obtained; but it requires very skilful management to secure more than four ripe fruits from one plant at the same time. This system answers very well, no doubt, where space under glass is not of great moment, but where it is small, and the demand for melons great, it behoves the cultivator to do his utmost to meet that demand to the best of his ability from the accommodation at his disposal. In such circumstances, I strongly advise

The Cordon System

of growing melons, which to some readers will be quite unknown. I am quite sure that a beginner is much more likely to succeed in growing a satisfactory crop of melons by adopting this plan than by following the older method. It is a difficult matter to obtain more than three female flowers fully developed at the same time, and a very easy matter to produce two. Well, if two fruits set, and swell perfectly on each plant, a very full crop can be secured from a small space. Suppose we take a house 30ft. long, one side of which is cropped with melons—if it be a span-roofed structure. At 3ft. apart there would only be room for nine plants, and, if the average number of fruits on each plant was three, there would be a total of twenty-seven fruits; but we may say the total is thirty.

In the same space there would be room for twenty-eight cordons at 1ft. apart; and, allowing two fruits to each, we should have a total of fifty-six fruits, but we may say fifty. This is a big gain; indeed, it represents nearly two crops under the older system of allowing a great deal of space for each plant. For many years I have grown melons on the cordon system, and never failed to secure a big crop. For the benefit of the inexperienced, I will briefly describe how I carried out the work.

Raising Young Plants.

Melons thrive best in plenty of heat and moisture combined, and, if the former can be commanded, the latter condition can be readily complied with. Even in houses where there were plenty of hotwater pipes I always made up a hotbed on which to start the plants. There was then never any risk of the lower roots becoming too dry owing to the close proximity of the pipes, and I was, further, able to raise them nearer to the roof glass.

One seed was placed in each large 60 pot, the latter plunged to the rim in a propagating frame. By the time the permanent hotbed had cooled sufficiently, the young plants were fit to put out—being in their first rough leaf. I never favoured keeping the seedlings very long in the pots. The compost for the seeds was made up as follows: fibrous loam three parts, leaf-soil one part, and a little coarse sand. On the hotbed good loam of a medium heavy nature was mainly used, only a little lighter material, sand and leaf-soil, being placed where the plants were to be put out.

The depth of the soil was 7in., except where the ridge was formed for the plants, and there the soil was 1ft. deep. They were put out at a distance of 1ft. apart, in soil made exceptionally firm, while it was in good working order—not too moist.

Training.

Of course, water was given in a tepid state to maintain the soil in a nice moist condition. The vines were trained to wires 1ft., or rather more, from the roof glass, and when they had reached about 3ft. up the points were pinched off. Side shoots, already appearing, grew rapidly, and these, in turn, were stopped at one joint beyond the fruits, and when they were seen to be growing freely, all sublaterals were regularly removed.

Other Necessary Treatment.

Directly roots were visible on the surface of the border soil a rich top-dressing of rotted manure and loam, mixed, was put on 2in. in thickness. While the fruits were swelling feeding with artificials and liquid manure was judiciously attended to, and syringing and damping down also, according to the state of the weather.

The fruits were duly supported with soft matting or nets, ventilation was freer when the fruits were ripening, while water at the roots, and atmospheric moisture, were reduced very gradually, as the melons approached the ripening stage; but I always liked to keep the leaves fresh and green right up to the last. I found by doing so the flavour of the fruits was better than when excessive and premature drying of the border occurred.

Geo. Garner.

ROSE MARGARET.

A charming hybrid tea, the flowers large and of superb form, and the colour a delightful shade of pink. A.M., R.H.S., May 25. Messrs. William Paul and Son.

TEMPLE SHOW NOVELTIES.

With the publication of the three photographic reproductions of new flowers that accompany this note we complete our illustrations of the more noteworthy objects at the exhibition held by the Royal Horticultural Society in the gardens of the Inner Temple. In mentioning this fact, we would say that we much appreciate the congratulations we have received from many of our readers on the fulness and fidelity with which we have illustrated this great gathering.

The novelties herewith illustrated are: Begonia Pink Pearl, an exceedingly beautiful variety, with large, finely-formed salmon-pink flowers, raised by Messrs. Blackmore and Langdon, Twerton-on-Avon, Bath. Rose Margaret, a charming hybrid tea, with large exquisitely-formed blooms of a pleasing pink shade, raised by Messrs. W. Paul and Son, Waltham Cross. While the blooms are so perfect in form as to place the variety in the front rank of exhibition roses, it is so free and continuous in flowering as to possess merit of a high order for the garden. Rose Mrs. Taft, a free-growing and profuse blooming dwarf polyantha, bearing its neat deep rose-coloured blooms in elegant trusses. This was exhibited by Messrs. H. Low and Co., Enfield. Each of the three novelties had an Award of Merit made in their favour.

DAHLIAS TO PERFECTION.—A thorough guide to the successful culture of these popular flowers is "Dahlias and Their Cultivation," by J. B. Wroe, price 1s. net, by post 1s. 2d., bound in cloth 1s. 6d., by post, 1s. 8d., from The Gardeners' Magazine Office, 148, Aldersgate Street, London.

PEACHES ON OUTSIDE WALLS.

To grow peaches well, and keep the trees in a healthy, flourishing condition, even under glass, requires constant care and attention, but to produce the finest crops from trees growing in the open tests the skill of the most practical cultivator in some localities, for though peach trees are hardy, seldom suffering from the effects of frost, provided the wood is thoroughly ripened, there are many things to be taken into consideration if the finest results are to be obtained. If only one-half of the labour and attention were given to trees growing against walls in the open as is paid to those growing under glass, the results would no doubt be far different to what they usually are.

It is seldom that we see elaborate preparations made for drainage, or a special compost prepared for trees planted against outside walls. On the contrary, in the majority of cases a hole is dug in the border, the roots placed therein, and the tree left to take care of itself, the roots having to battle with those of some strong-growing vegetable crop for an existence. In such positions, and under these conditions, can it be wondered at that peach growing in the open is a failure? Now, if it is necessary to make such preparations before planting trees under glass where their roots are under complete control, how much more essential is it that due attention be paid to the preparation of borders where trees are grown in the open. True, there are some soils that are naturally well drained, and are of such fertility that trees will grow in them and remain in a healthy condition for a considerable time, but there are others that need much attention to render them suitable for the growth of these fruits.

Garden walls are an expensive item if constructed properly, therefore it is well to give the matter due consideration before commencing the work. For a wall to be of the greatest service it should be from twelve to fourteen feet high above the soil, and the border should be at least one and a-half times as wide as the wall is high—that is, if the wall is twelve feet high, then the border ought to be eighteen feet wide, having a slope from the wall to the path of at least a foot. Where the soil is at all retentive, resting on a bed of clay, it will be necessary to provide ample drainage. If a bed of old brick rubble or broken sandstone be put down level with the foundation, this will not only help to drain the border, but will raise it up somewhat above the level of the surrounding ground. It will also be necessary to add porous material of some kind to the soil to render it less liable to get water-logged. I have seen peach trees planted in soil that, naturally, would have made good bricks, without the least material being added to render it more porous. How could they be expected to thrive? one may ask.

Having built the wall, and made the border, our next consideration is selecting and planting the trees. There is nothing gained by planting what are termed fruiting trees, and it is better to procure some that are two or three years old, as these will grow away far more rapidly and make better trees in the end than those of larger size. Planting should be done as soon after the leaves have fallen as possible.

All gardeners know that peaches fruit on the preceding year's wood, therefore the aim should be to have this in the finest condition possible, not so rank as to resemble bamboo canes, neither should it be so attenuated that wood buds are invisible except at their terminals. If the growths have received due attentions through the summer they will be of the thickness of a goose quill, being studded with treble buds for the greater part of their length. There should be no difficulty in ripening such wood as this, provided the borders are properly drained as described; but should it have a tendency to become rank, then the trees ought to be lifted in the autumn and the roots brought nearer to the surface. Where the border is occupied by a vegetable crop, this would entail a considerable amount of labour, as the crop would have to be lifted and transplanted previously. If vegetables are planted on fruit borders, there should always be a clear space of at least four feet allowed next to the wall, as this will admit of a person being able to pay due attention to the trees during summer, and, if necessary, to their roots in winter. Peaches, as a rule, make ample roots, but where the border is deeply dug for a vegetable crop, the majority of those near the surface are cut off during the operation, leaving only those that are out of reach of the spade. Where this system is practised there can be no wonder if the trees soon get into an unhealthy state, especially where the soil is not properly drained, or is of inferior quality.

There is every prospect of a full crop of fruit this season where the trees have received due attention, not for some years have the flowers set so freely, but it is well not to overcrop them, and severe thinning must be practised. Not only should the thinning be done soon, but the trees ought to be liberally treated to enable them to bring the crop to perfection. Some have an idea that thinning should be deferred until stoning has taken place, but if this is done the mischief may have gone too far, and the trees be unable to recover themselves before growth becomes arrested, and the results are anything but satisfactory. Many of the early varieties will by this be on the point of stoning, therefore thinning should be taken in hand as soon as possible.

H. C. Prinsep.

Buxted Park Gardens.

ROSE MRS. TAFT.

A free-flowering dwarf polyantha variety of much value for massing; the flowers deep rose, and freely produced. A.M., R.H.S., May 25. Messrs. Hugh Low and Co.

Horticultural Traders' Outings.—It has been said on more than one occasion, and by such an eminent authority as Sir Albert K. Rollit, that horticulture has done very much to create and maintain a friendly feeling between Great Britain and France. We may add that horticulture has no nationality, and creates no enemies, though, with some pride, we feel that nowhere has horticulture advanced so greatly as at home in this country. This season there are to be several outings that can scarcely fail to greatly increase the friendliness of three nations. German nurserymen and landscape gardeners are coming to England for a fortnight to study business procedure and the art of landscape gardening as practised among us. A party of French nurserymen have arranged for a trip through the seed growing districts and forestry nurseries of Germany; and British traders propose to visit the chief nursery centres of France.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

COOL ORCHIDS.—It is at the present time and during the hottest months of the year that the greatest difficulties are experienced in the cultivation of cool orchids. In the case of Odontoglossum crispum many of the plants will have recently been in flower, and the strain of flowering is usually most severely felt when it is followed by a period of warm, dry weather. One of the greatest mistakes made is that of permitting the flower scapes to remain too long on the plants after the flowers have become fully expanded. If the pseudo-bulbs commence to shrivel it is rarely they can be induced to regain their normal state until the next new growth commences to root, consequently the advancing growth becomes detrimentally affected. I cannot lay down any hard and fast lines to be followed to the letter, because the plants are grown now extensively in practically every part of the country, at different altitudes and under widely different conditions. One must be used to the conditions and circumstances before he is able to determine the needs. I find a good plan in hot weather, and when the outside conditions are favourable, to syringe or spray the plants overhead once or twice a day, in addition to keeping the stages, floors, etc., frequently damped. The ventilators also must be used with discretion. I find it advantageous to shade heavily in hot weather, and thus with plenty of moisture in the atmosphere keep the temperature cool without resorting to opening the roof ventilators too freely. But, on the other hand, should the outside atmosphere be practically saturated after heavy rains, a considerable advantage is derived by the use of the roof ventilators, and of course shading from excessive light. The advantage of keeping the blinds raised well above the glass so that a current of fresh air can circulate between the blinds and the glass cannot be overestimated when considering the cool-house orchids. It will be found that where the blinds are allowed to rest on the glass the latter gets very hot from the sun's heat, and it is thus impossible to keep down the temperature and maintain desirable conditions inside the house.

REPOTTING.—I do not advise repotting of the cool orchids until after the hot season has passed, but there frequently occurs cases where the compost is in an advanced stage of decay, or it may be a valuable plant needs more rooting space, and is in proper condition for repotting; under these conditions one has to consider how to act. If a plant is in a proper stage for repotting, little harm is done irrespective of the season, providing that proper attention and conditions are afforded. The compost we find suitable for all our cool-house orchids is composed of fibrous peat or osmunda fibre, broken oak or beech leaves, and chopped sphagnum moss, in equal proportions, with sufficient silver sand added to render this porous.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

GLOXINIAS.—Where seeds were sown early in the year to produce plants for autumn flowering the young seedlings will now be making good progress. Provide plenty of moisture in the atmosphere by repeated damping, and supply the plants with weak soot water to give colour and substance to the flowers and foliage. They will require to be well shaded, as well as those coming into flower, but to these latter a cooler house should be given. When early batches have finished flowering reduce the water supply very gradually until the tubers have become well ripened, when no more will be necessary during the resting season. The stock may also be increased by propagation of the leaves laid flat upon a bed of sand; cut the thick ribs, and, with pegs or stones keep the leaf in position in a brisk heat.

CALADIUMS need a light and open soil, and efficient drainage, so that the water may pass readily away. A good compost consists of about equal parts good turfy loam, peat, and leaf-soil, with some horse droppings and a good sprinkling of wood ashes and sand; shade from bright sunshine, and spray frequently among the pots. Give frequent watering with liquid manure when the pot becomes full of roots to assist the colouring and increase the size of the leaves. at this season so well brought out. Carefully guard against any injury to the leaves. For the leaf stems of some varieties neat stakes will be necessary. Later batches, which sometimes prove so serviceable, should be given their final shift. Grand examples of these fine foliage plants annually appear at the Temple Show and other leading exhibitions.

ACALYPHA HISPIDA.—To produce the tassel-like flower spikes which are the chief attraction of this plant, and spring from the axils of the leaves, liberal treatment is necessary if they are to range from 12 to 18 inches in length; 8-inch pots are necessary, because of the free-rooting character of the plant, even to support a single stemmed specimen, in which form they are the most attractive. Discontinue syringing when the tassels are formed.

APHELANDRAS are very attractive during the winter months, when well grown in loam, peat, and sand, in small pots. A. Fascinator, with its beautifully marked leaves and scarlet flowers, invariably commands admiration. A. nitens, A. Bausei, and A. aurantiaca are all good; a brisk temperature is necessary to success, with protection from bright sun. The yellow-flowered A. Leopoldi flowers during the summer.

DRACÆNAS.—Plants raised early in the year will now be in good condition for shifting into five-inch pots, and a brisk stove heat, with plenty of moisture, and a position near to the glass is favourable to vigorous growth. Well-furnished plants in pots of this size will be found most suitable for many purposes. Shade lightly, close early, and syringe freely. The raising of young stock in quantity from old plants that have lost their lower leaves can be accomplished at the present time by divesting them of what leaves remain, and laying the stems in a propagating pit or frame, partly covering these with light soil. Young growths will soon start, and when from three to four inches long separate them from the old stem with a sharp knife and a portion of the old wood as a heel; put singly in small pots, and return to the same quarters, when roots will soon be made.—W. Fyfe, Lockinge Gardens.

FRUITS UNDER GLASS.

EARLY VINERY.—Keep the house containing ripe grapes cooler, afford plenty of ventilation top and bottom, but do not allow the borders to become dry. Give sufficient water to maintain roots and foliage in a good condition, and damp the floor and borders at least once every day in fair weather. The growths may be allowed to extend, and by this means some amount of shade will be afforded. Black Hamburghs will benefit by this, and root action will still be encouraged. Keep the vines free from pests, and, if perchance red spider attacks the foliage, prepare some insecticide at once; a solution of soft soap and sulphur is about as good a remedy as can be had, and this should be sponged on both sides of the leaf.

MUSCAT GRAPES.—Keep the temperature at 75 degrees by day and 70 at night; stop the fires when the morning is bright, so that there is not much artificial heat during the day. Tie up the shoulders of large bunches, so that these will be shapely, and each berry will be able to swell up to its proper size and shape. Do not overcrop, as this is one of the worst evils in grape culture. Attend to the stopping of laterals as often as is necessary, but do not impose an undue check on the vines. Give liquid manure occasionally, and when doing this let the water be warm, for cold water is often a forerunner of shanking.

SUCCESSIONAL HOUSES.—Late grapes should have been thinned by this time, and much the same method of procedure will be applicable as for Muscats, except the heat. These late houses need only be kept up to 65 degrees, allowing plenty of air when the weather is fine. Too much heat and not enough air is the cause of much trouble in grape growing. Give plenty of water when required, and some good artificial manure. Pot vines raised this spring will now require a shift, and this will be into No. 10-sized pots, which will suffice for this season; and where any old vines are to come out as soon as the fruit is ripe, these can be planted in the border as soon as it can be got ready.

MELONS.—These are now in much request, and as frames become empty the young plants should be planted forthwith. The earliest batch in the melon house will now be finished, and some more plants should be ready to be planted, as soon as the house has been cleared and new soil got ready for them. The soil in either case should be good loam, and this should be made very firm as soon as the plants are put out. Melons set with great freedom at this season if lightly pollinated, and trouble may arise from leaving too many on a plant.

PEACHES AND NECTARINES.—Where the trees have been cleared give plenty of ventilation, and where the lights can be taken off let this be done, and so afford the benefit of air and sunshine to ripen up the wood; but do not neglect the syringing. The second house should be treated exactly as recommended for the first and subsequent houses. Late houses will probably require but little fire heat; anyhow, the heat should be turned off in the daytime, as too much heat is the cause of many troubles. Keep the growths nicely tied in, cutting away all that are superfluous; where the borders are well drained too much water can hardly be given at this time of the year.

TOMATOES.—These have fruited grandly this season, and as soon as the earliest fruits are over the plants should be removed to make room for new ones, as old, worn-out plants only help to make the place look shabby. Sunrise fruits and matures so quickly that there is no excuse for not having a good supply. Keep the plants to one stem, water well when necessary or the set will not be what it ought to be; very often a bad set has been caused by the plants getting dry at the flowering period.

CUCUMBERS.—If the earliest batch show signs of weakness prepare other plants to take their place. Those who use cucumbers much know the value of young and freshly-cut fruits, and these are much sweeter than those from old plants. Good crops will be coming along now in frames, and these answer well for cooking purposes, but for salads and for serving whole those grown in houses are preferred.—W. A. Cook, Leonardslee Gardens.

THE KITCHEN GARDEN.

ASPARAGUS BEDS.—These will have nearly completed their yield of heads for this season, and cutting should cease. It is very detrimental to next year's crop if the plants have not time to make up their growth. The aim should be to build up strength in the plants in every possible way. If the weather is dry a good watering with liquid manure or other stimulant should be given. To prevent the wind from damaging the strongest growths some form of support should be given them. Rows of string tied to stakes and run among the plants is the most simple and easy method.

LATE PEAS.—Peas are appreciated over as long a season as possible. To provide the latest supplies provision should be made for their sowing. Unless the soil has been deeply trenched during the winter trenches similar to those used for celery are of great advantage. Do not sow thickly, but allow reasonable room for each plant to develop. Gladstone and Autocrat are excellent varieties for late sowings, as they resist mildew and fill up their pods better than most kinds.

Give liberal supplies of water whenever the rainfall is light. Very much depends on the autumn weather, and a later sowing made in a favourable position will sometimes give a good return, but, as a rule, peas are not profitable far north.

LEEKS.—The earliest plants sown outside will be large enough for planting out. If extra large produce is required plant in trenches. For the general crop this is not necessary, but they may be planted on a well-tilled piece of land at from 15 to 18 inches apart. Water the plants to settle soon after planting, and supply it when dry till they have taken hold of the new soil.

COLEWORTS.—These are of great value during the autumn and early winter in producing sweet heads of greens of first quality. Make another sowing now, and place the plants, when large enough, in a border standing somewhat high; they will give a profitable return if planted about one foot apart, producing quantities of small compact heads until nearly Christmas.

ENDIVE.—Make sowings of endive, but only in small quantities yet. Select a cool position, and provide water whenever the weather is at all dry. The curled leaved variety gives a pleasing appearance to the salad, and is more adapted for summer use than for winter, being subject to damping during sharp frosts and wet.

SHORTHORN CARROTS. — There is usually a heavy demand for succulent young carrots, and the first sowings outside will soon be ready for use in quantity. Another sowing will be required to succeed these, and produce roots till the autumn months. A sweetened friable soil, free from wireworm, is of importance for this crop.

HERBS.—These, if sown as advised, will have grown large enough for transplanting. Go over the various kinds, thin out those that are too thick, and plant up any vacancies there may be in the rows. Should any sorts have failed sow again at once before the season is too advanced.

GENERAL REMARKS.—Late kales, etc., will now be finished, therefore clear the ground, and have it prepared to receive another crop. Weeds, as well as the crops, are growing, and at a great rate; endeavour to keep the young plants of all kinds free from weeds by having the rows hand weeded, and frequently stir amongst the plants with the hoe. Should any of them not be making satisfactory progress give light dustings of nitrate of soda or sulphate of ammonia.—CHARLES FLACK, Cholmondeley Castle Gardens.

A CHARMING BORDER.

Mignonette as a groundwork, with Shirley poppies waving above it to brighten the display, provides a simple, but most charming bed of flowers. For many years I made a practice of having such beds near the paths in the flower garden, and vegetable garden, too. In the latter I selected positions near the main paths and the entrances. The mignonette was sown thinly, broadcast, and a few of the poppy seeds dropped evenly among them, then I lightly raked in the seeds. In order to prevent any undue crowding the resultant seedlings were thinned out in good time. The mignonette lasts for a considerable time, the poppies do not, but as the flowers follow in quick succession the general display was maintained.

In order to keep up a succession of blossom throughout the summer fresh borders were prepared, and seeds sown in them every six weeks, or so, three sowings being ample for the purpose. The brilliant blooms of the poppies above the dense carpet of mignonette had the appearance, at a distance, of so many butterflies hovering above the sweetly-scented mignonette.

G. GARNER.

BIENNIALS.

Biennial plants do not flower the same year they are raised from seed, but are in perfection the year after. Various dates are sometimes given for sowing biennials, but generally they are not sown sufficiently early to produce fine plants by the time they should be planted out. July and August is the usual time for sowing, but I find it much better to sow about the first week in June, certainly not later than the third week of the month.

A border having an east aspect is suitable, and the ground should be clean and moderately rich. The drill system of sowing is less likely to produce drawn, weakly plants than broadcast. Should the weather be dry, a good soaking of water through a fine rose should be given, and then some branches, old mats, or other shading should be provided until the seedlings are breaking through the soil. Before the seedlings suffer from overcrowding, a well exposed border should be manured and well pulverised, into which they may be pricked off. This is the point in their culture of most importance, and one which early sowing allows plenty of opportunity for accomplishing. Plants that are allowed to remain in the seedling beds or lines till finally transplanted are never so fine as pricked-out plants. To secure a fine strong plant and satisfactory bloom, they should be stocky and strong, and lifted with good balls of soil and roots, conditions which cannot be commanded by later sowing and once transplanting.

When pricked out, each plant should stand a clear six inches from its neighbour. Biennials stand the winter much better when nursed thus. All attempts at throwing up flower stems must be checked by pinching them off as they appear.

To grow the majority of biennials well, they require a good loamy soil, and it should be prepared early. The end of September, or from that time till the middle of October, is the best time to plant out where they are to flower. I prefer autumn to spring planting, because autumn weather is generally much milder than that of early spring, and late moving is not to be recommended. If carefully lifted and planted in autumn, they obtain a good hold of the soil before the winter, but when autumn planting cannot be practised, they should be planted not later than the end of March in spring.

The chief points in the successful culture of biennials lies in early sowing, transplanting into nursery beds, and planting in early autumn with good roots attached.

T. B. FIELD.

Two Good China Asters.—It is scarcely practicable to represent every form of China aster in any one garden during a single season, consequently a selective process generally prevails in private gardens. For decorative purposes the single forms are steadily increasing in popular favour, being much in request at present for yielding a supply of cut flowers. The colours do not as yet embrace so wide a range as some of the double types, yet, though restricted, they produce excellent effects when carefully employed in beds among other summer flowers, while their flowering season extends late into the autumn. Another good China aster for bedding purposes is the ray aster; in this form the florets are long and tubular, and quite distinct from the familiar quilled aster of the exhibition table. It produces a quite novel effect when in flower, and as some delicate shades of colour are embraced by this section, its value in the flower garden may be readily conceived. Both these forms require early pricking off from the seed boxes, allowing ample space at every stage of growth.—THOMAS SMITH.

THE PRINCIPLES OF HEREDITY.

(Continued from page 441.)

Mendelism.

In order to gain an insight into the nature of Mendel's work, we cannot do better than turn to his original memoir, entitled "Experiments in Plant Hybridisation," of which an excellent translation has been published by Professor Bateson, the leading exponent of what is now termed Mendelism in this country. Even fifty years ago, experiments in hybridisation were, as we have already seen, no new thing. Mendel had many predecessors in this line of research, but it was reserved for him to introduce exact statistical methods into the work, and it is to these methods that he owed his success. It was already known that hybridisation, or the crossing of distinct species and varieties, might produce, and very often did produce, several distinct types of offspring from the same parents. Mendel was not content with this knowledge: he proceeded by numerous and often repeated experiments, extending over several years, to classify the offspring produced by hybridisation, to follow out their descendants from generation to generation, and above all to find out the exact numerical proportions in which the different types appeared in successive generations. It was the discovery of these proportions that furnished the clue to the mystery.

Mendel found the material which he required for his experiments chiefly in the numerous garden varieties of the common edible pea. How these varieties first originated we do not know. Probably they arose as sudden and apparently spontaneous variations, or as Professor Hugo de Vries terms them, mutations. No less than twenty-two such varieties were selected for experiment.

The next thing he did was to select certain differentiating characters upon which to concentrate his attention, and this is a very important point. Of course, all the varieties agreed with one another in most of their characters, in other words, they were all edible peas exhibiting the specific characters of the plant known to botanists as Pisum sativum, but they differed in numerous minor features. Of these differentiating characters Mendel selected seven for the purposes of his experiment, amongst which I need mention only two: (1) The form of the ripe seed, which, roughly speaking, may be either round and smooth, or angular and wrinkled; and, (2), the difference in colour of the contents of the seeds or cotyledons, which may be either yellow or green.

The two differentiating characters of each pair were artificially united by cross-fertilisation, the flowers of a round-seeded pea being fertilised by the pollen of a wrinkled-seeded pea, those of a green-seeded pea by the pollen of a yellow-seeded pea, and so on.

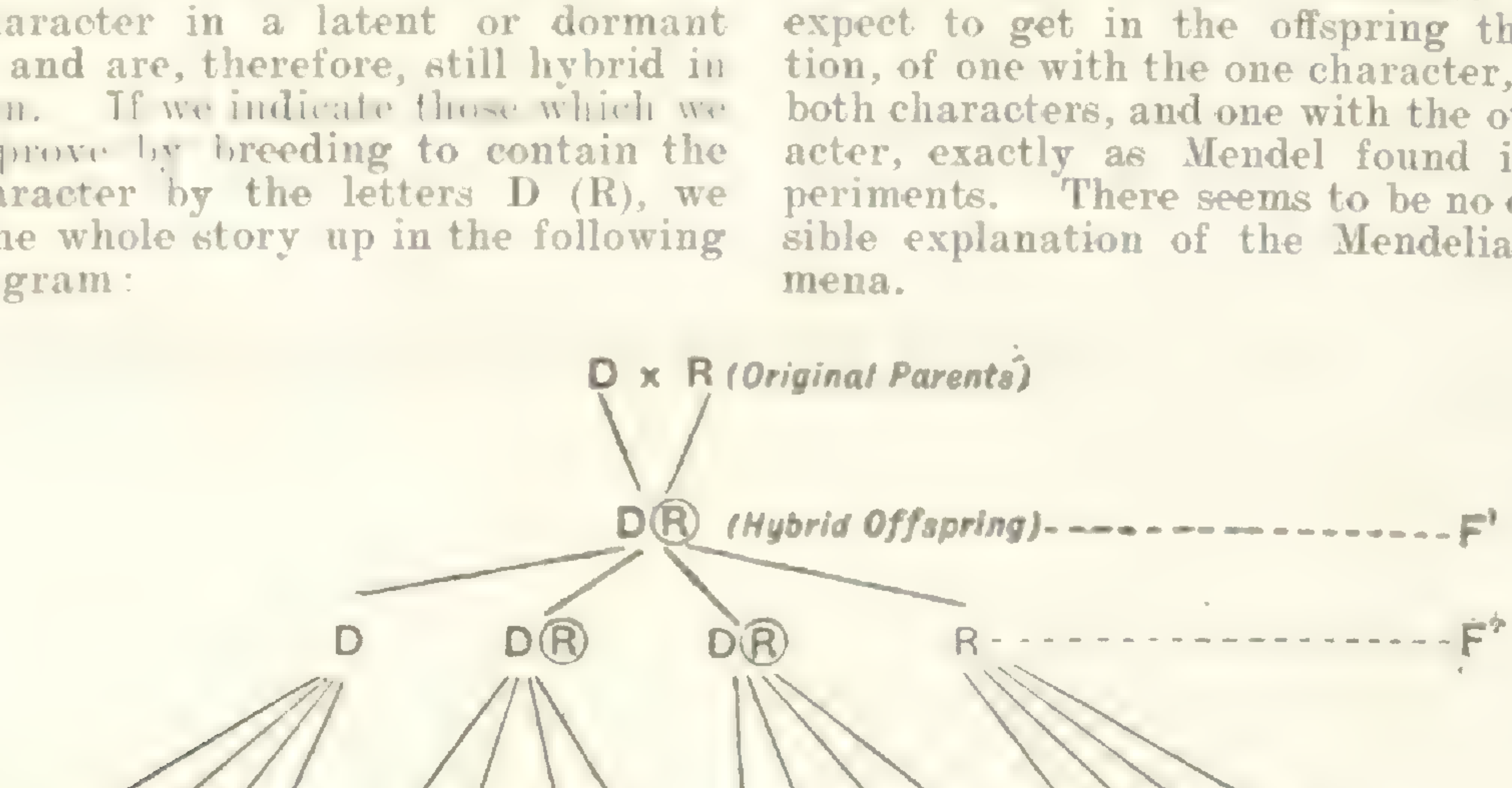
In this way a number of hybrid plants, represented in the first instance by seeds, were obtained, and the curious fact was observed, that each hybrid closely resembled one of the two parents, instead of being, as is frequently the case in other hybrids, intermediate in character between them. Further experiments with the offspring of the hybrids, however, showed that, although only one of the two contrasted characters manifested itself in the hybrid, the other was there also in a latent or dormant condition, and appeared again in subsequent generations. The character which appears in the hybrid is said to be dominant, while that which is suppressed is said to be recessive. In the case of these peas, then, one character was always dominant over the other in the hybrid, and, moreover, it was always the same character, and it did not matter whether it was derived from the male or from the female parent. Thus the round form of seed is dominant over the wrinkled, the yellow colour of the seed contents over the green, and so on.

Having obtained the hybrids, the next step was to follow the history of the offspring throughout successive generations. For this purpose the flowers of the plants raised from the hybrid seeds were allowed to fertilise themselves with their own pollen, no further crossing being permitted. The seeds thus obtained were now again apparently of two kinds, resembling the two original parent forms from which the hybrid was produced. Moreover, these two kinds occurred in definite proportion, three of the dominant to one of the recessive—three round seeds to one wrinkled, three yellow to one green, and so on. Of course, these proportions are only averages, and in order to eliminate errors of chance, large numbers of observations must be made—the greater the number the more reliable the result. To take an actual example from Mendel's work, 7,324 seeds were obtained in the second trial year from the hybrids between round and wrinkled. Of this number, 5,474 were found to be round, and 1,850 wrinkled—showing the ratio of 2.96 to 1. Again, out of 8,023 seeds produced by the hybrids between green and yellow, 6,022 were yellow and 2,001 green, the ratio being 3.01 to 1. These experiments have often been repeated during recent years, and it is found that the average ratio of three to one is always maintained.

Mendelian Proportions.

The significance of this proportion is not at first sight obvious. It is necessary to continue the experiment for at least another generation in order to gain further insight into the matter. We have as the result of the self-fertilisation of our hybrids apparently only two kinds of seeds or plants, which we may call D, showing the dominant character, and R, showing the recessive character, in the proportion of 3 D to 1 R. If these plants are again cultivated and allowed to fertilise themselves we find that every one of the R's breeds true, and no matter how many generations we raise they will always remain of the recessive type. These are now called extracted recessives. When, however, we cultivate the plants showing the dominant character in the same way we soon find that though similar externally they are not in reality all alike, for one-third of them will yield nothing but D's, while the remaining two-thirds will yield D's and R's in the same proportions of 3 to 1 as the original hybrid. Moreover, the D's obtained from the one-third will continue to breed true from generation to generation, and do what we will we can never get an R out of them again. They are called extracted dominants.

It is obvious, then, from these experiments that the apparent D's are not all true D's, but that two-thirds of them contain the recessive character in a latent or dormant condition, and are, therefore, still hybrid in composition. If we indicate those which we can thus prove by breeding to contain the latent character by the letters D (R), we can sum the whole story up in the following simple diagram:



Thus we see that from generation to generation of the offspring of the hybrid there goes on a constant sorting out into three categories, the two original parental types and the hybrid form being always produced in definite proportions. If we assume that each kind produces on an average an equal number of offspring, we shall see from the diagram that in the course of a few generations of undisturbed reproduction by far the greater number of the plants will have finally reverted, in equal proportions, to one or other of the original types, but a certain number will always remain in the hybrid condition, and will continue to split up as before in the well-known Mendelian proportions.

We see, then, from Mendel's experiments, that in the case of peas, where one of the two contrasted characters is dominant over the other, the offspring of the first hybrid appear in the proportion of three apparent dominants to one recessive, but that further analysis shows that the real proportion is

1 D: 2 D (R): 1 R.

This proportion has since been observed not only in peas, but in a large number of other cases, including animals as well as plants. It is evidently a phenomenon of very common occurrence, though we cannot as yet say that it occurs universally whenever two forms with contrasted characters are crossed. Moreover, as we have already noticed, the phenomenon of dominance is not always shown, and the hybrid may exhibit a character intermediate between those of the two parents or different from either. The occurrence of the Mendelian proportions, however, is sufficiently frequent to demand explanation, and this explanation we must now seek.

Suppose we take a large number of black and white counters, all alike in shape and size, and after shaking them up thoroughly in a bag, draw them out two at a time without looking. Each pair that we draw out may consist of two whites, two blacks, or a black and white. If we draw out a sufficiently large number of pairs entirely at random in this way and then count them, we shall find that they occur in the proportion

1 B B, 2 B W, 1 W W,

or one all black, two black and white, and one all white, this being, of course, only what is to be expected in accordance with the mathematical law of probability. This is also the same as the Mendelian proportion, and at once suggests that the latter may, perhaps, be explained in a similar way, as the result of random union of characters in accordance with the laws of chance.

We know that each individual plant or animal produced by sexual reproduction is formed by the union of two germ-cells, or gametes, a male and a female. Now these gametes are formed in very large numbers in the parent organism, and if we suppose that each one, whether male or female, contains only one of the two contrasted characters with which we are experimenting, and if we further suppose that they unite at random, male with female, then in accordance with the law of chance we should expect to get in the offspring the proportion, of one with the one character, two with both characters, and one with the other character, exactly as Mendel found in his experiments. There seems to be no other possible explanation of the Mendelian phenomena.

The conclusions to be drawn from these results are of fundamental importance. In the first place, we learn that small individual characters may be separately represented in the germ-cells and separately transmitted from parent to offspring. This indicates that the entire organism may be built up of a number of unit characters, and if we can once establish the general occurrence of such unit characters we shall have taken a long stride towards the understanding of the laws of heredity.

In the second place, we may conclude from these experiments that, as regards the unit characters with which we are dealing, we have a complete segregation amongst the germ-cells or gametes, each of which carries only one of each pair of contrasted characters (technically termed allelomorphs), and in this respect it makes no difference whether the germ-cell be male or female. Thus we arrive at what is sometimes termed the doctrine of the purity of the gametes—purity, that is to say, with regard to each character of any such contrasted pair and without reference to the other innumerable characters which must be represented in the germ-cells in order that the whole complex structure of the organism may be developed from them.

Of course, it is extremely improbable that any two varieties which are united in the formation of a hybrid will differ from one another only as regards one pair of contrasted characters. There will almost certainly be more than one such difference between them, and our experiments will be complicated accordingly.

(To be continued.)

CHIONANTHUS RETUSUS.

It is curious that more fine examples of this ornamental shrub are not met with, considering that it was described by Lindley and Paxton in their "Flower Garden," vol. iii., p. 85, Fig. 273, in 1852, and that some considerable attention was directed to its merits about that time. It is closely allied to the North American Fringe Tree (C. virginica), and is one of the many beautiful Chinese shrubs that owe their introduction to the travels of Robert Fortune. This particular shrub was found by him in a garden in the neighbourhood of Foochow, and he sent it home to Messrs. Standish and Noble, who were responsible for its introduction to commerce in this country about 1850.

Fortune did not find it in a wild state, and he surmised that it had either been introduced to the place where he discovered it from a more northern part of the empire, or from Japan. Later collectors have, however, found it wild in both countries. It is a strong-growing bush, with large, more or less ovate, or obovate, hairy, deciduous leaves, and snow-white, fragrant flowers, which appear during the latter part of May and early June, in slender, terminal panicles.

It is not an easy plant to propagate, except by means of seeds, though it will root from layers. It has also been increased by grafting on to allied genera, such as olea and ligustrum. Ordinary loamy soil suits it, and when once established it grows fairly rapidly. It has also been known under the name of C. chinensis, a name given by Maximowicz.

W. D.

Mothers' Day Celebration in America.—Early in May an interesting celebration took place in a large number of towns in the United States, and it was a celebration in honour of the mothers of the nation. In most cases, the Mayor of the town fixed a certain day for the celebration, mostly a Sunday, and called upon every man and boy to wear a white flower in his coat on that day in honour of his mother. The men folk could not wear flowers without providing their lady relatives and friends with some also, and so the celebration proved a pretty as well as a charming one, and brought no small gain to the florists.

CARDIFF AND COUNTY HORTICULTURAL SOCIETY COMING OF AGE SHOW.
SOPHIA GARDENS, CARDIFF.
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THE THIRTY-FIFTH GRAND ANNUAL SHOW
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Valuable Money Prizes. Silver Challenge Cups for Roses and Fruit.
Entries close 23rd June.
W. J. COOK, Hon Sec.
Holmsley House, Richmond, Surrey.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

On June 8 the Royal Horticultural Hall was once again packed with exhibits, and hardy flowers were abundant. The latter were good, but it became tiresome to find group after group made up of pretty much the same kinds and varieties of herbaceous and [illegible] subjects. Many trade growers show very little initiative in their displays, as banks of flowers in season, and as many as can possibly be stowed into the space allowed appear time after time.

FLORAL COMMITTEE.

Some wondrously beautiful long-spurred aquilegias were most tastefully displayed by Messrs. Dobbie and Co., Rothesay, who had a charming exhibit of these elegant flowers in a great variety of colours. A pink and [illegible] variety, a golden-yellow, a blue and white, and a purple and yellow, were forms that stood out as specially attractive. This firm also showed Mrs. A. Ireland, The King, [illegible] Cautley, Mid Blue, and Helen Lewis sweet peas. In Messrs. H. B. May and Son's large group the ferns were the chief attraction, and here the gymnogrammas were specially noteworthy. There were also standards of Pelargonium Clorinda, abutilons, [illegible] swainsonias, and the whole made an interesting display. Messrs. Paul and Son, The Old Nurseries, Cheshunt, submitted a group of cut sprays of garden roses, such as [illegible], R. Harrisoni, Trier, Austrian Copper, Xanthina, Altaica, Double Scotch, lutea, and other species and varieties.

A bold bank of pyrethrums, poppies, lupins, eremuri, and other popular hardy flowers was arranged by Mr. G. Reuthe, Keston, Kent, who also had trusses of Rhododendron grande, R. Keysi, and numerous flowering plants of Primula Sikkimensis, Cypripedium macranthum, etc. The Guildford Hardy Plant Co., Guildford, set up a selection of hardy flowers. Messrs. Bakers, of Codsall, Wolverhampton, showed a very bright group of a fine strain of long-spurred aquilegias, and a selection of Oriental poppies and pyrethrums. Roses were again delightfully shown by Mr. G. Mount, of Canterbury, who had tall pillars of Blush Rambler, Jersey Beauty, White Dorothy, and Gardenia, the latter a very pretty yellow bud. Among cut flowers Lady Ashtown, Mrs. David McKee, G. C. Waud, Captain Hayward, Mrs. W. J. Grant, Mdme. Melanie Soupert, Mdme. Ravary, and Mildred Grant were the chief varieties.

Some magnificent flowers of both double and single begonias were shown on boards by Mr. A. L. Gwillim, Cambria Nursery, New Eltham, Kent. The single blooms were of enormous size, and quite the finest we have seen for a long time. Messrs. Gunn and Sons, Olton, showed their beautiful Viola cornuta purpurea and a few good violas. Hardy flowers were extensively and well shown by Messrs. George Bunyard and Co., Lim., Maidstone, whose chief attractions were Lupinus polyphyllus roseus, single pyrethrums, Oriental poppies, a great variety of heucheras, and a selection of German irises. In the centre of the hall Messrs. Jas. Carter and Co., Holborn, displayed splendidly-flowered plants of their excellent strain of gloxinias and streptocarpuses, the former proving a great attraction with their big velvety blooms.

Mr. G. Prince, Oxford, showed a pretty group of roses, and staged the Austrian Copper and Austrian Yellow in great style, as well as Marie Van Houtte and Souv. de S. A. Prince. Messrs. H. and W. Evans, Llanishen, Cardiff, contributed a display of popular kinds of hardy flowers. Lupins, an array of single and double herbaceous pæonies, and a set of very beautiful single and double pyrethrums were boldly staged by Messrs. Kelway and Son, Langport. A fragrant and very pleasing exhibit of well-grown perpetual carnations and sweet peas came from Mr. Paskett, gardener to E. J. Johnstone, Esq., Burrswood, Groombridge. The quality and colouring of the carnations were first-rate, and such sweet peas as Mrs. C. W. Breadmore, Lord Nelson, Audrey Crier, Primrose Spencer, Princess Victoria, Helen Lewis, and a mauve variety named Burrswood, were of great excellence.

A beautiful bank of finely-grown perpetual carnations was set up by Mr. C. F. Waters, Balcombe, Sussex, whose vases of Cecilia, Mrs. Lawson, Victory, Enchantress, and Mrs Burnett were greatly admired. Poppies, irises, lupins, and pyrethrums formed the bulk of a display of hardy flowers shown by Messrs. G. Jackman and Son, Woking. Mr. W. H. Page, Tangley Nurseries, Hampton, filled a whole table with great stands of perpetual carnations and groups of Peach Blossom spiræas, over a groundwork of Countess de Grey ivy-leaved pelargoniums, the latter a new pink variety. The central sheaf of Lilium longiflorum was very fine. Messrs. G. and A. Clark, Dover, made up a bright and effective display with a selection of pyrethrums, lupins, poppies, anchusas, liliums, and irises, and other good things, and they showed Geum coccineum var. Mrs. J. Bradshaw (A.M.), a big scarlet double form.

The eremuri in Messrs. W. Cutbush and Son's group of hardy flowers were very bold and stately, the pink of E. robustum showing up well with the yellow of E. Warei and E. Bungei. Other good things were the water lilies and two fine bunches of Anemone sulphurea, a lovely species with big sulphur-yellow blooms. Messrs. Cutbush and Son had also a big display of carnations and flowering shrubs tucked away in one of the annexes; the carnations were very fine, and needed a better place to display their charms. Mr. Chas. Turner sent a goodly set of poppies.

Very brilliant were the splendid spikes and flowers of cannas from Messrs. H. Cannell and Sons, Swanley, a firm that manages these gorgeous subjects splendidly, and always shows a good selection. The useful Zenobia speciosa, with its lily-of-the-valley-like flowers, was largely and well shown by Mr. L. R. Russell, Richmond. Miss Hemus, Upton-on-Severn, showed some splendidly grown sweet peas, and among newer things were the soft pink Zarina, Paradise Apple Blossom (A.M.), with deep rosy margin and shading; Purple Paradise, deep coloured; the popular Evelyn Hemus, the bright bicoloured Lucy Hemus, and several seedlings.

Mr. Maurice Prichard contributed a display of seasonable hardy flowers, and Messrs. Wm. Paul and Son, Waltham Cross, put up a big batch of the fiery crimson rhododendron Glory of Waltham, a very effective variety. Mr. Amos Perry, Winchmore Hill, showed a splendid lot of pyrethrums, a grand collection of irises, hardy orchids, and poppies. Lupins in great variety, an elegant group of seedling and named varieties of heucheras, stately eremuri, and a selection of liliums and irises, all from Messrs. R. Wallace and Co., made up a brave display that did not lack admirers. Roses were shown by Messrs. B. Cant and Sons, Colchester, but the flowers of the species and garden varieties were bunched rather tightly together; Tausendschon was very fine.

Mr. W. J. Godfrey, Exmouth, contributed a big group of Oriental poppies, showing very distinct art shades of these big flowers. Some of the brown, red, and grey shades were particularly good, as also were the pale salmon and rosy tints. Messrs. J. Cheal and Son, Crawley, staged a group of flowering shrubs, their Cytisus scoparius Lemon Queen being a very fine thing; at one end of the display the firm's pink lupin was a fine feature. Gerbera Jamesoni was well shown by Messrs. Stuart Low, and Co., Enfield, as well as schizanthuses and a collection of cut perpetual carnations. Messrs. T. Rochford and Sons, Broxbourne, submitted the pretty Araucaria excelsa Silver Star (A.M.), with pale creamy green tips to the branches; and Polypodium glaucum crispum (A.M.), a handsome fern. Mr. N. Harwood, Colchester, and Mr. Elliott, Stevenage, both staged groups of hardy flowers.

Messrs. J. Veitch and Sons, Chelsea, had some very interesting hybrids between their fine gloxinias and Gesnera Reginæ; these have erect flower stems, and semi-drooping flowers of purplish hue, and nearly all with a white throat. This firm had a lovely lot of gloxinias in batches of a colour or variety, and they were fine as thus shown. The Messrs. Veitch also set up a selection of flowering shrubs, including rhododendrons, viburnums, syringas, weigelas, Cornus Kousa, etc. The beautiful and elegant Calceolaria Clibrani was well shown by its distributors, Messrs. Clibrans, Altrincham, smothered with yellow flowers. Very beautiful were the perpetual carnations shown by Mr H. Burnett, Guernsey, whose blooms of Enchantress and Marmion were magnificent. Messrs. Barr and Sons, Covent Garden, contributed a collection of hardy flowers, in which the varieties of Iris sibirica were very charming.

Alpines were delightfully shown by Messrs. T. S. Ware, Feltham, whose dianthuses, gentians, aubrietias, saxifragas, Aster alpinus, Arnica montana, Gaultheria procumbens, and Calceolaria polyrhiza were very pretty. Some bright hybrid dianthuses, Lady Dixon and an unnamed bluish-pink variety, were well shown by Mr. James Douglas, Edenside, Bookham.

ORCHID COMMITTEE.

Mr. White, orchid grower to Sir Trevor Lawrence, Bart., Dorking, showed the bright Dendrobium Jerdonianum (Cultural Commendation), Lælio-cattleya Feronia (A.M.), Angræcum expansum (B.C.), and Cirrhopetalum vaginatum (B.C.). Mr. H. A. Tracey, Twickenham, sent Oncidium Batemannianum, Odontoglossum eximium, and a fine white form of Cattleya Mossiæ. From Lieut.-Colonel Holford's collection at Westonbirt, Mr. H. Alexander brought up the splendid Cattleya Mossiæ A. Dimmock, with huge lip (A.M.), and L.-c., Mikado (F.C.C.), with a yellow flower.

Odontoglossum amabile Fowler's var. (A.M.), with ten grand flowers, rosy with chocolate marks, gained a F.C.C., as shown by Mr. Davis, gardener to J. Gurney Fowler, Esq., South Woodford. Odontoglossum Cobbianum, a fine Harryano-crispum cross, was shown by W. Cobb, Esq., Normanhurst, Horsham. The Hon. Mrs. Foley Packham, Fordingbridge, showed an unnamed Lissochilus, with a tall spike of large rosy flowers —very pretty.

Messrs. Stuart Low and Co., Enfield, had a large group of orchids, wherein Cattleya Mendeli, C. Mossiæ, and odontoglossums were the leading features. Messrs. Sander and Sons, St. Albans, had a batch of the grand Cattleya gigas Sanderiana, varieties of Lælia purpurata, L.-c. Endora, and freely flowered specimens of Cypripedium Curtisi. In Messrs. J. Veitch and Sons' orchid group Disa Luna was prominent, surrounded by Cattleya Mendeli, C. Mossiæ, and pretty varieties of Odontoglossum crispum. Messrs. Charlesworth and Co., Haywards Heath, contributed Odontoglossum amabile, O. Ossulstoni, O. ardentissimum, L.-c. Fascinator and the chaste Odontoglossum Armainvillersense.

H. S. Goodson, Esq. (gardener, Mr. G. Day), showed a fine group of orchids that contained Odontoglossum crispum The Czar, O.-c. Pres. Fallieres, Miltonia Bleueana, Cymbidium Huttoni, and numerous masdevallias and cattleyas. Mr. F. McBean, Plumpton, sent some choice odontoglossums, and Messrs. J. and A. McBean, Cooksbridge, showed some very fine forms of Odontoglossum crispum. Mr. Maurice Mertens, Ghent, brought over some delightful odontoglossums. Mr. A. W. Jensen, Lindfield, sent odontoglossums, cattleyas, and "Butterfly" orchids—Oncidium papilio.

FRUIT AND VEGETABLE COMMITTEE.

A remarkably fine exhibit of ripe fruit, admirably set up by Mr. J. Gibson, gardener to the Duke of Portland, Welbeck, was one of the great attractions of the show. Everything was magnificently grown, and the peaches and nectarines, melons, and cherries were very fragrant and luscious. The melons were Sutton's Superlative, Gunton Scarlet, Best of all, Hero of Lockinge, Royal Jubilee, and Ringleader; Cardinal and Early Rivers nectarines were grand, and so were Bellegarde and Hale's Early peaches, while the cherries—Bigarreau de Schreken, Black Tartarian, Emperor Francis, Bigarreau Jaboulay, Frogmore Early, and Governor Wood were superb in size and colour. Other good dishes were of Royal Sovereign and Gunton Scarlet strawberries, Oullin's Golden Gage plum, and Lady Sudeley apples. A real gold medal display.

Sutton's Latest of All broccoli, a valuable variety, was splendidly shown by Messrs. Sutton and Sons, Reading, and the heads were from a crop practically untouched during the past winter. Miss C. M. Dean, Elmcroft, Nurseries, Westergate, Winchester, showed a dozen and a-half neat specimens of Elmcroft Beauty melons. Messrs. J. and F. Chatfield, Southwick, showed grand Royal Sovereign and Bedford Champion strawberries.

CERTIFICATES AND AWARDS.

First-Class Certificate.—To Lælio-cattleya Mikado, from Lieut.-Colonel Holford, Westonbirt, Gloucester.

Award of Merit.—To Cattleya Mossiæ var. A. Dimmock, from Lieut.-Colonel Holford.

To Lælio-cattleya Feronia, from Sir Trevor Lawrence, Bart., Dorking.

To Odontoglossum amabile Fowler's var., from J. Gurney Fowler, Esq., Glebelands, South Woodford.

To Geum coccineum var. Mrs. J. Bradshaw, from Messrs. G. and A. Clark, Dover.

To Lithospermum prostratum Heavenly Blue, from Mr. Amos Perry, Enfield.

To Sweet Pea Paradise Apple Blossom, from Miss Hemus, Upton-on-Severn.

To Dobbie's long-spurred strain of aquilegias, from Messrs. Dobbie and Co., Rothesay.

To Iris Ed. Michel, from Messrs. R. Wallace and Co., Colchester.

To Scolopendrium vulgare crispum muricato-fimbriatum and S. v. crispum multifidum, from Messrs. H. B. May and Sons, Edmonton.

To Schizanthus Beauty of Trent, from Mr. H. Parr, Trent Park, New Barnet.

To Araucaria excelsa Silver Star and Polypodium glaucum crispum, from Messrs. T. Rochford and Sons, Broxbourne.

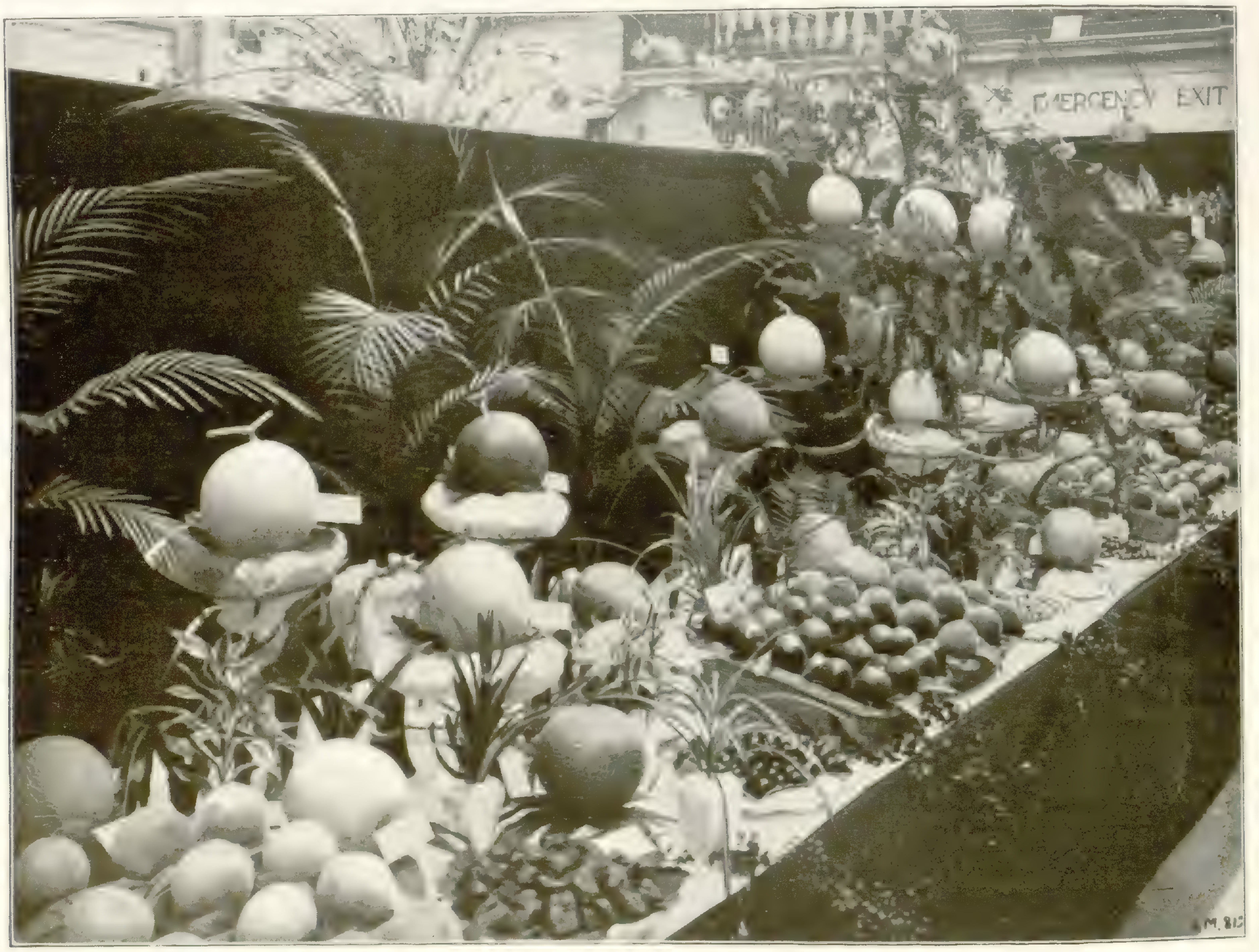
MEDALS.

Gold.—To Mr. James Gibson, gardener to the Duke of Portland, Welbeck Abbey, Notts, for choice fruits.

Silver-Gilt Flora.—To Messrs. Wm. Cutbush and Sons, Highgate, for carnations and hardy flowers; to Mr. W. H. Page, Tangley Nursery, Hampton, for carnations, peas spiræas, etc.; and to Messrs. Jas. Veitch and Sons, Chelsea, for hardy plants and gloxinias.

Silver-Gilt Banksian. — To Mr. Paskett, gardener to E. J. Johnstone, Esq., Burrswood, Groombridge, for sweet peas and carnations.

Silver Flora.—To Messrs. H. Cannell and Sons, Swanley, for cannas; Messrs. James Carter and Co., Holborn, for gloxinias; Messrs. Dobbie and Co., Rothesay and Marks-Tey, for aquilegias; Miss Hemus, Upton-on-Severn, for sweet peas; Messrs. Stuart Low



A MAGNIFICENT COLLECTION OF CHOICE FRUITS.

Exhibited at the Royal Horticultural Society's meeting on Tuesday last by Mr. James Gibson, gardener to the Duke of Portland, Welbeck Abbey, Worksop. A Gold Medal was awarded for the collection, which was remarkable not less for tasteful arrangement than for high quality.

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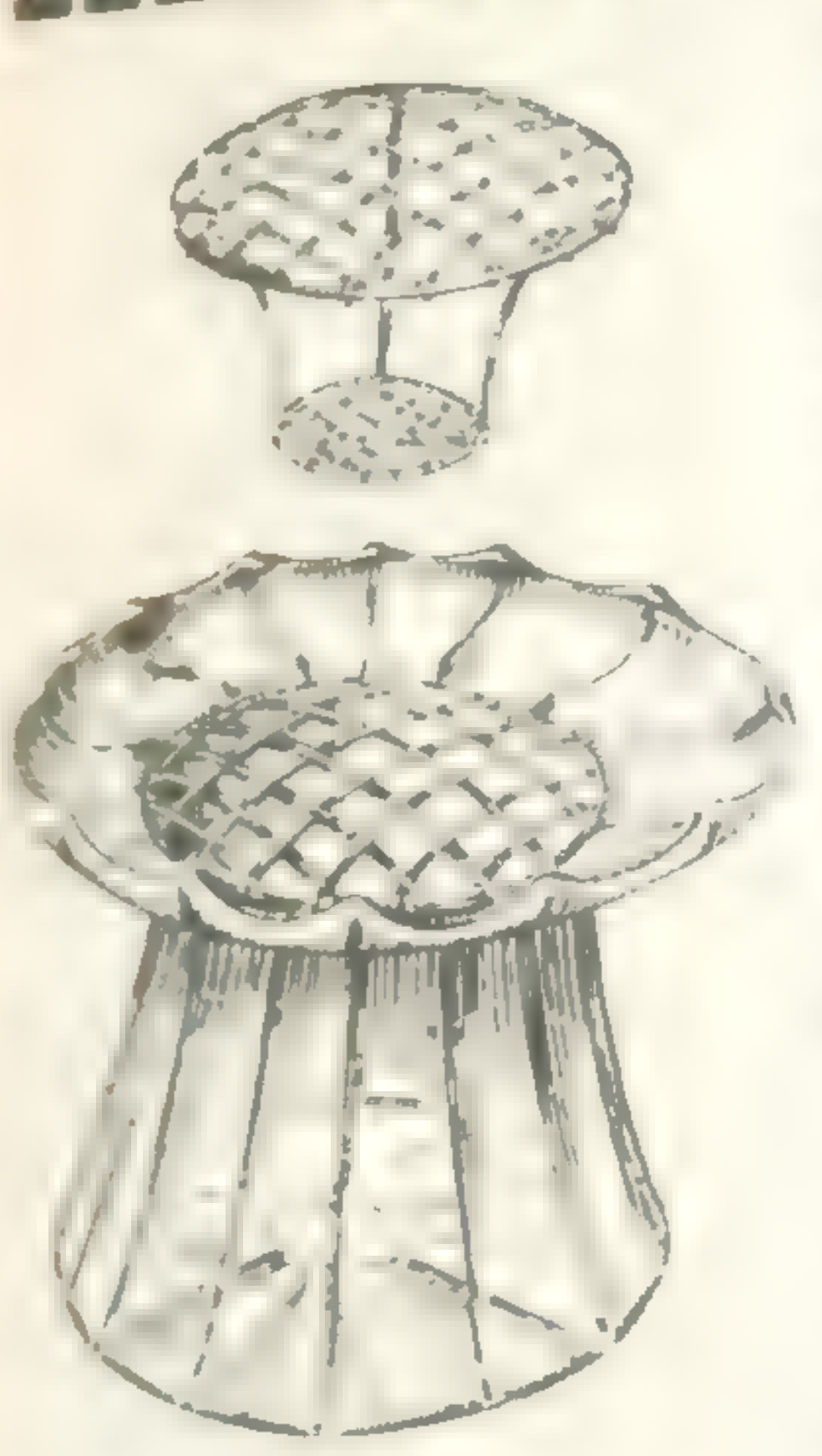

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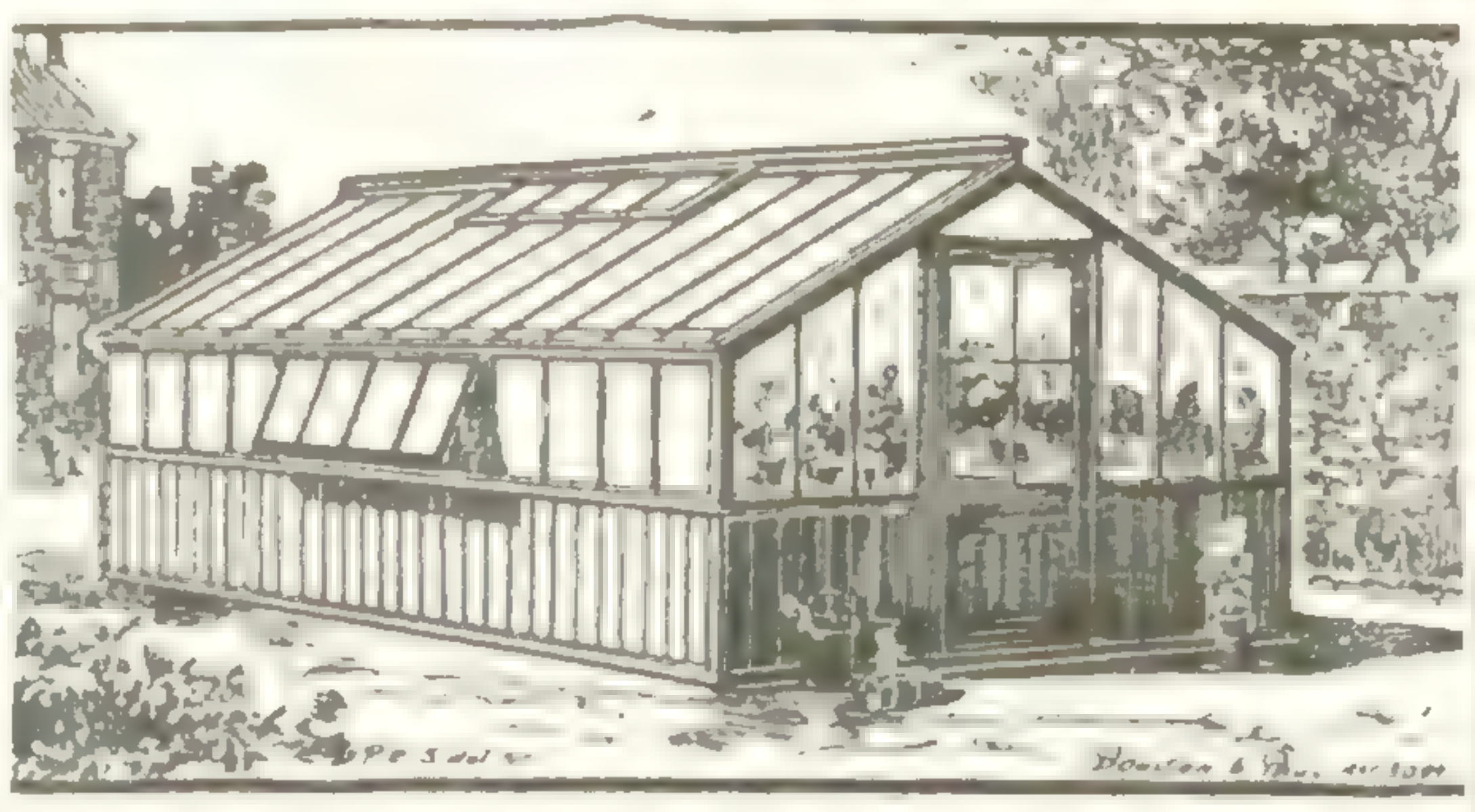

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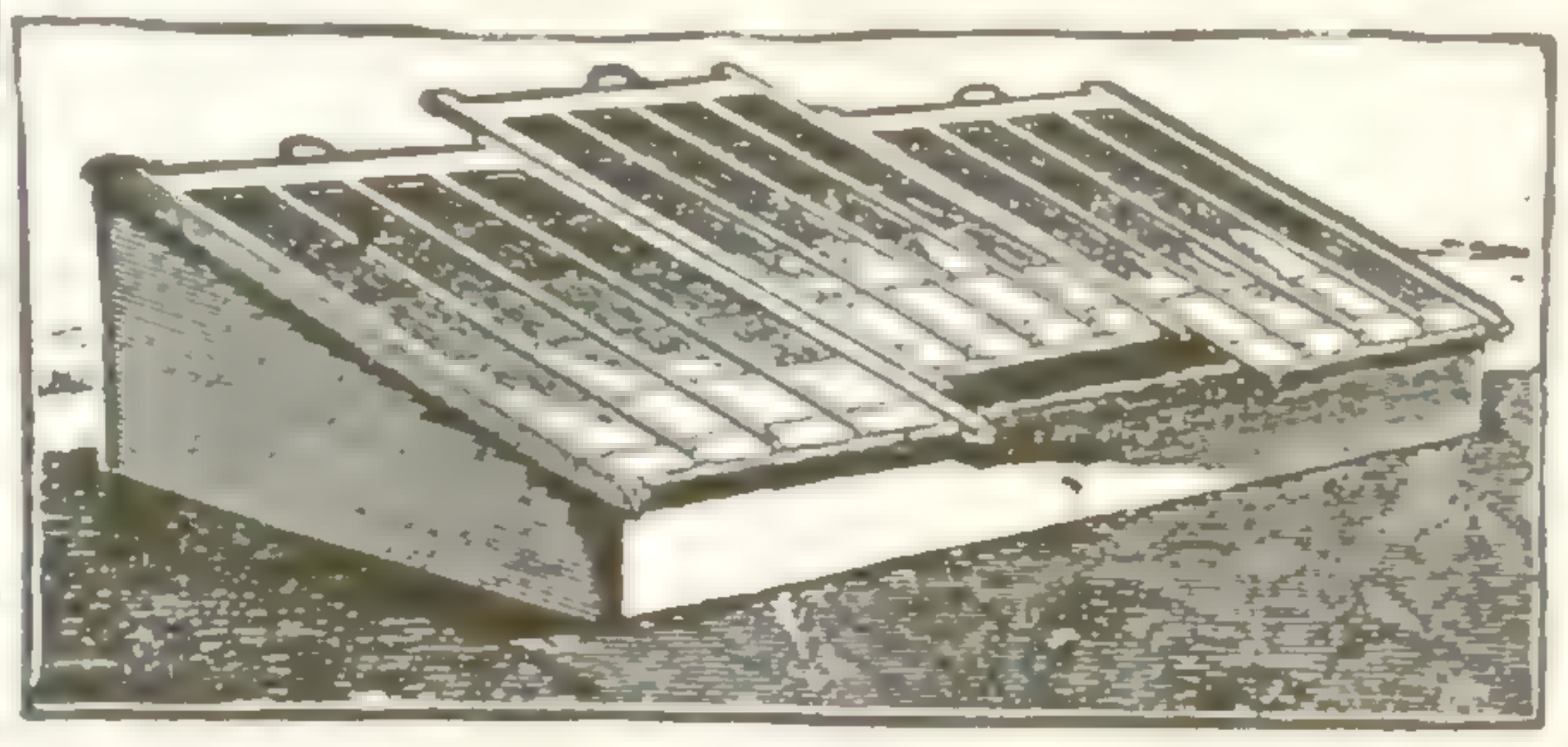

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and Co., Enfield, for carnations, and one for orchids; Messrs. H. B. May and Sons, Edmonton, for ferns and flowering plants; Mr. G. Mount, Canterbury, for roses; Mr. Amos Perry, Enfield, for hardy flowers; Messrs. R. Wallace and Co., Colchester, for hardy flowers; Mr. H. Burnett, Guernsey, for carnations; Messrs. Charlesworth and Co., Haywards Heath, for orchids; Messrs. Sander and Sons, St. Albans, for orchids; Mr. G. Day, gardener to H. S. Goodson, Esq., Putney, for orchids.

Silver Banksian.—To Messrs. Jas. Veitch and Sons, Chelsea, for orchids; Messrs. Moore and Co., Rawdon, Leeds, for orchids; Messrs. J. and A. McBean, Cooksbridge, for orchids; Mr. A. W. Jensen, Lindfield, for orchids; Messrs. Barr and Sons, Covent Garden, for hardy flowers; Messrs. G. Bunyard and Co., Maidstone, for hardy flowers; Messrs. J. Cheal and Sons, Crawley, for hardy flowers and shrubs; Mr. A. L. Gwillim, for begonias; Mr. M. Prichard, Christchurch, for hardy flowers; Mr. G. Reuthe, Keston, Kent, for hardy flowers; Messrs. T. S. Ware, Feltham, for alpines; Messrs. G. and A. Clark, Dover, for hardy flowers; and to Mr. G. Prince, Oxford, for roses.

Bronze Flora.—To Mr. C. F. Waters, Balcombe, Sussex, for carnations.

Bronze Banksian.—To Messrs. B. R. Cant and Sons, Colchester, for roses.

TRADE NOTES.

The title of Stuart Low and Co. will have a very familiar sound to many of our readers, for the Lows of Clapton and the Royal Nurseries Bush Hill Park, Enfield, have long occupied a prominent position in commercial horticulture. The name, it may be mentioned, comes from one of the many Scotch horticulturists, who settled in England a century or so ago, when the late firm of Hugh Low and Co. was established. In consequence of a dissolution of partnership Mr. Stuart Low, the present head of the firm, takes over the Bush Hill Park Nurseries, of which he has had control for upwards of a quarter of a century, with the entire staff of the late firm. The present head of the firm is the son of the late Mr. Stuart Low, of Clapton, and he is a member of the Royal Horticultural Society's Orchid Committee, and a past president of the Horticultural Trades' Association. While Mr. Stuart Low will take an active part in the general management of the large establishment, the various departments will be in charge of the several managers who have long been associated with the business, chief among them being Mr. Harry A. Barnard, Mr. F. W. Ashton, Mr. Laurence J. Cook, Mr. Montagu C. Allwood, and Mr. G. F. Salman. It is interesting to observe that the staff includes many men who served under Mr. Hugh Low, the grandfather of the present proprietor. With so able and loyal a staff the name of Messrs. Stuart Low and Co. should become in a very short time as well known as that of the old firm of Hugh Low and Co.

Messrs. Joseph Bentley, Lim., of Barrow-on-Humber, Hull, have been granted the Royal warrant of appointment as horticultural chemical manufacturers to the King.

FORTHCOMING ENGAGEMENTS.

MONDAY, June 14.—United Horticultural Benefit and Provident Society.
TUESDAY, June 15.—Royal Meterological Society's Annual Dinner.
WEDNESDAY, June 16.—York Floral Fête and Gala; three days.
THURSDAY, June 17.—Linnean Society Meeting.
TUESDAY, June 22.—Royal Horticultural Society, Committees meet at 12 o'clock; at 3 p.m. the First Masters' Memorial Lecture on "Masters' Vegetable Teratology," by Prof. Hugo de Vries; Scientific Committee at 4 o'clock.
WEDNESDAY, June 23.—Gardeners' Royal Benevolent Institution, Festival Dinner at the Hotel Metropole.
SATURDAY, June 26.—Windsor Rose Show.
TUESDAY, June 29.—Southampton Rose Show; two days.
Brighton Rose Show; two days.
Canterbury Rose Show.

NEW BOOKS.

◆

ILLUSTRATED GUIDE TO THE TREES AND FLOWERS OF ENGLAND AND WALES.

By H. G. Jameson, M.A. (Simpkin, Marshall, Hamilton, Kent, and Co., London, E.C.)

An exceedingly well-prepared book that should be found of much value to those who are engaged in Nature study—as, indeed, to those who take an intelligent interest in trees and plants generally indigenous to this country. The book, we are told in the introduction, is intended to help the ordinary Nature-lover, who may perhaps have little or no knowledge of botany, to find out the names of such trees and flowers as he meets with. With plants, as with human beings, the first step towards friendship, with all its future possibilities of interest and delight, is to learn your friend's name. No doubt, even ignorant people obtain some amount of enjoyment out of Nature, but it makes all the difference to the pleasure of a country walk when on every hedge, bank, and in every ditch we catch sight of familiar acquaintances, which we have learnt to greet by name and recognise as friends.

We fully agree with the views of the author on the desirability of those who take an interest in trees and wild flowers being acquainted with the names of those that come under their notice, and we congratulate him on the success he has achieved in his endeavour to assist Nature-lovers in becoming acquainted with the nomenclature of our native flora. There are, it need hardly be said, several keys to the natural orders, but these are mostly highly technical, and presuppose more botanical knowledge than the beginner has at his command. Hence the value of the present book, for the key is founded on plain and easily-observed characters and such as do not involve dissection, and technical terms have, as far as possible, been avoided. These are points of no small importance to those who are engaged in Nature study, as distinguished from botanical students; and not less important are the numerous illustrations accompanying the text, which help to make its meaning clear at a glance. These figures are necessarily small, and do not pretend to be complete pictures of the plants, but they are remarkable for their clearness, and admirably illustrate the special characters used for the key. The book is at once simple in treatment and scientific in method, and should be in the hands of all who are desirous of becoming acquainted, with the least possible trouble, with the names of their country's trees and flowers.

SMALL HOLDER'S GUIDE.

Edited by T. W. Sanders, F.L.S. (Messrs. W. H. and L. Collingridge, 148 and 149, Aldersgate Street, E.C.). Price 1s. net.

The editor, in his "Forewords," is careful to point out the necessity of extreme caution on the part of those who have had little or no previous experience in the cultivation of the land in coming to a decision to take a small holding, and thereby at once inspires confidence in the work. It has been too much the practice of late to write of small holdings in such manner as to suggest that it is not necessary to do more than merely tickle their surface with the hoe to make them "laugh with joy," or, in other words, to yield prodigious crops that will give a big return to the holder. Such statements at once suggest to those who are acquainted with the subject that the writers have but little practical knowledge of small holdings and their management, and that, consequently, they cannot be regarded as guides that may be followed without doubt or question. The book before us is wholly free from rash statements and alluring figures, but it takes a strictly business view of the small holding, and states in a very definite manner that those who enter upon small holdings must have some acquaintance with the cultivation of land, and adequate capital. It further emphasises the necessity of close attention to the multifarious details incidental to the growth and the disposal of the various products.

These points having been made quite clear, the editor proceeds to place his readers in possession of the information essential to the successful management of small holdings of varying areas. As indicating the comprehensive character of the book, it may be mentioned that the book is divided into four parts. The first part is devoted to the prospects for small holdings, and the land best suited for them; in the second part the types of holdings are fully dealt with; in the third part the various industries likely to give an adequate return are described, and the fourth part is devoted to miscellaneous matters.

Comprehensive in scope, and thoroughly trustworthy, the "Small Holder's Guide" should prove of much value both in the selection and management of small holdings.

PRONUNCIATION OF PLANT NAMES.

(The Gardeners' Chronicle, Lim., 41, Wellington Street, Covent Garden, London, W.C.). Price 1s. net.

The pronunciation of plant names is beset with so many difficulties that our contemporary has rendered horticulturists a service of much value by the publication of this admirably-prepared brochure. The list makes no pretence to be exhaustive, but it includes most of the difficult generic names of cultivated plants, and is sufficient for all practical purposes. In the preparation of the list the endeavour has been made to keep the pronunciation as far as possible in conformity with the derivation of a word. But it has been found necessary in some cases to admit the right of ordinary usage to carry weight, even when it contradicts the strictly correct form as dictated by etymological principles. The general use of the book would do much to secure uniformity in the pronunciation, and, what is of even greater importance, secure correct pronunciation of names that at present are pronounced by some without regard to etymological principles or common usage.

THE GOAT.

By J. T. Bird (Messrs. W. H. and L. Collingridge, 148 and 149, Aldersgate Street, E.C.). Price 1s. net.

A useful handbook on the subject of the goat, which would appear to be rapidly rising in favour, and likely to attain to a high degree of popularity with the extension of small holdings. The author has dealt with his subject in an interesting and comprehensive manner, and has placed his readers in possession of the information that is necessary to achieve success in the breeding and management of goats, which have much value for contributing to the milk supply.

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ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

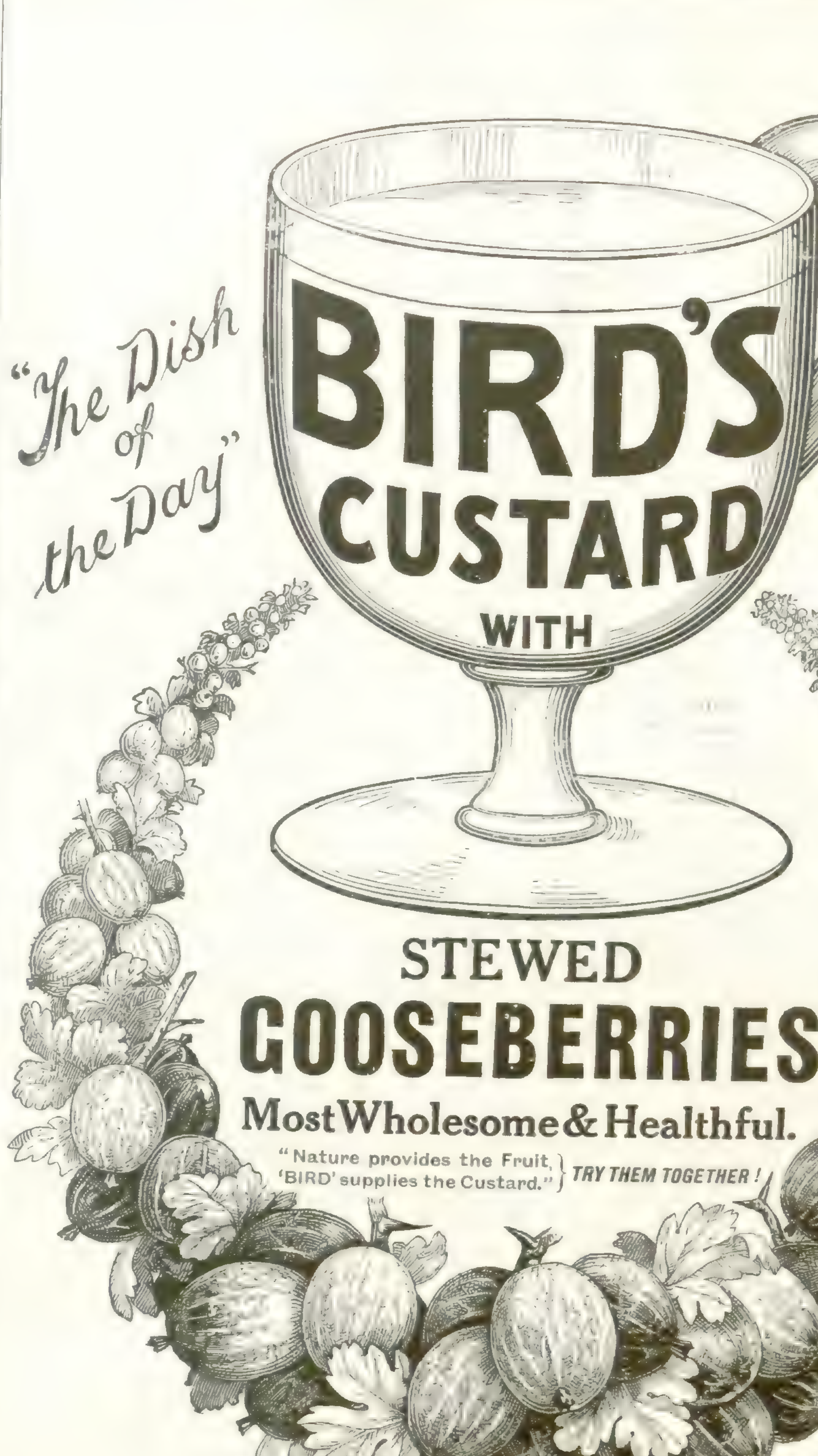
Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

PLANTING OUT ANNUALS. — S. G., Farnham: There should be no delay in planting out both half-hardy and hardy annuals, as the season is now well advanced, although at the time of writing the weather is cold. If the plants have been duly hardened set them out at once, taking care that they are well watered an hour or two previous to removal. If you have had plenty of rain lately it will hardly be necessary to water the ground or to water the plants as soon as planted, though the latter practice is to be commended unless rain is imminent, as it settles the soil firmly about the roots. Plant in good groups, and do not on any account plant in a series of regular lines, or set the plants out singly, so as to spread a kind or variety over the whole length of the border.

CATERPILLARS IN WEB NESTS. — M. E. W., Chesterfield: The web nest and caterpillars sent are those of the Lackey Moth (Bombyx neustria), a pest that does a great deal of harm to apples, pears, thorns, damsons, and even elm and birch. The caterpillars eat the foliage and return to their web nests at night or during wet and dull weather. It is in late evening or during wet weather that one may with advantage cut away these nests, with, perhaps, a piece of growth, or some leaves attached, because then the caterpillars are at home. Have some hot brine or other strong mixture into which to drop the nests of caterpillars as soon as cut out. Winter spraying and keeping the ground beneath the trees well cultivated, are means towards preventing subsequent attacks.

LONG-NECKED ONIONS. — B. W. W., Weybridge: We have submitted the specimens to a well-known grower and exhibitor, and he agrees with us that excessive feeding with nitrogenous manures during the very early stages of growth is the cause of the trouble. The matter appears to have gone too far now to be remedied.

TOMATOES IN FRAMES. — S. D. R., Chertsey: When tomatoes are planted out in frames, and allowed to grow upright, instead of being planted in the front and trained along rods towards the back, there comes a time or times when the light of the frame becomes troublesome, as it is necessary to elevate it to prevent the plants becoming damaged by contact with the glass. If the frames are against a wall or along the front of greenhouses the matter is not difficult, because, by means of a strip of wood about four inches wide nailed along the wall in front, the back of the light can be raised by ledging it upon the wood. The front of the light is easily managed, as each light may rest on a tall pot, or a strip of wood may be nailed to the front edge of the light, so as to raise it to the desired height. By these or other means the lights can be kept over the tomatoes for the greater part of the summer it will be a distinct advantage, but they must be elevated as the plants grow, and they must be tilted so as to throw off rain, and so as to catch as much sunlight as possible. Great care must be taken to make the lights secure, or a storm of wind may at once wreck both lights and tomatoes. There is one considerable disadvantage associated with the use of garden lights in this fashion, and that is, the staking of the plants cannot be done once and for all; there must be two stakings, so that the stakes need not be raised to the highest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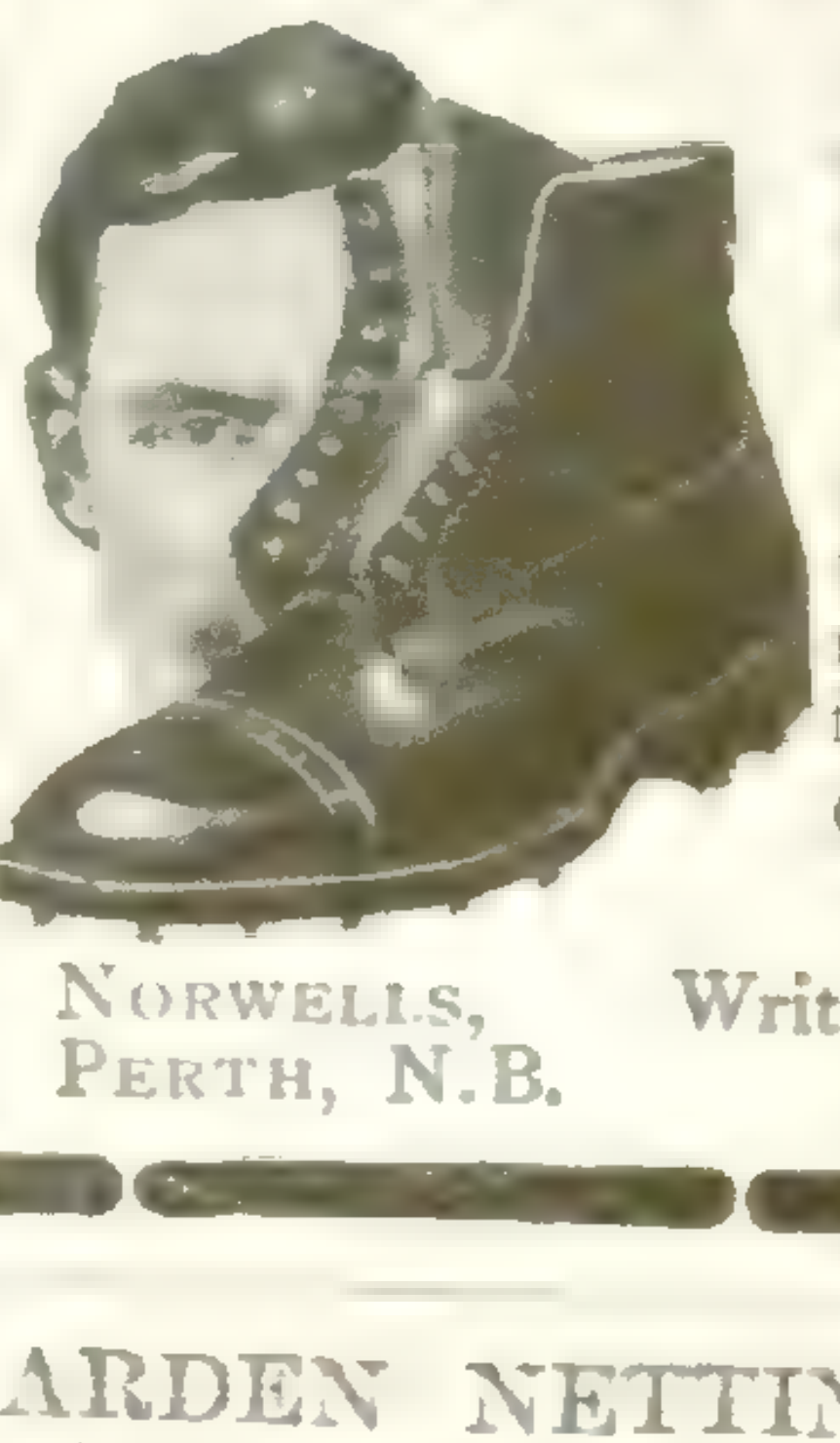

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limit until the last moment. It will be a good plan to limit the growth of the plants to a certain height, allowing for each one to carry four or five trusses of fruits.

EARTHING POTATOES.—R. R., Derby: Earthing up potatoes should be done in two operations, first of all hoeing between the rows and sets, and thoroughly cleaning the ground. Earth up lightly on the first occasion, and then, after an interval of ten days or a fortnight complete the work. In your case there seems no need for the application of a fertiliser, but if you have plenty of wood ashes at hand, give the plot a liberal dressing just before the first earthing up. Earthing up exposes a large surface of soil to the influence of the sun, and consequently means warmer soil for the tubers; it also serves to throw off heavy rains, and, in the case of a wet season, when potato disease is rampant, potatoes grown in rows well apart, and well earthed up, come out much better than those unearthed and planted thickly, because the spores of the fungus fall, largely, into the depressions between the rows.

SEED VESSELS ON RHODODENDRONS.—C. B., Bayham: It is very important that in the case of all choice rhododendrons the seed vessels should be picked off as soon as formed, because seed production is a strain upon the plant, and a quite unnecessary strain where seeds are not required. The strain of seed-bearing weakens the new growths that start away just below the flower truss, and consequently the prospects for a display the following season are greatly reduced. If a man cannot be spared for the work then set an intelligent boy to remove the newly-forming seed vessels, first explaining to him the reason for their removal, and the great gain the plants will derive from his work.

DAMAGED CUCUMBERS. — T. S. W., Walsall: The disfigurement of the cucumbers is due to the ravages of slugs. It is probable that the fruits were in contact with the soil, or with a pot plant beneath them, for slugs seldom crawl along the rough stems of the cucumber. Set traps of bran or lettuce leaves for the slugs, and dust old soot about the soil and staging; further, see that every cucumber hangs clear of the soil or other plants.

NAMES OF PLANTS.

D. H., Caterham.—Pyrus Scheideckeri.

G. S., Ryde.—1, Pyrus Malus; 2, Arabis albida fl.-pl.; 3, Aster alpinus altaicus.

D. W., Wellingborough.—Evidently Cerasus Padus, but the wet moss had rendered the specimen unfit for proper determination.

A. D., Helensburgh: 1, a form of Crataegus pyrifolia; 2, Cerasus pseudo-cerasus; 3, Cerasus Padus; 4, Amelanchier canadensis ovata; 5, mesembryanthemums, species not recognised.

CATALOGUES RECEIVED.

JOHN JEFFERIES AND SON, LIM., CIRENCESTER.—A very complete list of bedding plants, carnations, dahlias, fuchsias, etc.

JAMES VEITCH AND SONS, LIM., CHELSEA.—An excellent and exceedingly well got up catalogue of indoor plants, freely illustrated with views in the Chelsea nurseries, and of new, rare, and beautiful plants.

DICKSONS, CHESTER.—A pocket list of summer bedding and border plants, and florists' flowers.

GEO. COOLING AND SONS, BATH.—A useful and handy catalogue of roses in pots, and of clematises, carnations, dahlias, and climbing plants.

WM. PAUL AND SON, WALTHAM CROSS.—This Catalogue of new roses is in the usual attractive style of the Waltham Cross firm. It is well illustrated, and contains a fine coloured plate of the new H.T. rose Margaret.

JAS. STREDWICK AND SON, ST. LEONARDS-ON-SEA.—A freely illustrated catalogue of dahlias, the cactus varieties receiving great prominence.

JAMES BACKHOUSE AND SON, LIM., YORK.—Under the title of "Gardening Under Cover," the York firm has issued a very interesting catalogue of stove and greenhouse plants. The trend of floral fashion is made evident by the prominence given to perpetual carnations.

WM. ARTINDALE AND SON, NETHERGREEN, SHEFFIELD.—A very useful and comprehensive catalogue of hardy plants and flowers, freely illustrated, and with a coloured plate of three new bedding violas.

MARKETS.

◆

COVENT GARDEN.

Flowers.

The demand for choice flowers has improved owing to the slightly reduced supply of hardy flowers. Some fine sweet peas are offered.

		s. d.	s. d.
Adiantum cuneatum	per doz. bun.	5 0	9 0
Anemones	per doz. bun.	1 6	2 0
Arums	per doz.	2 0	3 0
Asparagus	per bun.	1 0	3 0
Azaleas	per doz. bun.	4 0	5 0
Carnations	per doz. blms.	2 0	3 6
,,	per doz. bun.	9 0	12 0
,, Malmaisons	per doz.	8 0	12 0
Cattleyas	per doz.	10 0	12 0
Croton leaves	per bun.	1 0	1 6
Cypripediums	per doz. blms.	1 6	3 0
Daffodils, double white	per doz. bun.	2 0	2 6
Forget-me-nots	per doz. bun.	2 0	3 0
Eucharis	per doz.	2 6	3 6
French fern	per doz. bun.	0 6	1 0
Gardenias	per doz.	1 6	2 6
Gladiolus	per doz. bun.	6 0	9 0
Gypsophila	per doz. bun.	3 0	4 0
Iris, Spanish	per doz. bun.	4 0	10 0
Lilac, white	per bun.	1 6	2 0
,, mauve	per bun.	0 6	1 0
Lilium auratum	per bun.	2 0	3 0
,, speciosum	per bun.	1 6	3 0
,, longiflorum	per bun.	2 0	3 6
Lily of the Valley	per doz.	6 0	12 0
Marguerites, white	per doz. bun.	1 6	3 0
Mignonette	per doz. bun.	3 0	6 0
Odontoglossums	per doz. blms.	2 0	2 6
Poppies	per doz. bun.	3 0	6 0
Pelargoniums	per doz. bun.	4 0	6 0
Roses	per doz.	1 0	6 0
Sweet Peas	per doz. bun.	2 0	6 0

Fruits.

Gooseberries, French cherries, and Australian pears find a ready sale. Business is good.

		s. d.	s. d.
Apples, Australian	per case	8 0	12 6
,, **Tasmanian**	per case	9 0	13 0
Apricots	per box	0 8	1 3
Bananas	per bun.	3 0	10 6
Cranberries	per case	13 0	14 0
Cherries	per box	0 9	1 2
Gooseberries	per ½ sieve	2 0	3 6
Grapes, English	per lb.	2 0	5 0
,, **Guernsey**	per lb.	1 0	2 6
Lemons	per case	7 0	12 0
Melons, Guernsey	each	1 0	2 6
Oranges, Denia	per case	12 0	28 0
,, Navels	per case	10 0	12 0
Peaches	per doz.	4 0	12 0
Pears, Australian	per tray	3 6	7 0
Pineapples	each	2 0	4 6
Strawberries	per lb.	0 6	1 0
,, **French**	per basket	2 0	3 0

Vegetables.

The recent cool weather has somewhat reduced the demand for salading, but greenstuffs sell readily.

		s. d.		s. d.
Artichokes, Globe	per doz.	2 6	to	3 0
,, **Jerusalem**	per bush.	1 9		2 6
Asparagus	per bundle	1 6		2 0
,, Paris	per bundle	1 6		2 0
,, Sprue	per bun.	0 6		0 8
Beet	per bush.	2 0		3 0
Beans	per lb.	0 6		0 8
Cabbage	per tally	4 0		8 0
Carrots	per doz. bun.	1 0		3 6
Cauliflowers	per doz.	2 0		3 6
Cucumbers	per doz.	2 0		3 6
Endive	per doz.	1 0		2 0
Greens	per bush.	1 0		1 6
Horseradish	per doz. bun.	8 0		20 0
Leeks	per doz. bun.	2 0		2 6
Lettuce, French	per crate	2 0		2 3
,, Cos	per doz.	0 6		3 0
Mint	per doz. bun.	1 6		2 6
Mushrooms	per doz. lb.	6 0		10 0
Onions, Pickling	per bush.	3 6		6 0
,, Valencia	per case	9 0		12 0
,, Spring	per doz. bun.	2 0		3 0
Parsley	per doz. bun.	1 6		2 0
Rhubarb	per tally	4 0		6 0
Spinach	per bush	1 6		2 6
Tomatoes, English	per doz. lb.	4 0		6 6
,, Guernsey	per doz. lb.	4 0		6 0

LONDON POTATO MARKETS.

Supplies of old potatoes have slackened. Prices are steady all round.

		s. d.		s. d.
Dunbars	per ton	75 0	to	95 0
Evergood	per ton	45 0		60 0
Maincrop	per ton	65 0		75 0
Royal Kidney	per ton	45 0		60 0
Up-to-Date	per ton	60 0		75 0
,, **Blacklands**	per ton	50 0		60 0
Canary, new	per cwt.	10 0		13 0
Jersey, new	per cwt.	12 0		14 0
Algiers, new	per cwt.	10 0		11 0

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METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1909. May 30 to June 5.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
May 30—Sunday	12 18	55	53	69	46
,, 31—Monday	11 54	60	57	71	49
June 1—Tuesday	0 24	60	57	63	49
,, 2—Wednesday	—	49	48	52	43
,, 3—Thursday	—	50	46	53	47
,, 4—Friday	—	45	49	52	45
,, 5—Saturday	0 42	52	49	56	45
Means	(total) 25 18	53	51	59	47

Date. 1909. May 30 to June 5.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
May 30—Sunday	—	57	57	53	38
,, 31—Monday	—	59	57	53	40
June 1—Tuesday	0.49	60	58	54	41
,, 2—Wednesday	0.11	57	58	54	48
,, 3—Thursday	0.18	55	56	54	45
,, 4—Friday	0.28	53	55	54	44
,, 5—Saturday	0.05	53	54	54	45
Means	(total) 1.12	56	56	54	43

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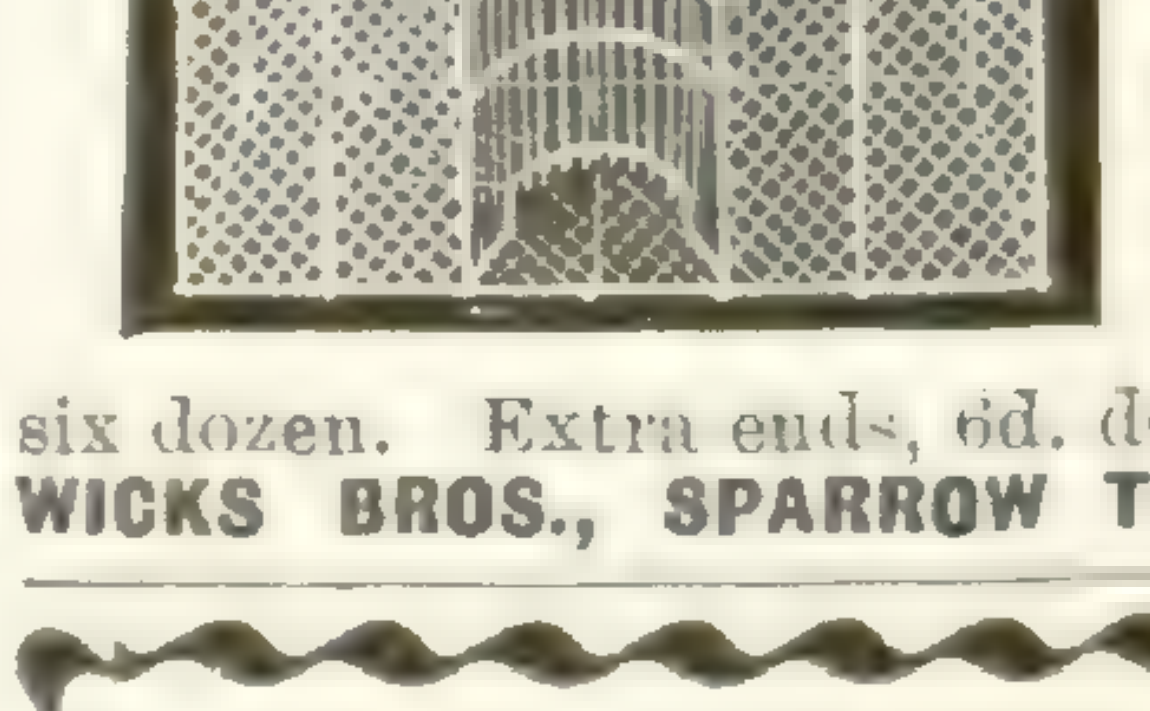

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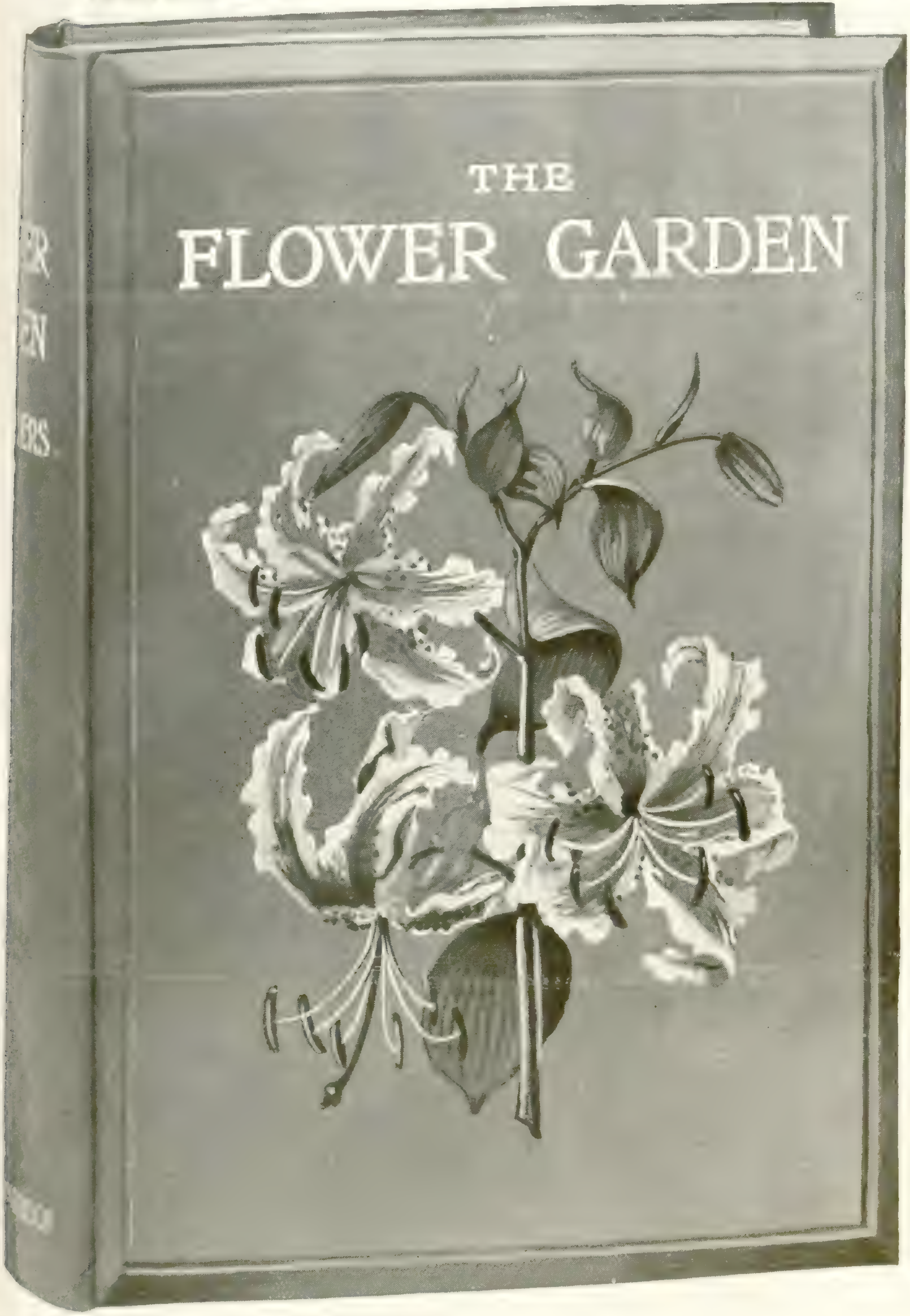

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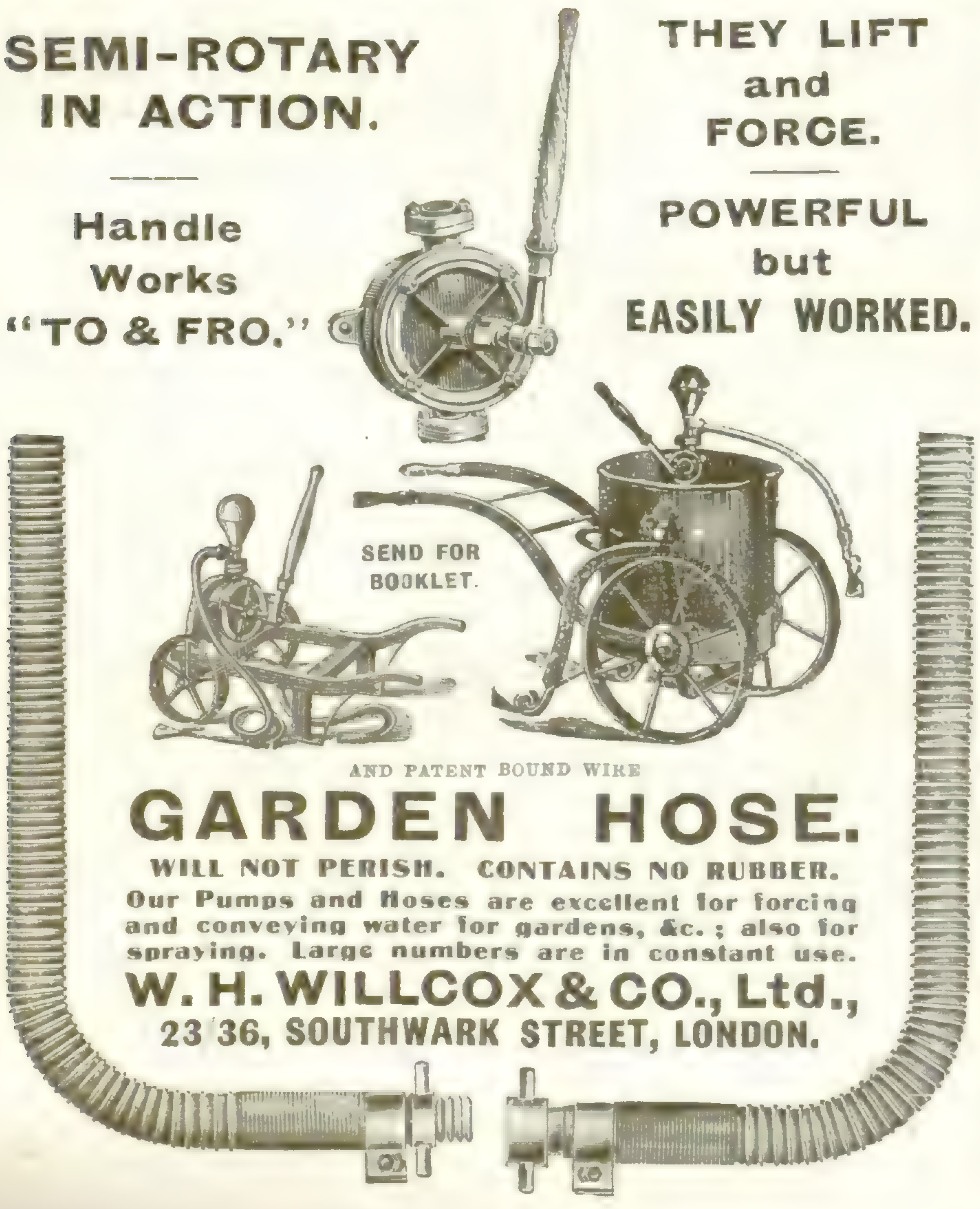

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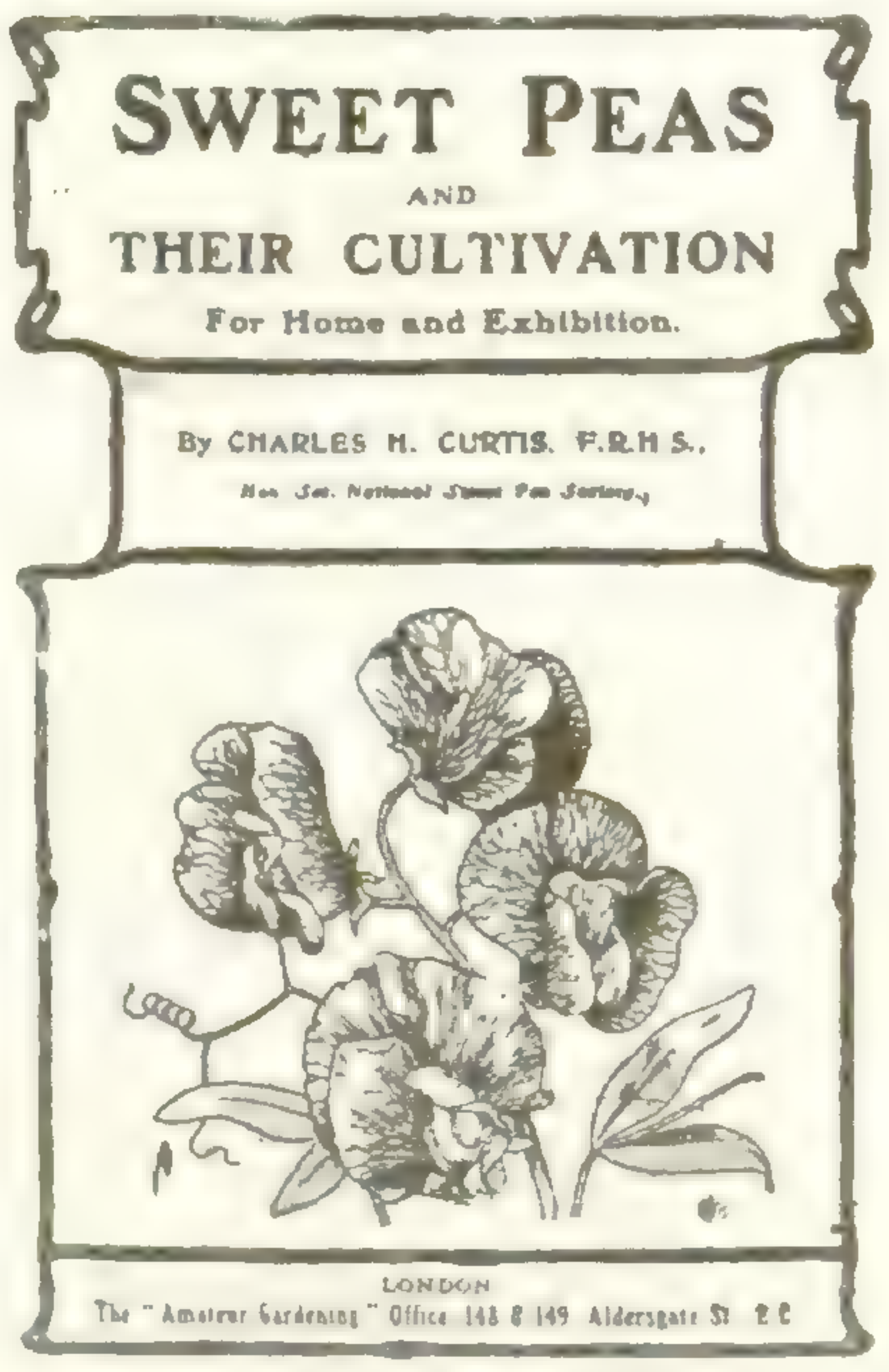

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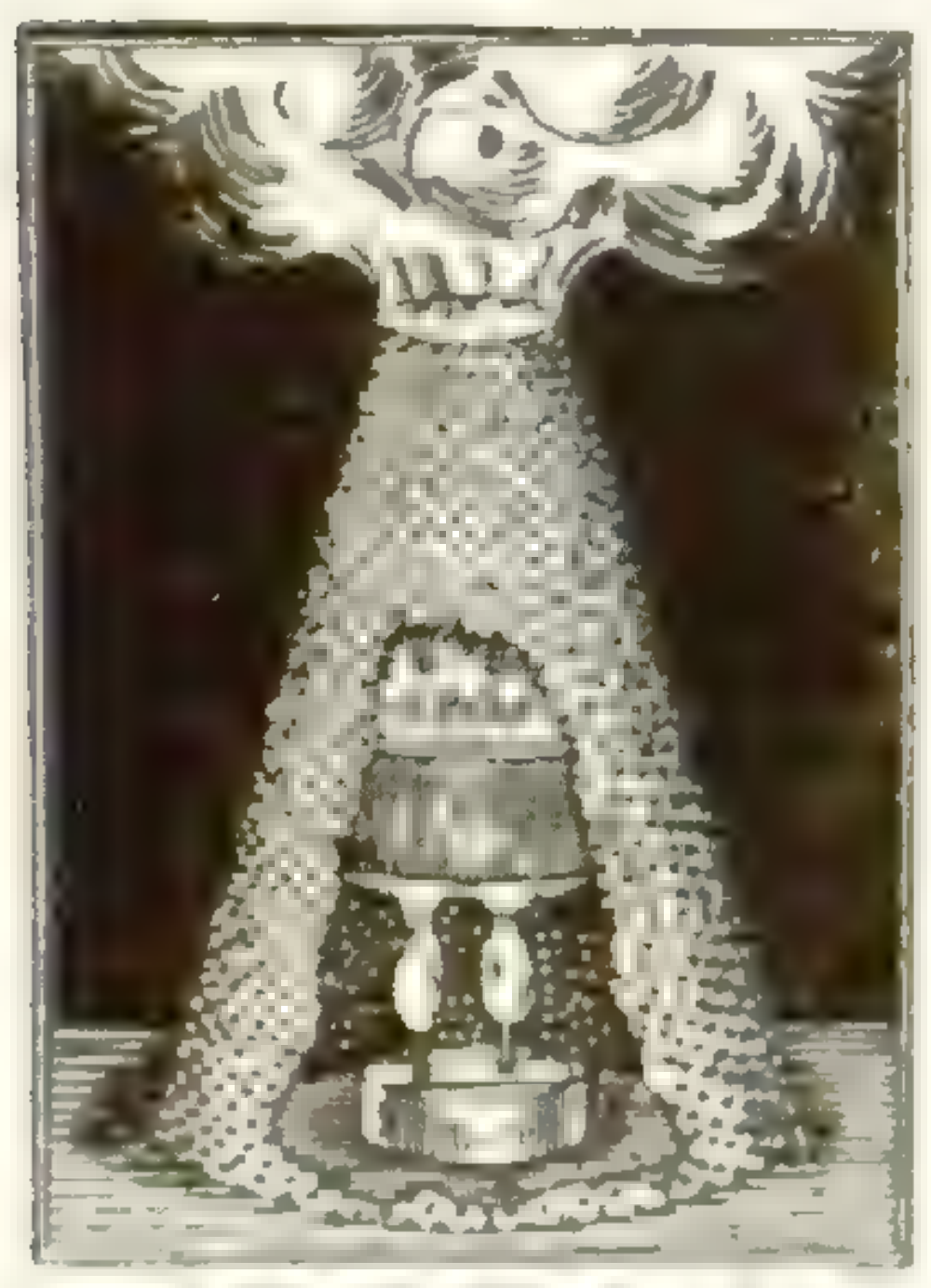

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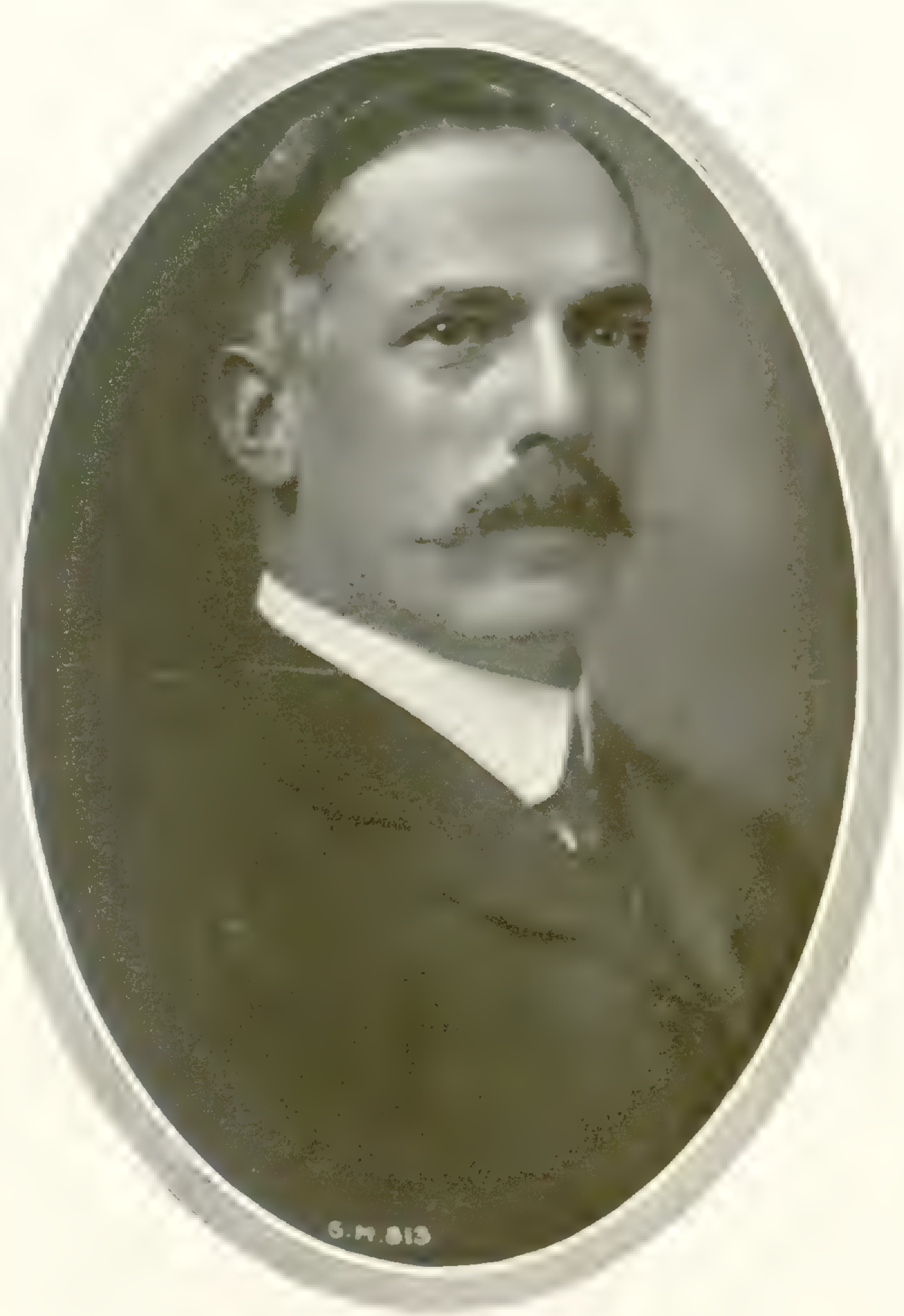
VOL. LII.—No. 2,903. SATURDAY, JUNE 19, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Rambling Roses.



MR. FRANK CANT.

Roses that are sufficiently rampant in growth to justify their inclusion among the varieties popularly known as ramblers, possess so great a value as aids in beautifying the garden during the summer months as to render it difficult to place too high an estimate on their usefulness. Free in growth, elegant in habit, profuse in flowering, and attractive in colour, they readily lend themselves to artistic treatment in the creation and improvement of garden scenery. Where the space is sufficient to allow of their being utilised on a somewhat liberal scale, it will be found a comparatively simple matter to produce a feature in the garden that by reason of its distinctiveness and beauty will at once claim attention, and add immensely to the general attractions. In great gardens they may be successfully utilised in the furnishing of pergolas and pavilions designed on a large scale; in clothing trees and large shrubs that are showing signs of decrepitude from old age or other cause; in covering widespanning arches and trellises of large areas; and trailing over high and more or less rugged banks. In small gardens they will be found equally useful for pergolas and pavilions, and for arches and trellises of dimensions suited to the area occupied. Very effective also are they when trained up poles of larch and other wood, trained along loosely suspended chains to form festoons of flowers and foliage, and when grown as weeping standards on stout stems, from seven to nine feet in height. These latter methods of training are adapted to gardens generally, it being simply necessary that when the garden has a small area they should not be so freely utilised as to unduly predominate. There is probably no way in which the charms of rambling roses can be displayed to greater advantage than in a garden designed on more or less natural lines, as in the case of the one in the Royal Gardens, Kew, which, we need hardly say, is now daily increasing in interest and beauty. The rambling rose garden is unfortunately only adapted to the conditions that obtain where the grounds are extensive, but there are many hundreds, possibly thousands, of gardens wherein sufficient space could without difficulty be provided for the display of a representative selection in a natural manner. It need not be a very costly undertaking, provided the contour of the ground and the character of the soil are such that considerable quantities of the latter have not to be moved, and, what is still more important, have not to be brought from considerable distances. What was done at Kew in the formation of the garden of rambling roses is especially worthy of consideration, as an example that might in many cases be followed. A depression of some length, flanked on either side by groups of evergreen and deciduous shrubs, and occupying a position in a remote part of the grounds, was selected. Irregular banks, rising to a considerable height, were formed with soil taken out of the lower part, and in their support tree stumps of large size were freely used. Ample space was provided by means of bays of varying size for the planting of roses at the foot of the banks, and the spaces provided on the banks at various heights for the reception of roses were large enough to contain a good body of soil. This latter is a point of first-rate importance, for without an ample root run in soil rich in nutrient matter it is impossible to maintain rambling roses in a robust state of health, which, it need hardly be said, is so essential to abundant flower production. We cannot, of course, do more here than indicate in the briefest manner the lines on which the rambling rose garden should be formed. We therefore advise those who are interested in the matter, and have an opportunity for so doing, to visit Kew within the next month or so, and make a careful study of the garden and its occupants. Those who are unable to visit Kew will obtain a fairly good idea of the general character of this garden by imagining a comparatively broad and slightly winding valley, flanked by irregular slopes, rising in some parts to a height of nine or ten feet, and clothed with roses. In thus referring to rambling roses, we must not be understood as implying that they should be so largely grown as to render it necessary to reduce the area devoted to the hybrid perpetuals, hybrid teas, the teas, Chinas, and other free and continuous flowering varieties. So far from having a desire to do this, we feel it necessary to point out that in some gardens the ramblers are being so largely planted as to suggest that the owners regard them as far superior to other sections. It should be remembered that, while the ramblers may, by a judicious selection of varieties, be had in bloom over a considerable period, they cannot compare, as regards continuity of flowering, with the sections mentioned as being grown in dwarf form. No really useful comparison can be instituted between the dwarfs and the ramblers, and what we suggest is the taking advantage of the aid the several sections are able to render in beautifying the garden, and the planting of them in due proportions. The multiplication of rambling roses is proceeding so rapidly that raisers in America and on the Continent will be well advised to take greater care in the selection of varieties for distribution, lest the rose market be flooded with varieties that are second-rate, or wanting in distinctiveness, and growers become so disgusted that they will not buy the new introductions, whatever their merits. Already the number available is so large as to give rise to some perplexity, and it would be an immense advantage if the National Rose Society could, in co-operation with the Royal Horticultural Society, or alone, carry out a comprehensive trial of rambling roses. This would take time, and it is therefore gratifying to know that the British nurserymen restrict the varieties in their catalogues to a few of the best.

Mr. Frank Cant, whose portrait we have the pleasure of giving in this issue, is so well known to all who take an interest in roses that it is quite unnecessary we should do more than refer in the briefest manner to his remarkable success as a professional rosarian. During the thirty years or so that have elapsed since Mr. Frank Cant started the Braiswick Rose Gardens, Colchester, he has enjoyed uninterrupted success. He has been successful in winning the challenge trophies at the Metropolitan and provincial exhibitions of the National Rose Society a goodly number of times; he has won the society's gold medal for a new rose, the variety being the exquisitely beautiful tea-scented Lady Roberts, and the number of blooms selected from the Braiswick rose boxes for medal awards as the best in the respective sections in the trade division must be very large. In addition to the trophies and medals that have been won by Mr. Frank Cant, prizes well nigh innumerable, and including a large number of challenge and other silver cups, have been awarded him at the exhibitions of the National Rose Society and other competitive gatherings during the past thirty years, for he has been a keen competitor, and has been equally successful in the cultivation and exhibition of all classes of roses. While annually adding to his list of successes in the exhibition tent, he has not been less successful in meeting the demands made upon his resources by the rose-loving public, and as the result there has been a steady and continuous expansion in the area of his cultures. The business ability so evident in the management of the Braiswick establishment has obtained for Mr. Frank Cant a foremost position in the councils of the National Rose Society, and no member of committee could well be held in greater respect. It may be added that he is not less highly esteemed at Colchester than in London and at other centres where rosarians do congregate; and we have evidence of this in the fact that some years ago his neighbours persuaded him to devote some part of his leisure to municipal affairs, and that he has represented his ward until the present time.

Darwin Centenary Celebration.—In connection with the celebration at Cambridge, on the 22nd, 23rd, and 24th inst., of the centenary of the birth of Charles Darwin, a number of works of considerable importance are being published under the direction of the Syndics of the University Press. The most noteworthy of these works is that containing a series of essays in commemoration of the centenary of the birth of Charles Darwin, and of the jubilee of the publication of the "Origin of Species." Of this publication Professor Seward is the editor, and the writers of the essays include the foremost biologists of the day, and deal with the influence of Darwin's contributions to biological knowledge, and the subsequent progress of scientific inquiry into organic evolution. The Press Syndicate will also publish a reprint of Darwin's first draft of the "Origin of Species," of which a copy will be presented to each delegate. This, together with the second and enlarged draft, will be published as a single volume. With regard to these drafts, it is of interest to quote Darwin's reference to them in his autobiography, written in 1876: "In June, 1842, I first allowed myself the satisfaction of writing a very brief abstract of my theory in pencil in 35 pages; and this was enlarged during the summer of 1844 into one of 230 pages, which I had fairly copied out and still possess."

West Ham Park.—The Lord Mayor and the Sheriffs will, we learn from the "City Press," pay a state visit to West Ham Park on Wednesday, June 23, proceeding thither in their State carriages by way of Cornhill, Leadenhall Street, Whitechapel, Bow, and Stratford. On arrival the Lord Mayor and Sheriffs will be received by the Committee of Managers. The chairman will conduct the civic party to the middle of the terrace, and will there welcome his Lordship, at the same time giving a short account of the park and its acquisition by, and the cost to, the Corporation. The chairman of the West Ham Distress Committee having formally handed over the recently completed work, the Lord Mayor will walk round the garden, inspect the new works, inaugurate the new lake, and plant a tree on the Rabbit Hill commemorative of the visit.

Fruits of Foreign Growth were contributed to British markets in large quantities during May, although the aggregate value was less than in the corresponding month of last year. The imports of apples amounted to 125,459 cwt., of the value of £127,432, these figures representing a decrease in quantity of 68,430 cwt., and in value of £50,161. There was also a material decrease in the imports of bananas, the total having been 616,727 bunches, of the value of £172,240, as compared with 653,564 bunches, of the value of £177,767, in May, 1908. There was a relatively large increase in the imports of apricots and peaches, the total having been 18 cwt., of the value of £59, against 1 cwt., of the value of £8. Cherries also were received in largely increased quantities, the total having been 18,814 cwt., of the value of £36,006, or an increase in quantity of 12,988 cwt., and in value of £20,813. Of gooseberries the imports aggregated 423 cwt., of the value of £828, these figures representing a small decrease both in quantity and value. In the imports of grapes also there was a decrease, the total having been 822 cwt., of the value of £3,912, as compared with 1,168 cwt., of the value of £5,069, in May, 1908. Lemons and oranges were received in largely increased quantities, while in the imports of nuts there were decreases. The imports of pears were relatively large, the aggregate having been 8,751 cwt., of the value of £10,174, these figures representing an increase in quantity of 5,853 cwt., and in value of £6,505. The imports of plums were 4 cwt., of the value of £17. Of strawberries the imports were 4,268 cwt., of the value of £8,438, or an increase in quantity of 636 cwt., and a decrease in value of £212. Unenumerated fruits show a decrease, the aggregate imports having been 6,345 cwt., of the value of £10,045. The value of the fruit imports for the month was £771,340, or a decrease of £6,491.

The Gardeners' Royal Benevolent Institution. The seventieth anniversary festival dinner in aid of the funds of the above institution will be held at the Hotel Metropole on Wednesday next, when Lionel de Rothschild, Esq., will preside. Contributions to be placed on the chairman's list are earnestly solicited, and may be sent to Lionel de Rothschild, Esq., New Court, St. Swithin's Lane, E.C., or to the secretary, Mr. G. J. Ingram, at the offices, 175, Victoria Street, Westminster, S.W.

National Vegetable Society.—Good progress is being made with the organisation of this new society, which has for its object, as defined by the rules, the promotion of the wider cultivation of vegetables as food products, the encouragement of their consumption as food, the promotion of exhibitions of such products, whether competitive or otherwise, and to hold trials under such conditions as may offer, with a view to finding the best varieties to commend for general culture to ascertain commercial values when grown under ordinary conditions. The list of vice-presidents is of considerable length, and includes members of a large number of seed firms, and the Executive Committee is a strong one. Mr. E. G. Quick, Kelmscott, Harrow View, Wealdstone, is the hon. secretary.

Vegetable Imports in May were much smaller than they have been in the corresponding month for several years past, the decreases in the imports of potatoes and onions having been very large. Of potatoes the imports were 386,478 cwt., of the value of £251,048, as compared with 1,262,032 cwt., of the value of £430,139 in the corresponding month of last year. The imports of onions aggregated 616,727 bushels, of the value of £113,026, the figures representing a decrease in quantity of 267,092 bushels, and in value of £8,596. Tomatoes, on the other hand, show an increase in quantity of 9,014 cwt., and in value of £6,984, the aggregate having been 97,915 cwt., of the value of £93,613. The value of unenumerated vegetables was £50,187, or a decrease of £18,757. Notwithstanding this substantial decrease last month, the total for the five months amounts to £259,274, or an increase of £46,304, as compared with the first five months of last year.

Continuity of Violas.—In October, 1907, Messrs. Dobbie and Co. planted in an open field at their Marks Tey seed farms a large collection of violas, with a view to determine their hardiness, continuity of growth, and flower production. At the recent Temple Show, and two of the Royal Horticultural Society's fortnightly meetings, they have exhibited bouquets of flowers cut from the plants that have passed through the two winters uninjured, and, as was the case last year, are flowering profusely. The following varieties are the most noteworthy of those which have come through the trial most satisfactorily, and they should, therefore, have the first consideration in making selections for the flower garden: Duchess of York, Pencaitland, Purity, Snowflake, White Empress, Sylvia, Virgin White, Kingcup, Bullion, Klondyke, Primrose Dame, Sulphurea, Grievi, Redbraes Yellow, William Welsh, Lilacina, [illegible] [illegible] Queen, Royal Scot, White Beauty, Mrs E. Farmer, Agnes Brown, Blue Rock, Mrs C. A. Cade, Cream King, Jubilee, Mrs Chichester, Blue Cloud, and Dr. McFarlane.

GRAND YORKSHIRE FLORAL FÊTE AND GALA.

The fifty-first Yorkshire fête and gala was held in Bootham Park, York, on Wednesday, Thursday, and Friday, June 16, 17, and 18, and though there were a few small showers in the early morning, the opening day may be described as "fine but dull." Fortunately the weather was fairly warm, and, as a consequence, there was a large attendance of fashionable folk inspecting the varied exhibits very shortly after the official opening hour of one o'clock. The show was of good average size and quality, but it fell short of the great Jubilee effort of 1908. Specimen stove and greenhouse plants continue to be an attraction, and the large groups arranged for effect are as interesting as ever, though, with the exception of Mr. Donoghue's group, there was nothing of outstanding merit in this section. Fruit was well shown, the display from Welbeck adding another leaf to the laurels won by Mr. J. Gibson, the Duke of Portland's able gardener. Banks of hardy herbaceous flowers, the specimen pelargoniums, the array of fine rock garden exhibits, and the very fine begonias, [illegible], and calceolarias staged by local [illegible] were other good features, while the [illegible] were better than usual.

There were about a hundred and forty exhibitors, one from as far south as the Isle of Wight, and one from as far north as [illegible].

GROUPS.

The great group class is probably the greatest attraction at York in these days, and on this occasion there were five competitors for the handsome cash awards. The space allowed is 300 sq. ft., and artistic arrangement is the great point aimed at. The premier award of £20 was won by our friend and contributor Mr. J. Donoghue, gardener to J. Pickersgill, Esq., Bardon Hill, Weetwood, Leeds, whose design, at once light and elegant, was one of the best ever seen at York, while in the matter of cultivation every plant told its tale of skilful handling. The crotons, used as both tall and dwarf specimens, each set up so as to show itself completely, were magnificent in development, and unusually grand in colouring. These were the great feature of the group, and were set over a groundwork of Rex begonias, small caladiums, tiny polyantha roses, fittonias, and deep green moss. Around the base of each croton and graceful palm there were a few cattleyas, epidendrums, and odontoglossums. Graceful palms and vitis were associated with white liliums and Hiawatha and Dorothy Perkins roses, and some fine dracænas, to make up a suitable background. Second prize fell to Mr. W. A. Holmes, West End Nurseries, Chesterfield, who depended on crotons and roses for his chief effects. There were five competitors, and the remaining awards were secured, in order of mention, by Mr. W. Curtis, gardener to J. Blacker, Esq., Thorpe Villa, Selby; Messrs. R. Simpson and Son, Selby; and Mr. G. Cottam, Alma Gardens, Cottingham, Hull.

In a similar class, but for an arrangement upon a space of 200 sq. ft., there were four entrants, and here Mr. J. Donoghue was again the premier prizeman, carrying off the £12 award with grand crotons arranged with palms, orchids, liliums, and dracænas, but in scarcely so elegant a manner as his other group; Mr. W. A. Holmes was second with a bright exhibit; Mr. Wm. Vause, Leamington, coming third, and Messrs. R. Simpson and Son fourth.

SPECIMEN PLANTS.

These were once more a fine feature, but they are scarcely so imposing as when in the old days they were grouped to form a great trophy in the big circular tent. Messrs. Jas. Cypher and Sons and Mr. W. Vause had things pretty much in their own hands. For nine stove and greenhouse plants, the Cheltenham firm scored, and they had huge examples of Statice intermedia, Pimelia diosmæfolia, Hedaroma tulipifera, Franciscea eximia, Azalea Modele, and Anthurium Scherzerianum; Mr. W. Vause second with a fine hydrangea Dr. Hogg, Erica Cavendishiana, etc.

For six specimens, orchids excluded, Messrs. J. Cypher and Sons led with a splendid pimelia, franciscea, Clerodendron Thompsonæ, and Erica Cavendishiana; Mr. Vause second. For three specimens in bloom, Messrs. Cypher and Sons scored with a wonderful Pimelia dicsmæfolia smothered in heads of pink bloom; Erica depressa, and E. ventricosa magnifica; Mr. Vause responded with Anthurium Scherzerianum, Clerodendron Thompsonæ, and Erica Exquisite. The best specimen stove plant in flower was a large spathed Anthurium Scherzerianum from Messrs. Cypher and Sons; and the best specimen greenhouse plant was Erica ventricosa magnifica from the same competitor; Mr. Vause was second in each instance.

Mr. W. Vause, Leamington, led the way for six ornamental foliage plants, and scored with graceful palms and big, brilliant crotons; Messrs. R. Simpson and Son, Selby, came second. For three specimen foliage plants Mr. Vause led, showing a fine Latania borbonica and a good Kentia Forsteriana; Messrs. R. Simpson and Son second. The best three crotons came from Messrs. R. Simpson and Son, and Mr. Vause was second, but neither showed these plants really well in this class. Messrs. R. Simpson and Son had the best single specimen crotons.

[Photo: Hayes.

GRAND YORKSHIRE FLORAL FETE: MESSRS E. WEBB AND SONS' GOLD MEDAL EXHIBIT OF MELONS, VEGETABLES, AND SWEET PEAS.

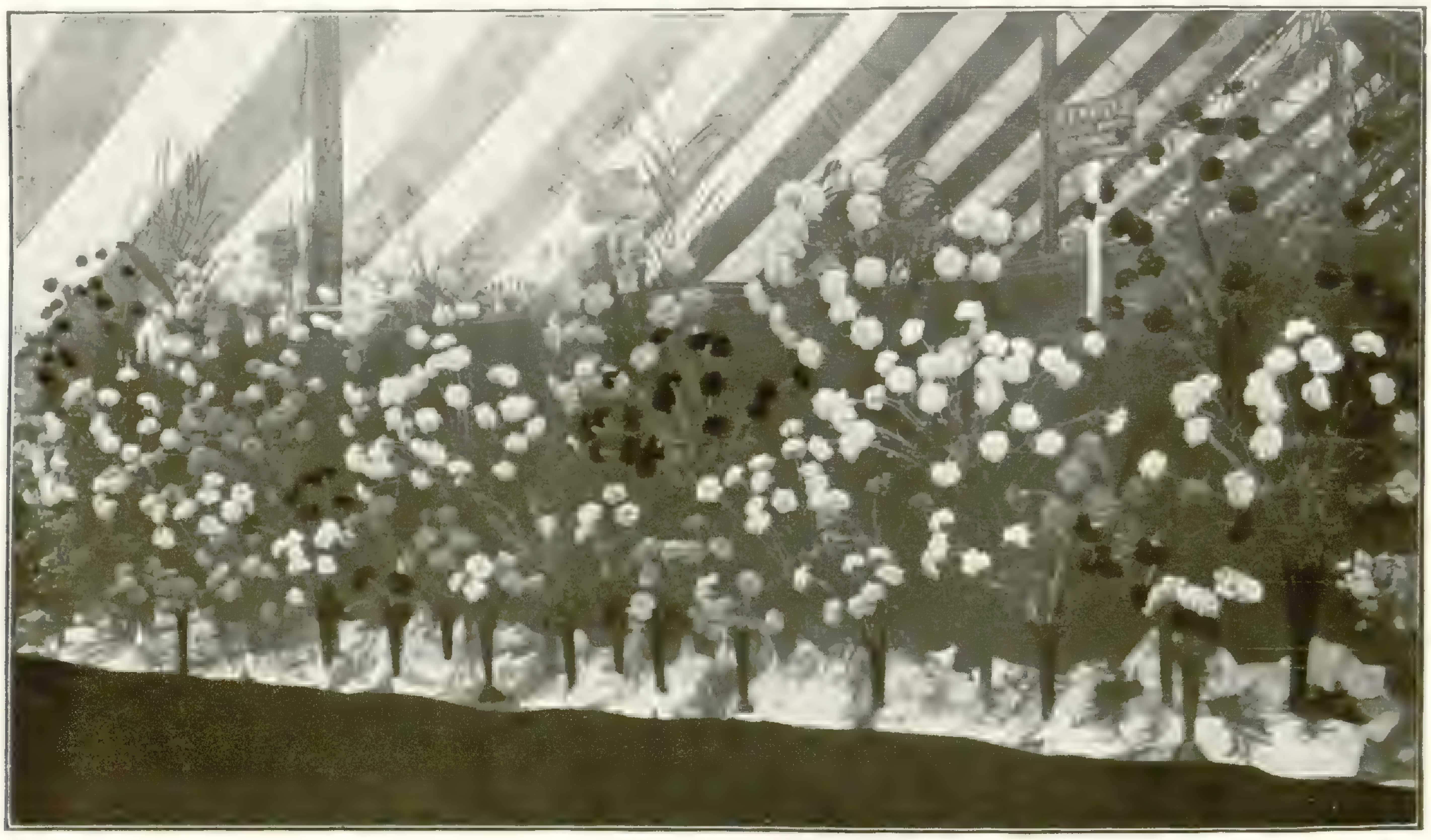
ROSES.

Roses were abundant, and excellent for the time of year. In the leading class for seventy-two blooms in three dozen varieties, the leading award was secured by Mr. George Mount, Canterbury, with lovely flowers, very fresh, bright, and of beautiful form; his leading varieties were Richmond, Ulrich Brunner, Liberty, Frau Karl Druschki, Mildred Grant, Mrs. J. Laing, Countess of Gosford, and Caroline Testout; Mr. George Prince, Longworth, Berks, was a good second with a predominance of light-hued tea-scented varieties; Mr. J. W. Hutchinson, Kirby Moorside, was third; and Mr. E. J. Hicks, Twyford, Berks, fourth.

Mr. G. Mount led for forty-eight blooms in twenty-four varieties, and here he had Richmond, Bessie Brown, Frau Karl Druschki, Kaiserin Augusta Victoria, Mrs. J. Laing, Mdme. Abel Chatenay, and General Jacqueminot in fine condition, Mr. J. D. Hutchinson second. In the class for three dozen blooms Messrs. W. and J. Brown, Peterborough, scored, and they had beautiful blooms of Marechal Niel, Gustave Piganeau, Caroline Testout, C. J. Grahame, Hugh Watson, Lady Rosmore, etc.; Mr. G. Mount second; Mr. E. J. Hicks third; and Mr. M. Dimsdale, Coton, Cambridge, fourth.

The best set of twenty-four roses, distinct, was from Mr. George Mount, Canterbury, whose selection of varieties was pretty much as already noted in other classes; Mrs. E. J. Hicks, second; and Mr. M. Dimsdale third. Mr. E. J. Hicks led for eighteen rose blooms with a very attractive stand, in which Mdme. Jules Gravereaux, Anna Olivier, Betty, Marquise de Sanitz, The Bride, Mdme. Legond Weber, Clara Watson, and Mdme. Constant Soupert were fine; Mr. G. Mount second, and Messrs. W. and J. Brown third. For a dozen white or yellow roses Mr. G. Mount was first with Frau Karl Druschki and Perle Von Godesberg; Mr. E. J. Hicks second.

In the amateurs' classes Mr. H. W. Richards, Westridge, Isle of Wight, led for eighteen blooms, and Mr. W. Hutchinson was second; Mr. Hutchinson was first for a dozen blooms, followed by Mr. R. E. West, Reigate.



[Photo: Hayes.

GRAND YORKSHIRE FLORAL FETE: MR. C. F. WATERS' FINE SILVER MEDAL DISPLAY OF PERPETUAL CARNATIONS.

PELARGONIUMS.

These made a bright feature of the gala, but neither in quality nor quantity did they give evidence of the enthusiasm in their culture that once prevailed in Yorkshire.

Mr. J. R. Wedgwood, Burton Lane, York, had the finest six show pelargoniums, but they were not yet at their best; of Edward Perkins he had a huge specimen; Mr. W. F. Crowther, Wigginton Terrace, York, was a good second with rather smaller examples of Ed. Perkins, Mrs. Pete, Duchess of Teck, etc.; and Mr. H. Pybus, Monckton Moor, third. Mr. Pybus scored for a dozen zonal or nosegay pelargoniums, and he showed flat trained examples, freely flowered, his best being Distinction, Dr. Orton, Lady Reed, Liberty, Mrs. H. Cannell, and Mrs. Kelley; Mr. Jas. Sunley, Ashleigh, South Milford, second.

Mr. H. Pybus led for six zonal varieties, and here he had his best plants, of Henry Jacoby, Mrs. Paul, Lady Reed, Brutus, Mrs. Kelley, and Mrs. Mostyn; Mr. J. Sunley second, and Mr. G. Lee third. Mr. Pybus was again successful in the class for three zonal pelargoniums, and was followed in order by Mr. J. W. Clark, Skelton Street, Clifton, York, and Mr. J. Sunley.

Double zonal varieties, six specimens, were best displayed by Mr. J. W. Clarke, who had finely-flowered flat examples of King of Denmark, Ernest Louth, R. D. Sayers, Mdme. Thibaut, F. V. Raspail, and Royal Star; Mr. W. F. Crowther a good second, and Mr. H. Pybus third. The first prize for three ivy-leaved pelargoniums was won by Mr. J. R. Wedgwood with Fair Maid of Guernsey, Souv. de Chas. Turner, and Baden Powell; Mr. Crowther second, and Mr. H. Pybus third.

GROUPS OF FLORISTS' FLOWERS.

The groups of fuchsias were scarcely so good as in previous years. For an arrangement 12ft. by 6ft., Mr. J. W. Clarke, Skelton Street, Clifton, York, was awarded first prize for a pleasing group of pyramidal plants of popular varieties; Mr. W. Kettlewell, Horner Street, York, second; and Mr. G. Lee, Surtees St., York, third. Premier place for a group of carnations was won by Mr. J. Donoghue, Bardon Hill Gardens, Weetwood, with well-grown Malmaison and perpetual varieties, nicely arranged with ferns and palms. Messrs. Walshaw and Son, Scarborough, were placed second, and they showed popular perpetual varieties entirely; Mr. J. E. Skaife third, with Malmaison and perpetual varieties.

Three competitors entered in the class for a collection of roses in bloom, in pots, arranged on a space 15ft. by 7ft., and here Mr. W. Todd, Vymer Street, York, was an excellent first with large-flowered H.P. and H.T. varieties, arranged against a background of ramblers, and with standards of Dorothy Perkins towards the front; Mr. J. E. Skaife second, and Mr. W. Longstaffe, Sydney Street, York, third.

No fewer than five groups of gloxinias were set up, and, on the whole, these were very creditable efforts. Mr. J. Robson, gardener to Sir J. Grant Lawson, Bart., Middlethorpe Lodge, York, won the first prize; Mr. G. Bush, gardener to J. A. Dunkerly, Esq., St. Mary's Terrace, Beverley, came second; and Mr. Clark, gardener to Captain Walker, Mill Mount House, York, was third. The groups of show pelargoniums were hardly so successful as the groups of gloxinias and begonias, but there were five competitors, and the leading prizewinners, in order of merit, were Mr. G. Lee, Surtees Street, York, and Mr. J. Dobson.

The groups of begonias provided a brilliant display of colour that was greatly appreciated. There were six competitors, and each filled a table 12ft. by 5ft. The judges placed Mr. T. Winn first, and Mrs. Akenhead second for well-arranged exhibits. Calceolarias also yielded a brave colour display, and there were six groups of these gay conservatory flowers; Mr. P. Stancliffe, Solberge, Northallerton, was placed first; Mr. J. W. Coulthurst, Gargrave House, Gargrave, Leeds, second; and Mr. W. Barnes, gardener to W. Talbot Algar, Esq., Brockfield Hall, York, third.

Mr. W. Longstaffe, Sydney Street, York, gained first prize for a group of roses with a fairly good set, his pots of dwarf polyantha varieties being very good; Mr. J. E. Scaife, Clarence Street, York, second; and Mr. H. Pybus, Monckton Moor, Wormald Green, third.

FLORAL DESIGNS.

The prettiest epergne was a charmingly elegant design, composed of pink sweet peas and roses, associated with schizanthus sprays and gypsophila; this was from Mr. A. A. Elliott, Kirkgate, York; Mr. C. Simpson, Spring-gate, York, second; and Mr. Thackeray, Horse Mill Yard, Knaresborough, third. The prettiest basket of roses was of red and pink flowers, beautifully arranged by Messrs. Harkness and Son, Bedale; Messrs. Aldis and Rowntree, Albion Street, Leeds, second; and Mr. C. E. Simpson third. Messrs. Perkins and Sons, Coventry, led for a hand basket of flowers with a splendid basket of Malmaison and perpetual carnations; Mr. C. E. Simpson second with Enchantress carnations; and Messrs. Aldis and Rowntree third with Mikado and Mrs. Burnett carnations.

The best basket of orchids was a sumptuous arrangement of cattleyas and odontoglossums from Messrs. Perkins and Sons, Coventry; Mrs. H. B. Vernon, Eaton Ter. Bowdon, Cheshire, second.

There was a splendid array of bouquets in the florists' section, and five classes were provided for them. Messrs. Perkins and Sons, Coventry, had first prize for a pair of bridal bouquets, composed of odontoglossums and roses. For two ball bouquets Messrs. Aldis and Rowntree led with gorgeous designs in cattleyas, oncidiums, and odontoglossums; and Messrs. Perkins and Sons were second.

The Coventry firm led for two hand quets, and these were very rich and brig designs in cattleyas, oncidiums, and odont

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HANGING BASKETS.

Suitable plants cultivated in baskets play an important part in the decorative scheme of the garden, and as seen suspended from verandahs, balconies, arches etc., present a very effective and artistic appearance. But it not infrequently happens that the baskets do not receive regular attention in the matter of watering, and one often sees plants exhibiting signs of distress due to drought. It must be remembered that they are subject to rapid evaporation, and during hot weather call for copious supplies of water.

This leads me to say that fairly large and deep baskets should be selected for open garden use, the most suitable being those of eighteen inches diameter and about fifteen inches deep. It is a great mistake to use light sandy soil, and greasy, tenacious loam, together with leaf-soil or short manure, should be employed, as this is calculated to hold the moisture for a reasonable time in the hottest weather.

It may be a little late to give advice to many amateurs, but those who possess a greenhouse should fill such baskets as are required for out of door work, and suspend them over the walk or path of the greenhouse. Treated thus the plants become thoroughly established early in May, and make very considerable growth before they are placed in their permanent quarters.

With respect to the kinds of plants that are suitable for baskets, there is, speaking generally, a slavish adherence to old-fashioned arrangements, and the same applies to window boxes. Hence, I would advise a departure from the eternal marguerites and crimson geraniums, and enter a plea for originality in the matter. Phlox Drummondi grandiflora, without the aid of other plants, forms a delightful picture when a number of growths are trained upright to the chains, and the remainder are allowed to take pendulous form. The same applies to petunias, which revel in sun-bathed situations, and bloom most profusely in hot seasons and in soil that contains only a very small quantity of manure. Fuchsia Meteor will form a dense bronzy-golden mass, and hide all traces of the basket if dibbled in here and there between the wires after the basket is filled with soil. I noted a pair of baskets last season, in which this and Heliotrope President Garfield were the sole occupants, and the effect produced was altogether charming.

The more refined varieties of tropæolum, both single and double, cannot be surpassed for prodigality of bloom, and, further, are drought-resisting. White pelargoniums with trailing masses of the blue Campanula isophylla cannot fail to please, while its white counterpart may be associated with that splendid acquisition amongst pelargoniums, Paul Crampel. Three or more plants of Zea gracillima variegata inserted between the last-named will enhance their beauty, and lend a light and graceful appearance to the whole. Very fine is Celosia plumosa, with the golden-leaved creeping Jenny (Lysimachia nummularia aurea), and a plant or two of Lobelia gracilis. Gazania splendens variegata forms a brilliant trailer.

I saw Viola Niphetos smothering the exterior of a basket last season, and certainly it must rank as a first-rate subject for partially shaded positions. Light-coloured fuchsias, such as Mrs. Marshall, Ballet Girl, etc., are wonderfully effective in baskets, and here the changes may be rung with Veronica Andersoni variegata as a trailer. Ivy-leaved pelargoniums are a host in themselves, and, to my mind, are seen at their best when white varieties are allowed to take pendulous form, and dark kinds trained into a mass above. The white varieties may be used with fine effect in company with the fibrous Begonia Bouquet de Feu, while Panicum variegatum may rub shoulders with double begonias.

The verbenas clamour for mention and attention, and should be pressed into service to harmonise or contrast pleasingly with other occupants. One of the most beautiful examples I have ever seen in the way of basket furnishing was composed of Antirrhinum Queen of the North, of spotless purity, in a framework of scarlet Defiance verbena, and this leads me to suggest the crimson-flowered Antirrhinum Crescia and Kœniga maritima (tall variety) as a fine combination. Other combinations will occur to the cultivator, and I should like to point out that the work of watering may be facilitated, and reduced to a minimum by attaching the baskets to a pulley arrangement, when they can be readily lowered and immersed in a bath of water from time to time during hot weather.

Walter H. Aggett.

IRIS EDWARD MICHEL.

A beautiful variety with large purple flowers, shown by Messrs. R. Wallace and Co. at R.H.S. Meeting, June 8, when an Award of Merit was conferred upon it. (See New Plants.)

THE LEMON-SCENTED BUCKLER FERN.

It is a very curious thing to note the practically complete absence of the beautiful Lastrea montana (oreopteris) fern in all general collections. Even among the splendid array of varieties of British ferns in Kew Gardens, it is so conspicuous by its absence that the writer has sought for it in vain, so that, if it be there, it is, at any rate, not represented as it ought to be, considering the number of fine varietal forms which exist. In some of the collections in private hands, and especially in that of Mr. George Whitwell at Kendal, it figures prominently in many forms, and is not eclipsed in beauty by any of its rival native species.

Normally it resembles in general habit the common Male fern, growing nearly as high, and forming, as that does, shuttlecock-like circlets of fronds, springing from a central crown. The fronds, however, differ by being feathered to the base, that is, the side divisions begin there as short, rounded lobes, expanding higher up, and tapering at the tip in such a fashion as to form a lance-shaped outline, the sub-divisions being again divided into serrate lobes.

L. montana is, however, distinguished clearly by other characters. Its colour, for instance, is a light yellowish green, and when a frond is gently drawn through the hand, a very marked lemonlike odour is perceptible, due to the rupture of minute glands on the surface. The spore heaps are also much smaller than in the Male fern. As its name indicates, it is mostly found in great numbers on mountain sides, fringing the glens and ravines with crowded masses of fronds, but it is by no means confined to high levels, as we have ourselves found it in Epping Forest, in the Weald of Kent, and in the Sussex forests, where it abounds in curious association with luxuriant bracken, beneath whose fronds it flourishes in a quite exceptional way, the bracken usually being a terrible monopolist, so that its presence in full vigour is usually a sign for the fern hunter to seek elsewhere.

Curiously enough, in the early days of fern variety hunting, L. montana had the reputation of being exceedingly constant to the normal type, and little liable to afford "sports"; but one of the pioneers, Mr. W. Barnes, of Milnthorpe, in the Lake district, found fine crested and plumose varieties in his locality, and a form, unique at the time, called Barnesi, which bore very narrow fronds, with the short side divisions set horizontally like steps, so marked a form indeed that Mr. Barnes, when he came across a fine clump of it, had to sit down and get his breath again, so great was his surprise and delight at finding what he at first thought must be a new British species. Encouraged by this, other hunters took up the quest, with the result that in the "Ferns of the Lake District," some scores of distinct varieties are registered as local finds, while some fine grandiceps or heavily tasselled varieties were raised by Mr. Barnes from spores.

The old reputation for constancy to the normal is quite exploded, and, in our own experience, it presents fully as many opportunies for the fern hunter as any other native species, since we have found one of the finest tasselled forms on Dartmoor, a thoroughbred plumosum near Kendal, and a good congested form at Aberfeldy, while that curious sport known as truncata has cropped up over and over again in various hunting grounds. In this the side divisions, and the frond tip end squarely and abruptly with the shortened midrib projecting like a thorn.

The general rarity of L. montana in collections would seem to imply difficulty of culture, but in our own experience there is no such handicap. Numerous varieties grow freely and healthily in our suburban garden in good loamy soil, and as a pot plant it behaves admirably, sending up its pretty-scented fronds year after year. Only one thing has to be observed, lime is poison to it, and hence rain water should be used if the house supply is hard water. Drought must also be avoided, as indeed is the case with ferns generally. For soil it prefers good mellow loam, lightened a little with leaf-mould and coarse sand, but this refers more to pot culture than culture in the open, where it thrives with us in the garden soil of the locality, and as its habitats on the open hill sides indicate, it can be planted in somewhat sunnier positions than are favourable to most of the other species. It may, however, be noted here that most of our British ferns can stand a good deal of exposure to sunny conditions if there be no risk of drought at the roots, the two together inevitably meaning burnt fronds and enfeebled plants. L. montana is quite deciduous, its fronds dying down entirely in the autumn. Care must, however, be taken that, if in a pot, the plants are not allowed to dry out entirely in the winter, a remark which applies with equal force to all deciduous ferns.

Chas. T. Druery, V.M.H., F.L.S.

NEW PLANTS, ETC.

LÆLIO-CATTLEYA MIKADO.

This very pretty and attractive hybrid is a fine addition. There are an abundance of mauve, purple, and white orchids of the lælia and cattleya group, hence this early summer flowering hybrid with gay yellow sepals and petals and a bright crimson-purple, yellow-edged lip, becomes most acceptable. The flowers are of good size and the plant flowers very freely. F.C.C., R.H.S., June 8. Lieut.-Colonel Holford (orchid grower, Mr. H. Alexander), Westonbirt, Tetbury.

CATTLEYA MOSSIÆ VAR. A. DIMMOCK.

This is certainly one of the very finest of the many varieties of the beautiful Cattleya Mossiæ. It has flowers of the largest size, finest substance, and splendid form. The sepals and petals are soft rosy lilac, and the big lip has a yellow throat, a bright purple centre, and a white, frilled margin. A.M., R.H.S., June 8. Lieut.-Colonel Holford, Westonbirt.

LÆLIO-CATTLEYA FERONIA.

The feature of this hybrid between Cattleya Enid and L.-c. Haroldeana is the large size of the rounded lip. The latter organ is rather too large for the size of the sepals and petals. It is rich purple with buff suffusion, and the sepals and petals shaded with rosy-pink over yellow. A.M., R.H.S., June 8. Sir Trevor Lawrence, Bart., Burford Lodge, Dorking (orchid grower, Mr. W. White).

ODONTOGLOSSUM AMABILE FOWLER'S VAR.

A finely formed and large flowered variety of this handsome hybrid, several of the blooms being over four inches deep. The flowers are rather closely set on the spike. Sepals and petals heavily marked with dull brown, margined with white and tipped with rose. Lip soft purple with a white apex. A.M., R.H.S., June 8. J. Gurney Fowler, Esq., The Glebelands, South Woodford (gardener, Mr. J. Davis).

POLYPODIUM GLAUCUM CRISTATUM.

A very handsome light glaucous green fern with bold yet graceful fronds that have the divisions waved, and incised along the margins. It bears a considerable resemblance to P. Mayi. A.M., R.H.S., June 8. Messrs. T. Rochford and Sons, Broxbourne.

ARAUCARIA EXCELSA SILVER STAR.

An interesting and attractive variety of an old favourite plant, and differing from the type in having the tips of every growth creamy green instead of deep green. A.M., R.H.S., June 8. Messrs. T. Rochford and Sons, Broxbourne.

DOBBIE'S LONG-SPURRED AQUILEGIAS.

This is a particularly fine strain of long-spurred columbines, remarkably free, large-flowered, and presenting a wonderful range of colouring, as well as unique colour combinations. A.M., R.H.S., June 8. Messrs. Dobbie and Co., Rothesay and Marks Tey.

GEUM COCCINEUM VAR. MRS. J. BRADSHAW.

In this variety the flowers are often three inches across, and they appear to be freely borne by the plant. They are rich glowing scarlet, and contain several rows of petals, though not fully double. A very fine variety. A.M., R.H.S., June 8. Messrs. G. and A. Clark, Dover.

IRIS EDWARD MICHEL.

A beautiful iris belonging to the pallida group. It has large flowers in which the falls are deep rich purple, with a golden crest and a rosy mauve base. The standards are broad and substantial, and of a lively bright purple shade. Very attractive. A.M., R.H.S., June 8. Messrs. R. Wallace and Co., Colchester.

LITHOSPERMUM PROSTRATUM HEAVENLY BLUE.

A delightful little plant bearing a profusion of bright sky-blue flowers. A charming plant for the rock garden. A.M., R.H.S., June 8. Mr. Amos Perry, Hardy Plant Farm, Enfield.

SCHIZANTHUS BEAUTY OF TRENT.

In this strain the flowers are larger than usual, and show a considerable range of colouring. Whether the larger flowers constitute additional beauty is a moot point, indeed a matter of individual taste. This strain is a handsome and useful one, and will serve to further popularise schizanthuses. A.M., R.H.S., June 8. Mr. H. Parr, The Gardens, Trent Park, Barnet.

SWEET PEA PARADISE APPLE BLOSSOM.

A very effective variety with white flowers very heavily shaded with bright deep rose at the margin. The name is unfortunate because the flowers do not suggest apple blossom, at least not terrestrial apple blossom. A.M., R.H.S., June 8. Miss Hemus, Holfast Hall, Upton-on-Severn.

SCOLOPENDRIUMS.

S. vulgare crispum multifidum. — A good type of the hartstongue fern, with the wavy fronds of the crispum group, and the added beauty of terminal tassels. A stout and sturdy grower. A.M., R.H.S., June 8. Messrs. H. B. May and Sons, Edmonton.

S. vulgare crispum fimbriatum.—In this variety the waviness is very pretty, and along the margins of the fronds, where the waving or frilling rises, there are little crests, so that the whole appearance of the fern is distinct and elegant. A.M., R.H.S., June 8. Messrs. H. B. May and Sons, Edmonten.

RHODODENDRON LUSCOMBEI.

Some connoisseurs of garden rhododendrons object to this variety on account of its early flowering propensities, and because it does not possess the shapely conical trusses of flowers for which the catawbiense varieties and hybrids are famous. It is, however, a most beautiful variety, and is worthy of inclusion in the most exclusive collections, especially in the south and south-west counties. It is a hybrid between two useful species, R. Fortunei and R. Thomsoni. Both are noted as being free flowering, the former having very large, fragrant, pinkish flowers, which have more than the normal number of petals, and the latter having long tubular, blood-red flowers of a peculiarly thick texture. The offspring is intermediate between the parents.

The habit of the R. Luscombei is that of the free-growing R. Fortunei, while the flowers are as far across as those of that species with the longer corolla tube of the other parent. The colour is a beautiful [illegible] rose. A few flowers only are borne in each truss, but the variety is remarkably floriferous, and individual flowers are 2 to 3in. across the mouth. Mature specimens form bushes at least 6ft. or 7ft. in height and 10ft. across. The normal flowering time in the neighbourhood London is from the middle to the end April; this, however, may be advanced or delayed a week or two according to the particular district in which a plant is growing.

W. Dallimore.

NOTES ON SOME GARDEN PESTS.

One of the numerous qualifications of the ideal gardener is a good practical knowledge of entomology, for it is only by knowing the life history of the various garden pests, which the average man includes under the term "insects," that we can intelligently wage war against them. But it may be truly said of gardening, "Ars longa, vita brevis" (Art is long, but life is short), and doubtless Mr. Rider Haggard is uttering a truth of general application when he says at the beginning of his "Gardener's Year" that he has never met the individual, employer or servant, who was master of all branches of gardening. Still, some knowledge of the manner of life of the denizens of our gardens is necessary to everyone who aims at success in any department of horticulture, as the capacity to get the upper hand of them is often such a large factor in determining the final result, especially in the growing of fruit. In the space of one article, it is quite impossible to give the barest outline of the life history of even the most common enemies of our gardens, but I propose to give some few hints gathered in the course of a fairly long experience in an old garden, in which, by reason of old walls, old trees, and old everything, such pests are more than ordinarily difficult to dislodge. Let the large fruit-grower and the professional gardener pass these notes by, as they are only composed of the experiences of one amateur, written for, it is hoped, the benefit of others like himself.

If it were asked which pest is the most common in gardens, probably most would say,

The Aphis.

The aphis family includes nearly 200 species, but though aphides are universal, or nearly so, some of the most common species are by no means difficult to overcome. The mistake which is most generally made is to leave the visitation alone until it has assumed large proportions, or the aphides have become partially concealed in the curled-up and distorted leaves and shoots. There are various effective solutions which can be used, still perhaps none more effective than the solution of soft soap and quassia chips, though a paraffin-naphthalene emulsion of soft soap is preferred by some. The great point is to assume that the aphis will come on our peaches, roses, bush fruits, etc., and to spray them early. If a peach tree is carefully inspected, even when in blossom, that is, before any leaves are formed, individual aphides may generally be found, and occasion should be taken as soon as the blossom is set to thoroughly cleanse the tree, as nothing is more true in dealing with this pest than the saying that "a stitch in time saves nine."

There are some species of aphis, however, which are not so easily got rid of, and one of these is the woolly aphis or American blight, which, when once well established in an orchard has indeed come to stay. The moral is obvious—keep a keen look-out for it and deal directly with every little piece of woolliness which appears, for at this stage the remedy is simple, supposing the parts attacked to be easily accessible. The first lodgment is generally where a piece has been cut off, or a wound of some sort made, and the best thing to do is, apply methylated spirit or a strong emulsion of paraffin and soft soap with a stiff brush, well working it into any little fissures in the bark.

Gooseberry Sawfly.

The larvæ of the gooseberry sawfly, the bluish-green and black-spotted grubs that strip our gooseberry bushes of all, or most of their leaves, and sometimes spread to the red and white currant bushes, few of us escape. Large growers spray with poisonous solutions, which are all more or less objectionable in the confined space of gardens, especially as it has to be repeated at intervals of ten or twelve days for six or eight weeks. There is nothing quicker or more effective in moderate-sized gardens than hand-picking, the labour of which may be very much reduced if from the time the oldest leaves are fully developed the trees are carefully looked over every week, and the infected leaves picked off before the broods spread. The eggs are laid on the under sides of the leaves, and as soon as they are hatched, the minute grubs perforate the leaves, and if we pick these leaves we remove broods of a score or more at a time. If the first brood is allowed to escape and grow up and become sawflies, caterpillars will in a few weeks appear in myriads. The caterpillars forming the last brood bury themselves in the ground and remain there through the winter, and if the surface soil under the bushes is drawn away and buried any time between the autumn and the spring the pest may be made an end of, unless we have "laissez-faire" neighbours. Other more or less effectual remedies are syringing with a paraffin-naphthalene emulsion of soft soap, or a solution of Calvert's carbolic soft soap, dusting with hellebore powder, which is poisonous, or a mixture of lime and soot when the leaves are damp, all of which remedies necessitate a washing of the green fruit before using.

Magpie Moth.

Larvæ of the magpie moth are sometimes mistaken for the caterpillars of the gooseberry sawfly, but they are quite different, being larger and of a white colour, with black spots along the back, while the method of progression is by looping. The "black, white, and tan" speckled moth, with its slow flight is a familiar object in most gardens on summer evenings. Its life history is very different from that of the last-named, the caterpillars being hatched late in summer as little black threads, and making but little growth till the spring, passing the winter in any shelter they can find—dead leaves, cobwebs, etc. They do not come in such numbers as the larvæ of the sawfly, but as they are on the spot as soon as the buds open in the spring, they often do little less damage. Apart from the hand-picking of the caterpillars and the destruction of the moths, the winter washing recommended for all fruit trees is perhaps the most effective; and, if this is combined with the clearing up of all rubbish which can possibly form a shelter, these caterpillars will give no trouble.

The Winter Moth.

This has been a terrible scourge to fruit growers, but the grease-banding which is now so universally practised by large growers has much reduced its prevalence, at least in the districts with which I am acquainted. The males are on the wing in November and December—a season when we do not think much about such things—and where any trace of the moth is found the trees should be grease-banded, either at once or the following autumn, to anticipate its depredations. The simplest form of grease-band is made of a strip of grease-proof paper tied round the trunk and smeared over with cart grease. The females, being unable to fly, have to crawl up the stems, and are caught by the grease, to which they stick. As a female is stated to be capable of laying 200 eggs, she is worth catching even in small numbers.

Lackey Moth.

This has a long, soft, downy caterpillar, with a blue-gray head and red, blue, and yellow stripes down the back. When young the larvæ are gregarious and live in a web, at least in bad weather and at nights, and devour everything within reach during the day. The eggs are laid by the moth during the latter part of the summer, but the larvæ do not hatch out till the spring, and a keen eye may see, any time when the leaves are off the trees, the clusters of eggs glued round the twigs and small branches of apples and pears. As both eggs and larvæ are conspicuous, the safe and sure method of hand-picking is the best remedy.

Codlin Moth.

The caterpillars of this moth live on the pips of the apple and cause it to fall, the loss on this account being estimated sometimes to amount to one-quarter of the crop, and I have known little bush trees completely cleared by it. The only really effectual way of fighting this pest is by spraying with a poisonous insecticide, notably Paris green, as soon as the blossom has set and two or three times afterwards at intervals of a fortnight. This is not practicable in ordinary gardens, where the fruit trees and vegetables are often near each other, but in such cases we can do much to mitigate this pest by a few precautions. All dropped fruits should be picked up as soon as possible, even when very small, and destroyed or used, before the maggot, as it is generally called, has time to crawl away and find a hiding-place in which to undergo its transformation into the chrysalis state, from which it will emerge late in the summer or in the following spring. From June onwards bands of sacking should be kept tied round the trunks of the trees a foot or two above the ground, as the grubs will hide themselves in this on the way up the stems to find a shelter. The bands should be examined occasionally, and any grubs or chrysalides destroyed, immense numbers being sometimes caught in this way. The trunks of the trees should be kept free from moss and loose bark, and no rubbish should be kept lying about in which the grubs can hide themselves. Alger Petts.

Rhododendron Ascot Brilliant.—The varietal name of this rhododendron is a most appropriate one, as it is the most brilliantly coloured of all the rhododendrons that I am acquainted with. It was, I believe, raised by the late Mr. Standish at Ascot, the parents being the Himalayan R. Thomsoni and a garden variety. In general appearance it shows a marked proportion of the influence of R. Thomsoni, particularly in its scarlet flowers, their shape, and loosely disposed cluster. It is also a little later in blooming than R. Thomsoni, and thus stands a better chance of escaping late spring frosts, which are liable to mar the beauty of several Himalayan species. Apart from this variety, R. Thomsoni has played a part in the production of several hybrids, among the best known being R. Shilsoni, between this species and R. barbatum; R. Luscombei, whose parents were R. Thomsoni and the Chinese R. Fortunei; and some of the newer forms raised in Cornish gardens. With regard to R. Thomsoni itself it is, unless very favourably situated, rather apt to get bare and gaunt-looking, that is to say, in the neighbourhood of London; but these faults are not met with in the extreme West of England or in the sister isle. The large cup-shaped calyx forms a notable feature of the flower of R. Thomsoni.—W. T.

ROSES IN POTS.

At the end of June so many good rose blooms can be had from the open garden that roses under glass are not in much request. Even our latest pot plants are over by this time, and only a stray bud or two can compare with those from open-air specimens. It is well to remember that the present time has to be treated as equivalent to late autumn, as regards our roses under glass. They have had their full flowering period, and now need rest and some aid toward efficient ripening. The first point to future success lies in giving all air possible, and where the roses are planted permanently out into borders this is very necessary.

Roses in pots can be taken outside, and will generally do better there than when kept under cover. Climbers and others of strong growth, out of pots, need to have the weaker shoots removed, as well as those rods that have flowered this season. In fact, this latter part should have been attended to long ere this, and I only repeat the hint as a reminder. It is particularly necessary to have well-developed and ripened rods upon Marechal Niel, William Allen Richardson, and others of the same habit. One does not want a lot of twiggy growth, or a number of half-developed rods, but a few that are vigorous, and they can now be helped with liquid manure. Give free ventilation to these as it helps them in every way. Although I would keep roses under glass rather dry, to assist maturation of the wood, it will not be wise to curtail the supply of water to the climbers before growth is more developed. Consider carefully as to whether the soil around these planted-out roses is really dry or not, and do not be satisfied with a mere surface examination.

When removing pot plants to the open select a position that is fairly sunny, but partially shaded from midday heat. If the pots are not half plunged see that the outer plants have some protection against sudden drying from sun and wind, which too often cripples their roots. Most of the hybrid perpetuals should be ripening now, but many of the tea-scented and hybrid tea varieties will persist in continuous growth. This can be somewhat checked by keeping the plants rather dry, without allowing them to become distressed. Failing this, we have a superfluity of growth that weakens the plant, and does not afford such well-matured wood to prune back to for early winter forcing, and the plants need a short rest previous to this. Frequent syringing overhead will help support the wood during its ripening. During the natural course of autumn ripening we have heavy dews, and dull, often wet days, and it seems to me more natural to help our plants in summer by a freer use of the overhead spray than is usual, and more in keeping with late autumnal weather.

Of course, no hard and fast rule can be laid down for all plants, and where some are in full and rampant growth we need help with liquid manure still; but experience proves, the better we get our plants ripened by early September the more successfully they can be forced, and to do this a beginning should be made soon.

I do not propose dealing with insect pests and diseases, they are always more or less with us, and the treatise upon rose enemies by the National Rose Society supplies every information, but I would remind readers of the great harm worms do to plants in pots. We do not need their help in drainage, and it is well to put an eggcup full of soot where the drainage hole of the pot rests. Pieces of slate or tile often fit so close that soil washed out of the pot causes stoppage, worse than the worms would.

The present is a good time to repot roses, and if done well now they will be nicely established for early forcing, and need no further shift before rehousing. I am dealing now with those that are in small pots or have quite exhausted the soil. There is no special compost needed, a good mixture supplies all that is necessary. Consider how vastly different the soils are that roses grow in; quite as much so as with any of our popular flowers. What they do seem to thoroughly appreciate is fresh soil of a rather stiff nature, and I find they have a great objection to the dark-coloured, humus-charged soil from an old vegetable garden.

A. PIPER.

SOME DWARF IRISES FOR THE GARDEN.

Irises are among the most beautiful of all flowers, and many of them possess such wonderful combinations of colour, and such remarkable form, that they have been justly called the "poor man's orchids." They are suited for practically all positions, as among them we may find plants which will flourish with their feet in the water; others which like the moisture, but which prefer their roots above it; and others, again, suited for the driest and sunniest positions in the gardens of the many.

Then there are irises short and irises tall; flowers for the big garden and for the amateur's little plot or rockery. In the present notes I wish to say a few words about a charming section, growing not more than a foot high, and giving exquisite little flowers, small, compared to those of some of the species, but really large when compared with the little plants which bear them. They all belong to the flag irises, i.e., those which have rhizomatous root stocks—this being the easiest section of all to grow.

Cultivation.

To begin with their cultivation, they are best planted about August, although I have put them in the ground later than that: in fact, I have planted them up to October, although I should not advise this, and would prefer, instead, to put them in about April rather than in late autumn. They do not require a rich soil, and a rather gritty and hard one will induce them to flower more freely. They should have full sun, and their appreciation of what would appear uncongenial conditions may be shown by the fact that they will thrive admirably on a roof or the top of a wall, with only two or three inches of soil.

In planting, the thick rhizomes, or root stocks, should not be covered, and to keep the plants firm it is frequently necessary to put stones about them to steady them until the roots themselves get hold of the ground, and to prevent the plants from being blown over. A little old cow dung may be mixed with the soil if it is extremely poor, but this is not necessary. It must be noted as a truism which should never be forgotten, that these irises are sun lovers, and will never yield the best results when in the shade, where many people will persist in planting them.

The Dwarf Irises to Grow.

Among a very interesting set of hybrids called Balceng, which have been produced by crossing Iris balkana with I. Cengialti, we have a couple which are within the limit of stature I have confined myself to —a foot—and these are beautiful and satisfactory things. They are Miss C. M. Owen and Miss H. M. White. The first is white, flaked with blue, and the other is sulphur yellow, flaked with purple. Then I. biflora gives us two good varieties, purpurea, which is rich purple, and maculata, which has a ground colour of blue and lilac-purple, and having the standards prettily pencilled with lilac. In the varieties of I. Chamæiris, often sold as I. pumila, but taller than the true pumila, we have the type, with deep violet flowers; alba, white and sulphur, white; lutea grandiflora, with yellow standards and deeper coloured falls, and Naomi, of a pretty sulphur yellow. The first and last are about nine, and the others twelve inches high.

I. Cyanea is purple and violet, and the pretty little I. Fieberi, only six inches high, has fine violet-blue blossoms. I. gracilis is both curiously and prettily coloured, the blooms being a combination of silvery-grey, flushed with light purple and sulphur. It is only some nine inches high. Then I. nudicaulis gives us two forms, the type, with violet standards and deep purple falls, and purpurea, with good purple blooms.

Among the varieties of I. olbiensis we have grandiflora, with violet purple flowers; Socrates, handsome, as becomes a flower of its name, and of a kind of claret-purple colour; and sulphurea grandiflora, of a pleasing sulphur-yellow. Then I. paracina is an interesting thing, a hybrid between I. paradoxa and I. sambucina, and having deep bronze-claret flowers, quite curious in their hues.

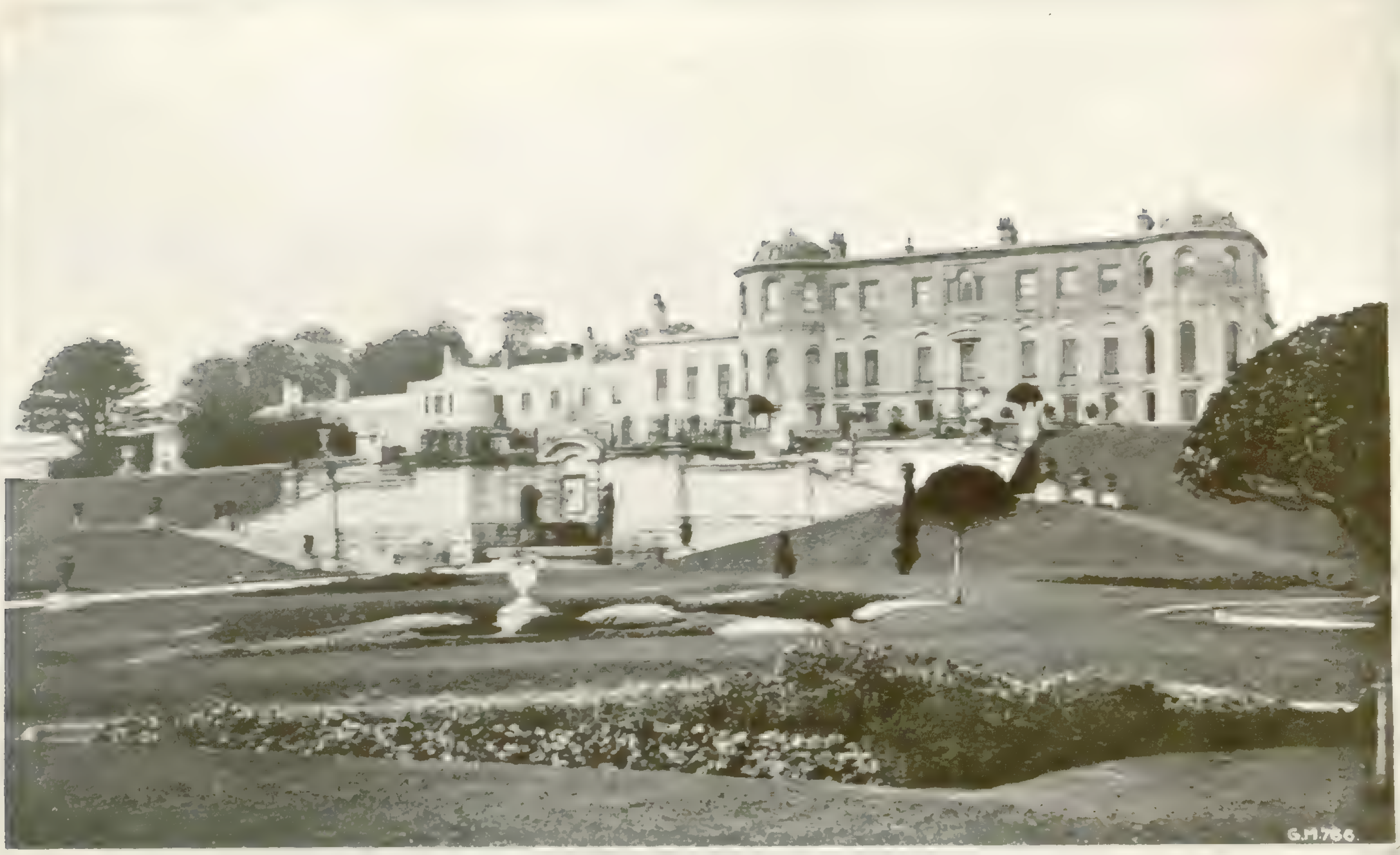
From Iris pumila we have several charming flowers, among which I have only space to mention cærulea, an exquisite sky-blue iris, only some four or five inches high; the azure Count Andrassy, six inches; and the primrose and brown luteo-maculata, of much interest, and only six inches high.

No space remains to tell in full of the many others recently raised from various sources, but Blanche, white and yellow; Canary Bird, yellow; Ivorina, ivory, orange, and gold; the white and violet Margaret; and the handsome purple Peter Barr, must not be omitted from these notes, so beautiful are they.

These flowers are all inexpensive, and a dozen may be bought for five or six shillings. These will give long delight to the owner when they come into bloom in the later spring months, such as April and May.

S. ARNOTT.

A Prospective Yellow Cineraria.—As the garden varieties of cineraria are by our botanical friends included in the genus Senecio, it seems but a natural trend of events for a yellow, or, rather, a yellowish variety to make its appearance. Such a one is Cineraria flavescens, which, exhibited by Messrs. Veitch, was given an award of merit at the meeting of the Royal Horticultural Society on May 4. It was said to have been raised from Cineraria Feltham Beauty crossed with Senecio auriculatissimus. This last, which Messrs. Veitch have frequently exhibited, was introduced from British Central Africa about a dozen years ago. It is a very pretty plant, but never "caught on" to popular favour. In habit this senecio is of partially climbing or rambling nature, and the golden-yellow flower heads, borne in large terminal corymbs, are about an inch across. The variety flavescens above alluded to is, when first expanded, of a clear pale yellow, gradually passing to white, or nearly so. When one considers the great variety to be found among the garden cinerarias of to-day, and the fact that they have all been evolved from small beginnings, the possibility of a thoroughly good yellow-flowered form is by no means remote. If so, it will be another horticultural gain from the opening up of Central Africa. At present, Coleus thyrsoideus stands out as one of the most valuable plants from that region.—W. T.



[Photo: Lawrence, Dublin.

POWERSCOURT: THE MANSION, TERRACES, AND FLOWER GARDEN.

SOME GARDENS ROUND DUBLIN—I.

The Sister Isle is famous for its many fine gardens, and it is scarcely possible to conceive a holiday more enjoyable or more full of interest than one spent in wandering from garden to garden in it, inspecting the treasures of each, and gathering something of the enthusiasm of those in charge. Irish gardens possess a great fascination for gardeners in Great Britain, and it is of considerable interest to observe that not a few English and Scottish gardeners have charge of notable establishments, while Irish gardeners would appear to favour English situations. The climate of Ireland is, on the whole, a very favourable one for the prosecution of horticultural activities, and many of the choicer trees and shrubs grow luxuriantly, reminding one of the sheltered gardens of Cornwall and Devon. Coniferous trees are a grand feature of many of the estates, and fruit culture is carried out on the best methods in most of the gardens, though there is much left to be desired in this direction on farms and in the gardens of the cottagers. The mere mention of Castlewellan, Fota, and Belgrove conjures up in the mind of a horticulturist visions of rare plants growing with wonderful freedom, collections of choice subjects that provide material for many a plate in the "Botanical Magazine," and make one think of Kew Gardens transplanted to a kindlier clime.

Horticultural and agricultural education are being extended in Ireland, and already the influence of capable teachers and scientific methods is to be seen—but this is a large subject, and merely mentioned to show that great things may be expected from Ireland in the near future, both in commercial and private gardening. Ireland has given us scores of our most beautiful roses, chiefly through the medium of Messrs. A. Dickson and Sons, of Newtownards and Dublin; it has given us rare hardy plants of many kinds, through Mr. Smith, of Newry; and it has introduced many a fine plant to cultivation, and flowered many a difficult subject, at the hands of that keenest of gardeners, Mr. Gumbleton, of Belgrove.

But it is not possible to cover the ground from Belfast to Cork in even one or two of these series of descriptive notes, therefore at present we must be content with brief notices of a few of those beautiful gardens that are in Dublin or within easy reach of it.

Powerscourt.

Bray is to Dublin what Brighton is to London, but it is less than fourteen miles from the Irish capital. Bray is the centre of a lovely district that includes parts of the counties of Dublin and Wicklow, and it is from Bray that one can the most readily reach Powerscourt, the seat of Lord Powerscourt. On the way to or from Powerscourt the beauties of the far-famed Dargle Glen should be seen. In the bottom of a thickly-wooded glen the impetuous Dargle river rushes on in most picturesque fashion; here and there the glen opens out, and more peaceful scenes are found, but in other places, squeezed between the high, tree-clad slopes of a deep ravine, the river roars along amid boulders in most romantic fashion. One spot, where, almost at the top of the ravine, a bold mass of rock juts out and hangs over the water far below, the scene is one to linger long over. This spot, known as the Lover's Leap, is described by one writer as "A huge rock projecting far from the glen's side, and overlooking right and left the still depths of the ravine. Shadowing and bending away in a densely-wooded slope, the opposite side of the glen rises grandly upwards; while, 300ft. below us steals the ever-present river towards the sea, the blue line of whose distant horizon rules the topmost branches of the trees away on our left."

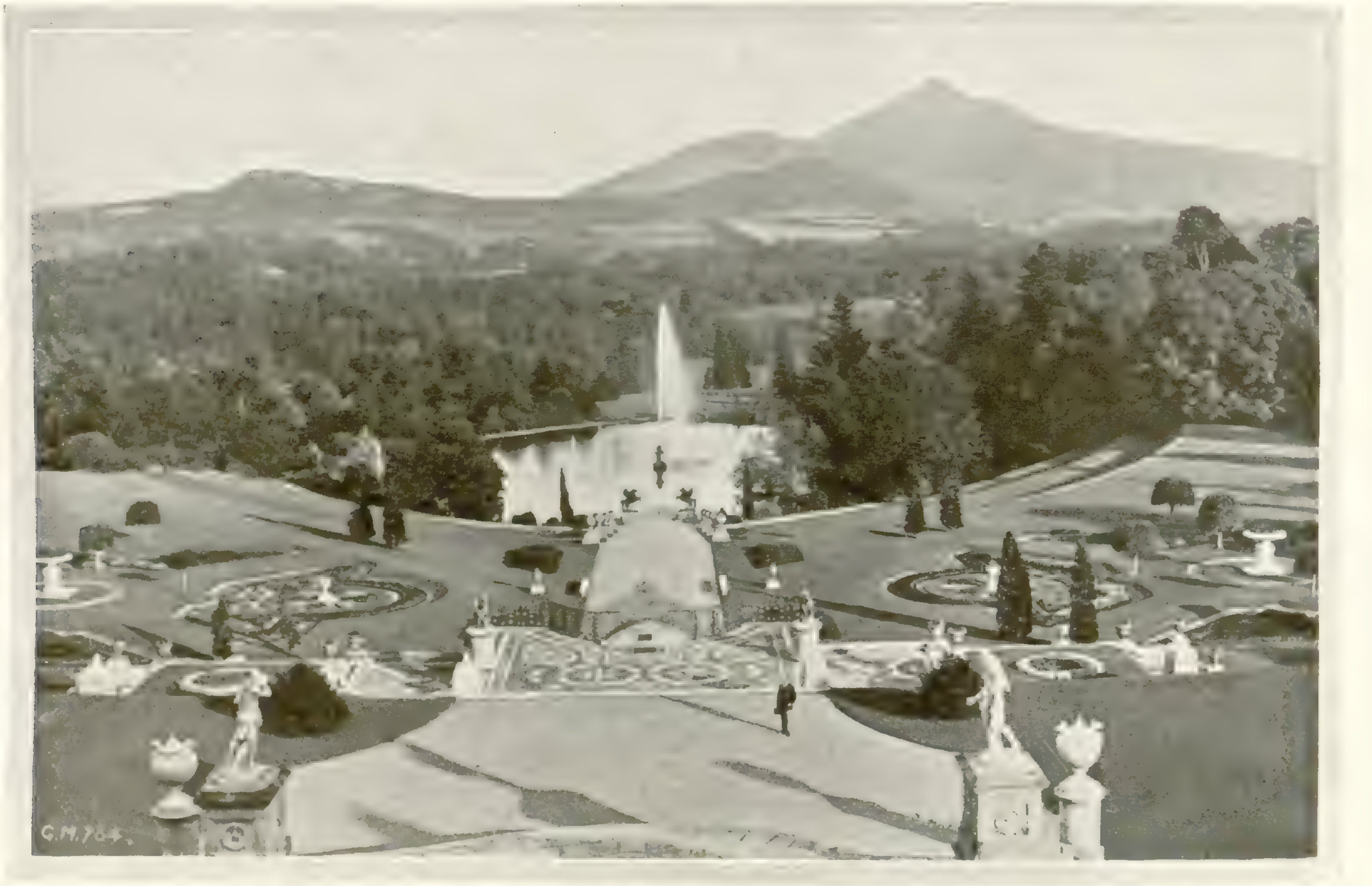
To the Dargle Glen is a favourite excursion of the people of Dublin and visitors to Bray, and another beauty spot that attracts as much as it is the Powerscourt waterfall in Lord Powerscourt's deer park. The grandeur of this waterfall depends entirely upon the amount of water in the Dargle river, and one can well imagine that when the river is burdened with water from the winter storms that gather on the hills beyond, the fall must be very fine. The deer park, peopled with deer and rabbits, and finely wooded with some grand old oaks, slopes gently towards a great mass of rock that rises very abruptly, and over which the river hurls itself from a height of 398 feet, the water falling about 200 feet before striking the rock, and thence glancing off into the rocky pool below. If the ascent is made to the top of the fall another grand scene spreads outward and upward, for the Douce Mountain at once rises to its full height of 2,384 feet, and beyond it are War Hill and Kippure Mountain, that mark the chief heights at this northern end of the chain of Wicklow Mountains.

The Powerscourt estate is one of the largest in this part of Ireland, and extends to between 25,000 and 30,000 acres. The mansion, a very large and substantial edifice, is set on rising ground, and commands superb views. From the terrace the grounds descend by curved steps to the sunken gardens, with their clipped Portugal laurels and series of flower beds, and then slopes away down to the lake below, where a piece of fine iron work commanded on either side by bronze Pegasus-like winged horses, by Hugo Hazen, of Berlin, gives entrance to the boathouse. Across the lake, amid fine trees and shrubs, the splendid view continues, and is carried over the farm lands beyond right up to the base of the Sugar Loaf Mountain, whose bulky, high cone occupies the centre of the picture, and dominates the whole scene.

On the north-east side of the mansion a large rose garden provides a pleasing feature. A part of the building, and the woods beyond, afford necessary shelter from cold winds, but the garden itself is also sheltered by its high enclosing hedges of the fragrant-leaved Penzance briars. A small, light pergola divides the garden, leading from either end to the little central fountain. Mrs. R. Sharman Crawford, Marie Van Houtte, Madame Levavasseur, Antoine Rivoire, George Nabonnand, and Gruss an Teplitz, are roses that highly appreciate the conditions provided in the beds, while among the climbers Dorothy Perkins was a wealth of bloom, and Alister Stella Gray clothed an arch in the most delightful fashion with its neat foliage and pretty yellow flowers. Hiawatha was also good, but Crimson Rambler is not an unqualified success here because of its liability to mildew.

The fine upper terrace at Powerscourt was designed by Daniel Robertson after the one at the Villa Bulera in Sicily, and it was commenced in 1843 by Richard, sixth Viscount of Powerscourt. The lower terrace and pleasure grounds were constructed by Mervyn, Viscount Powerscourt, in 1863-1872. From this it will be gathered that successive holders of the title and estates have each added to the grandeur and beauty of the place. The present Lord Powerscourt has carried out a great deal of planting, and the more recent additions include the bog and semi-wild garden near the lake, and the terraced rock garden.

The semi-wild garden, where everything is given ample room to develop, will presently be a fine feature. There are fine groups of Senecio clivorum and other giant groundsels, masses of Eryngium pandanifolium, eucalypti in variety, a grand example of Rhododendron Falconeri, breadths of Chrysanthemum maximum, colonies of hardy fuchsias, giant specimens of the Powerscourt variety of Phormium tenax, bamboos in great variety, a thriving loquat, any number of camellias, as well as specimens of Dicksonia antarctica, and tall dracaenas, and there are little ditches brimming over with the lovely Primula japonica, instead of with water, and margined with bold graceful masses of that king of hardy ferns, Osmunda regalis.



[Photo: Lawrence, Dublin.

BEAUTIFUL VIEW FROM THE TERRACE AT POWERSCOURT, CO. WICKLOW, WITH THE SUGAR LOAF MOUNTAIN IN THE DISTANCE.

The rock garden is hidden from general view, and is entered under an arch and between rocky walls. It is constructed on a sharp slope in the face of a big bank that dams back the waters of one of the lakes, and its treasures are explored by means of a path that zigzags from base to summit. There is a little artificial waterfall near the top, and in and round the pool that receives it arum lilies, hartstongue ferns, and the graceful Apera arundinacea are quite at home, in company with Primula japonica and P. pulverulenta.

Pursuing the pathway from the lake head through the pleasure grounds one finds fine specimens of many choice trees. Azara microphylla is particularly handsome. Fagus betuloides grows freely, and fruits here. Crinodendron Hookeri attains a fair size, and Drimys Winteri rises to a height of 12ft. The yellow-berried yew, Arbutus Andrachne, Abies Parryana glauca, Cupressus macrocarpa lutea, and Quercus fastigiata are other good things. Coniferous trees abound in the extensive grounds beyond the gardens proper. There is a long walk between fine specimens of Sequoia gigantea, there are grand groups of old Scots firs, big trees of Abies concolor, A. Douglasi, and a long avenue of Picea Pinsapo by the stream side on the way to the waterfall.

Within the walled-in garden, where the glasshouses are grouped, and where fruits and vegetables are well managed, flowers are also cared for, and there are herbaceous borders of great length and beauty. The walls shelter huge plants of the various ceanothuses, of Edwardsia microphylla (facing south), Romneya Coulteri, Magnolia grandiflora, Escallonia macrantha, Benthamia fragifera, Desfontainea spinosa, and Buddleia variabilis, the latter a perfect cascade of elegant spikes of its rosy flowers. There is also a fine arch of this handsome flowering shrub.

But one might go on for a long time detailing the attractions of Powerscourt, and if I conclude abruptly it is not for lack of material, because Mr. W. Owen, his lordship's head gardener, kindly showed me all that was possible in the time, and as the shades of evening fell he took me to the great waterfall, and back to Bray through the Dargle Glen. But what is half a day, evening included, for the inspection of Powerscourt?

Kilruddery.

A couple of miles or so from Bray is the entrance to Kilruddery, the Earl of Meath's beautiful estate. The residence, a fine old Elizabethan mansion, designed by Morrison, is a fine one, and contains a hall beautifully wainscotted with oak, and with a fine carved oak ceiling. The grounds are extensive, and, under the care of Mr Childs, the gardens are well kept. These latter should most certainly be visited by all garden lovers who find themselves in Dublin or Bray, and there is no difficulty in gaining entrance, as during the whole of the summer his Lordship throws them open from 11 a.m. to 6 p.m. every Monday, a privilege that is greatly prized and rarely violated.

There are several points of distinction about the grounds of Kilruddery, and the most striking are the hedges, the fish ponds, the Dutch garden, and the fine natural rock garden. Hedges are very plentiful, and some of them are remarkable for their size and age. In one part of the grounds the woodlands have been well thinned, and long straight walks have been cut through them, each having its dense sheltering hedge, usually of beech. There is one very long walk cutting through the whole of this area, with statuary at either end. At two points along this walk other paths radiate, and in each case one may stand in the centre of eight diverging pathways, all hedged and kept trim. The ground between these long hedged walks or vistas is filled with fine beeches, oaks, and limes. No matter whence the wind comes, or how hot the sun may be, one may find one or more walks that are sheltered from the storm or shielded from the sun, and perhaps it was for the shelter and quiet they provide that these high-hedged grass walks were created.

The old fish ponds are not exactly beautiful. There are two long ones, of rectangular shape, near the south front of the mansion, set in a broad and very long lawn, that extends to a circular pool and fountain. Of lawns there is an almost alarming area at Kilruddery, and the amount of time and labour occupied in mowing must be very great. Mr. Childs, his Lordship's head gardener for the past sixteen years, tells me there are thirty acres of lawns to be kept trim, and no one can know their extent better than he. They are beautiful lawns, however. On either side of the long vista that extends from the mansion to the deer park there are large groups of magnificent old limes and beeches, and these relieve the scene from any sense of flatness.

The Dutch garden on the east side of the mansion is some indication of the age of the garden. Here, along a raised walk, a fine lot of standard oranges are ranged, and from this walk the sunken garden, with its series of formal beds and its banked ends and sides, all flower clad, can be overlooked. A bright, though rather formal display is provided here year by year, and the aim is to keep this garden in the old style. Not far away is another little garden, enclosed with a beech hedge. It is a circular enclosure, and the hedge, pierced at intervals, has a length of about 180 yards, is 29ft. high, and must be of great age, as it is 18ft. thick at the base. There is a large pond in the centre, and all around are little beds, box-edged, and in intricate design, all filled with stones of various colours. Another bit of very old-fashioned gardening, and one that serves to remind one forcibly of the varied styles of gardening that have prevailed. Very different is the sheltered subtropical garden, where eucalypti, pittosporums, phormiums, tall dracænas, and trachycarpuses are quite at home amid the shelter of fine old lime trees.

The large rock garden is a natural one, that is to say, a large piece of rocky ground has been converted into a garden of alpine and similar plants by the simple process of baring the rocks here and there and filling in the crevices at other parts. Winding and ascending walks lead up to the top of this garden, and from the summit a grand view, right over the mansion, and commanding the Wicklow Mountains, is obtained. There is no need to detail the kinds of plants that clothe this rock garden, because practically all kinds of popular herbaceous and shrubby plants that [illegible] places for their home are grown. Rhododendrons, heaths, cytisus, and gorse are present in bold masses, and primulas, saxifrages, sedums, phloxes, gentians, and ferns in the shadier parts, abound. Very rare plants, and those that require a great amount of attention are not planted here, because the aim has been to keep the whole as natural as possible, and allow the subjects, once established, to care for themselves, except for occasional weeding, and severe thinning to prevent any one plant from crowding out its neighbour.

The fruit and vegetable garden and the glass department are grouped within walls, and they are all extensive and admirably kept. This part of the establishment is also very beautiful, as well as useful, as all the paths are flower-bordered, and in front, and at the ends of all the houses there are bright or interesting plants. There is one broad border kept very gay in summer time with large informal groups of pentstemons, self-coloured antirrhinums, violas, begonias, asters, chrysanthemums, herbaceous lobelias, gladioli, and pelargoniums. Each group consists solely of one variety. Carnations are well managed inside and out. At the back of the flower borders there are pillar roses and several specimens of Buddleia variabilis and B. v. Veitchi, these latter being very fine. Lonicera sempervirens also does splendidly in this garden, at the end of one of the houses. The vineries are well stocked, and they yield large crops, as well as some extra-fine prize bunches of Muscats and Black Hamburghs. Useful stove plants and a large range of greenhouse plants are skilfully cultivated, and peaches are very largely grown under glass. The long peach cases are of interest because all along the top of the case, next the wall, a half-pane space is left open all the year round, and Mr. Childs believes this ventilation very materially assists him to produce the large crops of fruit that are annually gathered. Bush apple trees are also well grown in this garden, and the walls are clothed with pears, plums, cherries, and peaches.

In conclusion, I must refer to the beautiful conservatory attached to the mansion. It is of fair size, but not specially large. Climbers are sparingly used, and the plants that are brought to furnish the structure are arranged on the floor in groups that vary in size and design, according to the subjects used, the taste of the decorator, or the wish of the employer. Beautiful statuary is associated with beautiful flowers, and a few tall palms and spreading tree ferns add their meed of stateliness and grace.

The People's Garden.

One of the finest public parks in the United Kingdom is Phœnix Park, Dublin, and the Irish capital may well be proud of its splendid open space. The park has an area of about 1,752 acres, and 1,300 acres are open to the public. Military re-

[Photo: Lawrence, Dublin.

THE POWERSCOURT WATERFALL, CO. WICKLOW.

views, polo matches, and cricket matches are held in it, consequently the park is a favourite resort of the fashionable world, as well as of the people. From the rising ground, by the Wellington Memorial, a fine view of Dublin City can be obtained.

The portion of the park that has the greatest attraction for us at present is that near the Dublin Gate, where a considerable area has been laid out to form a flower garden and pleasant promenade. There is a comparatively flat portion, where flower beds of varying size and shape are gay the summer long, and on one side of this the ground slopes away to a delightful little dell, where, near the water, are numerous bold waterside plants, the gunneras being particularly bold and attractive.

A broad border, in sweeping curves, was a notable feature of the flower garden last season. This, about 150 yards long, planted in ten long curving lines, produces a very bold and striking effect. The various subjects used were Fuchsia Riccartoni, Paul Crampel and Mrs. Pollock pelargoniums, Glory of Zurich salvias, centaureas, Calceolaria amplexicaule, Blue King, Acushla, and Gem violas, and blue lobelias, and Kœniga maritima. A long ribbon border of this character is not often seen nowadays, and though many garden lovers do not care for the style of planting here so well displayed, there was no question as to the delight and pleasure it gave to the visitors.

Some of the flower beds contained particularly bold arrangements, thus, Calceolaria amplexicaulis was associated with the tall Nicotiana colossea and Caladium esculentum. Weeping standards of Fuchsia elegans over the old Pelargonium Manglesi give a pleasing and soft effect. Rose of Castile and Mrs. Marshall fuchsias grouped over a groundwork of Kœniga maritima was another pretty and simple design. Fuchsias are favourites in the People's Garden, and so are violas, and both are used freely, and in various combinations, the former being grown as dwarfs, pillars, and standards. Paul Crampel pelargonium is another favourite plant, and here, as almost everywhere else, it grows and flowers finely.

The People's Garden is a fine idea, and the throngs of people who visit it on Sundays and half-holidays show how keenly the floral display here provided is appreciated by the public. It has been said that the good people of Dublin do not show a proper appreciation of horticultural matters, and certainly the fact that flower shows are not a financial success in the city—as witness the great Sweet Pea Show of 1908—lends emphasis to this view; but if they do not care to pay to enter a building for the purpose of seeing the finest examples of floral art and cultural skill, they flock to the outdoor display in the People's Garden. Perhaps the very name of the garden is a powerful attraction, and the idea that this splendid grouping of flower beds is for their special benefit draws the people quite as much as the flowers and plants themselves.

Charles H. Curtis.

*** The second of the two articles on Dublin's Gardens will be given in our next issue.

Nerines and Vallotas and other bulbous plants that have finished their growth should now be put on a shelf or other position where they can have a thorough ripening by the sun, but if the foliage is not quite died down give an occasional watering until it is quite gone.—T. S.

Sweet Peas that have been flowering indoors should now be put out, and in the case of some of the shy-seeding varieties, such as Mrs. Hardcastle Sykes, Audrey Crier, Frank Dolby, etc., etc., it is wise to plant out a few of them in some odd corner, thereby ensuring a good crop of early and well-ripened seed.—T. S.

LONDON PRIDE.

One ought almost to apologise for saying anything about such a humble plant as Saxifraga umbrosa, but it is still deservedly a favourite with the lovers of old-fashioned flowers. Its very name takes us back to times of rural simplicity, when town life was the exception and not the rule, and the comparatively few people who went Londonwards were proud of the fact. In Ireland, where it is plentiful in a wild state on the mountains of the south-west, it is known as St. Patrick's cabbage. Being an evergreen which looks well in all weathers, and growing, as it does, in any cold, damp soil, even where the sun never shines, it is not without value, and not only makes a good edging, but is useful on the rough parts of a rock garden.

A purpose for which it is most especially useful, however, is one for which we have none too many suitable plants, and that is as a surfacing plant for spring beds. It is true there are a good many plants which can be used for this purpose, but some are a bother to rear, some suffer in winter, and others are spoiled by being shaded by the taller plants of the beds. None of these objections attach to the London Pride, one good point about it being its extreme simplicity of propagation, all that is necessary being to pull some reserve plants to pieces in April and dibble them in rows in a shady nursery border, when each little piece will make a nice tuft by the autumn. Then the plants which are taken up when the bed is replanted at the end of May can be thrown away without remorse.

The pinkish panicles go especially well with yellow wallflowers, but the colour is so delicate, only the stamens giving it a pinkish tinge, that it will hardly clash with anything.

Alger Petts.

[Photo: Lawrence, Dublin.

FOUNTAIN, FISHPONDS, AND MANSION, KILRUDDERY.

VILLAGE GARDENERS.

In every village in the country there are to be found men who may be described as natural gardeners, for the simple reason that gardening is part of their very nature, and they are imbued with a love for horticulture which their fellows do not possess. In the earning of their daily bread these men follow all sorts of occupations, but spare time and spare money are spent on the one hobby—gardening. Would that the country could boast of more of these fellows, who are not only good gardeners but good citizens, worthy members of the community to which they belong, independent, self-reliant, and commanding the respect of everybody who has dealings with them. Perhaps these men would be equally good citizens if they had no gardens to take a pride in, but I cannot help thinking that their hobby helps to bring out their best qualities, for no keen gardener was ever a loafer, or a supporter of street corners, and the simple reason is that he has something more interesting and profitable to occupy his time.

The village labourer who enjoys a local reputation as an expert flower or vegetable grower, is generally a character in his way, perhaps a little conservative in his ideas, proud of his skill, and none too ready to impart the secrets of his success to others. If you ask him for particulars of his methods in the cultivation of this or that crop, he not infrequently answers in a roundabout sort of manner that does not convey much except the impression that, in his little way, he has trade secrets, and does not see any reason for giving them away. His garden, however, is his pride, his joy, in fact, the delight of his life; and, if he displays certain reticence in describing how he does it, he will talk gardening as long as you like to stop with him, welcome you within his domain, pump you for an opinion regarding any loss or failure, and show you with a touch of just pride the result of his labours.

The great feature about the village expert is his intense enthusiasm. In a word, he loves his garden, and shows his affection in a score of different ways. Let me illustrate a case to show what I mean. Last summer, in the course of a round of judging, I inspected one of the best cottage gardens it has ever been my good fortune to see, and it belongs, by the way, to an agricultural labourer whose average earnings do not exceed fifteen shillings a week. The man's wife showed me round, and, in answer to a remark that her husband must be fond of his garden, the good woman exclaimed: "Fond! I should think he is, for I hardly ever see him." Pressed for further explanation, she went on to describe how her better-half turned out of bed in the spring and summer almost as soon as it was light, and did a few hours' gardening before starting work at six o'clock. "As soon as he gets home at night," the woman went on, "he swallows his tea, is gardening again till he can see no longer, and then he goes to bed." It is not alone the cultivation of vegetable produce for the supply of his household that prompts this man (and scores of others of similar type) to work as he does in the garden. Not a bit of it, and the truth rather is that the man loves gardening for its own sake, derives pleasure out of it, and in his way is as true a devotee to horticulture as any possessor of the Victoria Medal of Honour. Men of this type are in want of no Daylight Saving Bill, because they never waste any daylight, nor moonlight either for the matter of that, for they often take advantage of a full moon to do a bit of trenching in the winter when the days are short and the evenings and mornings long and dark.

You may notice in a village how all the cottage gardeners start about level in the spring, by right of custom about Easter time; but to some the gardening is a matter of duty or obligation, and to others it is a labour of love. They all start level, but go round the village a month or two later and note the difference. Here is a plot that was sown and planted, but it has gone weedy, untidy, and presents a neglected air that is unmistakable. Its owner is profuse in his excuses, he has had no time, has been working late, or something else has prevented him looking after his garden. No excuses of this kind are forthcoming from the natural gardener, for, if he has no time, he makes time, and contrives by a way of his own to keep the garden up to the mark, even though hours of sleep are sacrificed in order to do it. To a cottager who really loves his garden, it is a source of real worry if things go wrong, and he is prevented by illness or other unavoidable cause from keeping the place tidy and shipshape; but in this matter there is a certain amount of freemasonry amongst village enthusiasts, and it is not infrequent for one to go and give a neighbour a turn when the latter is laid aside by infirmity, whereas under ordinary circumstances the men may be keen competitors, and perhaps jealous of each other in their heart of hearts.

At the annual flower show the village expert is very much in evidence, first in the early morning, when, with the assistance of every member of his family, he is getting his stuff in, and wears an anxious look, and again after the judges have made their awards, going round the tent with a well-thumbed schedule and a half-inch

[Photo: Lawrence, Dublin.

THE CONSERVATORY, KILRUDDERY.

stump of lead pencil, ticking off the prizes he has won. He may pause now and then and run his fingers through ruffled hair, which is an indication that he does not see eye to eye with the judges, but, as a rule, the keen gardener knows how to lose as well as to win, and he accepts the decisions of the adjudicators with good grace. It is a goodly sight, my friends, when the sun is setting on the village show day to see our friend, now dressed in the suit he was married in and only dons on special occasions, stepping up to the bandstand to receive his prize money from the hands of the lady of the manor, and, as he murmurs his thanks, he touches his forelock with a hand that is horny through honest work, and then falls back to receive the congratulations of his friends. He is respectful to a degree without being servile, he has done his best, and knows it, and if he indulges in an extra pint of beer afterwards, who shall blame him? One wonders where village societies and flower shows would be without these born enthusiasts, and when you hear one of them talking about "our show," you may depend that he is discussing an institution in which he takes a real and personal interest. If the society holds monthly meetings, as well as an annual show, it is the keen cottager, who, after a long day's work on the land, cheerfully shoulders a basket of vegetables, and tramps two or three miles along muddy lanes, merely for the sake of boarding the results of his labours, and adding his little item to the interest of the meeting.

PEOPLE'S GARDEN AND OBELISK, PHŒNIX PARK, DUBLIN.

[Photo: Lawrence, Dublin.

The village expert is a living illustration of the triumph of thoroughness and hard work in the cultivation of crops. He is practical to his finger ends, and scientific without knowing it, because he has learnt from experience the value of those methods which true science teaches. He knows the need of manure, and gets it by hook or by crook, and he realises, perhaps more than many scientific men do, the part that the spade plays in successful gardening. He has no substitute for this indispensable tool, which he uses as it should be used, and in the development of his crop pays that attention to details which is absolutely essential to success. In a word, he is a worker, and, after all, successful gardening depends more on muscle than on anything, because, if there is anything faulty with actual tillage, all the science in the world will not make good the deficiency.

It is interesting to observe how keen the ardent cottager is on getting the best varieties of vegetables for his garden, and, if a tradesman serves him well, he swears by that individual at all times and in all places. Not infrequently, however, he is reticent about the peas, onions, potatoes, etc., with which he wins prizes at the show, and has a peculiar habit of conveniently forgetting their names if this information is sought by a fellow competitor.

It is true they have their failings, these village gardeners, and are not without their peculiarities, but, taking them as a whole, they are the bedrock of the nation, and would that there were more of them. Work is scarce indeed when these men fail to get it, because employers can depend on them, and know their worth, and if you compare their sturdy figures, well-knit limbs, and bronzed features with the weakly frames and wan faces of the men who hang about the street corners in every town, you must agree that the country village is the place to breed manhood, and a garden or allotment, provided the individual has a horticultural bent, does more than a little to develop intelligence, and create in the human being a healthy spirit of contentment.

G. H. H.

Everyone interested in a garden should obtain a copy of the Alphabet of Gardening, by T. W. Sanders. Thoroughly practical information is given as to soils, manures, seed sowing, planting, potting, budding, pruning, grafting, forcing, hybridising, etc., with explanatory diagrams. Price 1s. 6d. net, by post 1s. 9d.; cloth, 2s.; by post 2s. 3d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

STRAWBERRIES.

I recently inspected a grand batch of strawberry plants in full flower, growing in a very light soil; the plants gave good promise, and will, if carefully mulched and watered, bear a fine crop of luscious fruits. I have grown excellent crops of berries in the sandy soil around Southport by paying attention to watering and mulching, but the flavour of such crops is, as a rule, inferior to that of fruits grown in a heavier loam, such as obtains round the Swanwick and Botley districts in Hampshire.

The variety Laxton's Noble, with me, came light red in colour in a heavy soil in South Hampshire, while in a peaty loam at a distance of about five miles the fruits were almost black, but practically flavourless, whereas my light red fruits were of good flavour for that particular variety.

With care and constant attention at this season very satisfactory crops can be grown in light sandy soils, but over-dryness at the roots must be guarded against, as when once the plants flag at this season, loss of flavour of fruit is sure to result. I have seen the soil so hard in some of the Swanswick strawberry fields at gathering-time, after a spell of dry weather, that the wheels of farm carts made no impression on the surface of the headlands. The crops of fruit in the many fields were extremely good, and the plants in robust health, notwithstanding the long period of dry weather. The plants had been well cultivated. One grower told me that he used the liquid from the tanks of slaughterhouses, which consisted of water, blood and liquid manure; the plants being well fed with the mixture while they were growing freely, in addition to enriching the soil with organic manure at the time of planting. The cost per acre, I was not able to ascertain, but I was quite convinced that it was not at all alarming, especially in face of the fact that the grower in question had cleared one hundred pounds per acre. Royal Sovereign was the variety grown.

G. Garner.

EARLY CAULIFLOWERS.

One of the most delicately flavoured of all the brassicas is the first early cauliflower of the season. Very frequently no such delicacy is seen until the end of June, and occasionally even July is reached before heads are sufficiently large for use. The cauliflower has always been looked upon as a superior vegetable, and more especially so if it could be had before peas, early outdoor carrots, turnips, etc. For the past twelve years, whatever the climatic conditions may have been, we have always had a few cauliflowers from the open during the last week in May, and, commercially, have always had excellent returns all through June as the heads matured.

It is quite true, as so often stated, that good cauliflowers cannot be produced upon very poor soil, for unless growth is free during the early stages, with many of the smaller early selections premature hearting takes place, therefore it always pays to give a little extra attention in the matter of raising the plants and hardening them before planting in the open during early April. We have tried a good many varieties for early use, such as Snowball, Dwarf Erfurt, First Crop, French Frame, Early London, Magnum Bonum, and others, and we have sowed seeds in every month from September to February, and have had the best results from mid-November sowings. Pans of ordinary soil from the garden answer well for sowing the seed in at that season, and quite cool treatment is essential. When the seedlings are making their first true leaf is a good time to prick them off into boxes, or cold frames, or to pot singly into three-inch pots. The latter give the best, or at least the quickest, returns, and the plants do not suffer when transferred to the open garden. In the South of England the plants will withstand much more cold than is generally supposed, and often in quite open positions are superior to those grown under the shelter of walls or between the rows of peas or other early crops.

For a good crop of white, solid-hearted cauliflowers of either private or commercial value I cannot find anything that equals Magnum Bonum, and always grow large quantities of it. The smaller First Crop section is more suited for the earliest use in private gardens, and to have them good they must, in their early stages of growth, have nitrogenous stimulants in some form to encourage leaf growth, which is very scant in these small forms. I fear the healthy rivalry that years ago stimulated a desire on the part of gardeners to be first in the production of early vegetables, has, to some extent, declined of late years, but if a National Vegetable Society can be formed that will set up a national desire to do better all round, a great amount of good will be done to a cause of great national importance.

Charles Foster, A.U.C.R.

Reading.

ROCK ROSES.

The natural order Cistaceæ consists of a large number of species with a few notable varieties, and many of them are among the most beautiful of flowering shrubs, as they are singularly well adapted for certain positions in gardens. Not all of them are of unquestioned hardiness, yet so easily can their particular requirements be supplied that it is surprising they are not more generally cultivated. Cistuses are evergreen shrubs, indigenous to warm, dry soils, chiefly of Southern Europe, and it is not unlikely that the common name of rock rose is derived from a natural disposition of the genus to establish itself under such conditions as would suggest the name. However that may be, cistuses are true rock roses in English gardens, as they enjoy a dry, stony root run, where the soil is rather poor.

Rich soil is against success, as the development of the plants during summer, in consequence of abundant food, results in vigorous sappy growth, which cannot mature except in warm localities or under favoured conditions, the consequence is that most of the wood succumbs to the first rigours of winter, and it not infrequently happens that the plants themselves perish. In some districts it would be perilous to attempt establishing the rarer forms in ordinary shrubberies; positions well sheltered from cutting winds should be selected, and the ground, if not naturally porous, should be supplied with thorough drainage, employing soil that is light and stony, and planting as firmly as is consistent with safety to the roots. Raised ground, such as banks, may be instanced as where they generally succeed, and I have always found them do well on dry walls, where the growth made each year is short and stocky, conditions which not only ensure abundance of flowers, but almost guarantee immunity from the bitterness of winter.

For walls I prefer planting them when quite young, during early spring, generally employing plants established in pots which have been rooted from cuttings taken the previous autumn. Those which I have found to succeed in this district include C. florentinus, C. laurifolius, C. lusitanicus, C. monspeliensis, and C. salvifolius, all of which bear white flowers; those with reddish flowers include C. crispus, C. purpureus, and several forms of C. villosus. C. ladaniferus immaculatus requires wall protection here.

As the foregoing notes are equally applicable to the shrubby helianthemums, and as many of these, in their colour and delicate texture of petal, are even more lovely than the cistuses, I mention the species found to succeed here; all of them are evergreen, and the majority assume a more or less erect habit of growth: H. alyssoides, H. formosus, H. formosus unicolor, H. kalimifolium, H. libanotis (rosmarinifolium of gardens), and H. ocymoides (algarvense).

Thomas Smith.

Walmsgate Gardens.

[Photo: Lawrence, Dublin.

SUBTROPICAL BED IN THE PEOPLE'S GARDEN, PHŒNIX PARK, DUBLIN.

THE PRINCIPLES OF HEREDITY.

(Continued from page 458.)

◆

Production of Hybrids.

An example may now be given which shows us how, under certain circumstances, we can obtain a hybrid exhibiting an entirely new combination of characters, which, in spite of its hybrid nature will continue to breed true.

Suppose a gardener had only two kinds of peas, one with round green seeds, and the other with wrinkled yellow seeds, and that, as usual, he wanted something that he hadn't got, say peas with wrinkled green seeds. Mendel has shown us how he may get what he desires, both surely and speedily, from the material already in his possession.

The necessary procedure will be evident from the following scheme:

Let R = round, W = wrinkled, Y = yellow, and G = green. We know from previous experiments that R is dominant to W, and Y to G.

R G crossed with W Y, gives the hybrid, R (G) (W) Y, which owing to the dominance of R and Y will appear in the form of round yellow seeds. That is not what our gardener wants, and if he knew no better he would naturally be much disappointed with the result. If, however, the hybrids be allowed to fertilize themselves and reproduce, then their offspring will appear in the proportions:

9 R Y : 3 R G : 3 W Y : 1 W G

This is a case of what is termed dihybridism, in which two pairs of contrasted characters, or allelomorphs, are concerned. The proportion 9 : 3 : 3 : 1 exhibited in this case is partly due to the phenomenon of dominance, and will be readily understood from the accompanying table:

Germ cells → ↓	R Y	R G	W Y	W G
R Y	R Y R Y	R (G) R Y	(W) Y R Y	(W) (G) R Y
R G	R Y R (G)	R G R G	(W) Y R (G)	(W) G R G
W Y	R Y (W) Y	R (G) (W) Y	W Y W Y	W (G) W Y
W G	R Y (W) (G)	R G (W) G	W Y W (G)	W G W G

The constitution of the hybrid is R G W Y. Each of its germ-cells or gametes contains one character, and one only, from each contrasted pair. It may, therefore, contain R + Y, R + G, W + Y, or W + G. These different kinds of germ-cells will occur on the average in equal numbers, and on self-fertilisation (R G W Y × R G W Y) they will unite in pairs at random. The possible ways in which such union may take place are shown in the table, and if allowance be made for the phenomenon of dominance, in accordance with which G disappears from view whenever it meets Y, and W whenever it meets R (as indicated by the brackets in the table), we get the apparent proportion of 9 round yellow seeds, 3 round green seeds, 3 wrinkled yellow seeds, and one wrinkled green seed. The number of wrinkled green seeds will be small at first, but they will breed true, containing as they do only the extracted recessive characters, for if a dominant character were present it would necessarily show itself.

Thus we see that one way of producing new forms of plants and animals is by the artificial combination of desirable characters which already exist in different varieties. These elementary or unit characters can be brought together by the process of hybridisation, and new organisms produced in much the same way as the chemist is able to produce new compounds by analysis and synthesis from other substances.

Burbank's Work in Plant Breeding.

Probably no man has made more successful use of the process of hybridisation in the production of new and valuable forms of plant life than Luther Burbank, at his celebrated Californian nurseries. Burbank himself is unfortunately not a writer, and for a scientific account of his work we are indebted to the distinguished botanist Hugo de Vries. In his delightful little book on "Plant Breeding," Professor de Vries describes what he himself saw and heard during his visits to Mr. Burbank's farms. It is not necessary for me to enter into details with regard to the marvellous results which Mr. Burbank has obtained. Some idea of their commercial value may be formed from the fact that special companies have been formed for the propagation and sale of some of these wonderful hybrids. White blackberries, stoneless prunes, "plumcots," and thornless cacti are only some amongst the many novelties which he has produced by crossing different varieties by hybridisation and thus combining two or more desirable qualities in one plant.

Take, for instance, the case of the stoneless prune. It had somehow or other come to the knowledge of Mr. Burbank that about 200 years ago there existed in France a plum known as the "Prune sans noyau." He succeeded in obtaining specimens of this fruit, but it proved to be of little or no commercial value owing to its poor quality. Its one valuable feature was its stonelessness, and Burbank set to work to transfer this character, by hybridisation, to a variety of good quality. He succeeded, and there appears to be no reason why the stoneless character should not be similarly implanted upon all the different varieties of plums now in cultivation.

Similarly the "plumcots" are hybrids between plums and apricots, which Professor de Vries speaks of as "most delicious and beautiful fruits."

It must be admitted that Burbank's work is practical rather than scientific. He apparently pays no attention to the law of Mendel in his operations, and just goes on hybridising until he gets what he wants. In this process enormous numbers of plants which do not fulfil his requirements have to be destroyed for every one that is worth preserving.

He is not necessarily concerned with the production of pure breeds; of forms, that is to say, which will breed true from seed, or in other words, of forms which will hand on their desirable qualities to future generations by heredity. This does not matter in the case of fruit trees and other plants which are propagated by buds independently of sexual reproduction. As a general rule, a fruit tree cannot be relied upon to come true from seed, the characters which it has received from different ancestors not being permanently combined, but separating out and undergoing fresh combinations in the sexual process, probably in accordance with Mendelian principles. The seedlings will therefore be "degenerate," as horticulturists say, and will no longer exhibit those valuable qualities which depend upon the confluence in one individual of several lines of ancestry.

The operations controlled so successfully by Luther Burbank are to a certain extent similar to those which take place in a state of nature. He produces a great variety of new forms and from these he selects what he requires. The process results in enormous waste, but so also does the process of natural selection. Under natural conditions waste of life is a necessary condition of progress.

The majority of Burbank's productions, however, could not survive in a state of nature at all; they are essentially artificial, and have to be artificially propagated by means of buds or cuttings. In this respect they are quite different from the pure races which it is possible to produce by hybridisation carried out in accordance with Mendelian principles, in which new and permanent combinations of unit characters, capable of being transmitted by heredity, are effected.

(To be continued.)

THE FOLIAGE OF VIOLAS.

Looking over the latest volume of the Gardeners' Magazine I came across the interesting notes on the above subject from Mr. William Cuthbertson (page 871, 1908). This matter of viola foliage and habit should appeal to all who are interested in this useful flower as a bedding plant. It was a happy idea to institute the trials at Marks Tey, for it seems to me we have brought our varieties into a serious muddle lately, as very few growers take the trouble to classify them, as they should do, into two distinct sections, i.e., bedding varieties and exhibition varieties. The result is that many varieties planted for effect prove ghastly failures, as they are frequently bought from catalogue descriptions, which throw very little light on the habit of the plant.

Again, I fear that hundreds of plants are sold, nay, thousands, by selections at exhibitions. The trade grower cannot be blamed for this, for unless so exhibited the general public would never see them, but, unfortunately, in most cases they are exhibition sorts only. The bedding varieties, if staged, would suffer severely by comparison, the consequence is that the best bedding violas are rarely seen at public exhibitions, and it is only when good trials are instituted, and carried out, that one has the opportunity of forming a useful judgment. Although raisers were invited to send varieties for bedding purposes to the Marks Tey trials, it was quite evident some of those sent were fit for show purposes only, and not at all suitable for producing a mass of colour. When at Marks Tey last June I marked my note book carefully as to the habit of each variety receiving three marks, and I find on reference to it that the varieties mentioned by Mr. Cuthbertson as being excellent in November were equally good in June. It is surprising to note the difference there is in habit of growth, though all may be dwarf. The varieties that keep breaking away into new growth, such as Ardwell Gem and Duchess of Fife, form my ideal of a bedding viola, though this type does not flower quite so early in the spring as one could wish; but when used as a carpet for taller plants in summer they produce a much neater appearance than do taller growing sorts.

The hardiness of the varieties for this purpose is certainly a matter for great consideration, as where the beds are made up in the autumn, and present a gappy appearance in the spring, it destroys the effect of the bed. Perhaps in the near future the trade growers will see their way to separate the two sections, so that there will be no good cause for disappointment on the part of those people who purchase exhibition sorts, and use them for bedding purposes. Some of the former will grow two feet long in the season without branching out at all, and their appearance in the garden is anything but desirable.

Chingford. J. B. Riding.

There is no better guide to the kitchen garden than Vegetables and their Cultivation, by T. W. Sanders. It is a complete treatise on the general management of the garden, and the successful culture of vegetables, saladings, and herbs for home use. Price 5s. net, by post, in box 5s. 6d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

SWEET PEA JOTTINGS.

All ardent lovers of sweet peas are now paying close attention to their plants, and taking in them a great deal of interest. The warm days of the Whitsuntide holiday, following the wet days of the Temple Show, caused sweet peas to grow splendidly, and since we have had more rain and more cool weather. The plants look well, but there is a strong tendency on the part of many of them to come very early into bloom. When the ground has been heavily manured, and watering and feeding are practised, this early flowering is of some benefit, as it will check rankness of growth and coarse flower stems, but where ordinary conditions of culture prevail, early-flowering is a rather severe check upon the ultimate growth of the plants.

Autumn-sown sweet peas are flowering splendidly now out of doors, and some good displays of these blooms were made at the Royal Horticultural Hall last Tuesday week. Mr. E. W. King sent me a few splendid blooms of Mrs. King, and of his waved white last week, and on the occasion of the General Committee meeting of the National Sweet Pea Society on Friday, Mr. T. Stevenson brought up some very beautiful flowers of the newer varieties, including his large and handsome waved form of America, the stock of which will, I believe, be sent out from Birmingham.

The new Edrom Beauty is a lovely sweet pea as I saw it last autumn at Mrs. Malcolm's home at Duns, but I am rather disappointed with it as grown under glass and shown by Messrs. Dobbie and Co., who hold the stock. I regarded it as a glorified Helen Lewis, a variety with more orange in it, but at present it seems a trifle pale. However, we shall see what it can do out of doors in the South. Mrs. Andrew Ireland is a sweet pea that took my fancy the first time I saw a flower of it, and as a generally useful and extremely beautiful variety I am confident it will hold a very prominent position. Miss Hemus's Zarina is a charming sprightly pink variety with dark stems, and though it may lack exhibition size it is sure of a considerable degree of popularity as a decorative variety. I do wish Miss Hemus would not label so many of her varieties with the "Paradise" prefix. Paradise Apple Blossom carries too heavy a title, and such a clever lady could have found a prettier name for the rosy bordered flower that gained an A.M. on June 8.

Turning to cultural matters, the chief work at present is tying out the growths so as to distribute them as evenly as possible. Hoeing between the rows and in the lines needs attention, and as soon as we have warm weather a heavy mulching will be necessary. Those who mulched heavily at an early date will, I am afraid suffer somewhat owing to the heavy rains and cool—sometimes quite cold—weather experienced since Whitsuntide. The cold nights have left their mark upon the leaves of some varieties, notably upon those that produce salmon and orange flowers, many of the lower leaves showing a peculiar bleaching along their margins, just as the older leaves did in April when cold weather followed planting.

Tiny black slugs are a great nuisance, but the cool weather seems to have held them in check a little, so that frequent applications of old soot, or air-slaked lime, carry on the work of execution between the rains. What we want now is genially warm weather, and if this comes soon the southerners will find no difficulty in competing on July 13 and July 23, because, with the ground thoroughly soaked, growth will then be very rapid and strong.

The outings of the National Sweet Pea Society have been fixed for July 9 and July 16, both Fridays. On the first date the visit will be to Messrs. Cooper, Taber, and Co.'s grounds at Witham, thence to Mr. Wm. Deal's place at Kelvedon, and from there to Messrs. E. W. King and Co.'s seed farms at Coggeshall. Members of the society wishing to join the party must notify the hon. secretary on or before July 1, so that arrangements can be made for cheap tickets from Liverpool Street to Kelvedon and back. The second outing, on July 16, is to the Society's Trials at Reading University College, where there are over three hundred stocks and varieties growing.

Chas. H. Curtis.

PRUNUS PADUS VAR. FLORE PLENO.

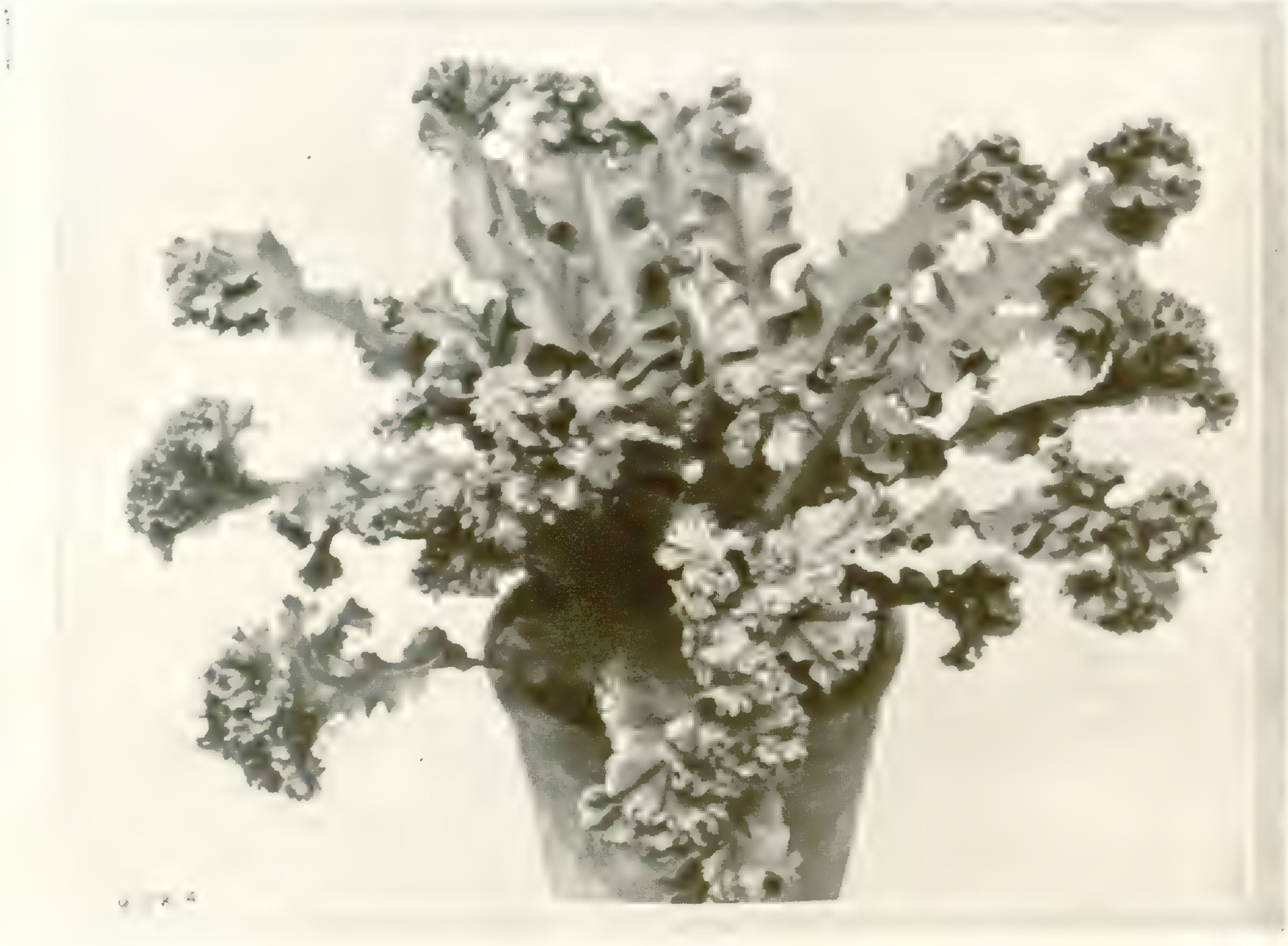
Of the numerous forms of the "Bird Cherry" (Prunus padus), the one with double flowers is perhaps the most beautiful, for its pendulous racemes of pure white flowers are larger than those of the type, or other varieties, and the flowers, being double, are of a less fugitive character than are those of the single-flowered varieties.

When not in bloom it would excite little notice, and would pass for a vigorous specimen of the type. During the latter part of May, however, when it is laden with racemes six to eight inches long, it forms an extremely ornamental tree, and is worthy of consideration for planting in a prominent position. Like others of the species, it is not at all fastidious with regard to soil, and gives good results in that of a poor character, although, of course, it assumes larger proportions in better-class material.

The bird cherries in general are excellent trees for plantations or groups in parks, for they grow quickly, and rarely fail to flower profusely. A number of varieties, in addition to the one mentioned, are known. Of these Alberti is a very free-flowering form: aurea has yellowish leaves: pendula has weeping branches; and stricta is of stiff, upright habit. The variety known under the name of sibirica parviflora should be avoided, as it is very much inferior to the type, the flowers being small, and the racemes short.

W. Dallimore.

Kew.



SCOLOPENDRIUM VULGARE CRISPUM MULTIFIDUM.

An elegant variety shown by Messrs. H. B. May and Sons at R.H.S. Meeting, June 8, when it received an Award of Merit. (See New Plants.)

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

PHAIUS.—Many of the early-flowering species, and tuberculosus section of hybrids, such as P. Norman, P. Cooksoni, and P. Clive, will now have advanced their growth to a stage when the new roots are being produced, and when in this condition we find it best to repot. We usually repot all the plants of this section annually until they have developed into large specimens, after which, if a good lasting compost is used, the plants will remain for two seasons in the same compost. When repotting, care should be observed in turning the plants out of their pots to see that as little damage as possible is done to the roots which have become attached to the inside of the pots. I find it a good plan to water the plants thoroughly a day before they are to be potted, and if this is done it will be found that the roots can be detached much more readily than when the compost is dry. When they have been turned out, all dead roots and decayed matter should be removed, and where there are a number of leafless back pseudo-bulbs these should be severed. The latter may then either be potted separately or replaced in the pot with the other portion of the plant, and by this means the size of the specimen will in time be increased. In any case I consider back pseudo-bulbs should be removed, as there can be no doubt after they have lost their leaves, and root action has ceased, they obtain their support from the leading portion of the plant.

POTTING COMPOST.— The pots used should be clean, and filled to about one-third their depth with clean drainage. When in full growth these phaius require a liberal supply of root moisture, it is therefore desirable that the pots are properly drained, thus preventing any possibility of stagnation. The potting compost we find suitable consists of about equal portions of fibrous peat, turfy loam, broken leaves, and chopped sphagnum moss, with a plentiful supply of broken crocks and sand. This compost should be made firm, loose potting in my opinion is a mistake for this section of phaius. The plants should be watered, thoroughly wetting the compost through as soon as repotting has been completed. Carefully shade the plants from strong light until the new roots have become re-established in the fresh compost. The atmosphere, while not necessarily hot, should be such as will assist growth development. It is well to shade fairly closely at all seasons, and to admit ample ventilation, thus hardening the growth. Syringe or spray nightly overhead whenever the outside conditions permit.

INSECT PESTS.—Scale and thrips must be held in check, the former by cleaning with the sponge, the latter by spraying and vapourising at regular intervals. Thrips are the greatest pests, especially when the plants are in the early stages of growth.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

CONSERVATORY.—Climbing plants in the conservatory must at this season be regularly attended to in the matter of tying and keeping clean, and in some instances thinning of the shoots must be resorted to, especially in the case of cobæas, tacsonias, and other very free growing subjects, as nothing looks worse than a great tangle of growth, robbing plants beneath them of necessary light. Take every opportunity, when the family is not at home, of giving the conservatory a thorough clean out, and an occasional fumigation will do good. The conservatory should now be very gay with hydrangeas, fuchsias, cannas, Humea elegans, clarkias, etc., etc., these latter proving each year their great usefulness in the conservatory.

VIOLETS that were planted out as advised in a previous calendar will now be making good growth, as the rains in the early part of the month have greatly benefited them. Keep the hoe going regularly among them, and a weekly or bi-weekly dusting of soot will keep the foliage healthy, and stop the ravages of red-spider, which is their greatest enemy during a dry spell.

CLIMBING AND WEEPING ROSES in pots will now be going out of flower, and there is no further need to keep them indoors. They should be stood outside in a sunny position, and all the old wood may be cut out to the point where good young shoots are pushing forward; select three or four of the latter, or, in the case of weeping varieties, six or seven, rubbing or cutting out all the others, and if the plants are liberally supplied with liquid manure, and well syringed overhead on all fine days, they will be well suited for flowering in pots next season. For very early flowering it may be best to keep them indoors, and induce them to make their growth quickly, afterwards putting them outside to ripen their growth, but this is not really necessary, as such varieties as Dorothy Perkins, Hiawatha, Mrs. F. W. Flight, Electra, and Tausendschon make and ripen their growth very quickly, and this latter is the chief essential for successful flowering in pots.

SAXIFRAGA PYRAMIDALIS.—Offsets should be removed from plants grown in pots, dibbled into boxes of light soil, and placed in a cold frame, where they may have a little shade until rooted. Older plants that have not flowered this season should be shifted into 48-sized pots, and they should make good specimens for next season. This is one of the most useful and easily grown plants I know, and if a number of offsets are taken off as advised each season, they will provide a nice show of bloom with quite a minimum of trouble.

PRIMULAS AND CINERARIAS.—Young plants of these must be handled as soon as ready, either potting off into thumbs or pricking off an inch or two apart in boxes. Primulas will require a little warmth at night to keep them growing freely, but the cinerarias must be treated as cool as possible.

WATERING AND AIRING.—Plants generally will now be needing an abundance of water, and it is quite wise to give them plenty, not waiting till they are really dry, but rather anticipating their wants in this respect. All free-growing subjects, such as fuchsias, liliums, begonias, celosias, etc., that are well rooted in their flowering pots, should have frequent applications of liquid manure. All plants that can be syringed should be so treated regularly, and where they cannot be syringed overhead many of them will be benefited by having the stages and floors well damped down once or twice during the hottest part of the day, but this must not be done too late in the day in the flowering house.—Thomas Stevenson, Woburn Place Gardens.

THE FLOWER GARDEN.

THE WATER GARDEN.—Perhaps there is no part of the pleasure grounds where water is in existence, be it ever so small, that is more appreciated during the summer and autumn months than that devoted to the cultivation of choice water and bog plants. When judiciously planted and carefully managed it is not only attractive, but highly interesting. Anyone contemplating either renovating or making a new water garden will do well to note the flowering time of the various kinds adapted for this purpose. The finest of the newer varieties of nymphæas rank amongst the most important, and notes should be made of the most distinct. It is well to remember that the larger the growth of the variety the greater the depth of water will they succeed in. I have found three and four feet none too deep for the stronger varieties, and the miniature ones will do quite well in a depth of from eight to twelve inches. Orontium aquaticum, commonly known as Golden Club, is a charming plant which has been flowering for the past month and is still in great beauty. This should be planted in about eighteen inches of water. Pontederia cordata, known as the Water Plantain of Jamaica, is one of the finest of all blue flowers. Plant in about the same depth of water, flowers later on in the year. Aponogeton distachyon, the Water Hawthorn, should be planted in about twelve inches of water, and will flower for quite six months out of the twelve. The great difficulty in relation to these is to keep the water free from weeds and vermin, especially water rats, and wild fowl can only be allowed in moderate numbers. At this season it will be necessary to free the plants from all weeds about once a fortnight, and to take care that the stronger growing waterside plants, such as typhas of various varieties, phragmites, acorus, cyperus, carex, etc., do not monopolise too much space. If this is not done they will quickly take possession of that which has been reserved for the slower and in many cases more beautiful kinds.

IRIS KÆMPFERI (the Japanese Iris).—Possibly there are no more lovely plants when in flower than the varieties of this iris, and when in full vigour they will continue to flower more or less throughout the summer months. Though in many cases they will do well quite away from the water side, in my opinion they never look so well as when grouped together on the margins of water. It is a capital plan at this season of the year to apply a good dressing of half-decayed cow manure, and it will be necessary when the plants are very vigorous to support the flowering growths if occupying exposed positions. Iris sibirica also makes a lovely show when planted in the same position, though the flowering season is of short duration.

PANSIES AND VIOLAS.—Seeds of these charming spring and summer flowers should be sown during the present month. Select a shady position, and sow the seed thinly on a sandy surface, and prick out into rows six inches apart in a similar place when large enough. Violas in flower should have their seed pods carefully removed immediately the flowers are past their best.—E. Beckett, Aldenham House Gardens.

HARDY FRUITS.

STRAWBERRY RUNNERS.—Have a sufficient number of three-inch pots washed, and when dry place one piece of crock at the bottom of each, and fill up the pots with some fairly good soil, pressing it in rather firmly. Select a number of pebble-shaped stones for holding the runner in place, or, what we find better still, cut some pieces of galvanised wire in three-inch lengths, bending down an inch at one end to form a hook or peg, as these hold the young plantlet firmly in its proper position, and are easily removed when the plants are shifted into their fruiting pots, or when planting them out into their fruiting quarters. These pegs if taken care of will last for years. As soon as the runner is ready for layering, pinch out the point of the growth beyond, and place it in the centre of the pot, and peg it firmly in that position; when sufficient runners have been secured cut away all the remainder. The soil in the pots must be kept moderately moist, and if the weather should remain dry, let the old plants have frequent supplies of water until the runners are ready to be removed.

GRAFTS.—In most cases the young scions are growing away freely. Remove the clay carefully, and examine the binding to see if it is pressing unduly on the bark of the stock; if so, cut away the old tying material and rebind, but only moderately firm; cover with fresh clay as before, and put moss over the clay and keep it damp to prevent cracking.

YOUNG MAIDEN TREES raised at home, and growing in the open, should have stakes placed to them for the purpose of training the young growths, which are now being selected for forming the groundwork of the trees, in whatsoever style of training it is intended to follow. Espaliers should have three upright stakes, and a light bamboo cane fixed horizontally to these, in the proper position for the first tier of branches. Single cordons require one upright stake, double cordons two upright, and treble cordons three upright stakes, with a horizontal one tied to these from six to eight inches from the ground, on which to train the side shoots until they reach the upright stakes to which they are to be trained. Apples, pears, plums, and sweet cherries when grown either as espaliers or cordons, should have their branches trained at fifteen inches apart, while for gooseberries, red and white currants grown as cordons, twelve inches between the growths will be sufficient. Fan-trained trees require a light framework made on which to train them, fastening some young hazel twigs to this in the right direction for supporting the young leading growths. Young healthy trees invariably produce an abundance of growths, and in selecting these for forming the main branches always choose those that are growing in the desired direction; much bending of the branches to get them in position interferes with the proper flow of the sap.

TRAINING AND SUMMER PRUNING.—Continue to train in the young leading shoots on wall trees and others which may require it, and pinch back all lateral growths to five or six leaves, and the sub-laterals which may push out later to one leaf. Cut away entirely any gross shoot if it can be spared, and thin out the weakest and worst-placed among the clusters of young growths which so often put forth from the spurs. Keep all foliage clean by frequent syringings, and the borders in a moist condition by copious waterings whenever necessary. Pay particular attention to the thinning of the fruits, removing all surplus ones as early as possible to prevent any undue strain on the trees.—Geo. Woodgate, Rolleston H Gardens.

New Park for Merthyr.—The grounds of Cyfarthfa Castle, which have been purchased by the Merthyr Corporation, were, on the 5th inst., formally opened by the Mayor as a public park. The castle was built eighty years ago, at a cost of £30,000, by the late Mr. W. Crawshay, but during the past twenty years it has been unoccupied. The Corporation bought the castle and the 47 acres of land which formed the grounds for £18,000, and will convert the former into a secondary school.

GRAND YORKSHIRE FLORAL FETE AND GALA.

(Concluded from page 468.)

[illegible] They also scored for a single [illegible] with a similar design in orchids. [illegible] Messrs. Aldis and Rowntree came a good [illegible]. The best rose bouquet was of yellow [illegible], designed by Messrs. Aldis and Rowntree, who used a base of dark-hued rose [illegible]. Messrs. Perkins and Sons second, and Mr. C. E. Simpson third.

ROCK GARDEN CLASS.

A very attractive class is the one for a group of hardy herbaceous and perennial plants, with a background of decorative subjects,and with a pool of water and aquatic plants, all arranged for effect on a space not exceeding 30ft. by 10ft. There were five competitors, and consequently the class provided a fine feature. Premier place and [illegible] were won by Messrs. J. Backhouse and Son, Lim., York, for a very bold and pretty rock garden design backed by Japanese maples, roses, rhododendrons, and eremuri. An irregular pool of water at the foot of the bold rockwork contained irises, arums, and nymphæas, and was margined with hardy ferns and Primula japonica, while the low foreground of rockwork was occupied by dianthi, tiny alpine shrubs, primulas, saxifrages, and veronicas, with hardy [illegible] in the little bays. Saxifragas, ramondias, primulas, campanulas, and Adiantum pedatum were the leading plants used in the crevices of the bolder part of the rockwork. Second prize was secured by Messrs. W. Artindale and Son, Sheffield, who had a bold and pleasing design, the foreground, including the rustic bridge over the pool of nymphæas, and the groups of liliums, primulas, androsaces, and sedums and saxifrages being particularly good. Mr. S. Pickering, Rosslyn Street, Clifton, York, third; and Mr. J. Wood, Boston Spa, fourth.

HARDY FLOWERS.

The large collections of hardy flowers, cut, provided a grand feast of colour. The finest group arranged on a space 15ft. by 6ft. was from Messrs. Harkness and Son, Bedale, who set up grand bunches of oriental poppies, beautiful pyrethrums, Verbascum cala[illegible], V. pannosa, lupins, hemerocallis, campanulas, and splendid spikes of eremuri; Messrs. W. Artindale and Son, Sheffield, second; Messrs. G. Gibson and Co., Leeming Bar, third; and Mr. G. Cottam fourth.

For two dozen bunches of hardy flowers, Messrs. Harkness and Son, Bedale, secured the chief award, their finest bunches being Pyrethrum Carl Voot, P. Mrs. Cairns, Lupinus polyphyllus Rose Queen, Iris [illegible], oriental poppies, and Thalictrum aquilegifolium; Messrs. G. Gibson and Co., Leeming Bar, second; Mr. W. Hutchinson third; and Messrs. W. and J. Brown, Peterborough, fourth.

First prize for a dozen bunches of hardy flowers fell to Mr. G. Finlay, gardener to [illegible] Proud, East Layton Hall, Darlington, [illegible] the pyrethrums and poppies, lupins, tree peony Mdme. Van Houtte, and irises; Mr. A. R. Searle, gardener to the Marquis of Northampton, Castle Ashby, York, second; and Mr. Furniss, South Milford, third.

PLANT CLASSES.

Mr. J. W. Clarke had the best specimen [illegible]sia, a pyramid of Mrs. Marshall; Mr. W. Kettlewell second; and Mr. W. F. Crowther [illegible]. Dr. R. Appleton, The Bar House, [illegible], had the finest set of eight gloxinias, [illegible] specimens with grand blooms in [illegible]. Mr. Dobson, gardener to Sir J. [illegible] Lawson, Bart., Middlethorpe Lodge, [illegible] second, and Mr. W. Etley, gardener [illegible] the Rev. Canon Argles, St. Clement's Rectory, York, third

Specially fine were the four calceolarias shown by Mr. M. G. Jarvis, gardener to P. Stancliffe, Esq., Solberge, Northallerton, who was first prize-winner; Rev. Canon Argles second. Mr. Leadhill, gardener to Mrs. Akenhead, Acomb Park, York, was second for eight tuberous begonias, and Mr. F. Winn, Burton Stone Lane, York, was first, but there was little to choose between the competitors. Mr. G. Skill, gardener to S. Leetham, Esq., Elm Bank, York, led for eight calceolarias, and Rev. Canon Argles was second, both showing well.

ORCHIDS.

Premier award for a table of orchids, 12ft. by 8ft., arranged for effect, was won by Messrs. Cypher and Sons, Cheltenham, with an imposing display, wherein fine plants of Miltonia vexillaria, various lælio-cattleyas, and brasso-cattleyas, odontoglossums, Epidendrum prismatocarpum, Oncidium papilio, and Phalænopsis Rimestadiana were very pleasingly associated and arranged with ferns, palms, and moss.

The Messrs. Cypher led for ten orchids, their best specimens being Lælio-cattleya Canhamiana magnifica, Cattleya Warneri, Lælia grandis tenebrosa, Thunia Marshalliana, and Miltonia vexillaria. Mr. J. Barker, gardener to W. P. Burkinshaw, Esq., West Hill, Hessle, came second, with Miltonia vexillaria Hessle variety, M. v. H. E. Milner, Cattleya Mossiæ, etc.; Mr. W. Vause, Leamington, third.

For half a dozen orchids the Messrs. Cypher were again first, and here they had fine specimens of Cattleya gigas, C. Warneri, L.-c. Canhamianum, Thunia Marshalliæ, Lælia tenebrosa, and Miltonia vexillaria. Mr. J. Barker came second, and Mr. Vause third. Messrs. Cypher and Sons were placed first for three orchids, their best example being L.-c. Canhamiana with sixteen handsome blooms; Mr. J. Barker, second, and Mr. Vause third.

In the amateurs' classes for orchids Mr. Barker carried Mr. Burkinshaw's plants to first place in all three classes; and Mr. M. Furniss, Monk Fryston, South Milford, was also a successful competitor.

DESSERT TABLE.

There were three competitors in the class for a decorated table of ripe dessert fruit, not more than fourteen or less than ten dishes. First prize was won by Mr. James Gibson, gardener to the Duke of Portland, Welbeck Abbey, Notts, who scored a total of 113 points with magnificent Bigarreau de Schreken and Emperor Francis cherries (wonderfully fine), Bellegarde, and Crimson Galande peaches; Lady Sudeley apples, Lord Napier, and Early Rivers nectarines, Brown Turkey figs, Muscat of Alexandria, and Black Hamburgh grapes, Hero of Lockinge and Royal Jubilee melons, and Jefferson plums. The whole was decorated with Mdme. Abel Chatenay roses. Second prize fell to Mr. A. R. Searle, gardener to the Marquis of Northampton, Castle Ashby, who had fine Gunton Park strawberries and good Early Rivers cherries, and a decoration of odontoglossums and Cattleya Mendeli, and won 97½ points. Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby, came third with 97 points.

VEGETABLES.

In Messrs. Sutton and Sons' class for a collection of six distinct kinds of vegetables the first prize was ably won by Mrs. Jas. Gibson, gardener to the Duke of Portland, Welbeck Abbey; Duke of Albany pea, Perfection tomato, Ideal potato, Canadian Wonder bean, Magnum Bonum cauliflower, and Favourite carrots were the varieties staged in excellent form. Mr. A. R. Searle, gardener to the Marquis of Northampton, took second award with another good lot, onions taking the place of beans; Mr. Wm. Nicholls, gardener to Lady Beaumont, third.

In a similar class provided by Messrs. E. Webb and Sons, Wordsley, Stourbridge, Mr. Searle gained premier honours with a collection, in which every dish was good. Second place was secured by Mr. W. N. Hague, gardener to W. D. Cliff, Esq., Meanwood Towers, Leeds, while Mr. Robert Dobson, Marton, Sinnington, was third. Messrs. Dickson and Robinson's class for two bunches of tomato Moneymaker, brought out some large bunches, many of the fruits, however, being far from ripe; first prize was awarded to Mr. Wm. Folkes, Ampthill, Beds; second to Mr. J. Brennand, Baldersby Park, Thirsk; third to Mr. A. R. Searle; and fourth to Mr. W. N. Hague.

In the society's class for twelve tomatoes Mr. G. F. Brotherston, gardener to F. Samuelson, Esq., Breckenbrough Hall, Thirsk, was first. Mr. N. Sargent, gardener to Lady Payne-Gallwey, Thirkleby Park, Thirsk, was second; and Mr. F. Dean, Rose Cottage, Clifton, York, third.

In Messrs. Backhouse and Son's class for vegetables Mr. Searle led wih a fine set of ten kinds; Mr. W. Nicholls second, and Mr. W. N. Hague third.

FRUIT.

For a dish of strawberries Mr. Brotherston scored with Royal Sovereign; Mr. C. Lawton, gardener to Colonel Harrison-Broadley, Welton House, Welton, E. York, second. Cherries brought only two entries, the awards being given to Mr. J. Gibson, and Mr. B. Ashton, gardener to the Earl of Lathom, Ormskirk, who received first and second prizes respectively. For a dish of figs Mr. A. R. Searle was first, and Mr. J. Gibson second. For a white-fleshed melon Mr. T. Pattison, gardener to W. C. Gray, Esq., Tunstall Manor, West Hartlepool, was first; and for a green-fleshed melon Mr. W. N. Hague led; while Mr. J. H. Goodacre led for a scarlet-fleshed melon, with Mr. J. Gibson second.

Mr. J. Tullett, gardener to Lord Barnard, Raby Castle, Staindrop, scored for six nectarines, with Mr. A. R. Searle, second. In a similar class for peaches Mr. G. E. Thomas won first place, and Mr. C. Lawton second.

For a collection of four kinds of fruit Mr. J. E. Hathaway led with black grapes, peaches, nectarines, and a melon; Mr. J. C. McPherson, gardener to Baron de Forest, Londesborough Park, second; and Mr. John Turton, gardener to R. J. Foster, Esq., Stockfield Park, Wetherby, third. For a collection of six dishes of fruit, including not more than two sorts of grapes, the first place was secured by Mr. Hathaway, second by Mr. J. C. McPherson, and third by Mr. William Nicholls.

For ten dishes of fruit, in as many kinds, Mr. J. C. McPherson led with a good collection, including a Queen pine, Black Hamburgh and Muscat of Alexandria grapes, Royal George peach, Brown Turkey figs, Royal Sovereign strawberry, Barnack Beauty apple, a seedling melon, Early Rivers' cherry, and Cardinal nectarine. Mr. J. H. Goodacre followed with good peaches, Czar plums, and other choice fruits.

Mr. H. Bray, gardener to Lady Hawke, Wighill Park, Tadcaster, led for two bunches of Black Hamburgh grapes, with excellent bunches; Mr. William Nicholls was second; and Mr. G. Bush, gardener to J. A. Dunkerley, Esq., St. Mary's Terrace, Beverley, third. For two bunches of white grapes first prize was secured by Mr. W. Jackson, gardener to Lord Hotham, Dalton Hall, Beverley, with good bunches of Buckland Sweetwater; Mr. J. Brennand second, and Mr. W. Nicholls third with the same variety; six entries.

NON-COMPETITIVE.

The non-competitive displays were a magnificent feature of the show.

Perpetual carnations were beautifully shown by Mr. C. F. Waters, Balcombe, Sussex; he avoided overcrowding, and set up fine vases of Britannia, Yellow Gal, Rose-Pink Enchantress, Edith Waters (a grand new salmon-red seedling), White Perfection, Victory, Cecilia, and Mrs. H. Burnett. A delightful and fragrant display of sweet peas from Mr. C. W. Breadmore, Winchester, contained fine blooms of Audrey Crier, George Herbert, Lavender George Herbert, Helen Lewis, Mrs. A. Ireland, St. George, Mrs. C. W. Breadmore, Henry Eckford, Mrs. Henry Bell, etc.

Mr. F. Lilley, Guernsey, contributed a selection of finely-grown gladioli of the Colvillei section, and a collection of Spanish and Kæmpferi irises. Mr. E. J. Hicks, Twyford, Berks, displayed a nice lot of roses, showing garden varieties extensively. Messrs.

T. Rivers and Sons, Sawbridgeworth, Herts, set up one of their very fine and instructive displays of choice fruits grown in pots. The seedling peaches and nectarines were a fine feature, and the crops of ripe fruits on Early Rivers, Darwin, Humboldt, and Cardinal nectarines, and Crimson Galande, Dagmar, Early Alfred, Thomas Rivers, and Merlin peaches, Blue Rock, the Czar, and Early Prolific plums, May Duke, Belle d'Orleans, and Ohio Beauty cherries, and several varieties of Frontignan grapes, caused many mouths to water.

The very bright exhibit set up by Messrs. Sutton and Sons, Reading, consisted of well-grown fruits and vegetables, the firm's specialities, prettily associated with Sutton's Queen and other sweet peas, Nigella Miss Jekyll, miniature calceolarias, clarkias, schizanthuses, and lupins. The melons and tomatoes were excellent, so also were First Crop cauliflowers, Dwarf Defiance and Superlative peas.

A bold but rather crowded group was arranged by Messrs. James Backhouse and Son, Lim., York; here were Dorothy Perkins roses, groups of pink spiræas and liliums, a selection of perpetual carnations, fine hydrangeas, caladiums, dracænas, etc., and an edging of the newer plumose nephrolepises. Some very beautiful floral designs were shown by the York firm, and the butterfly made of brilliant golden and bronze violas and pansies, and the carnation bouquet were specially noteworthy.

Messrs. W. Cutbush and Son, Highgate, London, had a very big display of carnations, both perpetual and Malmaison varieties, their new Lady Coventry Malmaison variety attracting a great deal of attention. The pink spiræas, Queen Alexandra marguerites, the handsome Coleus Cordelia, and a grand lot of eremurus spikes set amid Oriental poppies and veronicas, were excellent.

Messrs. Webb and Sons, Wordsley, were responsible for a large exhibit, in which their fine strain of gloxinias, together with a selection of sweet peas, served as a charming setting for the firm's specialities in melons and various vegetables. The melons were conspicuously good, notably the fruits of Masterpiece, Queen Victoria, Centennial, Diamond Jubilee, Royal Sovereign, New Epicure, and Hero of Lockinge. The forcing turnips, Everbearing cucumbers, Triumph and Favourite radishes, and Sensation and Jubilee tomatoes, were other great attractions. The whole made up a very effective exhibit. Messrs. W. and J. Brown, Peterborough, made up a large group of cut roses, heliotropes, verbenas, aquilegias, standard fuchsias, the gay Lady Rolleston gaillardias, and eremuri. Mr. Thos. W. Darlington, Carnforth, showed a selection of the finer and newer sweet peas. The new Primula Bulleyana, a hardy Chinese species, was again well shown by Messrs. Bees, Lim., Liverpool. Zonal pelargoniums, sweet peas, carnations, and irises, were displayed in quantity by Messrs. Jarman and Co., Chard.

Messrs. Clibrans, Altrincham, put up a bank of their new Calceolaria Clibrani, which demonstrated the decorative value of this clear yellow, floriferous plant. A goodly group of the newer nephrolepises was staged by Messrs. E. J. Batchelor and Sons, Harrogate, and in it we noticed a new variety of much interest, named N. superbissima. Messrs. John Forbes, Lim., Hawick, N.B., put up an attractive display of their ever-popular phloxes, pentstemons, and violas. Among the phloxes the Duke of Marlborough was particularly fine. The pentstemons included Parachute, Mrs. Cook, Crimson Gem, and Marquis of Linlithgow, all new varieties of first-class quality. A few very fine antirrhinums in quite new shades of colour added to the attractions of this interesting exhibit. Mr. W. Edwards, sen., Daybrook, Notts, showed his well-known table decorations, a new device in the form of an arch being worthy of special mention. Messrs. Robert Sydenham, Lim., Birmingham, showed sweet peas, in select and pleasing varieties, and the blooms were good for the early date.

A large epergne of Mr. C. H. Herbert's new perpetual-flowering Pink Progress served once more to demonstrate the real merits of this remarkably fine plant, introduced from the Nurseries, Acock's Green, Birmingham. Ferns in great variety were well staged by Mr. H. N. Ellison, West Bromwich. Messrs. Dobbie and Co., Rothesay, filled a long table with a grand and comprehensive exhibit of pelargoniums, pansies, violas, and aquilegias, the best known and newer varieties of each class being represented by perfect blooms, all showing skilful cultivation. The colours in the aquilegias were certainly remarkable for their variety of tints and pleasing shades. Miss Hemus, Holdfast Hall, Upton-on-Severn, made an attractive display of sweet peas, and the size and quality of the blooms betokened good culture; one of the most pleasing varieties was the renowned Evelyn Hemus. Kelway's pæonies and pyrethrums made a fine glow of colour, and fully maintained the reputation of the Langport specialists. The pæonies included both double and single varieties, ranging in colour from pure white to deepest crimson, with delicate flesh-pinks and lovely rose shades in between. The single pyrethrum General French was very attractive, its golden disc showing up to advantage against the rich crimson petals. A very bold exhibit of hardy flowers was staged by Messrs. R. H. Bath, Lim., Wisbech, oriental poppies, pyrethrums, and pæonies being as good as could be wished. Perpetual-flowering carnations were well arranged at one end of this firm's stand.

A very large exhibit of high merit was that put up by Messrs. Wm. Artindale and Son, Sheffield; there were about 100 varieties of violas, arranged in fan-shaped bunches, in which the individual blooms were shown to advantage; Addie Elsden, Kathleen, and Marjorie Barber are new varieties of considerable promise, and the firm's novelty of last year, Ernest Needham, was also well shown. Perpetual-flowering carnations occupied a part of the firm's stand, and included the best varieties. Messrs. Dicksons', Lim., Chester, set up irises, delphiniums, pyrethrums, and a variety of useful and interesting perennials.

Mr. G. Yeld, M.A., Burton Lane, York, exhibited an exquisitely beautiful series of his hybrid and crossbred irises, among them being some really lovely things. A grand vase of Lord of June showed this large handsome iris in fine form. Sunshine is a particularly clear yellow, while Purity is as nearly pure white as can be. A few richly-coloured hybrid hemerocallis were also staged, and included Tangerine, a rich orange-yellow, Apricot, and Flame. Messrs. Moore, Lim., Rawdon, Leeds, occupied one end of the orchid table with an interesting group, comprising good odontoglossums, cattleyas, Miltonias, etc.

Messrs. Laxton Bros., Bedford, staged baskets of fine Bedford Champion and Royal Sovereign strawberries, and also some well-grown peaches. A small group of orchids was staged by Mr. J. E. Sadler, Newbury, Berks.

The extensive group of ornamental trees and shrubs, arranged outside the tents by Messrs. J. Backhouse and Son, Lim., York, contained much of interest. Roses were finely staged in the tent by Mr. George Prince, Longworth, Berks, the singles, polyantha, and other garden roses being shown in bunches, and, with hybrid teas, combined to make a very fine display.

MEDALS.

Gold.—Four gold medals were offered for the best trade displays, but only two of these were awarded, viz., to Messrs. J. Backhouse and Son, Lim., York, for ornamental trees and shrubs, and to Messrs. W. Cutbush and Son, Highgate, for a collection of plants and flowers. The Dean of York's special prize and a gold medal were awarded to Messrs. T. Rivers and Sons, for fruit trees in pots. A gold medal was awarded to Messrs. Sutton and Sons, Reading, for vegetables and fruits, and one to Messrs. Webb and Sons, Wordsley, for vegetables, fruits, and flowers.

Silver.—To Messrs. Moore, Lim., Rawdon, Leeds, for orchids; and to Mr. C. F. Waters, Balcombe, for carnations.

BATH GRAND ROSE SHOW and
GENERAL SUMMER EXHIBITION.
SYDNEY GARDENS,
WEDNESDAY and THURSDAY, July 7 and 8.

Classes for Roses, Nurserymen and Amateurs.
Bouquets, Cut Flowers, Sweet Peas, Strawberries,
Plants, and Tuberous Begonias.
Entries close July 2nd.

For prize schedules, etc., apply,
B. R. F. PEARSON, Sec.
Office, 17, Argyle Street, Bath.

CARDIFF AND COUNTY HORTICULTURAL SOCIETY COMING OF AGE SHOW.
SOPHIA GARDENS, CARDIFF,
WEDNESDAY and THURSDAY, July 21st and 22nd,
1909.
Most liberal prizes for this show.
MONEY, PLATE, etc., Amounting to about £400.
Many special features this year.
Schedules free to any address.
Mr. A. MAURICE BAILEY, Secretary.
24, Duke Street, Cardiff.

HANLEY PARK, STAFFORDSHIRE
July 7th and 8th, 1909.

THIRTEENTH GREAT
ANNUAL FLORAL FETE.
£650 in Prizes. Silver Cups, Gold and Silver Medals.

SILVER CHALLENGE CUP, VALUE £10 10s.
offered for TRADE EXHIBIT (for particulars, see page 10 in Schedule).

Valuable Special Prizes offered by the principal firms in England.

The Railway Companies will convey Exhibits at one fare for the double journey, provided they remain the property of the Exhibitors.

Schedules post free on application to—
WM. POULSON, Secretary.
Town Hall, Hanley.

RICHMOND HORTICULTURAL SOCIETY.
THE THIRTY-FIFTH GRAND ANNUAL SHOW
will be held in
THE OLD DEER PARK, RICHMOND,
On WEDNESDAY, 30th June.
Valuable Money Prizes. Silver Challenge Cups for Roses and Fruit.
Entries close 23rd June.
W. J. COOK, Hon Sec.
Holmsley House, Richmond, Surrey.

SHREWSBURY GREAT FLORAL FETE,
AUGUST 18 and 19, 1909.

OVER £1,100 IN CASH PRIZES.

Schedules for this year are now ready, and may be had post free from—
Messrs. ADNITT and NAUNTON, Hon. Secs.,
Shrewsbury.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

◆

Royal Counties Agricultural Show.

It was an extensive and well-attended show which was held at Reading on June 8 and three succeeding days, and although essentially a farmer's, stock-breeder's, and dairyman's exhibition, there was much of interest to the gardener, both in the way of excellent produce and up-to-date and useful implements and appliances. The seedsmen's stands alone were well worth a visit.

As was to be expected, Messrs. Sutton and Sons made a great effort to uphold the reputation of their town as a notable centre of the seed business of this country, and most successsfully did they accomplish their purpose. Their stately pavilion was a great feature of the show, and the incessant stream of visitors passing through was evidence of the fact that gardeners and farmers alike found in this comprehensive exhibit much of interest and educational value. Outside the pavilion were beds and borders gay with the firm's strains of petunias, stocks, [illegible] sias, Cineraria stellata, etc.

Rambler roses in full bloom furnished the pillars of the verandah, and between the flower beds were fine turves grown from Sutton's various combinations of the best lawn grass seeds. Across one end of the pavilion was a bed which demonstrated in capital fashion the much-discussed French gardening, and an inspection of the triple crop of lettuce, carrots, and radishes, growing both under cloches and in litter frames, could not fail to impress upon one the fact that whatever the possibilities from a commercial standpoint, this system is most excellent for the private gardener who has to supply a large table from a limited growing area. The type and strains of seeds used by Messrs. Sutton are all that can be desired. They are compact and quick growing, and in the case of both carrots and radishes carry extremely small tops. Inside the pavilion were displayed in large quantities and great variety peas, beans, carrots, potatoes, tomatoes, and in fact all classes of vegetables and salads of the highest quality, and at so early a date it is safe to say such an exhibit has rarely, if ever, before been seen. Another stand of great excellence was that of Messrs. E. Webb and Sons, Wordsley, Stourbridge. Here the firm's specialities in farm seeds preponderated, but the stand was made gay and attractive by splendid gloxinias, calceolarias, sweet peas, cinerarias, etc., and some capital melons, tomatoes, and vegetables were also on view. Messrs. Toogood and Sons, Southampton, decked the front of their stand with Spanish irises, Gladiolus Colvillei, a beautiful strain of salpiglossis, and some good petunias. There were also excellent cabbages and other vegetables on the stand. Messrs. J. K. King and Sons, Coggeshall and Reading, displayed a large collection of excellent vegetables, among which we specially noticed potato St. Paul's, a fine oval, thin-skinned tuber of first-rate appearance. The firm's lawn grasses were presented in capital style, and the label, stating that they were of the same stocks as supplied to the Royal parks for several years, was of interest. Samples of manures and chemical fertilisers were well displayed by the Chemical Union Lim., Ipswich, and many excellent machines, tools, and patent appliances of merit were exhibited, but which space forbids us to describe.

Birmingham Botanical and Horticultural Society.

The first summer exhibition of orchids and early summer flowers was held in the Edgbaston Gardens, under the most favourable auspices as regards splendour of the show, the attendance of visitors, and the weather. The orchids were especially noteworthy, and the attractions of the fete were further enhanced by the magnificent floral picture presented by the rhododendrons and azaleas in the American Garden. The rock garden, now in its glory, received a full share of attention from the visitors.

Half a dozen collections of orchids were staged for honorary awards, and the society's gold medal was awarded to Wm. Waters Butler, Esq., Southfield, Edgbaston. The collection occupied a staging 30ft. by 6ft. It was regarded as the finest collection ever shown at the Botanical Gardens, and containing as it did several kinds and varieties of great rarity, it attracted much attention, and the artistic arrangement reflected much credit upon Mr. T. H. Jones (Mr. Butler's head gardener). The group was effectively edged by a row of excellently-developed plants of Lilium longiflorum. A few of the more noteworthy kinds were Cattleya Vulcan, C. Lawrenceanum, C. intermedia alba (very fine), C. [illegible] (fine), C. Mrs. R. A. H. [illegible], Lælia purpurata alba, L. purpurata [illegible], Cattleya Sir F. Wigan, C. Mossiæ [illegible], C. M. alba Glorie de la France, C. M. Waterloo, C. Mendeli, C. M. White Lady, C. M. Her Majesty, C. M. Mrs. F. Wellesley, C. M. Westfield Beauty, Lælio-cattleya [illegible], L.-c. Henry Newey, L.-c. Lady [illegible] and L.-c. Macfarlanei; Odontoglossum crispum Queen Maud. O. Pescatorei alba (Southfield variety), O. ardentissimum Sanderæ, O. Brilliantissimum, O. Empress of India, O. Raymond Crawshay, O. Harryanum crispum var. Grande, O. crispum Janette, O. c. Muriel, O. c. Crissy, O. c. Norman, O. c. Rossendale, O. c. album, O. c. Lucyanæ, and O. c. Persimmon.

A silver-gilt medal was awarded to the Right Hon. Joseph Chamberlain for his splendid bank of orchids, consisting chiefly of masses of Miltonia vexillaria, cattleyas, and Lælio-cattleyas in profuse variety, Odontoglossum crispum, Phalænopsis Rimestadiana, Cochlioda Noetzlianum, and Anguloa Clowesi. The collection was especially attractive, and reflected much credit upon the artistic ability of Mr. Mackay, the Highbury orchidist. A silver medal was deservedly awarded to Messrs. Moore, Lim., Rawdon, Leeds, for a beautiful collection, consisting chiefly of Cattleya Mossiæ in variety, Lælio-cattleya Fascinator, L.-c. endora magnifica (an Award of Merit), and L.-c. Aphrodite alba. Among the odontoglossums O. Roliæ was conspicuous, and Gongora Wilsoni, Epidendrum Wallisi, cypripediums, Miltonia vexillaria, and Cirrhopetalum Colletti were well represented, and mention must be made of Cattleya Dusseldorfi Undine. The Lord Mayor of Birmingham (Alderman G. H. Kenrick) was represented by a comparatively small collection of choice orchids, and a bronze medal was awarded. A bronze medal was allocated to Richard Fenwick, Esq., Edgbaston, for a select and tasteful arrangement of orchids. A silver-gilt medal was awarded Messrs. Gunn and Sons, Olton, for a superb group, comprising decorative climbing roses in pots, a very attractive bowl of sweet peas, gladioli, pyrethrums, and other miscellaneous border flowers, and a fine display of their charming Viola cornuta purpurea. Messrs. Robert Sydenham, Lim., staged a dainty lot of Spanish iris, for which a bronze medal was awarded. A silver medal was awarded to Messrs. Bakers, Wolverhampton, for a large collection, comprising Oriental poppies, aquilegias, pyrethrums, lupins, irises, delphiniums, etc. Messrs. Jarman and Co., Chard, were awarded a bronze medal for an attractive display of sweet peas, centaureas, zonal pelargoniums, and aquilegias. To Mr. C. H. Herbert, Acock's Green, the award of a bronze medal was made for an attractive display of his new pink Progress, a nice strain of aquilegias, and of violas. A bronze medal was awarded Mr. R. H. Ellison, West Bromwich, for a fine collection of ferns; a similar honour fell to Mr. James Simpson, Harborne, for a collection of ornamental shrubs. Mr. Richard Peyton, Edgbaston, received a bronze medal for a good collection of gloxinias, caladiums, hydrangeas, etc. Votes of thanks were given to Mr. James Webb, gardener to W. Byng Kenrick, Esq., for a group of pelargonium Achievement (a cross between a pink ivy-leaf and a zonal pelargonium), and to Messrs. Bick Bros., Olton, for a collection of violas.

In the competitive classes prizes were offered for orchids, stove and greenhouse plants in flower, and cut tree carnations in vases. Strangely, however, they were all conspicuous by their absence. The competition for the prizes for violas was small, and the quality comparatively poor. For twelve varieties in vases Mr. J. Delbridge, Penkridge, Staffs, was placed second, and Mr. J. Webbs third. For six vases Mr. Webbs was first, and Mr. Delbridge third.

The arrangements of the show were admirably made by a committee, of which Mr. Neville Chamberlain was chairman, and Mr. T. Humphreys the hon. secretary.

East Anglian Horticultural Club.

There was a good attendance of members at the June meeting of this club. Mr. W. Palmer, gardener to I. B. Ceaks, Esq., Thorpe, gave a paper upon "Lily Culture." Mr. Palmer has a high local reputation as a cultivator of liliums, consequently his remarks were listened to with interest. Soils, sizes of pots, as compared with sizes of bulbs, and subsequent treatment were all treated in a practical manner. He strongly advocated planting some bulbs in the open with such peat-loving subjects as rhododendrons and azaleas. The paper brought out a capital discussion. The tables were well filled with exhibits of a varied character, which added to the pleasure of the meeting. The summer outing was fixed for July 18 to Earsham Hall, the seat of Captain J. P. Meade.

United Horticultural Benefit and Provident Society.

The monthly committee meeting of this society was held at the Horticultural Hall, Vincent Square, Westminster, on Monday evening, June 14, Mr. Charles H. Curtis in the chair. Seven new members were elected, making a total of 34 for the six months of this year. The Secretary reported that sickness among the members had been somewhat lighter, £37 4s. having been paid since the last meeting, against £65 7s. for the previous month. Several amounts of interest were paid to members over 60 years of age.

TRADE NOTE.

It will be seen from the announcement in our advertisement pages that the partnership existing between Mr. Stuart H. Low and Mr. Edward V. Low, who carried on the business of nurserymen and orchid growers at Bush Hill Park, under the style of Hugh Low and Co., has been dissolved. In our issue of last week it was announced that Mr. Stuart H. Low would in future carry on business at Bush Hill Park under the style of Stuart H. Low and Co. We now learn that Mr. Edward V. Low has taken over the stock of choice and valuable orchids of the late firm, and has removed same to the Orchid Nursery, Vale Bridge, Haywards Heath, lately vacated by Messrs. Charlesworth and Co., which he has purchased. Mr. Edward V. Low was from about 1882 exclusively connected with the orchid department of the late firm of Hugh Low and Co., which was under his personal control and management, and we understand that in future he will specialise in the cultivation of the choicer and more valuable orchids at Vale Bridge, where we hope he will have every success.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1909. June 6 to June 12.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	Temperature of the Air. At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
June 6—Sunday	—	44	45	54	44
„ 7 - Monday......	5 18	53	48	60	47
„ 8 - Tuesday......	13 30	56	51	66	41
„ 9 - Wednesday .	2 0	55	51	63	45
„ 10 - Thursday	—	51	50	54	47
„ 11 - Friday	1 6	47	45	53	37
„ 12 - Saturday ...	4 42	50	47	54	44
Means	(total) 26 36	51	48	58	43

Date. 1909. June 6 to June 12.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
June 6—Sunday	0.03	54	54	53	46
„ 7 - Monday...	—	53	54	53	46
„ 8—Tuesday......	—	54	54	53	37
„ 9—Wednesday .	—	56	56	53	42
„ 10—Thursday ...	0.09	57	56	53	43
„ 11—Friday..	0.09	53	55	54	34
„ 12—Saturday ...	0.43	54	55	53	39
Means ...	(total) 0.64	54	55	53	41

ANSWERS TO CORRESPONDENTS.

ALGÆ ON LAWNS.—C. S., Luton: The growth that is spoiling the terrace lawn is an algæ, closely related to the seaweeds, and it can only thrive in moist situations. It is evident that the site needs to be drained, and probably the soil should be made lighter. At present your best plan will be to give the lawn a good dressing of air-slaked lime, as this will improve the grass and tend to eradicate the algæ. If this dressing does not materially improve matters, write us again, and give particulars of soil and situation, so that we may be the better able to advise you.

PEAR GNAT MIDGE.—H. W., Shotley Bridge: Many years ago Mr. W. Crump drew attention in these columns to the destruction caused in the West of England by the pear gnat midge, and to the probable distribution of the pest. In some seasons the damage done does not appear to have been great, while in others the crops have suffered greatly and in places wide apart. As far back as 1899 we published an account of the life history of the pest, by Mr. F. Martin Duncan, with illustrations, and in our issue of June 18, 1904, we again drew special attention to the ravages of the midge, and the means to be taken to stamp out the enemy. The pear midge (Diplosis pyrivora) is a tiny winged insect with a strong ovipositor, by means of which it pierces unopened pear blossoms, and deposits the eggs inside, on, or among the stamens. Sometimes the insect pierces the calyx and deposits the eggs in the embryo fruit. Egg deposition takes place in early April, or a little later or earlier, according to the season. The tiny grubs work towards the centre of the fruit directly they hatch out, and they soon consume all that is to them edible inside. During the first half of June the grubs prepare to leave their quarters, and if the infested fruits do not fall to the ground, the grubs eat their way out and drop, bury themselves an inch deep in the soil, and form their cocoons. The insect winters in the soil in the chrysalis state, the perfect, winged insect emerging in spring in time for an attack upon the swelling pear blossom buds. All the fruits that fall from infested trees should be gathered up and burned day by day, and the ground around the trees should be dressed with kainit at the rate of 4oz. or 5oz. per square yard, as this kills any larvæ it comes into contact with, and helps the trees. Take every possible care to secure and burn all infested fruits, as this is the best means of checking the ravages of the midge. In late autumn, after leaf-fall, and after giving the trees a winter dressing, remove and burn the surface soil under and around the trees to a depth of two inches, and in its place give a good dressing of soil and old manure. Both muriate of potash and nitrate of soda have been recommended as dressings at this season of the year, but it has been proved that kainit is more effective than these.

SWEET PEAS. — J. L. W., Faversham: There are several sweet peas of somewhat similar colour to those you have sent us, and the unfortunate point about many of them is that they fade so badly under extremes of wet or heat. It is rather early yet to properly identify sweet peas, and the opportunities for making comparisons are at present very few. If you do not identify the variety by the end of the month send us a few blooms early in July, and we will endeavour to solve the mystery. We presume that you are quite sure neither seeds nor plants were mixed by yourself. It is a very easy matter to mix varieties in the seedling stage when dealing with a considerable number.

RUST ON TOMATO LEAVES.—A. W. G., Cardiff: The plants are evidently suffering from a very bad attack of tomato leaf rust (Cladosporium fulvum), a disease that is fairly common on plants grown under glass. We cannot advise you fully, as you do not say how far the disease has taken possession of the crop, but if the majority of the plants have their leaves as badly infected as the small specimens sent, then the crop is in a very bad way. More artificial heat and increased ventilation, so as to secure a drier, buoyant atmosphere throughout the house will have a beneficial effect. Spray with a weak solution of sulphide of potassium (1oz. of sulphide of potassium to 2½ gallons of water) every ten days or so, taking care to spray both sides of the leaves. Plants very badly diseased should be removed and burned.

VERONICA HULKEANA.—C. L., Bath: This is by no means a new plant. We figured it five years ago, when Messrs. J. Veitch and Sons exhibited it so well; but it gained a First Class Certificate from the Royal Horticultural Society in 1882, when shown by Mr. James Douglas, who was then at Loxford Hall. The plant should be propagated from occasionally, as it has a way of dying off suddenly when it attains some size and has flowered very freely. It is a most distinct and elegant species, and we are glad you have been so successful with it.

VALLOTAS. — M. E. G., Whitby: Give the specimens a rich top-dressing, composed of equal parts of decayed cow manure and fibrous loam, first removing all inert surface soil. After top-dressing, give the plants a position in a cold frame and stand the pots on a good bed of ashes.

NAMES OF PLANTS.

W. J. C., Minehead.—Insufficient for identification.

S. A., Woking.—1, Cotoneaster buxifolia; 2, C. horizontalis.

F. C. J., Chelmsford.—1, Weigela Abel Carriere; 2, Quercus diversifolia; 3, Vitis Henryi; 4, Lupinus polyphyllus.

L. A. G., Exeter.—1, Phlox pilosa; 2, Dictamnus fraxinella alba; 3, Anthericum liliastrum; 4, Hemerocallis flava.

M. D., Holyhead.—1, Leycesteria formosa; 2, Maxillaria Sanderiana; 3, Oncidium pubes; 4, Cattleya Mendeli, a good variety.

FORTHCOMING ENGAGEMENTS.

TUESDAY, June 22.—Royal Horticultural Society, Committees meet at 12 o'clock; at 3 p.m. the First Masters' Memorial Lecture on "Masters' Vegetable Teratology," by Prof. Hugo de Vries: Scientific Committee at 4 o'clock.

WEDNESDAY, June 23.—Gardeners' Royal Benevolent Institution, Festival Dinner at the Hotel Metropole.

SATURDAY, June 26.—Windsor Rose Show.

TUESDAY, June 29.—Southampton Rose Show; two days.
Brighton Rose Show; two days.
Canterbury Rose show.

WEDNESDAY, June 30.—Richmond Horticultural Society.
Ipswich Horticultural Society
Dartford Rose Show.
Ealing Horticultural Society.
Reading Horticultural Society.
Walton Rose Show.

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MARKETS.

◆

COVENT GARDEN.

Flowers.

Business is good and supplies are fairly large; carnations, roses, and sweet peas and irises sell freely.

		s.	d.		s.	d.
Adiantum cuneatum	per doz. bun.	5	0	to	[illegible]	[illegible]
Anemones	per doz. bun.	1	6		2	[illegible]
Arums	per doz.	2	0		[illegible]	[illegible]
Asparagus	per bun.	1	0		[illegible]	[illegible]
Azaleas	per doz. bun.	4	0		[illegible]	[illegible]
Carnations	per doz. blms.	2	0		[illegible]	[illegible]
,,	per doz. bun.	9	0		12	[illegible]
,, Malmaisons	per doz.	8	0		12	[illegible]
Cattleyas	per doz.	10	0		12	[illegible]
Croton leaves	per bun.	1	0		[illegible]	[illegible]
Cypripediums	per doz. blms.	1	6		[illegible]	[illegible]
Daffodils, double white	per doz. bun.	2	6		2	[illegible]
Forget-me-nots	per doz. bun.	1	6		2	[illegible]
Eucharis	per doz.	2	6		3	[illegible]
French fern	per doz. bun.	0	6		1	[illegible]
Gardenias	per doz.	1	6		2	[illegible]
Gladiolus	per doz. bun.	6	0		[illegible]	[illegible]
Gypsophila	per doz. bun.	3	0		4	[illegible]
Iris, Spanish	per doz. bun.	4	0		12	[illegible]
,, German	per doz. bun.	2	0		4	[illegible]
Ixias	per doz. bun.	2	0		4	[illegible]
Lilium auratum	per bun.	2	0		3	[illegible]
,, speciosum	per bun.	1	6		2	[illegible]
,, longiflorum	per bun.	2	0		3	[illegible]
Lily of the Valley	per doz.	6	0		12	[illegible]
Marguerites, white	per doz. bun.	1	6		3	[illegible]
Mignonette	per doz. bun.	3	0		5	[illegible]
Odontoglossums	per doz. blms.	2	0		2	[illegible]
Poppies	per doz. bun.	3	0		6	[illegible]
Pelargoniums	per doz. bun.	4	0		6	[illegible]
Pyrethrums	per doz. bun.	2	0		3	[illegible]
Roses	per doz.	1	0		6	[illegible]
Sweet Peas	per doz. bun.	2	0		6	[illegible]
Stocks	per doz. bun.	2	0		3	[illegible]
Tuberoses	per doz.	0	3		0	[illegible]

Fruits.

Strawberries are now arriving in quantity and there are plenty of gooseberries and French cherries.

		s.	d.		s.	d.
Apples, Australian	per case	7	6	to	12	[illegible]
,, Tasmanian	per case	7	6		15	[illegible]
Apricots	per box	0	8		1	[illegible]
Bananas	per bun.	3	0		10	[illegible]
Cranberries	per case	13	0		14	[illegible]
Cherries	per box	0	8		1	[illegible]
Figs	per doz.	3	0		6	[illegible]
Gooseberries	per ½-sieve	2	0		3	[illegible]
Grapes, English	per lb.	2	0		3	[illegible]
,, Guernsey	per lb.	1	0		2	[illegible]
Lemons	per case	7	0		20	[illegible]
Melons, Guernsey	each	1	0		2	[illegible]
Nectarines	per doz.	4	0		15	[illegible]
Oranges, Denia	per case	12	0		28	[illegible]
,, Navels	per case	10	0		12	[illegible]
Peaches	per doz.	4	0		15	[illegible]
Pears, Australian	per tray	3	6		7	[illegible]
Pineapples	each	2	0		4	[illegible]
Strawberries	per basket	2	6		3	[illegible]
,, French	per basket	2	0		3	[illegible]

NICOTICIDE
(FUMIGANT.) Cubic ft. each.
No. 1 size Tin—1 pint, sufficient for 40,000 15/-
No. 2 size Tin—½ pint ,, 20,000 7/6
No. 3 size Bot. - 6 ozs. ,, 12,000 4/6
No. 4 size Bot.—4 ozs. ,, 8,000 3/-
No. 4½ size Bot.—2 ozs. ,, 4,000 1/8
FUMIGATORS, 1/- each for 5,000 cubic feet.
NICOTICIDE PLANT SPRAY.
Half pint 1/2 | Quart ... 3/6 | Gallon ... 10/-
Pint ... 2/- | Half gall. 5/- |
Use 1 part to 40 parts water for greenfly, etc.
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28 lbs. to dress 100 square yards, 6/6; ½ cwt., 11/-; 1 cwt. keg, 20/-.
GOW'S LIQUID WEED KILLER.
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5 ,, ,, 255 ,, ,, 16/-
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Insist on your Seedsmen securing our goods.
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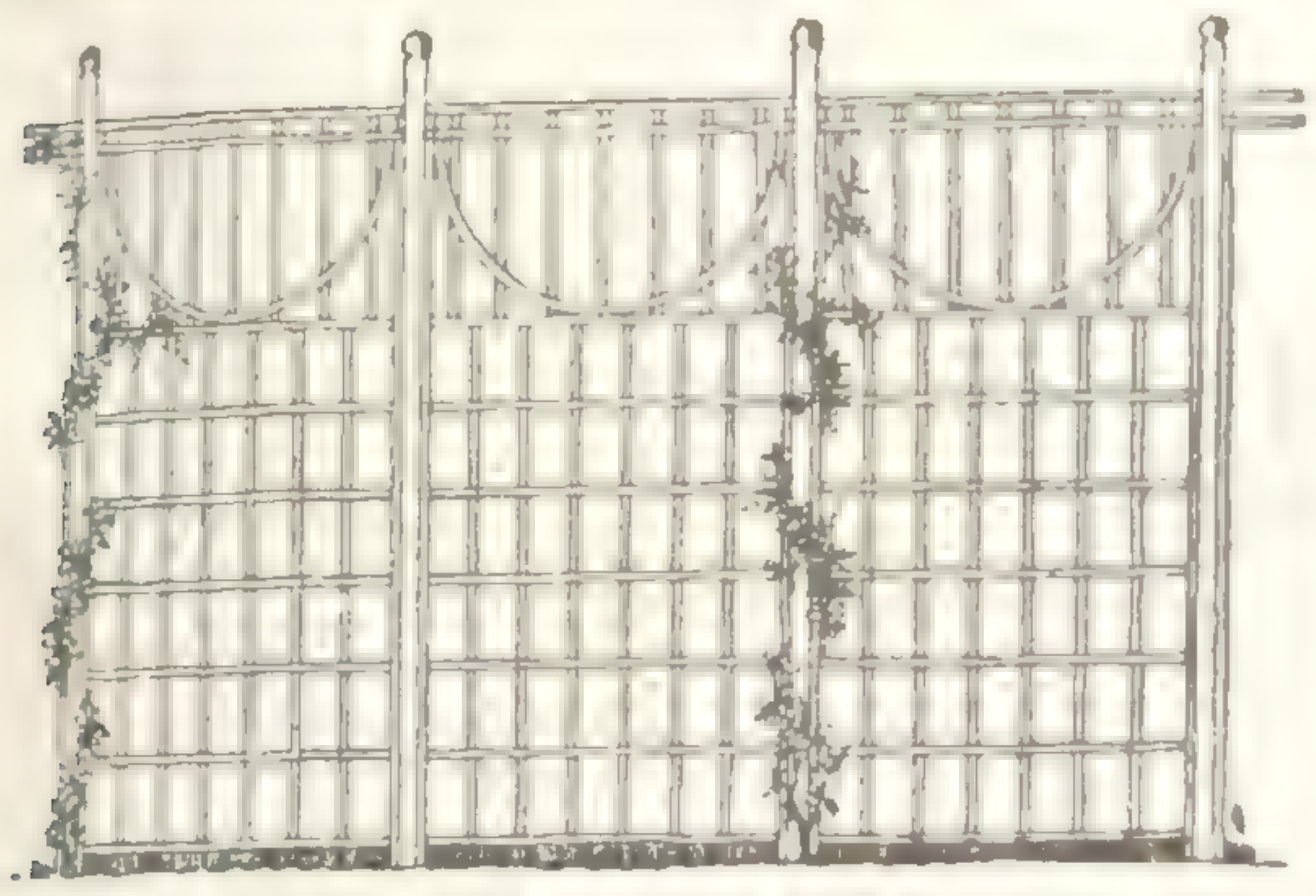

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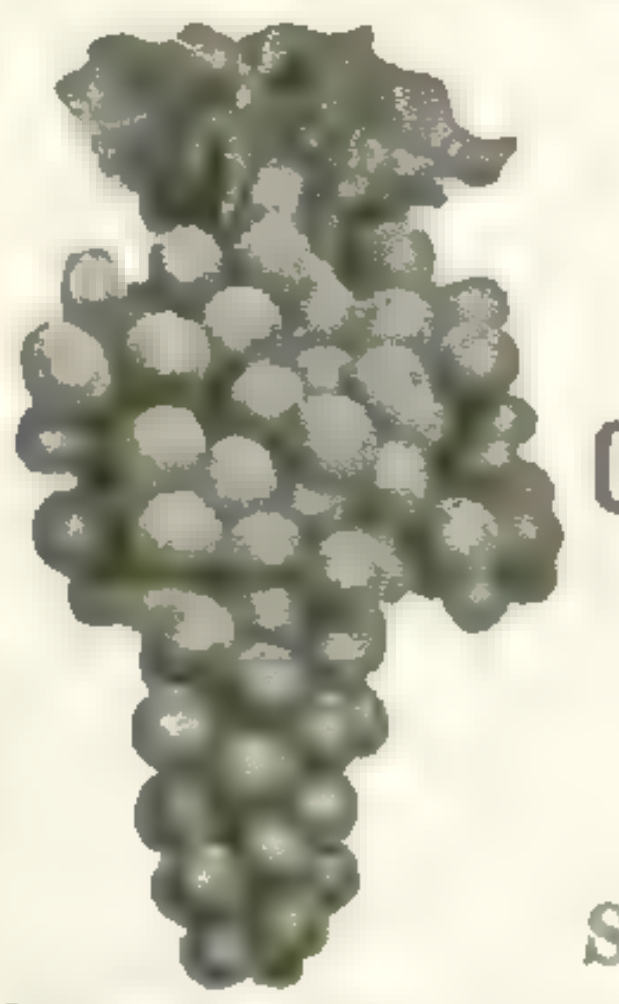

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Tweed Vineyard, Clovenfords, Galashiels, N.B.

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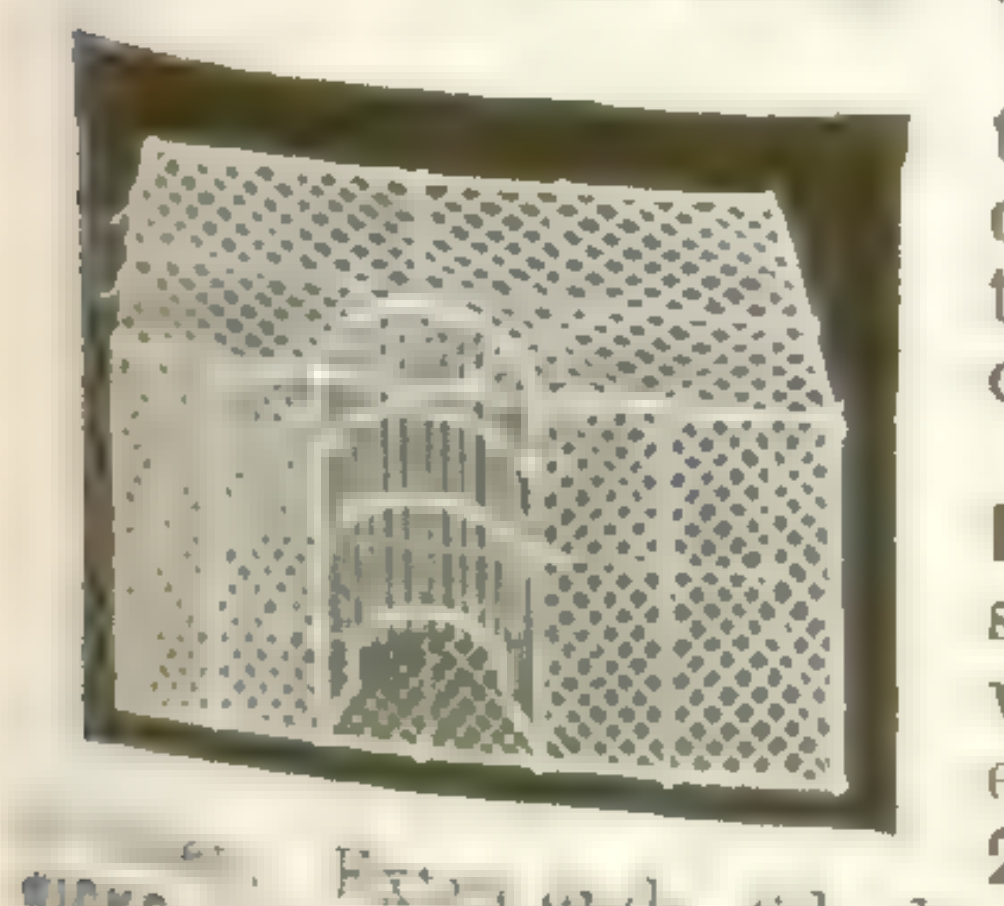

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when writing to Advertisers.

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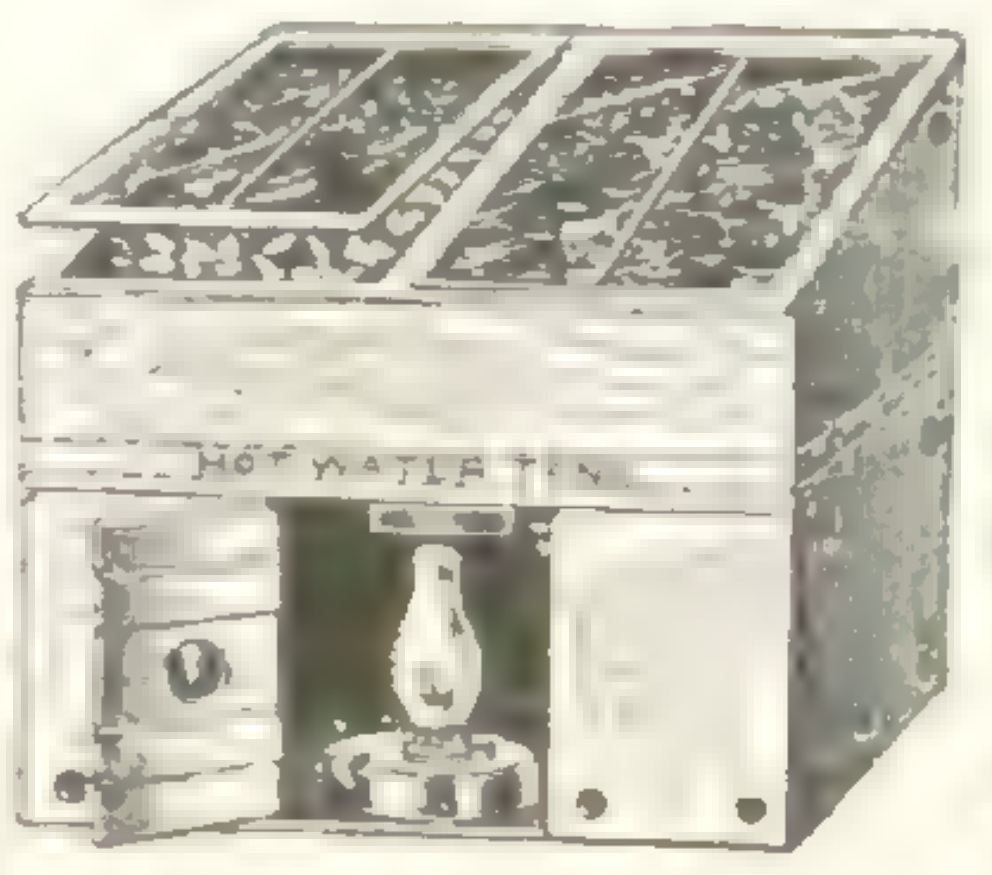

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The most effective **NON-POISONOUS** Remedy
TRY IT AND BE CONVINCED.
½ Pint, **1/-**; Pint, **1/6**; Qt., **2/6**; ½ Gallon, **4/-**; Gallon, **7/6**
CARRIAGE PAID.

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Best Sprayer.
Does more and better work than other syringes double the size.
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Prices: Syringes, **8/6** to **14/6**. Postage, 4d.
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Employment THE GARDENERS' MAGAZINE Register

The charge for an Advertisement INCLUDES A FREE ENTRY ON THE REGISTER. Immediate Notice must be given when an engagement is secured.

A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

HER GRACE THE DUCHESS OF DEVONSHIRE wishes to recommend J. THOMPSON to any Lady or Gentleman requiring the services of a HEAD GARDENER, where several are kept; 20 years' experience in all branches. Holker Gardens, Cark-in-Cartmel, Lancs.

LADY MALCOLM, of Poltalloch, highly recommends her HEAD GARDENER; eight years in present place, Head of three; life experience in all branches; age 36; married, one child, seven years. W. BASTIN, Barnardiston Hall Gardens, Haverhill, Suffolk.

MISS DALTON highly recommends GARDENER (Head Working, or good Single-Handed); life experience. 10 years' excellent character, leaving through death; age 34; married, one child, aged 8 years. Apply W. HIGGINS, The Lodge, Darrington, Camberley, Surrey.

GARDENER (Head) seeks SITUATION where three or more are kept; age 30; married, two children; six years Escrick Park, five years Campsall Hall; three years as Head at present situation. SKILBECK, Nunthorpe Hall, York.

GARDENER (Head) Scotch, wishes SITUATION where three or more are kept; experienced in all branches; married; age 36. JOHN McINTOSH, Calder Park, Baillieston, Lanarkshire, N.B.

GARDENER (Head, where two or three are kept); life experience; good references; can be highly recommended from present situation; age 29, married, no family; in or near Reading preferred. H. MARSHALL, Manor House Gardens, Cookham Dean, Berks.

GARDENER (Head Working, where two or three are kept).—Mr. SEDEN, West Grinstead Park, Horsham, can highly recommend his Foreman, J. BARRETT, to any lady or gentleman in want of a practical man; age 28.

GARDENER (Head Working), good, practical life experience in all branches, Inside and Out; early and late forcing; especially good with melons, violets, and chrysanthemums; 9 years with last employer as Head; can have excellent references. H. TURNER, 4, Glenton Street, Peterborough.

GARDENER (Head Working), thoroughly experienced Under Glass and Outside; also herbaceous plants; excellent character from present and previous employers; married, no children. J. L., 20, Carnarvon Road, Barnet.

GARDENER (Head Working), where more are kept; 25 years' practical experience in all branches, Inside and Out, early and late Forcing, Vines, Cucumbers, Melons, Stove, and Greenhouse Plants, Herbaceous Borders; thoroughly reliable; highly recommended; married, without encumbrance. WOODHOUSE, Eastwood Road, Bramley, Surrey.

GARDENER (Head Working).—A Gentleman would be pleased to recommend a thoroughly reliable, steady Man where several are kept; can grow the new indoor Carnations; 10 years' first-class character from last place; Land and Stock if required; abstainer; married. H. PITTMAN, Twyford, Winchester.

GARDENER (Head Working); thoroughly experienced in all branches; good Carnation Grower and Decorator; good manager; excellent testimonials and very highly recommended; would be pleased to communicate with Lady or Gentleman requiring competent, trustworthy Man; disengaged. J. NORWOOD, Norman Street Farm, Ide Hill, Sevenoaks.

GARDENER (Head Working), where one or two are kept; practical experience, Inside and Out; nineteen years present situation; good references; age 40; married when suited. S. COVENTRY, Reading Road, Pangbourne, Berks.

GARDENER (Head Working); Scottish, would like a Situation in South England; experienced in all branches; age 40. J. F., care of Braid, 4, Albany Street, Leith, Scotland.

GARDENER (Head Working or good Single-handed, with help); life experience Inside and Out; good references; middle age; single. G. BURGESS, 17, Eversleigh Road, Lavender Hill, London, S.W.

MESSRS. LADHAMS, Nurserymen, Shirley, Southampton, can confidently recommend W. GUNSTON, age 35, as HEAD WORKING GARDENER to any lady or gentleman requiring the services of a good all-round man, who is conversant with the requirements of a well-kept establishment; excellent references. Apply as above.

MR. NEWBERRY (Head Gardener to the Earl of Verulum, Gorhambury, St. Albans) will with confidence recommend his late Foreman as Head of three or four; age 32; abstainer; 16 years' good general experience; disengaged; 4 years' reference. T BUTT, Home Cottages, School Road, Whyteleafe, Surrey.

MRS. GRAHAM MOON wishes to recommend her Gardener, who has been with her five years, as HEAD where two are kept, or good SINGLE-HANDED; age 32; married, no children; leaving through death. A. JOLLIFFE, Cedar Lodge, Taplow, Bucks.

GARDENER (Head or Single-handed, with help), age 35; married; life experience Inside and Out; good reference from present and previous employers. J. NICHOLLS, 54, Loder Road, Preston Park, Brighton.

GARDENER seeks SITUATION as good single-handed or where help is given; 2½ years' good character; married when suited. P. MUSTOW, Coln St. Aldwyns, Fairford, Glos.

GARDENER (Single-handed or with help); good Second's place not objected to; married; age 36; tall; one child; life experience, Inside and Out; good references. H. WARNER, 17, Salmestone Road, Margate, Kent.

GARDENER, age 25, seeks SITUATION, single-handed or otherwise; 11 years' experience, Inside and Out; good references. A. RANDALL, 40, Victoria Place, East Street, Epsom.

GARDENER (Single-handed or help), age 24; good at Fruit, Flowers, and Vegetables; four years' reference; single. State wages. J. DOUCH, 38, St. Saviour's Road, St. Leonards-on-Sea, Sussex.

GARDENER (Single-handed); 10 years' experience; good character; leaving, and being married when suited; age 24. L. KEELER, 79c, Falve Park Road, Putney, S.W.

GARDENER (good, single-handed or with help), thoroughly experienced, Inside and Out; age [illegible], single, good references. Apply GARDENER, 1, Gillespie Road, Highbury, N.

AS GARDENER (Single-handed or otherwise); life experience Inside and Out; good references; single; age 44. Address F. GOWER, Springfield Villas, Clarendon Road, Ashford, Staines.

GARDENER (Second). — Mr. STARKE, Bourton Gardens, Shrivenham, Berks, highly recommends W. AMEY as above; well up in all branches; has been with him four years as Foreman (Inside); age 28; married when suited.

MR. F. W. KEMP, Eastcourt House Gardens, Malmesbury, Wilts, can thoroughly recommend J. CLARKE as SINGLE-HANDED GARDENER, with help; experienced fruit, flowers, vegetables, and lawns; Inside and Out; good previous reference; age 26; three years second here, married when suited. Apply as above.

FOREMAN (Inside), aged 26; 12 years' practical experience; well up in the cultivation of Fruit and Plants, for Exhibition if required; also House and Table Decorations. DAVIES, Panty[illegible] cut, Llandertel, Merionethshire.

FOREMAN or SECOND (Inside and Out); Fruit and Plant, good knowledge of Orchids; age 27; well recommended. WILLIAM WARREN, 37, Albion Terrace, Albion Road, Hounslow, Middlesex.

GARDENER (Second), age 23; seven years' experience, Inside and Out; well recommended. G. E. KETTLE, Kings Ford Cottage, Co[illegible], Essex.

MESSRS. CYPHER and SONS, Exotic Nurseries, Cheltenham, will be pleased to recommend J. COMPTON to any Gardener requiring first class Man as SECOND (Inside and Out); age 2[illegible]; abstainer; excellent references; Bothy objected to, five years Foreman at Lypiatt Park, Stroud, under Mr. Savegar, who can with confidence highly recommend him.

GARDENER, age 22, seeks SITUATION. 7 years' experience, Inside and Out; can be well recommended. N., Red House Lodge, Heatherside, Camberley, Surrey.

YOUNG MAN as GARDENER (Under); three years' good experience, with excellent character; tall, strong, and willing; age 19. Apply H. BENNETT, Lathbury, Newport Pagnell, Bucks.

JOURNEYMAN (Inside, or inside and out); three years last place as Inside and Out; well recommended; age 22. W. WIDGERY, Wonston, Micheldever Station, Hampshire.

JOURNEYMAN disengaged; R.C.; understands Melons, Cucumbers, Tomatoes, [illegible] usual Plants under Glass; well recommended, London preferred. Please state terms to FISHBOURNE, Ballyfin, Ireland.

AS IMPROVER in good establishment; age 21; six years' experience Inside and Out; good references. Apply to H. GILBERT, Head Gardener, Westfield House, Wimborne, Dorset.

WANTED, SITUATION as an IMPROVER age 17½; strong and willing; has been in present situation 4 years; total abstainer. Bothy preferred. A. HYLAND, Woodlands, Ticehurst, Sussex.

WANTED.—SITUATION as IMPROVER Inside and Out; age 19; has been in present Situation 3 years. A. SEARS, Milgate Park, Bearsted, Maidstone.

GROOM-GARDENER or GARDENER (Single-handed or Under); married, no family; good reference. T., 2, Elizabeth Terrace, Peel Road, South Woodford, Essex.

LANDSCAPE GARDENING. Mr. C. JACKSON, now disengaged, [illegible] services for landscape improvement works, [illegible] experience; references. Address, 110, Cannon [illegible] London, E.C.

LAD, age 17, seeks SITUATION in Gentleman's Garden; strong and willing; Bothy preferred. Apply R. LANE, The Gardens, Beech Hill Mayford, Woking, Surrey.

YOUNG MAN, age 23, seeks SITUATION on Lawns or Pleasure Ground; willing to make himself generally useful; well recommended. Apply J. JORDAN, 13, Burlington Road, Enfield.

SITUATION COUPON

To the Advertisement Manager of "THE GARDENERS' MAGAZINE,"
148 & 149, Aldersgate Street, London, E.C

For JUNE 26, 1909.

Please Repeat my Advertisement.

Name..

Address..

....

Date....................... ....

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GARDEN LABOURER.—Married man, age 27, requires SITUATION as above; strong and willing to be useful; able to milk, if required, or attend horses and general garden work; good references. G. STEPHENS, 11, Dairsie Road, Well Hall, Eltham, Kent.

MR. E. ANDREWS, Bell House Gardens, Dulwich, S.E., wishes to recommend C. CURD to any Gentleman requiring a trustworthy Young Man, age 22, for Inside and Out; 8 years' experience; well recommended by present employer. No circulars.

SITUATION (permanent) required in Nursery, within 40 miles of London; used to Glass, Bedding Stuff, Tomatoes, Ferns, Carnations, Bulb Forcing, etc.; 12 years' experience. Address J. T., 12, Evelyn Road, Ham, Surrey.

YOUNG MAN (23), in Nursery; over five years' experience; good character; or in Gentleman's Garden; willing and obliging; abstainer; disengaged. F. HARVEY, 7, Colmer Place, Burgess Hill, Sussex.

Situations Vacant.

WANTED, a strong, active, and willing YOUNG MAN for the Kitchen Garden; good experience; abstainer preferred; 18s. and Bothy.—GARDENER, Copt Hall, Mill Hill, N.W.

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12 X 8 in.	10/-	17/-
11, 12, 13, 14 X 9 in.	11/-	19/-
12, 14, 16 X 10 in.	11/6	21/-
13 X 11 in., 16 X 11 in.	12/-	22/-
12, 14, 16, 18, 20, 22, 24 X 12 in. ...	13/-	23/-
17, 20 X 13 in, 16, 18, 20, 22, 24 X 14 in.	13/6	24/-
20, 22, 24 in. X 15 in.	14/-	24/6
18, 20, 22, 24 X 16 in.	14/6	25/-
20, 22, 24 X 18 in.	15/-	26/-

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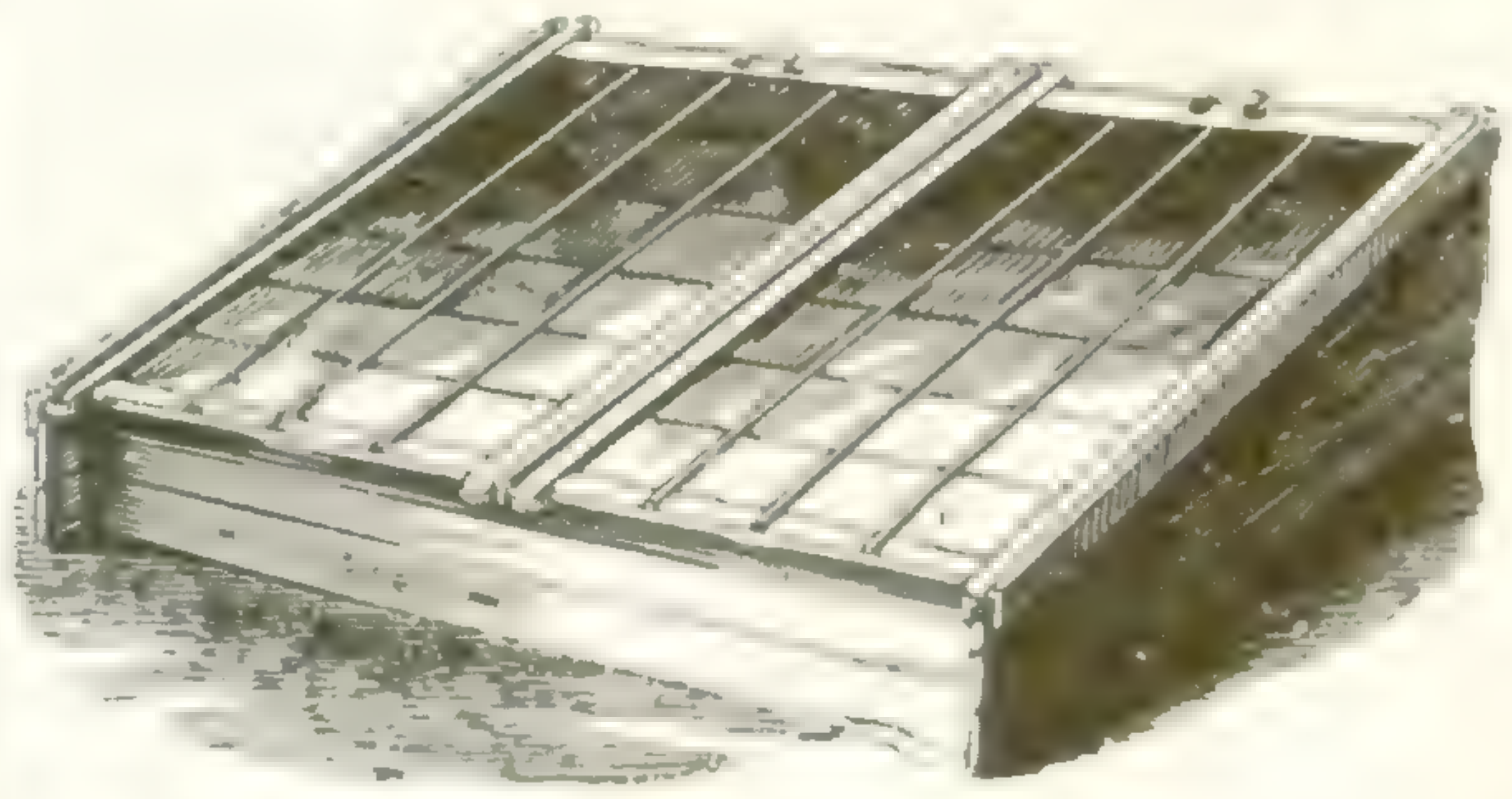

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3-light 12 ft. by 6 ft.		4	2	6
4-light 16 ft. by 6 ft.	*CARRIAGE PAID.*	5	5	0
5-light 20 ft. by 6 ft.		6	7	6
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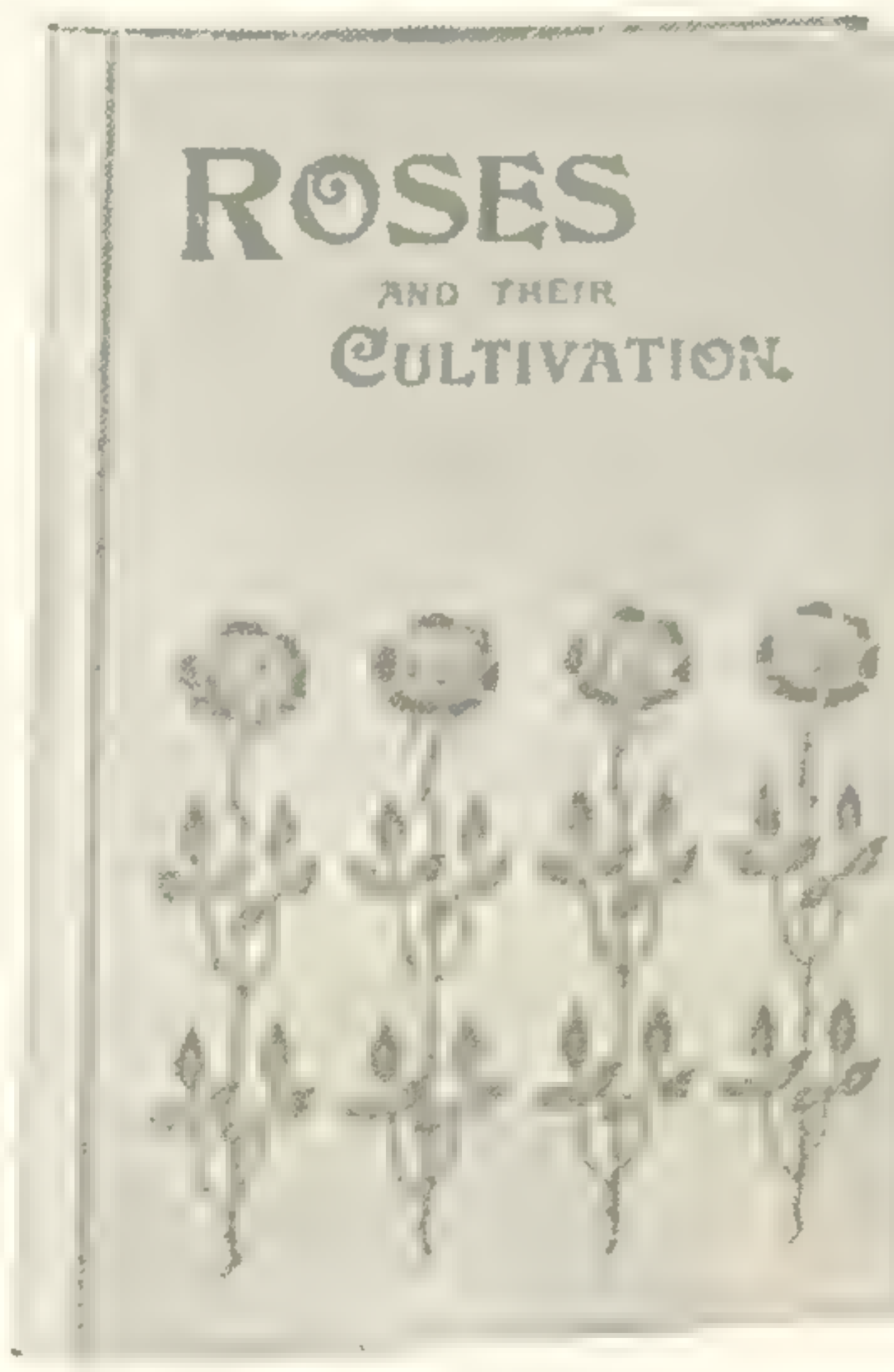

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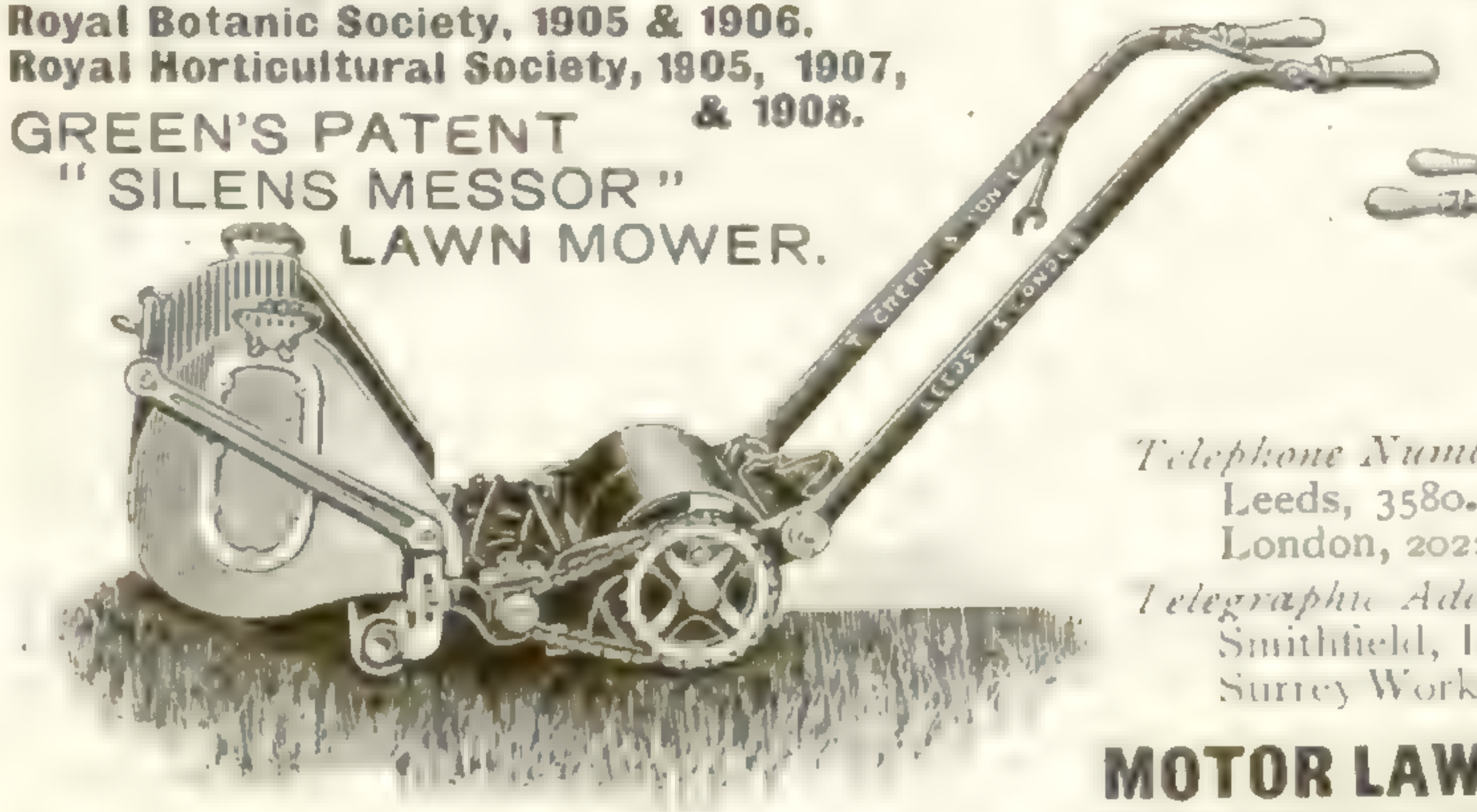

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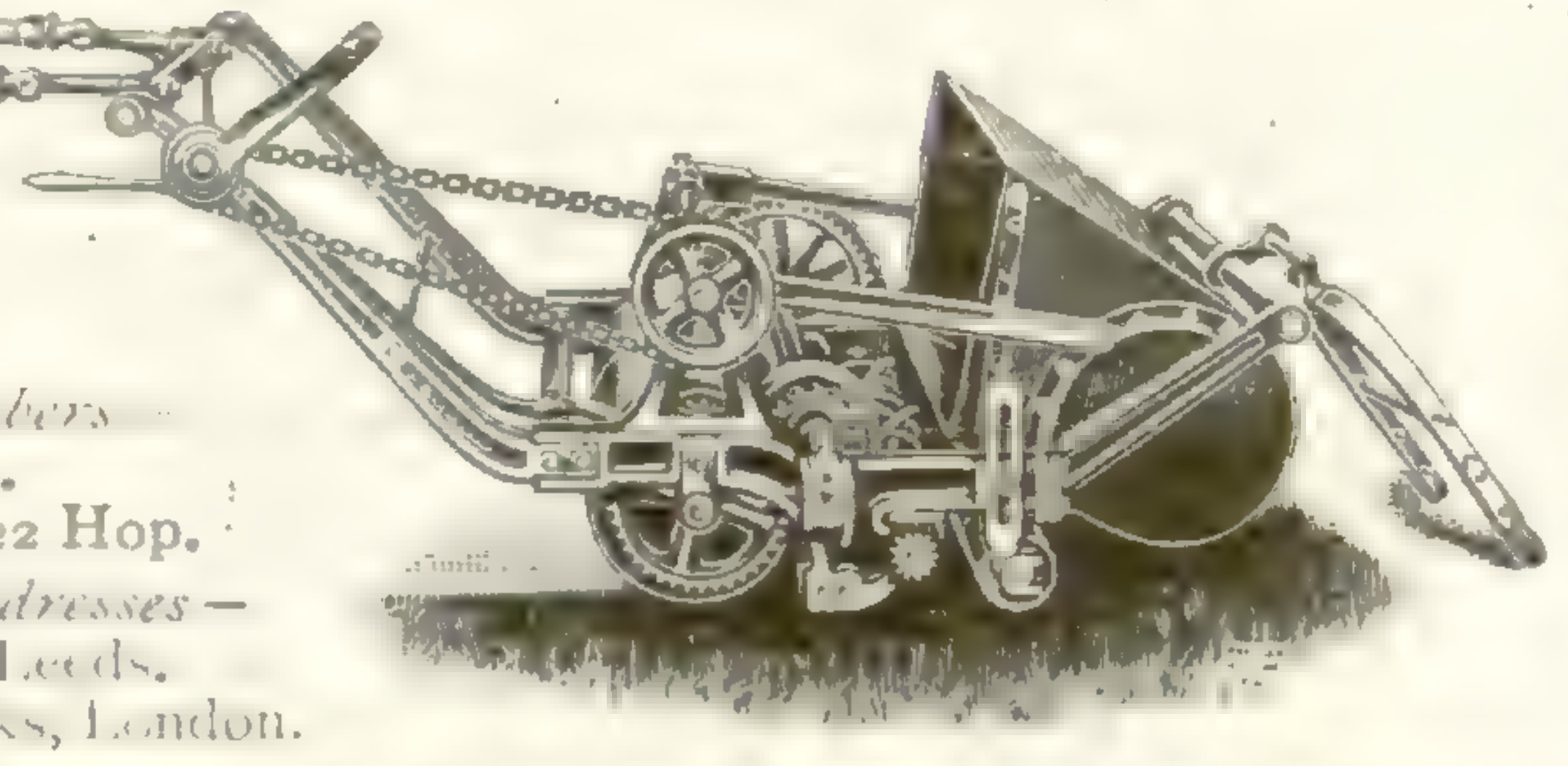

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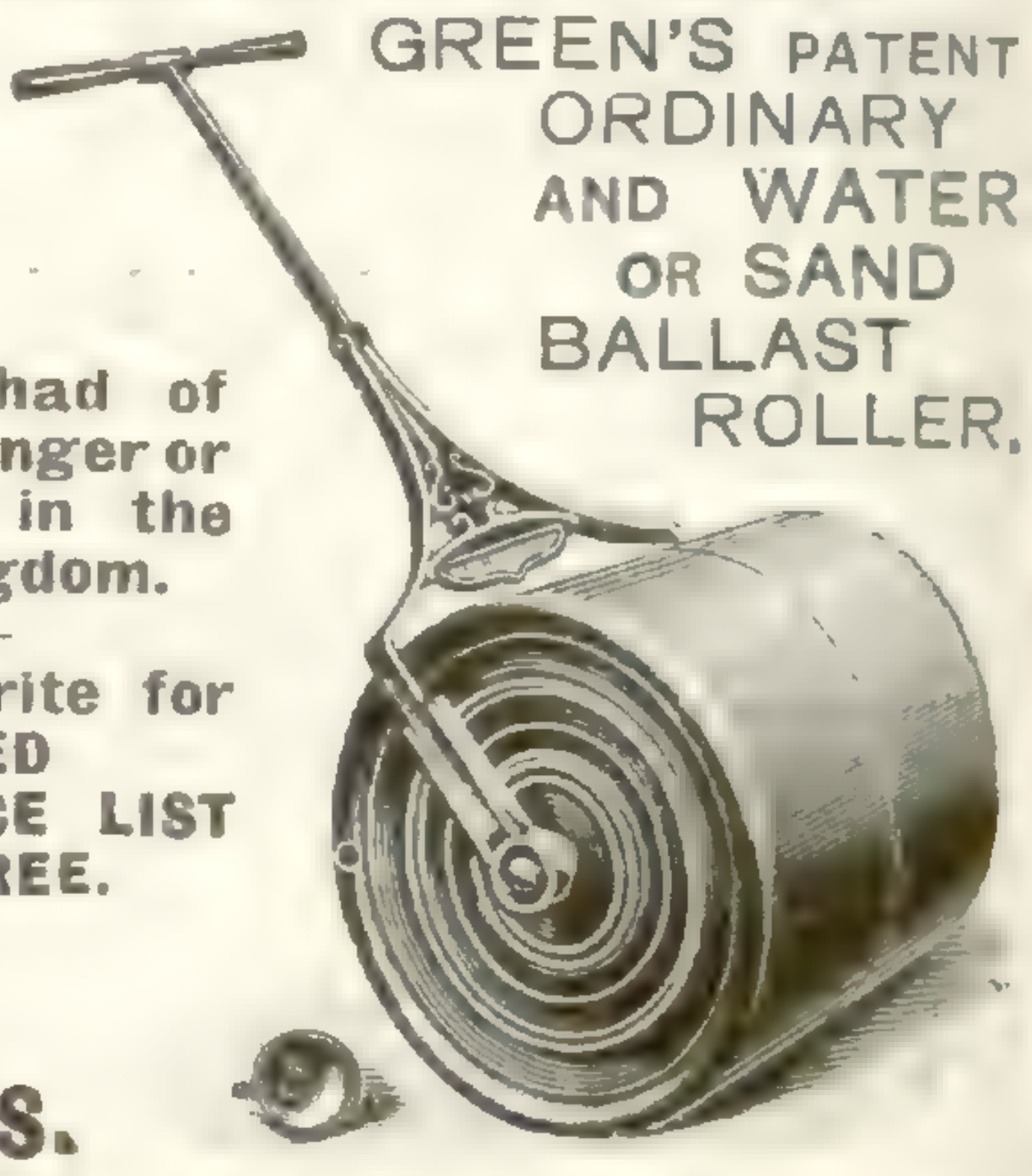

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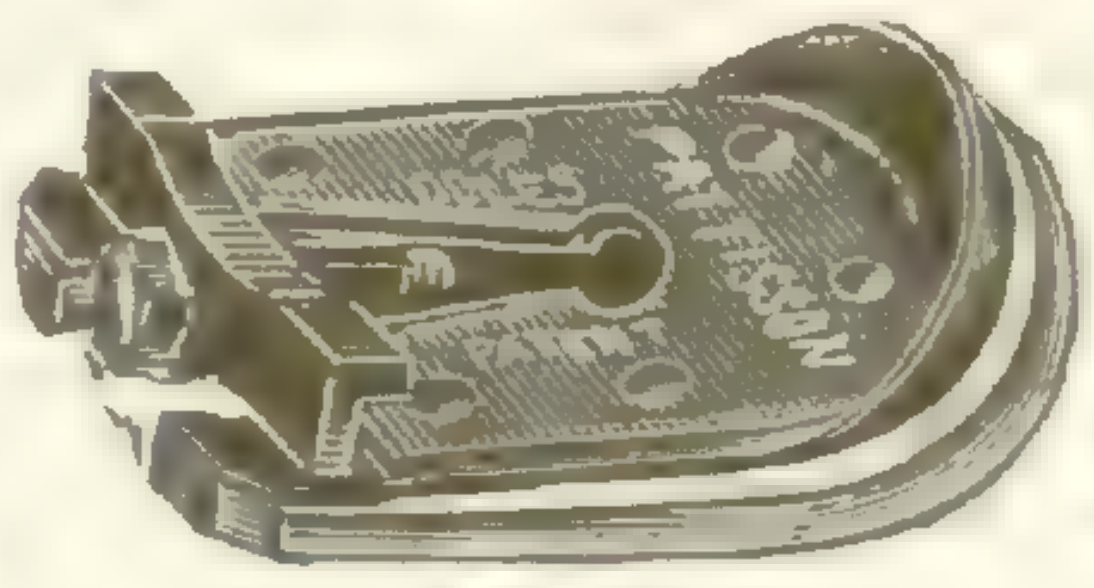

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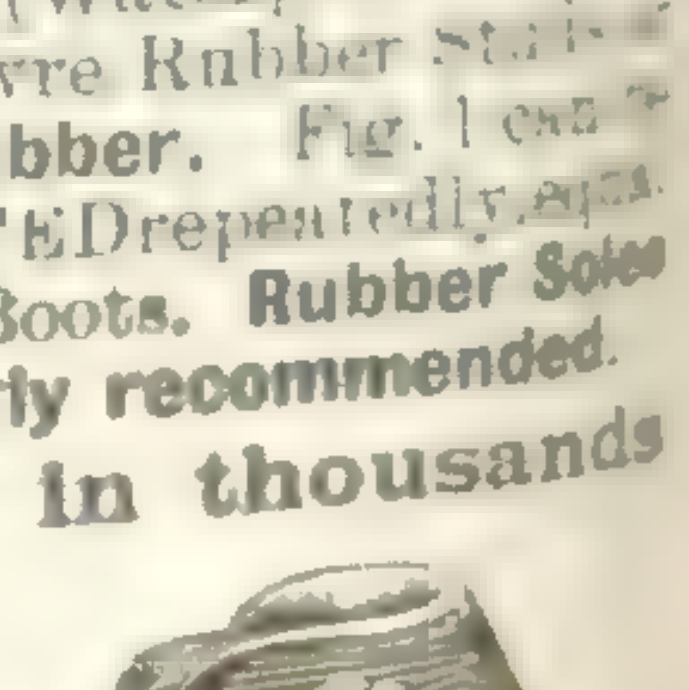

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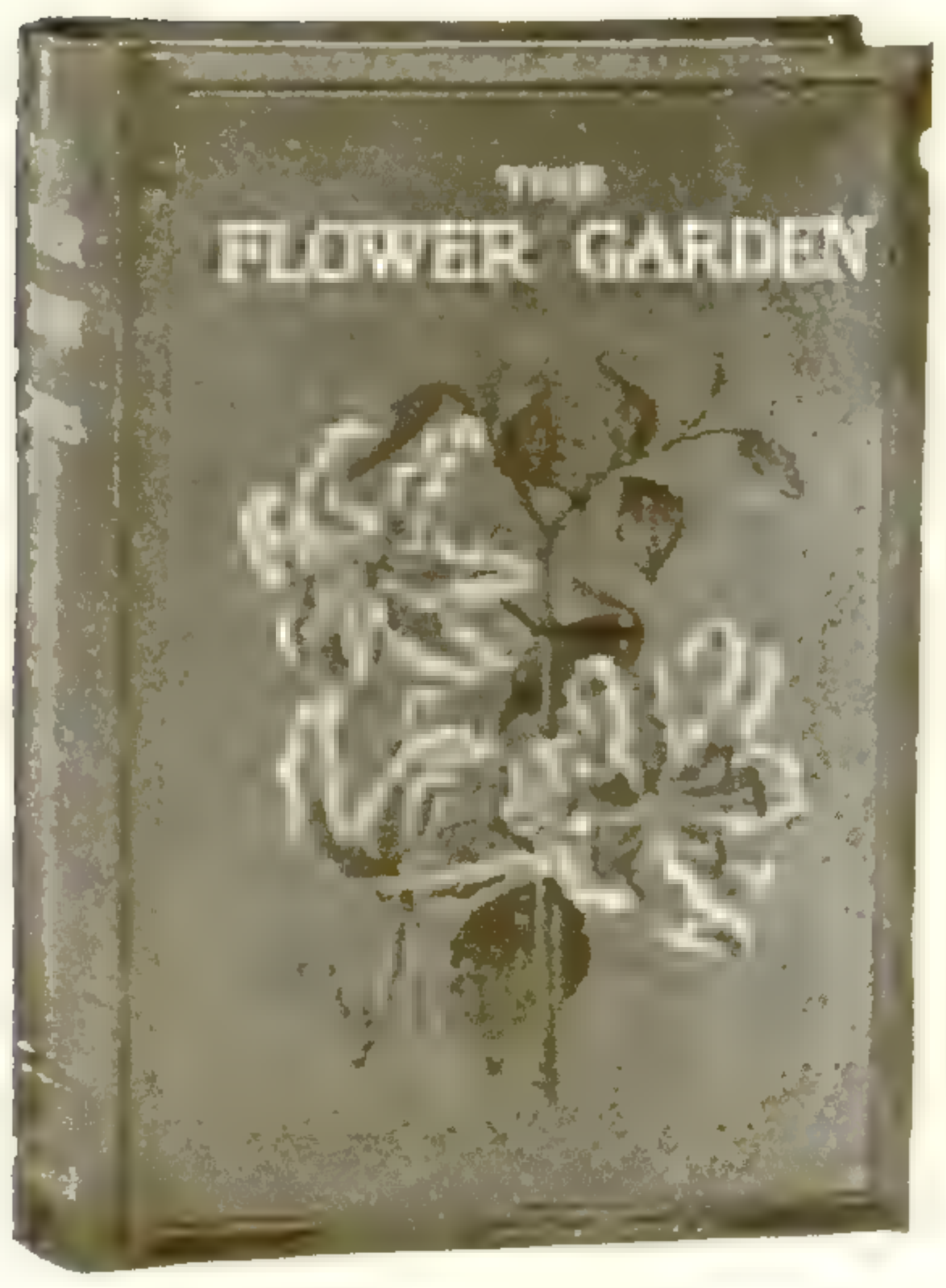

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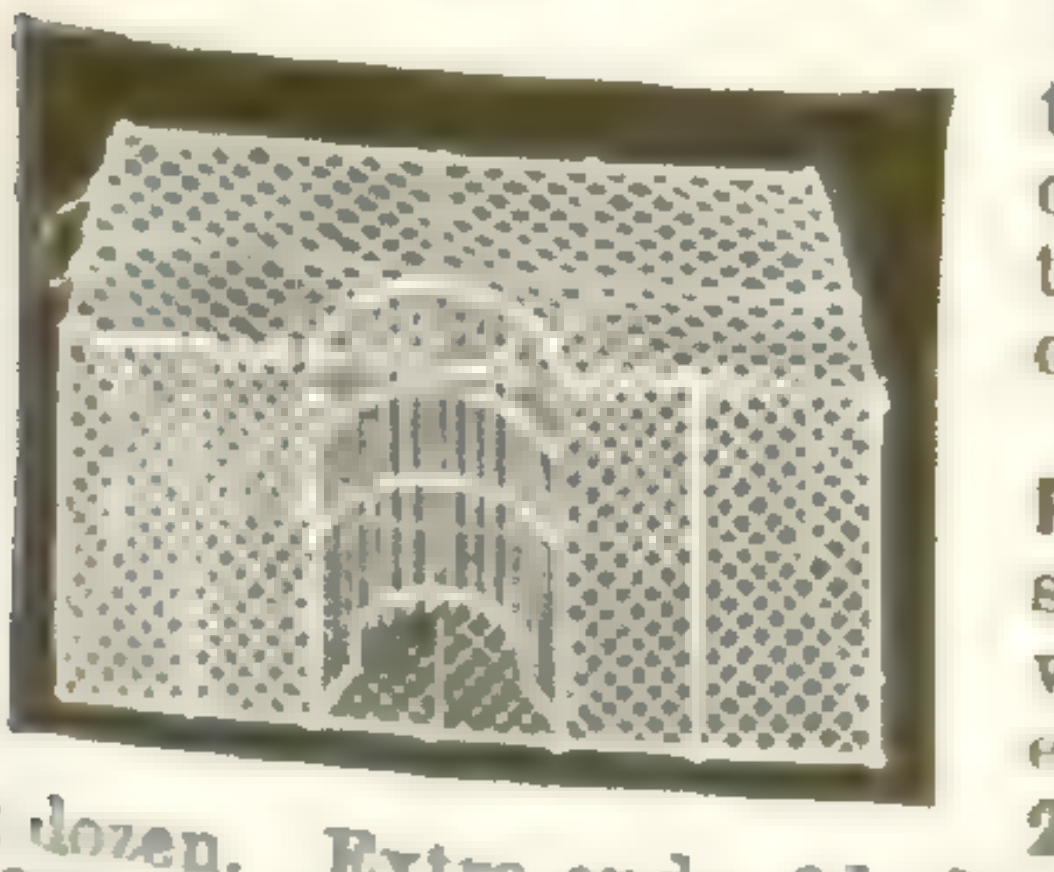

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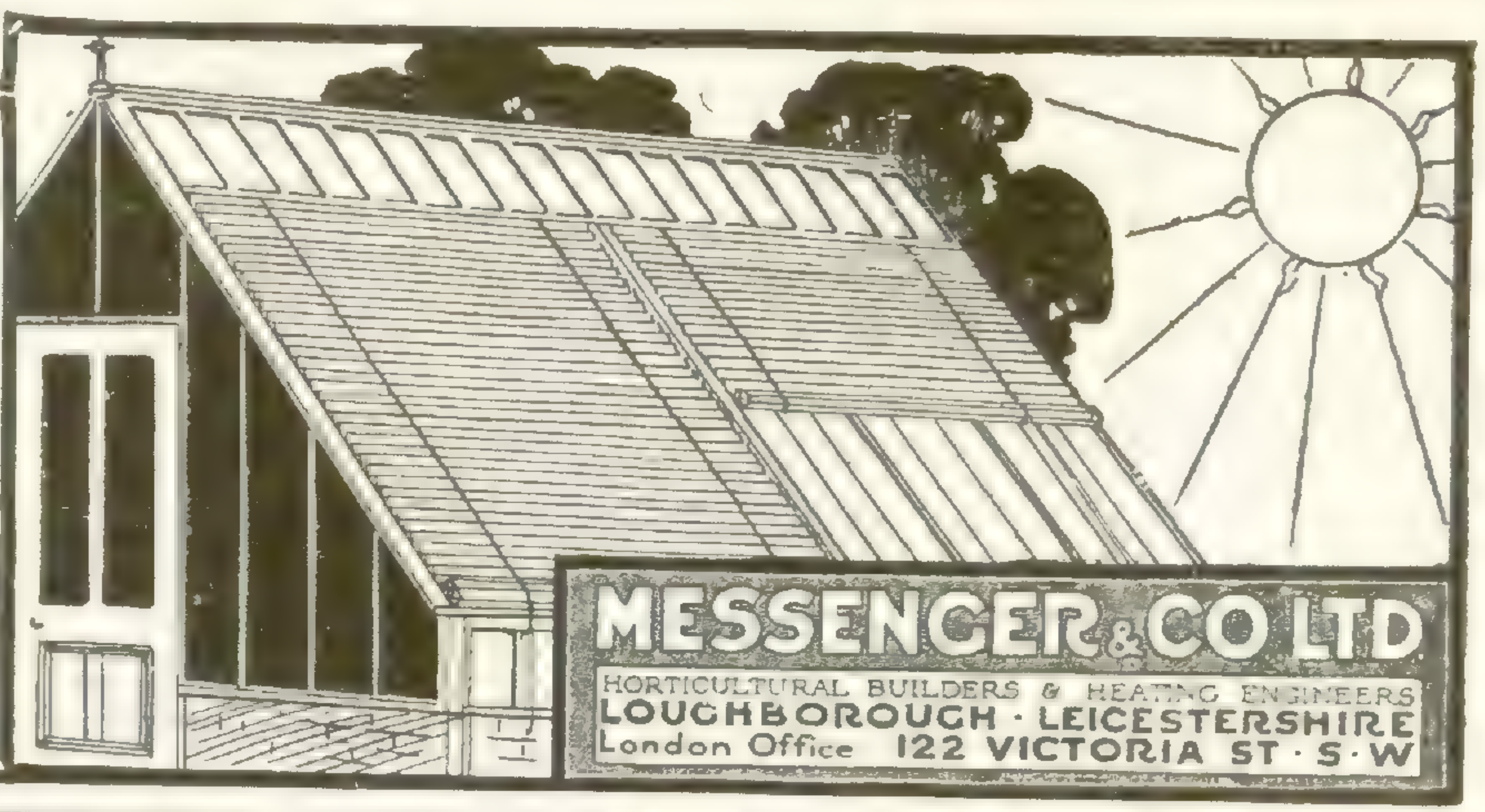

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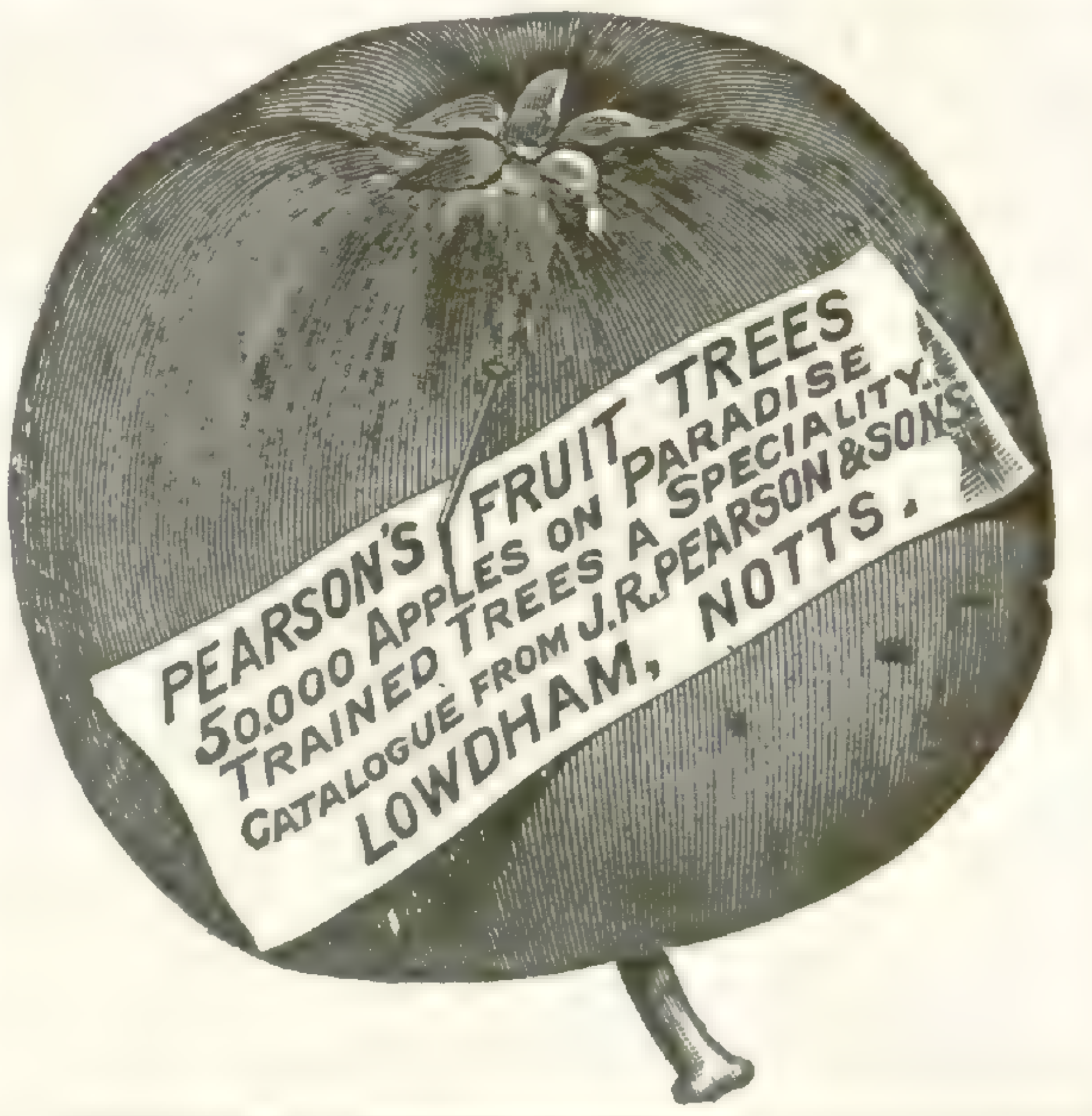
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A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

GARDENER (Head, or good Single-handed); good general knowledge, gained in large establishments; 3 years fruit foreman; excellent references; married, age 28. A. HALES, Willington, Beds.

HER GRACE THE DUCHESS OF DEVONSHIRE wishes to recommend J. THOMPSON to any Lady or Gentleman requiring the services of a HEAD GARDENER, where several are kept; 20 years' experience in all branches. Holker Gardens, Cark-in-Cartmel, Lancs.

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MISS DALTON highly recommends GARDENER (Head Working, or good Single-Handed); life experience, 10 years' excellent character, leaving through death; age 34; married, one child, aged 8 years. Apply W. HIGGINS, The Lodge, Darrington, Camberley, Surrey.

GARDENER (Head Working), good, practical life experience in all branches, Inside and Out; early and late forcing; especially good with melons, violets, and chrysanthemums; 9 years with last employer as Head; can have excellent references. H. TURNER, 4, Glenton Street, Peterborough.

GARDENER (Head Working), where more are kept; 25 years' practical experience in all branches, Inside and Out, early and late Forcing, Vines, Cucumbers, Melons, Stove, and Greenhouse Plants, Herbaceous Borders; thoroughly reliable; highly recommended; married, without encumbrance. WOODHOUSE, Eastwood Road, Bramley, Surrey.

GARDENER (Head Working), where one or two are kept; practical experience, Inside and Out; nineteen years present situation; good references; age 40; married when suited. S. COVENTRY, Reading Road, Pangbourne, Berks.

HEAD WORKING GARDENER (where several are kept); eighteen years' thorough practical knowledge in cultivation of fruits, flowers, and vegetables; highest references; age 32, married; abstainer. Gordon Woodhouse, Esq., can highly recommend R. Pocock as above. Address POCOCK, M.B.G.A., Armscott, Stratford-on-Avon.

MESSRS. LADHAMS, Nurserymen, Shirley, Southampton, can confidently recommend W. GUNSTON, age 35, as HEAD WORKING GARDENER to any lady or gentleman requiring the services of a good all-round man, who is conversant with the requirements of a well-kept establishment; excellent references. Apply as above.

MRS. GRAHAM MOON wishes to recommend her Gardener, who has been with her five years, as HEAD where two are kept, or good SINGLE-HANDED; age 32; married, no children; leaving through death. A. JOLLIFFE, Cedar Lodge, Taplow, Bucks.

GARDENER (Head or good Single-handed); age 38; single; life experience, Inside and Out; good references. W. HALL, 72, Stanstead Road, Forest Hill, S.E.

GARDENER (Single-handed or with help); good Second's place not objected to; married; age 36; tall; one child; life experience, Inside and Out; good references. H. WARNER, 17, Salmestone Road, Margate, Kent.

AS GARDENER (Single-handed or otherwise); life experience Inside and Out; good references; single; age 44. Address F. GOWER, Springfield Villas, Clarendon Road, Ashford, Staines.

GARDENER, age 25, seeks SITUATION, single-handed or otherwise; 11 years' experience, Inside and Out; good references. A. RANDALL, 40, Victoria Place, East Street, Epsom.

GARDENER (Single-handed or Second); good all-round experience; good reference; age 27; married, no family. G. BOOKER, 5, Horn Street, Shorncliffe.

GARDENER (Single-handed); 9 years' experience; good character; leaving when suited; single; age 25. C. TEGG, St. Leonard's Hill, Clewer, near Windsor.

GARDENER (good, single-handed or with help), thoroughly experienced, Inside and Out; age 35; single; good references. Apply GARDENER, 1, Gillespie Road, Highbury, N.

GARDENER (good Single-handed, or where help is given); four years' excellent character; married, one child; total abstainer; age 25; 11 years' experience. F. WICKENS, George Road, Farncombe, Surrey.

GARDENER seeks SITUATION as Lead, Outside; Kitchen Garden, Pleasure Grounds, or General or good Single-handed; used to Stock and Poultry; married; age 33; good references. G. WELLS, The Hoo Lodge, Hemel Hempstead, Herts.

GARDENER (Single-handed or otherwise); any distance; all-round experience; abstainer; willing and trustworthy; age 28; married, no family. S. HOLMES, 49a, Murray Road, South Ealing, London, W.

MR. F. W. KEMP, Eastcourt House Gardens, Malmesbury, Wilts, can thoroughly recommend J. CLARKE as SINGLE-HANDED GARDENER, with help; experienced fruit, flowers, vegetables, and lawns; Inside and Out; good previous reference; age 26; three years second here; married when suited. Apply as above.

AS SECOND GARDENER or JOURNEYMAN in good establishment; 6 years' experience Inside and Out; well recommended. H. GILBERT, Gardens, Westfield, Wimborne, Dorset.

GARDENER (Second), age 23; nine years' general experience Inside and Out; excellent references. C. BOULTER, North Lodge, Southwick Park, Fareham, Hants.

GARDENER (Second). — Mr. STARKE, Bourton Gardens, Shrivenham, Berks, highly recommends W. AMEY as above; well up in all branches; has been with him four years as Foreman (Inside); age 28; married when suited.

GARDENER (Second, or good Single handed), good experience, Inside and Out; well recommended; disengaged; age 25. H. KEMP, 4, Chapel Row, Stockcross, nr. Newbury, Berks.

GARDENER (Second or Head working of two or three); age 23; seven years' experience, Inside and Out; well recommended. G. E. KETTLE, Kings Ford Cottage, Colchester, Essex.

GARDENER (Second, Inside) or Foreman; well experienced in all work under glass; good references; age 25; Bothy preferred. G. A. GRANT, The Gardens, Thirlstane Hall, Cheltenham.

GARDENER (Second, or good Single-handed); practical experience in all departments, including fruit, orchids, plants; highly recommended; age 27. ILIFFE, 2, South Terrace, Hailsham Road, Heathfield, Sussex.

MESSRS. CYPHER and SONS, Exotic Nurseries, Cheltenham, will be pleased to recommend J. COMPTON to any Gardener requiring first-class Man as SECOND (Inside and Out); age 26; abstainer; excellent references; Bothy objected to; five years Foreman at Lypiatt Park, Stroud, under Mr. Savegar, who can with confidence highly recommend him.

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JOURNEYMAN (Inside, or inside and out; three years last place as Inside and Out; well recommended; age 22. W. WIDGERY, Wonston, Micheldever Station, Hampshire.

JOURNEYMAN (Inside), in good establishment; well recommended; two years at Danesfield; age 19; disengaged. E. DILLEY, Carnes Green, Broxbourne, Herts.

GARDENER, age 22, seeks SITUATION; 7 years' experience, Inside and Out; can be well recommended. N., Red House Lodge, Heatherside, Camberley, Surrey.

YOUNG MAN as GARDENER (Under; three years' good experience, with excellent character; tall, strong, and willing; age 19. Apply H. BENNETT, Lathbury, Newport Pagnell, Bucks.

A YOUNG MAN, 20 years of age, seeks SITUATION in gardens, outdoor, private, or market gardens; experience in private gardens for 2 years. Address, REDDING, Tysoe, Kineton, Warwick.

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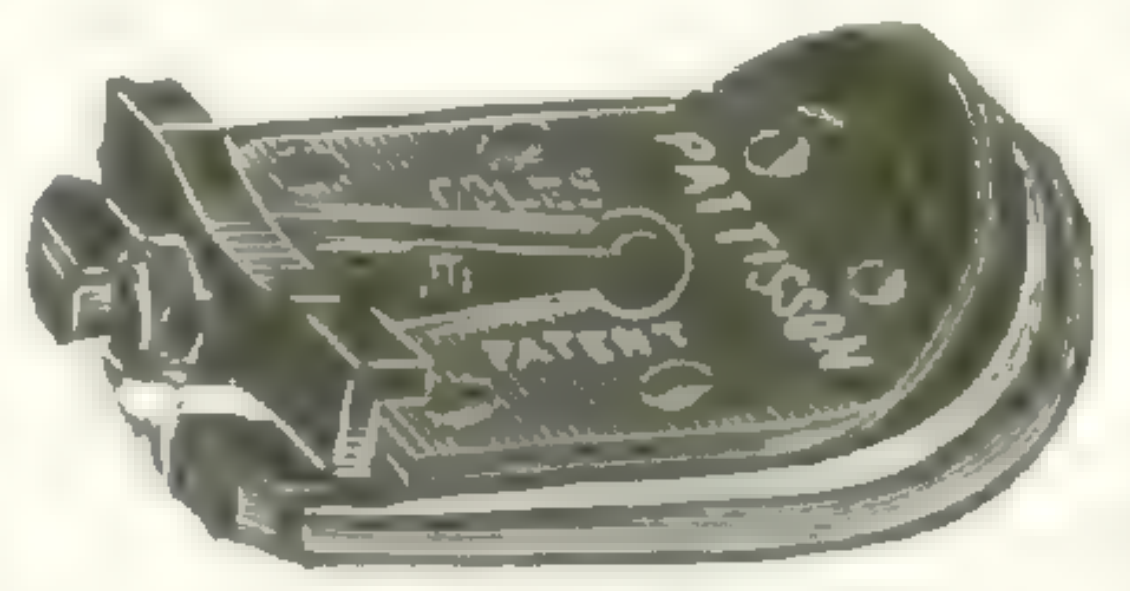

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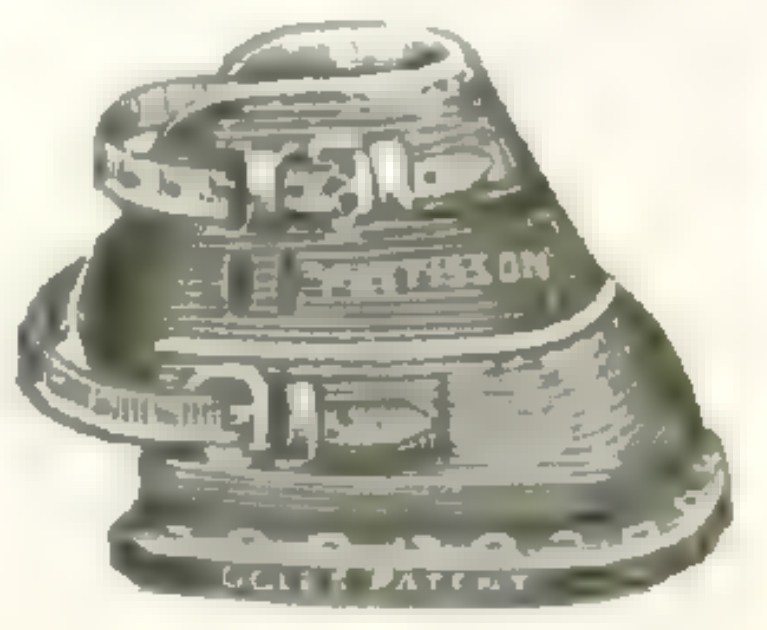

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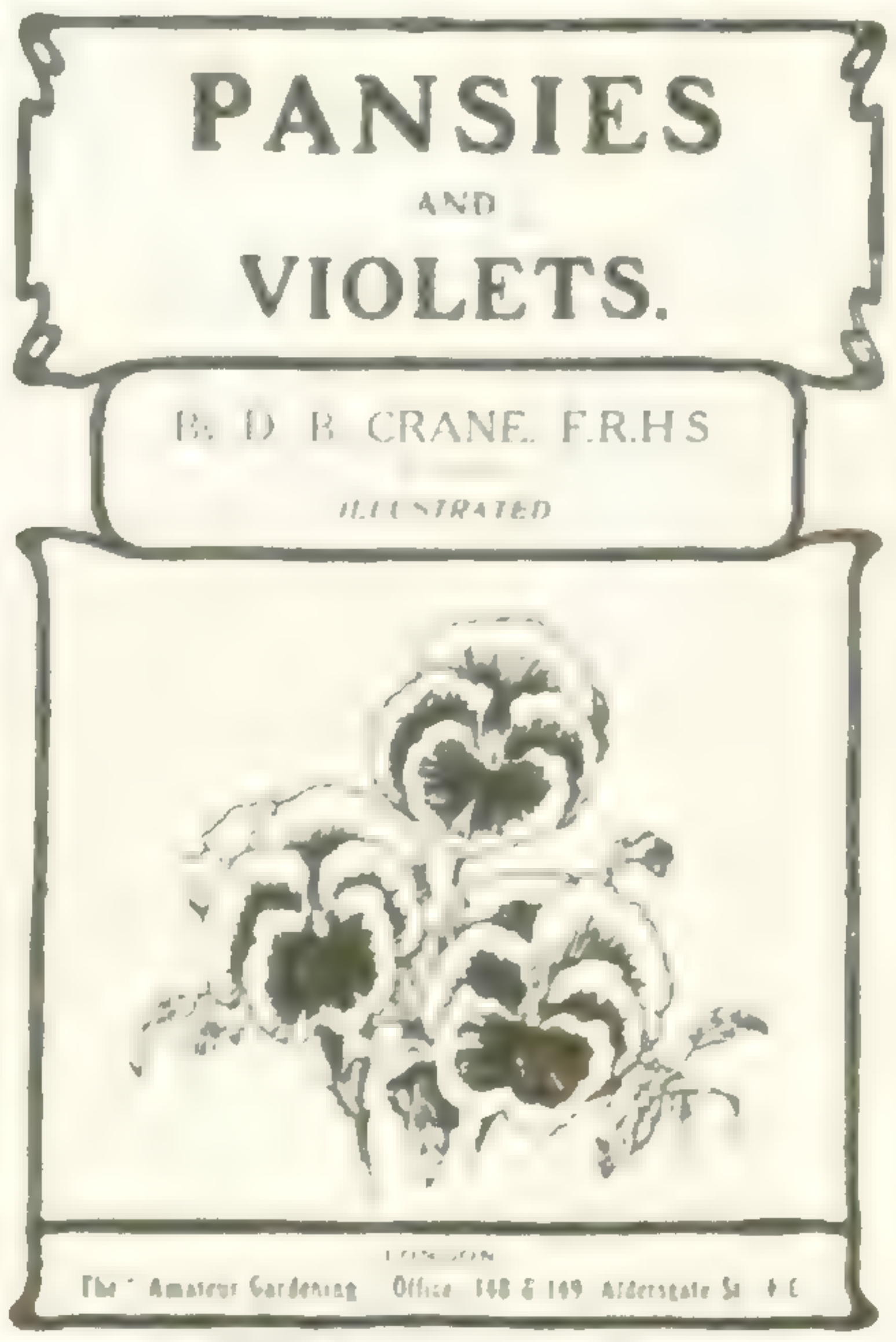

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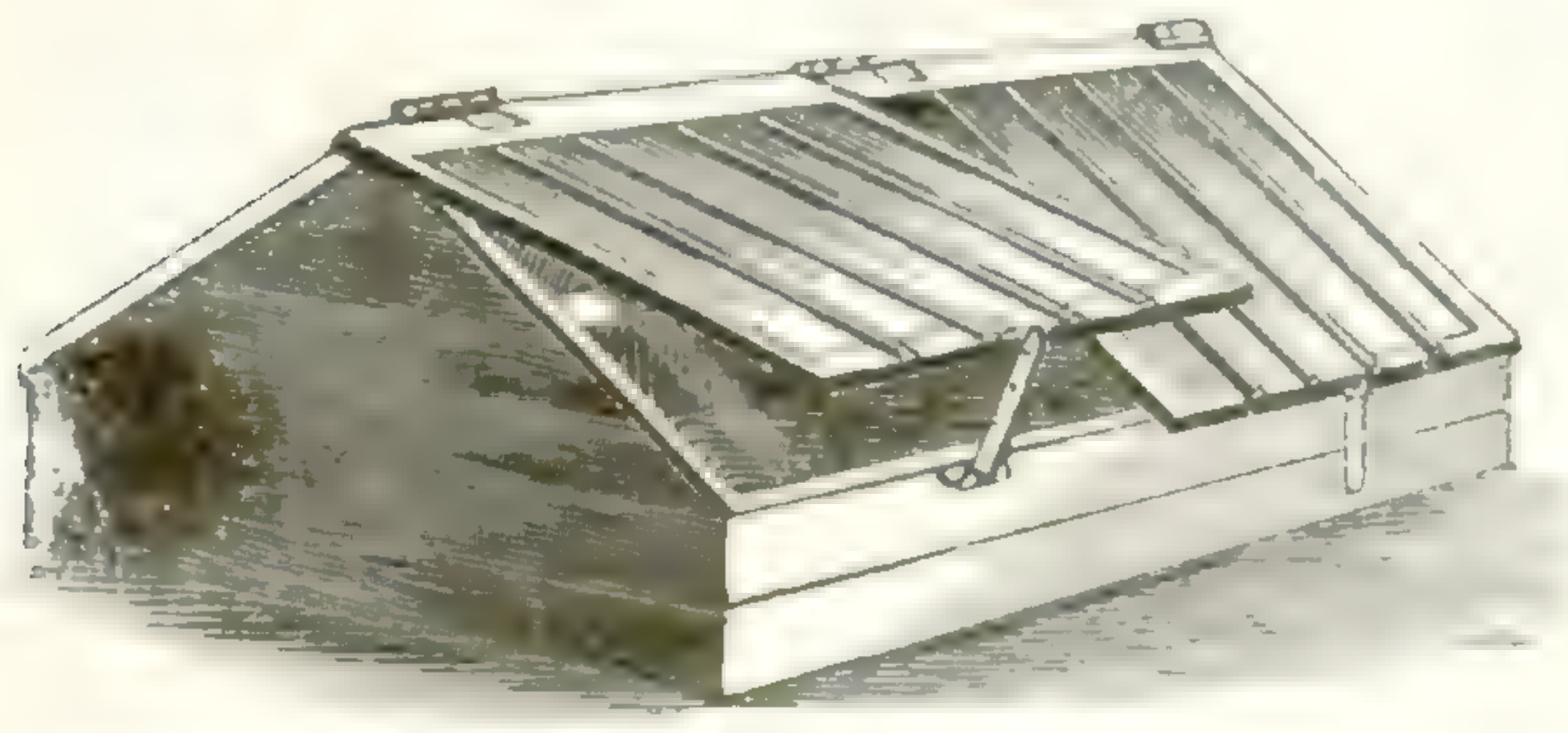

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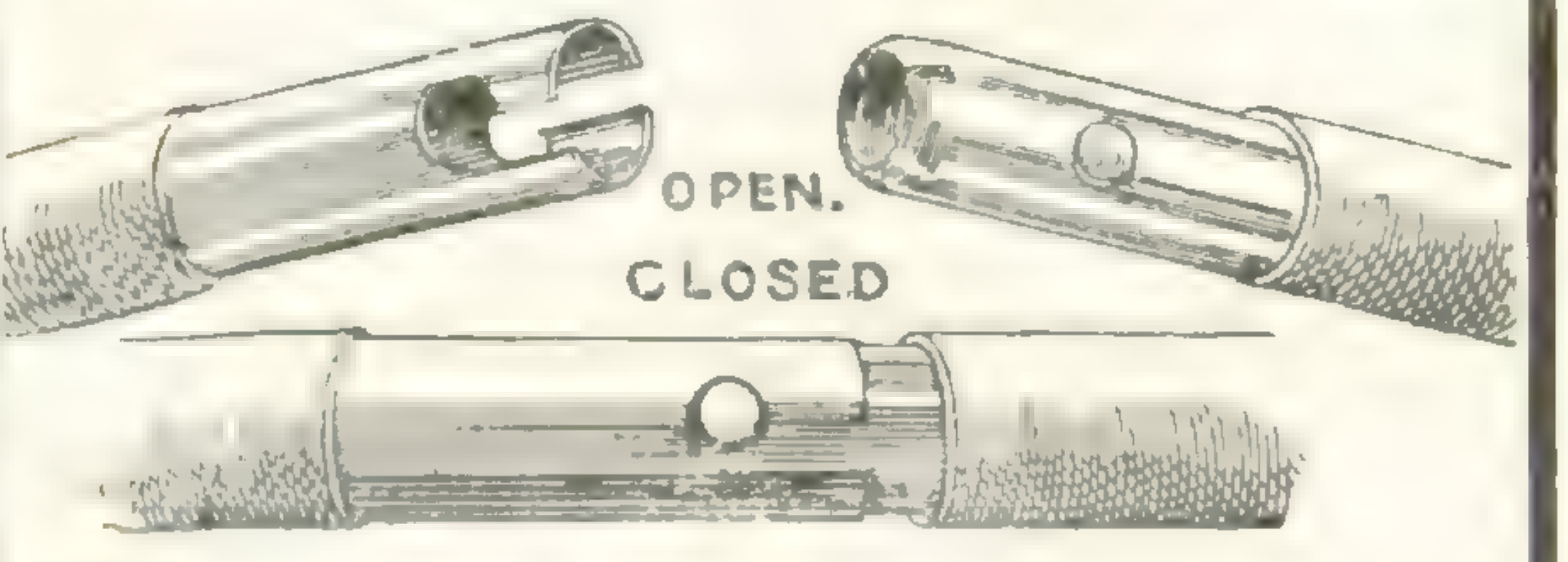

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VOL. LII.—No. 2,904. SATURDAY, JUNE 26, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

National Vegetable Society.

The formation of a society that shall be wholly devoted to vegetables and vegetable culture is a matter of much interest, as conclusively showing that the utilitarian aspect of the garden is now receiving the attention its importance demands. Time was, and that not so far distant, when the cultivation of vegetables was generally regarded as a duty rather than as a pleasure. They were, as a matter of course, grown in sufficient quantities to meet the requirement of the household, and with a considerable amount of success; but the same interest was not shown in the quarters of the kitchen garden as in the cultivation of the various classes of stove and greenhouse plants, in fruit production under glass, or, indeed, in the management of the trees of choice fruits given the shelter of walls. Indeed, some of the older members of the gardening profession tell us of a time when there was a difficulty in inducing young men who were being trained as gardeners to devote a sufficient proportion of their time to the details of kitchen garden management, owing to their preference for glass culture. This is not altogether surprising, considering how great was the interest associated with the continuous flow of tender exotics into the garden, and the great credit that the production of good crops of grapes or peaches, or finely-developed pineapples brought the grower. Happily, there is now a change in the trend of opinion on the relative importance of the several departments of the garden, and young men who intend becoming gardeners turn readily to the study of vegetables and of the methods by which they can be grown to the highest degree of perfection. As the result of this highly beneficial change vegetables are more largely and more successfully grown in private gardens, and market supplies have been materially increased in bulk and greatly improved in quality, to the advantage of the public health. Vegetables have also been presented to public notice at the exhibitions in larger quantities and in a more attractive manner; and those engaged in the important work of creating new forms and the improvement of existing stocks have received the stimulus essential to sustained effort by the appreciation of the results of their endeavour. Notwithstanding all that has been accomplished, much yet remains to be done, a fact that is fully recognised by those acquainted with the relative merits of varieties and the methods of procedure in crop production. It is recognised by them that substantial advances have been made all along the line; but they believe that there is plenty of room for still further progress, and that its rate might with advantage be greatly accelerated. It has been felt that a properly constituted and capably managed society would be able to render substantial aid in the extension of vegetable culture, the improvement of types, and the bringing into prominence the finest of the varieties in the several sections. Practical expression has been given to this feeling by forming a society, which is to be known as the National Vegetable Society, and its foundations have been so laid as to justify the anticipation that it will attain to a foremost position among the special societies associated with horticulture and floriculture. Fortunately for the stability of the society there is no boom, either existing or impending, in vegetables, and the promoters have, as will be seen from the list we publish in another part of this issue, been careful to place on the list of vice-presidents and the executive committee those who are known to have taken for some considerable period a deep interest in vegetables and their culture, and are consequently in full sympathy with the object of the society. The success of the society will be the measure of the support it receives from those, whether cultivators or otherwise, who are interested in esculents as food products. The object of the society shall, we are told in the preamble to the rules, "be to promote the wider cultivation of vegetables as food products; to encourage their consumption as food, to promote exhibitions of such products, whether competitive or otherwise, and to hold trials under such conditions as may offer, with a view to finding the best varieties to commend for general culture." No more laudable object could well be conceived; but to carry it out in a really satisfactory manner a substantial income will be necessary. Exhibitions of vegetables, as in the case of other products, are costly, and trials are costly; both are essential to a justification of the existence of the society, and they must be conducted on independent lines. The society will, as a matter of course, welcome all the assistance the various firms associated with the seed trade can give; but it should not, and we trust will not, depend so much upon special prizes given by them that the principal part of the exhibitions will be formed by the products in competition for such awards. This we regard as an important point, and we therefore hope those whose trade in seeds is of moderate dimensions, as well as those whose business is on a large scale, and private growers, will recognise their responsibilities and assist in the good work the society will be capable of doing. The recognition of these responsibilities are especially necessary in connection with the proposed trials, as it is most desirable that something should be done with a view to reduce the lists of varieties, and bring into prominence those of special excellence. A substantial reduction in their number would be of immense value both to the seed trade and to cultivators; but the process of weeding out the indifferent ones will be

MR. JAMES BEISANT.

rather slow and involve considerable expenditure, hence the necessity for substantial support. The trials we regard as the most useful part of the society's work, and without them it would be difficult to justify its existence.

Mr. James Beisant, head gardener to Lady Armistead, at Castle Huntley, Longforgan, Perthshire, has for a long time been regarded as one of the most able of the many excellent gardeners in Scotland. He has had charge of the famous Castle Huntley Gardens during a considerable period, and he has added greatly to their high traditions. As a successful competitor at the leading Scottish horticultural exhibitions Mr. Beisant has achieved great fame, both for fruits and flowers. As an exhibitor he is perhaps best known for his long series of successes with chrysanthemums, and it is not too much to say that Mr. Beisant and Mr. T. Lunt laid the foundation of that great enthusiasm that still characterises the Scottish Horticultural Association's exhibitions at Edinburgh in November. A mere list of Mr. Beisant's successes in this direction would occupy more space than we can spare, but rarely does an autumn show pass in the Scottish capital without ample evidence that Mr. Beisant's skill does not abate, even though increasing years have brought increasing duties.

Holland Park Show.—On the occasion of the Royal Horticultural Society's exhibition at Holland Park on July 6 and 7, the Council will entertain the standing committees at lunch at one o'clock. Judging commences at 10 a.m.; the committees meet at 10.30 a.m.; the Council sits at twelve o'clock, and the exhibition opens at the same hour, and the luncheon follows at 1 p.m.

The Masters' Memorial Lecture.—On June 22, at 3 p.m., a large and influential gathering was drawn to the lecture room in the Royal Horticultural Hall, to hear Professor Hugo de Vries, of Amsterdam, deliver the first of the Masters' Memorial Lectures. Sir Trevor Lawrence presided, and Sir Albert K. Rollit, Sir John T. D. Llewelyn, Sir Daniel Morris, and other noted horticulturists and botanists were present, and Professor de Vries received a very warm welcome. He paid high tribute to the work of the late Dr. Maxwell T. Masters, and pointed out that the latter had been a great worker and thinker along the lines of morphological botany, and had in his "Vegetable Teratology" given to the world a work of the greatest importance both to botanists and florists. Teratology helps the doctrine of evolution, and the so-called monstrosities in vegetable life often became the beginnings of new forms, and a florist may from them create new races of flowers, and, if new races, why not new species? thus reasoned the late Dr. Masters. It was at the suggestion of James Salter that Dr. Masters took up the study of vegetable teratology, but his work as editor of the "Gardeners' Chronicle" prevented him from presenting a new edition of his great book, though in the pages of that journal he figured and described the many monstrosities in flowers, fruits, and vegetables that came before him. Professor de Vries, with the aid of lantern slides, showed how a flower might become double by the change of stamens into petals, and how the green rose showed a reversion, its petals gradually changing back into green leaves. The Feathered Hyacinth has its flowers supplanted by coloured pedicels; the elongated axis of a flower as sometimes found in the crowfoot, lily, and clematis; the doubling of the columbine, the suppression of flowers and increase of bracts in the Wheat-ear carnations; the Nepaul barley, with its highly-developed scales and suppressed awns; and the campanulate terminal flower in a certain strain of foxgloves, all served to illustrate the curious variations from the normal, and to show how these variations may be taken advantage of by the horticulturist. Torsion in the teazle, pitcher-leaves in the magnolia, the correllation of laciniate leaves, and fimbriated flowers in the parsley-leaved bramble, were also used as illustrations of this most interesting subject. Teratology, said the lecturer, often suggested botanical affinities. In conclusion, he pointed out that Dr. Masters had endeavoured to secure an appreciation of botanical science on the part of gardeners and an appreciation of the science of horticulture on the part of botanists, as he felt that each was of the greatest assistance to the other.

Changes in Leaf Colouring.—Mr. George Abbott, of Rusthall Park, Tunbridge Wells, directs attention to the effect of protection on the colour of leaves when applied to trees of the copper beech. For the last two years he has, in the spring, partially covered with sacking about half of a small tree (less than 6 feet high), leaving one side open so that there should be some access of light. The aim was to protect a few branches from the effects of frost. This year the cover was put on the part which last year was left uncovered, and about the middle of April, before any leaves had appeared. The cover was removed on May 22 in the presence of several members of the Geologists' Association; the whole of the sheltered leaves were seen to be quite green, and a remarkable contrast to the others. In two days, however, protection being abandoned—the green leaves commenced to resume their usual spring coloration, and now are, with a few exceptions (as where one leaf may have been shielded by another), of the same tint as the other leaves, and probably no one would suspect they had ever been green. The experiment, Mr. Abbott supposes, shows the effect of the cold nights in April and May, which damaged, producing slight chemical change, but did not actually kill, the foliage. In a few months' time all the "copper" colour will, he assumes, have disappeared, and the tree be as green as the common English beech.

Portraits of Darwin.—In association with the Darwin centenary, which was celebrated at Cambridge during the past week, an exhibition was arranged by the Christ Church authorities of portraits, manuscripts, and other objects connected with Charles Darwin. The portraits were of special interest, and included the painting by Sir W. B. Richmond, R.A., representing Darwin in his robes as Doctor of Laws, from the library of the Philosophical Society; and the portrait by the Hon. John Collier of Darwin in his long black cloak, which was lent by the Linnean Society. There were also two crayon sketches of Darwin, by Samuel Laurence, the fine bust by Woolner, and the large bronze head by W. Couper, of New York, which had been presented to Christ Church by the American delegates.

Inauguration Supper at Enfield.—To celebrate the inauguration of the new firm of Messrs. Stuart Low and Co., Bush Hill Park Nurseries, Mr. Stuart Low is giving a supper on Tuesday, June 29, at which not only the new staff and friends will be present, but a large number of those who were in various ways associated with the Messrs. Hugh Low and Co., at the Clapton Nurseries in the old days are expected to attend. This should be an interesting gathering, as we remember that Mr. W. Watson, of Kew, and Mr. Boxall, V.M.H., the famous orchid collector, are old Claptonians.

R.H.S. Gardens Club.—The second annual meeting of the club will be held at the Royal Horticultural Society's Gardens, Wisley, on Saturday, July 10. Train leaves Waterloo 2.28, arrives Weybridge 3.9. Conveyances will take members to the gardens, and tea will be arranged for at the Hut Hotel. Will all members please communicate as early as possible with the Secretary to the club, R.H.S. Gardens, Wisley, Ripley, Surrey, in order that arrangements may be completed.

National Rose Society.—We would remind our readers that the National Rose Society's Metropolitan show will be held in the gardens of the Royal Botanic Society on Friday next, July 2. The schedule of prizes offered for competition on this occasion contains several new classes that should add materially to both the interest and the attractions of the exhibition.

The Perpetual Flowering Carnation Society.—Mr. Laurence J. Cook, treasurer of this society, writes us that the schedule for the December show, just completed, offers largely increased prizes to amateurs and gardeners, and Lord Howard de Walden's magnificent challenge cup (value 40 guineas), which also carries a money prize, is well worth competing for. He also suggests that plants for this show should now be in their flowering pots, and it is not advisable to stop one's plants after the end of this month, excepting in the case of very quick growers. Members will shortly receive the schedule.

The National Amateur Gardeners' Exhibition will be held in the gardens of the Royal Botanic Society, Regent's Park, on Saturday, July 10, at 3 p.m. There will be rose, sweet pea, viola, begonia, vegetable, and fruit competitions, and quite an array of medals and plate is provided for prizes. There will be a military band in attendance, and the price of admission will be one shilling.

International Horticultural Exhibition at Florence, 1911.—The city of Florence, in conjunction with the Royal Horticultural Society of Tuscany, have arranged for a great International Horticultural Exhibition to be held in Florence in 1911, to celebrate the fiftieth anniversary of the proclamation of the kingdom of Italy. The programme contains six sections: Ornamental foliage or flowering plants, either new, or of recent introduction; fruit-bearing plants; vegetables and kitchen garden plants; seeds; bulbs and tubers; Colonial plants; flower decoration; horticultural arts and industries; horticultural literature and instruction; packing and preserving; history of horticulture. Besides numerous awards of merit, grand medals, and objects of art, the committee will place cash prizes and medals to the value of Lire 25,000 at the disposition of the jury. At the same time as the Horticultural Exhibition, a most important Portrait Exhibition will take place in the art rooms, which have recently been restored in the historical municipal palace, the Palazzo Vecchio.

Cape Cantaloupes.—During the past week a consignment of Cantaloupe melons reached Covent Garden Market from Cape Colony, and these sold from 2s. 6d. to 4s. each. Melons from Guernsey, as well as home-grown, have been quite plentiful in the markets, and an early lot of black and red currants from France realised 5s. per basket of 8lbs.

Changes in the Kew Staff.—The current issue of the "Kew Bulletin" contains the following notifications of changes in the staff at Kew: Mr. A. W. Benton, a member of the gardening staff of the Royal Botanic Gardens, has been appointed, at the request of the Secretary of State for the Colonies, on the recommendation of Kew, gardener for Government House, in the Falkland Islands. Mr. J. Hutchinson, whose appointment as assistant for India was recorded in "Kew Bulletin," 1908, p. 421, has been transferred to the post of assistant for Tropical Africa on the staff of the Royal Botanic Gardens. Mr. W. G. Craib, M.A., formerly officiating curator of the Herbarium attached to the Royal Botanic Gardens, Calcutta, has been appointed assistant for India on the staff of the Royal Botanic Gardens by the Secretary of State for India in Council.

MR. J. DONOGHUE'S FIRST PRIZE GROUP OF PLANTS AT THE YORK GALA.

Potato Spraying.—A leaflet on the spraying of potatoes has been issued by the Irish Department of Agriculture. The advantages of spraying the haulm with sulphate of copper solution as a prevention of potato disease is insisted upon, and evidence is given in support of the views of the department. Experiments extending over six years have been conducted, and the increased yields obtained as the results of spraying have ranged from 18 cwt. to 4 tons per acre, the average being more than sufficient to defray the cost of materials and labour. The Department very strongly insists upon the use of pure materials, and the importance of very closely following the directions for the preparation and application of the mixture. It is recommended that washing soda, as supplementary to the sulphate of copper, be used instead of lime. The spraying mixture, when washing soda is used, is more easily prepared, and adheres for a much longer period to the foliage than when lime enters into its composition. There is also the advantage of the nozzles of the spraying machine not being so likely to be choked.

Carnations from Cheltenham.—Messrs. Young and Co., Hatherly, Cheltenham, who have for some years past occupied a high position among cultivators of perpetual-flowering carnations, send us a box of blooms, representative of many of the finest varieties, which had been cut from plants growing in the open beds. The flowers are so highly developed as to show that the system of outdoor culture which obtains in the nurseries of the firm is such as to ensure the production of plants remarkable alike for their health and vigour. The varieties represented in the gathering of blooms include White Perfection, Britannia, Enchantress, Mrs. H. Burnett, Aristocrat, and Imperial, which are so well known for their many good qualities as to render it unnecessary for us to say that they should have a place wherever these fragrant flowers are grown. The flowers are of much interest as evidence of the value of the newer perpetual-flowering varieties for growing in open beds and borders for the production of flowers during the summer and autumn months.

A New Hybrid Solanum is said to have been obtained in Germany, and with reference to it "Nature" says: "An exceedingly interesting problem is presented by the production of a vegetative cross between two species of solanum, the nightshade, and the tomato, defined by the raiser, Professor H. Winkler, as a graft-hybrid. The method of procedure consisted in grafting a scion of the nightshade on the cut apex of a tomato plant; when the graft had matured, a transverse cut was made across the apex at a point where tissue of both scion and stock was present, so that the buds arising from the callus formed at this position might partake of the characters of both species. In this way various adventitious shoots were obtained, which were separated and grown to form independent plants. One of these with distinct characters is the specimen described and named as Solanum Tubingense in the Berichte der deutschen botanischen Gessellschaft (vol. xxvia., part viii.). Subsequently four other hybrids were obtained, which are described in the Zeitschrift für Botanik (vol. i., part v.)." In the course of our experience we have had several supposed graft hybrids brought under our notice, but in no case have they afforded evidence sufficiently conclusive to establish the claims made for them. We shall therefore wait until we have had an opportunity of seeing Professor Winkler's hybrids before expressing any opinion with regard to them.

Kew Bulletin.—The contents of the current issue (No. 5, 1909) of this publication contains articles on the Makruss or Zimbiti (Androstachys Johnsoni), an interesting tree belonging to the Euphorbiacæ, and growing in large numbers in the Mosembe district, north of Mozambique; descriptions of a further selection of exotic fungi; a reprint of an article from an Indian publication dealing with the Myrobalans (Terminalia Chebula), a tree of considerable economic importance for the tannin material it yields; descriptions of African plants; the vegetation of the Pastasa and Bombonasa rivers; and a reference to the disease known as witches broom, which has affected cacao trees in Surinam.

ANTIRRHINUMS IN POTS.

An interesting article appeared in the issue of May 29, from the pen of Mr. Alger Petts, dealing with the outdoor aspect of antirrhinums, and I now present a little digression from that phase of culture. For some years we have derived a useful spring display from these humble snapdragons in selected colours and stocks, and, in our opinion, the plants compare very favourably with other occupants of the conservatory in their season. It is true they need not encroach unduly upon the space regularly set apart for such plants as primulas, cinerarias, forced bulbs, spiræas, calceolarias, or schizanthus, and such-like, because all these subjects claim seasons more or less successional. From the very fact that antirrhinums are not reduced to the commonplace by universal cultivation in pots, they appear to call for comment when presented in their better dress; indeed, some who have seen our stock have criticised their own inaction in that they have not given them a place in their spring displays.

Mr. Alger Petts gives details for dealing with the all-the-year-round supply out of doors, and the same simple details suffice for pot purposes. Antirrhinums are not in the least fastidious in their cultural needs, but there is one point which seems to stand out somewhat clearly, and that is their dislike of any attempt at forcing, but then, it will be remembered in connection with this, that other subjects also resent forcing.

Sown in autumn to flower during the spring months, they possess a character which to many is accounted novel, yet in the summer garden they may from the same persons be adjudged common. The dwarf and intermediate stocks of these snapdragons are those which are chosen for pot purposes; the tall strains are not advised, because under glass there is a natural extension of stem growth, which would need stout stakes and unsightly ligatures. The dwarf varieties easily attain to a foot or fifteen inches, while the intermediates rise proportionately higher, and yet, produced under cool conditions, but very little aid is needed to keep them upright.

Pots six inches in diameter we have found ample for all these types, and in this size it will be clearly seen they are adapted to any form of decoration. It may be possible that a mixture of colours would be of the greatest interest for conservatory furnishing, as there is in most florist's flowers a charm in their infinite variety, but some there are who will prefer to choose separate colours under name. These are matters which claim individual choice and adaptation. It may be said, too, that a succession of bloom may be had by the simple rule of periodic sowing, and advancing or retarding treatment later on. We have made the month of August the select period for sowing seeds, placing these under glass only for the sake of protection. There is, otherwise, no need for glass culture until, in late autumn, the weather calls for protective means, and then only for safety from severe frost.

The first and only aim should be to keep the plants healthy and sturdy; insects do not give trouble until they have advanced to their flowering stage, and then only when subject to extremes of temperature, or contact with infested plants. It will thus be clearly seen that the subject is one which calls for no intricate cultural details, but there is a marked degree of economy in return for which a high percentage of value is given in spring displays. I have already remarked that, grown in pots and flowering during the early months of the year, there is an absence of the common aspect of the flower familiar to everyone in summer. Their season in pots should be so arranged that it closes before the autumn-sown outdoor stocks begin to flower in early summer. In practice it will be found that the same sowing provides the early indoor batch as well as the early summer outdoor display, and, severe as was the past winter, our outdoor bed shows no blank spaces.

W. Strugnell.

Rood Ashton Gardens.

PENTSTEMON CRIMSON GEM.
An effective crimson variety, raised by Mr. John Forbes, and shown by him at the York Gala.

YORK GALA ILLUSTRATIONS

We have received numerous congratulations upon the extent and quality of our report of the Great Yorkshire Floral Fête and Gala, that appeared in our issue dated June 19, but these were few as compared with the many expressions of surprise that greeted the Gardeners' Magazine when it appeared at the exhibition on Friday morning, June 18, containing two illustrations reproduced from photographs taken inside the tents on the Wednesday morning.

In the present issue we give three other illustrations. One represents the first prize group set up by Mr. J. Donoghue, gardener to J. Pickersgill, Esq., Bardon Hill, Weetwood, Leeds, that was remarkable for its beauty and its splendid crotons. The other two represent respectively the beautiful Crimson Gem pentstemon, a brilliant bedding variety, raised and shown by Mr. John Forbes, of Hawick; and the very distinct and useful pink variety of the Queen Alexandra marguerite, shown so well both at the Temple Show and at York by Messrs. R. P. Ker and Sons, Liverpool.

THE MOUNTAIN AVENS.

A precious border or rockery flower is the Mountain Avens, Geum montana, whose bright golden flowers come in early summer, and in favourable positions continue for months at a stretch. The plant itself is a beautiful one, the foliage being of beautiful form, and in the highest degree pleasing, with its pretty shade of green and its charming contour, although the latter is what descriptive works are pleased to call "irregular" in form. The irregularity is indeed a charm in the case of these leaves, which, by the way, are also clad, to some degree, with soft hairs.

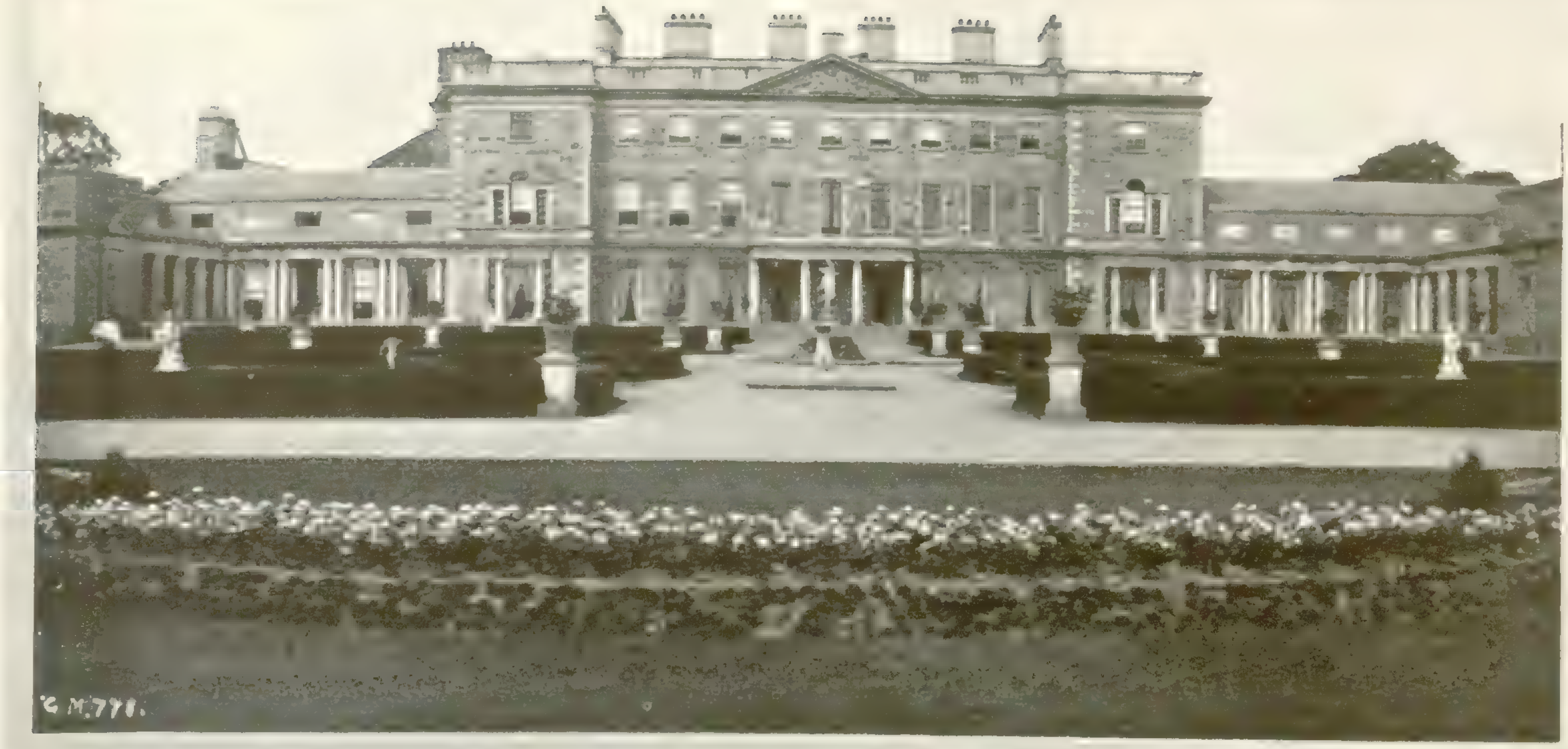
There are several varieties of Geum montanum, some being much neater and more compact than others. The neatest is of most consequence when it is employed as a rock plant, but there is hardly a weedy variety of this mountain avens in the market. The best and dwarfest varieties with which I am acquainted are only some six inches in height, and these are imperfectly represented by the illustrations we sometimes see of them. As already indicated, the flowers are of a bright golden-yellow, but there is a variety with orange-coloured flowers, which is of much beauty. It is called G. montanum aurantiacum, and is in every way as worthy of cultivation as the golden one. It is of about the same height, and forms a pleasant variety.

There is still another good variety, called maximum, which is taller, and thus better for the border than the others, although it can well be cultivated on the rockery. Its height is about nine inches, or a little more, and those who prefer a taller geum than the two first-named may secure this one.

The mountain avens, although not particular regarding soil, appears to me to like one which is not too heavy, but which has still a fair amount of moisture. On the rockery the moisture is conserved by the stones, and there it seems happiest, giving its bright yellow flowers, not only profusely, but of good size about as large as a two-shilling piece. It is propagated by division or by seeds, and is with me one of the best plants I have, although far from being a rare, or even scarce, thing in good gardens.

S. Arnott.

DAHLIAS TO PERFECTION.—A thorough guide to the successful culture of these popular flowers is "Dahlias and Their Cultivation," by J. B. Wr price 1s. net, by post 1s. 2d., bound in cloth 1s. 6d., by post, 1s. 8d., from The Gardeners' Magazine Office, 148, Aldersgate Street, London.



[Photo: Lawrence, Dublin.

CARTON, MAYNOOTH: THE MANSION AND DUTCH GARDEN.

SOME GARDENS ROUND DUBLIN—II.

◆

Carton.

The town of Maynooth, about fifteen miles west of Dublin, is of considerable historical interest, because it was here that Maurice Fitzgerald, who came over with Strongbow, built the famous castle and fortress in 1176. This stronghold was besieged during the reign of Henry VIII., because of Lord Thomas Fitzgerald's rebellion, but it was only taken after an act of treachery on the part of Christopher Parese, a foster-brother of the Geraldines. But the traitor did not live long to enjoy the money for which he sold the castle to the enemy, for, in the words of Stanihurst, "the Governor willed the money to be tolde to Parese, and presently caused him to be cut shorter by the head."

The ruins of this old castle still remain, and are preserved by the Duke of Leinster, who has extensive property in the district. The College of Maynooth, founded in 1795, for the education of students entered for the Irish priesthood, is another famous building near the town, and one which has at times called into being the most intense political and religious feeling.

For the purpose of these notes, however, Carton Park, the Duke of Leinster's residence, is the most famous place at Maynooth. The mansion is in fine old Grecian style, and was designed by Cassells, a notable architect of his day. It is reached from Maynooth by means of a long, broad avenue of lime trees that commences almost in the town itself. The park and grounds are finely wooded, and, as there is an abundance of water, they provide any number of beautiful scenes and many delightful walks.

Of most unusual character is the garden to be found along the garden front of the mansion. It is a combination of the old Dutch or Elizabethan style with the more modern method of freely grouping alpine and herbaceous plants on and around rock work. There are four square gardens, divided by lawns and paths, and with a small ornamental lily pond occupying a central position. Yew hedges, kept trimly in shape, form the boundary of each garden, and it requires no great effort of imagination to fill these gardens with beds of geometric design, planted with flowers set out in regular order. One naturally expects that this sort of thing will be found within the sheltering hedges, with an accompaniment of seats, sun-dials, and topiarian designs, carved out in yew and box and holly. It therefore comes as a distinct surprise to find each formal garden informally filled with a large collection of alpine and herbaceous plants. This rearrangement of an old garden is due to the late Duchess of Leinster, mother of the present Duke, who had a great love for the garden, and took the keenest interest in its welfare, and made many notable additions to its many fine attractions.

Some very fine old pyramidal Irish yews line the grass border the whole length of the garden front, and they are wonderfully fine old specimens, probably among the largest and shapeliest to be found anywhere. These are continued right to the grass steps leading down to the tennis courts that nestle amid beautiful beeches and giant Atlantic and Lebanon cedars. A winding walk near-by leads upward, amid fine trees and groups of flowering shrubs, to the little private cemetery where lie the remains of several Dukes and Duchesses of Leinster. It is a little garden cemetery, a beautiful burial ground. A giant old beech tree is the warden of the cemetery, and his bowing branches bid you remove your hat as you pass within the low wire fence, now almost hidden by rambling roses of the Wichuraiana family. Roses are plentiful in this quiet resting-place, and what better flowers could speak of all that is beautiful and fragrant in life, or suggest more eloquently the hope of the life to come? Not here are the stately and funereal cypress and yew, but the grace and beauty that only roses in their many kinds and varieties can give.

I find these notes have commenced in the middle of the subject, and so I must refer back to the great gardens that are near the house where Mr. A. Black, the head gardener, lives. These are some distance from the mansion, and connected by a broad winding path that leads under fine trees, amid masses of rhododendrons, azaleas, forsythias, lilacs, weigelas, philadelphus, and other flowering shrubs, and also by the water side, where bamboos and arundos, gunneras, and phormiums, add boldness and grace to the multitude of irises, and throw graceful shadows into the water to meet the glory of the great masses of the fine kinds of water-lilies growing there.

There are eleven acres of walled-in gardens at Carton, and within these walls fruit and vegetable cultivation is carried out on an extensive scale, and with the greatest success. Strawberries and horizontally-trained apples and pears are particularly well managed, but one feels that in this sheltered spot the skill of the gardener is admirably seconded by the favourable soil and climate. Almost every gardener grumbles over one or both of these things, but those who are worth their salt manage to secure good crops, whatever the kind of climate or quality of the soil. For once in a way I heard no grumbling at Carton.

Very fine is the picture that presents itself as one turns into this enclosed garden close by Mr. Black's house, for from this point three broad walks diverge, one passing along the left and another along the right-hand sides of the garden, and the third cutting diagonally across the enclosure. Each path is bordered on either side with herbaceous plants, supplemented by annuals, and a more brilliant display of these plants it would be difficult to conceive. No very rare plants are here found, though good varieties of pyrethrums, pæonies, delphiniums, and the like are grown, but the splendid effect produced emphasised the fact that gardens may be made beautiful beyond the power of pen or brush to describe by the free use of what the specialists would, perhaps, call common flowers. The great interest of rare plants is beyond question, but, alas, the culture of many is often vanity and vexation of spirit. For garden decoration, give me the fine group of popular flowers, as seen at Carton—the great clumps of sweet peas, the breadths of Newbury Gem pentstemons, the wealth of violas and pinks, the stateliness of delphiniums and lupins and bocconias, and the brilliance of gaillardias, heleniums, helianthuses, and the like. These and other subjects that readily come to mind under the general heading of old-fashioned garden flowers, will, with good culture, work wonders in garden scenery.

[Photo: Lawrence, Dublin.

CASCADE AND LAKE IN THE GROUNDS AT CARTON.

Beyond this garden are the many acres of orchards that yield bountifully. On the pleasure ground side, a striking feature is the pergola built by the late Duchess of Leinster. The present Duke of Leinster inherits his love of gardens and gardening from his mother, and also from his grandmother. He is keenly interested in trees and shrubs, and in the timber on his beautiful estate, but probably he takes the greatest delight in the pergola and its surroundings. The pillars are of solid masonry and the cross-beams are heavier than usual; under the pergola there runs a raised paved pathway, with low steps at either end. So far as is known, this was the first pergola to be built in an Irish garden. Roses in great abundance clothe the pergola, and these are assisted by jasmines, ornamental vines, Aristolochia sipho, choice ivies, etc. The outer walls of the enclosed garden hard by, support roses of many kinds, notably a great mass of R. multiflora, Romneya Coulteri, Buddleia variabilis, many species of vitis, Piptanthus nepalensis, and other beautiful subjects. One long wall, near the water side, with its colony of interesting climbers, might well serve to hold one's attention for an hour or two, but I must again skip across the garden front, and briefly deal with the other part of the grounds.

Not far from the little cemetery a winding walk, amid rhododendrons, leads to the long Bower Walk. This elevated pathway crowns the high bank of a large lake, and leads for a very long distance through a semi-wild garden, where native plants are encouraged, and bulbous plants, polyanthuses, irises, etc., are naturalised. The Bower Walk leads to the Shell House, a kind of museum and tea-house, containing trophies of the chase, curios from various parts of the world, and natural history specimens of local interest. A new rose garden has been made here. It is of triangular shape, and furnished with beds of H.P. and H.T. roses. Honeysuckle and Aristolochia sipho provide covering for the entrance arches, but inside there are numerous arches and pillars of the popular climbing roses, while the wire fence round the garden carries a great variety of Wichuraiana roses.

Nothing has been said of the glass department at Carton Park, and there only remains space to say that it is an extensive one, admirably kept, and contains a great variety of plants and a full complement of fruits, and that a new heating plant has recently been installed.

Straffan House.

From its rise in County Wicklow, to its discharge into Dublin Bay, the silvery Liffey passes through—in fact, provides—many a fair scene, notably in the county of Kildare, but—

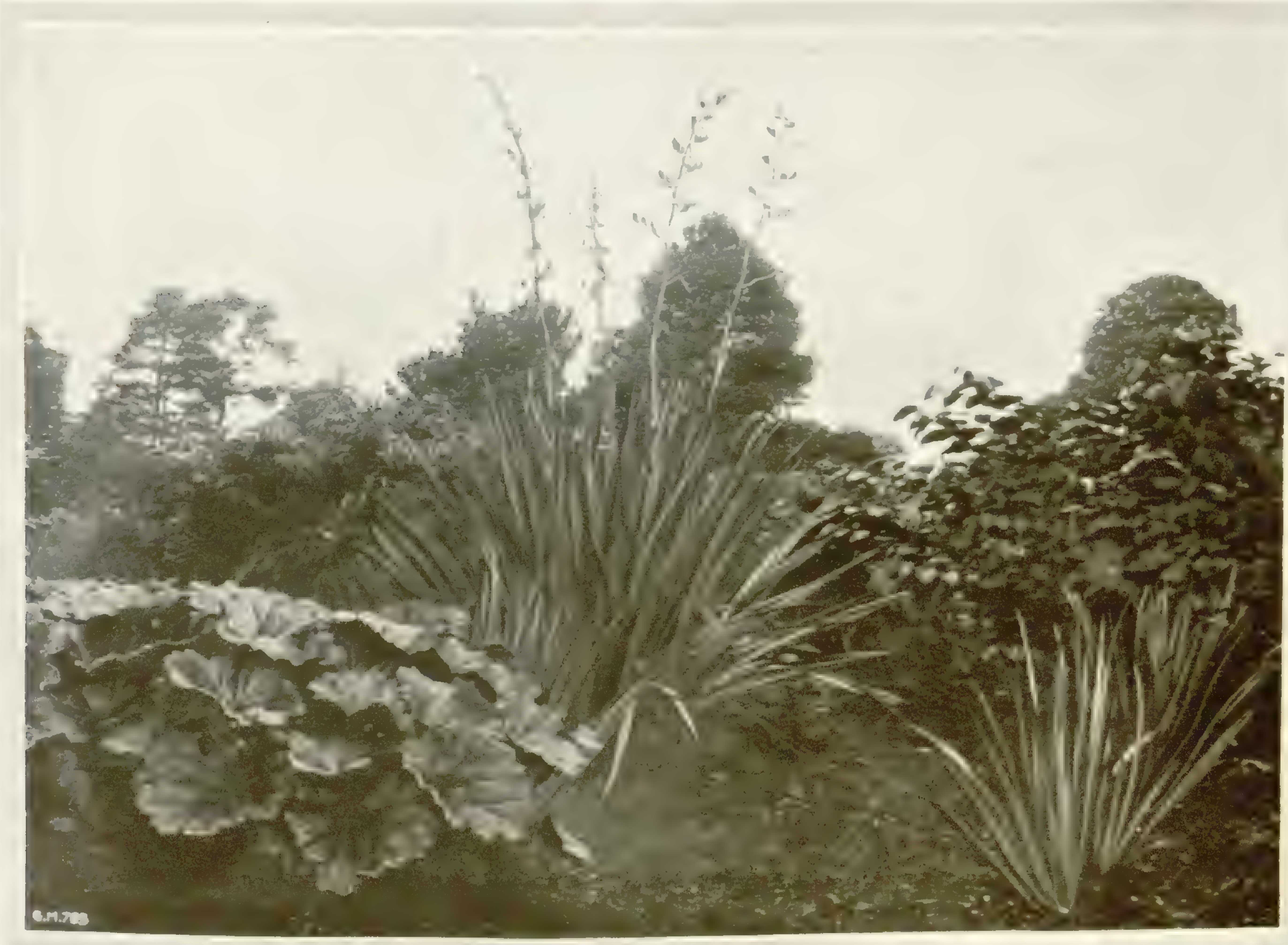
> "The Isle of Green has many a scene
> More brave, but not more fair,
> Than where the Liffey silent flows
> By Straffan, in Kildare."

The first glimpse of Straffan House, the residence of Bertram H. Barton, Esq., is obtained from Straffan Bridge, that carries the public road over the Liffey, and, though the picture presented is a charming one, it does not satisfy, but only excites curiosity and a desire to inspect more cl the beauties of such a delightful spot. L it be said at once that the members of Barton family, who have successiv owned Straffan House, have always shown a great interest in the garden, and never denied to a garden lover the pleasure of inspecting its many and varied charms. Further, Mr. F. Bedford, who has had charge of these famous gardens for thirty years, and knows every plant, almost every blade of grass, in them, is always happy to show a visitor round.

No doubt there is a limit to the grounds and gardens of Straffan House, but neither these, nor the beginning or end of the gardens are discoverable, save, perchance, by those very intimately acquainted with the place. Every spot is gardened, and every part is full of interest, from the choice conifers grouped upon the lawn in front of Mr. Bedford's house, right away to the flower-fringed borders of the river, and the lovely garden island, with its wealth of bamboos and lilies. One must begin somewhere, and so, leaving the golden yews and cypresses, and just referring to very fine specimens of Cæsalpinea japonica and Magnolia Lennei against the wall, we will begin with the formal flower garden that is right in the midst of the kitchen garden, in front of an old range of fruit houses, and within high, sheltering walls. An unusual place for a flower garden surely, but then Straffan is an uncommon garden, and an uncommonly beautiful one also. The flower beds are box-edged and surrounded by gravelled paths. I believe there are no fewer than one hundred and six beds, so that summer bedding is not a pastime merely. Here are some of the subjects used, chiefly one subject in a bed, and splendid standard heliotropes rising well above them: Glory of Zurich salvia, Pittsburg Crimson Gem and Newbury Gem pentstemons, Begonias Sedeni and Lafayette, abutilons and pelargoniums in variety. In every case, the beds are in duplicate, the garden being halved by a central walk. Pillars of roses, arches of roses, and beds of pegged down roses are near by, and in great profusion. Added fragrance is given by the long rows of sweet peas beyond the flower garden proper.

A very clean and well-kept kitchen garden is this, and it contains a fine collection of young bush apple trees. Fruit and vegetable cultivation go hand in hand with flower gardening, and a very high standard of perfection is attained in all. Asparagus is grown in single rows and planted in leaf-mould, otherwise it would be lost in about four years, so cold and wet is the soil—you would hardly think any difficulties of this kind had to be surmounted here unless they were pointed out specially. Lord Suffield is the favourite late strawberry, and from two-year-old plantations Mr. Bedford obtains from four to six pounds weight of fruit per plant.

Passing a fine tulip tree and a large specimen of Magnolia acuminata, one soon enters another enclosed garden, smaller than the first. Beds of zinnias and phloxes attract attention, and the roses are again abundant, Ophir and sempervirens being notably fine. Near the wall, in boggy soil, is the renowned plot of the lovely Cypripedium spectabile, a hardy orchid that luxuriates here. This plot has often had four hundred flowers expanded at once, and on one occasion four hundred and fifty open flowers were counted. Primula capitata is another plant that grows here like the proverbial weed.



FINE GROUP OF SUBTROPICAL AND MOISTURE-LOVING PLANTS IN THE ISLAND GARDEN AT STRAFFAN HOUSE, CO. KILDARE.

And now the glass-houses come under review. There are modern houses, and there are very ancient ones, for some of the vineries are seventy-eight years old. The contents of the houses are very interesting because the collection is large in the matter of variety. Ixoras are a feature, and there is a very fair collection of orchids, dendrobiums, odontoglossums, Vanda cœrulea, and cattleyas being notably good. Ixoras and crotons are excellent, and climbers are a good feature, Dipladenia amabilis, D. Brearleyana, Ipomæa Horsfalli, and Passiflora kermesina being conspicuous examples. Maidenhair ferns abound in the various houses, and the new nephrolepises are grown. One old N. exaltata, in an 8in. pot, suspended over a tank, has thrown its roots and runners down into the water, and has now become a fine specimen, yards long, as a result of having its toes in the water. Foliage begonias are fine, and there is a goodly collection of rhododendrons and azaleas. Combretum purpureum is another old plant well grown, and the fragrant Luculia gratissima is represented by a very big example. Popular subjects that find a place in most gardens are here represented also by larger or smaller batches, but the Straffan glass department is worthy of special mention, because these things are not the only ones grown. It is unusually interesting also in these days because private collections of stove and greenhouse plants are becoming rarer and rarer, and one finds the same kinds of plants in so many establishments.

Straffan House, with its white walls and its water tower, is pleasant to look upon, and suggests comfort and homeliness. The lawns slope down to the willow-margined river. On the river side of the house is another flower garden, guarded by a dozen trim yews, and from the higher terrace walk some delightful views are to be obtained, for the country all around is very beautiful and fertile. Some fine trees occur near this flower garden, notably of Sequoia gigantea, Cupressus nootkatensis, various hollies, including a magnificent scarlet-berried weeping specimen, as well as noble beeches and graceful lime trees. Among shrubs that are a fine feature hereabouts, one remembers the splendid beds of pernettyas and the gorgeous golden elders.

Beautiful as are the Straffan gardens as a whole, the gem of greatest beauty is the island garden. This is reached by a pretty suspension bridge, erected in 1849, and now almost taken possession of by a big ivy, whose thick, tough stems look quite capable of bearing the strain should the ironwork ever give way. It is impossible to convey anything like a good idea of this island garden, but it is a lovely spot, and shows the loving care that the Barton family and Mr. Bedford have bestowed upon it, a care shown by the fine development of the plants rather than by any wonderful design. It is a subtropical garden, where bamboos are thoroughly at home. A sandy soil prevails, assisted by river mud and the decomposition of grass and leaves, but the whole island is continually moist, and is sometimes submerged during very heavy floods. Arundinaria japonica, A. falcata, Phyllostachys Quilioi, P. nigra, P. viridiglaucescens, Bambusa Simoni, B. nitida, B. Metake, and B. palmata are some of the bamboos that do so much to make this island a beauty spot. Gunnera manicata is magnificent here, and there are several grand old specimens. Phormium tenax and its variegated form thrive equally well, and throw up their giant sixteen feet spikes of flowers regularly. Big polygonums add their vigour and grace and freshness to the scene, and the colonies of Lilium pardalinum add a distinct charm and beauty. The ground is carpeted with daffodils, snowdrops, primroses, and Dogs'-tooth violets that all yield their quota to the scene. It is an excellent example of free landscape gardening is this island garden, and the highest praise one can give to it and to the Straffan gardens altogether is, that everything seems to have grown up at the right place, as though Nature and not man had designed the planting.

Glasnevin Botanic Gardens.

The most famous garden in all Ireland is the public one at Glasnevin, wherein are gathered the botanical and horticultural treasures of many lands and climates, for the purpose of educating those willing to learn. Some fifty acres or so of land are enclosed to form this national garden, and not only are these crowded with a wonderful variety of plants, but the grounds are admirably laid out, well kept, and exceedingly attractive. Mr. F. W. Moore, the very genial and able director of the Glasnevin gardens, has probably now a larger collection of plants than exists anywhere else on the same amount of ground. He fully comprehends the scientific value of the gardens and the collections, but he also remembers that not everyone is a botanist, and that those who love flowers and beautiful plants have claims to be recognised as well as the scientist. The grouping of trees and shrubs is in the best taste, and the alpine garden was a feature long before the present popularity of rock gardens commenced. Bog and water gardening are here to be found, but the area devoted to them is necessarily small.

Mr. Moore, as already hinted, believes in catering for the general public, but he does this in a manner that educates as well as pleases. Last year the National Sweet Pea Society held its provincial show in the Irish capital, in conjunction with the Royal Horticultural Society of Ireland (of which latter body Mr. Moore is hon. secretary), and so Mr. Moore provided a large display of sweet peas in the Glasnevin gardens, planting each variety to form one clump. The newer varieties were well represented, and grown up circles of wire netting. This collection, arranged along one border, proved very interesting, and, as the newest kinds were grown near the older ones there was ample opportunity for making comparisons and judging which were the best, or which one liked the most.

Another very great attraction is the flower borders, where a fine selection of hardy herbaceous plants provide a delightful display over a long season, assisted by asters, double larkspurs, candytufts, and many other beautiful annuals. No delicate plants or those not easy to manage are to be found here, consequently visitors may make notes freely, safe in the knowledge that they may have an equally fine display of similar plants, if they provide the necessary room and afford reasonable care. Many of the rarer hardy or semi-hardy plants are skilfully grown close up the walls of the numerous glass-houses; for instance, Crinum Powelli and Kniphofia caulescens are represented by fine groups in such positions. Iris stylosa, Gerbera Jamesoni, the new Golden Glory calceolaria and Agapanthus umbellatus also do well in these sheltered spots, and outside the big Palm House there are beds of succulent plants. Trees and shrubs are in excellent health, and include a good collection of oaks, a fine Magnolia conspicua, a notably fine White Beam tree, Catalpa bignonioides, Magnolia grandiflora, and roses in variety, Caroline Testout, and La France being very fine. Some trees are of considerable size and age, for there was a garden here long ago, when the poet Tickell lived at Glasnevin, and when Swift and Addison resided in the neighbourhood. The gardens next belonged to the Royal Dublin Society, and latterly came to be under Government control. It is fortunate that the direction of these famous gardens has descended from father to son, for Mr. F. W. Moore, who is generally recognised as possessing an unusually wide knowledge of plants, succeeded his father, the late Dr. Moore, as director. Mr. Moore is also a clever botanist, a skilful grower, and a successful hybridist. Not a few of the rarer "botanical" orchids have flowered under cultivation for the first time at Glasnevin. Who has done so much to increase the number and beauty of lachenalias as Mr. Moore? and where else but at Glasnevin can one find the ungracious Nepenthes Rajah growing as it does here?

The collections under glass are extensive, and though some of the houses are old-fashioned, the department is, on the whole, in good condition, and improvements and rebuilding are taken in hand as opportunity offers. In the fernery there are some giant cyatheas and gleichenias, and the cases of exquisite filmy ferns contain beautiful specimens of Todea Moorei, T. superba, and Trichomanes radicans. In the aquatic house the Victoria regia is a never-failing attraction throughout the summer, and in the same tank are nelumbiums, Cyperus papyrus, and Nymphæa Lotus, etc. There are two succulent houses, and one contains a big columnar Cereus giganteus and some noble agaves. One also noticed a fine batch of the beautiful little Trichinium Manglesi in one of these houses, full of its fluffy heads of bluish flowers.

In other structures near by are large Himalayan rhododendrons, Clethra arborea, Araucaria Cooki, and A. Bidwilli, the graceful Wildenovia teres, and Phœnix dactylifera, the side stages of the houses being made gay with Nicotiana Sanderæ, zonal pelargoniums, liliums, salpiglossis, and other popular greenhouse plants. Two smaller houses, one filled with superbly grown tuberous begonias and the other with an equally fine lot of the best varieties of zonal pelargoniums, were particularly attractive on the occasion of my visit, and gave the lie to those who so often contend that plants are poorly grown in botanical gardens, but who never go to see lest they might be compelled to alter their opinion.

One wall of the large Palm House is covered with the rampant Monstera deliciosa, and it is one of the few subjects planted out. Very big seaforthias, Bambusa vulgaris, rising to the roof, Phytelephas macrocarpa, with a big, graceful head, and a lofty Oreodoxa Sancona, were a few of the more notable plants in a goodly collection. Bromeliads are largely grown and so are nepenthes. In one of the stoves the brilliant Brownea Ariza was flowering, and the quaint Aristolochia tricaudata was an attraction, if not exactly a beautiful one. Here, too, was a fine specimen of that new and graceful fern, Polypodium Knighti, with long, pendulous fronds of great elegance and beauty.

Glasnevin is a paradise to the keen horticulturist and the botanist, and if a whole week were spent in examining its collections, some idea of their extent and richness would then begin to dawn upon one. These notes attempt the impossible, i.e., to convey in a column or so of text what Glasnevin is like. The illustrations will help the text, but perhaps the best description one can give is to liken Glasnevin to a small edition of Kew.

Charles H. Curtis

BEAUTIFUL GROUP OF CYPRIPEDIUM SPECTABILE IN THE GARDENS AT STRAFFAN HOUSE, CO. KILDARE.

Salvia splendens should now be shifted into their flowering pots, using a compost that is not too rich. Pot firmly, as they are apt to grow away pretty freely, and stand them in a good open position where they can have plenty of syringing. Some prefer to plunge the pots in ashes, but I like a good stocky growth, and plunging rather tends towards softness.—T. S.

Mertensia virginica or pulmonarioides. — A handsome border plant is Mertensia virginica, the Virginian Cowslip, Tree Lungwort, or Blue Bells, and one worthy of more extended cultivation. It is not one which is so much seen in our gardens as Mertensia sibirica, and it lacks to some degree the beauty of the latter, yet its good habit of growth, from a foot to two feet high, and its racemes of showy blue-purple flowers, each about an inch long, make it a good plant for the mixed border of herbaceous flowers, or for the choicer parts of the wild garden. It is a hardy plant, and to see it in perfection should be cultivated in moist parts of the garden. In its own lands it affects the neighbourhood of streams and low meadows, a liking which points to the desirability of giving it a situation not too dry with us, if we wish to see it at its best. It is increased by seeds or by division. The name of M. virginica is so firmly fixed that it will be difficult to supersede by that of M. pulmonarioides, now recognised as the correct one.—S. A.

WHEN TO SOW A LAWN.

The best time to sow down a lawn has long been a moot question, as the successes and failures in spring and autumn, on different soils and under varying climatic conditions, have secured advocates and opponents for both periods. Except in very favoured localities, such, for instance, as the west and south coasts, and Ireland, no attempt at sowing down a lawn should be made till after the middle of April. When the soil is of a cold, heavy nature the beginning of May will be soon enough to commit the seed to it in ordinary seasons. If sown earlier, and especially in cold springs, the seeds rot, and the hardiest and coarsest only are able to survive the ordeal. Besides a cold soil acting inimically on the seed, we sometimes have cold cutting winds to contend with, which absorb all the moisture, and wither up the young plants.

[Photo: Lawrence, Dublin.

VIEW IN THE GLASNEVIN BOTANIC GARDENS, DUBLIN.

When provision has been made at seed sowing time to conserve the moisture in the soil, and protect the seed from birds, by applying a fairly thick coating of short grass from the mowing machine, the results will not be so disastrous in adverse weather as would otherwise be the case. Besides helping to keep the soil moist, the short grass eventually rots, and feeds the young plants. This protecting, fostering top dressing, however, is not always a sufficient guarantee for a good lawn, as cold and drought may even prove too much for seeds or seedlings in spite of its aid, nevertheless, it enhances the chances of success, and should always be employed where possible. These mowings should be free from heads of daisies and plantains, or seeds of these weeds will be conveyed to the new lawn.

A year ago last April and May I saw several lawns sown down under these conditions which were fit for playing upon by the end of July. The weather at the seed sowing time was warm and showery, and every seed seemed to germinate. Last April and May I saw another lot of lawns sown down under similar preparations, but the weather was cold, windy, and dry, and although some are moderately well covered, compared with those which got no protection, yet they are not what could be termed satisfactory.

Under the best conditions for the germination of seed, and the growth of the young seedlings, we find that spring sowings cannot be trusted to produce the most satisfactory results unless favoured with suitable weather. Having satisfied myself on this point, I have, for some years, advised my friends to sow their lawns immediately the soil is thoroughly moistened, after the middle of August. One large piece of ground I saw levelled in August last, and sown down the first week in September, and by the end of October it had formed a good turf. This spring it looked like a turf of five years' existence under good treatment, and it has been freely used for tennis and croquet. The levelling operations were carried out in a manner to retain six inches of the best surface soil on the top, with a good thick layer of well decomposed manure immediately under it. As the soil is warmer in autumn than in spring the seed germinates more quickly, and the seedlings grow more freely.

Birds, too, are less troublesome in autumn than in April, as they are usually amongst the corn fields at the end of summer, and less hungry than in spring. Everything considered, the best time to sow down a lawn is between the middle of August and the end of the first week in September, if the soil is moist. At this period there are no daisy heads among the mowings, and the short grass can be used.

If anyone contemplates the sowing down of a lawn I would strongly advise it being ready for the seed by the time stated. If this is done in accordance with the suggestions conveyed in the foregoing notes, and 1lb. of seed of the right kind of grass to suit the soil employed for every 30 sq. yards, a lawn well able to stand the wear and tear of tennis or croquet will be provided for next spring.

Pedestrian.

WITTMANN'S PÆONY.

The glorious flowers of many of the herbaceous pæonias are highly appreciated by both amateur and professional gardeners, and there are few indeed which do not deserve all the admiration they receive. The flowers are often of the most lovely colourings, the form is generally of great beauty, and the whole aspect of the plants very beautiful indeed.

A pæonia species which is little known to the amateur, and which has for years been scarce and rather expensive, is gradually but slowly finding its way into gardens as its price slowly drops and brings it more within the reach of the flower lover of moderate means. This is Pæonia Wittmanniana, a very charming species, with flowers of a delicate primrose-yellow, not so large as those of some of the varieties of P. officinalis, but of great beauty of form and of pleasing colour. These flowers are single, and are succeeded by bright coral-red fruit.

Wittmann's Pæonia is one which is but a shy flowerer for some time after planting, and some patience is requisite before flowers are produced. It is best cultivated in a rich soil, well manured, and is one of the pæonias which prefer a partial shade. It should have a place where the sun cannot reach it before ten or eleven o'clock, yet where it will not be exposed to its full glare at midday. A half-shaded place near trees is excellent except in cold districts, where, naturally, a little more sun is required. Still scarce in gardens, this species is a favourite with all who grow it, and who have had it long enough for it to bloom in their hands. Plants can be had in pots, and can thus be planted out at any time. Should roots from the open ground be obtained, however, they may be best planted during the time from the beginning of September to the end of April.

S. Arnott.

HARDY FRUIT PROSPECTS.

The promise a short time since of an abundant fruit crop, I am afraid, will not be realised, at any rate, in this district. Practically all kinds of fruit showed well, as almost every tree and bush was in its season well furnished with blossom. The dry weather which we experienced during the latter part of April, and the absence of severe frosts, was very beneficial to the setting of the fruit on the early-flowering varieties of pears, but the later sorts, such as General Todtleben, etc., suffered very much from frosty nights, from two to six degrees of frost being registered almost nightly during the first half of the month of May, practically destroying the whole of the young fruits on these trees. Plums on walls will, I think, be a fair crop, but on trees growing in the open the crop will be thin, frosts again being the cause of a poor set. Damsons are more satisfactory, for the foliage at the period when the most severe frosts were experienced was well developed, thus acting as a protection to the young fruits. The early flowers on the strawberries were blackened and destroyed by frost, but the later blossoms have set well, and promise well for a good average crop.

[Photo: Lawrence, Dublin.

ROCK GARDEN AND LONG WALK AT THE GLASNEVIN BOTANIC GARDENS, DUBLIN.

Bush fruits, such as gooseberries and currants, are a good crop, but raspberries will be a much smaller crop than usual, the severe winter having weakened the upper portion of the canes very much, destroying three or four of the uppermost buds in many cases, and, in a few instances, killing the canes down to the ground, but, I am pleased to say, the young canes are pushing up as strong as ever.

Fruit on the dessert and Morello cherries is quite satisfactory. Apples, I am sorry to say, will, with us, this season be a very thin crop, and yet nothing could have looked more promising than did the trees when in full flower, but the continued frosts which were experienced during that period, played sad havoc with the crop. A few varieties promise fairly well, but the fruit on the majority of the trees, I am afraid, will be conspicuous by its absence. Cobs and filberts should be a fair crop, as the weather was dry when the catkins were in bloom, and only slight frosts were noted at that time; but the sharp frost on May 19 (6 degrees) completely destroyed all hopes of gathering a crop of walnuts, as the male catkins were destroyed, and fell to the ground on the morning after, and the young foliage was also blackened, as if scorched, and has been gradually falling from the trees since. **Geo. Woodgate.**

Rolleston Hall Gardens.

SWEET ROCKETS.

These charming old-fashioned and sweet-scented flowers (Hesperis matronalis and H. m. flore pleno) should have a place somewhere in every garden, for their very name suggests the sweetness and repose of old country gardens before the hustle and bustle of modern life began. Hesperis is a name for the evening star, and they are mainly plants for the evening, as it is then that they smell their sweetest, while their white and pale purple or lilac flowers seem to show up better by contrast than during the day. There are two main forms, the single and the double, and their cultivation is so different that we must deal with them separately.

The single rocket is sometimes spoken of as perennial, but it is best treated as a biennial, that is, sown in July for flowering the following May and June. They are mostly white, with shades of lilac and purple. When once established in a garden and allowed to seed they may be relied upon to maintain themselves, though they never become a troublesome weed. They are admirably adapted for shrubberies and the wild garden.

The double rockets are much more valuable, and much less easy to grow. There are three or four different forms of them: the tall white—the flowers of which acquire a tinge of pink after they have been out some time—the dwarf white, the tall purple, and the lower-growing form of the same colour. The purple in both the single and double forms are sometimes known as Dame's violet, or damask violet. The tall white is the most valuable of all, and is worth some trouble to cultivate. These double rockets, if left to themselves, very soon die out, and, though perennials, they are plants which need annual attention. They will grow in any fairly moist soil, but it should be deeply cultivated, and moderately rich, and if it is in partial shade so much the better. One method of managing them is to lift them and divide them every other year in the early spring when they are just coming up, and, as this impairs the blossom for that year, some should be attended to one year and some another, a reserve of plants being kept in a nursery bed and put into their flowering positions in the autumn. Another way is to thin out the shoots in the spring, when they are about three inches long, and dibble them in a nursery bed in a shady position, keeping them from any hot sun which might reach them at any time of the day. In this way a nice bed of reserve plants may be obtained, while the remaining shoots on the flowering plants will produce all the finest heads of blossom for the thinning out. Yet again others recommend cutting them down close after flowering and making cuttings of the side shoots. Perhaps the best plan of all is a combination of these methods, according to one's success or otherwise with the plants, or one's desire for an increased stock.

Alger Petts.

RAISING STRAWBERRY PLANTS.

Except for producing new varieties, the best and simplest way of propagating the strawberry is that of layering runners in pots, and the time has arrived when preparations should be made for carrying out this operation. The strawberry naturally and readily increases from runners, and plants to furnish new plantations can be easily and cheaply secured by lifting those that have rooted in the soil around their parents, but in the end this is not a profitable or a satisfactory mode of procedure.

The best plan for those who intend making new plantations is to either raise for himself plants in pots, or purchase such from a nurseryman. In reference to this it may be remarked that it is beneficial, as is so well known to be the case with the potato, to periodically change stock, and as a proof of this it may be said that from the time Royal Sovereign was distributed until a few years ago we annually raised the plants we required of this variety from our original stock, but, owing to the gradual weakening of the plants, we secured a fresh supply from a distant nursery, with the result that we have now, both for forcing purposes and for plantations in the open, plants as vigorous and fruitful as formerly.

The best runners are to be obtained from plants that have been planted the previous season and not allowed to fruit, though if well cared for, plants of this description that are allowed to carry moderate crops of fruit will also produce good runners. As soon as the plantlets commence to push roots layering operations should be begun by filling three-inch pots to within half an inch of the rim with loam, which, if inclined to be heavy, should be lightly mixed with pulverised horse manure, or material from a spent mushroom bed Select the first plantlet upon each runner, and cut away the extending part ; place the pots in convenient open spaces between alternate rows, to afford convenience in watering, and, by a small peg, secure one plantlet to the soil in the centre of each pot. If, as should be the case, the parent plants are mulched, the pots should be plunged in the mulching material, for this will keep the soil in the pots cool, and comparatively moist, and thus accelerate growth.

If the runners are kept carefully watered, syringed in dry weather, and free from other runners, and weeds, they will readily fill their pots with roots, and as soon as this takes place they should be severed from their parents, and be placed for a week or so, until they recover from the check, upon a bed of ashes in a shaded position, after which no time should be lost in planting them in their permanent quarters, and for this, if opportunity offers, a dull, damp time should be taken full advantage of.

Plants intended for forcing should be raised in like manner, and be shifted into their fruiting pots when the others are planted. Some growers advocate layering into the fruiting pots, but should a wet season set in, and cause the soil to become sour (as it is likely to do) before the plants are well rooted, much mischief would result from this practice.

Except in the case of Vicomtesse Hericart de Thury, which is grown for preserving purposes, and a few other varieties that fruit best the second year, we do not keep plants after the first year, for we secure from most kinds the finest fruits—and these are wanted for dessert—from yearling plants ; but where quantity, and also really good fruit is required, in preference to fewer of the very finest, the plants should be grown the second year.

The Hendre Gardens. T. Coomber.

[Photo: Lawrence, Dublin.

HERBACEOUS BORDER AND GLASS HOUSES AT THE GLASNEVIN BOTANIC GARDENS, DUBLIN.

SPARROWS AND GREEN-FLY.

It is not often, I am sure, that any gardener welcomes sparrows in his garden. But I am pleased to see them in my garden at the present time. I have never before been troubled with green-fly on such various plants as during the present year. These pests always increase rapidly during a period of strong sunshine and cold winds. My garden is well situated ; it is a regular "sun trap," but the cold air reaches it, though not in direct currents. Green-fly has been most troublesome on my sweet peas ; when the ends of the shoots of the latter are cleared of the pest one day they seem to be as badly infested again the following day. Now the sparrows have begun to wage war upon the fat insects.

I remember, two years ago, watching some sparrows eating green-fly off my carnation plants ; and just previously I had read an article in which it was confidently asserted house sparrows did not eat green-fly. A gentleman wrote to me soon afterwards and informed me that to make sure that the birds had actually eaten these insects, he shot some, opened their crops, and found the green-fly there, but not any portions of plant leaves.

Last year I was much interested in watching the aphides disappear into the beaks of the birds, and I never found that the birds damaged the sweet pea foliage, nor the flower buds.

Possibly, Mr. Editor, some of your readers or able contributors have noticed the action of these birds. Early in spring the sparrows eat the young "grass" of carnations wholesale. Geo. Garner.

For pretty gardens and lovely flowers read The Flower Garden, by T. W. Sanders, F.L.S. An up-to-date work on the formation, planting, and management of the garden, with description and cultivation of flowers and plants adapted for outdoor culture. Price 7s. 6d. net, by post, in box, 8s., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London

EARLY ROSES.

Although we have several new additions to early-flowering roses, the proverbial month of blooming has been less filled than usual. I cannot call the season early in this district (Mid-Sussex), and most of the plants that I have noted for some years were fully a fortnight later in flowering than the average date. Nor are our first flowers so good as usual. Blistered foliage, crippled growths from cold, and the ravages of the rose maggot are prevalent upon almost all sides. Green-fly has also been very troublesome, and much of the young growth is so checked by unfavourable weather that our prospects are far from rosy at present.

But it is surprising how very rapidly roses will grow during a few weeks of suitable weather; even a few days makes a remarkable difference in their condition, and we are by no means so dependent upon our first crop of bloom as used to be the case. With the grand teas and hybrid teas now in cultivation the season is more continuous, and we do not miss the show of Damask, hybrid Chinas, and Bourbons nearly so much.

A few roses that never fail to give us an early display are the Scotch and Austrian Briars. Lady Penzance is also very early and secure. In Electra, Waltham Bride, and Bardou Job we have three that come very early, and make a grand contrast as pillars. Upon favourably situated walls, too, Marie Van Houtte, Madame Lambard, Madame de Tartas, William Allen Richardson, Lady Roberts, Antoine Mari, Reine Olga de Wurtemberg, Rêve d'Or, and others are in fairly good condition where they have been freely syringed for the fly and maggot. Gloire de Bordeaux, an old rose of 1861, has bloomed very freely. As a rule, this is a mid-season and autumnal bloomer, and is one of the hardiest climbers we have, standing frost even better than its parent, Gloire de Dijon.

Some few cutbacks among the hybrid perpetuals are coming into flower freely, but here also the foliage is much crippled. Among the earliest we find Gustave Piganeau, Captain Hayward, Robert Duncan, Elie Morel, Duke of Edinburgh, and, of course, those very early old favourites, Geant des Batailles, Abbé Brameral, and Souvenir de Charles Montault. Very sweet-scented are some of these old varieties, and the perfume of Baronne Prevost, Caroline de Sansal, and Viscomtesse de Vezins are not surpassed by any others. When one comes across a bed of the older roses many long-forgotten friends are brought to memory. It is instructive to look over an old list and note what were once—and comparatively recently—thought first-class novelties. We scarcely expected such roses then as Florence Edith Coulthwaite, Madame Segond Webber, Madame Constant Soupert, Mrs. W. J. Grant, Molly Sharman Crawford, and Frau Karl Druschki, only to mention half a dozen at random; and yet a good Anna de Diesbach, Madame Vidot, or the exquisitely formed Elisa Boëlle charm us still. We have nothing so intense in colour as Eugène Appert. Grand roses for early use are found in Coupe de Hébé, Charles Lawson, Madame Plantier, and Rugosa Conrad Ferdinand Meyer. The last-named is extra good, and one of our sweetest scented roses, it is difficult to say too much of this variety, but it must not be restricted for room. Frau Karl Druschki is also fairly early upon cutbacks, but the most invaluable point of this purest of white roses lies in its continuing to bloom right up to and past the first frost of autumn.

The rugosas are very early, and here we need have no fear of a blank; whatever the season, their blooms and foliage are unaffected. Then how very sure many of the Chinas are! With such a selection of colour as is now available quite a showy border can be secured, and one that will continue pretty throughout the season. Besides the Old Blush and Old Crimson varieties we should plant the following freely: Comtesse du Cayla, Queen Mab, Cora, Eugène Beauharnais, Laurette Messimy, and Eugène Resal. Many of the dwarf Polyanthas are exceptionally early, and these, like the Chinas, are continuous. Gloire des Polyantha, Aschenbrödel, Flocon de Neige, Canarienvogel, Eugenie Lamesch, Kleiner Alfred, Mignonette, Perle d'Or, and Schneewittchen are among the best. Some of the newer types of this section, such as Maman Norbert Levavasseur, Maman Levavasseur, and Mrs. Cutbush should not be omitted.

A. Piper.

THE PRINCIPLES OF HEREDITY.

(Concluded from page 480.)

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Possibilities of Progress.

Professor Bateson, Professor Biffen, Mr. Hurst, and others have lately done much to demonstrate the possibilities of progress in this direction, and the value which the application of the Mendelian principles of heredity must have from the economic point of view. We know now that such cereals as wheat and barley obey the Mendelian laws of hybridisation as regards various important characters. So also do horses as regards the colour of their coats, and human beings as regards the colour of their eyes, and in certain other respects. In short, it appears certain that Mendelian principles have a very general application, and the economic value of the knowledge of such principles in the case of organisms which are only propagated sexually must be enormous.

It is true that Professor Hugo de Vries considers that in the case of cereals it is quite unnecessary to resort to hybridisation in order to effect improvements. He considers that all that is necessary is to select individual plants exhibiting the desired characteristics from amongst the numerous varieties which occur naturally, and to propagate by seed from them.

Speaking of the experiments in plant breeding which have been carried on with such remarkable success for many years past at the Swedish Experimental Farm at Svalof, he remarks:

"They confirm the fact that the ordinary cultivated varieties of cereals are by no means pure, but must be considered as mixtures of well-defined types. Moreover, they show that these types are far more numerous than was previously supposed, and include hundreds of forms within each of the now prevailing sorts. . . . The range of variability disclosed by these new studies is simply so wide that it affords all the required material for almost all the selections desirable at present, and will, no doubt, continue to be an inexhaustible source of improvements for a long succession of years. They are founded on the principle of single selections, and the range of application of this method is proved to be so extensive as to make all ideas of repeated or continuous selection simply superfluous. It is even so rich in its productiveness that there is scarcely any room left for other methods of improvement, and especially should all endeavours of winning ameliorated varieties of cereals by means of hybridisation simply be left out of consideration, as compared with the immense number of more easily produced novelties which this method affords." — "Plant Breeding," p. 50.

No doubt much can be done in this way, but it is obviously only applicable in the case of organisms which exhibit a very large number of naturally occurring true-breeding varieties or mutations, and such organisms are, I believe, comparatively uncommon. Moreover, it is difficult to believe that even in the case of cereals the possibilities of improvement can be exhausted by simple selection. Indeed, Professor Biffen's work indicates a much wider prospect, for he has shown, for example, that susceptibility and insusceptibility to that destructive disease in wheat, known as "rust," behave as Mendelian characters, and that it is possible by a very simple process of hybridisation to confer immunity from this disease upon naturally susceptible varieties.

It may be admitted that if you want a suit of clothes it is easier and more convenient to go into a slop shop and trust to chance for a ready-made article which will "do," but the results are hardly likely to be as satisfactory as if you chose your own cloth and then had it made up to suit your own requirements. Nature certainly supplies us with a fine choice of ready-made articles, but you may happen to want something that is not in the shop, and then it is a great thing to be able to select the best possible materials and have what you want made to order.

Lessons to be Learnt.

The great lesson which we have to learn from experiments in the breeding of plants and animals is that the living organism is a composite structure built up of a vast number of minute characters, many of which at any rate are separately represented in the germ-cells from which the organism develops. How this representation is effected we do not at present know, but the evidence points to the existence, probably in the chromatic substance of the germ-cells, of ultra-microscopic material particles which are, in some way, responsible for the transmission of such characters from generation to generation. Moreover, it appears that each particular character of this kind may be either represented or not represented in any one germ-cell, and that in the process of shuffling which takes place in sexual reproduction individual characters may be added or subtracted, or substituted one for another, without affecting the stability of the organism as a whole. The practical importance of these results lies in the fact that it is possible by controlling the mating of male and female, and thus bringing about new combinations of selected characters, to control at the same time the course of evolution itself, and direct the stream of life in chosen channels.

Man's conquest of nature, which began with the control of inanimate forces and gradually spread over the animal and vegetable kingdoms, is now penetrating to the citadel of life itself. The citadel, however, has not yet capitulated. We have still much to learn; above all we want to know the cause of those sudden variations or mutations which occur in nature. We are already able to take advantage of such mutations for the improvement of plants and animals, but we cannot make our own building material; we do not know how such characters arise, and we cannot produce them ourselves.

Manuring for Potatoes.—The advantage of using natural and artificial manures in combination in potato culture receives further confirmation from the experiments that have been conducted at the University College of North Wales, Bangor. According to the official report, good crops were produced by the use of farmyard manure alone, and by artificial fertilisers alone, but the best crops were those produced on land that received a moderate dressing of the former, supplemented by a suitable mixture of the latter. The best results were obtained by manuring with 10 tons of farmyard manure, 100lb. of sulphate of ammonia, 262lb. of superphosphate, and 82lb. of sulphate of potash per acre.

SOME DIFFICULTIES OF PLANT CULTURE.

(Continued from page 454.)

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Insect Pests.

The insects most prevalent in hothouses are aphides, scale insects, red spider, root nematodes, slugs, and wood lice.

Nematodes in hothouses are seldom troublesome, except when the potting soil is full of them to begin with, or when the plants have been systematically over-watered, and, in either case, the remedy is obvious. Red spider is often very troublesome, especially when the air of the houses has been kept too dry. This pest is not easily destroyed by common insecticides, snapping their legs, so to speak, at tobacco smoke, and even at the deadly hydrocyanic acid gas, of which they can endure more than the plants. The best remedy is not to let the plants become infested, and the best palliative is frequent douchings with a fine spray of water.

Plant lice are readily held in check by fumigation with tobacco preparations. This, however, must be managed with care, as so many hothouse plants are peculiarly sensitive, and a careless fumigation might do more injury than a dozen generations of aphides.

Scale insects are not so easily killed, and most of them will thrive on tobacco smoke and ordinary sprays. It has been found, however, that hydrocyanic acid gas is very cheap and effective. It is a deadly poison, and must be used with the greatest care. In intelligent hands it is thought to be the coming remedy for this class of pest. There must, however, be considerable experimenting and testing on the part of specialists before it comes into general successful use. Not only does it quickly diffuse through the air, and speedily kill those who breathe it, but it also kills the plants as well as the insect scales if the dose is too strong.

Furthermore, plants are sensitive to hydrocyanic acid gas in very different degrees; a dose which will not harm one plant will kill another. In any given case it must be determined in advance—first, what is the minimum dose for the insect scale, and, second, that this dose will not harm the plants. When these two facts have been ascertained the cubic contents of the house to be fumigated must be accurately computed, and then the proper amount of gas may be liberated, after the house has been closed as tightly as possible; the roof ventilators must be made air-tight.

Among fungicidal treatments may be mentioned sulphur dusting, the use of lime, hot-water treatment, and spraying with copper compounds. Diseases amenable to one or other of these treatments are powdery mildew, club-root disease of cruciferæ, downy mildew and rot of grapes, leaf blight, fruit tree scab, and "damping off" fungi.

One indirect method of treatment is by furnishing the host plant with the best possible conditions for growth, and the parasites with the poorest. To apply these remedial measures properly requires a very considerable amount of knowledge both of the needs of the crop grown and of the history of the parasite. Here is just where many growers fail, and this is why so many glasshouses seem to have been fitted as a special banqueting chamber for insect pests, and for fungi of all sorts. The first thing that the owner of such a house needs is to learn the habit of the parasites, and study the requirements of his plants until he can properly repress the one and cater for the other. Many houses are badly adapted to the requirements of the crops grown in them.

The powdery mildew and disease rot are brought on very largely by chill, due to improper ventilation, and sometimes to excess of watering. Sometimes these troubles are due to the attempt to grow too many kinds of plants in the same house. In such cases the grower generally tries to follow a medium course in the matter of heat, ventilation, and water supply, and in doing so fails to furnish normal conditions for any of his plants.

Certain field and open garden diseases may also be restricted by stimulating the young plants to make the best possible growth, by raising the plants in soil free from the fungus, and not setting them out in the infected ground until they are beyond the receptive stage.

NEW MARGUERITE PINK ALEXANDRA.
A distinct and attractive variety with pink flowers, introduced by Messrs. R. P. Ker and Sons, and shown by them at the York Gala.

Concerning care in the use of animal manure, in selection of seeds and cuttings, and in buying of trees and other plants, necessary reference has been made.

Harpenden. J. J. Willis.

Wistaria multijuga alba.—The admirable illustration of this wistaria on p. 449 recalls a well-flowered specimen of this variety that I saw a week ago in Messrs. R. Veitch's Nurseries, Exeter. There the plant was forming an arch over a path at one of the entrances, and very effective it was, and especially fragrant. I thought it even more so than the sinensis variety.—E. M.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

GENERAL REMARKS.—The occupants of the warm divisions will now be benefited by having a thin permanent shading, either sprayed or put on with a white-wash brush. This will be found of advantage early in the morning and late in the afternoon. The blinds need not be drawn so early, and they may safely be removed much earlier in the day than where no permanent shading is used. The extra light thus obtained is of considerable benefit in assisting growth, and at the same time assists in obtaining harder and more matured growths. In the intermediate and cool house divisions, where the permanent shadings, recommended to be brought into requisition a few weeks ago, have become thin and washed from the recent rains, it will be advisable to renew the stipple either by placing it on what is still remaining, or by cleaning the old material off and renewing it. The latter method gives the best appearance from the inside. The nights are very cold for the time of the year in this district. With the thermometer reaching below the freezing point, it is not safe to take any risks, and therefore ventilation has had to be regulated with discretion at night; but, anticipating more favourable weather, the ventilators should be used at night whenever these opportunities afford. It is even desirable that sufficient artificial heat should be had in the hot-water pipes to permit of ventilation being given. This will be found to diminish any excessive atmospheric moisture, and will assist in preventing damp spotting. With the cold prevailing winds, it is safer to use the lower ventilators, choosing those as a preference on the leeward side of the houses.

CATTLEYA WARSCEWICZI (GIGAS) and its varied forms are now in different stages of growth. As these produce their flowers just before or immediately they mature their growths, the plants should be subjected to somewhat different conditions than that given to those which mature their growths and take a long resting season before they produce their flowers, I regard C. Warscewiczi as the easiest of all the species to grow. It cannot be claimed that all its varieties have the same free-flowering characteristics, although even the shy-blooming varieties are most tractable to cultivation. We find that where the plants are grown suspended in pots and baskets near the roof glass, they bloom much more satisfactorily than when grown on the stage. We also find that only sufficient water is necessary to retain the pseudo-bulbs in a normal state, until the growths have advanced to the stage when the flower sheath can be seen inside the unfolding leaf. When this stage is reached liberal root moisture is supplied until the flowers have been removed, when the moisture is again gradually withheld, and the plants can then be shifted into cooler and more airy positions, where they are assisted to mature their growth, and retarded to some extent from starting into secondary growth. Where secondary growths commence, as they frequently do in the case of early-flowering plants, it is advisable to place them in a hot position, and give every encouragement, to enable the growths to mature before winter is reached.—H. J. Chapman.

STOVE PLANTS.

POINSETTIA PULCHERRIMA.—Attention will now be required by the earliest rooted cuttings of this invaluable winter decorative plant. Lose no time when the cuttings are well rooted to give them a shift into larger pots—6 inches in diameter is the size in which poinsettias appear to the best advantage. Use a compost of three parts good loam, leaf-mould, sand, and a little peat, with wood-ashes added, made moderately firm, over a good, perfect drainage. At all stages of the growth of the poinsettia an excess or an insufficiency of moisture, at the roots or in the atmosphere, is detrimental to progress; and when they are established in the flowering pots, free exposure to the sun should not be denied them. It is not too late even now to strike cuttings, and old plants cut close down after the cuttings have been taken frequently prove useful; where there is an opportunity they may be used for covering the back wall of a plant stove, they being planted in a border.

ACHIMENES.—For summer and early autumn flowering in the conservatory, suspended in baskets or otherwise, the achimenes are possessed of particular charms; the form, diversity, and colour of the flowers and foliage make them interesting objects of culture. When grown in pots, invisible sticks, a few inches high, should be used to support them, and cool treatment given to prolong the flowering season. To add colour and size to the flowers occasional applications of liquid manure should be made. Provide an intermediate temperature when the flowering season is over, and gradually withhold water until the growth dies down, and then keep the roots dry and warm until the close of the resting season.

ANTHURIUM SCHERZERIANUM.—Few plants are more worthy of cultivation for their attractiveness when in bloom, and few flowers are better adapted for cutting purposes than the spathes, and they last in a fresh state for a considerable time. The principal points to consider in their cultivation are abundance of heat and moisture, and liberal root room. A compost composed of fibrous peat, turf, and sphagnum moss, rough charcoal and sharp sand, is especially adapted to their requirements. It should be pressed firm, and occasionally moss should be tied round the base to conduct the roots down to the soil. The plants will be much benefited by frequent applications of liquid manure, and when there is no spathes make free use of the syringe.

RIVINA HUMILIS.—The chief charm of this plant is derived from the long racemes of bright scarlet berries. When well grown it is effective and interesting. It is readily raised from seed, and seedlings can generally be found near to the position the plants occupied when in fruit. They grow freely in a compost of equal parts loam, leaf-soil, and sand. Keep them from becoming dry when once the berries are formed, otherwise they may drop.

COLEUSES.—The various forms in which these plants can be grown, together with their varied and bright foliage, render them of much value for summer decoration; but to secure good foliage and retain it for any length of time, when once the pots are full of roots they must be freely and frequently fed, and carefully hardened if removed to cooler quarters.—W. Fyfe, Lockinge Park Gardens.

THE KITCHEN GARDEN.

FRENCH BEANS.—Where the early potatoes have been lifted from sheltered borders, both the soil and situation will be excellent for the sowing of French beans for giving a late supply. They can here be protected by placing cold frames over the plants before destructive frosts arrive, thus often warding off damage well into the month of November. A compact growing variety, such as Little Prince, Sutton's Forcing, or the old but good Osborn's Dwarf Prolific, are the most suitable kinds to sow for this purpose. Rows may be placed about 18 inches apart. Should the weather be dry, water the drills before sowing the seed.

WINTER BROCCOLI, ETC.—Make every endeavour to plant out and secure the necessary stock of winter greens in their permanent quarters as ground becomes vacant from previous crops. Old strawberry beds, after removing the plants, and without further preparation, are desirable sites for winter broccoli. The soil being firm and rich, hard and satisfactory growth invariably follows that will stand the winter frosts unless extra severe. This is hardly less important with other winter greens. Do not allow a check to the plants more than can be prevented in transplanting, by carefully retaining the roots and giving a sufficient watering to settle the soil. When firmly established frequent stirrings of the surface soil, either by hoeings or light forkings, will greatly assist the progress of growth.

PARSLEY.—An important sowing of seed of this herb should be made at or about this date with the view of providing a stock to furnish the winter and spring supplies. The young plants are to be planted in sheltered positions and in cold frames and pits. Choose a sweet and rich soil, and give a dressing of soot to act as a prevention, to some extent, against wireworm. When sowing the seeds see that the bed is charged with moisture sufficient to ensure germination, or it may be dormant for a long time.

MUSHROOMS.—Collect manure for the beds to crop through the autumn and early winter months. Preparation in fermenting it should be carried out in a shed or under a north wall. Frequently turn and evenly shake out every particle to ensure its being fermented. The ridge method is perhaps the best for making the beds outside at this season, but in any case the beds should be so formed as to throw off heavy rains that are likely to come in October.

CHICORY.—In several cases I have seen the seeds have germinated unevenly this season. Young plants may be thinned where they are too thickly together, and planted in the vacant places, and showery weather should be selected for carrying this out. Water should be given in quantity until root action commences in the new soil. It is not too late to make another sowing in cases of total failure.

GENERAL REMARKS.—Tomatoes will now be making much growth. Do not allow this to exclude light, but promptly remove side shoots to give full exposure to the flower trusses and fruit. Under dry walls it may be necessary to give water. From now to the end of July at least such plants as peas, runner beans, vegetable marrows, and celery, etc., will be much benefited if a good syringing during the afternoon can be given them on hot days. Care, especially on light land, is essential in seeing that such plants do not suffer from dryness at the roots. In this part of the country we have suffered from want of rain to an unusual extent, attended with dry, cutting winds, that has kept vegetation very backward.—Chas. Flack, Cholmondeley Castle Gardens.

FRUITS UNDER CLASS.

MUSCAT HOUSE.—Muscat grapes are now stoning, and during this period it is well to keep the temperature as even as possible, and in dull weather it must be kept up by fire heat; 70 degrees will be high enough. Examine the bunches very carefully, and thin a little where there is pressure on the berries. This should be done by skilled hands. From this date cease syringing, excepting perhaps after a very hot day, when one may direct a little spray between the bunches, though the water must not be allowed to touch the bunches, or the natural bloom will be tarnished. We find it very necessary after dull spells to sprinkle a little shading on the glass, as we are exposed to fierce sunshine. As soon as the stoning process is finished, which will be detected by the berries swelling away quickly, the borders should receive a thorough watering, using some manure at the same time, and thoroughly well washing it on to the roots; on shallow and well-drained borders this will need repeating about every ten days, more or less, according to the weather.

LATE PEACHES AND NECTARINES.—Remove all fruits that are not necessary; I have known fruits left on until after the stoning period, with the idea that many would probably drop, but all fruits not required should be removed before that period, for it is at that time vigour is necessary. Remember that heavy cropping one year may possibly lead to a poor crop the next. Keep the growth nicely tied in, training it up straight and evenly exactly where it is required; do not allow the borders to become dry upon any consideration; syringe the foliage twice daily, and give a good sprinkling of soot water, which is a good healthy cleanser, and a check to thrip.

EARLY STRAWBERRIES.—Those planted out in south borders with frames over them are fruiting finely, and providing good dishes. Preparations should be made for a like border for another season, and it should be deeply dug and manured, and the strawberries planted so that the frames will cover them.

TIDYING UP THE HOUSES.—It is a good plan to examine all crevices and corners for cobwebs on a wet day. All doors, locks, hinges, ventilators, etc., should also be looked over and carefully oiled. If this is done occasionally the locks and fastenings are kept in good working condition, and last much longer. Where cobwebs are allowed in vineries they are apt to get into the bunches of grapes, and are sometimes then difficult to dislodge without rubbing the bloom off the berries.—W. A. Cook, Leonardslee Gardens, Horsham.

New South Wales Plants.—The cultivation of native plants receives a full share of attention in Sydney Botanic Gardens, and the lesser-known forms of promise are added to the collection from time to time. In his annual report Mr. J. H. Maiden writes appreciatively of Tylophora grandiflora, an asclepiad of scandent habit that is found in the bush in the northern parts of the country. Also of Pherosphaera Fitzgeraldi, a distinct conifer from the Blue Mountains, which is found in the moist gorges in association with the todeas and other filmy ferns.

THE GREAT ROSE SHOW
OF THE YEAR
will be held by the NATIONAL ROSE SOCIETY
in the
ROYAL BOTANIC GARDENS,
REGENT'S PARK, N.W.,
ON FRIDAY NEXT, JULY 2nd.

THE TWO CHAMPION CHALLENGE TROPHIES
WILL BE COMPETED FOR.

Also numerous other Cups and Pieces of Plate, and
Money Prizes, to the value of
£400.

TWO MILITARY BANDS.

Luncheons, Teas, and other light Refreshments.

ADMISSION—Noon to Three p.m., 5s.; Three to Five
p.m., 2s. 6d.; Five to Seven p.m., 1s.

E. MAWLEY, Hon. Sec., Rosebank, Berkhamsted.

Exhibitors should at once send in their entries.

BATH GRAND ROSE SHOW and
GENERAL SUMMER EXHIBITION.
SYDNEY GARDENS,
WEDNESDAY and THURSDAY, July 7 and 8.

Classes for Roses, Nurserymen and Amateurs.
Bouquets, Cut Flowers, Sweet Peas, Strawberries,
Plants, and Tuberous Begonias.
Entries close July 2nd.

For prize schedules, etc., apply,
B. R. F. PEARSON, Sec.
Office, 17, Argyle Street, Bath.

BECKENHAM HORTICULTURAL
SOCIETY GRAND SUMMER SHOW (open)
WEDNESDAY, July 14. Floral Fête; numerous attractions. Two Military Bands.
T. W. THORNTON, Hon. Sec.
The Library, Beckenham.

CARDIFF AND COUNTY HORTICULTURAL SOCIETY COMING OF AGE SHOW.
SOPHIA GARDENS, CARDIFF,
WEDNESDAY and THURSDAY, July 21st and 22nd,
1909.
Most liberal prizes for this show.
MONEY, PLATE, etc., Amounting to about £400.
Many special features this year.
Schedules free to any address.
Mr. A. MAURICE BAILEY, Secretary.
24, Duke Street, Cardiff.

HANLEY PARK, STAFFORDSHIRE.
July 7th and 8th, 1909.

THIRTEENTH GREAT
ANNUAL FLORAL FETE.
£650 in Prizes. Silver Cups, Gold and Silver
Medals.
SILVER CHALLENGE CUP, VALUE £10 10s.
offered for TRADE EXHIBIT (for particulars, see
page 10 in Schedule).
Valuable Special Prizes offered by the principal firms
in England.
The Railway Companies will convey Exhibits at one
fare for the double journey, provided they remain
the property of the Exhibitors.

Schedules post free on application to—
WM. POULSON, Secretary.
Town Hall, Hanley.

PORTSMOUTH HORTICULTURAL
SOCIETY—SUMMER SHOW Sweet Peas, Roses,
and Carnations, to be held on the SOUTH PARADE,
[illegible] TUESDAY and WEDNESDAY, July [illegible] and
[illegible] All communications to the Secretary,
[illegible] GILL, "St. Mark's," Florence Road, Southsea.

RICHMOND HORTICULTURAL
SOCIETY.
THE THIRTY-FIFTH GRAND ANNUAL SHOW
will be held in
THE OLD DEER PARK, RICHMOND,
On WEDNESDAY NEXT.
Valuable Money Prizes. Silver Challenge Cups for
Roses and Fruit.
W. J. COOK, Hon Sec.
[illegible]y House, Richmond, Surrey.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

◆

Royal Horticultural Society.

The exhibits staged on June 22 were not so crowded as those at the more recent gatherings, and the annexes were available for the committees, and for visitors to rest in. Hardy flowers were the great feature of the show, and pæonies were shown in enormous numbers.

FLORAL COMMITTEE.

A very large and brilliant display of hardy flowers was made by Messrs. George Bunyard and Co., Maidstone, who filled two tables with a fine selection of herbaceous pæonies, the flowers all bright and clean, the cream-coloured Duchess de Nemours standing out as a specially fine and sweet-scented variety. Heucheras, irises, oriental and Iceland poppies, pyrethrums, and campanulas were also very beautiful and well staged. Spanish irises were largely shown by Messrs. William Bull and Sons, Chelsea, the firm setting up large bunches of such lovely varieties as Ophir, Hercules, Solfatara, Flora, Giant, King of the Blues, Darling, Bronze King, Leander, Belle Chinoise, and St. James—a very bright exhibit of these popular and useful flowers.

The display made by Messrs. H. B. May and Sons, Edmonton, consisted of a selection of double, single, and cactus flowered zonal pelargoniums represented by big bunches of cut blooms, and also a collection of nephrolepises that proved very interesting in view of the great increase of varieties in recent years; all the novelties were shown.

Mr. W. A. Cook, gardener to Sir Edmund Loder, Bart., Leonardslee, Horsham, contributed an exhibit of outdoor flowers that contained fine examples of Sarracenia purpurea, dianthuses, Rhododendron fragrans, R. arbutifolia, Styrax obassia, Magnolia Watsoni, Rose Una, Rosa rugosa fimbriata, Fremontia californica, Benthamia fragifera, and the elegant Philadelphus Falconeri. Pæonies were beautifully shown by Messrs. Kelway and Son, Langport, Somerset, and among the many splendid varieties staged we selected A. W. Hayward, Lord Avebury, Miss Brice, Sir Richard Seddon, Kelway's Queen, Kitty Green, Sir George White, and the singles Lord Curzon and Her Grace as being of special merit. The Langport firm also sent a fine lot of double and single pyrethrums. Mr. Clarence Elliott, Six Hills Nursery, Stevenage, sent pans of edelweiss, Aster alpinus, Arnebia echioides, Delphinium cardinale, and many charming dianthuses and other alpines. From the Guildford Hardy Plant Company, Guildford, came a varied set of alpine and herbaceous plants.

A very interesting exhibit was the extensive one of pinks, in pots, shown by Mr. James Douglas, Great Bookham, Surrey. This was a lovely exhibit and of great educational value. Conspicuously good were the white Snowdrift, the red-edged Amy, Mrs. Pomeroy, the red Rubicon, Adonis, The Duke, Ascot, Morna, and Phyllis, all very charming in form and colour, and very free blooming. Messrs. G. and A. Clark, Dover, brought up a large display of hardy flowers, and among their many useful and beautiful subjects we noted Geum coccineum, Mrs. J. Bradshaw, Anthericum liliastrum major, Incarvillea Delavayi, Inula glandulosa, pæonies, and bunches of Evelyn Hemus, Parisian Belle, Etta Dyke, Norma, The Marquis, Helen Lewis, and other charming sweet peas.

Sterling Stent, a fine new white perpetual carnation, was splendidly shown by Mr. A. A. Fabius, Redlands Nurseries, Emsworth. This has large solid blooms that have a good calyx and are clove-scented. Messrs. T. S. Ware, Lim., Feltham, arranged a little rock garden, and also set up a magnificent bank of finely grown flowers of herbaceous subjects. At the back were stately eremurus spikes, and in front of these were fine pæonies, and big sheaves of the lovely Persimmon delphinium, Campanula latifolia, C. persicifolia, Dictamnus fraxinella alba, Hemerocallis Lemon Queen, etc. Garden roses were prettily shown by Messrs. Paul and Son, The Old Nurseries, Cheshunt, the blooms of Lady Battersea, Ards Pillar, Marquise de Sinety, Madame Pernet, Gustave Regis, J. B. Clark, Prince de Bulgarie, Madame Ravary, and Mrs. Peter Blair being well set up in big bunches.

Messrs. Frank Cant and Co., Colchester, set up bunches of lovely flowers of Lady Battersea, Madame Melanie Soupert, Irish Glory, Gustave Regis, Irene Walis, Mrs. S. Treseder, and Lady Wenlock, as well as oher useful garden varieties. A bold group of German irises, pæonies, and pyrethrums was contributed by Mr. A. J. Harwood, St. Peter's Nursery, Colchester. Herbaceous pæonies were well shown by Messrs. R. H. Bath, Lim., Wisbech, and among their many excellent varieties we were especially attracted by Nymph, a lovely white single with a great big centre of yellow petaloid stamens—a splendid pæony.

Sweet peas were delightfully well shown by Mr. W. J. Unwin, Histon, Cambridge, who set up grand bunches of fine blooms of Nancy Perkins, Constance Oliver, Nora Unwin, Mistress Lumley, Clara Curtis, Cambridge Pink, Histon Favourite, Evelyn Hemus, and Frank Unwin. Mr. C. Blick, Warren Nurseries, Hayes, showed several very fine carnations, the finest being Lady Hermione, Sarah Bernhardt (A.M.), and Calypso, the two latter being Malmaison varieties. The fragrant-leaved pelargonium Clorinda was again finely shown by Mr. E. Beckett, V.M.H., gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree, who had ten grandly grown standard specimens, each with a head 3ft. to 4ft. through. Mr. Beckett also staged a very comprehensive collection of pelargonium species and hybrids.

Eremuri were very largely shown by Messrs. William Cutbush and Son, Highgate, this firm setting up several dozen spikes of E. robustus over a groundwork of blue campanulas. This group was flanked with pæonies, and in the foreground were liliums and big pools of Marliac's water lilies, Delphinum Moerheimi. Messrs. J. Peed and Son, West Norwood, again sent a selection of alpines and succulents and Japanese maples. Mr. Maurice Prichard's exhibit was chiefly of pæonies, and the beautiful Anchusa italica Dropmore variety. Mr. Charles Turner, Slough, showed a charming series of single pæonies, including Queen of Singles (A.M.), a pure white with a central boss of golden stamens. Besides their roses, Messrs. Paul and Son, Cheshunt, had a group of pæonies, dictamnus, and carnations. Messrs. Mawson Brothers, Windermere, contributed a big batch of grand flowers of a lovely salmon-pink Oriental poppy named Jeannie Mawson. Long-spurred columbines were largely and well shown by Messrs. Bakers, Codsall, Wolverhampton.

Mr. R. C. Notcutt, Woodbridge, displayed poppies, Spanish irises, pæonies, and other useful hardy flowers. Mr. G. Reuthe, Keston, set up eremuri, poppies, pyrethrums, lychnis, saxifrages, irises, hardy cypripediums, Rhododendron cinnabarinum, and other choice subjects. Messrs. E. W. King and Co., Coggeshall, had a very beautiful display of fine sweet peas, and the central feature of the exhibit was a bunch of the bright Stirling Stent (A.M.) (raised by Mr. Agate, of Havant), a bright orange-salmon variety of great beauty; other good things were Marjorie Willis, Evelyn Hemus, Helen Lewis, Jeannie Gordon, Constance Oliver, and Lord Nelson.

Some glorious roses were submitted by Messrs. Ben. Cant and Sons, Colchester, their finest being Maharajah, Gottfried Keller, Papa Gontier, Lucy Carnegie, Mrs. B. R. Cant, Warrior, and Irish Glory. Very bright were the long-spurred columbines, admirably shown in goodly bunches by Messrs. H. Cannell and Sons, Swanley. Pink lupins and a collection of herbaceous flowers and flowering and ornamental shrubs came from Messrs. J. Cheal and Sons, Crawley. Fine pæonies, liliums, irises, poppies, and columbines were all staged in quantity by Messrs. G. Jackman and Son, Woking. Mr. Amos Perry, Enfield, had a bold display of irises, hemerocallis, Pæony Mrs. Perry, Lilium davuricum, Aster sub-cæruleus, and a delightful series of the very elegant heucheras.

Messrs. James Veitch and Sons, Chelsea, showed cut trusses of specially good rhododendrons, the velvety Rosa Moyesi, pots of Nemesia Blue Gem, Cardinal candytufts, Alonzoa Warscewiczi, Calceolaria Clibrani, Lobelia tenuior, various new cannas, Hydrangea hortensia Veitchi, and the glowing Kalanchoe flammea. Violas were delightfully set up by Mr. Howard H. Crane, Highgate, who arranged bowls of a variety; Mrs. Chichester, Sultan, Kitty Bell, Swan, Cream King, Mrs. E. M. Cann (golden-yellow), Royal Blue, and James Pilling were a few of the best.

Particularly fine on this occasion were the carnations shown by Mr. H. Burnett, Guernsey, who had a fine group of splendid blooms of Marmion, Bridesmaid, Enchantress, Afterglow, Mrs. H. Burnett, Mikado, Fortuna, Beacon, Winsor, and the very showy Vulcan. This was an even finer group than Mr. Burnett had at the Temple Show, and it was greatly admired. The exhibit arranged by Messrs. Barr and Sons, Covent Garden, consisted of a big display of irises and pæonies, the latter occupying a very large space, and making a brave show.

ORCHID COMMITTEE.

Mr. Ballantine, gardener to Baron Schroder, The Dell, Egham, showed the very handsome Odontoglossum Black Prince, carrying a grand spike of a dozen big blooms, the flowers rich chocolate-brown, edged with rosy blush, and with golden disk. Mr. Black, gardener to R. G. Thwaites, Esq., Streatham, sent up a beautiful white ground O. crispum named Majestica. Mr. Mertens, Mont St. Amand, Ghent, brought over some exquisite odontoglossums, and a scarlet odontioda.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, put up an effective group of orchids that contained good odontoglossums, Epidendrum prismatocarpum, Miltonia vexillaria, Chysis bractescens, Epidendrum vitellinum majus, and numerous cattleyas and an assortment of quaint botanical orchids.

Mr. A. W. Jensen, Lindfield, sent some excellent forms of Cattleya Mendeli and C. gigas. From Southgate Messrs. Stanley and Co., brought up a fine lot of beautiful varieties of Cattleya Mossiæ, C. Mendeli, C. Gaskelliana, several oncidiums, and Miltonia vexillaria Cobbiana, the latter with very big bold flowers.

FRUIT AND VEGETABLE COMMITTEE.

A grand lot of cabbage lettuces came from Messrs. Jas. Veitch and Sons, Chelsea, representing a wonderful range of form and even of colour; Passion, All-the-Year-Round, Imperial, Perpignan Improved, Continuity, New York, and Palatine, were all excellent varieties. Veitch's forcing cauliflower, from seed sown January 2, were beautiful white heads.

In the competition for three dishes of tomatoes, distinct, Mr. E. Beckett, V.M.H., gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree, was easily first with splendid fruits of Perfection, Golden Perfection, and Sutton's A1; Mr. H. C. Gardner, gardener to Lord Foley, Ruxley Lodge, Esher, second with Hippur No. 1, Veitch's Dwarf Red, and Winter Beauty; Mr. J. Vert, gardener to Lord Howard de Walden, Audley End, Saffron Walden, third.

AWARDS.

There were no first-class certificates granted on this occasion.

Award of Merit. — To Delphinium Moerheimi and Aster Mesa grandiflora, from Messrs. W. Cutbush and Son, Highgate; to pæonies Leonora and Queen of Singles, from Mr. Chas. Turner, Slough; to Carnation Her Majesty, from Mr. C. Blick, Hayes; to Campanula phyllidocalyx, from Mr. Bain, gardener to Sir Trevor Lawrence, Bart., Dorking; to Sweet Pea Stirling Stent, from Mr. J. Agate, Havant, and Sweet Pea Blanche Stevens, from Mr. H. J. Jones, Lewisham.

MEDALS.

Silver-Gilt Flora.—To Messrs. G. Bunyard and Co., Maidstone, for hardy flowers; to Messrs. H. B. May and Sons, Edmonton, for flowering plants and ferns.

Silver-Gilt Banksian. — To Messrs. Wm. Cutbush and Son, Highgate, for hardy flowers; to Messrs. J. Veitch and Sons, Chelsea, for flowering plants; to Messrs. T. S. Ware, Feltham, for hardy flowers.

Silver Banksian. — To Mr. E. Beckett, V.M.H., Aldenham House Gardens, for pelargoniums; Mr. H. Burnett, Guernsey, for carnations; Messrs. B. R. Cant and Sons, Colchester, for roses; Messrs. E. Jackman and Son, Woking, for hardy flowers; to Messrs. E. W. King and Co., Coggeshall, for sweet peas; to Mr. R. C. Notcutt, Woodbridge, for hardy flowers; to Mr. M. Prichard, Christchurch, for hardy flowers; to Mr. G. Reuthe, Keston, for hardy plants; to Mr. W. J. Unwin, Histon, Cambridge, for sweet peas; to Mr. W. A. Cook, Leonardslee Gardens, for hardy flowers; to Messrs. Stanley and Co., Southgate, for orchids; to Mr. A. Jansen, Lindfield, for orchids.

Silver Flora.—To Messrs. Stuart Low and Co., Bush Hill Park, Enfield, for orchids; to Messrs. R. H. Bath, Lim., Wisbech, for pæonies, etc.; to Messrs. H. Cannell and Sons, Swanley, for aquilegias; to Messrs. F. Cant and Co., Colchester, for roses; to Messrs. G. and A. Clark, Dover, for hardy flowers; to Messrs. Kelway and Son, Langport, for pæonies, etc.; to Messrs. Paul and Son, Cheshunt, for roses and hardy flowers; and to Mr. Amos Perry, Enfield, for hardy flowers.

SCIENTIFIC COMMITTEE, June 8.

Present: Mr. E. A. Bowles, M.A., F.L.S. (in the chair), Sir J. T. D. Llewelyn, Prof. G. S. Boulger, Messrs. W. E. Ledger, R. A. Rolfe, W. Hales, J. Fraser, L. Crawshay, G. Gordon, R. Hooper Pearson, J. Douglas, W. Fawcett, G. S. Saunders, H. T. Güssow, J. T. Bennett-Poë, E. M. Holmes, A. W. Hill, J. S. Arkwright, and F. J. Chittenden (hon. secretary).

IMPATIENS x COMORICOMA. — The award of a certificate of appreciation was unanimously recommended to Messrs. Cayeux in acknowledgment of work done in raising the hybrid impatiens shown at the last meeting, and the careful notes thereon contained in the "Rev. Hort."

HYBRID DIANTHUS.—Mr. Douglas exhibited flowers of hybrid dianthus. One had been raised by crossing Dianthus barbatus with a double pink (D. plumarius). This had rather glaucous foliage, leaves about ¾in. broad, and pink flowers with about a dozen petals laciniated at the margins, borne on branched stems carrying about eight or ten flowers. The second was the hybrid between D. barbatus and D. caryophyllus var. Uriah Pike, known as Lady Dixon, a form which never produces seeds, but flowers very profusely.

VARIEGATED LAUREL. — Mr. Crawshay showed foliage of a much variegated form of the common laurel, Prunus laurocerasus, the bush from which this was cut was an old one, and the variegation had proved constant.

ALPINE PLANTS. — Mr. J. Fraser, F.L.S., showed cultivated specimens of a very dwarf form of Salix herbacea, which he had collected at an elevation of 3,984ft. on Ben Lawers. The height to which it attained in the wind-swept situation in which it was growing was only from ¼in. to ½in. He also showed Draba rupestris from the same locality, and Tofieldia palustris from an altitude of 2,800ft. in Perthshire with fruit. These had all been grown in pots, and were somewhat taller than when collected. Mr. Fraser also showed flowers of Rosa spinosissima, which is still found growing wild within the county of London, though it does not now fruit. The flowers exhibited were very small, and had been picked from the wild specimen alluded to.

LONICERA STANDISHI. — Mr. E. M. Holmes exhibited ripe fruit of this lonicera, which rarely fruits in Britain.

AQUILEGIA DOUBLE. — Mr. Hales drew attention to the doubling of aquilegias where, somewhat as in the hose-in-hose primrose, the petals are packed one within the other. Mr. Chittenden pointed out that the additional petals were modified stamens, of which the filament became the claw of the petal, while the spur and the limb of the petal were developed from the anther; in specimens in which the modification had not gone far the two anther lobes could be seen around the mouth of the spur.

MALFORMED ORCHID.—Mr. Rolfe exhibited an odontoglossum in which the petals had acquired somewhat the colouration of the lip.

PRIMROSES FLOWERING.—Mr. A. W. Hill said that there was at present flowering at Kew a common primrose, which had been brought from Shetland last year, and had thus retained its normal time of flowering.

TRACHYCARPUS EXCELSUS MONŒCIOUS.—Mr. Bowles exhibited an inflorescence of Trachycarpus excelsus, and remarked that although most of the flowers were staminate in the inflorescence for some years, a few pistillate flowers had developed and had produced fruit. This was most evident in the inflorescences which had developed late in the season.

National Vegetable Society.

A meeting of this newly-constituted society was held at the Hotel Windsor, Westminster, on Tuesday last, with Mr. Alex. Dean, V.M.H., in the chair, when the details of organisation were practically completed.

It was reported that His Grace the Duke of Portland had accepted the invitation to become the president of the society, and had promised to give it his heartiest support. It was further reported that the following gentlemen and firms have become vice-presidents, namely: The Rt. Hon. Earl of Carrington, the Hon. Vicary Gibbs, M.P., Messrs. G. Bunyard, V.M.H., J. Basham, R. Barr, H. Cannell, J. Cheal, Wm. Cuthbertson, J.P., J. Collingridge, J. Ha Ed. Hudson, W. G. Lobjoit, C. G. A. Nix, A. H. Pearson, J. Poupart, N. N. Sherwood, A. Sutton, V.M.H., Robert Sydenham, D. W. Thomson, H. J. Veitch, V.M.H., J. C. Veitch, J.P., A. Watkins, J. Wright, V.M.H., J. Carter and Co., Daniels Bros., Dicksons, Lim., Alex. Dickson and Sons, Lim., Dickson, Brown, and Tait, Dickson and Robinson, Fidler and Son, Fisher, Son, and Sibray, Hogg and Robertson, Johnson, Lim., R. P. Ker and Sons, E. W. King and Co., John K. King and Sons, Rogers and Sons, C. Sharp and Co., Toogood and Sons.

EXECUTIVE COMMITTEE.

The Executive Committee as at present constituted is as follows: Messrs. B. Ashton, N. Barnes, E. Beckett, V.M.H., E. T. Cook, W. A. Cook, A. Dean, V.M.H., C. Foster, J. Gibson, George Gordon, V.M.H., F. W. Harvey, G. Hobday, R. Hooper Pearson, J. Harrison Dick, J. Jaques, J. Lyne, H. Markham, S. Mortimer, W. Poupart, R. J. Steel, Owen Thomas, V.M.H., J. Vert. It was decided to invite two or three other well-known authorities on vegetables to join this body. Mr. G. Wythes, V.M.H., Hopefield House, Windmill Road, Brentford, is the treasurer, and Mr. E. G. Quick, Harrow View, Wealdstone, Harrow, the hon. secretary.

The question of proceeding with the trials of certain kinds of vegetables was considered.

and the arrangements connected therewith advanced a stage.

The following are the object and rules of the society:

OBJECTS AND RULES OF THE SOCIETY.

1.—The title of this society shall be the National Vegetable Society, and its object shall be to promote the wider cultivation of vegetables as food products, to encourage their consumption as food, to promote exhibitions of such products, whether competitive or otherwise, and to hold trials under such conditions as may offer with a view to finding the best varieties to commend for general culture, and to ascertain commercial values when grown under ordinary conditions.

2.—Membership shall be open to all persons who will pay an annual subscription of not less than 5s., and who are in entire agreement with the objects above stated.

3.—Executive Body.—The governing body of the society shall be a president, vice-presidents, treasurer, and secretary, who together with an executive committee not exceeding 24 members shall be elected annually.

4.—Annual Meeting.—An annual general meeting of all members shall be held in the month of January each year, when the report of the committee's work for the previous year shall be read, and a duly audited balance-sheet of accounts presented. The annual election of officers and committee shall also then be held. Two auditors shall be elected at such meetings.

5.—Meetings of the Committee shall be convened by the secretary from time to time as the business of the society may require, as the committee itself shall determine, or on the request of any four members of the committee, such request to be made in writing to the secretary. The committee shall elect its own chairman and vice-chairman at its first meeting immediately following the annual general meeting.

6.—Subscriptions become due on the first day of the month of January in each year, and should be paid through the treasurer, who shall forward an official receipt to the member for same at the earliest possible date. All cheques shall be made payable to the National Vegetable Society.

7.—All members will be entitled to vote at the general meetings, and also be eligible for election on the executive committee. Members will also be entitled to receive copies of any reports or publication issued by the society, and to exhibit at any show or in any classes arranged by the society.

8.—All trials conducted by the society shall be thoroughly impartial and designed to elicit useful information. They shall be under the control of a Special Trial Sub-Committee of not less than three members, who shall be responsible to the General Committee.

British Gardeners' Association.

At the last meeting of this association the new Executive Council for 1909 met for the first time. Mr. Geo. Hemming was elected chairman for the ensuing year, and Mr. John H. Witty, vice-chairman. The question of editing and enlarging the journal of the association was considered, but no decision was arrived at, pending further information in regard to the financial aspect. It was decided by a majority that the monthly meetings be held on Tuesdays at four p.m. The secretary was instructed to prepare a form and draft a letter to be sent out, inviting the attention of those wishing to become hon. members. It was also decided to obtain samples and specimens of a badge. Seventeen new members were elected, bringing the total up to 1,517.

Royal Agricultural Society, Gloucester.

The horticultural section of the "Royal," which was opened to the public on Wednesday, June 23, and continued open until Saturday, must be proclaimed the best flower show ever held in conjunction with this society. The large, roomy tents were filled to overflowing with plants, flowers, and fruits of the very highest quality, and the management was so excellent that Mr. Peter Blair, who was at the helm, deserved and received unstinted praise. The following report, condensed to meet the limits of our space, cannot do full justice to the grand display, but will give our readers some idea of what good things were to be seen at Gloucester.

A deputation from the Royal Horticultural Society visited the exhibition and made many awards.

COMPETITIVE EXHIBITS.

In the leading class for a group of plants occupying 350 square feet, the first prize, £30, was ably won by Messrs. J. Cypher and Sons, Cheltenham, who had a fine lot of both flowering and foliage plants arranged in very artistic style. Crotons stood above a bed of orchids, ferns, and other plants, with pillar roses, liliums, and tall palms in the background. Second place was secured by Mr. W. A. Holmes, West End Nurseries, Chesterfield, with another very pleasing group similar in general character, but which lacked something in point of refined lightness. Mr. Curtis, gardener to J. S. Blacker, Esq., Thorpe Villas, Selby, was placed third, a sign of weakness being apparent in the group mainly through too much white and green variegation; fourth, Mr. Jos. S. Sharp, Bankfoot, Aldmondbury; fifth, Mr. William Vause, Leamington. Messrs. Cypher and Sons were the only exhibitors in the class for a collection of orchids, and worthily received first prize. Conspicuous was a seedling which, although no expert present would venture to name it, attracted a great deal of attention.

For a collection of stove and greenhouse plants, the Messrs. Cypher were again victorious with their well-known specimen plants so often reported upon. Messrs. Blackmore and Langdon won first prize for a group of begonias which were absolutely grand. Colour, form, size, were all combined in every plant on the stand. Only one entry was made for the amateurs' group (200ft), confined to the County of Gloucester. This was from Mr. Charles Savegar, gardener to the Right Hon. Sir John Dorington, Bart., Lypiatt Park, Stroud. The main features of the group were orchids and some fine crimson amaryllis, set off by crotons, palms, etc. The arrangement was good.

For a group of carnations in pots, occupying 100 square feet, first prize and gold medal was won by Mr. R. Tooley, gardener to Hugh Andrews, Esq., Toddington, Winchcombe, Glos. Malmaison varieties were largely used with perpetuals towards the back; second, Mr. N. Langton, Hugglecote Nurseries, Gloucester, with nicely-flowered plants which might have been better staged; third, Messrs. Heath and Son, College Nurseries, Cheltenham. Here, again, the arrangement was disappointing.

For a collection of hardy cut flowers and plants arranged on the ground (200 square feet), Messrs. G. Gibson and Co., Leeming Bar, Bedale, were first, no other competitor coming forward. This is a class which offers great possibilities, and certainly deserves support.

Mr. C. F. Waters, Deanland Nursery, Balcombe, Sussex, ably won first prize for a collection of carnations (cut) occupying 12ft. by 5ft. For variety, quality, and tasteful arrangement, this exhibit was worthy of high praise. Messrs. Bell and Sheldon, Castel Nursery, Guernsey, were a good second; Mr. A. F. Dutton, Iver, Bucks, third.

Messrs. Geo. Mount and Sons, Lim., Canterbury, led well in the collection of roses occupying 15ft. by 5ft. Frau Karl Druschki, Richmond, Mrs. J. Laing, and other popular roses were used in Messrs. Mount's masterly manner, tall ramblers filling up the background; second prize was secured by Messrs. W. and J. Brown, Stamford, with a very nice display; third, Mr. Geo. Prince, Longworth, Berks, who wanted a few bolder flowers to give weight to his exhibit; fourth, Mr. E. J. Hicks, Twyford, Berks; fifth, Messrs. Cooling and Sons, Bath.

Very keen was the competition in the hardy perennial class; Mr. M. Prichard, Christchurch, Hants, securing the coveted award with a beautiful collection of pæonies, delphiniums, and other choice things. Messrs. J. Harkness and Sons, Bedale, followed closely with a massive bank of brilliant flowers. Messrs. G. Gibson and Co. third.

The class for a collection of sweet peas, arranged for effect on a space of 20ft. by 5ft., brought four entries, all of which were of a high order of merit. The first prize and gold medal was awarded to Mr. E. Usher, gardener to Sir R. Baker, Bart., Ranston, Blandford, who had lightly arranged bunches arranged on a tiered stage, with tall pyramidal arrangements at intervals to break the level; second position was won by Mr. C. W. Breadmore, Winchester, who also staged grand flowers in an elegant and pleasing manner; third, Mr. W. J. Godfrey, Exmouth; fourth, Mr. T. W. Darlington, Warton, Carnforth.

NON-COMPETITIVE EXHIBITS.

These played a notable part in making the show the remarkable success it was. The group of orchids put up by Mr. Alexander, orchid grower to Lieut.-Colonel Holford, Westonbirt, was a really glorious exhibit, in which tasteful grouping was as noteworthy as the excellence of individual varieties, and the skilful cultivation of every specimen. Lieut.-Colonel Holford's exhibit of orchids was recommended for the Lawrence Medal by the Deputation of the R.H.S. The group occupied about 300 square feet, and teemed with rare and choice hybrids chiefly raised at Westonbirt. The centre was occupied by Lælio-Cattleya Canhamiana and L.-c. Aphrodite, L.-c. Tyntesfieldiense, C. Mossiæ, and C. M. Wagneri, C. M. Reineckiana Westonbirt var., L.-c. Countess Grey, C. gigas, C. Warneri, and miltonias in fine specimens, bearing an average of 100 flowers each. Vanda teres and some grand odontoglossums were on either side of the group. O. Othello, a very fine hybrid, was conspicuous. Brassocattleyas were well represented by nearly all the leading varieties, and a clear note of colour was provided by the golden flowers of Dendrobium suavissimum. Phalænopsis Rimestadiana, Cochlioda Noetzliana, Cypripedium barbatum, C. callosum Sanderæ, C. Maudæ, and other summer-flowering varieties were also finely represented. The foregoing and many other grand things helped to make up a magnificent exhibit.

The extensive group of amaryllis from the same gardens, set up by Mr. Chapman, the head gardener, was very fine.

Messrs. Dobbie and Co., Rothesay, put up a big bank of aquilegias, sweet peas, pansies, and violas, all of first-rate quality.

Messrs. W. and J. Brown, Stamford, staged hardy flowers, conspicuous among which were fine eremuri, liliums, and the new pyrethrum White Perfection.

Mr. J. H. White, Worcester, showed a large variety of herbaceous flowers, and a few greenhouse plants, Calla Elliottiana being specially noticeable.

Messrs. Toogood and Sons, Southampton, staged sweet peas and early-flowering gladioli. Messrs. A. A. Walters and Son, Bath, made an effective display of rambling roses, pæonies, and other seasonable flowers.

Mr. W. J. Godfrey brought up from Exmouth a big bank of pelargoniums, Oriental poppies, delphiniums, and a large group of well-grown Solanum Wendlandi. From the King's Acre Nurseries, Lim., Hereford, came a choice exhibit of fruit trees in pots, comprising practically all classes, and showing skilful cultivation. The firm also showed cleverly designed floral arrangements, roses, and herbaceous plants. Messrs. Gunn and Sons, Olton, Warwickshire, exhibited phloxes, herbaceous flowers, and violas, their Viola cornuta purpurea being in capital form.

Messrs. R. H. Bath, Lim., Wisbech, made a bold display of pæonies, pyrethrums, carnations, and poppies. The excellent exhibit of ferns put up by Mr. H. N. Ellison, West Bromwich, struck a distinct note from the surrounding glow of brilliant colours. Messrs. G. Mallett and Co., Cheddar, exhibited an interesting collection of choice herbaceous plants.

Messrs. Dicksons, Lim., Chester, maintained their reputation as hardy plantsmen by showing a grand lot of the flowers in season. A large exhibit from Messrs. Stuart Low and Co., Bush Hill Park, Middlesex, included rambling roses, perpetual carnations, Metrosideros floribunda, and many other good things.

The collection of some eighty dishes of vegetables shown by Mr. E. Beckett, V.M.H., gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree, was splendid, and capitally staged. We cannot say more than that the exhibit was well up to Mr. Beckett's usual degree of excellence. A small collection of hardy flowers was exhibited by Messrs. Rich and Co., Bath; overcrowding rather marred the effect of this exhibit. Sweet peas were well shown by Mr. Robert Bolton, Warton, Carnforth.

A group of Malmaison and perpetual-flowering carnations in pots was arranged on the ground by Messrs. J. Jefferies and Son, Lim., Cirencester; the group was edged with adiantums and nephrolepis, and backed up by palms. A miscellaneous group of plants and cut flowers was arranged in a most effective and pleasing manner by Messrs. Wm. Cutbush and Son, Highgate. Bold spikes of eremurus, tall pillars of Hiawatha, Lady Gay, and other roses were interspersed with carnations and a variety of smaller subjects. Messrs. Bakers, Wolverhampton, occupied a large space with an exhibit of irises, aquilegias, hemerocallis, and other border plants.

From Messrs. Kelway and Son, Langport, came gorgeous pæonies and pyrethrums, the exhibit occupying the whole of the stage across one end of the tent. Zonal pelargoniums in excellent variety were shown by Messrs. Jarman and Co., Chard, who also displayed their well-known centaureas, carnations, roses, and a large mass of their sweet pea Mrs. Townsend. Messrs. Heath and Son, Cheltenham, had a very large and beautiful collection of fancy pelargoniums, which were a perfect blaze of colour: scented-leaved varieties were also staged in considerable numbers.

An excellent group of carnations, in pots, was put up by Messrs. Young and Co., Hatherley, Cheltenham, among which Mikado, Gwladys, Hon. Lady Audley Neild, and several very fine seedlings were conspicuous. Baskets of cut blooms were suspended at the back, and added to the charming effect. Messrs. Stuart Low and Co.'s group of orchids was particularly good. Cattleyas, cypripediums, dendrobiums, etc., were arranged in very artistic style. The whole end of a tent was occupied by Miss Hemus's sweet peas. The size, substance, and freshness of the flowers bore testimony to good culture at Upton-on-Severn. A new variety of much promise was named Charles Hemus. It is best described as a bright wine colour, and is of good form.

Roses in bunches, in boxes, in epergnes, and bamboo stands, were put up by Messrs. A. Dickson and Sons, Lim., Newtownards, co. Down. A new Wichuraiana hybrid, Dorothy Dennison, delicate flesh-pink; and two charming H.T.'s, Walter Speight and Countess of Ilchester, were specially noted.

A group of border perennials was staged by Messrs. H. and W. Evans, Llanishen, Cardiff. The varieties used were of popular subjects, and the flowers were clean and bright. The name of Laxton and strawberries go together. The Bedford firm's exhibit of these luscious fruits was very tempting to parched lips.

OUTDOOR EXHIBITS.

Messrs. Pulham and Son, 71, Newman Street, London, W., laid out a rock and water garden in the open. The waterfall and lily pond were well devised, and the rocky mounds at intervals along the banks, suitably planted, made up a picturesque exhibit. Coniferæ and shrubs were shown by the King's Acre Nurseries, Lim., and also by Messrs. J. Jefferies and Son, Lim. An exhibit of salads growing under cloches was made by Messrs. Sutton and Sons, Reading.

SEEDSMEN'S PAVILIONS AND SPECIAL STANDS.

As usual, a large number of the leading seedsmen occupied special stands, filled with their specialities, and an hour or two could be well spent in making a tour of this section of the show. Messrs. Toogood and Sons, Southampton, occupied an extensive pavilion, the frontage of which was decked with fine batches of verbena Miss Willmott, early gladioli, and irises, callas, and some excellent salpiglossis. Vegetables and grasses were also shown. Messrs. Dickson and Robinson, of Manchester, made a great display of swedes, grasses, and a collection of pyrethrums and other flowers. Samples of lawn grasses were well shown, and the whole stand was excellent. Messrs. Little and Ballantyne decorated the front of their stand with young coniferæ, spiræas, hydrangeas, and sweet peas. Messrs. Dickson, Brown, and Tait had a very attractive display of roses of the rambler class, marguerite Queen Alexandra, Spanish irises, and lily of the valley.

Messrs. Sutton and Sons, Reading, had their large pavilion, familiar to all frequenters of the Royal shows, and in it displayed vegetables, grasses, and flowers in wonderful variety and first-rate quality. The central glazed enclosure was well furnished with begonias, gloxinias, schizanthus, and liliums. The pavilion which accommodated the exhibits of Messrs. J. Carter and Co., Holborn, was among the most attractive features of the show. The centre was given over to a water garden, with dripping well, surrounded by ferns and other appropriate plants. Nymphæas and irises were planted in the water, and the margins of the pool were clothed with moisture-loving plants. Vegetables and a great variety of flowers were also well arranged on either side of the pavilion, roots, of course being well shown. A grand exhibit came from Messrs. E. Webb and Sons, Wordsley, Stourbridge: gloxinias, calceolarias, cinerarias, and sweet peas gave colour and charm to the central portion of the pavilion, while the soft green of the lawn grasses in the foreground was an effective foil to the brighter colours. Tomatoes, melons, and a few other culinary subjects were well represented, and the farm section contained the firm's well-known pedigree stocks of seed corn and roots.

Messrs. Dickson's, Lim., Chester, had flowering and foliage plants to relieve the more sombre samples of farm seeds. The Gloucester firm of Messrs. J. C. Wheeler and Son upheld their honour in their own county with a first-rate collection of vegetables, flowers, and plants. Messrs. Harrison and Sons brought potatoes, cabbages, etc., and some sweet peas and hardy border flowers from Leicester. Messrs. J. Jefferies and Son brought Spanish irises, poppies, carnations, and sweet peas wherewith to furnish their stand of seeds.

MEDALS AND SPECIAL AWARDS.

Gold.—Hugh Andrews, Esq.; Messrs. G. Gibson and Co.; Mr. W. J. Godfrey; Messrs. Heath and Son; Messrs. J. Jefferies and Sons, Lim.; Messrs. Bakers; Messrs. W. Cutbush and Son; Messrs. J. Cypher and Sons, for orchids; Messrs. J. Cypher and Sons, for stove plants; Lieut.-Colonel Holford for orchids; King's Acre Nurseries, Lim., for fruit; Sir J. Dorington, Bart.; Mr. Geo. Mount; Messrs. Dobbie and Co.; Mr. M. Prichard; Mr. C. F. Waters; Messrs. R. H. Bath, Lim.; Mr. E. Beckett; Messrs. Kelway and Sons; Lieut.-Colonel Holford, for amaryllis; Messrs. Alex. Dickson and Sons, Lim.; Messrs. Stuart Low and Co.; Messrs. Blackmore and Langdon; Messrs. Dicksons, Lim.

Silver-Gilt.—King's Acre Nurseries, Lim.; Mr. C. W. Breadmore.

Silver.—Mr. N. Langton; Messrs. Young and Co.; Mr. Wm. Vause; Messrs. J. H. White and Co.; Miss Hemus; Mr. C. W. Breadmore; Messrs. A. A. Walters and Son; Messrs. W. and J. Brown; Messrs. Harkness and Sons; Messrs. Bell and Sheldon; Messrs. Mallett and Co.; Messrs. Jarman and Co.; and Mr. H. N. Ellison.

R.H.S. AWARDS.

Gold Medals.—Messrs. J. Cypher and Sons, for miscellaneous group; also one for orchids and stove and greenhouse plants; Lieut.-Colonel Holford, for orchids (with recommendation for Lawrence Medal); Sir R. Baker, Bart.; Lieut.-Colonel Holford, for amaryllis; Messrs. Blackmore and Langdon.

Silver Cups.—Messrs. W. Heath and Son; Sir John Dorington, Bart.; Mr. J. G. Blacker; Sir R. Baker, Bart.; and Mr. E. Beckett.

Silver-gilt Medals.—Mr. W. J. Godfrey, for pelargoniums; Messrs. W. Cutbush and Son; Mr. W. Vause; Mr. J. Sharp; Mr. Wm. A. Holmes; Mr. Geo. Mount; Messrs. Dobbie and Co.; and Messrs. Stuart Low and Co., for orchids.

Silver Medals.—Hugh Andrews, Esq.; Messrs. Bakers; Messrs. J. H. White and Co.; Miss Hemus; Messrs. Toogood and Sons; Mr. Darlington; Messrs. A. A. Walters and Son; Messrs. W. and J. Brown; Mr. E. J. Hicks; Messrs. Harkness and Sons; Mr. M. Prichard; Mr. A. F. Dutton; Messrs. Bell and Sheldon; Messrs. R. H. Bath, Lim.; Messrs. Gunn and Son; Messrs. Alex. Dickson and Sons, Lim.; Messrs. Dicksons, Lim.; and Mr. H. N. Ellison.

Certificates of Merit.—Hugh Andrews, Esq., for eremuri; Philip Price, Esq., Treberton Court, for apples; Mr. Geo. H. Towndrow, Malvern Link, for roses; Mr. Wm. Vause, for plants; Messrs. J. H. White and Co., for Francoa hybrida King Edward VII.; Miss Hemus, for sweet peas Czarina and Chas. Hemus; Messrs. Toogood and Sons, for sweet peas; Messrs. Rich and Co.; Messrs. A. A. Walters and Sons, for zonal pelargonium Beauty of Kensington.

First-class Certificates.—Messrs. W. and J. Brown, Stamford, for Marguerite Perfection; Mr. C. F. Waters, for carnations; Messrs. Stuart Low and Co., for Ampelopsis Lowi, and for the Lowberry; Messrs. Blackmore and Langdon, for begonias Lady Greenall and Lady Dorington.

Gardeners' Royal Benevolent Institution.

On June 23, under the genial presidency of Lionel de Rothschild, Esq., a large gathering met at the Whitehall Rooms, Hotel Metropole, to celebrate the seventieth anniversary festival dinner of the Gardeners' Royal Benevolent Institution. In the gathering we noticed, among many others, such well-known folk as Colonel Mark Lockwood, Messrs. Harry J. Veitch, N. N. Sherwood, E. Sherwood, W. A. Bilney, W. Poupart, J. Walker, G. Monro, W. Sherwood, A. Tite, D. Thomson, N. F. Barnes, A. Mackellar, E. Cook, J. F. McLeod, A. W. Sutton, L. Sutton, Owen Thomas, C. Fielder, W. H. Page, R. G. Cuthbert, W. Iceton, E. Rochford, Jas. Hudson, A. Bedford, J. Willard, J. Anderson, W. Nutting, Mott, J. Sweet, D. Ingamells, etc., etc.

The usual loyal toasts were enthusiastically received and acknowledged, and then the Chairman, in proposing "Continued Prosperity to the Gardeners' Royal Benevolent Institution," reminded those present that this was the seventieth festival, but as the society was not eligible for an old age pension it again appealed to the public to carry on its work in the alleviation of the old age of gardeners and gardeners' widows, and in relieving cases of sudden distress. The Chairman caused some amusement by referring to a letter from a lady subscriber, who said she could only give one guinea this year, as she now needed the second guinea (usually given) to help on the suffragette movement. He was glad to find the society encouraged thrift, and consequently outsiders, so to speak, were duced to subscribe to the funds. It was encouraging to notice that a candidate received [illegible] votes for every guinea per annum contributed by him. Referring to gardens and gardening, he said that the fairest gardens existed in the British Isles; the best garden outside the kingdom that he new was half-way between Monte Carlo and Nice, and it was owned by an Englishman, and the gardener was an Englishman also. Remembering that gardening was so greatly advanced in this country, and everyone was so much indebted to the gardener and his art, he thought it not too much to expect that all interested should help the charity to the best of their ability and the extent of their purses.

The duty of responding fell once again to Mr. Harry J. Veitch, the treasurer, and chairman of the committee, who sincerely thanked the chairman for presiding, and observed that Mr. Lionel Rothschild was the sixth member of his family to fill the chair, and he trusted that all the members of the family might long be spared to continue their benevolence. Mr. Veitch then indicated the work of the institution, and stated that £124,000 had been distributed in pensions since the foundation of the charity, and he showed how the interest of the Victorian Era Fund and the Good Samaritan Fund went to materially assist the deserving and waiting candidates for the pension. The youngest pensioner, he said, was 41 years of age, and totally paralysed; while many of the pensioners were totally blind. Two widow pensioners' cases were mentioned; in one case the husband received the pension five years, and his widow received £368 herself, or £468 in all, for a sum of £38 15s. contributed. In the other case husband and wife together received a total of £728, while the husband had but contributed eighteen guineas to the fund. Mr. Veitch read several very grateful but very pathetic letters from old pensioners of the charity, and used these to show how great is the comfort the pension brings to these people. Once again, Mr. Veitch pointed out that gardeners were not highly paid, and hence had few opportunities for saving. Every shilling contributed to the fund goes to the pensions, as the interest on invested funds goes to pay management expenses. Mr. Veitch paid the committee a high compliment for the work done, and strongly appealed for increased help for the G.R.B.I.

Colonel the Rt. Hon. Mark Lockwood, M.P., proposed "Horticulture in all its Branches," and said the love of gardening was firmly seated in the hearts of all classes of the community, and one evidence of this was to be seen at the Temple Show, where a big crowd inspected wonderful flowers and plants at considerable discomfort to themselves. Horticulture, he said, not only did not fear, but, indeed, welcomed, foreign invasion, for this country could hold its own well against all others in the art. He referred to the great humanising influence of gardening, and said he often had a convenient break down near any good cottage garden he might be passing in the country side, for the purpose of a chat with the owner. The toast was well received, and was responded to by Mr. A. W. Sutton, V.M.H.

Mr. Sutton, in responding, showed that the great reason why we had the best of everything in horticulture in this country was because so many of the nursery and seed houses specialised in one or more subjects, and he referred to the names of Veitch, Cant, Cheal, Milner, Monro, Hurst, Kelway, Bunyard, Low, Rivers, and others to support his contention. He hoped that whatever happened in political life horticulture would be the last recreation the wealthy and others would allow to suffer in any way. Mr. Sutton believed that no trade did so much good in the country, and everyone connected with horticulture was proud of it.

"Our Chairman" was most ably proposed in very hearty fashion by Mr. N. N. Sherwood, who, to everyone's satisfaction, appeared to be in excellent health. The toast was received with intense enthusiasm, and accorded musical honours, and was very gracefully responded to by the Chairman, who expressed his great pleasure at being present.

The subscription list was headed by the Chairman with 100 guineas, with Messrs. Rothschild, 100 guineas; Messrs. Hurst and Son, £100; Messrs. Sutton and Sons, £100; Mr. E. Sherwood, the result of musical performance, £100; Baron Schroder, 50 guineas; Mr. J. Vert, £50; Messrs. J. Veitch and Sons, 25 guineas; Covent Garden friends, £237 15s.; etc., etc., the total amounting to the splendid sum of £2,099.

As usual, the tables were charmingly decorated with choice flowers from various friends arranged by Mr. A. Bedford, of the Gunnersbury House Gardens, and the Chairman expressed the thanks of all to those who had helped to make the meeting a success, and, in conclusion, he proposed "The Health of Mr. G. J. Ingram," which was very heartily acknowledged, and suitably responded to by the able and energetic secretary.

The excellent musical arrangements were in the hands of Mr. H. Schartau.

MARKETS.

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COVENT GARDEN.

Flowers.

Flowers are plentiful and good. Spanish irises have been over abundant. Business is fairly good.

		s.	d.		s.	d.
Adiantum cuneatum	per doz. bun.	5	0	to	9	0
Anemones	per doz. bun.	1	6		2	0
Arums	per doz.	1	6		3	0
Asparagus	per bun.	1	0		3	0
Carnations	per doz. blms.	2	0		3	6
,,	per doz. bun.	9	0		12	0
,, Malmaisons	per doz.	8	0		12	0
Cattleyas	per doz.	10	0		12	0
Croton leaves	per bun.	1	0		1	6
Cypripediums	per doz. blms.	1	6		3	0
Forget-me-nots	per doz. bun.	1	6		2	0
Eucharis	per doz.	2	6		3	6
French fern	per doz. bun.	0	6		1	0
Gardenias	per doz.	1	6		2	6
Gladiolus	per doz. bun.	6	0		9	0
Gypsophila	per doz. bun.	3	0		4	0
Iris, Spanish	per doz. bun.	4	0		12	0
,, German	per doz. bun.	2	0		4	0
Ixias	per doz. bun.	2	0		3	0
Lilium auratum	per bun.	2	0		3	0
,, speciosum	per bun.	1	6		3	0
,, longiflorum	per bun.	2	0		3	6
Lily of the Valley	per doz.	6	0		12	0
Marguerites, white	per doz. bun.	1	6		3	0
Mignonette	per doz. bun.	3	0		5	0
Odontoglossums	per doz. blms.	2	0		2	6
Poppies	per doz. bun.	3	0		6	0
Pelargoniums	per doz. bun.	4	0		6	0
Pyrethrums	per doz. bun.	2	0		3	0
Roses	per doz.	1	0		6	0
Sweet Peas	per doz. bun.	2	0		5	0
Stocks	per doz. bun.	2	0		3	0
Tuberoses	per doz.	0	3		0	4

Fruits.

Business is quite brisk. Gooseberries and strawberries are cheap.

		s.	d.		s.	d.
Apples, Australian	per case	8	0	to	12	6
,, Tasmanian	per case	8	0		13	0
Apricots	per box	0	8		1	6
Bananas	per bun.	3	0		10	0
Cranberries	per case	13	0		14	0
Cherries	per box	0	8		1	6
,,	per ½-sieve	3	0		6	0
Figs	per doz.	2	6		5	0
Gooseberries	per ½-sieve	2	0		3	0
Grapes, English	per lb.	1	6		5	0
,, Guernsey	per lb.	1	0		2	0
Lemons	per case	10	0		18	0
Melons	each	1	0		2	6
,, French Cantaloupe	each	3	0		4	0
Nectarines	per doz.	4	0		15	0
Oranges, Denia	per case	12	0		28	0
,, Navels	per case	12	0		14	0
Peaches	per doz.	4	0		15	0
Pears, Australian	per tray	3	6		7	0
Pineapples	each	2	0		4	6
Strawberries	per basket	1	6		3	0
,, French	per basket	1	6		3	0

LONDON POTATO MARKETS.

Supplies are good and about equal to the demand, hence prices are steady.

		s.	d.		s.	d.
Dunbars	per ton	75	0	to	95	0
Evergood	per ton	45	0		60	0
Maincrop	per ton	65	0		75	0
Royal Kidney	per ton	45	0		60	0
Up-to-Date	per ton	60	0		75	0
,, Blacklands	per ton	50	0		60	0
Canary, new	per cwt.	8	0		9	0
Jersey, new	per cwt.	6	0		7	0
Algiers, new	per cwt.	6	0		7	0

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

LIME INCRUSTATION IN FOUNTAIN BASIN.—A Woking correspondent writes: "There is a fountain here, and the reservoir or basin is of mosaic work. The water used is very hard, and consequently the sides and bottom of the basin have become encrusted with lime. The water from the fountain is conducted so as to supply the necessary water for the green-houses. I should be very grateful to any of your readers for advice as to the best means of removing the encrustation without rendering the water poisonous to plant life, and also for suggestions for preventing the lime deposition." We shall also be obliged for any help our readers can afford in this matter.

EMPLOYMENT AT KEW. — A. P. H., Winchester: Write to the Curator, Royal Gardens, Kew, Surrey, for particulars of employment in the Royal Gardens, and he will send you them in official style, together with an application form to fill up and return.

ODONTOGLOSSUM CRISPUM. — S. O., Bakewell: Many thanks for notes and photo. We hope to use both shortly, and we congratulate you upon your success.

FERNS IN INVERTED BOTTLES.—F. S., Luton: The moist conditions that prevail inside a bottle when it is inverted, with its neck buried in the soil, are eminently suitable for the germination of fern spores. Fern spores, like fungus spores, are almost ever present, being borne easily on the wind, and attached to a multitude of subjects, and the chief reason we see so few resulting plants in certain areas is because the conditions are unfavourable to growth, or are vastly more favourable to other and coarser subjects. In your case the spores were evidently in the soil, and, finding a genial atmosphere and temperature within the bottle, they germinated and produced plants.

HOLLYHOCKS.—C. F. S., Cardiff: You may sow the seeds thinly in drills about six inches apart, out of doors, or in boxes in a cold frame, but in either case the sowing should be made without delay. In the case of the outdoor sowing the seedlings must be thinned to about six inches apart when large enough to handle, while the frame-grown seedlings must be picked off and then potted into large sixty-sized pots. If the strain is a particularly good one, it will pay to pot or box up the seedlings, even if outdoor sown, early in October, and winter them in a cold frame. Little water will be needed in the winter, and in April the plants may be set out where they are to remain.

ROSE CONRAD FERDINAND MEYER.—N. R. G., Bedford: In the Gardeners' Magazine of July 9, 1904, we gave an illustration of the fine rose Conrad Ferdinand Meyer, growing in Mr. Leopold de Rothschild's garden at Gunnersbury House, Acton, and accompanying the illustration we gave an account of the variety from the pen of Mr. Jas. Hudson. The rose was distributed in the autumn of 1899 by Mr. Otto Froebel, of Zurich, and it is said to have been raised by Pradel, who raised Marechal Niel, and the parentage is recorded as the progeny of Gloire de Dijon and Duc de Rohan crossed with Rosa rugosa germanica. The rose is a magnificent grower, has large pink fragrant flowers, and is generally flowering freely during the last week of May in the London district. It is a vigorous, and very hardy pillar or rambling rose, but not of the polyantha type, and it often makes growths 10ft. long in one season

ONCOCYCLUS IRISES.—C. T. F., Tavistock: This group of irises contains some of the finest species found in the whole of the large genus, and the flowers are among the largest. The rhizome is often very curious, the new bud being sometimes like a nipple at the end of the old growth, and sometimes set out with an elongated attachment. It will thus be seen that some members of the group are of more spreading habit than others. Warmth, light, well-drained soil, and practically no water at the roots from the withering of the leaf until growth again starts, are the chief points to remember if one would be successful with these beautiful, but difficult subjects. The leading species of oncocyclus irises are I. acutiloba, I. atrofusca, I. Barnumiæ, I. Bismarckiana, I. Gatesi, I. Helenæ, I. Heylandiana, I. iberica, I. Lorteti, I. lupina, I. Mariæ, I. Meda, I. paradoxa, I. Sari, I. Sofarana, and I. Susiana.

DRILL HALL AND ROYAL HORTICULTURAL HALL MEETINGS.—M. E. J., Colchester: The last meeting of the Royal Horticultural Society held in the London Scottish Drill Hall, Westminster, was on Tuesday, June 28, 1904, and the first of the fortnightly meetings held in the new hall in Vincent Square was on July 26 of that year. The hall was opened by his Majesty the King on Friday, July 22, 1904.

CATTLEYA SKINNERI.—B. M. M., Tibshelf: Repot the plants at once, placing them in deep pans with perforated sides, or in teak baskets. Provide ample drainage, as hardly any cattleya so quickly resents a saturated and sour rooting medium. Peat, sphagnum moss, a few broken oak leaves (last year's), and some broken charcoal will provide a suitable compost.

SAWDUST AS A TOP-DRESSING. — J. P., Exeter: On no account should sawdust be used either as a top-dressing for garden crop, or for use in the soil itself. Where quantities of sawdust are readily available they become valuable in association with garden refuse, all being burned together; the resulting ashes, finely sifted and mixed with fine soil, form a useful top-dressing for potatoes and other crops that benefit from a dressing of potash.

GRUBS IN ROSE LEAVES. — O. J., Tring: The grubs are those of the Brown Rose Grub (Spilonota roborana) and the best way of dealing with it is to carefully look over the rose bushes, and firmly squeeze any leaves that are curled inwards or that are spun together, thereby killing the pest. It is too late to spray with arsenate of lead.

COTTON THISTLES.—A. T. B., Bristol: The only annual species we know that rises to a height of 6ft. is Onopordon macracanthum, a native of Barbary. Sown in rich light soil in early autumn the resulting seedlings will grow luxuriantly the following spring and summer, and flower about July. It is a striking plant, with narrow, spiny leaves. The perennial O. Acanthium will attain a height of 8ft. under the best conditions of soil and position, while the biennial O. arabicum, with white woolly stems and leaves, and purple flowers will grow 10ft. high. For bold effects in openings among shrubs, for the outskirts of semi-wild gardens, and for use in association with subtropical plants, these giant Cotton Thistles have much to recommend them.

EDIBLE RADISH PODS.—S. K., Cleethorpes: There are two varieties of radish having edible seed pods. One is known as the Madras radish, and the other as the Rat-tailed radish. The latter produces very long seed vessels, often ten inches long, and about as thick as a pencil. These pods are gathered before fully grown and eaten raw, like our garden radish roots are, or pickled in vinegar. Sown in late spring in a warm position, these edible-podded radishes begin to bear usable seed vessels in about three months' time. We do not know any garden in this country where this radish is grown for use.

LUPINS. — M. M. J., Rodmersham: Where lupins have a deep soil and flower well the display may be continued for some time if the leading spikes are cut out directly they have lost about two-thirds of their flowers. By this time the apical flowers will be open and ready to fall soon, therefore their removal is practically no sacrifice. On the other hand the removal of the spikes that have practically run their course permits the lower axillary spikes to develop and carry on the display.

NAMES OF PLANTS.

A. W. J., Norfolk.—1, insufficient for identification, send flowers; 2, see next issue; 3, Onychium japonicum.

E. M., Cirencester. — 1, Calceolaria Burbidgei; 2, Primula japonica; 3, Costus ignea; 4, Odontoglossum Halli.

T. S. K., Kingston.—1, Lithospermum prostratum; 2, Weigela rosea; 3, Viburnum Opulus; 4, Dictamnus fraxinella alba; 5, Cytisus hispanica.

A. L. P., Chichester.—1, Lithospermum prostratum; 2, Thalictrum purpureum; 3, Iris pallida; 4, I. sibirica; 5, Deutzia scabra; 6, Weigela rosea.

F. T. V., Wycombe.—The specimens were very poor ones; 1, an anemone; 2, Begonia maculata; 3, Larix europæa; 4, probably Cupresus macrocarpa; 5, not recognised; 6, a fastigiate form of Cupressus Lawsoniana.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1909. June 13 to June 19.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
June 13—Sunday	5 36	52	49	65	45
,, 14—Monday	8 54	56	53	69	45
,, 15—Tuesday	4 6	54	49	59	47
,, 16—Wednesday	8 0	52	49	65	49
,, 17—Thursday	6 36	54	51	70	48
,, 18—Friday	7 24	55	51	67	47
,, 19—Saturday	4 6	62	57	71	51
Means	(total) 44 42	55	51	66	47

Date. 1909. June 13 to June 19.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
June 13—Sunday	—	54	54	53	40
,, 14—Monday	trace	56	56	53	41
,, 15—Tuesday	—	58	57	53	44
,, 16—Wednesday	—	58	57	54	46
,, 17—Thursday	—	58	57	54	40
,, 18—Friday	—	59	58	54	41
,, 19—Saturday	0.09	60	58	55	46
Means	(total) 0.09	57	57	54	42

FORTHCOMING ENGAGEMENTS.

SATURDAY, June 26.—Windsor Rose Show.

TUESDAY, June 29.—Southampton Rose Show; two days.
Brighton Rose Show; two days.
Canterbury Rose show.

WEDNESDAY, June 30.—Richmond Horticultural Society.
Ipswich Horticultural Society
Dartford Rose Show.
Ealing Horticultural Society.
Reading Horticultural Society.
Walton Rose Show

FRIDAY, July 2.—National Rose Society, Exhibition in Royal Botanic Society's Gardens, Regent's Park; open at noon.

TUESDAY, July 6.—Royal Horticultural Society, Holland House Show, two days.

WEDNESDAY, July 7.—Bath Rose Show and General Summer Exhibition, two days.
Hanley Park, Staffordshire, Great Floral Fête, two days.

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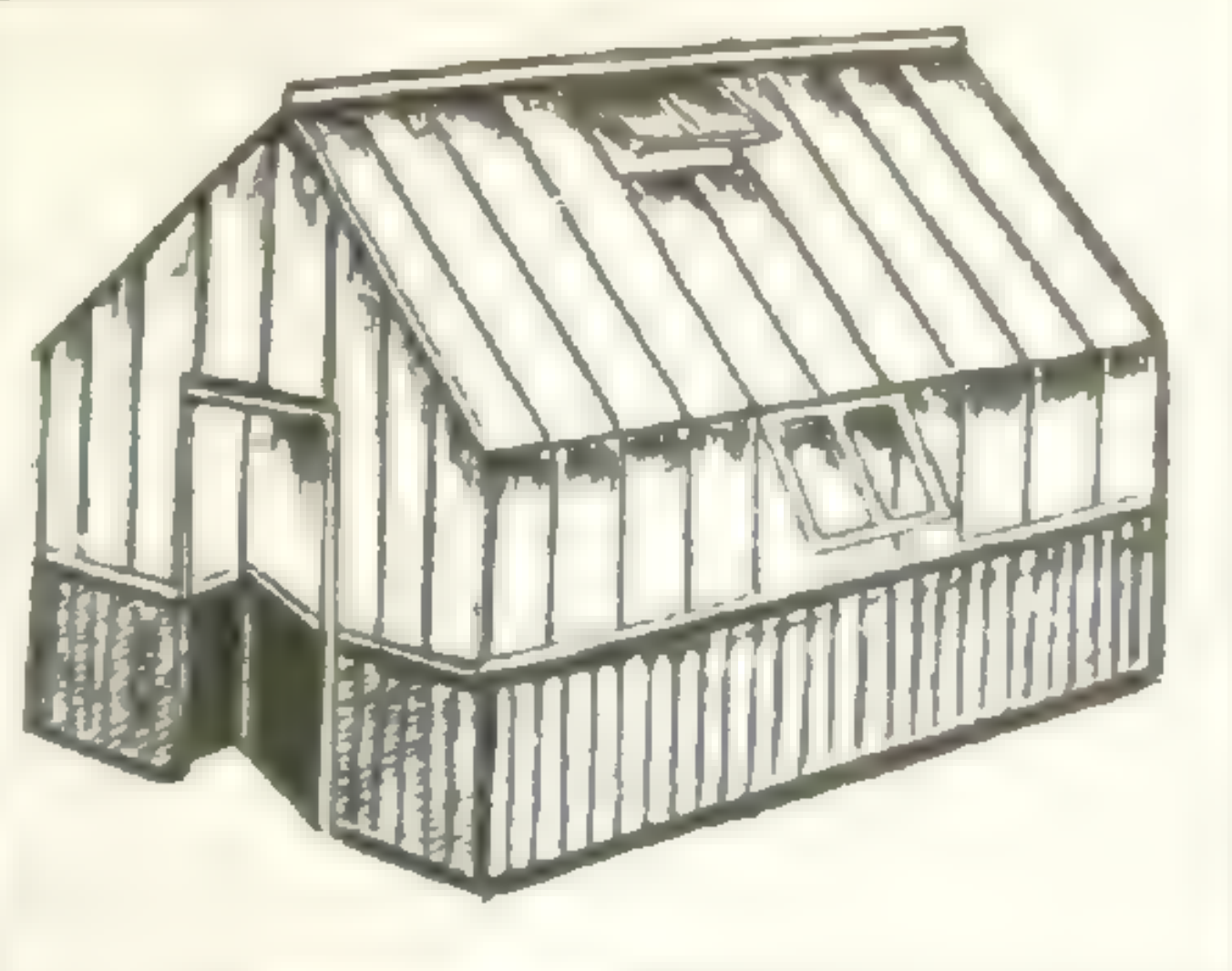

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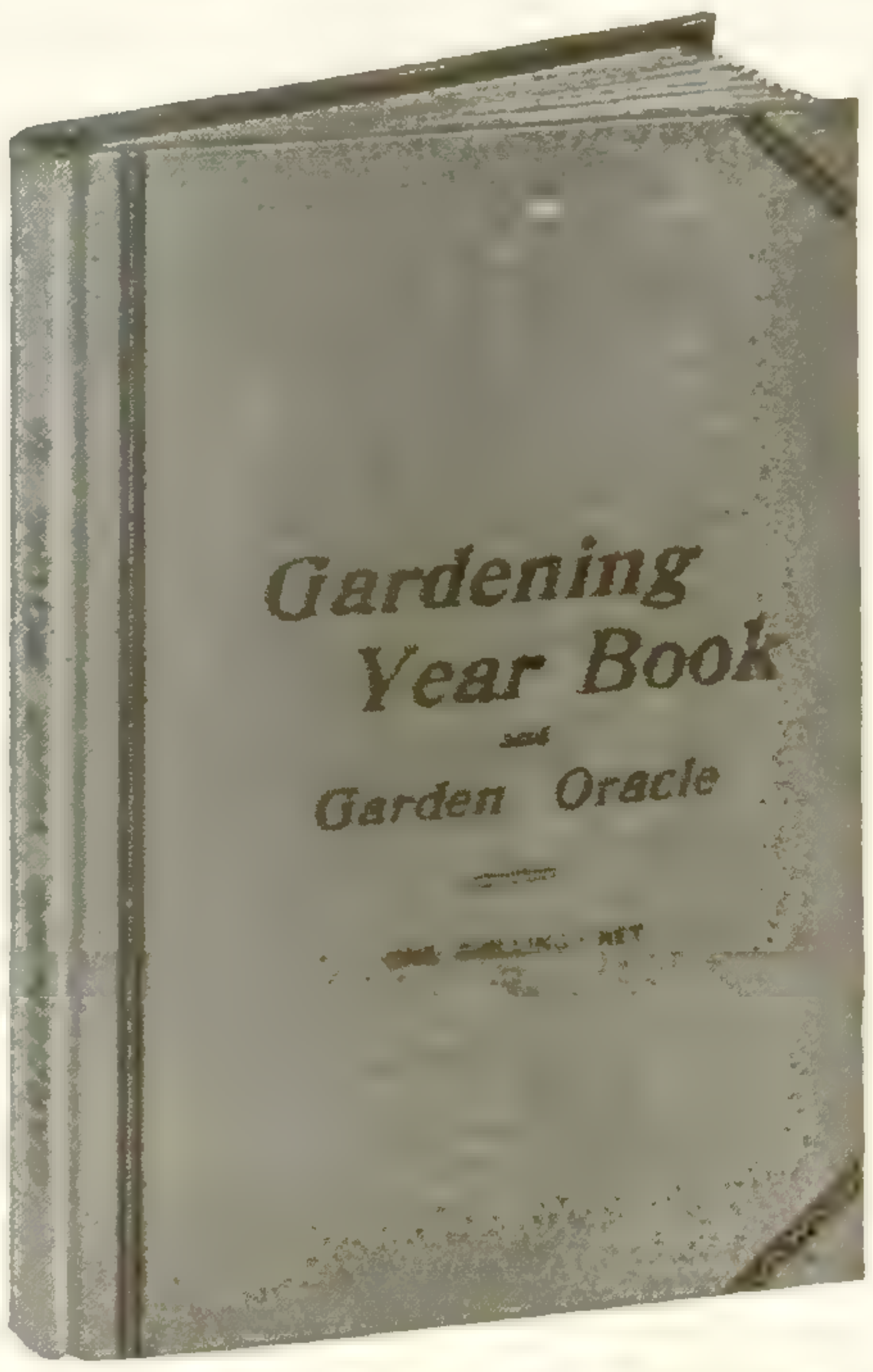

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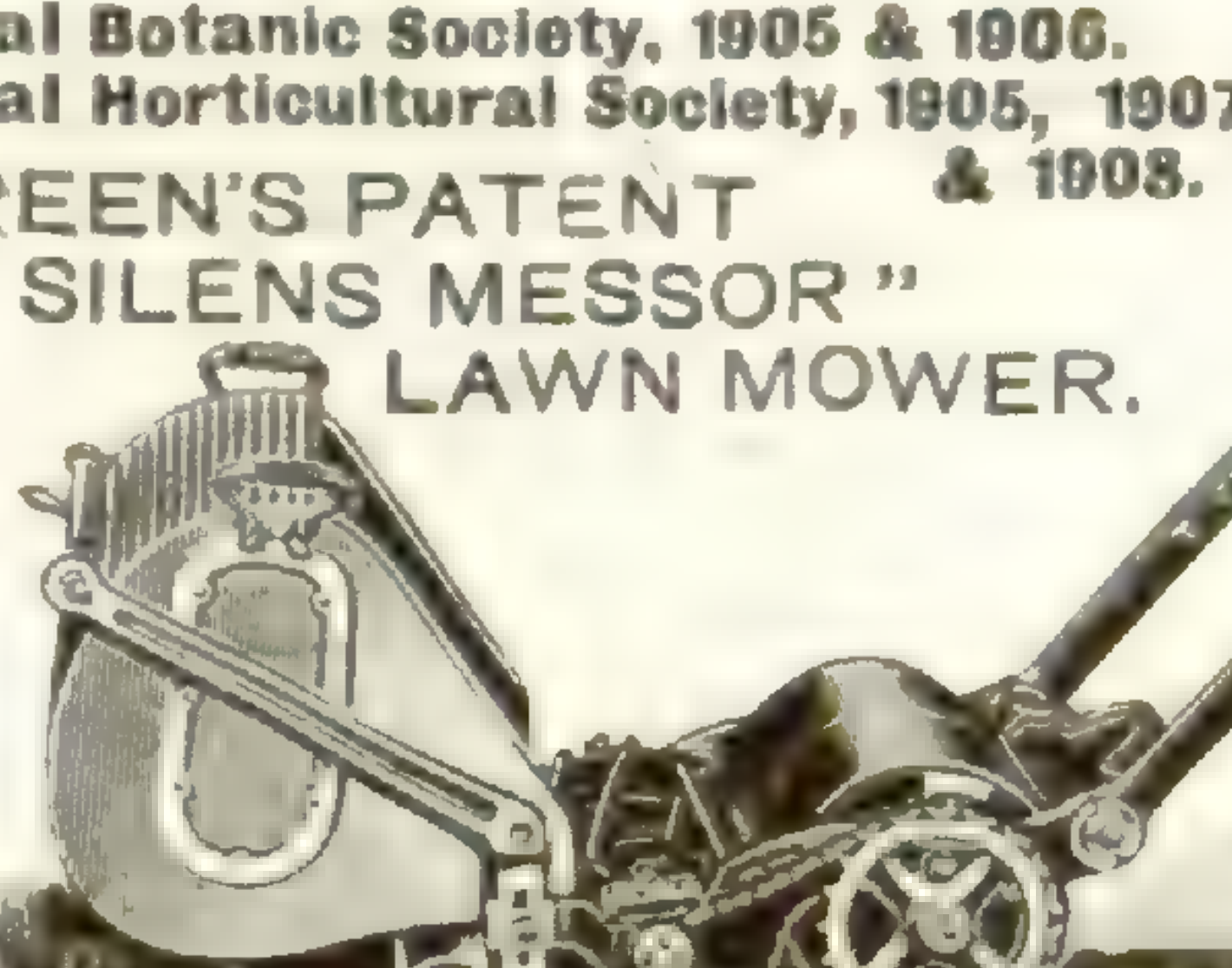

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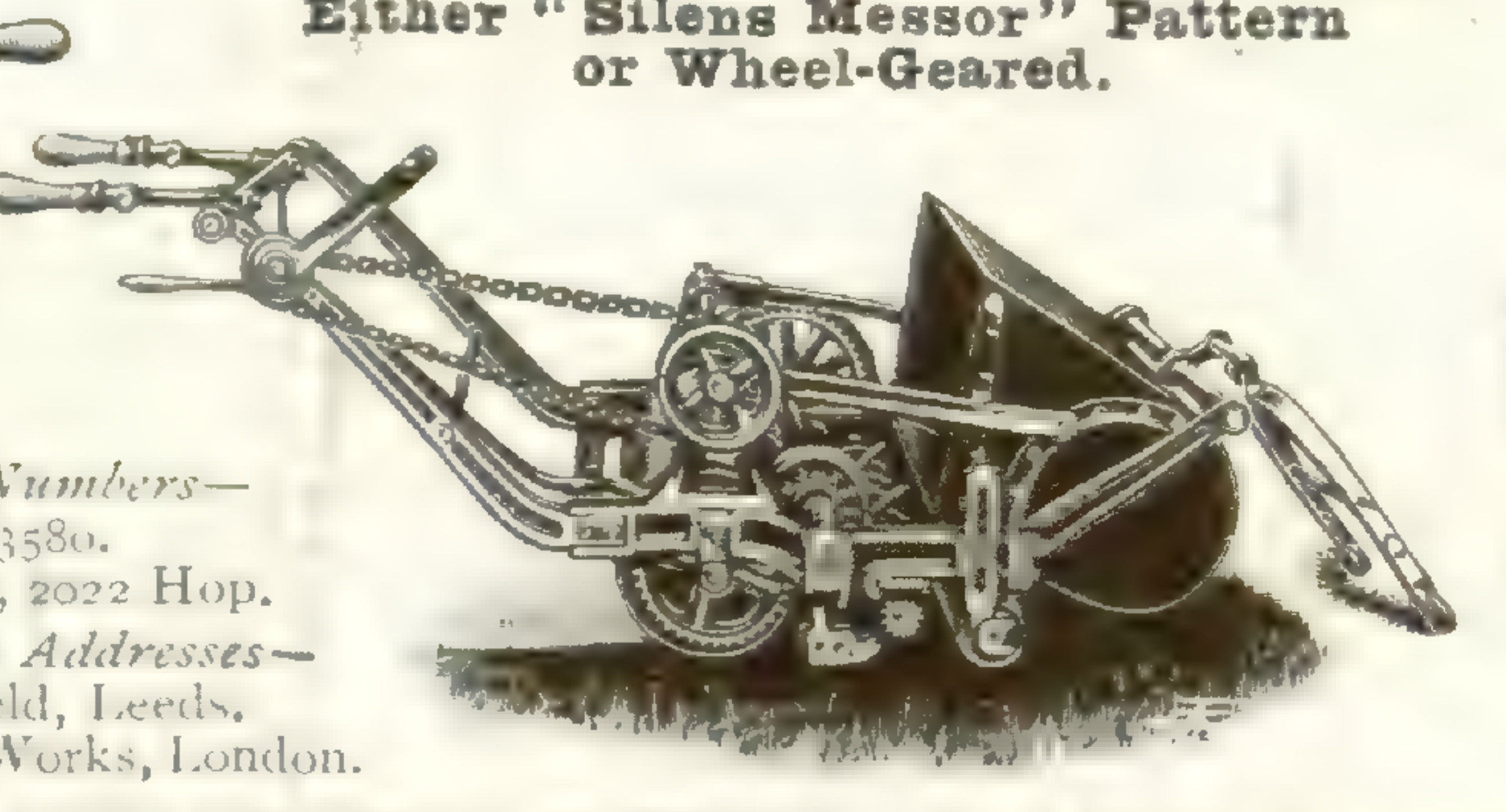

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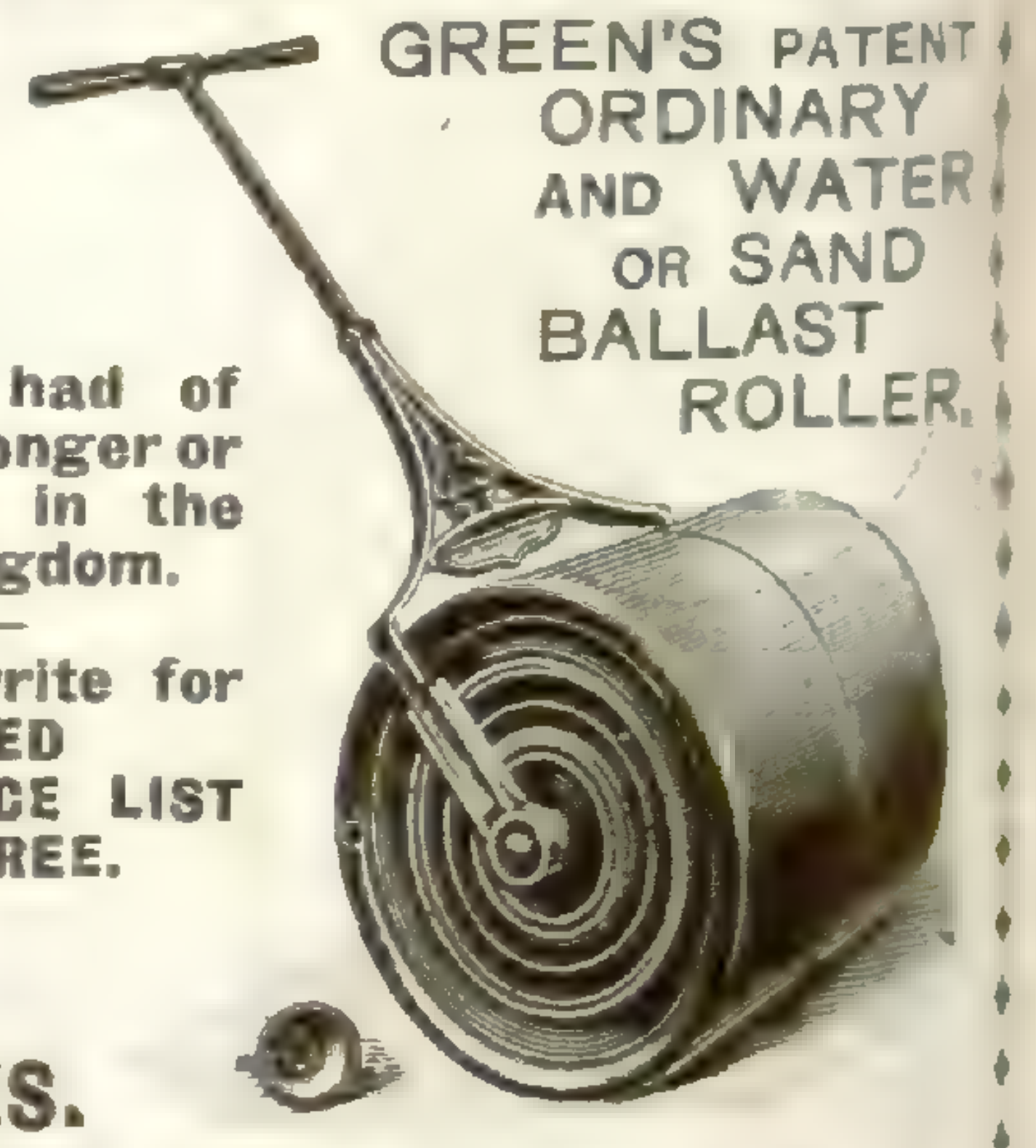

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Reg. at the G.P.O. as a Newspaper.

SATURDAY, JULY 3, 1909.

(**10/6 per Ann.** Post Free. To Foreign Countries, **15/-.**) **Twopence.**

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For full advertisement see page viii.

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PREVENTS CARNATION DISEASE!
Holds the premier position amongst Carnation Specialists!
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WEBBS' Universal Wallflower, mixed.
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CLAY'S MANURES, CRUSHED BONES.
(See page viii.)
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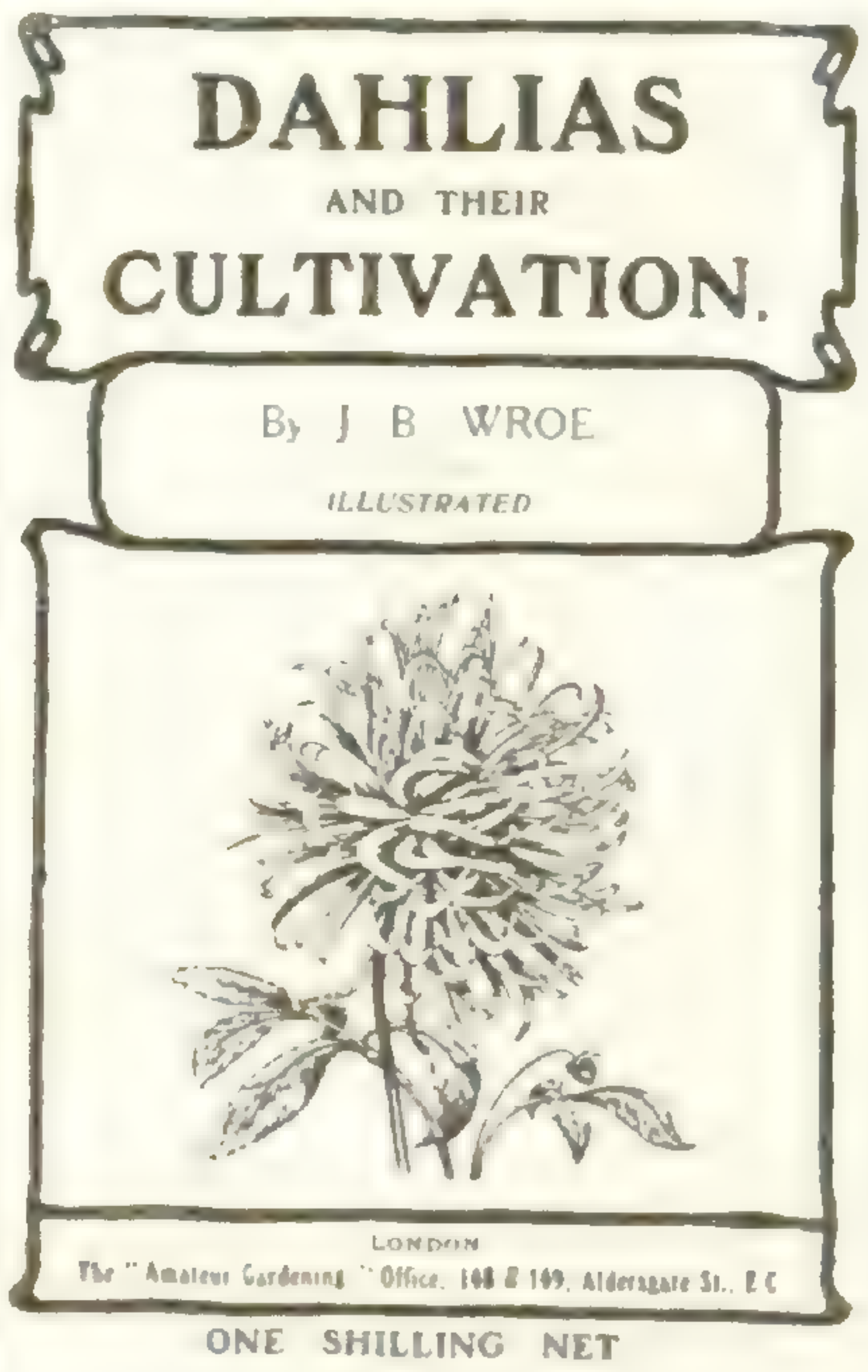

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1 6 doz.; **2 6** 25; **10** - per 100. Package and Carriage free.

Primula Kewensis, P. Obconica, Cineraria (Large flowered) and **Stellata** at same prices.

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RECORD VALUE IN PAINT
18/-
Per cwt.

[illegible] er you any shade ready mixed, **18/-** [illegible]; better quality, **24/-**; finest, 30/- [illegible] id Varnish **4/-** [illegible] the glass. *Price List sent free.*

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Sales larger than those of any other Weed Destroyer.

Strongest manufactured.
Most permanent in effect.

Used regularly in the Royal Gardens, Public Parks, Cemeteries, &c., and in many thousands of largest and best kept Estates throughout the United Kingdom.

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Drums and Barrels charged and returnable.

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(THE ORIGINAL)!

The PERFECT Insecticide for destroying GREEN, WHITE and BLACK FLY, CELERY, CARROT TURNIP and ONION FLY, CATERPILLAR, &c.

Each gallon makes from 80 to 100 gallons ready for use.

20 galls. ...	**3/4** per gall.	In 5 gall. drums, charged half-cost, 9d. each, not returnable.
10 galls. ...	**3/5** per gall.	
5 galls. ...	**3/6** per gall.	

1 gall., **4/-**; ½ gall., **2/4**; 1 quart **1/5**.

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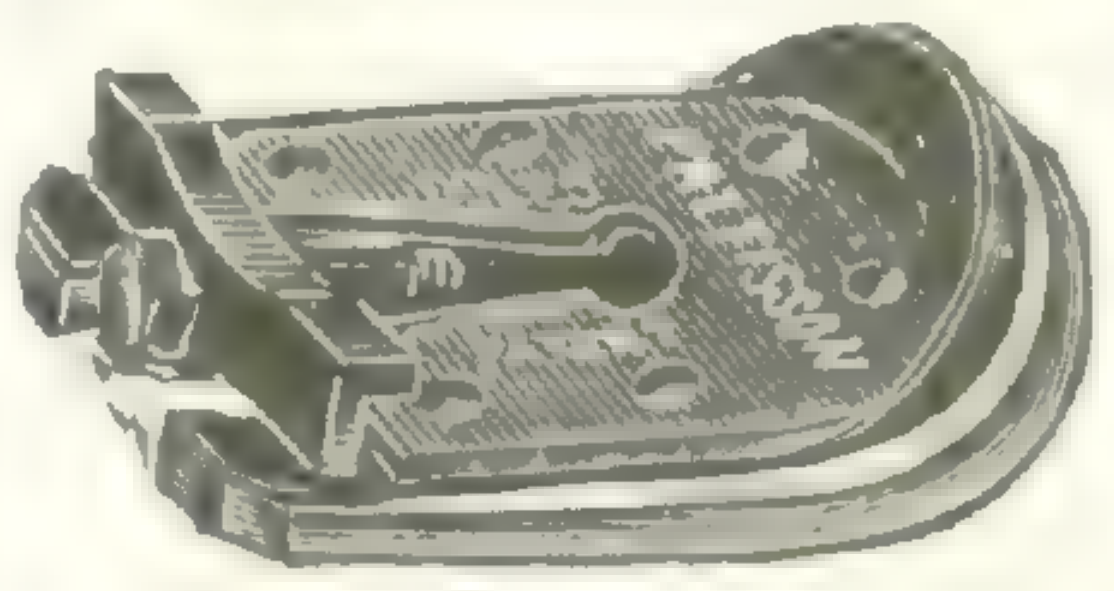

FIG. 1.

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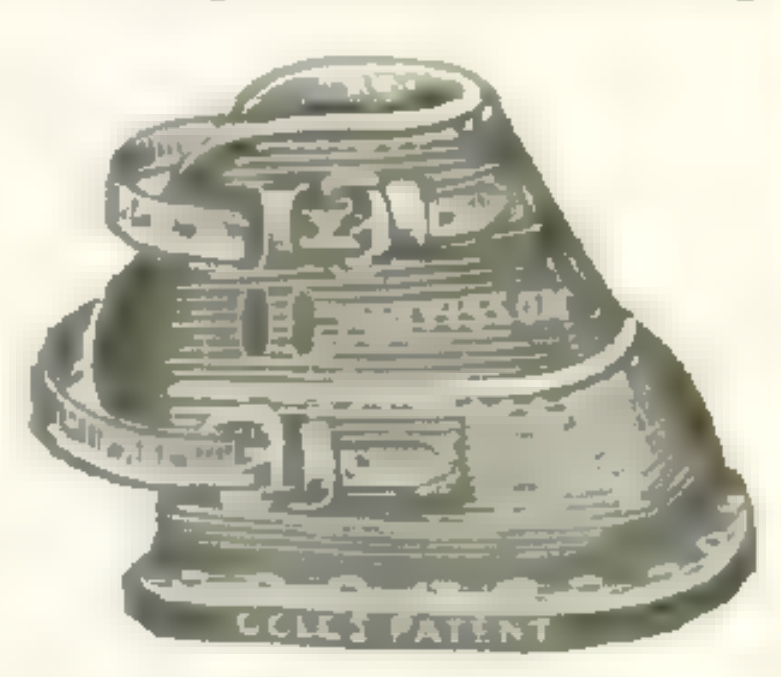

FIG. 2.

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In Bottles, 1/-, 2/-; Gall., 10/6 each.

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YOUNG MAN, age 24, seeks SITUATION, Inside or Inside and Out; good references; can be well recommended. A. CLEMENTS, 2, Macer[illegible] Lane, Wormley, Herts.

YOUNG MAN, age 21, seeks SITUATION, Inside or Inside and Out; in Gentleman's Garden; good character. Apply HENTALL, 1, Gor[illegible] Road, Highcliffe, Hants.

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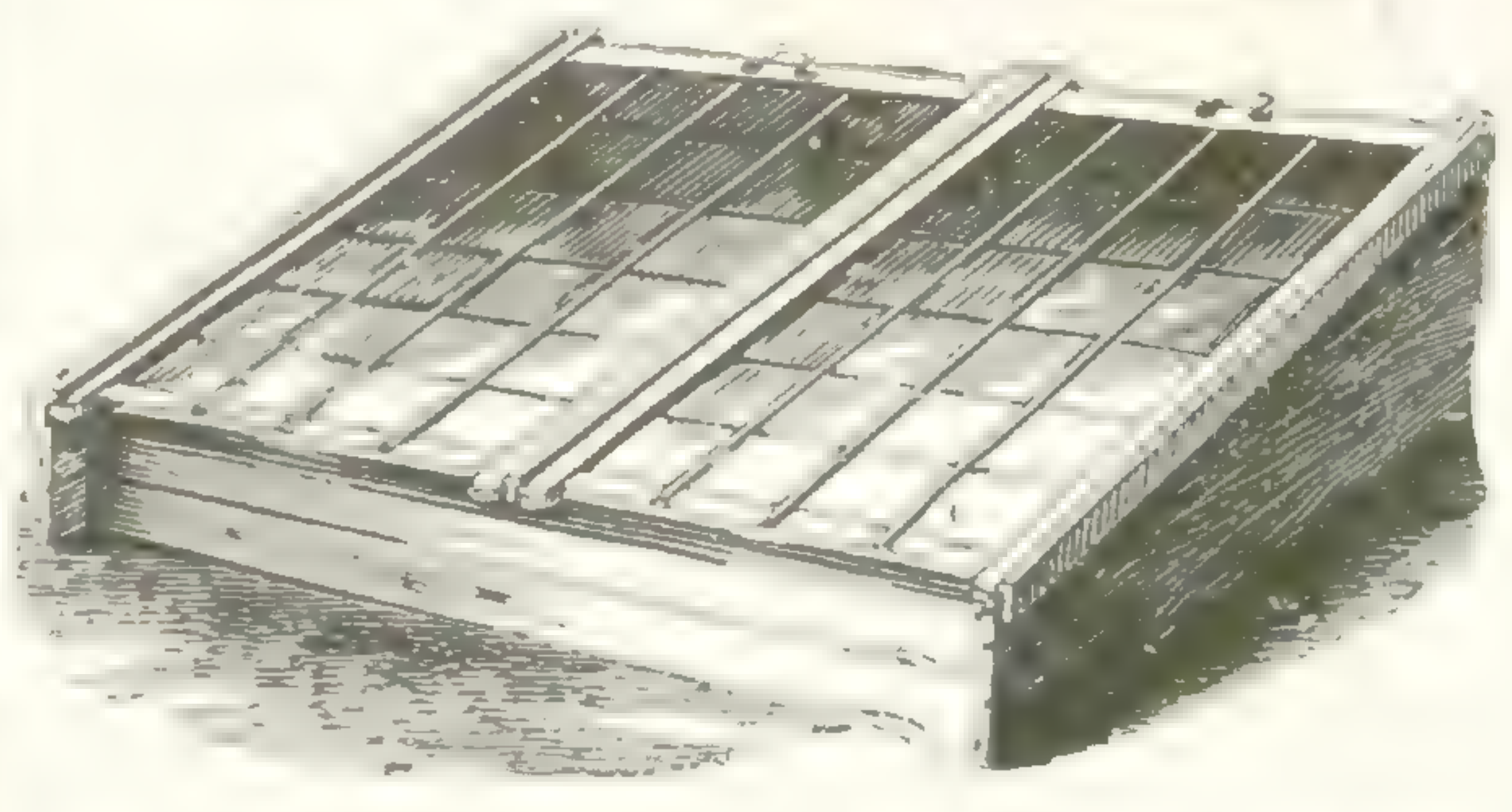

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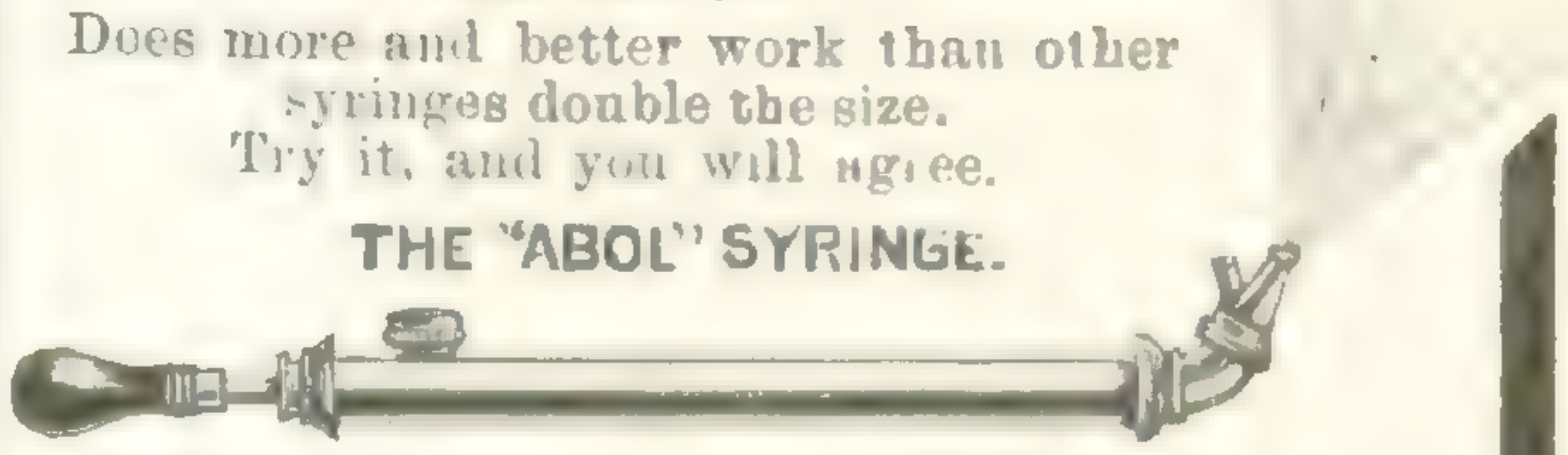

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VOL. LII.—No. 2,905. SATURDAY, JULY 3, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Floral Diversity.

When we consider that all flowers are really composed of modified leaves, and when we compare the leaves with the flowers, and remember the fundamental identity of the reproductive function which those flowers are intended to perform, their diversity of form and colour can hardly fail to strike us with wonder. Originally, when something akin to flowers began to be evolved from the flowerless or spore-bearing plants, which are undoubtedly the progenitors of all the flowering ones, they must have been very simple, possibly something akin to the yellowish green flowers we now see in some of the spurges, in which yellowish bracts or pseudo-leaves surround the inconspicuous blossoms, a phase of development which we see in a still more striking form in the poinsettias, whereon large bracts of brilliant colours surround the small blossoms proper, and are popularly mistaken for the flowers themselves. The primary object of conspicuous additions to the seed vessels was the same in all cases, namely, to form an attraction to the insect world, whose visits had become necessary to carry the pollen from bloom to bloom when, under drier conditions of environment, direct fertilisation by swimming organisms had become impossible. Even at this early stage of floral evolution it is probable that a branching into two classes began, since the wind is as potent a vehicle for dry pollen grains as flying insects. There is, however, one essential difference between the two media, the wind exercises no choice but simply scatters the pollen grains broadcast in all directions; the insects, on the other hand, as is obvious by the results, not only exercise choice, but are themselves of so varied a nature, or so diversely constructed, as to effect the same object in very varied ways. The inevitable result has been that wind fertilised flowers have remained comparatively inconspicuous, the male flowers usually less so owing to their great numbers due to the need of an abundance of pollen to make up for the waste of indiscriminate distribution, while the female flowers are comparatively few and small, consisting frequently of a mere brush-like stigma attached to the embryo fruit. Those members of the primeval flower tribe which began by attracting insect attention by conspicuous leaf modification associated with distinctive colours, soon responded to insect selections by producing brighter and larger flowers in succeeding generations, owing to the simple fact that the brighter and larger these were the greater chance they had of being fertilised and so producing a greater number of offspring inheriting their greater attractiveness, while the less conspicuous were ignored, and consequently died out. Massed blooms, too, had a better chance than sparsely distributed ones for the same reason, and hence, while some flowers attained their object by increase of individual size, aided maybe by specially attractive odours or richer nectaries, others varied on the lines of association and groupings. This line itself assumed varied types, thus we get the huge flat masses of small flowers of the hemlock, the long pendulous racemes of the wistaria or laburnum, the erect plumy masses of the spiraeas, and in another direction altogether the densely massed blooms of the composite family, wherein most of the true or fertile flowers are compressed together in a central disc, while greater conspicuousness is attained by an external circlet of barren ones whose reproductive energy is transmuted into leafiness. To all this diversity of arrangement must, of course, be added that of individual form of the flower itself, which may be imagined as having something akin in its nature to the forces which determine crystallisation in minerals, since whole tribes of flowers, as, for instance, the great rose family, adhere to a similar number of petals arranged at the same angle, five forming the circle in all normal blossoms. Others, as in the cruciferae, always have four petals, forming a cross, whence the botanical name of the tribe. Outside these regularly formed flowers there is a host of what may be termed curios, such as the aristolochias, antirrhinums, orchids, etc., etc., which in some subtle way have responded to insect or other determining influences and lost all radiating or crystal-like symmetry, their irregularity, however, being often associated with very marvellous contrivances for effecting that fertilisation which is the primary object of all flowers. It is perhaps in this particular direction that it becomes most difficult to understand our opening remark, that all flowers are modified leaves. In green roses, green dahlias, and other similar reversions, we see some evidence of this undoubted fact, and in the arum lily tribe we get a glimpse of a link between leaf and flower. Nature, however, in the instances cited, has gone so far beyond the symmetrical type that it is impossible to form a conception of how it has been done, and we must be content to accept the fact, for fact it is, as one of the innumerable mysteries with which we are surrounded.

MR. LIONEL DE ROTHSCHILD.

Mr. Lionel de Rothschild, whose portrait we have the pleasure of giving herewith, is, in common with his father, Mr. Leopold de Rothschild, and other members of the great family to which he belongs, keenly interested in the various aspects of horticulture, and a generous supporter of the gardening charities. Mr. Lionel de Rothschild's sympathy with gardeners and their widows was made abundantly manifest on the occasion of the anniversary festival of the Gardeners' Royal Benevolent Institution, at which he presided. Not only did he make a liberal donation to the funds of this valuable charity, but, in a speech of exceptional ability, he showed how fully he sympathised with gardeners who, from old age or other cause, are no longer able to take an active part in the battle of life, and with the widows of gardeners who had passed away without being able to make other than scant provision for them: and how thoroughly he appreciated the importance of the Gardeners' Royal Benevolent Institution as a means of ameliorating their circumstances. As evidence of Mr. Lionel de Rothschild's interest in gardening it may be mentioned that the beautiful Japanese garden, which forms so distinct and attractive a feature of the Gunnersbury House grounds, are largely due to his initiative. Travelling in the East some years ago, he was much impressed by the charms of some of the gardens in Japan that he visited, and brought home a series of photographs illustrative of the features of several of the best of them. These photographs, as Mr. Hudson, the talented gardener at Gunnersbury House has told us on several occasions, formed the basis of the Japanese garden within the grounds of this well-known establishment. We remember with pleasure the active part taken by Mr. Lionel de Rothschild in contributing to the pleasure of the members of the R.H.S. Conference on Genetics on the occasion of their visit to Gunnersbury House, and the thorough acquaintance evinced by him with the remarkable collection of water lilies in the gardens of this well-known residence. Mr. Lionel de Rothschild, we would add, is a prospective candidate for Parliamentary honours in Mid-Bucks.

Rose Trials at Bagatelle.—The new roses in the trials that are being conducted at Bagatelle, near Paris, have been judged, and the jury awarded two medals, one to Lyon Rose, which we recently illustrated, and Madame Segond Weber. Mr. Arthur W. Paul, who was a member of the jury, tells us that M. Gravereaux's rosery at L'Hay was in splendid condition at the time of his visit.

Wolverhampton Floral Fete.—The flower shows annually held at Wolverhampton have, by reason of their extent, the high quality of the products, and the completeness of the arrangements, long been of much interest both to horticulturists and the general public, as evidenced by the attendance. This year the exhibition, which will be held on the 13th inst. and two following days, will be of quite exceptional interest from the fact that it will be the twenty-first of the series and that the committee is making strenuous efforts to ensure the "coming of age" being celebrated in a befitting manner. Fortunately the Royal Horticultural Society's exhibition at Holland Park will not, as for several years past, clash with the Wolverhampton show, and it is anticipated that as the result many of the firms who have been unable to be present at the latter show for several years past. will be strongly represented. We have, in a previous issue, called attention to some of the more important classes in the schedule, such for example as those for groups arranged for effect, for stove and greenhouse plants, for cut flowers of hardy plants, and for collections of choice fruits, in which the prizes are exceptionally liberal. We need not, therefore, do more than express the opinion that the additional classes which have been provided should be the means of greatly enhancing the interest and attractions of the gathering. The Wolverhampton show has long been remarkable for its display of roses, but this year it should surpass itself in connection with these flowers, for there are twenty-five classes provided for them, and the dates should suit both Southern and Northern growers. Sweet peas are also liberally provided for, and these should of themselves form a great and highly attractive exhibition. We need hardly say that we shall fully report this great gathering in our issue for the 17th inst.

The Gardeners' Magazine for July 10 will contain fully illustrated reports of the Metropolitan exhibition of the National Rose Society, and of the Royal Horticultural Society's great exhibition at Holland Park. The Hanley Floral Fête will also be fully reported in the same issue.

The Gardeners' Company.—On Tuesday last the Master, Wardens, and Clerk of this company waited upon the Lord Mayor and the Lady Mayoress at the Mansion House for the purpose of making a presentation of flowers, vegetables, and herbs. As we have previously mentioned in our references to the Gardeners' Company, its freemen experienced a difficulty in selling their produce in the London markets owing to the opposition of unqualified persons. In the year 1632, the company petitioned the Lord Mayor for redress, which was obtained. In remembrance thereof the company determined last year to make an annual presentation of flowers, vegetables, and herbs to the Lord Mayor. The products presented on Tuesday were arranged in a gilt basket in the form of the company's ancient crest. The Lady Mayoress was also presented with a bouquet of orchids. The Lord Mayor in accepting the gift said he was much gratified that the presentation would find annual observance, and hoped it may long be continued. The representatives of the Company were subsequently entertained at luncheon.

Pyrethrums from Langport.—A few days since we had the pleasure of receiving from Messrs. Kelway and Son, Langport, a gathering of flowers of single and double pyrethrums. The flowers sent by the firm include several of the fine varieties raised at Langport, and are especially attractive and fully represent their great decorative value, both in the garden and house.

Market Gardens and the Finance Bill.—In the House of Commons on Tuesday Mr. Rendall asked the Chancellor of the Exchequer whether land which was developed for the industry of market gardening will be exempt from the undeveloped land tax under the Finance Bill. Mr. Hobhouse, who replied on behalf of the Chancellor of the Exchequer, stated that land used for market gardening is agricultural land within the definition contained in clause 27 of the Finance Bill, and will, therefore, be subject to undeveloped land duty under clause 10 (2), unless its value does not exceed £50 per acre, or unless it comes within the other exemptions specified in clause 11.

Orchid Fanciers' Visit to Haywards Heath.—On Friday, June 25, many members of the Royal Horticultural Society's Orchid Committee, including Mr. J. Gurney Fowler, Mr. Harry J. Veitch, V.M.H., Mr. R. Brooman-White, Mr. W. Cobb, Mr. R. G. Thwaites, Mr. H. Ballantine, V.M.H., Mr. Forster Alcock, Mr. Waters Butler, Mr. F. J. Hanbury, Mr. Stuart H. Low, Mr. W. H. White, Mr. W. P. Bound, etc., etc., paid a visit to Messrs. Charlesworth and Co.'s fine new orchid establishment at Haywards Heath. The majority of those who accepted Mr. Charlesworth's invitation met at the Royal Horticultural Hall at 11 a.m., and motored down, returning to town by motors in the evening. Everyone was delighted with the splendid arrangement and appointments of the nursery, and vastly interested in the thousands upon thousands of seedling orchids, and the stocks of rare species and hybrids. The visit was altogether a most pleasant and instructive one, and Mr. Gurney Fowler aptly voiced the feelings of the visitors when he thanked Mr. Charlesworth for his invitation and his generous hospitality.

National Sweet Pea Society's Outing to Essex.—The hon. secretary of the National Sweet Pea Society asks us to state that owing to the lateness of the season the society's outing to the Essex seed farms has been postponed from July 9 to (probably) July 17.

Keeping Strawberries Clean.—One of our medical contemporaries has of late been greatly exercised in mind because of the supposition that growers of strawberries for market put rotten manure under the fruit when ripe to keep it clean! Writing about the strawberry, the editor observes, "In our desire to maintain the reputation of this wholesome and delicious fruit . . . . we condemned a practice that has grown up in certain quarters of placing rotten manure under the ripe berries to keep them off the soil . . . . . . and we suggested that it should claim the attention of medical officers of health in strawberry-growing districts." The practice of putting rotten manure under ripe strawberries, if it existed elsewhere than in the fertile imagination of our contemporary, could not well be too strongly condemned. But it does not exist and it is inconveivable that any cultivator would put rotten manure under ripe strawberries for the purpose of keeping them clean. What is done in many gardens and fields is to lay down carefully selected long litter from the stable between the rows when the flower trusses are in process of development, and this becomes so thoroughly purified by exposure to the weather before the fruit reaches maturity that it is practically equal to clean straw, so far as the purpose for which it is laid down is concerned. We are not surprised that a resident in Hampshire should indignantly repudiate the practice, but it is surprising it should be stated in connection with this repudiation that "in other parts of England rotten manure is freely used."

Sale of Scottish Fruit.—At the annual meeting of the Clydesdale Fruit Growers' Association the question of the sale of Scotch fruit in the English markets was discussed. Letters were read from fruit salesmen in Manchester, Huddersfield, Nottingham, Liverpool, Sheffield, Halifax, Birmingham, and Bradford, offering to sell Scotch fruit in the English markets at a charge varying from 5 to 10 per cent. It was agreed to write other fruit brokers in England, and to point out that no more than 7½ per cent. commission would be paid in any case. The further arrangement of the matter was left in the hands of a committee. The question of drawing the public attention to the distinction between "home grown" and "Scotch" in relation to the sale of tomatoes was discussed, and it was decided to advertise in the press pointing out the difference between the two terms. It was decided to leave the power of distributing the various consignments of Scotch fruit to the English markets in the hands of the Scottish agent appointed for the purpose.

The President Potato.—In his report on the potato trade in Lincolnshire in 1908-9, which appears in the Journal of the Board of Agriculture, Mr. H. Amos refers in appreciative terms to a potato known as The President. He writes: "Throughout the season the favourite potato has been the Up-to-Date, and, both in cooking qualities and appearance, it has been hard to beat. Its one great fault is its liability to disease. The nearest approach to the Up-to-Date is a potato called The President. It is a good cropper, and grows a fine oval sample with russet skin, and is one of the most disease-resisting potatoes in cultivation. It was raised in Holland in 1901 from two German varieties. Until now this potato has mainly been grown on peat and sand, but in the spring of 1907 a few were planted in clay or loam with success. It is said that those farmers who tried them intend to replant the whole of last season's growth. It appears to be one of the safest varieties to grow, and it is certainly a long way in front of Evergood and Royal Kidney, both in crop and quality, and is quite as free from disease. It has the vigour and quality of the Up-to-Date, and is equally good in sample. I have seen several excellent crops in the district of Chatteris and Ramsey St. Mary, which were an excellent sample, and sold very freely."

Gardening for School Children.—At the exhibition of the Wood Green Horticultural Society, to be held this month, there will be a section devoted to children attending the public elementary schools. The Wood Green District Council has supplied the children with the plants and soil, and one of the Councillors gave them the pots. The plants have been grown by the children at their own homes, and it is anticipated that there will be about 2,000 juvenile competitors.

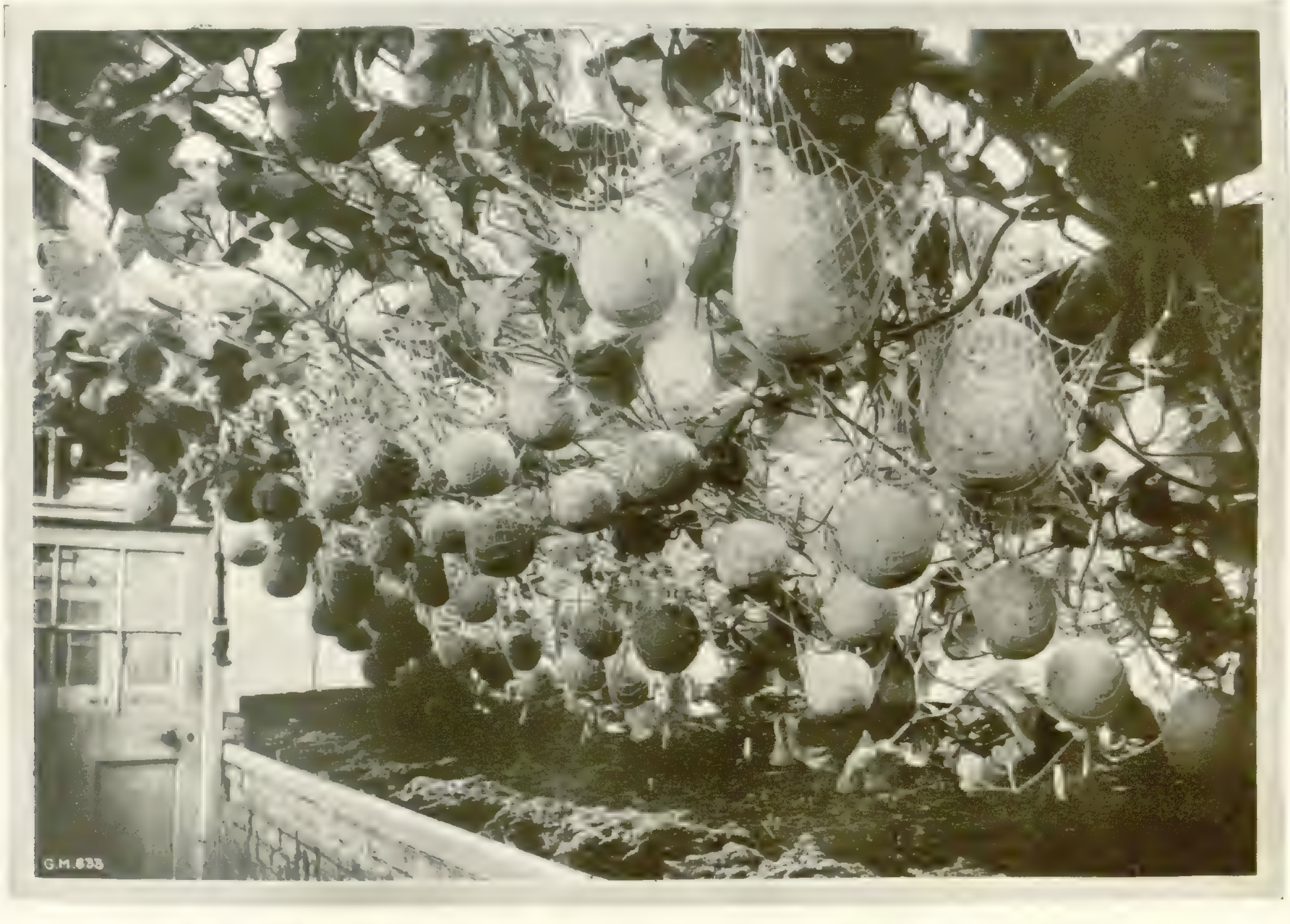
Outbreak of Bee Disease.—The Board of Agriculture and Fisheries issues a warning to bee-keepers that an outbreak of disease, believed to be identical with the Isle of Wight bee disease, has occurred in several hives in Buckinghamshire. This disease, which has destroyed almost all the bees in the island from which it takes its name, is due to a bacillus closely resembling the bacillus of Plague, and no remedy for it is known. It is of the utmost importance therefore, that bee-keepers should take every precaution to prevent the disease spreading, and they are strongly advised to keep a careful watch for any signs of its appearance. A full description of the disease was published in the Journal of the Board of Agriculture for February, 1909, and bee-keepers who find symptoms of disease corresponding to the description there given should communicate with the Board of Agriculture and Fisheries, 4, Whitehall Place, London, S.W.

Electricity in Plant Culture.—The Emperor of Germany, according to the "Evening Standard," has introduced on his private estates at Dahlen, a few miles from Berlin, the new system of stimulating the growth of plants by electricity. Experiments systematically conducted under the supervision of Dr. Höchstermann are said to have demonstrated that the growth of plants, flowers, and, in fact, all kinds of vegetation thus far tested can be stimulated by charging the air above and around them with electricity. Further systematic experiments are now being carried out to ascertain the precise differences in the growth of plants in an atmosphere charged with electricity and plants which grow under normal conditions, and also to find a cheap and simple method of charging the atmosphere with the necessary electricity.

A FINE CROP OF MELONS.

Herewith I send a photograph of one of the finest crops of melons I ever saw. The crop was grown by Mr. T. B. Field, The Gardens, Wych Cross Place, near East Grinstead.

The house in which the melons were grown is only a small one, being seventeen feet long by twelve feet wide, and having a path down the centre, with the back portion devoted to calanthes. Such a house, however, is large enough for an ordinary establishment. At Wych Cross there are three houses of this length devoted to the cultivation of melons, and these provide a good supply of fruit from May until November. The fruit in the first house was ripe early in May; on one side there were eight plants carrying seven fruits each, the largest weighing about nine pounds, while the average for the whole house was about five pounds each. Every fruit was perfect in shape, well ripened, and of first-class quality.



A HEAVY CROP OF MELONS IN WYCH CROSS PLACE GARDENS.

We often hear of fine crops of melons, but from so limited a space it is seldom that such excellent results as these are obtained, especially so early in the season as May, and during such a trying spring as was experienced in that district, but Mr. Field is quite an adept at growing melons, for his second house was quite equal to the first, and the third one was very promising. By having sturdy plants ready to plant out as soon as the first crop is cleared off, Mr. Field is able to maintain a continuous supply from these houses throughout the summer and autumn months.

H. C. Prinsep.

BEST PLANTS FOR GREENHOUSE.—Nearly 300 pages are devoted to the description, propagation, and culture of the best flowers and plants for the greenhouse in The Amateur's Greenhouse, by T. W. Sanders, price 5s. net, or by post 5s. 6d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

NOTES FROM KEW.

Many melastomaceous plants are less grown now than they were formerly, probably because they are of but little value for cutting from, which seems to be a very important consideration now-a-days. The blossoms of many of them are, however, remarkably showy, a character well exemplified in the case of Heeria elegans, of which there is a delightful specimen, full of flower, growing in a suspended basket in the cool portion of the T range at Kew. It is of neat, close growth, covering the outside of the baskets, and the shoots are so thickly studded with flowers that little else can be seen. The individual blooms are over an inch in diameter, and of a rich rosy-purple colour. The Kew Hand List only contains the name of one Heeria—viz., macrostachya—of which H. axillaris is a synonyme. There is no reference to Heeria elegans. It is certainly a novel and most charming basket plant.

Combretum purpureum.

In the warmest portion of the T range this stove evergreen climber, which was introduced from Madagascar as long ago as 1818, is in flower, and at once arrests attention by reason of its beauty and the uncommon nature of its blossoms. The slender, twining stems are clothed with dark-green, oblong, lanceolate leaves, while the flowers are disposed in spikes, several of which together go to form a loose, somewhat feathery panicle. The colour of the flowers is light scarlet, quite an uncommon tint among stove climbers. This combretum is not at all a vigorous-rooting subject, hence, when grown in pots it should not be allowed too much root room. At one time it was considered almost impossible to strike this from cuttings, but it does not now present any particular difficulty in this respect.

Clerodendron ugandense.

Among the promising and distinct plants that we have received from the Uganda district is this clerodendron, of which seeds were first received at Kew from Mr. M. T. Dawe, who collected them in a spot about 2,000 feet above sea level. As the plant is now flowering in the cool portion of the T range, where such Cape plants as pelargoniums, heaths, and mesembryanthemums are grown, it would appear that the temperature of a greenhouse is all that it requires. This species forms a free-growing shrub, with long, slender, leafy branches, terminated by loose racemes of flowers. They are in colour pale blue, with a much deeper lip. This tint, although it may not be unique among clerodendrons, is certainly very uncommon in the genus. Being of ready propagation by means of cuttings, and of simple cultural requirements, Clerodendron ugandense will, no doubt, before long be more generally cultivated.

Rehmannia Henryii.

In the greenhouse there is a small group of this new rehmannia in flower, which seems scarcely likely to attain the same amount of popularity as its relative, Rehmannia angulata. The new-comer is less in stature than the last-named, while the flowers are white, or nearly so, with yellow markings in the throat.

Dolichos Lablab.

This common tropical plant is now flowering freely in the greenhouse, and, as seen at Kew, it is certainly a very pleasing climber for that structure. The slender, climbing stems are furnished with rather pale-green trifoliate leaves, while the small pea-shaped flowers are borne in rather crowded racemes. They are very numerous, and in colour they are of a pleasing shade of pinkish lavender. Though so well known in many parts of the world, this dolichos is rarely seen treated as a greenhouse climber, but as seen at Kew it can certainly be recommended for such a position. K.

NOTES ON THE NEWER ROSES.

Some short time back I made a few remarks upon some newer introductions, and having a nice bed of maiden plants that are now coming into bloom, I venture to supplement my notes upon a few of the same varieties that were, and are still, growing under glass. It frequently happens that a rose is of far more use under glass than when growing in the open air, and it is with maidens budden upon the seedling and cutting brier stock that I am more particularly dealing now. The whole of them are looking well, but have had no special treatment other than that accorded to our older varieties, and, as they are growing upon the same quarter of ground, have not been coddled at all.

Grace Molyneux (H.T.) opens particullarly well, perhaps not quite full enough for exhibition, but a trifle too large in the bud for a coat flower. Very free in growth and bloom, and exceptionally sweet-scented. Creamy apricot, flesh centre, paling at the edges with age. Doubtless one of the best decorative roses we have, and it has also been excellent under glass.

Florence Edith Coulthwaite (H.T.) is one of the most perfectly imbricated roses we have. Good size, grand shape, very free, and with large, smooth petals. Quite a distinct colour, and difficult to describe. Yellowy cream, stippled with bright rose, which is far more pronounced towards the edges of the petals. The base of the older petals yellow, with delicate orange and peach at the base of the centre petals. This has also been very showy under glass.

Dr. O'Donel Browne (H.T.) is far more like a hybrid perpetual than hybrid tea in every respect. It is very distinct in colour, being a deep self-coloured carmine. I do not know of a sweeter-scented rose than those I have handled to-day. It combines the very best of the two great classes. The flowers are of immense size, built up of large, smooth petals. The habit is good; boldly erect, without being too long in growth. This comes very bright under glass.

John Cuff (H.T.) is another deep carmine-pink, and is doing very well in the open. It is not so strong a grower here as the last-named, but erect and robust. Large flowers and petals, well surrounded with foliage. Sure to be a good garden rose, and probably very useful in the exhibition box

Lyon Rose deserves a word or two, although so much has already been written in its favour. It is grand on the maidens now, as well as upon a few cutbacks. Some flowers to-day (June 22) were five to six inches across, and perfect in form. A doubt has been raised in the Press as to whether this rose is quite as hardy and constant as was imagined. It has no fault here, except what might perhaps be attributed to over-propagation; every little bud or growth has been worked, and this naturally produces some few plants of indifferent constitution. A few of the earliest flowers upon maidens came pale, but those on the cutbacks possessed the unique shrimp-pink and orange shade to perfection.

Arthur R. Goodwin is a second grand production from Pernet-Ducher, and, like Lyon Rose, appears to have much of the Pernettiana strain. This is a particularly free grower, and bloomer, and very sweet-scented. Large, good form, and the bulk of the flowers are the deepest of apricot found in an extra well-coloured Lady Roberts. It has been very good, too, under glass, and will make a grand forcer. This is very bright and distinct.

Mrs. Joseph Milner (H.T.), a very large and full flower. Soft peach-blush, with a yellow base; quite a distinct rose.

Mrs. David Jardine (H.T.) was dwelt upon in my previous notes, and continues to improve upon further acquaintance, both under glass and in the open. A capital grower in every respect, and a large, well-built up flower that remains fresh longer than most. A clear rosy-pink, shading to soft salmon with age. First class for all purposes.

Madame Maurice de Luze (H.T.) is very large, full, and cup-shaped; blooms carried on long stems; and is the deepest of cochineal carmine in the centre, with deep rosy-pink on the outsides. Will make a good forcer.

Madame Paul Gruetz (H.T.) favours Mme. Jules Grolez in colour, but is paler and much larger. It is quite distinct here, and is a stronger and more robust grower.

Senateur Mascurand (H.T.) is a free and yet erect grower of deep golden-yellow colour, promises well, but is apparently an indifferent opener.

The following are a few older roses that deserve a word or two:

Lady Helen Vincent (H.T.) is coming well again, and will become a permanent variety in the garden. A large and well-formed bloom; shell-pink, suffused with peach and yellow. Mrs. Harold Brocklebank is producing some grand flowers, carried very bodly. A creamy-white, with soft yellow centre. Another rose that pleases more each season is Mme. Jeanne Guillemot, which is very free and good here throughout the season. The buds are long and well-formed. Deep saffron, shaded pale rose, opening to pale yellow, an excellent autumn rose, and very sweet-scented. Mrs. Aaron Ward is variable in colour thus early in the season; almost as much so as we sometimes find William Allen Richardson. The same applies to some of our blooms of Joseph Hill; but the flowers are always good. Rhea Reid is coming a grand colour in the open; as deep as Richmond, and with none of the cherry-red found under glass during the winter.

Uckfield. A. Piper.

FEEDING FIG TREES.

The inexperienced cultivator may make a mistake, first, by planting fig trees in a large border of loose soil, and in the second place by feeding such specimens in the summer time, thus inducing a very undesirable strong growth. For more than ten years I had charge of a large garden in which fig trees were extensively grown. Several specimens which were planted in borders where manure had to be dug in for the benefit of vegetables and similar plants, always gave me a lot of trouble owing to the very strong shoots which were made year after year. Careful pruning and not any feeding was the rule, and fine crops of figs resulted. In another part of the grounds we had a pergola of fig trees about two hundred and fifty feet long. The trees were old, and growing in firm ground on which there was much walking to and fro from time to time. The result was short-jointed growths, well matured, and on which heavy crops of fruit were borne. In this instance, and in others, where the roots of the trees were confined in brick pits, feeding could be done with benefit to the trees and fruit. Geo. Garn

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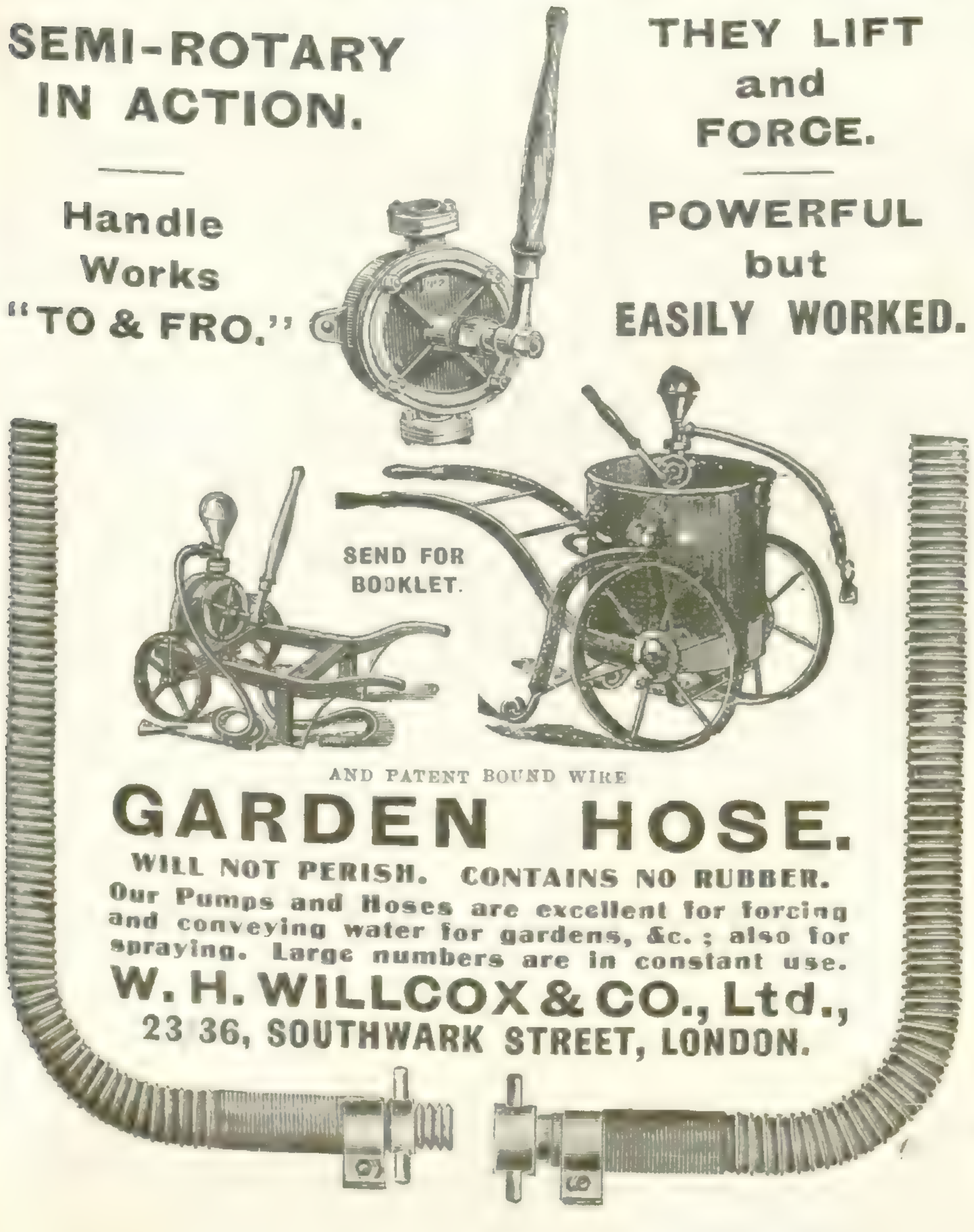
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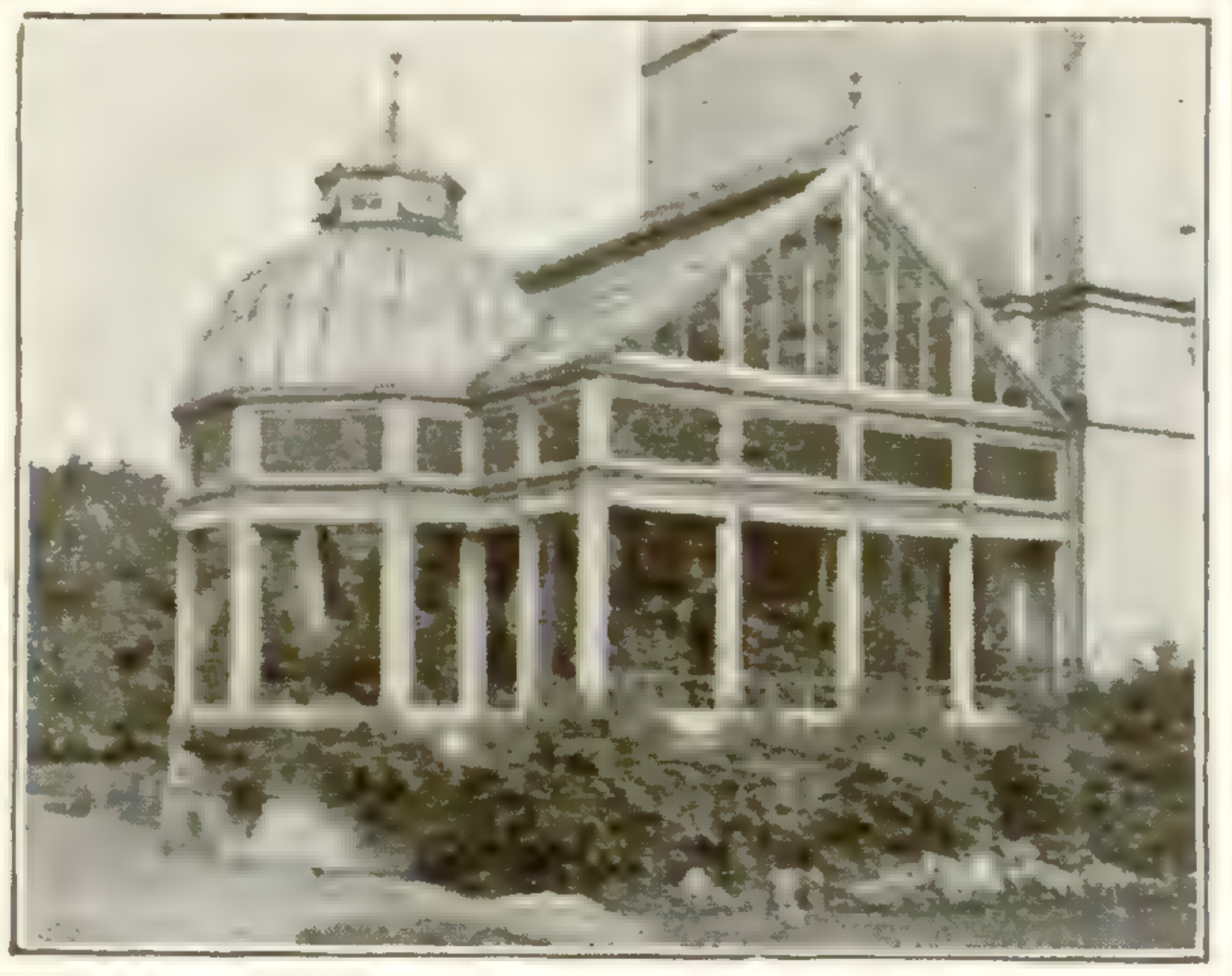

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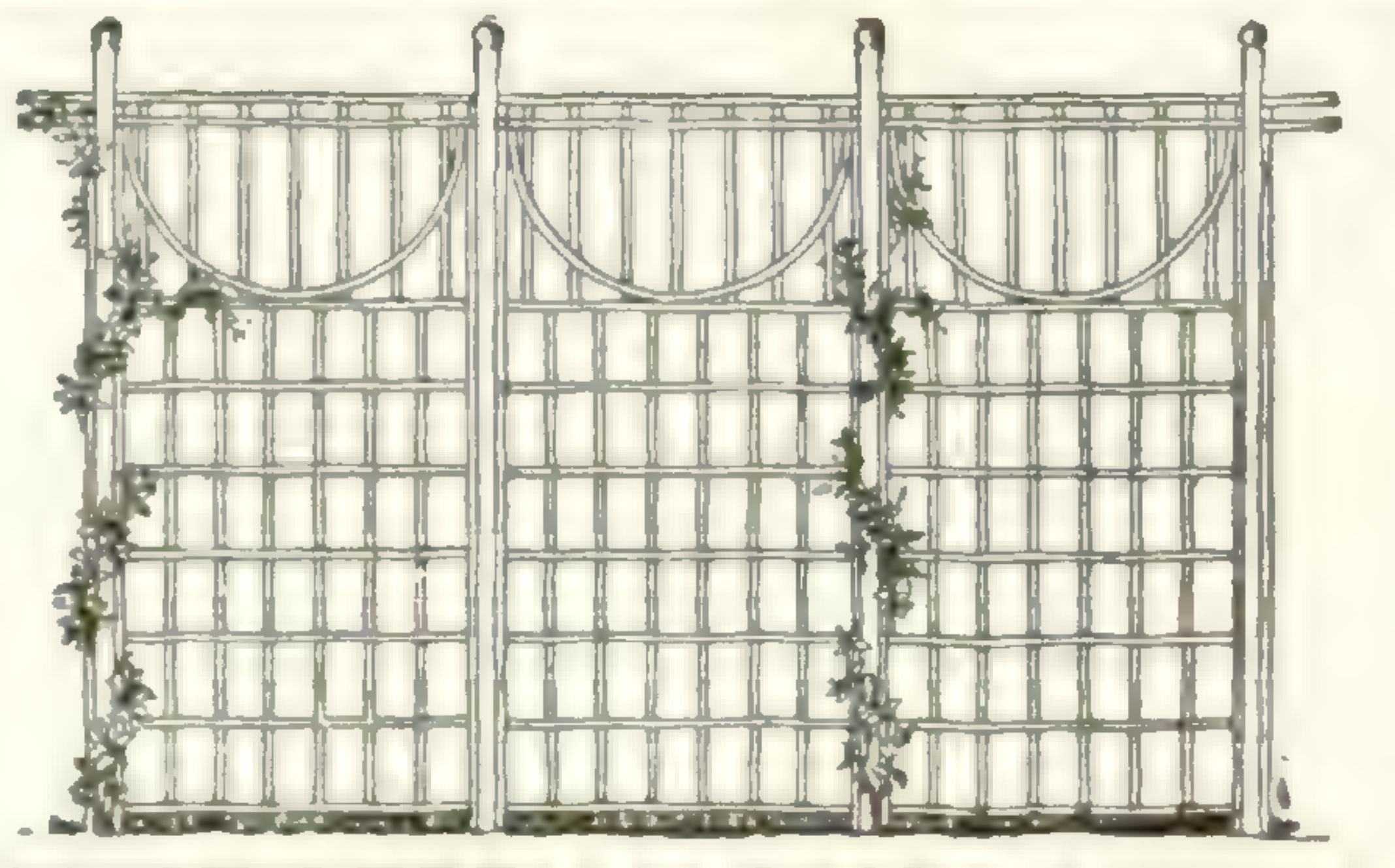

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SUCCESSFUL GARDENING.

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ORCHIDS FOR AMATEURS.

Odontoglossum crispum is now the most popular of all orchids, indeed the utility of the species cannot be overestimated. There is no plant more serviceable for exhibition and decorative purposes, while in a cut state the blooms are not only the most useful in the home, but they also are in great demand for the cut flower trade. There can be no doubt the cultivation of O. crispum is more extensive than was the case a few years ago, and as it becomes more appreciated it will be more extensively cultivated still.

I have no doubt the prices that from time to time have been realised for rare varieties of this species have had the effect of retarding their more general cultivation. I should therefore like to minimise this effect by assuring amateur readers that O. crispum can be procured in an imported state at the rate of about £5 per hundred. Here then we have a beautiful orchid which, if grown in quantity, will give us a succession of flowers at all seasons of the year, and at a modest outlay that will compare favourably with any class of plants grown. The plants can also be grown without an excessive amount of fire heat. A few years ago growers of odontoglossums advocated a normal temperature of from 40 to 45 degrees as sufficient for the winter, and some growers used to succeed fairly well, but of late years considerable advance has been made, and one of the chief causes of the more general success is that about ten degrees higher temperature has generally been given. Not only have the species been grown more satisfactorily, but we have been successful in raising many desirable hybrids, which at one time were considered almost impossible.

Speaking personally, I find very little difference between a lean-to house with a northern aspect and a span-roofed house. It matters very little so long as there is ample means of ventilation and shading to keep the temperature within reasonable bounds during the hottest part of the summer, and sufficient piping to maintain comfortable conditions in winter. The ordinary greenhouse will generally furnish the necessary requirements. The atmosphere throughout the year must be kept charged with moisture, and this is generally the difficulty amateurs fail to overcome. One may write and give instructions, but the difficulty of following these instructions is found when we realise that they may not be applied to every condition and situation alike. It would be far more beneficial to amateurs and those who are commencing orchid growing if they would visit some nursery or orchid establishment, where, I am sure, they could at all times obtain a practical illustration of the requirements, and how to meet them, which would be of the greatest possible service. I have for many years past advised, in detail, the general cultural requirements of cool orchids in the GARDENERS' MAGAZINE, and I feel convinced that they are still the most suitable for the attention of amateur orchid growers.

H. J. CHAPMAN.

Oakwood Gardens.

Chlorine in Rain.—Chlorine has been determined in the rain collected at Rothamsted each month for thirty-two years, and the results obtained during twenty-eight years have been published. The average amount of chlorine which the soil receives from the rain is 14.87lb. per acre per annum, of which 10.12lb. is supplied in the winter rain (October to March), and the rest, 4.75lb., in the summer rain (April to September). The yearly amounts have varied from 10.32 to 21.18lb., the low results being due to low, and the high results to high, winter rainfall.

GENISTA CINEREA.

The plant shown in the accompanying illustration is one of the most beautiful of the early-flowering brooms. If it has a fault, the only one I can think of is that its brilliant display lasts for so short a period, in fact rather less than a week. It seems but little known in gardens, though it has a wide range of distribution in the Western Mediterranean region, and has been in cultivation for many years. It is figured in the "Botanical Magazine" for 1906 at t. 8,086, and it is there described as flowering at Kew in June, but here it has always flowered in mid-May; but I have it growing on a sheltered bank of the rock garden, facing due south, which may account for its earlier habit.

The specimen shown is about 15 years old, measuring some 6ft. or more across, standing about 3ft. high at its most upright position, and with trailing branches sweeping down to the path.

Its great charm lies in its brilliant colour, a singularly clear shade of yellow, quite free from orange tints, and when in bloom the small leaves are quite hidden by the wealth of flowers. I generally cut it over fairly hard directly after flowering, and then slender young growths soon appear, each of which will form the flowering shoots of the following season. In consequence of this annual shearing it produces very few seeds, and I find it difficult to propagate as it does not seem to root at all from branches that touch the ground.

E. A. BOWLES.

Myddelton House, Waltham Cross.

GENISTA CINEREA IN THE ROCK GARDEN AT MYDDELTON HOUSE, WALTHAM CROSS.

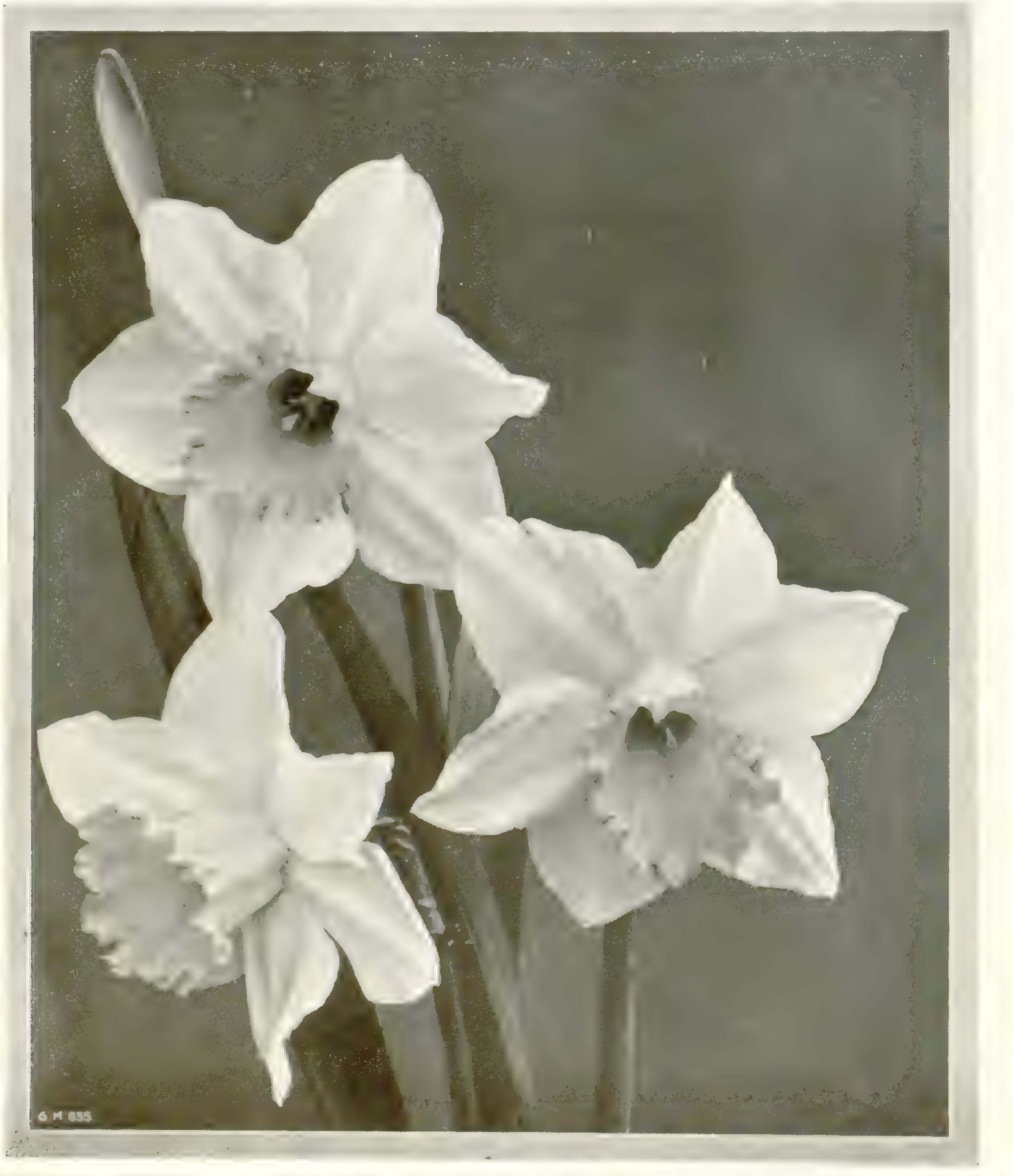
THE LOBED SPIRÆA.

There would appear to have been some unfortunate confusion about the name of Spiræa lobata, which, however, would lead one to have too long a tale to tell were one to go fully into the question. It will suffice, however, to say that the plant to which one is about to refer is not the tall spiræa known in gardens as S. lobata, which is Spiræa rubra and Ulmaria rubra of some, but S. venusta, of gardens. The plant now recognised as the true S. lobata is a charming little thing, entirely distinct from the border flower so long cultivated under the name of S. lobata. Instead of growing several feet high, it is only about six inches in height, and it has very beautifully cut leaves, and charming rosy-pink flowers in good heads. These are borne in summer, and in the rock garden, in a position not too dry, this little plant is a remarkably pretty one indeed. Its cultivation offers few difficulties, but it prefers a rather moist position, and likes a good loamy soil.

S. ARNOTT.

SHRUBBERY IMPROVEMENTS.

The autumn of the year has to be catered for at all seasons, even during summer; and where large shrubberies exist, some clearing out work is almost sure to be necessary in order to preserve and create a fair appearance right into winter. There are a number of methods by which quickly attractive results can be gained, one of the best being the introduction of clematises, which can be bought in pots blossoming and budding, and will go on without a check if carefully turned out into good soil and made especially firm therein.



NEW DAFFODIL LOWDHAM BEAUTY, A WHITE GIANT LEEDSI VARIETY.

The rhododendron thickets are apt to have a dull appearance in autumn, for which reason it is folly to mass those shrubs so closely that nothing else can accompany them; where this mistake has been made the branches of some should be tied in closely as soon as the blossom is over, and a clematis placed in the uncovered soil, after digging out a deep hole and filling it partly with a compost of fresh loam, leaf-mould, old manure, and road sand. As soon as September is with us a rhododendron here and there can be removed to other quarters, without disturbing the clematises, which will by then be beautifully clothing tall larch pole pillars. Any of the Jackmannis are suitable, and flower freely through October or even later.

There are other climbers that can be introduced from pots into the shrubbery nooks during summer; the new Polygonum Baldschuanicum, for instance, that carries myriads of pendant sprays of pink and white blossom for months in succession, seeming to thrive best when sheltered from the north by trees or fences; stout,tall larch poles, latticed between by painted wire, prove excellent for supporting this, while if there are young copper beeches, or other ruddy-leaved subjects for a background, the colour harmony will be perfect. Young plants of Vitis Coignetiæ are also obtainable in pots, and will give glorious tints late in the year to warm up any cold-looking collection of silver-foliaged shrubs.

Climbers are always attractive grown up larch poles or over dead trees, because the rustic wood does not interfere with the semi-wild look that shrubberies, especially if of large extent, should have; but in some places lengths of trellis work, or, better still, a kind of irregular trellis, formed of peeled oak boughs, can be set up to form a background to the scene. The pure white Clematis Viticella alba luxuriana, blooming as it does from June to November, is a delightful climber for this purpose, pot plants being sold for one and sixpence each. In other places the Red Jackmanni will be preferable, no doubt, or the favourite purple species.

Jasminum primulinum, the large yellow Jasmine that flowers in autumn as well as in spring, can also be highly recommended. Roses from pots are reliable, and, although the glory of ramblers will be over, we may have white Aimée Vibert, crimson-scarlet Climbing Papa Gontier, copper-red ameliorated by the strong "string" apricot, and a host of others. Tall stone or rustic urns, mounted on pillars, or square stands, graceful stone figures, and small fountains, are attractive ornaments to place in shrubbery spaces, where they are come upon unexpectedly at a turn of the walk. A tall arch spanning a portion of the border instead of the path, will provide another opportunity for the use of climbing plants.

There should be no stretch of earth visible in the shrubbery, for the foreground, if not planted permanently, can be seed-sown with dwarf, quick-growing annuals, so that colour and loveliness will be spread out. Where glades are formed by the parting of shrubs there should be extra charming vistas, and the free sowing of some of our simplest favourites will secure this. Candytufts, dwarf cornflowers, sweet alyssum, Asperula azurea setosa, Calandrinia speciosa, French marigolds, Tom Thumb clarkias, eschscholtzias, nemophilas, kaulfussias, Agrostemma cœli rosea, and viscarias will bloom six to ten weeks after sowing, the circumstances being favourable.

Division of dwarf plants can be practised in summer as a means of covering ground and introducing more beauty into the shrubbery; the variegated arabis and aubrietia being lovely in leaf as well as flower, are perfect for this employment, yet there is charm, too, in the tufted grey-green foliage of ordinary arabis, and the glossy rosettes of London Pride, the green trails of creeping jenny, the autumn-crimsoned leaves of heucheras, the moss of Saxifraga hypnoides,and the gold masses of stonecrop are never without value. We may well include cerastiums, alyssums, primroses, polyanthuses, and iberises in the plants for summer division and propagation, then we shall reap a reward of blossom in the spring.

Weeping or umbrella trees and shrubs offer pretty diversity among others, and often the gardener will find that fully-foliaged laburnums, etc., will need but judicious thinning out and tying to stakes with the removal of superfluous boughs, to persuade them to commence these effects.

M. H.

NARCISSUS LOWDHAM BEAUTY.

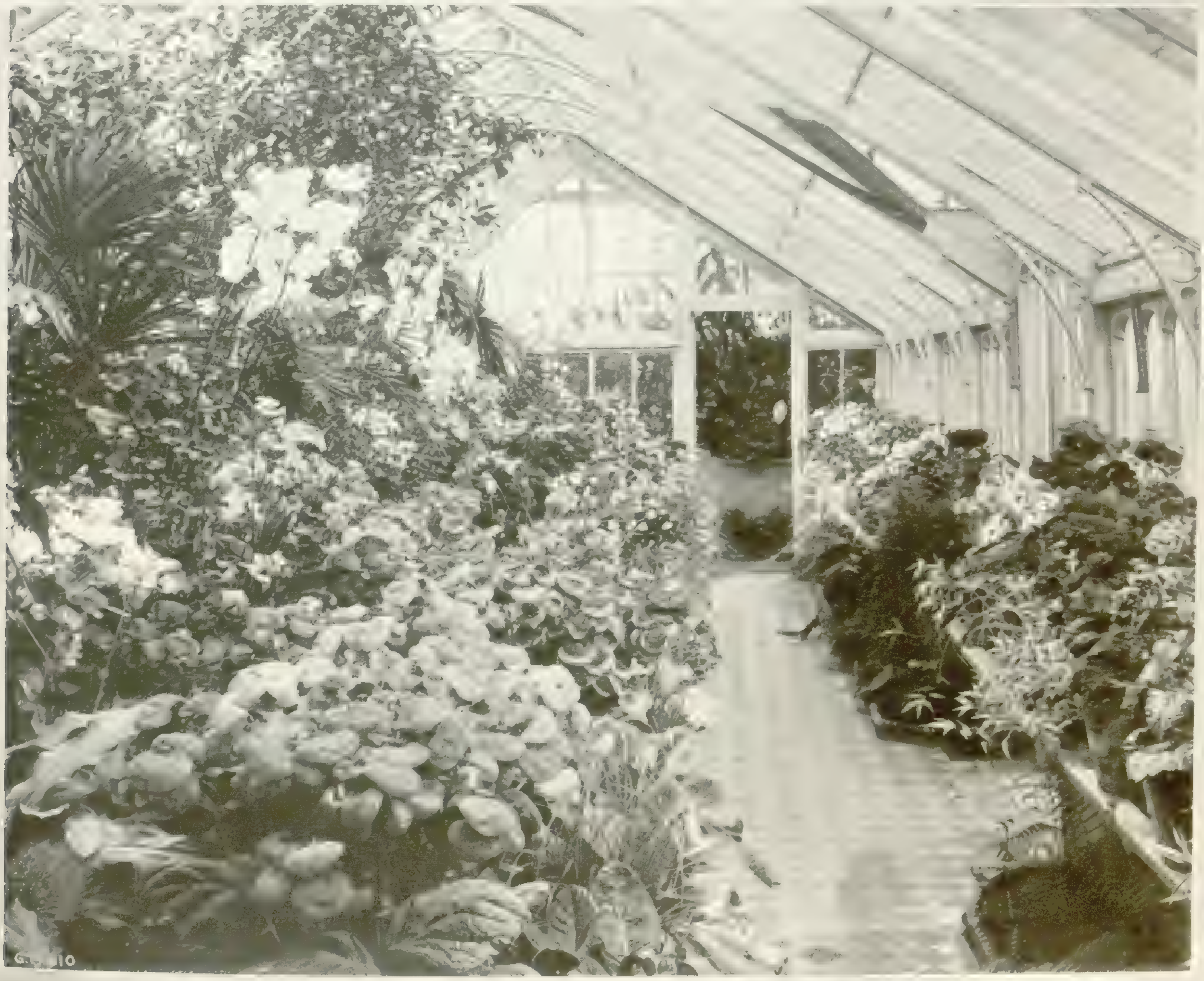
A beautiful and quite modern group of daffodils that are of incomparabilis size and form, and have the purity of the Leedsi varieties, has come to be designated Giant Leedsi, and the name is a good one so far as daffodil lovers and specialists are concerned, though the person with a passing acquaintance with daffodils might well be pardoned for wondering why the varieties in this group are not known or classed under White Incomparabilis. From the remark a good idea of the character of these beautiful daffodils will be obtained and a glance at the accompanying illustration will show the group is worthy of considerable attention. The variety figured is Lowdham Beauty, a large, bold, and yet very beautiful and graceful daffodil raised by Messrs. J. R. Pearson and Sons, Lowdham, Notts, and one for which they received an Award of Merit on the occasion of the visit of the Royal Horticultural Society's deputation to the Midland Daffodil Society's exhibition at Birmingham in April last. The flower is of large size and fine substance, white, cream-tinted, and with a pale shade of citron in the crown

BULBS.—A practical treatise on the cultivation of hardy, hothouse and greenhouse bulbous and tuberous-rooted plants is "BULBS AND THEIR CULTIVATION," by T. W. Sanders, price 2s. 6d. net, or by post 2s. from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

A WELL-FILLED COOL CONSERVATORY.

Although the gardens at Barnsley, Teignmouth, are not by any means the largest in this southern watering-place, they are well known locally for their good upkeep and for the admirable manner in which Mr. Prince, who is Captain Paul's gardener, keeps the cool conservatory gay from January to December. The illustration herewith shows this conservatory as it appeared recently when the fine herbaceous calceolarias were at their best. The conservatory is 40ft. long by 18ft. wide, and is a light, elegant structure. At the back are tall camellias, while a big orange tree occupies a central position, and a few palms are introduced. At the time the photograph was taken pelargoniums were grouped directly in front of the evergreen plants, with tall white Campanula pyramidalis rising among and above them. The foreground consisted of fine herbaceous calceolarias, while gloxinias, carex, and grasses provided an edging to the whole. The front benches were filled with calceolarias, pelargoniums, marguerites, and Rex begonias.

Mr. Prince sows his campanulas at the end of March in a cold house, and plants the seedlings out of doors as soon as they are large enough, lifting and potting them up in October for flowering the following spring. The calceolarias he sows about June 16, in a moist atmosphere, and a temperature of 55 deg. to 60deg. The seedlings are transferred to boxes and from thence are potted off in several batches, the largest plants eventually flowering in 8in. pots.



A WELL-FILLED CONSERVATORY AT BARNSLEY, EAST TEIGNMOUTH, THE RESIDENCE OF CAPT. PAUL.

FRENCH PLANT "CREATIONS."

The French gardening paper, "Le Petit Jardin," envious apparently of the reputation of Luther Burbank, and unwilling to believe that America could so far excel La Belle France in invention as the American Press notices imply, has set to work to find, and apparently has succeeded in finding, a worthy rival in a Monsieur Clotaire Durebanque, an amateur horticulturist in Marseilles, who, having been, despite his modesty, persuaded to grant an interview, has described and exhibited a large number of new "creations" of his own. As these "creations" are depicted, ostensibly from photographs, their wonderful nature is easily grasped, and it is abundantly obvious that the American "creator's" laurels are seriously threatened.

The first example, Echinocereus dahliæflorus, a cross between a cactus and a dahlia, shows a thick, spiny excrescence, crowded with typical cactus dahlia blooms. A new podless pea is shown, with the peas suspended like bead necklaces, stripping off only being necessary for the pot. Cyclamen papilio is improved by the addition of the bodies and antennæ of the butterflies with fine effect, while the objectionably stringy nature of the French bean is amediorated by the strong "string" appended as a slender tail, so as only to require severing, the bean proper being devoid of one. A turnip surmounted by a fine cauliflower borne on a well-developed mass of Brussels sprouts is another "creation" worthy of a great raiser. The climbing strawberry is another triumph; as depicted, strawberries a pound or two in weight, hang suspended from a sturdy vine trained along a high wall, a transformation effected by M. Durebanque in order, as he says, to avoid the slug and the weed from straw litter as well as a preventive of "lumbago" and other varieties of back-ache involved in picking berries from the ground.

An amusing picture shows an explosion of a large frame, due to sudden growth of enormous carrots, owing to an overdose of patent manure. It is, however, perhaps in the direction of the chrysanthemum that the greatest ingenuity of the French "creator" is evinced, since in "les chrysanthèmes à perruques," or Wig Chrysanthemums, we see depicted close imitations of such marked types of "chevelure" as Paderewski's, Sarah Bernhardt's, Ibsen's, Gorki's, and others. The letterpress describing these marvels descants particularly upon the modest and retiring nature of the man to whom the world owes these marvellous inventions, and the ideas which inspired them; but, despite the graphic character of the descriptions of both the "creator" and his "creations," there is throughout such a suspicion of satire, that we are persuaded the date of the record, April 1, is appended with a purpose.

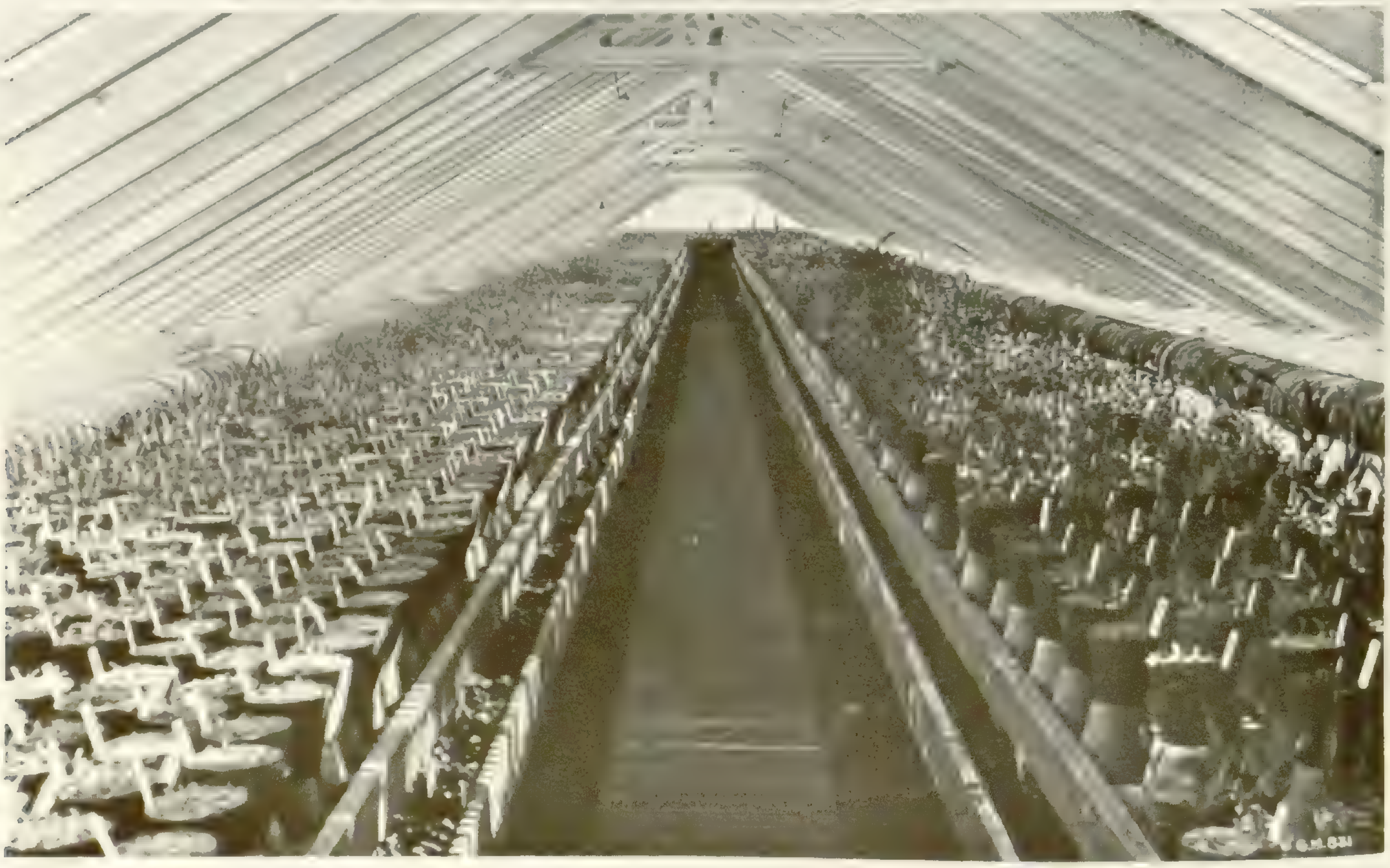
C. T. Druery.

MESSRS. CHARLESWORTH AND CO.'S NEW NURSERIES.

The progress of orchid cultivation in private gardens has been marvellous during recent years, and, though the number of those who make a very special feature of orchids is necessarily limited, the number of those who cultivate a modest collection of these floral aristocrats is very large indeed, and steadily increases. Evidence of the increasing popularity of orchids is to be found in the many exhibits staged fortnight after fortnight at the Royal Horticultural Hall, the splendid displays at the Temple Show, the regular displays at Manchester, and also at Ghent, the great Belgian centre. Further evidence is found in the great interest visitors find in these exhibits, their anxiety to understand the best methods of housing and culture, and their desire to select those kinds that are beautiful and useful, as distinct from those that may be equally attractive, but not so serviceable, or may be more quaint and interesting than beautiful.

A WELL-EQUIPPED PACKING SHED IN MESSRS. CHARLESWORTH AND CO.'S NURSERIES.

The development of commercial establishments where orchids alone are grown is a comparatively modern one, whereas formerly the orchid department was one of many in a well-appointed nursery. Among those who have specialised in orchid importation, orchid culture, and orchid hybridisation, and left other subjects severely alone, Messrs. Charlesworth and Co. stand in an especially prominent position. N so very long ago they had a nursery at Heaton, Bradford, but this soon became t small for the proper housing of the rapidl increasing stock of seedlings of hybrid origin, and the splendid batches of new a rare species, and so a new establishme was acquired especially for the hybrids a varieties. In process of time these tw nurseries became inadequate to meet th demand created by the regular exhibitio of new, beautiful, and useful hybrids, a home-raised varieties of odontoglossums etc., and, feeling that the southe with their additional light and might prove more beneficial than the spheric conditions prevailing at Brad Mr. Charlesworth secured a small nurs



A HOUSE OF SEEDLING ORCHIDS IN MESSRS. CHARLESWORTH AND CO.'S NURSERIES.

at Haywards Heath in Sussex, and there for a few years experimented with seedlings and importations. So great was the success obtained that he resolved to launch out on a large scale, and build an establishment that would provide these conditions long practice and experiment had proved most suitable for the delicate seedlings or the robust species.

A farm was taken at Haywards Heath, about three miles from the station, and here, under Mr. Charlesworth's direction, Mr. Harris, of Ealing, has constructed what must be regarded as the most up-to-date orchid nursery in the world, and one that probably is also the largest devoted entirely to orchids. A broad grass-bordered road leads from the entrance up to the handsome suite of offices and reception rooms, and one may step from carriage or motor car on to the low, glass-covered verandah, and then pass through every house on the place, all filled with orchids, and return to the verandah again, without once going out of doors. At the end of the verandah a glass-covered way leads to the broad, handsome, tiled corridor that links up the big commercial block, consisting of a dozen houses, six on either side. The corridor is 250ft. long, and the houses are 100ft. long each, varying from 12ft. to 21ft. wide.

By passing through the potting and packing sheds, all splendidly appointed and capable of dealing with very large quantities of orchids, the other large block of nine houses, each 100ft. long, two houses 35ft. long, and a sort of sanctum sanctorum, containing very special plants used as parents in the work of hybridising, measuring 50ft. by 18ft. is reached. This block has also its corridor, and the whole is so arranged that without any rearrangement the establishment could easily be doubled in extent.

At the rear of the houses and the potting and packing sheds are the two stoke-holds, where Foster and Pearson's Senior Robin Hood boilers are installed, and there is ample room for two more big boilers in each. Beyond these, across the broad yard, are the pot and compost sheds, stables, electric plant, etc., etc., There is telephonic connection between each department and the offices, an ample water supply, and enormous tanks for rain-water storage, and workshops for the making of lath blinds and repairs; indeed, nothing seems to have been left undone in the way of thorough equipment from the business, cultural, or visitors' points of view.

These pages have testified so often to the great advances in orchid hybrids that Messrs. Charlesworth and Co. have produced, that it is not necessary to enter into detail concerning this most important branch of their work. One may safely say, however, that even those familiar with orchid establishments would be greatly astonished at the hundreds of thousands of seedling orchids, hybrids, and cross-breds to be seen here in all stages of development, from the germinating seed up to the flowering specimens. Odontoglossums figure the most extensively in the seedling houses, and there are thrifty batches of hybrids between widely differing species, and many healthy groups of plants that represent some daring bigeneric cross. Odontiodas are quite common, and lælio-cattleyas and cattleyas fill several houses. Compared with other seedlings cypripediums are not so largely represented as might have been expected. There are many oncidium hybrids, and some crosses between odontoglossums and oncidiums that promise well. In the matter of odontoglossums it is almost impossible to suggest a combination that Mr. Charlesworth has not made, while varietal forms of O. crispum and of popular odontoglossum hybrids are being raised in quantity, and in every case none but the finest forms have been used as parents. The secondary odontioda hybrids and the sophro-lælias and sophro-cattleyas form other interesting batches. One thing is forcibly borne in upon one after an inspection of the seedlings, and it is that Messrs. Charlesworth and Co. have not the slightest fear of any falling off in the interest and culture of orchids for many years to come.

In the commercial block of houses home-raised varieties of Odontoglossum crispum, finely blotched, O. Phœbe, O. amabile, O. Lambeauianum, O. Armainvilliersense, O. ardentissimum, O. Rolfæ, O. Wilckeanum, O. Ossulstoni, and many another beautiful kind is represented by fine plants, many flowering freely. The cypripediums are largely grown, and especially good is the collection of the cool-growing varieties and hybrids, although the warmer-growing kinds are by no means overlooked. The lælio-cattleyas are a fine sight, even when not in bloom, and there are grand plants and big batches of the beautiful L.-c. Charlesworthi, L.-c. Iris, L.-c. Aphrodite, L.-c. Canhamiana, and L.-c. Martineti, to mention no others, all in the rudest health. Brasso-cattleyas form another large group, and cattleya hybrids include all the finest kinds. Cattleya species and dendrobiums are abundant, and among the former C. Mendeli, C. Dowiana, and C. gigas attracted special attention. Although phalænopsis did well at Heaton, they grow and flower still better at Haywards Heath, and it does not seem possible to find finer batches or plants of P. Rimestadiana, P. Schilleriana, P. Stuartiana, and P. amabilis than are here, and with them are several rare hybrids and varieties.

One must pass over the epidendrums, the brassias, the house of Trichopilia suavis, and the re-introduced T. Backhousiana, the vandas, and the oncidiums, and even the specially fine collection of masdevallias, bulbophyllums, and a host of small flowering but very pretty or quaint, and entirely interesting species that appeal so strongly to the horticulturist who has a weakness for the botanical as distinct from the floricultural side of orchid study, and conclude by stating that no one interested in any way in the cultivation of orchids should fail to see this new and splendid establishment. It is a noteworthy addition to a special department of our great and growing national horticultural industry, and as such it deserves and merits more than a passing thought—it needs a visit to properly understand it.

A SPACIOUS POTTING SHED IN MESSRS. CHARLESWORTH AND CO.'S NURSERIES.

HARDY FLOWERING TREES AND SHRUBS.

I do not remember seeing hardy trees and shrubs flower more profusely than they have done this season, for from early spring until the present time the different species and varieties have been in flower, making the garden most interesting. Though some of the more tender kinds suffered somewhat during the winter owing to the long spell of cold east winds and severe frosts, many were left uninjured, and these seem to have flowered more freely than usual. From the common holly, crab, wild cherry, and hawthorn, to the latest introductions, all alike have produced a wealth of bloom seldom before seen.

Where a good collection of flowering shrubs is grown there is usually something interesting at all seasons of the year. In spring and summer it may be the young growth or flowers which arrest the attention, while in autumn and winter the foliage or fruit renders them attractive. There are many species that are far more hardy than they are generally supposed to be, and though sometimes in very severe winters they suffer, it is usually owing to their being planted in unsuitable positions rather than to the severity of the frosts. Last spring the frost was very severe with us, for as late as March 5 we registered 36deg., which was most unusual for so late in the season, and the east winds were likewise bitterly cold for some days, but such shrubs as Enkianthus campanulatus, Eucryphia cordifolia, Carpenteria californica, Grevillea rosmarinifolia, Choisya ternata, and the like, suffered but very little, and these have been a mass of bloom.

Raphiolepis japonica at the present time is flowering most profusely. This is an evergreen shrub, having dark shining foliage, the short flower spikes standing erect on the terminals of the shoots just above the leaves. The individual flowers are white, somewhat resembling those of the kalmia in shape, and for a hard-wooded plant last a long time in perfection. Enkianthus campanulata is also another of those shrubs not generally found in our gardens. It was introduced some years ago by the Messrs. Veitch and Sons, and is one of the most beautiful free-flowering shrubs we have. It is a compact-growing plant, having small leaves, which are produced in clusters at the terminals of the shoots. The flowers are small, of a red shade, and borne in drooping racemes from the axils of the leaves, which render them objects of interest. This, no doubt, is one of the most interesting shrubs we have, and when planted in peat in a sheltered situation, soon makes a neat plant.

Escallonias are disappointing with us; some seasons they flower most profusely, and then, should the winter be severe, they die off. I have tried most of them, but without success, even when grown against a wall. There are, however, some charming things amongst the hybrid azaleas that are well worth attention, the varied colouring of the flowers in early summer, and the rich tints of the foliage in autumn commending them to all lovers of the beautiful. H. C. Prinsep.

Buxted Park Gardens.

THE ROUND-HEADED PHYTEUMA.

Phyteumas are not by any means common plants, and the efforts of cultivators to succeed with them have been largely directed to persuading P. comosum to flourish in their gardens, because of its singular beauty. As these attempts so frequently fail, they are apt to conclude that all the members of this genus are of the same character, and to think that it is well to leave them severely alone. This is unfortunate, as several of the phyteumas, including the subject under notice, P. orbiculare, are very easily cultivated, and will, indeed, thrive where P. comosum would perish in a short time.

It is hopeless to expect to grow P. comosum in the ordinary border of hardy flowers, but P. orbiculare is quite at home there, and it even appears to demand no special soil or attention to persuade it both to flourish and to flower freely. Of course, it is not by any means so quaint or so neat as P. comosum, but it is, withal, an excellent garden plant of an interesting kind. Its flowers, taken individually, are small, it is true, but they are plentiful, and as they are arranged in round heads the collective effect is by no means of little account. It is called the round-headed phyteuma, but this term is only appropriate during a portion of the life of the bloom, as the heads eventually become more oval than round by lengthening out into a kind of egg shape.

This phyteuma grows variously from six inches to a foot in height, and its presence near the base of the rock garden or in the front of the border is distinctly pleasing from the deep blue tone of the heads of flower. It can be grown in ordinary soil, and is free from the attacks of slugs most potent of enemies to its ally, P. comosum.

S. Arnott.

GREENING OF POTATOES.

Mr. George Massee, V.M.H., Assistant Keeper, Royal Botanic Gardens, Kew, contributes an illustrated article to the June issue of the "Journal" of the Board of Agriculture on this important subject, from which we take the following:

The "greening" of potatoes intended for "seed," which is brought about by exposing the tubers to light for some weeks before planting until the skin assumes a dark-green colour, is a practice that has been followed for many years, and is generally admitted to be productive of good results, although it is still too frequently neglected. The opinion of growers who consistently follow this practice is that the haulm or "top" is much more sturdy and robust than when the seed is not "greened," and this, as would naturally be expected, results in a better crop. Certain experiments have been conducted at Kew for the purpose of ascertaining in what particular manner "greening" proves beneficial.

Experiment No. 1.

Two batches, each consisting of twelve tubers of the variety called "Up-to-Date," and each batch having exactly the same weight, viz., 1lb. 8oz., were placed singly on a shelf in a room where they were exposed to a good light. The experiment commenced on August 25, six days after the tubers were lifted. One batch was covered with opaque black paper, the other batch was left exposed to light. The sprouts were constantly removed on their earliest appearance, and all the potatoes were turned over once a week. The experiment terminated on March 25. On weighing, it was found that the batch that had been covered with black paper had lost exactly 3½oz. in weight, whereas the batch that had been exposed to light, and had become thoroughly "greened," had lost barely threequarters of an ounce. Water probably accounted for most of the loss of weight; respiration would also be responsible for some loss; and the presence of sugar (Trommer's test) indicated a certain amount of activity in connection with growth.

In the following experiments, the kind of potato, the weight, and the duration of time were identical with those mentioned in the first experiment.

Experiment No. 2.

Both batches of potatoes were covered with black paper during the first five months of the experiment. During this period a certain amount of sprouting took place, the sprouts of the two batches weighing 2¾oz. At this stage the two batches, after the removal of the sprouts, were practically of equal weight. One batch was now covered with black paper, and the other batch left exposed to light, and in this condition they remained until the end of the experiment. The sprouts produced by the batch exposed to light averaged a quarter of an inch in length, and weighed a quarter of an ounce. The sprouts of the batch covered with paper averaged three inches in length, and weighed 1¼oz. The batch of potatoes that had been covered with paper throughout the experiment weighed 1¾oz. less than the batch that had been exposed to light during the last two months of the experiment.

Experiment No. 3.

At the commencement of the experiment, one batch was covered with black paper and the other batch left exposed to light. This condition of things lasted for two months, when it was found that the covered batch had lost 1oz. in weight, and the batch exposed to light had lost about 18 grains. From this stage both batches were covered with black paper, and remained so until the end of the experiment, when it was found that the batch that had been protected from light throughout the experiment had lost 3¼oz. in weight, including the sprouts, whereas the batch that had been exposed to the light for the first two months of the experiment lost just over ¾oz., including the sprouts.

The batch that had been protected from light throughout contained a considerable amount of sugar at the end of the experiment, and when cooked had the sweet taste and close texture characteristic of many potatoes in the spring; whereas the batch that had been thoroughly "greened" immediately after lifting was quite "floury" and normal.

Advantages of "Greening."

The time is now past when small potatoes, good for nothing else, were considered good enough for "seed." The general opinion held at the present day is that it is essential to have a good, firm tuber that has not been partly exhausted by loss of moisture and continued formation of sprouts that are broken off when the tuber is planted. As the above experiments indicate clearly, this result is better attained with "greened" seed than with seed not so treated. A potato not "greened" loses just over six times as much in weight during the season as a potato of equal weight that has been "greened." A potato that is "greened" in the spring loses twice as much in weight as a potato "greened" immediately after lifting in the autumn, other things being equal.

Effect of Action of Light on Growth.

Under similar conditions of temperature, light much retards the growth or sprouting of a potato, whereas growth is greatly favoured by darkness. The explanation of this difference of behaviour in light and darkness respectively is as follows: Before a potato can commence to sprout a certain amount of its starch must be converted into soluble sugar by means of a ferment or enzyme. Such enzyme can only be formed in a potato when there is a free interchange between gases formed in the interior of the potato and the atmospheric air.

An experiment proved that when the surface of a potato is coated with an impermeable varnish, except the "eyes," no sprouting takes place, even under the most favourable conditions for so doing.

The act of "greening" causes the skin or periderm of the tuber to become comparatively impervious to water and gases, hence the relative cessation of growth and loss of substance, whereas the periderm of a tuber kept constantly in darkness is not so impervious. The difference in amount of suberin present in the two cases is readily apparent on the application of tests for the presence of this substance.

The greatest amount of benefit derived from the "greening" of potatoes will be obtained when it is practised in the autumn immediately after lifting.

In addition to the advantages indicated above, autumn "greening" will, to a great extent, check the ravages of winter-rot, which often spreads in a wholesale manner after potatoes are stored, the fungus readily gaining admission through the soft skin of ungreened potatoes.

The short, sturdy, firmly-attached sprouts of "greened" potatoes do not break off during planting. The long, weak sprouts of potatoes kept in the dark have to be broken off before planting, as they are useless.

Hardy Climbing Plants.—There is now a great wealth of these, and when judiciously used on proper supports in the shrubberies, they form a pleasing feature, and do much to break up the formality of the planting. Such plants as loniceras of sorts, clematis, especially some of the hybrid varieties like Duchess of Albany, akebias, polygonums, ornamental-leaved vines, Rhus toxicodendron, and climbing roses are each suitable for this purpose. The growths will require frequent attention, regulating and tying them out, and during dry weather good waterings should be given occasionally. Unfortunately, insect pests of nearly all kinds have been most troublesome this season, and constant attention by way of syringing with insecticides, etc., has been necessary; not only does this relate to this kind of plants, but also to the great majority of trees and shrubs. Such subjects on pergolas, and trellises will also need attention.—E. Beckett.

PERPETUAL CARNATIONS.

The American carnation growers until quite recently did not believe in carrying their flowering plants over to the second year, it being generally conceded that the quality of bloom produced during the second season was not so high as that of the first. With stock grown and planted out on benches there is much truth in this statement, but many growers of carnations in the States now carry over part of their stock annually.

In the case of the British method of cultivation, in pots, the matter is different, the plants being so much easier to handle for the second year in the way of potting, and standing them out of doors for a short time during the summer. Consequently, many of our best growers do not throw away any of their flowering stock until after the second year, and the majority of varieties produce a higher grade of bloom and a larger crop during their second season.

The plant of Britannia illustrated is one of several plants exhibited from the Bush Hill Park Nurseries, Enfield, at the recent Temple Show; it was exactly twenty-six months old at the time the photograph was taken, was in a twelve-inch pot, and carried twelve flowers, 58 buds, and 192 flowering growths, while it measured four feet across the head, and had spent twenty months of its life in producing flowers which were quite up to the exhibition standard. It does not require much figuring to prove that more flowers are produced by two-year-old stock.

The main points to be borne in mind in carrying plants over is to grow them cool from the start, cut the flowers with long stems, so as to keep the plants dwarf, and not feed them with any kind of artificial manure you may have in stock, but use a good cool carnation fertiliser.

Montagu C. Allwood.
Royal Nurseries, Bush Hill Park.

SPARROWS AND GREEN-FLY.

I was very pleased indeed to notice Mr. G. Garner's short article upon this subject on page 497.

For a number of years I have observed birds closely, and often seen the much and wrongfully maligned sparrow eating many kinds of insects. The fact is he is a voracious and changeable feeder. From a butterfly to grubs and maggots of all kinds, he is by no means particular. I have watched these birds, and have seen them scoop the fly off with their open beak. "Scoop" is the only word I can find to describe the action. Our sweet and garden peas have been much visited by sparrows this season, and no damage done; while one need not watch long to see the birds with caterpillars in their beak. He cannot always have corn or fruit, and it is only natural he should take what is most plentiful and easiest obtained. Sparrows are condemned thoughtlessly by persons who have never studied their use in creation, and if they pick off the green-fly and maggots from my roses and sweet peas, they are friends of mine; at all events, while at that work.

Uckfield.

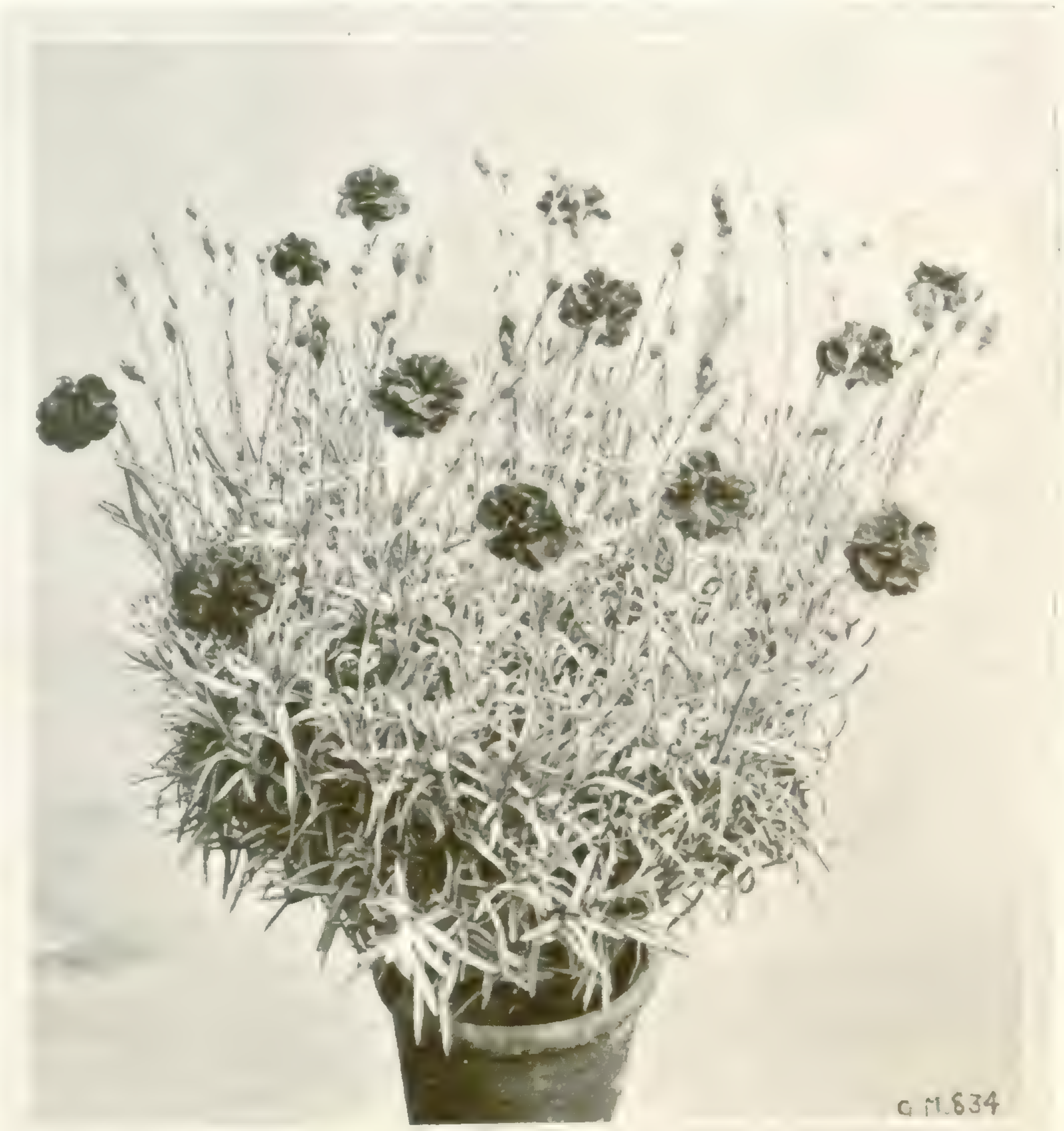
A. Piper.

Nitrogen in Rain. — Mr. Miller states that the total nitrogen in the rain collected at Rothamsted amounts to about [illegible] per acre per annum. The nitrogen in the form of ammonia amounts to 2.71lb., and the nitrogen as nitrates to 1.13lb., making together 3.84lb. of inorganic nitrogen. Determinations of organic nitrogen made by the late Sir Edward Frankland, showed that the rain supplies rather more than 1lb. per acre of nitrogen in this form. So that the total nitrogen, inorganic and organic, comes to about 5lb. per acre per annum.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

MILTONIA VEXILLARIA.—As the plants pass out of flower they should be placed under cooler and drier conditions, as it is upon proper resting, perhaps more than any other part of their cultivation, that success or failure to grow depends. If the conditions suitable to the requirements of the plants are found, there are few orchids that give a finer display or more rapidly develop into large specimens than M. vexillaria. I would advise that little or no root moisture should be given until the new growths are being produced. The longer resting period the plants obtain the stronger will be the new growths, so that no encouragement should be given. It is surprising to what an extent the resting conditions may be carried without any ill effects to the plants.



A TWO-YEAR-OLD SPECIMEN OF CARNATION BRITANNIA.
Grown at the Bush Hill Park Nurseries, Enfield.

THE POTTING SEASON of M. vexillaria is a subject that very few orchid growers are practically agreed upon. Some advocate annual repotting during the month of September, when the new growth commences, while others are in favour of deferring the matter until the spring of the year, at the time when the new pseudo-bulb is about to be formed, and the roots are being emitted from its base. As advocates of both methods can in most instances produce the same desirable results, they have every reason to abide by their opinions, but I should like again to point out that a great deal depends on the situation and conditions under which the plants have to be cultivated. I certainly should advocate spring potting in all cases where plants are grown in the immediate neighbourhood of London and other fog-laden areas and smoky districts. There are few plants that suffer more from the evil effects of fogs, and for that reason it is undesirable that the plants should be disturbed a few weeks previously to the winter season. If potting is done in the spring I have found the plants are much more satisfactorily dealt with. At this season of the year, where we have plants with several back pseudo-bulbs, the rhizome should be severed behind the second bulb. In most cases it will be found that the old bulbs possess dormant eyes, which, after the rhizome has been severed, will start into growth, and where the plants are repotted in the spring, these may then be removed if desired, and so the stock may be increased or the size of the specimen.

INSECT PESTS.—Yellow thrips are the most troublesome pests to be dealt with, and where the plants have been attacked during the past season it is well now to take every care to clear the plants before the new growths commence. Dipping at regular intervals is the safest method. The plants should be dipped twice a week where they have been badly attacked, and for three or four weeks after this spraying overhead at regular intervals of a fortnight should effectually keep the thrips in check. — H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

BEGONIA GLOIRE DE LORRAINE, and its various forms, should now be ready for their flowering pots, and 32-size is a very useful one for general purposes; if extra large plants are required, then 24's may be used, while all the smaller plants may be kept in 48's, and they will be found very useful where boxes and jardinieres have to be made up or filled for the house. Useful plants may be had even in 60's for the table. These plants are not over particular as to soil, so long as it is fairly porous, and a compost consisting of one part each of loam, leaf-soil, and part sand, with some wood ashes or charcoal added, will be found to suit them well. After potting they should, if possible, have a house to themselves, where a high temperature and a humid atmosphere, with plenty of shade may be maintained, giving but very little air until the plants are well into growth again; in fact, many people keep them growing without air until they commence blooming;

but such treatment is hardly necessary. Failing a house to themselves, they may be placed in a heated pit or on shelves in the melon or cucumber houses, or any other place where they get sufficient heat and shade.

WINTER-BLOOMING CARNATIONS.—These also will require to be put into their flowering pots, large 32's or 24's being large enough. A fairly light rich compost should be prepared for them, with plenty of wood ashes and lime rubble in it; pot firmly, and afterwards stake each plant and stand out a fair distance apart either in cold frames or under some temporary structure, where lights may be put over them in case of violent storms or prolonged wet weather, as there is nothing so detrimental to the well-being of carnations as excess of moisture soon after potting. If possible, the pots should be plunged to the rim in ashes, and if this is done, and watering very carefully attended to, it will be found that they will root and grow much more freely than when the pots are open to sun and air. Syringing must be regularly attended to, and unless the plants are wanted to bloom very early, the points of all strong shoots should be pinched out until the end of July.

MALMAISON VARIETIES that are intended to be grown on for another year should be potted as early as possible after flowering, using 9in. pots, and it will be wise to keep these steadily growing in a cool house, tying out the shoots so as to allow a maximum of air between them. Layering should be commenced at once, continuing this as the various batches of plants go out of flower, and the frames which have been used for early potatoes, beans, lettuce, etc., will be found very useful for them, the addition of a little fresh soil being all that is necessary. After layering, keep close and partially shaded for a time, syringing freely on all fine days, giving air as soon as rooting commences, and increasing it until the lights may be entirely removed.

SALVIA SPLENDENS should now be moved into 9-inch pots, or if extra large plants are required 12-inch may be used; after potting, stand the plants out in a good open position, and, except that they are not staked, I like to treat them just as I do the chrysanthemums. When well rooted into their flowering pots, pinch out the points of the shoots once or twice, but this must be regulated by the time they are wanted to flower.

AZALEA INDICA AND A. MOLLIS that have been kept indoors to finish their growth should now be in a fit condition to put outside, and I prefer to stand them where they will be partially shaded during the hottest part of the day, at least until the end of August, when they may have the full benefit of the sun. By treating them in this way the foliage will keep healthy. Place bricks or slates under the pots to keep out worms, and never allow the plants to become thoroughly dry. Plants of A. indica that have been repotted may need to stay inside a little time longer, when the same treatment may be accorded them.

LILIUM SPECIOSUM, L. AURATUM, and all other liliums, if not actually pushing their flower buds now, will be in active growth, and will require frequent applications of liquid manure to keep them strong. Fumigating must also be done frequently to keep them clean, and when a house is entirely devoted to them it should be fumigated at least once a fortnight, and tobacco paper will be found less harmful to the foliage than the more modern fumigants.—**Thomas Stevenson**, Woburn Place Gardens, Addlestone.

THE FLOWER GARDEN.

RHODODENDRONS AND HARDY AZALEAS.—The flowering season of these is now practically over, and to ensure a good growth and a free set of flower buds for next year the whole of the seed vessels must be removed by careful handpicking, and in case the beds were not surface dressed in early spring, it will be necessary to dress them now. Peat, leaf-soil, road sand, and half-decayed manure will form an excellent dressing at this season, and copious supplies of water should be given during spells of drought.

IVY.—This will in many cases need severe cutting, and by the autumn it should again be clothed with fresh green foliage. What a pity Hedera maderensis variegata is not planted much more largely. It is undoubtedly one of the finest silver variegated plants we have, and is extremely effective on red brick buildings. With us it has proved to be perfectly hardy even in the most exposed places.

SUBTROPICAL PLANTS.—These are now growing apace, and will need to be made thoroughly secure against wind by firm staking. Use broad, strong ties, and allow plenty of room for swelling. Keep the roots well supplied with water, and damp thoroughly overhead during the afternoon of hot days.

THE FLOWER BEDS AND BORDERS.—Attend to the staking and tying of the taller subjects, and low-growing plants which form a groundwork should be kept pegged down, with a view of covering the surface as speedily as possible. Remove decaying leaves and flowers, and stir the soil about geraniums, calceolarias, etc., just sufficient to break up the crust, present a fresh appearance, and allow the water to percolate evenly.

SEEDLING PLANTS FOR SPRING BEDDING.—Many of these will now be sufficiently advanced for pricking off into well-prepared soil, choosing as far as possible an open, sunny position; wallflowers require to be especially well grown and ripened, when they will be found to stand the winter satisfactorily. These should be put out at a distance of from twelve to fourteen inches all ways when quite small, and planted very firmly. Myosotis may be planted in more shade, and in a moister part of the garden. E. **Beckett**, Aldenham House Gardens.

HARDY FRUITS.

FRUIT PROTECTION.—Birds undoubtedly do an enormous amount of good, but still it cannot be denied that at certain seasons they are capable of doing a lot of damage by consuming or spoiling a large quantity of fruit, hence the necessity of planting such fruits as red, white, and black currants, gooseberries for dessert, raspberries, and strawberries in compact quarters, that means of protection may be easily, and at as little expenditure as possible, applied as it is required. Where much fruit has to be protected the cost of netting becomes a serious item of garden expense, so every endeavour should be made when placing the nets over the fruit quarters to keep them quite free from the trees, and not to allow a quantity to lay on the ground, or the netting will soon become useless. Light framework erected over the trees or beds on which to support the netting, with a piece of ordinary galvanised wire netting for the sides, makes a capital protection, and will add several years to the life of the netting.

SUMMER PRUNING.—Wall trees having been attended to, let those growing in the open be taken in hand. On bushes and pyramids the main shoots may be left from twelve to eighteen inches in length, according to the variety, with the laterals pinched back to within five or six leaves of their base; or, in other words, leaving them about six inches long. Unless growing strongly the leading growths on espaliers and cordons will not require shortening at this season, but all laterals should be treated as advised above.

RASPBERRIES.—Reduce the number of young canes to the proper quantity, and be careful not to damage these when picking the fruit, as the young suckers are very tender, and easily broken. A good plan is to run a piece of string up each side of the row, and loop it so as to act as a good support to the young canes.

BLACKBERRIES AND LOGANBERRIES.—These should have all weak suckers removed, and from two to four of the strongest of the young canes be tied loosely to the supports. Good soakings of diluted liquid manure will be found very beneficial to these plants, in assisting them to swell up the large quantity of fruit which they annually produce.

INJURIOUS INSECTS.—Woodlice and earwigs are often troublesome, and if not kept in check are very destructive to the ripening fruits of apricots, peaches, and nectarines, and if means are not taken for their destruction before they have tasted the fruit, it will be found a difficult task to trap them. A little dry hay placed in a small flower pot, and several of these pots laid down close to the foot of the wall, and examined every morning, will be found an easy and simple means of capturing a great number. Or take a few old potatoes and cut them through the middle, scoop out a portion of the interior, and place these, cut side downwards, on the border close to the wall; this will also be found an effective way of reducing the number of woodlice. The most successful means we have found of capturing earwigs is by cutting up bean stalks in one-foot lengths and placing these among the lower branches of the trees; a boy can blow these out each morning into an ordinary glass bottle containing a little paraffin oil, the latter assisting in their swift destruction.—**Geo. Woodgate**, Rolleston Hall Gardens.

NEW PLANTS, ETC.

ASTER MESA GRANDIFLORA.

A showy and useful hardy herbaceous subject, growing about 2ft. high, and making a neat bushy specimen. The flowers are from one to two inches across, shapely, a pretty shade of bluish-purple, with a silky sheen and with a central yellow disk. The flowering period is given as from June to September. A.M., R.H.S., June 22. Messrs. W. Cutbush and Son, Highgate.

DELPHINIUM MOERHEIMI.

This is an almost pure white delphinium, obtained by crossing D. Belladonna with D. sinensis. The tall spikes are not too closely set with flowers, and these latter are white save for a pale tint of green on the spur. A.M., R.H.S., June 22. Messrs. Cutbush and Son, Highgate.

PÆONIES.

Queen of Singles.—A very beautiful single white pæony with a big central boss of yellow stamens. A.M., R.H.S., June 22. Mr. Chas. Turner, Slough.

Leonora.—Another handsome single variety, having large crimson petals surrounding dull yellow stamens. A.M., R.H.S., June 22. Mr. Chas. Turner, Slough.

SWEET PEAS.

Stirling Stent.—A very fine new variety with bold, waved flowers of a rich salmon-orange shade. A.M., R.H.S., June 22. Mr. Jas. Agate, Havant, Hants.

Blanche Stevens.—The flowers of this smooth white variety are very large, the colour is very solid; for market purposes this should prove useful, but the flowers are rather too far apart on the stem, as shown, for exhibition purposes. A.M., R.H.S., June 22. Mr. H. J. Jones, Ryecroft Nursery, Lewisham.

CARNATION HER MAJESTY.

This carnation belongs to the heavy-edged picotee section, and is a particularly attractive variety. The ground colour is yellow and the margin is deep purple. A.M., R.H.S., June 22. Mr. Chas. Blick, Warren Nursery, Hayes.

CAMPANULA PHYCTIDOCALYX.

The broad flowers of this campanula are violet purple, and the inflorescence is [illegible] branched, and from one to two feet [illegible]. A.M., R.H.S., June 22. Mr. Bain, gardener to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking.

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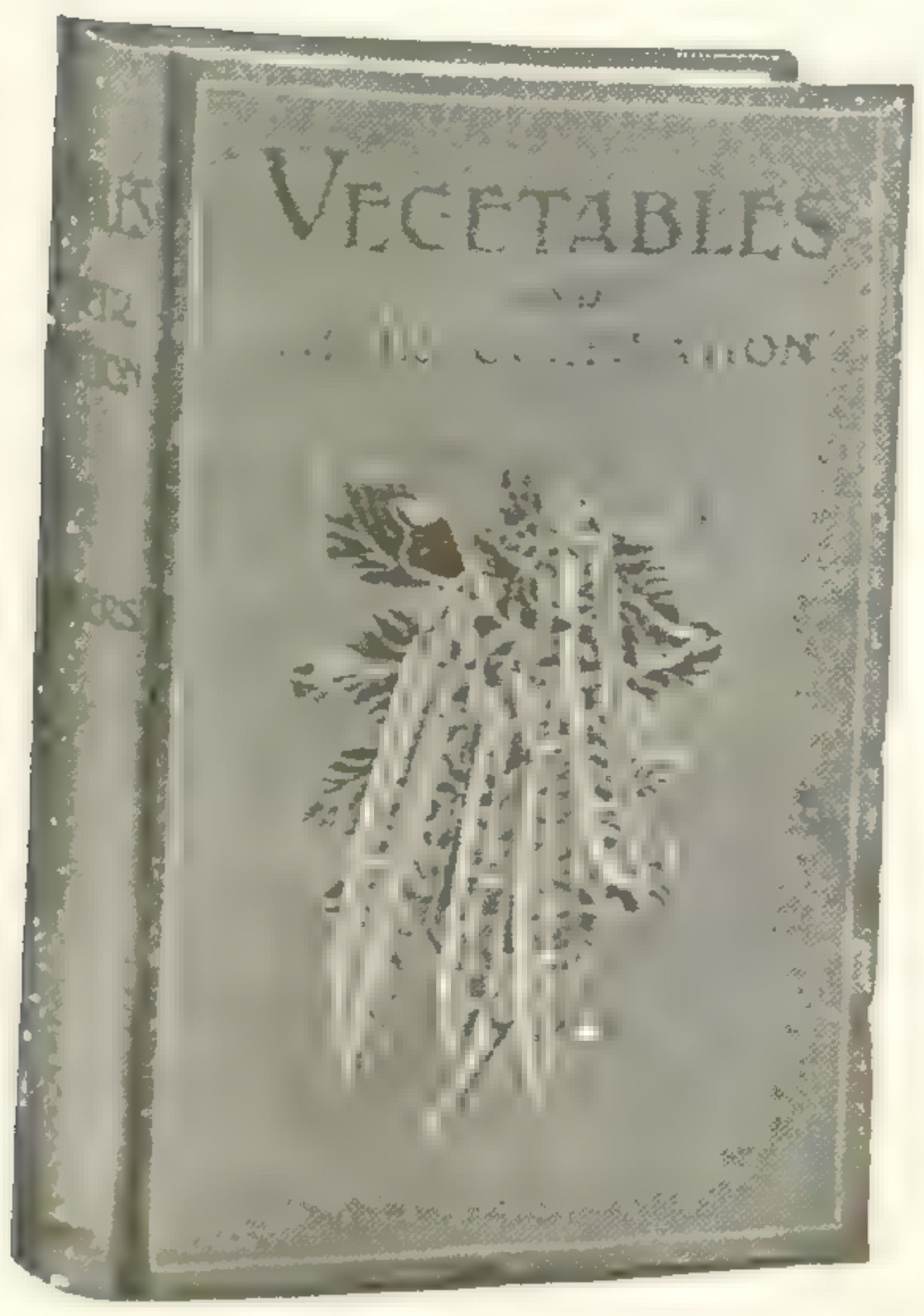

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EXHIBITIONS AND MEETINGS.

◆

Brighton Rose and Sweet Pea Show.

JUNE 29 and 30.

The Brighton and Sussex Society altered the date of their show this season, and held a very successful gathering on the above dates in the Dome and Corn Exchange, with a small tent on the lawn outside. The opening day was wet, and consequently the light in the fine building—naturally rather heavy and dark—was by no means good. Roses and sweet peas were good for thus early in the season; carnations were excellent, and the table decoration class brought out a fine competition.

GROUPS.

Alderman Howlett's silver cup, a silver medal, and first prize for a circular group of plants, arranged for effect on a space 10ft. in diameter, were won by Mr. Edward Jones, gardener to H. Young, Esq., Withdean Grange, Brighton, who used caladiums, liliums, ferns, and odontoglossums freely, and had one central and four smaller cones of plants rising from a neatly furnished groundwork. Mr. G. Chandler, gardener to S. C. Witting, Esq., Hollingbury Copse, Brighton, was second, with a group consisting chiefly of beautiful maidenhair ferns, with carnations and begonias rising from them.

Premier award for a large group of roses, arranged for effect on a space 15ft. by 8ft., was won by Messrs. G. Mount and Sons, Canterbury (who also therewith won the champion cup for the best competitive exhibit in the show) with a grand display. In the back were pot plants and sprays of rambling roses, but the fine effect of the exhibit was secured by big stands of scores of noble blooms of Frau Karl Druschki, Richmond (fine colour), and Joseph Lowe: Mr. G. W. Piper, Uckfield, Sussex, was a good second with a very prettily arranged exhibit, but he lacked the weight of bloom carried by Messrs. Mount; Mr. E. Jones, Withdean Grange, third. The latter led for a group of ferns with a bold, undulating mound of nephrolepises and maidenhair ferns, all admirably grown.

There was only one table of roses in the open class, and here Mr. G. W. Piper, Uckfield, won first prize with a pretty arrangement of small tea and single roses.

The tables of sweet peas were all overcrowded; that is to say, there was too great a height and weight of flowers for the small 4ft. square tables. Mr. James Box, Lindfield, led, and his superstructure represented an airship; he had lovely blooms of Constance Oliver, Clara Curtis, Evelyn Hemus, Helen Pierce, and Etta Dyke; Mr. C. F. Waters, Deanland Nursery, Balcombe, second, with tall stands and small vases of mixed sweet peas; Mr. Paskett, gardener to E. J. Johnstone, Esq., Burrswood, Groombridge, third, with the finest blooms, but his stands were too conspicuous.

Mr. Paskett led for a table of carnations with splendid blooms, well arranged with Asparagus Sprengeri, and he therefore holds the Welsford-Smithers cup for this year; Mr. C. F. Waters, Balcombe, second with fine blooms rather stiffly set up.

In the amateurs' section, for a table of roses, Mr. George Chandler was first, Mr. Norman second, and Mr. G. H. Bennett, gardener to P. H. Bayer, Esq., Hatch Beauchamp, Withdean, third, but neither showed really well.

Messrs. G. Mount and Sons were also first for a group of roses arranged on a space 12ft. by 6ft., and here their stands of Mrs. John Laing and Liberty were very effective.

PLANTS.

Messrs. G. Mount and Sons were first for a dozen roses in pots, and Mr. Frank Woollard was second. Mr. Edward Jones won first place for six pot roses, and his were by far the prettiest set, his varieties being Hiawatha and Dorothy Perkins. Mr. Chandler scored for half a dozen fuchsias, and Mr. E. Jones led for a similar number of caladiums.

Messrs. Sutton and Sons' prizes for gloxinias were won in order by Mr. A. Bish, gardener to Miss E. Fitz-Hugh, North Acres, Streat; Mr. G. Chandler, and Mr. E. Jones. Mr. Chandler led for tuberous begonias, and Mr. Martin, 1, Mount Pleasant, Lewes, was a good second.

CUT BLOOMS.

In the open class for forty-eight cut roses, distinct, the premier award and gold medal was won by Messrs. G. Mount and Sons, Canterbury, who had a fairly good set, in which the best blooms were Antoine Rivoire, Rev. Allan Cheales, Liberty, John Cuff, Mildred Grant, Mdme. Ravary, Mrs. J. Laing, Richmond, Mdme. Jules Gravereaux, and Commandant Felix Faure. The second prize fell to Mr. Frank Woollard, Lewes Road, Brighton.

For thirty-six roses, distinct, Mr. E. M. Eversfield, Denne Park, Horsham, won the leading award and silver medal with some good flowers of Mildred Grant, Maman Cochet, Mdme. Jules Gravereaux, Mrs. Edward Mawley, Mons. Joseph Hill, Mrs. David Kee, Antoine Rivoire, Duke of Edinburgh, etc.; Messrs. G. Mount and Sons were second here, and Mr. Frank Woollard third.

The Messrs. Mount led for six bunches of long-stemmed roses in as many varieties, winning with Mrs. J. Laing, Richmond, Mrs. W. J. Grant, Joseph Lowe, Caroline Testout, and Mdme. Abel Chatenay; Mr. G. Norman, gardener to A. Morris, Esq., The Garden House, Upper Drive, Hove, second, and Mr. E. M. Eversfield third. Mr. Eversfield led for a dozen H.P. roses, and Mr. E. O. Hanbury, Amatold, Worthing, was first for six H.P.'s; while for a dozen tea roses Mr. Eversfield led, his Medea, Maman Cochet, and White Maman Cochet being very good. Mr. A. Boakes, gardener to Miss Lowe, The Lock, Hurstpierpoint, gained first prize for six tea roses with a good box, in which Corallina was conspicuously good.

There were but two entries of five blooms of a yellow rose, and here Mr. E. W. Morris, Uckfield, was first, and Mr. Eversfield second. For five white roses, long-stemmed, Mr. Eversfield was to the fore with Souv. de S. A. Prince, with Mr. Norman second. The best vase of five pink roses came from Mr. H. Macfadyen, gardener to L. Brenmeyer, Esq., Cuckfield Park, Sussex; and the best vase of red roses was of Hugh Dickson, staged by Mr. Eversfield.

Mr. James Box, Lindfield, Haywards Heath, was awarded first prize for two dozen vases of sweet peas, his best being of Mrs. Henry Bell, The Marquis, Gordon Aukentell, Clara Curtis, Princess Victoria, Henry Eckford, Lord Nelson, and Audrey Crier; Mr. A. J. Paskett, Burrswood, second. Mr. Paskett led for six vases of carnations with splendid flowers of Enchantress, White Perfection, Aristocrat, Mrs. Burnett, etc.; Mr. G. H. Simmons, gardener to H. G. White, Esq., Polegate, second; and Mr. Riley Scott third.

In the amateurs' section there were some excellent sweet peas, Mr. Paskett winning for twelve and for eighteen bunches, but here and elsewhere he omitted to name his fine blooms; Mr. Moppett, gardener to A. Carey, Esq., Downside, Roedean; Mr. J. Jeffs, Bates Road, Brighton; and Mr. C. W. Morris, Uckfield, were other prize winners.

Miss Mabel Howell, Tower Lodge, Queen's Park, Brighton, was awarded first prize for a table decoration in sweet peas; Mrs. Rapley, Havant, Hants, second, with blush carnations and pink verbenas; Miss Carberry, Highdown Road, Hove, third, with yellow marguerites.

FRUITS AND VEGETABLES.

Mr. J. Moore, gardener to Howard S. Johnson, Esq., Onslow, Worthing, had the only stand of Muscat grapes, and was awarded first prize. Mr. E. G. Pam[illegible], Brougham Road, Worthing, led for [illegible] grapes with Black Hamburgh well coloured; Mr. J. Moore second, and Mr. Macfadyen third. Mr. Macfadyen led for two dishes of strawberries with grand fruits of The Laxton and Royal Sovereign; Mr. Martin, Newick, second, and Mr. J. Reeves, gardener to Captain Acton-Blake, Pucks Croft, Rusper, third.

In the classes for a collection of vegetables Mr. Tourle, gardener to F. Barchard, Esq., Horsted Place, Uckfield, scored for six kinds; Mr. E. Jones led for salads, and Mr. G. Porter, gardener to Colonel Dudley [illegible]son, Buxshalls, Lindfield, led for nine kinds of vegetables, with Mr. M. Tourle [illegible] and Mr. J. C. Reeves third. Mons. P[illegible] Lecoq, French Garden Syndicate, W[illegible], was disqualified for showing more than [illegible] kinds, and he had a good collection.

NON-COMPETITIVE.

The non-competitive exhibits were numerous and good. Messrs. Barr and Sons, Covent Garden, contributed a goodly selection of pæonies, Spanish and English irises, [illegible] heucheras, anchusas, ixias, and other [illegible]ful things. Mr. G. Reuthe, Keston, [illegible] eremuri, pæonies, irises, gaillardias, campanulas, etc. Mr. Maurice Prichard, [illegible]church, had a very fine selection of [illegible] some beautiful delphiniums, including [illegible] exquisite Persimmon, Campanulas [illegible] irises, and a few alpines. Mr. J[illegible] Vale Bridge, Burgess Hill, Sussex, [illegible]buted a group of nicely grown [illegible] vexillaria, with a few examples of [illegible] Mendeli, C. Mossiæ, a few cyp[illegible] several Odontoglossums crispum of [illegible]

Pacho type. Mr. H. Ellison, West Bromwich, brought a group of the newer nephrolepis, gymnogrammas, and adiantums. Messrs. R. Wallace and Co., Colchester, showed Eremurus Bungei, some good liliums, campanulas, and kniphofias, irises, and a small collection of water lilies.

Messrs. Balchin and Sons, Brighton, filled a greater part of one end of the Corn Exchange with a beautiful group of Lilium Harrisi, arranged under a grand kentia and tall dracænas. The foreground consisted of hydrangeas, and the newer nephrolepises very prettily arranged. Messrs. J. Cheal and Sons, Crawley, put up a rock garden exhibit, vases of their pink lupins, and a small collection of sweet peas. Mr. James Box, Lindfield, Sussex, put up a very effective display of irises, poppies, delphiniums, liliums, gaillardias, and campanulas. Messrs. W. Miles and Co., Hove, showed a well-grown lot of ferns, foliage plants, and liliums.

Messrs. J. and A. McBean, Cooksbridge, showed a table of orchids, that included Cochlioda Noezliana and Odontoglossum Harryanum. Messrs. W. Wood and Son, Maresfield, showed roses, violas, and hardy herbaceous flowers. Mr. Riley Scott, Station Nurseries, Horsham, set up a delightful lot of violas, carnations, roses, and herbaceous flowers. The Barnham Nurseries, Barnham, showed a collection of roses.

Oxfordshire Horticultural Society.

JUNE 22.

Showery weather attended the 79th midsummer exhibition of this society, held on the above date in the delightful gardens of New College, Oxford - gardens with spacious lawns enclosed on two sides by the ancient city walls. Entries were fewer than usual, the cold northerly winds during nearly the whole of June having militated against the development of garden produce; but any lack in the competitive classes was fully made up in the non-competitive productions. As is generally understood, this society's June shows form one of the events of the festive "Commemoration" week at the close of the academic year in the university city; and despite the intermittent showers, was fairly well attended.

PLANTS.

The groups for effect, arranged on 220 square feet, were from Messrs. Cypher and Sons, Cheltenham, and Mr. W. Vause, Leamington, who had very artistic displays of palms, ferns, crotons, Japanese maples, dracænas, aralias, alocasias, marantha, coleus, intersected by Bermuda lilies, ericas, Clerodendron fallax, Miss Willmott verbenas, lælias, cattleyas, odontoglossums, miltonias, and other rich flowering subjects; Messrs. Cypher secured the £12 and Mr. Vause the £9 prize. Mr. John Walker, Thame, was strong with single and double zonal pelargoniums; and a collection of hardy ferns from Mr. H. Mount, superintendent of the University Parks, was regarded as being equal to anything seen in the district. Mr. R. Wadham, gardener to Mrs. Bradshaw, The Grange, Steeple Aston, presented some very fine gloxinias.

CUT FLOWERS.

Cut flowers proved an excellent section, there being very attractive displays of roses from Messrs. J. Mattock and G. Prince, each filling 72ft., and also several twenty-fours and eighteen tea roses; Mr. Mattock was first for a display, and Mr. Prince for twenty-four varieties. For eighteen roses the awards went to Messrs. F. Taylor and Sons, Kingham Nursery, Chipping Norton, and Mr. W. T. Mattock, Barton End Nursery, Headington, for very excellent blooms, in which the teas predominated. Messrs. F. Taylor and Son led for two dozen pansies, and Mr. J. Walker for a dozen triple trusses of cut zonal pelargoniums, pyrethrums, and irises.

In the open to all England division, Mr. John Johnson, The Nurseries, Garsington, arranged a noble display of perennials in about 100 varieties, filling one hundred feet run with sheaves of richly-coloured subjects; he securing the £3 prize, and also the premier award for a smaller collection. Sweet peas were very nicely posed in vases, Mr. T. Sirman, Stanton Harcourt, heading the list for a dozen bunches; and Mrs. Foster-Baird, St. Aidans, Rawlinson Road, Oxford, for nine varieties (Mr. R. Sydenham's prizes). Decorated dinner tables formed a feature, and in the open class Mr. T. Mattock led, his design being large spikes of Odontoglossum crispum. In the amateur division Mr. S. Mold (foreman cooper), Buckingham Street, Oxford, occupied the post of honour with a pretty and light arrangement of Aquilegia chrysantha.

FRUIT.

Fruit was somewhat limited, Mr. James Broadfoot, gardener to Mrs. Miller, Shotover House, presented very well-ripened Black Hamburgh and Foster's Seedling grapes; Mr. E. C. Munday, gardener to Rt. Hon. L. Harcourt, M.P., Nuneham Park, had the best nectarines and cherries; the Wick Nursery Company, Headington, sent remarkable large Kentish Fillbasket strawberries; and Mr. R. Wadham led in the classes for cucumbers, tomatoes, and a collection of vegetables.

In the amateurs' and cottagers' section a good average quality was manifest in plants, blooms, and vegetables.

For non-competitive exhibits a silver-gilt medal was awarded to Mr. J. S. Chidlow, gardener to Mrs. G. Herbert Morrell, Headington Hill Hall, for a collection of foliage plants, etc., covering 500ft. Silver medal to Mr. W. T. Mattock, for display of roses on 72ft; to Mr. J. Johnson, for a display of perennials and carnations; to Messrs. S. West and Sons, The Market, Oxford, for artistic floral designs; and to Messrs. Field and Jacob, The Market, Oxford, for a large number of artistic floral devices. Bronze medal to Mrs. Bradshaw, for extensive display of border flowers; to the Wick Nursery Company, for a large collection of decorative flowering plants; to Mr. Chas. Hayman, Old Botley, for boxes of very fine tea roses; and to Mr. H. Smart, The Market, Oxford, for forty dishes of fruit. Votes of thanks were extended to Mr. W. F. Cross (chairman of committee), Chilswell, Iffley Road, Oxford, for sixteen grand examples of British ferns in variety; to Messrs. Tucker and Sons, Brookside Nursery, Headington, for large collection of cut pæonies; and to F. Taylor and Sons, Kingham, for collection of Japanese maples.

Southampton.

JUNE 29 and 30.

On Tuesday and Wednesday last the annual summer show was held on the County Cricket Ground, and, considering the recent untoward weather experienced, was quite a success. The roses, it is true, showed some ill-effects of the untoward weather experienced of late, but they were of large size and fairly well coloured. Trade exhibits were very fine, adding much to the attractiveness of the show.

ROSES.

Eighteen classes were provided for these in the schedule, and, considering that the date did not clash with any other leading fixture, the competition was hardly so good as it should have been. For forty-eight distinct blooms there were but three entries. Messrs. B. R. Cant and Sons, Colchester, were distinctly ahead with large, well-developed blooms. The leading varieties staged were C. J. Grahame, Bessie Brown, Mrs. Theodore Roosevelt, Mildred Grant, Marquise Litta, Hugh Dickson, Mdme. Jules Gravereaux, Dean Hole, Captain Hayward, Frau Karl Druschki, Comte. de Raimbaud, Liberty, Hugh Watson, Joseph Lowe, Marechal Niel, Rev. Alan Cheales, Exquisite, and G. Laing Paul. Mr. Henry Drew, Longworth, Berks, was second, with Messrs. Jarman and Co., Chard, third. Messrs. B. R. Cant and Sons also occupied the place for twelve triplets, Bessie Brown, J. B. Clark, Captain Hayward, Mildred Grant, Mdme. Jules Gravereaux, and A. K. Williams were the most noteworthy. Mr. Drew and Messrs. Jarman and Co. were second and third respectively. Tea or noisettes, in twelve varieties, were well shown. Mr. Drew secured the leading award with medium blooms of The Bride, Mme. Jules Gravereaux, White M. Cochet, Mrs. Miles Kennedy, Medea, and Mrs. E. Mawley; Messrs. B. R. Cant and Sons second; and Messrs. W. H. Rogers and Son, Red Lodge Nursery, Southampton, third. Classes were provided for six blooms of one dark variety, and one light variety, but the exhibits were inferior, and the premier award was withheld, second and third only being given.

Garden or decorative roses formed a moderate feature, there being but little competition. For six bunches, distinct, Messrs. Jarman and Co. were first with Lady Gay, Laurette Messimy, etc., in good condition. In a class limited to local growers for six garden varieties, Mr. W. Valentine, gardener to H. E. Sugden, Esq., Ingersly, Chilworth, was first; Mr. H. Sivjour, gardener to Mr. R. S. Fairman, Rousham House, was second among five entrants. The premier H.P. or H.T. in the above classes was Dean Hole in Messrs. B. R. Cant's first prize stand of forty-eight. The best tea or noisette was White Maman Cochet, shown by Dr. Seaton, Woodside Cottage, Lymington. Amateurs and gardeners had several classes set apart for them. The Munt Challenge Cup was offered with a cash prize for eighteen distinct blooms. Mr. E. Percy Sugden, Uplands, Wimborne, was successful in obtaining this valuable award with a really good exhibit, White Maman Cochet, Mrs. Mawley, J. B. Clark, Dean Hole, Avoca, Lyon Rose, Captain Hayward, Mrs. Myles Kennedy, and Bridesmaid being the most noteworthy. The second award went to Dr. Charles Lamplough, Kirkstall, Alverstoke, and the third to D. Seaton, Esq.

For six triplets, Dr. C. Lamplough was first prize winner with desirable specimens of Hugh Dickson, Mme. Jules Gravereaux, and A. K. Williams; Mr. F. Slaughter, Steyning, Sussex, second. Teas or noisettes, in twelve varieties, single blooms, were best shown by Mr. Slaughter, Mme. Constant Soupert, Marie Van Houtte, and Mrs. E. Mawley were the best varieties. There were four competitors in this class.

In the smaller classes there was keen competition, Mr. G. Micklem, gardener to Alan Searle, Esq., Ashton Lodge, Bassett, won for twelve distinct. Mr. G. Hawkins, Alverstoke, second; seven competed. For two vases of roses, one dark and one light, arranged for effect, Mr. J. A. Fort, Winchester, won first prize.

PLANTS.

Miscellaneous plants added materially to the interest of the show. For a group arranged for effect in a space of 10ft. by 8ft., Mr. T. Hall, gardener to Lord Swaythling, South Stoneham House, Southampton, obtained the premier award with a fair arrangement of suitable plants, in which schizanthus figured freely. Mr. F. G. Bealing, Burgess Street Nurseries, Southampton, had the best four ferns. Mr. Ellwood, gardener to W. H. Myers, Esq., Swanmore Park, Bishop's Waltham, was first for table plants.

CUT FLOWERS.

For twelve bunches of hardy border flowers, distinct varieties, Messrs. B. Ladhams and Sons, Shirley, Southampton, were distinctly ahead with a capital set, in which were Potentilla W. Robinson, Coreopsis Eldorado, Gaillardia superba, and Betonica superba; Mr. W. Palmer, The Nurseries, Andover, second.

Sweet peas formed an important feature, as is invariably the case at Southampton. No fewer than five seed firms offered prizes, and these were keenly contested. In competition for Messrs. Webb and Son's prizes for eight varieties, distinct, in bunches, Mr. Usher, gardener to Sir R. Baker, Ranston, Blandford, led the way with a grand exhibit. There were three other competitors, and Mr. Lees was second. For Messrs. Toogood and Sons' prizes for six bunches, Mr. Usher was first with a magnificent display, comprising blooms of such varieties as Clara Curtis, Helen Lewis, Prince of Asturias, Mrs. A. Ireland, Etta Dyke, and John Ingman. Mr. H. H. Lees, Warblington, Havant, was a good second, and Dr. C. Lamplough third.

In competition for Messrs. J. Carter and Co.'s prizes for six varieties, twelve stems in each bunch, Mr. Usher was again first with an equally fine exhibit. Mr. D. Grant, gardener to G. H. Kitchin, Esq., Compton End, Winchester, second. Mr. C. W. Breadmore provided the prizes for twelve bunches, distinct, and again Mr. Usher led the way with marvellous blooms. Mr. Lees was a good second, and Mr. Grant third. For one bunch of Sutton's Queen Mr. Usher was first, as also for one bunch each of Gordon Auckentell, Mr. C. W. Breadmore, Elsie Herbert, and Audrey Crier.

FRUIT.

Fruit was not plentiful, but that staged was of good quality. Mr. Ellwood won for two bunches of black grapes with good Black Hamburgh. Mr. L. Weston, gardener to L. Walker, Esq., Brockenhurst, won for two bunches of white grapes with Foster's Seedling. Mr. Palmer had the best peaches; Mr. Gregory, gardener to H. D. Broughton, Esq., the first prize nectarines. Strawberries were best shown by Mr. Hall.

VEGETABLES.

These were liberally provided for, and as a result they were well represented. Messrs. Toogood and Sons offered prizes for six distinct varieties. There were ten competitors, and Mr. Ellwood was an easy first with high-class dishes of tomatoes, Royal Kidney potato, Leviathan White onions, Duke of Albany peas, and good cauliflowers; Mr. B. Hollis, gardener to Major Chichester, Embley Park, Romsey, second.

Messrs. Sutton and Sons, Reading, provided a class for six distinct kinds, open, and also a local class for six varieties. In the former Mr. E. Beckett, V.M.H., gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree, obtained the premier place with a collection of high-class produce, comprising Perfection tomatoes, Gladiator potatoes, Magnum Bonum cauliflowers, Centenary Marrowfat peas, and Leviathan onions; Mr. Ellwood was a close second; Mr. Hollis third. The premier award in the local class was made in favour of the last-named. In competition for Messrs. J. Carter's prizes for six kinds, Mr. Ellwood was an easy first with really fine examples. Mr. Pearce, gardener to Mrs. Tragett, Awbury Danes, Romsey, second.

MISCELLANEOUS.

Trade exhibits were numerous and good. Gold medals were awarded to Messrs. Toogood and Sons for sweet peas, most tastefully arranged; Messrs. Sutton and Sons for vegetables, fruit, and flowers; Messrs. Ladhams for herbaceous plants and roses; Mr. Waters, Deanland Nurseries, Balcombe, Sussex, for carnations; and to Messrs. Oakley and Watling, Southampton, for floral arrangements, in which the baskets of roses were especially fine. Silver-gilt medals were awarded to Mr. C. W. Breadmore for sweet peas and carnations, and to Mr. Burnett, Guernsey, for carnations.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, June 22.

Present: Mr. E. A. Bowles, M.A., F.L.S., F.E.S. (in the chair); Sir J. T. D. Llewelyn, Prof. A. H. Church, Messrs. S. Pickering, W. Fawcett, W. Cuthbertson, J. Fraser, J. W. Odell, W. Hales, R. Hooper Pearson, J. T. Bennett-Poë, V.M.H., J. Douglas, V.M.H., A. W. Sutton, V.M.H., C. T. Druery, V.M.H., G. S. Saunders, H. J. Veitch, E. M. Holmes, F. J. Chittenden (hon. sec.), and Prof. Hugo de Vries (visitor).

JESSAMINE SHOOT WITH ADVENTITIOUS ROOTS.—Mr. G. S. Saunders showed shoots of white jessamine from a wall having large numbers of adventitious roots springing from all sides of nodes on the stem and occasionally from internodes. It was suggested that possibly the roots had become dry, and this had induced the plant to attempt to make roots at other parts of the stem. Mr. Pickering mentioned that the peculiarity of producing abundant adventitious roots appeared to be innate in certain varieties of apples, especially in Northern Spy, the variety so largely used for stocks in New Zealand, etc. Mr. Chittenden remarked that the same character was to be seen in the variety "Oslin," a variety long ago known as the "Burrknot," on account of the frequent formation of burrs upon the branches.

EXOTIC SOLANUM.—Mr. A. W. Sutton exhibited a flowering plant of a solanum, the seed of which had been sent him by a correspondent at Monte Video, collected in Uruguay, and called by him "a wild tomato." The plant was referred to the secretary for further examination.

MALFORMATIONS IN TRIFOLIUMS.—Mr. J. Fraser showed examples of Trifolium hybridum var. elegans (Lavi) with typical forms for comparison, collected at Coulsdon, Surrey, in which the pedicels were elongated, and the pistil elongated and stipitate. He also showed T. fragiferum, collected at Mitcham, with axial proliferation of the inflorescence, and T. dubium, in which the pedicels of the original inflorescence were many times branched and bore many capitula, the sepals showed partial phyllody, the stamens pistilody, the pistils, which were stipitate, showed phyllody, in many flowers axial proliferation was to be seen, and in some cases the capitulum became an elongated raceme.

FLOWERS OF STREPTOCARPUS MALFORMED.—Mr. J. W. Odell showed flowers of streptocarpus malformed in a manner similar to those exhibited by him last year (see "Journal R.H.S.," vol. xxxiv., p. cxii.). This is now the third year in which the plants have borne similarly modified flowers.

LARGE FLOWER IN APPLE. — Mr. S. Pickering, F.R.S., enquired whether anyone had noticed flowers of apples with very numerous petals. He had seen this season in the case of Bramley's Seedling a single flower (the only one on the shoot) which exhibited no sign of synanthy, which bore twenty-five petals, the stamens, etc., being well developed.

WATER LILIES DYING.—These, exhibited by Mr. Veitch, were referred to Mr. Saunders for further examination.

HELIANTHEMUM SPORTING.—Messrs. Barr sent an interesting sport of Helianthemum Golden Ball, a yellow variety, bearing branches producing double scarlet flowers in the upper part of the plant.

NOMENCLATURE OF MULTIGENERIC HYBRIDS.—Mr. Chittenden, the secretary, read the report of the sub-committee upon the nomenclature of multigeneric hybrids, the committee approving the recommendations contained therein. After being read to the Orchid Committee, it will be presented to the council for its approval.

CERTIFICATE OF APPRECIATION.—A Certificate of Appreciation was recommended to be awarded to Mrs. Scott-Elliott, of Teviot Lodge, Hawick, N.B., for work in connection with the hybridising of aquilegias.

The Horticultural Club.

VEGETABLE CULTURE AND COOKING.

On Tuesday, the 22nd ult., at the Hotel Windsor, under the chairmanship of Sir John D. Llewelyn, Bart., the usual monthly dinner of this club was followed by a most interesting address on the above subject by the veteran horticulturist, Mr. Alexander Dean, V.M.H., who preluded his practical remarks by a regret that vegetables were in these days so greatly subordinated to flowers at all our great shows, despite their immensely greater practical importance as food for mankind. In this fact, he found some sort of parallel between it and the predominance which sport and games have assumed of late years, as compared with more practical employment of spare time by the rising generation, the prosaic, but essential, being largely ignored in favour of the æsthetic and ornamental, or that which contributed to excitement and in some degree to ostentation. The cooking portion of his subject was quite a secondary one, but was not to be ignored in the practical aspect of life, since the proper preparation of vegetables for consumption was a material factor, and was far too much ignored.

In this connection, he mentioned several examples where the ordinary treatment of vegetables, such as parsnips and potatoes, tended far more to spoil them than to bring out their full virtue and flavour as attractive forms of nutrition. Despite, however, the trend of popular taste in the ornamental rather than the practical direction, the rural cultivator of vegetables persisted in recognising the greater value of vegetables as contributers to the staff of life, and the lecturer considered it to be an important step in the right direction that the National Vegetable Society was now being formed to encourage and promulgate this recognition on wider lines by placing the culture of vegetables, as it were, on an official level with that of flowers.

Mr. Dean mentioned in this connection the valuable results which had been here and there obtained by intelligent working men from their small allotments, results which proved that, worked on right lines, the available land for such culture was sufficient to render Great Britain entirely independent of imports of culinary vegetables from outside sources. The profit obtained from small fractions of an acre proved in numerous cases to be practically such that vegetables to the value of many millions per annum could be produced by the working population, conducing not only to their personal support and that of their families, but, at the same time tending to reduce that constantly-increasing tendency to drift towards the cities and towns which so largely devitalises and pauperizes the nation.

Much is being done in this direction by means of corporate education in gardening, and Mr. Dean, as a judge of allotments to the Surrey County Council, was naturally well qualified to dilate upon this point; he felt, nevertheless, that it was a matter of great congratulation that the Duke of Portland had accepted the presidency of the new society, the National Vegetable Society aforesaid, while, as a result of his present address, Sir John Llewelyn had consented to be one of the vice-presidents. He also expressed his acknowledgment of the great debt which the cultivators of vegetables owe to the seed trade, which, with true commercial foresight, had done so much by careful selection and improvement to raise the standard of culinary vegetables, and to secure that the seed supplied should give, with proper culture, the best results.

In the subsequent discussion, participated in by Sir John Llewelyn and Messrs. [illegible], Langston, and Pinches, the lecturer's remarks anent the healthy spread of gardening education were fully endorsed, its tendency to reduce the drift of rural life townwards being evidenced by the fact that in one rural school local employment had been found in every case for the boys when they left school owing to their acquired knowledge of gardening, which employment they had [illegible]. Obviously, therefore, a solution of the much-discussed "back to the land" question was herein involved, though rather in the sense of preventing the exodus than subsequently inducing a return, a solution which [illegible] the more satisfactory, since, as human nature is constituted, the return to rural [illegible] and pursuits of a man who has become accustomed to city life, and thereby lost touch with Nature, is little to be hoped for. A hearty vote of thanks to Mr. Dean [illegible] the meeting.

Reading Rose Show.

The Reading Rose Show was held on Wednesday, June 30, in the charming grounds of Foxhill, kindly lent for the occasion by Rufus D. Isaacs, Esq., K.C., M.P., whose rose garden and grounds were open to inspection during the afternoon. Mrs. Rufus Isaacs is the president of the society, and the Rev. Page Roberts is chairman of committee, and both assisted in the judging. The show was a good one, and some remarkably fine flowers were staged. In the local classes the flowers showed signs of bad weather, as a heavy hailstorm visited the biscuit town the day before the show.

Some excellent non-competitive displays were made by Mrs. Phippen, floral designs; Mr. S. J. Vinden, floral designs; and Mr. F. Eames, Frome, hardy flowers.

NURSERYMEN.

Premier place for forty-eight blooms, distinct, in the nurserymen's section, was won by Messrs. A. Dickson and Sons, Newtownards, Co. Down, who had a really fine lot of flowers, their finest being Mdme. Jules Gravereaux, Killarney, Chas. J. Grahame, Mdme. P. Rivoire, Mrs. David McKee, George Dickson, The Bride, Mrs. Arthur Munt, and Bessie Brown; second prize fell to Mr. John Mattock, Headington, Oxford, who had smaller flowers.

The best twenty-four blooms were those contributed by Mr. Chas. Turner, Slough, and he had Maman Cochet, Lyon Rose, Hugh Dickson, Mrs. J. Grant, and Mrs. J. Laing in good form; Mr. Henry Drew, Longworth, came second; and Messrs. E. Bide and Son, Farnham, third. Mr. John Mattock led for a dozen teas or noisettes, with a bright set of Marechal Niel, Souv. de Pierre Notting, Medea, Cleopatra, etc.; Mr. H. Drew second, and Messrs. Bide and Son third.

The best dozen blooms of any H.P. rose came from Mr. John Mattock, who showed bright but rather small specimens of Captain Hayward; Mr. Chas. Turner second with Mrs. J. Laing; and Messrs. E. Bide and Son third with the latter variety. Messrs. A. Dickson and Sons scored for twelve blooms of a H.T. rose with Lady Ashtown, and Mr. J. Mattock followed, with Mr C. Turner third, each showing the same variety. For a dozen tea roses Mr. J. Mattock led with Souv. d'Un Ami in fairly good form. For twelve trebles, Messrs. A. Dickson and Sons scored, and they had Ulrich Brunner, Mrs. J. Laing, Tom Wood, J. Cuff, and Dean Hole in good form; Mr. Chas. Turner was second.

A very fine bank of eighteen bunches of decorative roses secured the premier award to Mr. J. Mattock, who had a grand lot of Mdme. Ravary, Clara Watson, Richmond, Mdme. A. Chatenay, Lady Battersea, Mdme. Pernet Ducher, Aglaia, etc.; Mr. Chas. Turner a good second.

AMATEURS.

In the open amateurs' class for two dozen roses, Mr. Conway Jones, Hucclecote, Gloucester, worthily won first prize with grand blooms of Captain Hayward, Marechal Niel, C. J. Grahame, Hugh Dickson, Ulrich Brunner, Gustave Piganeau, etc.; Rev. T. G. Henslow, Stanton Rectory, Chippenham, second, and Mr. Beckshall, gardener to L. McKenna, Esq., The Honeys, Twyford, third.

The Rev. R. Powley, Upton Scudamore, Warminster, led for eighteen flowers, and he had a huge bloom of White Maman Cochet. Mr. C. Page, gardener to J. B. Fortescue, Esq., Dropmore, Maidenhead, second; and Rev. F. Page Roberts, Strathfieldsaye, third. First prize for a dozen blooms was won by Mr. E. F. Brown, Slough; Mr. Bircher, gardener to G. R. Bonnor, Esq., Tillingbourne, [illegible], Gloucester, second; and Mr. Tugwood, gardener to Mrs. D. H. Evans, [illegible]'s Hill, Pangbourne, third.

The class for a dozen tea roses was a good one, the awards going in order to Rev. R. Powley, Mr. Conway Jones, and Rev. T. G. Henslow. For twelve blooms of one variety Mr. Conway Jones was easily first with a fine lot of Marechal Niel, Rev. R. Powley second with Maman Cochet, and Mr. Tugwood third with Caroline Testout. Mr. Conway Jones led for six trebles with a good box of Marechal Niel, Hugh Dickson, Lady Ashtown, Captain Hayward, Mrs. J. Laing, and C. J. Grahame.

Mr. Conway Jones had the best dozen bunches of decorative roses, and won in a good competition; Lady Sutton, Benham Valence, Newbury, second. The Rev. R. Powley, Mr. H. W. Dunlop, Maisonette, Earley, and Lady Sutton were also prize-winners in other classes for garden roses. The Rev. J. B. Shackle, Dropmore Vicarage, Maidenhead, had the best twelve blooms in another division, and Mr. W. Reed, Huxley, near Newnham, was second. In another section Miss Fisher, Court Hill, Potterne, Dorset, was first for twelve flowers..

In the section open to growers of fewer than 500 plants, the Rev. J. B. Shackle won the Challenge Cup and first prize for a dozen tea roses with good blooms of Mrs. E. Mawley, Bridesmaid, Mdme. Cusin, Souv. d'Un Ami, Maman Cochet, Innocente Pirola, etc.; Mr. J. T. Strange, Aldermaston, second, and Mr. C. Page third.

Premier award for a dozen tea roses, in a class open to growers within twenty miles of Reading, was won by the Rev. R. Powley, his Muriel Grahame, Bridesmaid, and White Maman Cochet being very good; Mr. F. Bircher second. Mr. W. Reed, and Mr. E. F. Brown, Lynton, Slough, were other successful competitors in this section, while in smaller classes we noted that Miss Mildred, Strathfieldsaye, won prizes.

LADIES' CLASSES.

In the decorative classes the awards for a table decoration of roses were made, in order of merit, to Mrs. Ashley, Ashdene, Reading; Mrs. Dunlop, Maisonette, Earley; and Miss Rose Strange, Aldermaston. Miss Page Roberts had the best basket of roses, and Mrs. Ashley was awarded second place. Miss Page Roberts secured a second prize for ladies' sprays, and Miss Rose Strange won the silver medal for three buttonholes, Miss Page Roberts coming a close second.

Richmond.

The thirty-fifth annual exhibition of the Richmond Horticultural Society was held on Wednesday, June 30, in the beautiful Old Deer Park, Richmond, and though the early morning was cool and threatening, the sun shone during the afternoon. There was a good show, but not nearly so fine as those held ten years or so ago. The competition was not keen, and the roses, as a display, fell far short of other years.

CUT FLOWERS.

Roses were not nearly so good as at Reading. Messrs. Frank Cant and Co., Colchester, were the only exhibitors of forty-eight trebles, and won the Gunnersbury Cup; their best varieties were Mdme. Melanie Soupert, Richmond, Mrs. J. Laing, Caroline Testout, Liberty, J. B. Clark, C. J. Grahame, Yvonne Vacherot, Bessie Brown, and Mildred Grant. Messrs. W. and J. Brown, Peterborough, had the best six bunches of garden roses, their Edna Meyer and Betty being specially good; Mr. W. Colin Romaine, Old Windsor, second. Messrs. W. and J. Brown were also first for twelve blooms in a special class, and here their C. J. Grahame and Richmond were charming; Mr. R. Browning, Sunbury, second. Mr. J. Palmer, Netherton Road, St. Margaret's; Mr. G. J. Favel, High Street, Hampton Hill; Mr. F. Thornton, gardener to A. Chancellor, Esq., Norfolk House, Richmond; Mr. W. J. Turner, King Edward's Grove, Teddington; Mr. E. Elliott, Tintern, Teddington Park; and Mr. W. Colin Romaine were prize-winners in other rose classes. Messrs. W. and J. Brown, Stamford, had the best box of twelve tea or noisette roses, one variety, showing Marechal Niel, and they led for twelve H.T.'s with Mildred Grant in fine form.

In the two leading classes for sweet peas Mr. T. H. Bolton, gardener to the Earl of Devon, Powderham Castle, Devon, was first, and he had James Grieve, Clara Curtis, Evelyn Hemus, Mrs. C. Foster, and Helen Lewis in good form. Mr. T. Conway, gardener to Earl Dysart, Ham House, Petersham, was second in each case.

Mr. Allum, gardener to L. Warde, Esq., Petersham House, Petersham, secured the chief award for twenty-four bunches of herbaceous flowers with a particularly fine collection, his Campanula Coronata, Lilium croceum, delphiniums, and Spanish iris being very fine; Mr. T. Conway, gardener to the Earl of Dysart, Ham House, Petersham, second with a good collection.

In the decorative classes Mrs. A. Robinson, Carshalton, led for a table decoration, with carnations, and Miss Cole was second. In another class Miss E. C. Hall, Bailey's Hotel, Gloucester Road, S.W., scored. Mr. Hayward, Kingston, had the best basket of roses, and Miss C. B. Cole, Feltham, the best basket of lilies and carnations.

GROUPS.

In the large group class Mr. H. Burfoot, Esq., Uplands, East Sheen, had the best group arranged for effect, his crotons, Clerodendron fallax, and schizanthuses being well arranged with ferns, palms, etc.; Mr. W. Vause, Leamington, second; and Mr. Redwood, gardener to Mrs. Fitzwygram, Larkfield, Hampton Hill, third.

In the large group class Mr. H. Burfoot, gardener to Lady Waechter, The Terrace House, Richmond, won first prize with a very pleasing arrangement of liliums, Humea elegans, crotons, amaryllis, etc., over a groundwork of maidenhair ferns and gypsophila; Mr. W. Vause, Leamington, second.

The best arranged basket of plants was the one staged by Mr. Allum, who had a phœnix surrounded by caladiums, clerodendrons, gloxinias, etc.; Mr. G. Watts second with a design containing numerous orchids; Mr. Burfoot third.

PLANTS.

Mr. T. Rabbitt, gardener to L. Edwardson, Esq., Bellari, Sidcup, had the best half-dozen tuberous begonias, his double salmon and yellow varieties being excellent. Mr. W. J. Hill, gardener to G. Aitkins, Esq., Marston, East Sheen, a good second. Mr. Edwardson's plants were of Mr. Gwillim's strain. Lady Waechter, Richmond, had the best nine gloxinias, while Mr. Hicks, gardener to C. M. Bartlett, Esq., Uplands, East Sheen, led for six plants for Messrs. Sutton and Sons' prizes, Mr. W. Chant, gardener to E. R. W. Bennett, Esq., Darby Lodge, Sunbury, coming second, and also showing well. Mr. Hill was first in Messrs. Sutton's class for begonias.

Mr. A. Howard, gardener to H. Little, Esq., Baronshalt, Twickenham, secured first place for six orchids with two varieties of Lælia purpurata, L.-c. G. S. Ball, L.-c. Canhamiana, L.-c. Martineti, and Cattleya Gaskelliana; Mr. Norman L. Smith, St. Margaret's Road, Twickenham, second. In another class Mr. Wm. Vause, Leamington, was first for six orchids; Mr. J. Hill led for streptocarpuses; and Mr. J. Quarterman, gardener to A. Burton, Esq., Moorestoot, East Sheen, second. Mr. J. R. Brierley, Erleigh, Richmond, showed the best hardy ferns.

The best six caladiums, well-grown specimens, were from Mr. H. Hicks, who was followed by Mr. H. Lawrence, gardener to Mrs. Vaughan Arbuckle, Stawell House, Richmond, with Mr. Allum third. Mr. Vause was an exhibitor of six palms, and he was awarded first prize for his big kentias and seaforthias; Lady Waechter second. Mr. Vause gained a second prize for six fine foliage plants with big but not very bright crotons, etc. Fuchsias were good, Mr. W. Redwood leading for six plants with graceful pyramids. Mr. Allum was successful for coleuses, leading with nicely coloured, flat-trained specimens; Mr. H. Hicks was an excellent second, and Mr. Quarterman third.

FRUIT AND VEGETABLES.

Mr. H. H. Brown, gardener to W. G. Raphael, Esq., Englefield Green, led for white grapes with Buckland Sweetwater; Mr. W. Lintott, gardener to Sir W. Greenwell, Bart., Marden Park, Caterham, second, with Foster's Seedling. Mr. Lintott led for black grapes with good Black Hamburgh, and Mr. H. H. Brown was second. Mr. G.

Thompson had the best peaches, Crimson Galande, and Mr. H. H. Brown the best nectarines, Early Rivers.

Mr. E. Conway led for a collection of six kinds of fruits with Black Hamburgh and Foster's Seedling grapes, Early Rivers nectarines, Peregrine peaches, Leader strawberries, and Emerald Gem melon. Mr. G. Thompson, gardener to the Messrs. W. and G. Wells, Hounslow, had the best two varieties of strawberries—Royal Sovereign and Leader.

Mr. Conway was a prominent prize winner in the vegetable classes, winning the majority of the first prizes. Mr. Bolton was also successful.

NON-COMPETITIVE.

A very large amount of space was given up to trade displays, consequently these were unusually large and excellent. Messrs. T. S. Ware, Feltham, sent hardy flowers and begonias; Messrs. J. Peed and Son, Norwood, hardy flowers; Messrs. J. Veitch and Sons, Chelsea, roses and liliums; Mr. L. Russell, shrubs and lilies; Mr. W. H. Page, Hampton, roses, lilies, and carnations; Messrs. W. and J. Brown, Stamford, roses; Mr. W. Thompson, Sheen, palms and lilies; Mr. H. Fordham, Twickenham, gloxinias; and Mr. Bruckhaus, Twickenham, Phœnix Roebelini, etc.

MARKETS.

COVENT GARDEN.

Flowers.

Splendid supplies of flowers are offered, and trade is steady.

		s.	d.		s.	d.
Adiantum cuneatum	per doz. bun.	5	0	to	9	0
Arums	per doz.	1	6		3	0
Asparagus	per bun.	1	0		3	0
Carnations	per doz. blms.	2	0		3	6
,,	per doz. bun.	9	0		12	0
,, Malmaisons	per doz.	8	0		12	0
Cattleyas	per doz.	10	0		12	0
Croton leaves	per bun.	1	0		1	6
Cypripediums	per doz. blms.	1	6		2	6
Forget-me-nots	per doz. bun.	1	6		2	0
Eucharis	per doz.	2	6		3	6
French fern	per doz. bun.	0	6		1	0
Gardenias	per doz.	1	6		2	6
Gladiolus	per doz. bun.	6	0		9	0
Gypsophila	per doz. bun.	3	0		4	0
Iris, Spanish	per doz. bun.	4	0		12	0
,, German	per doz. bun.	2	0		4	0
Ixias	per doz. bun.	2	0		3	0
Lilium auratum	per bun.	2	0		3	0
,, speciosum	per bun.	1	6		3	0
,, longiflorum	per bun.	2	0		3	6
Lily of the Valley	per doz.	6	0		12	0
Marguerites, white	per doz. bun.	1	6		3	0
Mignonette	per doz. bun.	3	0		5	0
Odontoglossums	per doz. blms.	2	0		2	6
Pæonies	per doz. bun.	2	0		2	6
Poppies	per doz. bun.	3	0		6	0
Pelargoniums	per doz. bun.	4	0		6	0
Pyrethrums	per doz. bun.	2	0		3	0
Roses	per doz.	1	0		6	0
Sweet Peas	per doz. bun.	2	0		5	0
Stocks	per doz. bun.	2	0		3	0
Tuberoses	per doz.	0	3		0	4

Vegetables.

There is now an abundant supply of greenstuffs and a steady demand.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	2	6	to	3	0
,, Jerusalem	per bush.	1	9		2	6
Asparagus	per bun.	0	10		2	0
Beet	per bush.	2	0		3	0
Beans	per lb.	0	6		0	8
,, Broad	per ½-sieve	2	0		2	6
Cabbage	per tally	3	6		6	6
Carrots, new	per doz. bun.	3	0		4	0
Cauliflowers	per doz.	1	6		3	6
Cucumbers	per doz.	2	0		3	6
Endive	per doz.	1	6		2	0
Horseradish	per doz. bun.	8	0		12	0
Lettuce, Cos	per tally	1	0		2	0
Marrows	per doz.	3	0		5	0
Mint	per doz. bun.	1	0		2	0
Mushrooms	per doz. lb.	6	0		9	0
Onions, Valencia	per case	9	0		12	0
,, Spring	per doz. bun.	2	0		3	0
Parsley	per doz. bun.	1	6		2	0
Peas, English	per bush	2	0		4	0
Rhubarb	per tally	4	0		6	0
Spinach	per bush.	1	0		2	0
Tomatoes, English	per doz. lb.	3	0		4	0
,, Guernsey	per doz. lb.	2	6		3	3
Turnips	per doz. bun.	2	0		3	6

LONDON POTATO MARKETS.

New potatoes are fairly plentiful, but not so good as usual, owing to lack of sunshine. The demand is steady.

		s.	d.		s.	d.
Dunbars	per ton	75	0	to	95	0
Maincrop	per ton	65	0		75	0
Royal Kidney	per ton	45	0		60	0
Canary, new	per cwt.	8	0		9	0
Jersey, new	per cwt.	6	0		7	0
[illegible], new	per cwt.	6	0		7	0

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

STRAWBERRIES. — A. B. H., Belcherton: We duly received the package, and shall have much pleasure in acceding to your wishes.

SPOTS ON ODONTOGLOSSUM LEAVES. —D. S., Sipson: The spots on the leaves are due to the action of strong sunlight. Odontoglossums love shade, and even in such a season as the present it is most desirable to shade them with lath blinds that run on a raised frame of light wood six inches or so above the glass. The occasional gleams of sunshine are very bright and quickly do harm to leaves that are not accustomed to them, and have not yet become hardened by a steady increase of bright light. The spots are in no sense due to fungus attack.

PELORIA IN SWEET PEAS. — J. W., Exeter: The only instance of peloria in sweet peas that has come under our notice is the one illustrated in the "Sweet Pea Annual" for 1909. It was a flower of the new Mrs. Andrew Ireland, with the waved petals spread around the central ovary and stamens, instead of forming keel, standard, and wings. The flower appeared in Messrs. Dobbie and Co.'s seed grounds at Marks Tey, and the flower was worn by Mr. Cuthbertson, the President of the National Sweet Pea Society, at the London Sweet Pea Show of last summer.

FUNGUS ON BIRCH TREE.—W. H. T., Tiverton: The fungus on the birch tree is Polyporus betulinus, and if you have other birch trees near by that you do not wish to be attacked, then remove the large fungus growth at once, and keep watch for and remove others as they appear, so that spores may not be distributed. A better plan would be to cut away and burn the fungus, and then cut down and burn the tree itself, for, though the horseshoe-shaped growth is an annual production, the mycelium of the fungus is perennial, remaining in the wood and producing the fruiting stage or pileus each season. The various polyporus are wound fungi, the spores entering a tree by means of an undressed cut, a broken branch, etc.

PRIMULA CAPITATA.—E. R. H., Maidenhead: The species is undoubtedly Primula capitata, and it usually flowers in autumn. The reason why your plants are flowering thus early is that they are strong examples from seed sown early last year, and wintered in pots in a frame. You do not say so, but we expect your plants are still in pots, and if this is so, earliness of flowering is the more easily explained.

CUTTING AWAY TOMATO LEAVES.—A. G. A., Sandwich: We do not advocate the removal of tomato leaves from fruiting plants, but there are times and occasions when the removal of a part, even half of each leaf may materially assist in the full development of the crop of fruits. Planting may have been rather close, and the soil rather rich, and, as a consequence, the leafage may greatly reduce the quantity of light among the plants. In such cases we should not hesitate to gradually reduce the leaf area by removing about half of each leaf—not all the leaves at once—and even a whole leaf here and there, where it prevents the light from reaching the fruits. Some tomatoes have much coarser growth than others, and you should therefore choose those with comparatively small leaves for your limited space.

PROPAGATION OF THE MAIDENHAIR TREE.—C. M. H., Wellington: This fine tree (Ginkgo biloba) may be readily propagated by sowing imported seeds in spring, placing them in a cold frame. Cuttings of half-ripe growths inserted in sandy soil in a cold frame towards the end of the summer will root readily, while, if there are branches near the ground, these may be layered in the usual way. There are several varieties of the ginkgo, and these must be propagated by grafting on to the type, under glass during the winter. The chief varieties are laciniata, with large, deeply-lobed leaves; fastigiata, with upright, poplar-like habit; pendula, with weeping branches; variegata, with variegated leaves; and aurea, with leaves that are of yellowish hue.

MAGGOTS IN CHRYSANTHEMUM LEAVES.—W. W. L., Farnborough: Spraying with soot water, or a quassia solution will render the leaves distasteful to the fly, and she will not deposit her eggs therein. At present you had better remove and burn all very badly-infested leaves, and kill the maggots in the remainder, by squeezing them between thumb and finger or picking them out with the point of a sharp knife. It is a troublesome job, but well worth while. No spraying is strong enough to reach and kill the maggot without killing the leaf as well.

SIBERIAN IRISES.—F. G. W., Fakenham: Your plant is the white variety of Iris sibirica, a beautiful and graceful plant that is not likely to do itself justice in the dry border close to the house. Iris sibirica and its varieties always succeed best and look best when grown in a moist situation, such as a lake margin or stream bank provides. It increases readily, and is in no sense difficult to propagate by division.

NAMES OF PLANTS.

W. W. L., Farnborough. — Streptosolen Jamesoni.

F. A., Chard.—A varietal form of Pernettya mucronata.

B. N., Temperley.—1, Begonia manicata; 2, a variety of B. Rex; 3, Pteris cretica albo-lineata.

S. E. G., Ripon.—1, Leycesteria formosa; 2, Cornus Mas; 3, Streptosolen Jamesoni; 4, Saintpaulia ionantha; 5, Pyrus Aria; 6, Adiantum fissum.

D. B. W., Wellingborough.—1, Oncidium crispum; 2, Lælia purpurata; 3, badly damaged, probably Thunia Marshalliana; 4, Cattleya Trianæ Warneri.

R. A., Bideford.—1, Ginkgo biloba; 2, Oncidium flexuosum; 3, Dictamnus Fraxinella; 4, Croton interruptum; 5, Cryptomeria elegans; 6, Libocedrus decurrens.

GARDENING APPOINTMENTS.

Mr. William Williams, for the past six years gardener to the late E. C. Burton, Esq., The Lodge, Daventry, has been appointed head gardener to D. C. Haldeman, Esq., The Rookery, Downe, Kent.

Mr. Alfred J. Hartless, for some time at Waterlow Park, Highgate, and who has been hon. secretary to the London Branch of the British Gardeners' Association, has been appointed assistant to Mr. F. G. Drew in the horticultural department at University College, Reading. Mr. Hartless will have special charge of the new fruit-growing station.

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FORTHCOMING ENGAGEMENTS.

SATURDAY, July 3.—Sutton Rose Show.
French Horticultural Society of London.
MONDAY, July 5.—Maidstone Rose Show.
TUESDAY, July 6.—Royal Horticultural Society's Show at Holland Park (Two Days). Judging commences at 10 a.m.; committees meet at 10.30 a.m.; exhibition opens at 12 o'clock; luncheon to the committees, etc. at 1 o'clock.
Southend Horticultural Society (Two Days).
Warminster Horticultural Society.
WEDNESDAY, July 7. — Hanley Floral Fete (Two Days).
Royal Horticultural Society; Fruit and Floral Committee's Jubilee Dinner, Hotel Windsor, 7 p.m.
Bath Rose Show (Two Days).
Croydon Rose Show.
Penarth Show.
Farningham Rose Show.
Epsom Horticultural Society.
Farnham Summer Show.
Reigate Rose Show.
THURSDAY, July 8.—Eltham Rose Show.
Finchley Horticultural Society.
Harrow Horticultural Society.
Stour Valley Horticultural Society.
Newmarket Horticultural Society.
SATURDAY, July 10.—Edgware Rose and Sweet Pea Society.
National Amateur Gardeners' Association Exhibition, Royal Botanic Gardens, Regent's Park.
Purley Horticultural Society.

CATALOGUE RECEIVED.

HEATH AND SON, ALPINE BOTANIC GARDENS, CHELTENHAM.—Hardy Plants for Rock Gardens and Herbaceous Borders. A full and exceptionally well-prepared catalogue of hardy perennials that may well be described as a valuable text book on the nomenclature and the cultivation of these subjects. Upwards of 3,000 species and their varieties are enumerated and described, and the descriptions are accompanied by concise notes that will be of considerable assistance in the making of selections for particular purposes. The nomenclature followed is that of the "Index Kewensis," and synonyms are given of those plants which have become more or less generally known under wrong names, or which for scientific reasons have had their names altered by the Kew authorities. Altogether a noteworthy publication, which is rendered additionally attractive by several excellent illustrations.

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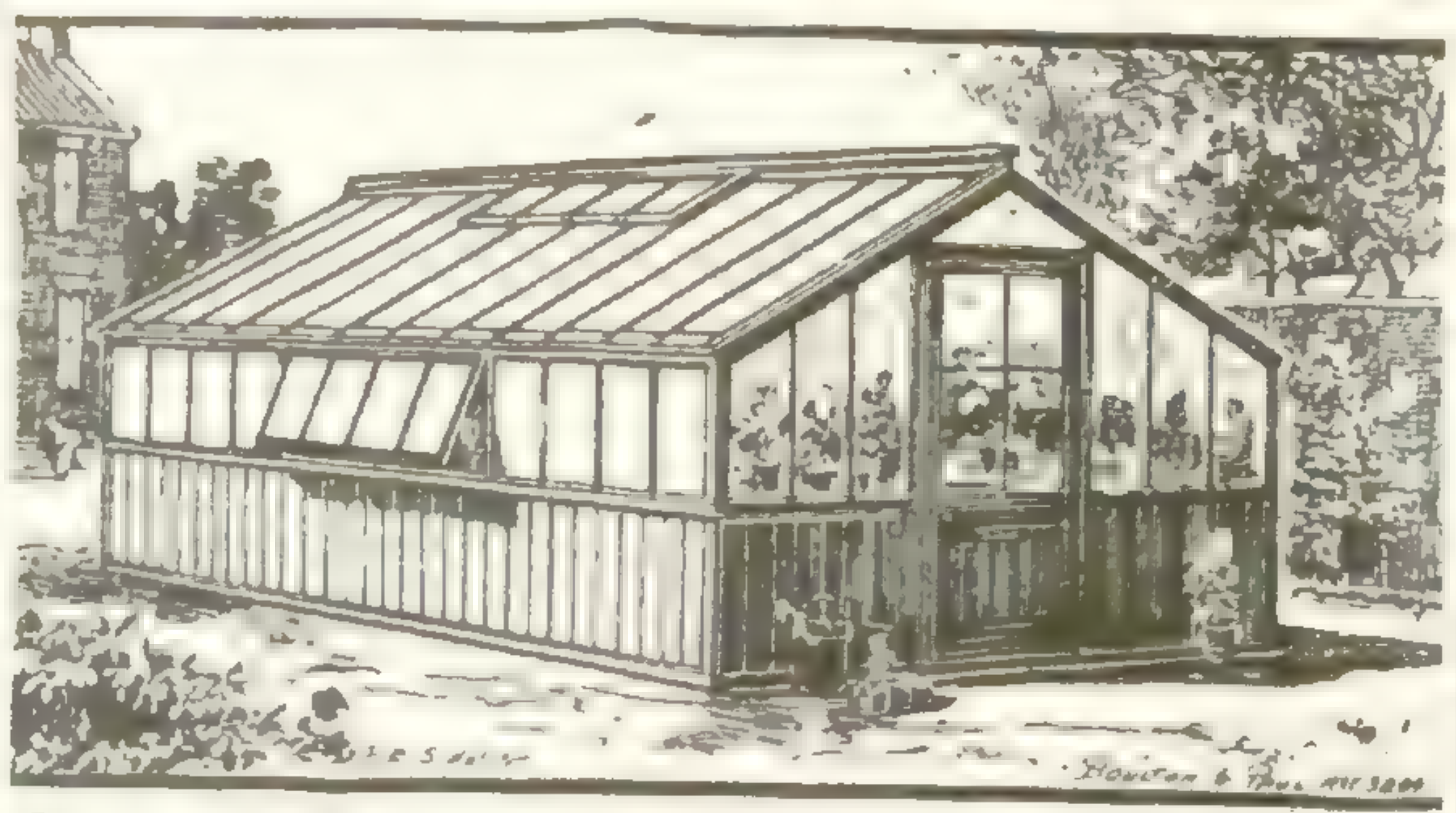

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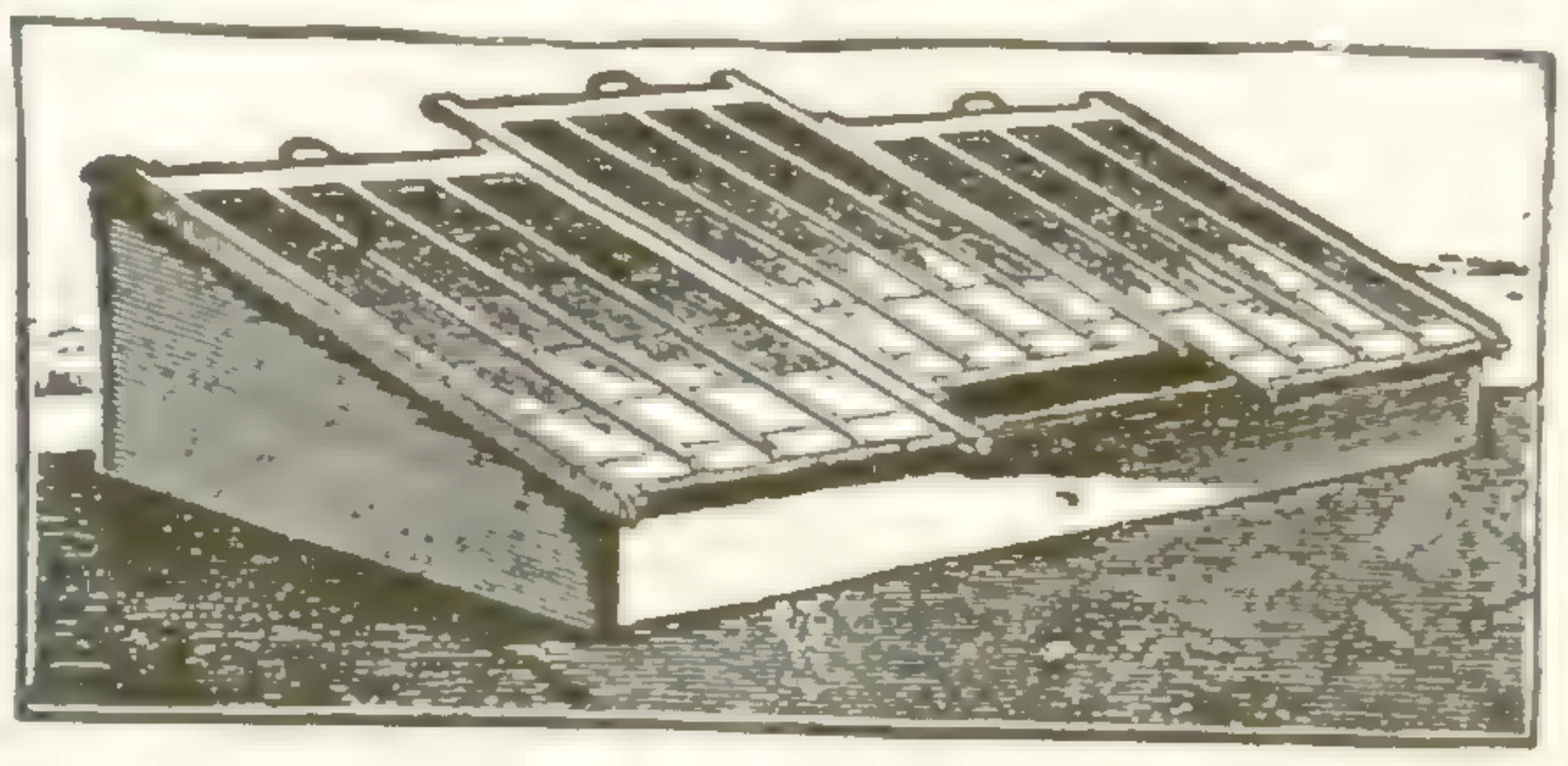

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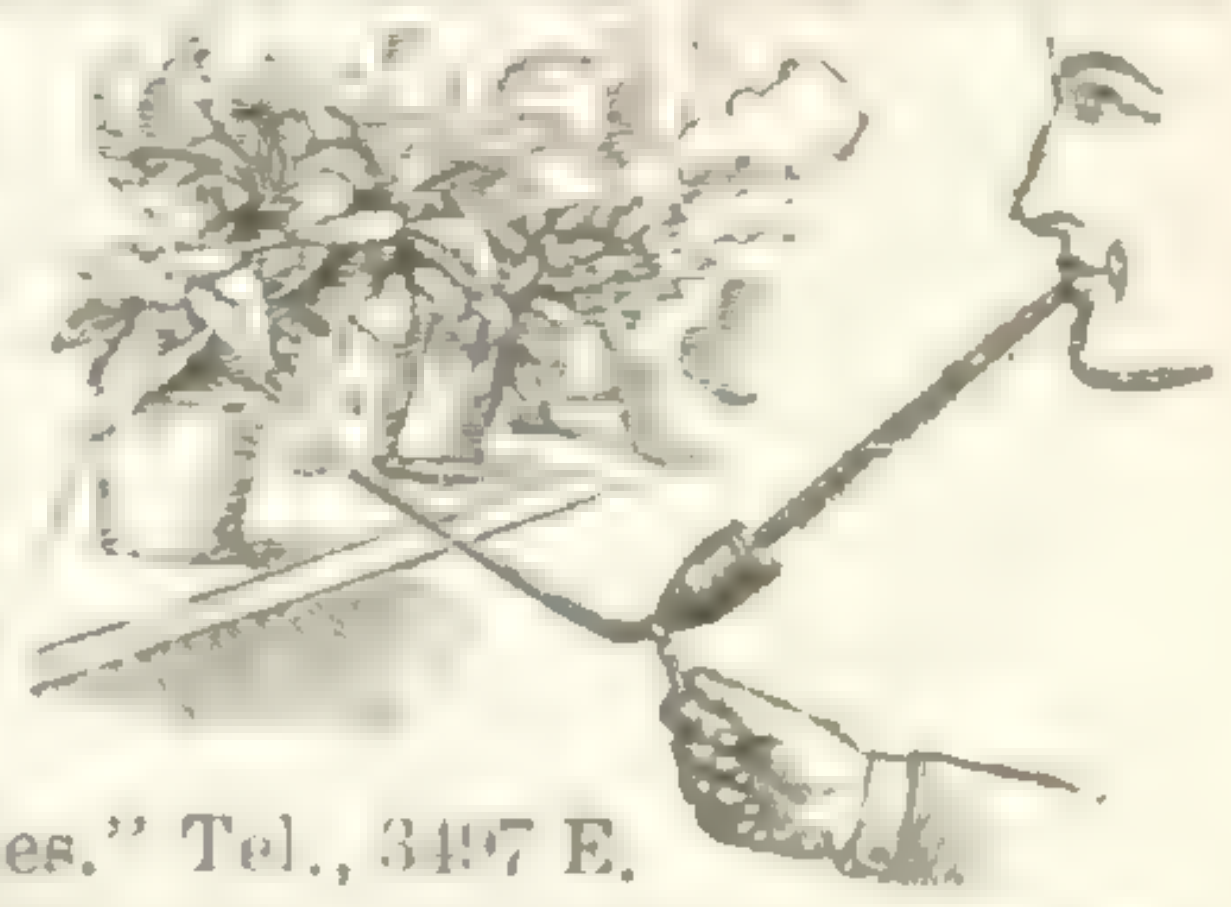

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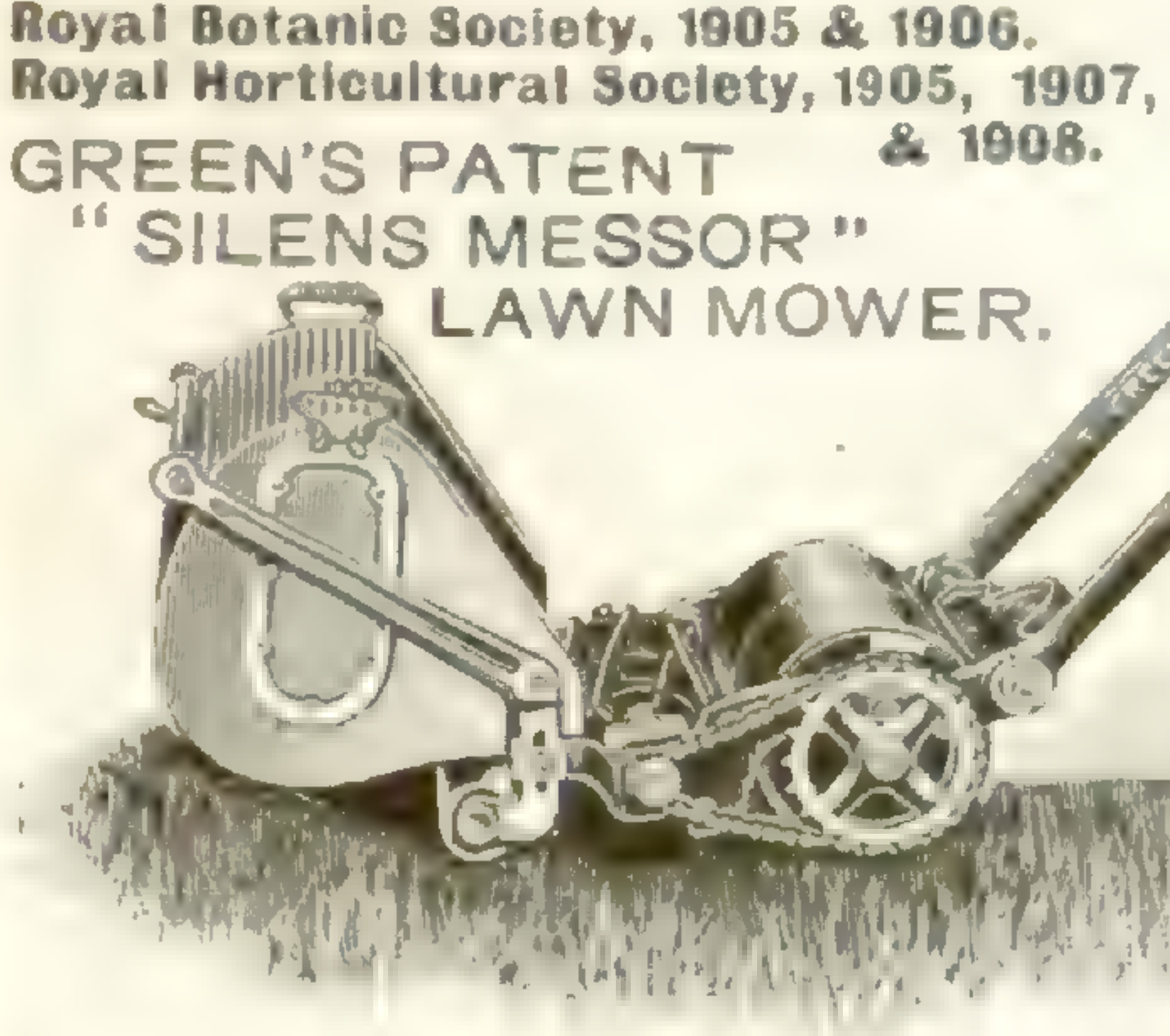
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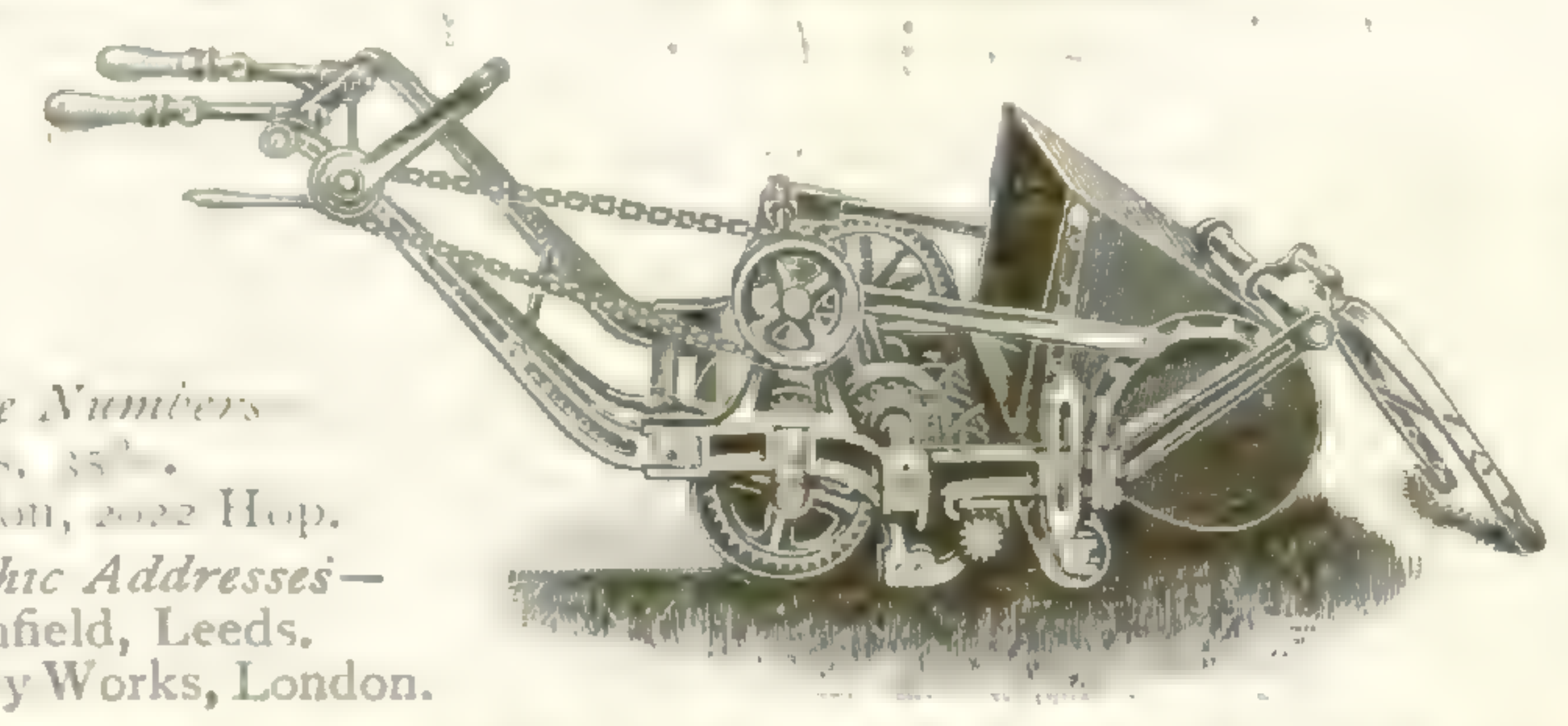

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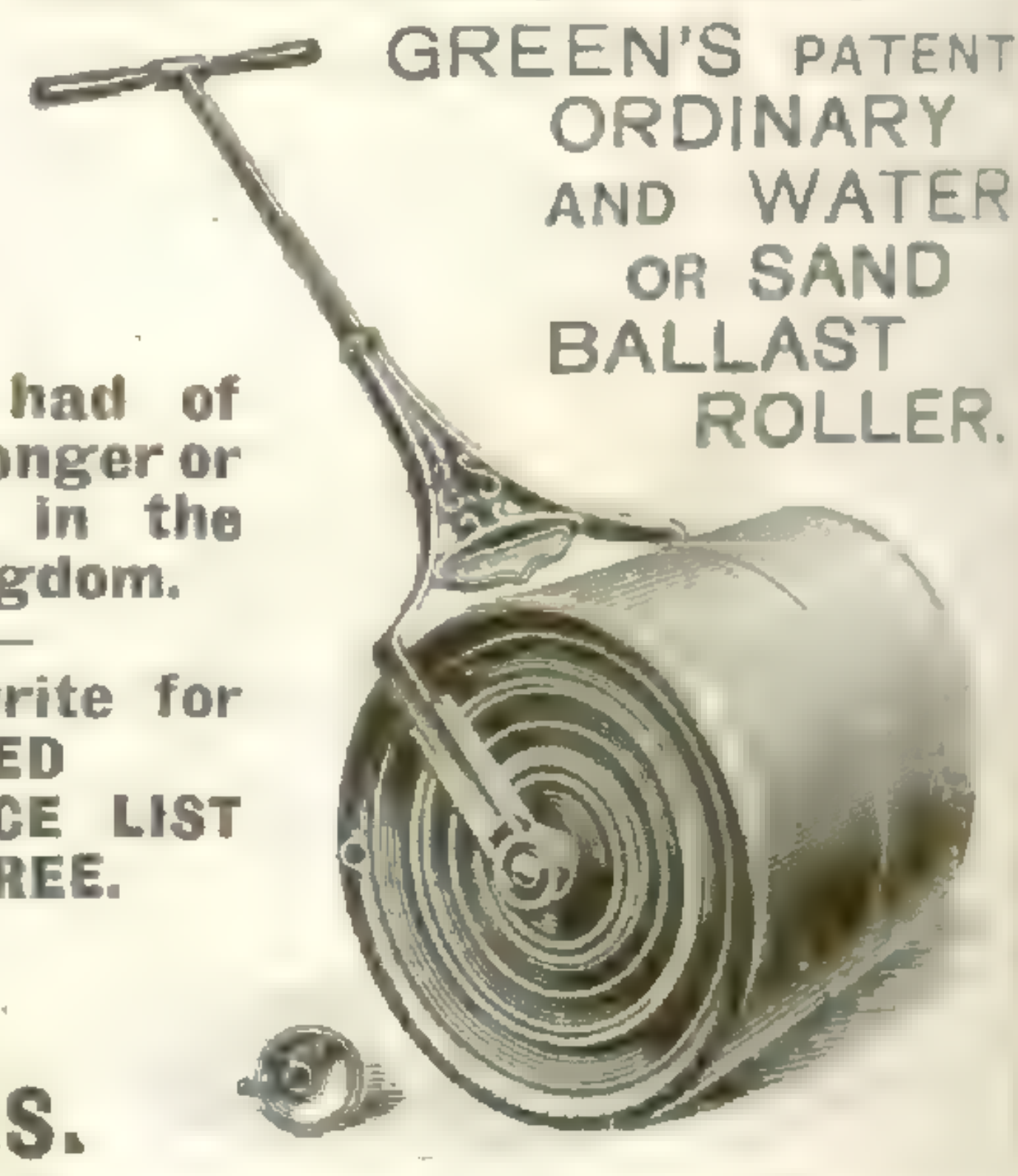
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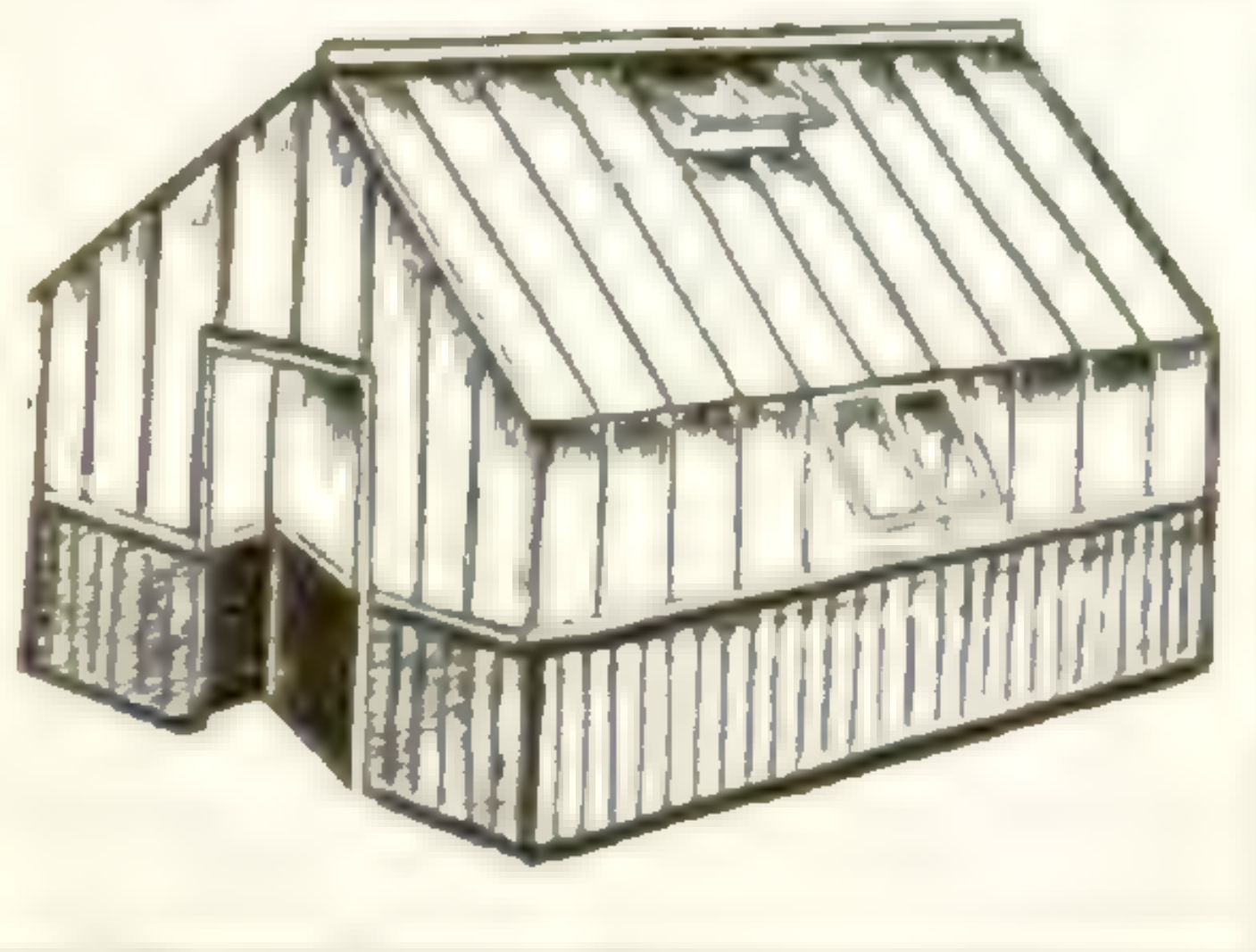

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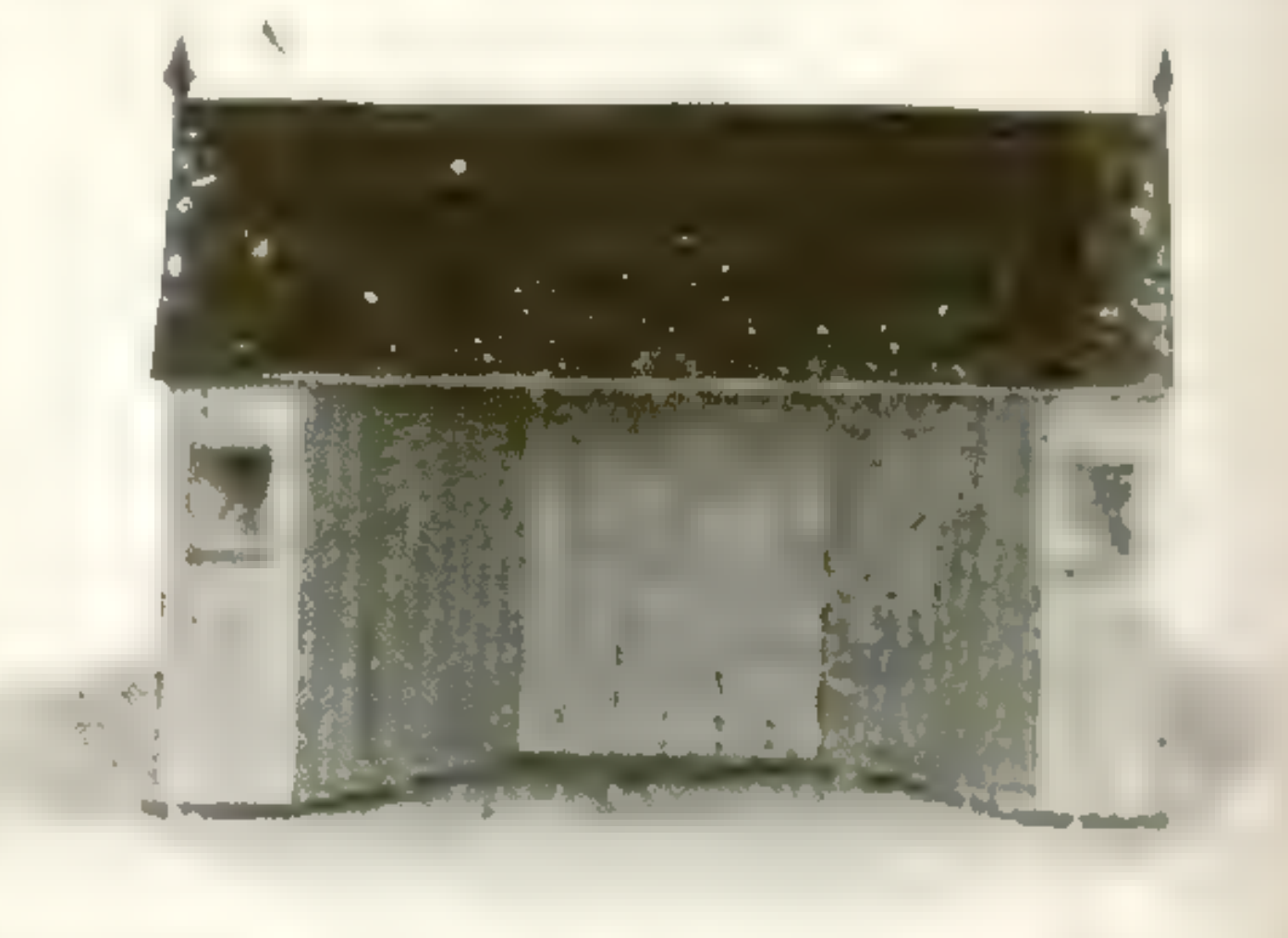

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NETS FOR TENNIS COURT BORDERING, good colour, especially prepared with line attached to net at top and bottom, will not rot, easy to erect and take away; 25 yards long by 2 yards wide, 6s. 6d.; by 3 yards wide, 7s. 6d.; by 4 yards wide, 8s. 6d.; standards for same, 10ft. high, 1s. each; Garden Netting, 30 square yds., 1s.; orders over 5s. carriage paid. List of Fancy Garden Tents free. H. J. GASSON, The Net Works, Rye.

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THE GARDENERS' MAGAZINE
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Orchids! Orchids!! Orchids!!

The undersigned begs to announce to the Pub he is in a position to supply, wholesale or retail, Burma **Orchids** of 50 varieties at a moderate price. particulars on application.—**J. C. PRAZER**, Orchid **Collector, KALEWA, BURMA.**

NOTICE.—Don't stake your Carnatio you have seen Porter's Improved Coil tying required; stakes last a lifetime. The boon ever offered to growers. Only 7s. 6d. per 100; sample doz., 1s., carriage with order. A. PORTER, Stone House, Ma

WATER LILIES, Brilliant Colours new List. GAUNTLETT'S, LTD., Nurseries, Chiddingfold, Surrey.

WOLVERHAMPTON FLORAL FÊTE.

JULY 13—15.

THE GARDENERS' MAGAZINE TENT

.. WILL BE ..

Erected near the Flower Tents, where our representatives will be pleased to meet Subscribers and Advertisers.

Our numerous Books on Horticultural subjects will be on view, and subscriptions and advertisements may be booked for

"THE GARDENERS' MAGAZINE" or "AMATEUR GARDENING."

The Show will be fully reported and Illustrated in the issue of "The Gardeners' Magazine" for July 17.

Employment THE GARDENERS' MAGAZINE Register.

The charge for an Advertisement INCLUDES A FREE ENTRY ON THE REGISTER. Immediate Notice must be given when an engagement is secured.

A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

HER GRACE THE DUCHESS OF DEVONSHIRE wishes to recommend J. THOMPSON to any Lady or Gentleman requiring the services of a HEAD GARDENER, where several are kept; 20 years' experience in all branches. Holker Gardens, Cark-in-Cartmel, Lancs.

MISS DALTON highly recommends GARDENER (Head Working, or good Single-Handed; life experience, 10 years' excellent character; leaving through death; age 34; married, one child, aged 8 years. Apply W. HIGGINS, The Lodge, Farrington, Camberley, Surrey.

MESSRS. LADHAMS, Nurserymen, Shirley, Southampton, can confidently recommend W. GUNSTON, age 35, as HEAD WORKING GARDENER to any lady or gentleman requiring the services of a good all-round man, who is conversant with the requirements of a well-kept establishment; excellent references. Apply as above.

GARDENER (Head Working), good, practical life experience in all branches, Inside and Out; early and late forcing; especially good with melons, vines, and chrysanthemums; 9 years with last employer as Head; can have excellent references. H. TURNER, 4, Glenton Street, Peterborough.

GARDENER (Head Working), where more are kept; 25 years' practical experience in all branches, Inside and Out, early and late Forcing, Vines, Cucumbers, Melons, Stove, and Greenhouse Plants, Herbaceous Borders; thoroughly reliable; highly recommended; married, without encumbrance. WOODHOUSE, Eastwood Road, Bramley, Surrey.

GARDENER (Head Working), thoroughly experienced Under Glass and Outside; also herbaceous plants; excellent character from present and previous employers; married, no children. J. L., 20, [illegible] Road, Barnet.

SITUATION WANTED as GARDENER, Head working, or good Single-handed; age 55; [illegible] life experience Inside and Out, 30 years in last situation; good ref. W. MARKHAM, East [illegible] Crown Street, Egham, Surrey.

GARDENER (Head Working, or good Single-handed with help); age 35; single; thoroughly experienced in all branches; excellent references. Apply GARDENER, 1, Gillespie Road, Highbury, N.

GARDENER (Head) seeks SITUATION where three or more are kept; age 30; married, two children; six years Escrick Park, five years [illegible] Hall, three years as Head at present situation. SKILBECK, Nunthorpe Hall, York.

W. ALEXANDER, Pickhurst Manor, Hayes, Kent, highly recommends C. [illegible]PHAM as GARDENER, Head of two or three, or good Single-handed; thoroughly experienced Inside and Out; 6 years' excellent character; good references; thoroughly reliable.

MR F. W. KEMP, Eastcourt House Gardens, Malmesbury, Wilts, can thoroughly recommend J. CLARKE as SINGLE-HANDED GARDENER with help; experienced fruit, flowers, vegetables, and lawns; Inside and Out; good previous [illegible]; age 26; three years second here; married when suited. Apply as above.

AS GARDENER (Single-handed or otherwise); life experience Inside and Out; good references, single; age 44. Address F. GOWER, Springfield Villas, Clarendon Road, Ashford, Staines.

MR. J. GILBERT, Caenwood Towers, wishes to highly recommend J. READING to any lady or gentleman requiring a good SINGLE-HANDED GARDENER, or with help; first-class references; age 27; leaving through death of employer, 3 years present place. Address, J. READING (Single), 2, North Hill Avenue, Highgate, N.

C. F. EGERTON, Esq., Bulcamp, Halesworth, Suffolk, highly recommends A. IFE as a hard-working GARDENER (Single-handed); married; abstainer; 2½ years present place; previous six years Henham Hall Gardens, Wangford, Suffolk. A. IFE, Bulcamp, Halesworth, Suffolk.

GARDENER (Single-handed) or GROOM GARDENER; accustomed to Cows; good all-round Man; 10 years in present situation; leaving through death; two children, youngest eight; highest references; age 34. GERRING, Rowantree Lodge, Lower Edmonton, Middlesex.

GARDENER (Single-handed or with help); good Second's place not objected to; married; age 36; tall; one child; life experience, Inside and Out; good references. H. WARNER, 17, Salmestone Road, Margate, Kent.

GARDENER, age 25, seeks SITUATION, single-handed or otherwise; 11 years' experience, Inside and Out; good references. A. RANDALL, 40, Victoria Place, East Street, Epsom.

GARDENER, used to Inside and Outside work, single-handed or with help; good references; age 27. E. GODSON, Ossington, near Newark, Notts.

GARDENER (Second, where several are kept); age 26; thoroughly experienced Inside and Outside; excellent references. F. BAKER, Mathern, Chepstow, Mon.

GARDENER (Second, Inside) or Foreman; well experienced in all work under glass; good references; age 25; Bothy preferred. G. A. GRANT, The Gardens, Thirlstane Hall, Cheltenham.

GARDENER, age 22, seeks SITUATION; 7 years' experience, Inside and Out; can be well recommended. N., Red House Lodge, Heatherside, Camberley, Surrey.

MR. F. W. KEMP, Eastcourt House Gardens, Malmesbury, Wilts, can thoroughly recommend F. BUTLER as JOURNEYMAN, Inside and Out; age 23; 3 years here, abstainer; Bothy preferred. Apply as above.

JOURNEYMAN (Inside or Inside and Out), age 22; five years' good reference. Apply to F. DRUDGE, 6, Malvern Cottages, Newport Road, Ventnor, I.O.W.

JOURNEYMAN on Pleasure Grounds, or Inside and Out. Young Man, age 23½, seeks Situation as above; excellent character. T. BAINS, Maypole Cottages, Berechurch, Colchester.

JOURNEYMAN (Inside); good experience in Plant and Fruit Houses; age 25; abstainer. A. P. DAVIS, Bella Vista, Belmont Road, Maidenhead.

LANDSCAPE GARDENING. Mr. C. F. JACKSON, now disengaged, begs to offer his services for landscape improvement works; long experience; references. Address, 110, Cannon Street, London, E.C.

YOUNG MAN as GARDENER (Under, Outside or Inside and Out); 5½ years' experience; age 21; disengaged when suited; North preferred. F. STRUDWICK, Newgate Street, near Hertford, Herts.

YOUNG MAN, age 21, seeks SITUATION Inside or Inside and Out; in Gentleman's Garden; good character. Apply HENTALL, 1, Gordon Road, Highcliffe, Hants.

YOUNG MAN, Inside and Out, strong, honest, and good worker; 3½ years in present situation; age 19. WATTS, Gardener, The Knoll, Ascot, Berks.

YOUTH (16) seeks SITUATION on a large Mixed Farm; services for board and lodgings; good home. ARMSTRONG, East Barnet, Herts.

STRONG, active YOUNG MAN, age 21, seeks SITUATION as Kitchen and Pleasure Ground Man; 4½ years' good, practical experience, and good references; leaving through death, single. Address, G. BUNCE, c/o Mrs. Corder, 26, Southwood Lane, Highgate, N.

A YOUNG MAN, 20 years of age, seeks SITUATION in gardens, outdoor, on lawns or pleasure gardens; experience in private gardens for 2 years. Address, REDDING, Tysoe, Kineton, Warwick.

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YOUNG MAN seeks SITUATION; seven years' experience in Nursery work; three experience in Private Garden; good references. Apply C. H., 3, Elm Cottages, Horsemore Green, Langley, Bucks.

YOUNG MAN, age 20, in Garden or Nursery; has good knowledge of Seeds and Bulbs; can be well recommended. Write to S. N., 6, Kassala Road, Battersea, S.W.

CARPENTER and JOINER, single, seeks SITUATION on Estate, or as House Carpenter, abstainer; excellent references, own tools. FEARN, Moseley Terrace, Rolleston, Burton-on-Trent.

HANDYMAN seeks SITUATION on Gentleman's Estate; good carpenter and joiner; own tools; can also do painting, paper-hanging, etc.; 11 years' good character. WILLIAM BARRIER, 17, Lennard Road, Penge.

MR. E. ANDREWS, "Bell House Gardens," Dulwich, S.E., wishes to recommend C. CURD, age 22, to any Lady or Gentleman requiring a YOUNG MAN (Inside and Out), well up Outside, eight years' experience; good references, abstainer. No circulars.

IMPROVER (Inside and Out), age 19; two years' experience at Compton Place Gardens, Eastbourne; Bothy preferred. C. MARSH, Grenden, Upperton Road, Eastbourne.

WANTED, SITUATION as an IMPROVER, age 17½; strong and willing; has been in present situation 4 years; total abstainer. Bothy preferred. A. HYLAND, Woodlands, Ticehurst, Sussex.

WANTED SITUATION as GARDEN LABOURER, age 29, married, no family; good knowledge of outside work (kitchen garden and pleasure ground); good scythe and spade hand; good reference. W. LING, Epperstone Road, Lowdham, Notts.

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SITUATION COUPON

To the Advertisement Manager of "THE GARDENERS' MAGAZINE,"
148 & 149, Aldersgate Street, London, E.C.

For JULY 17, 1909.

Please Repeat my Advertisement.

Name..

Address......................................

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Date.............................

THIS COUPON, duly filled up, should be forwarded not later than Tuesday for the next issue.

By Appointment.

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For PRESENT PLANTING and for GREENHOUSE CULTIVATION.

NOTE.—Our Collection of these received the GOLD MEDAL (Highest Award) at the GREAT TEMPLE FLOWER SHOW, MAY, 1909; also numerous GOLD MEDALS in 1905, 1906, 1907, and 1908.

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Althea (Hybrid Tea), **7/6** each; **Cynthia** (Hybrid Tea), **7/6** each; **Fairy** (Rambler), **5/-** each; and **Margaret** (Hybrid Tea). **7/6** each.

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3/6 to **5/-** each.

Albatross (Hybrid Tea), **Beatrice** (Hybrid Tea), **Elaine** (Hybrid Tea), and **Refulgence** (Hybrid Sweet Briar).

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2/- to **3/6** each.

Hugo Roller (Tea), **Kathleen** (Rambler), **Mrs. Dudley Cross** (Tea), **Mrs. Isabella Milner** (H.T.). **Warrior** (H.T.), **1/6** each.

New British, Continental, and American Roses of 1908 and 1909. A selection of the leading sorts, **24s.** to **42s.** per dozen, including the best Rambling varieties.

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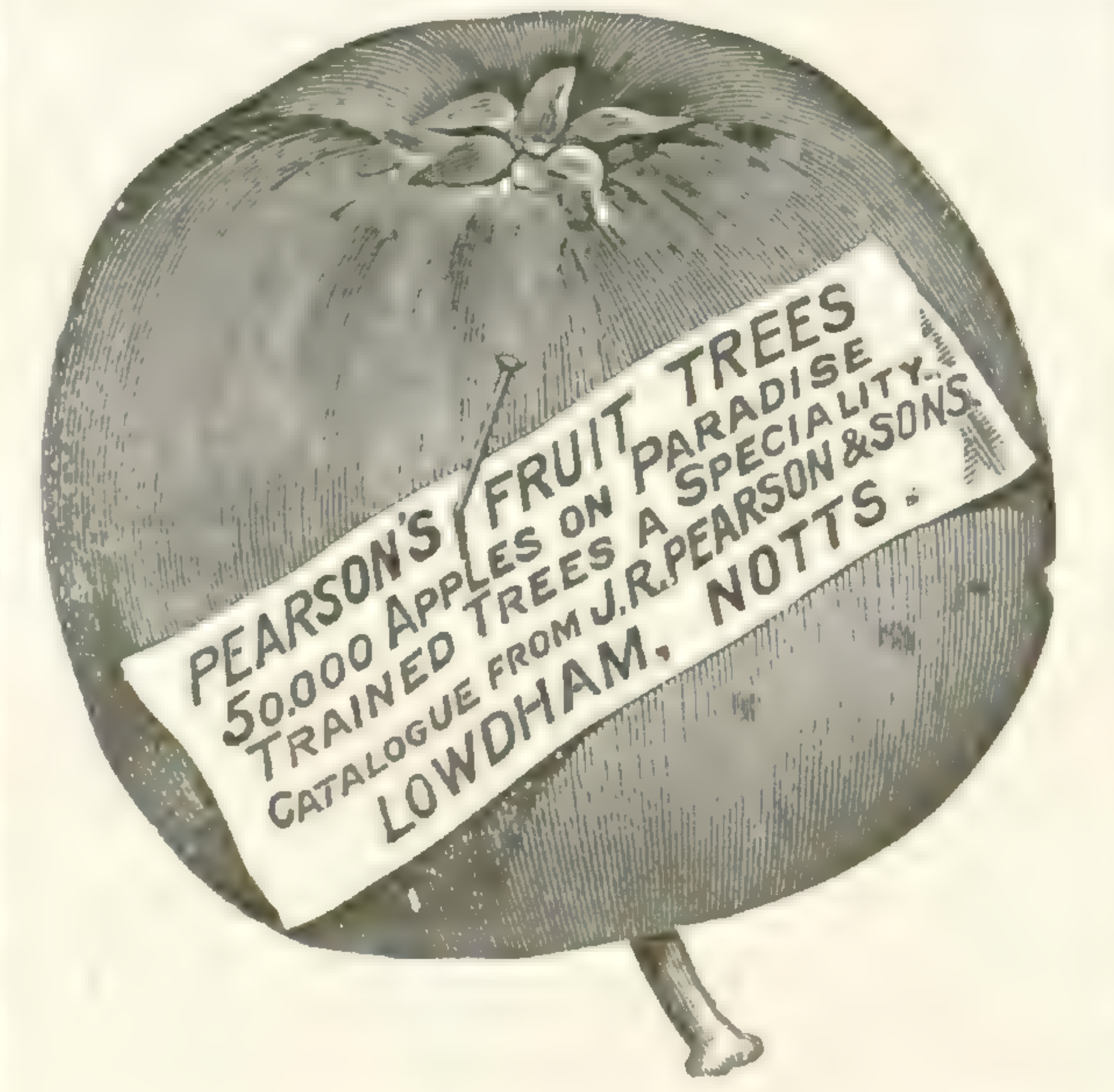
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having acquired the "Cream" of the **CHOICE AND VALUABLE ORCHID STOCK** of the late firm, desires to notify that he has purchased the Vale Bridge Nursery, Haywards Heath (recently vacated by Messrs. Charlesworth and Co.), to which address all communications are requested.

THE FINEST COLLECTION OF "ALBINO" CATTLEYAS IN CULTIVATION.

CHOICE CYPRIPEDIUMS A LEADING FEATURE.

EDWARD V. LOW,

Orchid Nursery, VALE BRIDGE, HAYWARDS HEATH.

VOL. LII.—No. 2,906. SATURDAY, JULY 10, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

An Interesting Jubilee.

The celebration of the jubilee of two of the standing committees of the Royal Horticultural Society during the past week has been an interesting episode in the history of the society, and may well be regarded as an event of considerable importance in its relation to horticulture generally. The dinner given on Wednesday evening to the members of these committees was a pleasant function and of interest as a proof of the appreciation by the Council of the great value of the work that has been accomplished, and is being done, by these and other of the standing committees of the society. The comparatively large number of guests was interesting also as evidence of the public spirit that obtains among horticulturists and the readiness with which they give their services at considerable cost in time and money when they have an opportunity for assisting in the progress of the art with which they are intimately associated. The Fruit Committee, the eldest of the several standing committees, was formed in the spring of 1858, and consequently attained its jubilee last year; and the Floral Committee was founded in June, 1859, and therefore completed its fiftieth year of activity last month. To some of those who are not fully conversant with the history of horticulture during the past hundred years, it may appear surprising the Royal Horticultural Society should have been established more than half a century before taking advantage of the help a judiciously-formed standing committee can so well give in dealing with new introductions. But it should be remembered that in the first half of the nineteenth century governing bodies of great horticultural societies held views with regard to their responsibilities, and to methods of procedure, that differed materially from those that obtain at the present time. Although the need of a standing committee was not recognised at an earlier period by the Council of the Royal Horticultural Society, there were not wanting some time previous those who recognised the necessity of a central body to whom novelties could be submitted. We have evidence of this in the existence at that time of the Pomological Society, which had been founded for the purpose of assisting fruit growers, more particularly, in determining the merits of new and little known fruits. Another proof was afforded by the London Floricultural Society, which had for one of its objects the granting of awards to meritorious florists' and other flowers. Both of these societies were under the management of active workers, fully conversant with the requirements of those engaged in the cultivation of the classes of subjects with which they were associated, and excellent work was done. But neither of them became sufficiently strong to occupy a commanding position. Whether in making the new departure, the Royal Horticultural Society was stimulated by the activity of the two small bodies, or influenced by suggestions that emanated from them, is not quite clear, but it is evident the members of the societies were ready to serve on the new committees. The first chairman of the Fruit Committee was Mr. Charles Edmonds, gardener at Devonshire House, Chiswick, then one of the leading gardening establishments in the western suburbs of London, and his fine presence and practical knowledge admirably fitted him for so important a position. Since the late Mr. Edmonds' time many eminent pomologists have presided over the meetings of the Fruit Committee. Of the present chairman there is no occasion to speak, for Mr. George Bunyard, V.M.H., is well known as one of the leading pomologists of the day, and held in the highest respect. He is highly esteemed by the members, who testified to their appreciation of his kindness and courtesy by presenting him on Wednesday evening with his portrait. The first chairman of the Floral Committee was the Rev. Joshua Dix, a fine old florist, who had no halting opinion as to the soundness of his views on all that related to florists' flowers. He occupied the position for some years, and rendered good service both to the society and the cause of floriculture. We remember with a sense of gratitude the excellent work accomplished by other chairmen of this committee; and, while anxious to avoid instituting comparisons, it must be said that no one achieved a greater degree of success than has Mr. William Marshall, V.M.H., who happily still occupies

MR. WILLIAM MARSHALL, V.M.H.
Chairman of the R.H.S. Floral Committee.

that position. In briefly referring to the splendid services these committees have rendered during the past fifty years, we must not be understood as suggesting that they have not made mistakes. But they have been so few as to be really not deserving of notice. Each in its turn has been subjected to some amount of criticism, but this has so decreased of late years that now the decisions are seldom questioned. If there is any grumbling, it is usually from residents in distant parts of the kingdom who have but few opportunities for seeing the newer introductions until they have been generally distributed. They are successful in obtaining, as the result of cross-fertilisation, selection, or, it may be, by accident, forms that are superior to the older kinds, but they may be not equal to the best of the recent introductions. Knowing but little of the latter they submit their novelties to one of the committees, and when these fail to obtain recognition they are keenly disappointed. The standing committee is, in the conduct of its work, kept fully acquainted with all the more important of the newer introductions, and is therefore in a much better position to form an estimate of the merits of anything that may be submitted to it than those whose area of observation is somewhat limited. Herein lies the strength of standing committees such as those which have just celebrated their jubilee. In making awards it is not sufficient to know whether the novelties are in themselves good, bad, or indifferent, but it is essential it should be known whether they are superior or otherwise to the best of the introductions in the same way. This fact is now generally recognised, and the two committees may enter on their second half century without any apprehension as to the estimation in which their work will be held by all who are interested in horticultural pursuits.

Mr. William Marshall, V.M.H., has for a long number of years been so actively engaged in promoting the various movements that have for their object the advancement of horticulture or the support of those associated with gardening who are in need of help, that we have had occasion to give one or two portraits of him in the Gardeners' Magazine. But until now we have not had the pleasure of including his portrait among those of the distinguished horticulturists which are given week by week on the front page. The celebration of the jubilee of the Royal Horticultural Society's Floral Committee affords us a fitting opportunity for having this pleasure, which will be heartily participated in by his many horticultural friends. In our reference to Mr. Marshall when he had the distinction of the Victoria Medal of Honour conferred upon him, which appeared in the Gardeners' Magazine for March 17, 1906, we gave a short account of his many-sided activities, and we need not now refer to them. For upwards of forty years, Mr. Marshall has devoted a large part of his leisure to horticultural matters, and obtained high distinction for orchids and other subjects. He was one of the founders, more than forty years ago, of the United Horticultural Provident and Benefit Society, and for a considerable period he was chairman of the committee of the Royal Gardeners' Orphan Fund. He has long occupied a seat on the Council of the Royal Horticultural Society, and for upwards of twenty years he has been chairman of the society's Floral Committee. In 1906 the members of this committee and other friends had Mr. Marshall's portrait painted in oils, and presented it to the Royal Horticultural Society, and entertained him at a public dinner.

Jubilee of the R.H.S. Floral Committee.—On the opposite page we have the pleasure of giving the portraits of the members of the Floral Committee from a photograph taken by Mr. A. J. Campbell at Holland Park on Tuesday last. The members included in the group are as follows: Front row, from left to right, Messrs. W. Cuthbertson, George Gordon, V.M.H., Rev. F. Page-Roberts, George Paul, V.M.H., H. B. May, William Marshall, V.M.H., C. E. Shea, J. T. Bennett-Poë, V.M.H., J. Douglas, V.M.H., C. T. Druery, V.M.H., and Walter T. Ware; second row, Messrs. E. T. Cook, E. H. Jenkins, W. Baker, C. Blick, W. James, G. Reuthe, J. Bain, E. Mawley, V.M.H., R. Wallace, C. Fielder, C. E. Pearson, R. C. Notcutt, J. Green, J. Walker, W. Bean, R. C. Nevill, A. Kingsmill, E. A. Bowles, and J. Dixon. Back row, Messrs. A. Turner, H. J. Cutbush, J. F. McLeod, W. Jennings, N. F. Barnes, H. J. Jones, W. Howe, T. W. Turner, W. P. Thomson, and R. Hooper Pearson.

Honours to Botanists.—The delegates to the Darwin Centenary Celebration, recently held at Cambridge, upon whom the degree of Doctor of Science, honoris causa, was conferred, included Robert Chodat, professor of botany at Geneva; Frank Darwin, F.R.S., honorary fellow of Christ's College, and formerly reader in botany; Karl F. Goebel, professor of botany at Munich; Hermann Graf zu Solms-Laubach, professor of botany at Strassburg; Clement Timiriazeff, professor of botany in Moscow; Hermann Vöchting, professor of botany at Tübingen; Hugo de Vries, professor of botany at Amsterdam; and Charles René Zeiller, professor of palæobotany in the Ecole des Mines, Paris.

Dr. Shackleton, who is a vice-president of the National Rose Society, and takes an active part in its management, had the honour of being presented to the Queen on the occasion of the society's exhibition held on the 2nd inst. The President, the Rev. F. Page-Roberts, having presented Dr. Shackleton, Her Majesty very heartily congratulated him on the splendid achievements of his son, Lieutenant Shackleton, in his expedition to the South Pole.

Horticultural Exhibition at Le Touquet-Paris-Plage. — The programme of the International horticultural exhibition that is being held at Le Touquet-Paris-Plage during the current summer includes a special flower show, extending from August 21 to 29. To this exhibition all classes of ornamental plants, cut flowers, fruits, and vegetables are invited, and we are assured that exhibitors from England will be heartily welcomed. Le Touquet-Paris-Plage is one of the most popular of the French watering places and is much frequented by English visitors. M. H. Martinet, editor of "Le Jardin" is the commissioner of the exhibition, and schedules may be obtained on application to the Commissaire de L'Exposition Internationale d'Horticulture à Paris-Plage, France.

Flowers at Wisley.—The Royal Horticultural Society's gardens at Wisley provide many beautiful pictures at the present time, and one of the finest is the little lake in the wild garden, where, surrounded by spiræas, bold gunneras, and graceful bamboos, the water lilies are very charming, while the display of Iris Kæmpferi is very fine. These latter irises are also fine in the water in another part of the garden. Pæonies have done well, and the large collection is very gay. The roses form another attraction, especially those on pillars, the big single Una being particularly pretty. Under glass cannas and pelargoniums provide a floral feast. Hardy herbaceous and alpine plants and flowering shrubs are other interesting features. Apart from flowers, there are good crops of peaches, nectarines, melons, and grapes under glass, and the extensive lettuce trials afford an unique opportunity for comparing the merits of both cos and cabbage varieties.

Midland Carnation and Picotee Society.—We are informed by Mr. T. Humphreys, the hon. secretary, that owing to the exceptionally late season the annual exhibition of carnations, arranged to take place on July 28 and 29, has been postponed until Thursday and Friday, August 5 and 6.

Horticultural College, Swanley.—The presentation of prizes to the students will take place at the college on Thursday, the 15th inst., at 4 p.m. Viscountess Falmouth will present the prizes and Sir John Cockburn will occupy the chair. In addition to the College, South Bank, the Colonial Branch (North Bank), and gardens will be open for inspection.

Inaugural Supper at Bush Hill Park.—There was a large attendance at the inaugural supper given by Mr. Stuart Low to his staff (Messrs. Stuart Low and Co.) and friends, on Wednesday evening of last week. Mr. Low presided, and among the old Claptonians present were Mr. W. Watson, of Kew, who served under the Lows at Clapton thirty years ago; Mr. Harry Barnard, who was 48 years with Messrs. Hugh Low and Co.; and Mr. George Mayes, who has served three generations of the Low family, and been with them fifty years. Mr. Stuart Low presented Mr. Mayes with a handsome walking stick, and his many friends contributed a purse of gold. Mr. Stuart Low received a handsome loving-cup from his employees in memory of the inauguration of the firm of Stuart Low and Co. A very pleasant evening was spent, and an excellent programme of music, under the direction of Mr. Montague Ailwood, contributed greatly to the pleasure of those present.

Rhododendrons at Harewood Lodge. — The gardens of Harewood Lodge, Broadbottom, Manchester, the residence of Colonel Sidebottom, are especially rich in choice rhododendrons, and the groups of these have for some time been immensely attractive. Not only is the selection of varieties at Harewood Lodge an exceptionally good one, but the plants are skilfully cultivated by Mr. W. Mas[illegible], who has long had charge of the gardens at Harewood Lodge.

Apple and Plum Crops round Evesham will, a correspondent reports, be light this season. Owing to the heavy crop borne last year plums did not bloom so freely as usual last spring, and the fruit set indifferently. Apples gave promise of a good crop, but, owing to unfavourable climatic conditions this promise will not be fulfilled.

Horticulture in Holland.—A comprehensive exhibition of horticultural products will be held by the Dutch Horticultural Society at Zeist, near Utrecht, from August 25 to September 1[illegible]. The special exhibitions in connection therewith will be stove and greenhouse plants and orchids, August 25 to 28, cut roses, September 1 to 3, "Flowered work," September 10 to [illegible] 7 to 9, cut flowers, September 14 to [illegible] Vegetables and fruit, September

GREAT FLOWER SHOW AT HOLLAND PARK.

On July 6 and 7, in the Holland House Park, Kensington, the Royal Horticultural Society's summer show was held, and it was the finest of the series, being in some respects better than the great Temple Show of May last. Orchids, roses, and hardy flowers were the great features of this grand display, and there were six tents devoted to plants, flowers, and sundries. It was very unfortunate that the weather set in so wet just about half-past one o'clock on the opening day, as the crowds of visitors could not well wander outside the tents or in the famous Holland House gardens, and they remained under canvas until there was a solid mass of humanity, seeing little of the show themselves and rendering note taking almost an impossibility.

THE ROYAL HORTICULTURAL SOCIETY'S FLORAL COMMITTEE.
(See page 526 for names of members.)

FLORAL COMMITTEE.

Mr. A. F. Dutton, Iver, Bucks, contributed a good set of carnation blooms, his Mikado, President, Hesperia, Robert Craig, and Windsor being especially fine. Messrs. J. K. King and Sons, displayed sweet peas in large numbers, and set up all the newer kinds. An exhibit of cut roses, chiefly teas, and a fine lot of carnations were arranged by Messrs. R. H. Bath, Lim., Wisbech, the same firm exhibiting pæonies and delphiniums in great style. An attractive group of hardy flowers, artistically disposed, came from Messrs. Artindale and Son, Nether Green, Sheffield. It was a combination of rock garden, herbaceous border, and water garden, and the little bridge over the lily pool was a pretty feature. Verbascum pannosum, Calceolaria Golden Gem, Cypripedium spectabile, pink spiræas, and campanulas were notably good.

English irises were largely and well shown by Messrs. William Bull and Sons, King's Road, Chelsea, who had an excellent collection of varieties. Gladioli of the Colvillei section were well shown by Mr. Frank Lilley, Guernsey, the varieties King Edward, scarlet; Lord Byron, pink; Princess Victoria, salmon; Queen Alexandra, deep pink and cream; and King of Spain, light scarlet, being especially fine. Messrs. Reamsbottom and Co., Geashill, King's Co., Ireland, put up a collection of hardy flowers, lilies and delphiniums predominating. Messrs. J. Cheal and Son's rock garden was attractive, the sedums, campanulas, dwarf roses, and heucheras making a pleasing display. Mr. H. C. Pulham, Elsenham, set up a small rock garden whereon the dwarf companulas, dianthuses, and phloxes seemed quite at home. Messrs. E. Webb and Sons, Wordsley, Stourbridge, had an exquisite exhibit of sweet peas put up lightly in vases arranged on a light brasswork temple. The flowers were fine, and all the good varieties were represented. Under the temple were bunches of fine flowers, and around the base of the temple were excellent specimens of melons, tomatoes, peas, cauliflowers, carrots, etc.

A big bank of hardy flowers from Mr. R. C. Notcutt, Woodbridge, included good tritomas, pæonies, delphiniums, Spiræa arguta, and Kalmia latifolia; Mr. Notcutt also sent a display of roses. Messrs. G. Mallett and Co., Cheddar, set up a good lot of liliums, gladioli, campanulas, potentillas, Gerbera Jamesoni, and pæonies. Mr. G. Reuthe, Keston, Kent, showed hardy plants freely, but his arrangement was rather too solid; he had fine heucheras and pæonies, beautiful ixias, and a large number of dwarf campanulas, hardy orchids, heaths, and irises. Messrs. James Carter and Co., Holborn, were represented by a bold exhibit that was really made up of three groups. The central one of well-grown gloxinias, the left-hand one of sweet peas, and the right-hand one of splendid begonias, all doubles, and bright streptocarpuses. Mr. Howard H. Crane, Highgate, N., sent a pretty display of dainty violas, arranging the flowers in low bowls with a few sprays of foliage.

A very bright exhibit of hardy flowers was the one set up by Messrs. G. and A. Clark, The Nurseries, Dover; the delphiniums were very fine, and so were the gaillardias, irises, campanulas, heucheras, etc. Campanula Moerheimi, Gilia coronopifolia, Ostrowskia magnifica, and Geum coccineum Mrs. J. Bradshaw, were notably good. The same firm made a display of sweet peas.

The beautiful lavender-blue Solanum Wendlandi was again finely shown by Mr. W. J. Godfrey, Exmouth, who flowers it well in 48-sized pots; he also showed a bright red-leaved amaranthus, and a splendid strain of cup-and-saucer Canterbury bells, the flowers of large size and very regular in form. Messrs. H. and W. Evans, Llanishen, put up a small group of hardy flowers, and Mr. T. Cross, Bury St. Edmunds, showed sweet peas well. Messrs. Carter Page and Co., London Wall, were large exhibitors of sweet peas, and Mr. H. N. Ellison, West Bromwich, contributed a pleasing bank of ferns, including the newer nephrolepises.

A very fine lot of sweet peas, staged by Miss Hemus, Holdfast Hall, Upton-on-Severn, contained grand bunches of Paradise Carmine, Olive Ruffell, Paradise Beauty, Constance Oliver, Mrs. Chas. Foster, Evelyn Hemus, Zarina, and Chas. Hemus. Messrs. G. Gibson and Co., Leeming Bar, Bedale, displayed a grand lot of Oriental poppies and pæonies. Messrs. B. Ladhams and Sons, Shirley, Southampton, made a brilliant display with their gorgeous gaillardias, and their very useful varieties of pinks, such as Ethel, The King, Elsie, Miss Vince, Ernest Ladhams, Monarch, and Rosy Gem. Beautiful roses were shown largely by Messrs. Frank Cant and Co., Colchester, who, in a lovely set, included the Lyon Rose, Irish

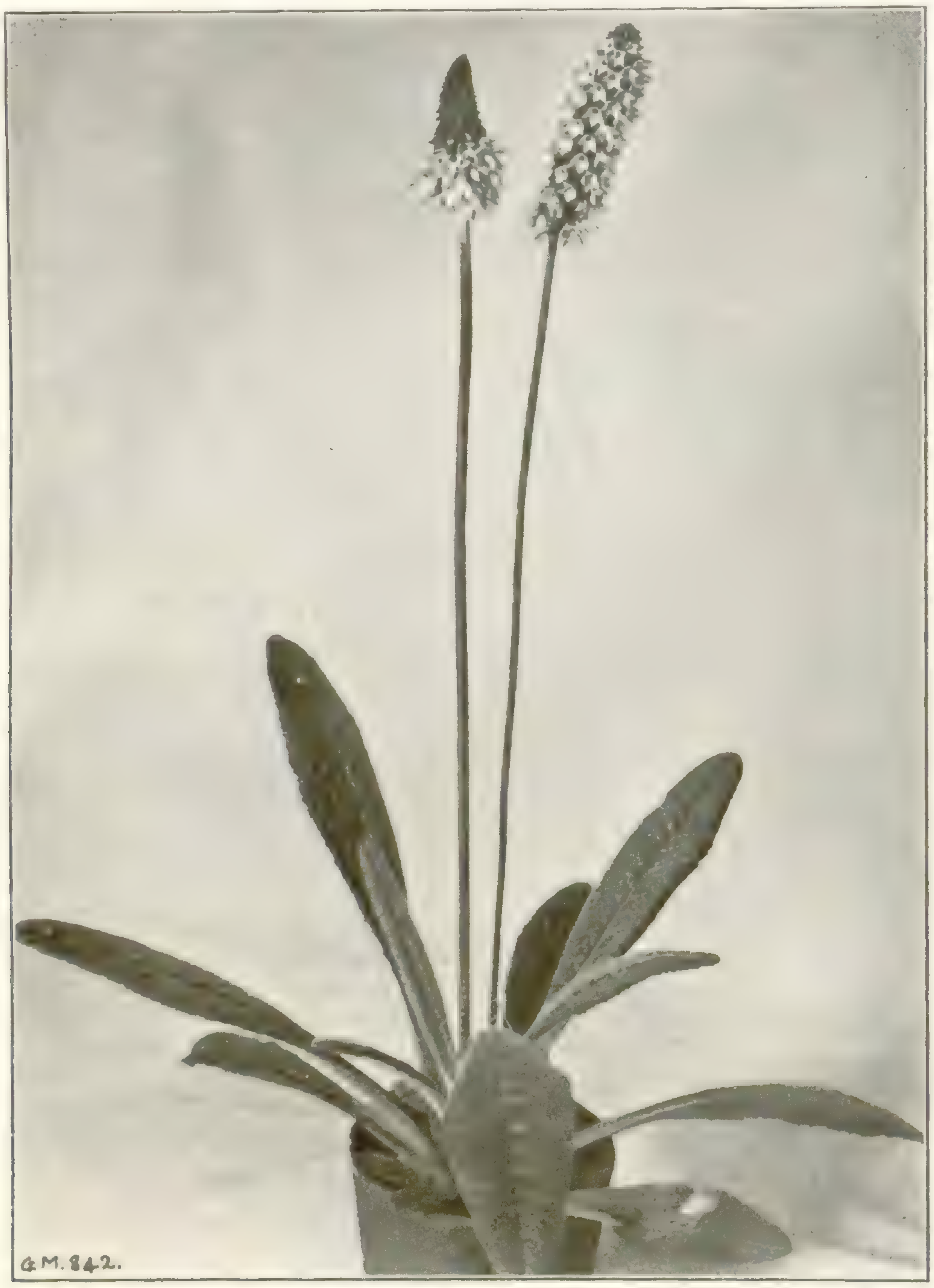
Glory, Richmond, Lady Ashtown, Liberty, and Mdme. Melanie Soupert. Mr. H. Hemsley, Crawley, contributed a rock garden display, and set up a small collection of hardy ferns. Messrs. B. Cant and Sons, Colchester, brought up a grand lot of rose blooms, their specimens of Mdme. Ravary, Mrs. W. J. Grant, Joseph Hill, Mdme. G. Luizet, The Lyon Rose, Captain Hayward, Countess of Gosford, Liberty, and Killarney being especially fine. Mr. A. J. Harwood, Colchester, exhibited hardy flowers, as also did the Guildford Hardy Plant Company.

Messrs. R. Harkness and Co., Hitchin, showed cut roses and a set of Canterbury bells. The delphiniums from Messrs. Kelway and Son, Langport, made a brave show, as set up in a big group; Zinfaudel is a fine deep purple blue. Pæonies, single and double were similarly arranged, and among the former Queen Alexandra, Meteor Flight, Her Grace, and White Lady were notably good. Sweet peas formed another group from Langport, but these were too stiffly arranged. Perpetual carnations were grandly shown by Mr. G. Lange, Hampton, who set up large bunches of fine blooms of Aristocrat, Lady Bountiful, White Perfection, Enchantress, Mrs. T. W. Lawson, Red Chief, Mrs. H. Burnett, and Britannia.

A fine bold arrangement of hardy flowers was displayed by Messrs. W. Cutbush and Son, Highgate, N., who set up big masses of pæonies, eremuri, English irises, liliums, Saracennia purpurea, delphiniums, spiræas, Crinum capense, campanulas, etc., and little pools of water lilies. Violas were very largely shown by Messrs. W. Artindale and Sons, Sheffield; their bowls of blooms were good, but the flowers on high arches were distinctly out of place.

Magnificent bold groups of noble delphiniums were put up by Mr. Amos Perry, Enfield, and between these were arranged pinks, gaillardias, and campanulas. Beyond this were irises and liliums, and then a little stream running amid reeds and phormiums, and under hardy fern fronds was itself the home of beautiful water lilies. A fine selection of choice hardy ferns were accommodated on a bold rock garden, and in the centre was a little dell and pool surrounded by Adiantum pedatum. Then came a broader pool furnished with water lilies and Japanese irises, and bordered with grass, and then one found the little stream again with more water lilies, irises, funkias, etc., and finally two more glorious banks of delphiniums, pæonies, eremuri, irises, and campanulas, and so one side of the central part of a whole tent was filled with beauty by Mr. Perry.

The American Carnation Company, Sawbridgeworth, had good perpetual and Malmaison carnations. Messrs. Barr and Sons, Covent Garden, brought up a collection of dwarfed Japanese trees, and these, as ever, attracted a great deal of attention; this firm also showed a very large collection of hardy flowers, in which pæonies, Spiræa aruncus, ixias, English, Spanish, and Japanese irises, antirrhinums, and gladioli were outstanding features. Fuchsias and cannas were the feature of Messrs. H. Cannell and Son's exhibit, and the graceful Fuchsia triphylla hybrids were especially graceful, while the gorgeousness of cannas attracted everyone, as also did the excellent cultivation of these fine plants.



PRIMULA LITTONIANA.

A new and distinct Chinese species, exhibited by Messrs. Bees, Lim., at the Holland Park Show, July 6 and 7, when it received a First-class Certificate. The flowers are rose-lilac, and the calyces deep red.

Sweet peas from Messrs. G. Stark and Son, Great Ryburgh, were excellent, and notable new things were Mrs. R. W. Pitt, Rhoda Smith, Olive Ruffell, George Stark, and The Premier.

Messrs. Paul and Son, Cheshunt, brought up a fine lot of herbaceous pæonies and delphiniums. Mr. W. R. Chaplin, Waltham Cross, was a large exhibitor of excellent rose blooms, and sweet peas, and Messrs. Pa and Son, Cheshunt, put up a large group of roses on the ground level, again showing their charming single variety Ariel. Mr. Robert Sydenham, Tenby Street, Birmingham, had Syeira Lee, America Spencer, Zephyr, Evelyn Hemus, Helen Spencer, and Sea Shell among his good set of sweet peas. Messrs. Gunn and Sons, Olton, once again showed phloxes in grand style, and also a fine lot of violas. The display from Messrs. Storrie and Storrie, Glencarse, Perth, included fine hydrangeas and good strains of streptocarpus and Primula obconica. Messrs. J. Peed and Son's circular group of caladiums was greatly admired, and Mr. W. L ton's lily of the valley were excellent. M. Maurice Prichard, Christchurch put up a very bright exhibit of hardy flowers, the delphiniums being very effective. Mr. Prichard had also a rock and water garden, with Japanese irises, spiræas, bamboos, water lilies, and other beautiful plants.

The most distinct and striking display in the show was the very fine one arranged by Messrs. R. Wallace and Co., Colchester. This firm had a long cupressus hedge against the tent, and against this put a long border of hardy flowers, filled with pæonies, groups of eremuri, Ostrowskia magnifica, campanulas, irises, kniphofias, liliums in variety, delphiniums, and many other beautiful subjects. A raised stone pathway ran along in front of the border, and on its lower side the retaining wall was filled with dianthuses, thyme, tiny campanulas, and other small plants suitable for walls and rockery. In front of the wall a collection of choice hardy ferns was planted, with little colonies of hardy primulas. The stone path ended in a low flight of steps leading down to a formal water garden, consisting of three pools, each filled with water lilies and with phormiums and eulalias set in artistic pots at the corners. The whole design was pleasingly distinct, and well carried out. Roses were largely shown by Messrs. Stuart Low and Co., Enfield, who also contributed a big bold display of perpetual and Malmaison carnations, very finely arranged in stands, vases, and baskets. The firm also showed large black fruits of the Lowberry. Messrs. Hobbies, Lim., Dereham, set up an extensive exhibit of roses, and they used weeping standards of Dorothy Perkins to great advantage over dwarfs and over a great array of cut blooms. Messrs. Wm. Bull and Sons, Chelsea, brought forward a bold collection of dracænas, palms, caladiums, crotons, ferns, and other choice foliage plants. L. R. Russell, Richmond, had a very pre arranged group of caladiums, choice dracænas, aralias, crotons, anthuriums, nepenthes, the quaint N. bicacarata being shown. The brilliant berried Nertera depressa was displayed in this group.

The sweet peas from Mr. W. J. Unwin were very finely grown, and included lovely bunches of The Queen, Prince Olaf, King of Spain, Mrs. W. J. Unwin, Constance Oliver, the brilliant Edna Unwin, Evelyn Hemus, etc. Mr. Paskett, gardener to E. J. J stone, Esq., Burrswood, Groombridge, brought up a beautiful lot of perpetual carnations and grand bunches of Evelyn Hemus, Princess Victoria, George Herbert, Elsie H Dyke, Helen Lewis, Helen Pierce, Mr. C bert, and Audrey Crier sweet peas. Blick, Warren Nursery, Hayes, showed a fine lot of border and show carnations, thoroughly maintaining his reputation for these flowers. Violas and pansies were largely and well shown by Messrs. Seagrave and Co., Gleadless. Roses and sweet peas—an excellent combination—were arranged by Messrs. E. Bide and Son, Farnham.

(Continued on page 539.)

GYPSOPHILAS FOR CUT FLOWERS.

Few plants are more generally useful to the floral decorator than the various species of gypsophila, variously known as "chalk plants," from their partiality for a soil active in limestone; they are also known as "gauze" flowers, from the airy disposition which characterises the blossoms and branches. The latter attribute lends them distinction in all decorative work, as it scarcely matters whether the floral scheme is in miniature or on gigantic proportions; in either case the flowers of gypsophila can be used to advantage.

Gypsophila paniculata is one of the oldest, and still the best known species, and it forms cloud-like bushes a yard high and often double that in width, planted upon strong chalky soil it grows to enormous proportions, sending the thong-like roots deep into the rock. Gypsophila acutifolia grows to an equal height as the former, but produces rosy-lilac flowers a good deal larger; it generally flowers before paniculata, and always sees that species out.

Gypsophila paniculata fl-pl. is by far the best perennial form at present, similar in habit to the type; the miniature flowers are perfectly double, consequently they are lasting in character; the flowering season exceeds that of the type, and lasts until cut down with frost.

Gypsophila Steveni attains a height of 18 inches, and produces white flowers, which are at their best when G. paniculata is quite over; the habit is less erect than in that species, and generally requires the assistance of some support.

Gypsophila repens monstrosa is valuable in the rock garden; the flower sprays resemble paniculata in miniature, and are of suitable size for small vases.

Gypsophila elegans is an annual species, and valuable on account of its early flowering; to secure this seed is sown in autumn, and wintered in frames, planting out in borders in spring. The plant grows to a height of 2 feet, and in effect is similar to paniculata. The best form is that named grandiflora, having white flowers.

Walmsgate Gardens. **Thomas Smith.**

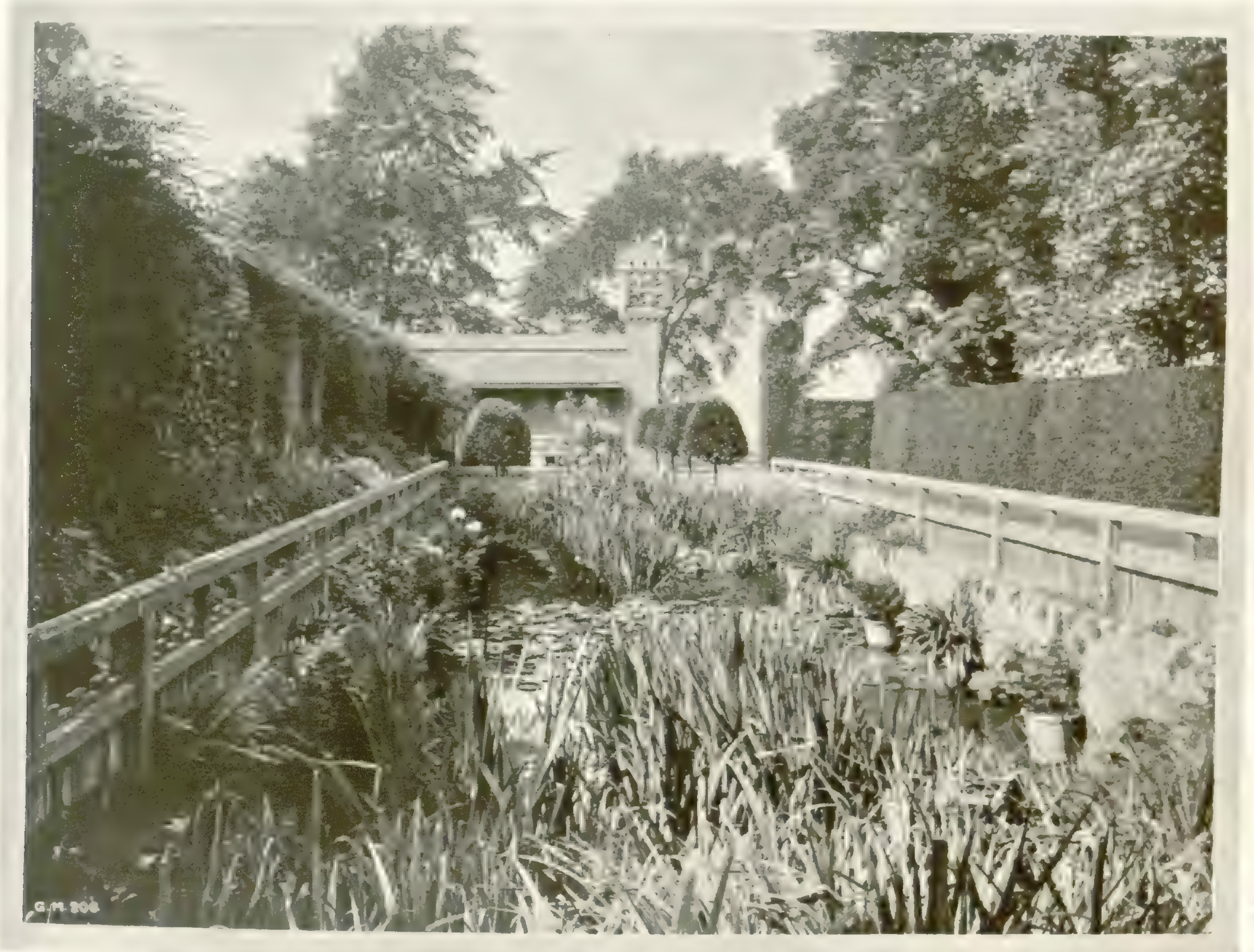
WATER GARDEN AT BARROW COURT.

Many of the very interesting features of Barrow Court, near Bristol, the residence of H. M. Gibbs, Esq., were illustrated in the **Gardeners' Magazine** of May 16, 1908, and we now present our readers with another view, representing a water garden made on the site of a manure yard. This is one of the many improvements made in these fine gardens. There is a long, buttressed, creeper-clad wall along one side, and a broad path and yew hedge on the other, with a garden shelter and a dovecote at the end, where the extension of the terrace finishes. Hardy ferns crown the retaining walls, and creep down to the water's edge, while irises of many kinds luxuriate in the water, and moisture-loving spiræas form big groups at the sloping ends of this quaint water garden. Osmundas grow finely here, and Agapanthus umbellatus is one of the features of the garden. Water lilies disport themselves in the central area, which is kept clear of other subjects for their special benefit. As an example of how to turn an unsavoury place such as a manure pit into a thing of beauty, and at small expense, this water garden at Barrow Court would be difficult to surpass.

THE APPLE SUCKER.

The article by Mr. A. Petts on "Garden Pests" has afforded me much interest, for I have for some years had occasion to devote a considerable share of attention to them, and especially to those which prey upon fruit trees. It is not possible, as the writer remarks, to deal with all the insects that prey upon garden crops, and I shall therefore not apologise for referring to some that were not mentioned.

There are one or two pests that are doing enormous harm, unknown to a good many, and one of these is the apple sucker (Psylla mali). Damage equal in extent, if not greater than that caused by aphides is often done to the apple crop by this pest. Until recent times, and, indeed, even occasionally at the present time, the injury sustained by the blossom was attributed to the action of frost, whereas it was in reality due to this destructive insect. The apple sucker is a small winged fly, green or greenish-yellow, and about 1-10th to 1-8th inch long. In the adult stage it does not seem to do much, if any damage, all being done in the larval and pupal stages. The eggs are laid in September and October on the young shoots and spurs and sometimes on the buds. With the advent of spring and the rise of sap in the tree, these eggs hatch into little larvæ, about the size of a pin's point, just discernible with the naked eye, and varying in colour from yellow to dark green; some that I saw last year on some standard trees of Worcester Pearmain were quite yellow, and some seen this year on the same variety on bush form are dark green. These larvæ at once make their way into the opening buds, and there commence to suck the life out of them. Particularly is this the case when, as often happens, it is a blossom bud which the larvæ enter, in some cases so



[Photo: Lindon Hatt and Son.

ONE OF THE WATER GARDENS AT BARROW COURT, NEAR BRISTOL.

crippling it that the flowers do not open. In other cases, where the flowers open, the larvæ so puncture and suck the stalks that the whole flower withers away just as if it had failed to set owing to the action of frost.

When we examine such a cluster of blooms, however, we shall find the cast nymph skins, and probably some imagoes as well, proving the source from which destruction came.

The apple sucker, like the aphides, undergoes an incomplete metamorphosis, various moults therefore take place between the larval and the imago, hence the cast-off skins one finds. During these moults are produced the characteristic globules and threads which we find at the axils of the flower stalks, and make it so difficult to reach the pest with a spray fluid, as the globules help largely to throw it off. Four to six weeks after hatching—that is, generally at the end of May—the last moult takes place, when the wings are liberated, and the insect ceases to be harmful so far as is known, until, of course, egg-laying recommences.

I have tried many washes in winter time for the purpose of corroding the eggs, but have not found any really successful, the most promising being the lime or lime and salt, which, though not corroding, serves to retard, if not prevent, hatching by smothering the eggs right up. It can only be a partial success, I fear, for the vitality of these small larvæ is very great. On one occasion last year I observed one walking along with a comparatively large piece of lime on its back. I have found the best results to follow the use of the nicotine spray in the spring, which, with careful handling, will thoroughly clear out the sucker where it is used.

It is as well, however, to spray as soon as the suckers are seen, as soon after hatching as possible, as at that period they are far easier killed than when they have been allowed to establish themselves in the axils of the blossoms and leaves. Mr. Theobald is of the opinion that they may then be killed with quassia and soft soap; if this be the case, it is only in the young and tender stage that the remedy has any effect upon them.

Last year I sprayed with this wash at such a strength that I severely burnt the foliage of the trees, and even then did not succeed in killing the suckers, only temporarily disabling them, from which they soon recovered. Even if Mr. Theobald's opinions are justified, and soft soap and quassia wash is proved to succeed, I question whether we can even then dispense with the nicotine wash, costly though it be, for the reason that the latter does, so far as I can see, absolutely no damage to the blossom when trees quite in full bloom are sprayed. Personally, I should not care to do this with soft soap and quassia, unless I knew something of the constituents of the soft soap.

There is another wash on the market which does most excellent work in killing apple sucker, but it is also open to the same objection, that, at the time when it is most necessary to be using it on the trees, one is debarred from doing so for fear of doing injury to the blossom.

There is no doubt that unless prompt and vigorous action is taken throughout the country in combating this pest, successful apple growing will become a thing of the past. **Fred W. Hammond.**

Brentwood.

PROFITABLE FRUIT GROWING for Cottagers and Small Holders of Land.—By John Wright, V.M.H. A Gold Medal Essay, written for the Worshipful Company of Fruiterers. Fully illustrated. Price 1s., by post 1s. 3d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

THE JAPANESE IDEAL.

It would seem that the reign of the Japanese garden in this country is to be a very real and lasting one. From the impressions one has gained of late, there is evidently a decided trend toward the Japanese style of garden adornment, and the idea is prevalent that the present-day desire for the Japanese garden is as yet in its infancy.

Already there are signs in the air, and one hears vague rumours of trips to Japan to study Japanese architecture in tea-houses, bridges, arbours, etc., of special engagements of Japanese artists to make certain of getting the true Japanese effects, of special importations of Japanese plants, stoneware, and curios, that one is inclined to wonder to what extent the new phase of garden adornment is going in this England of ours. There is so much to be said in favour of Japanese art as applied to garden decoration that one would not prejudice the least thought against its success in English gardens, but the main idea must ever be, to adapt the best phases of the Japanese garden for our own requirements, and not to become mere copyists of existing gardens. Taking the "Japanese" ideal for all that it is worth, we note that the dominant features are the bold, effective arrangement of rock, mound, and boulders, the artistic groupings of trees, shrubs, and plants, the ever-recurring use of pools, streamlets, and swamps,and a completeness of detail which is such a marked feature of Japanese gardening. The reproduction of existing bits of natural scenery on a smaller scale, is a notable idea carried out in many Japanese gardens. There you may have the bold cliff, crowned with its setting of dwarf pines, etc., the rising hillocks ablaze with glowing azaleas, a valleyed depression, with pools and tiny waterway, o'erspanned with one or more of those delightful curved bridges. A swamp of irises, gay in summer with a myriad soft-lit hues, the causeway of stepping-stones through the iris groups, which leads one away to a miniature jungle of bamboos, shrubs, and grasses. Suitable groupings of ferns, and reed, alpines,and flowering trees occur in suitable positions, just as they would in nature, and the beauty of the scene is emphasised by the fact that in all the garden there is no jarring note to disturb the complete harmony, one feature gradually passes into another, with just that pleasing grace which takes away the power of the would-be critic.

Such treatment in garden adornment gives an appearance of unlimited space to even a small garden, and properly carried out, will give artificial work an air of naturalness which Nature herself could not well object to. But, though the majority of Japanese gardens are picturesque scenic effects, yet it must be borne in mind that all Japanese gardens do not show the diverse characteristics of the one described.

Many of the larger gardens specialise particularly in certain groups of flowering subjects. The famous Wistaria Garden at Kameido, with its cascades, banks, and veilings of the magic violet-sheen of W. multijuga, is a case in point. True, one has rock, cliff, and waterways, but the great outstanding feature is the wondrous wealth of wistaria blossom, which in its season is indeed one of the glories of Japan. Others give the place of honour to the lovely cerasus (or cherries). The glowing azaleas, pæonies, or even chrysanthemums. Others again, like the garden of Hori-kiri, delight one with a glorious wealth of iris, swelling down a valley with its glowing, undescribable beauty of colourings. "A veritable furore of beauty;" "a colour-effect beyond imagination."

The Japanese garden-maker would dismiss as impracticable subjects many favourite plants which are largely grown in English gardens. They have their own ideas of floral form and beauty, and any flower that does not coincide with these ideas are out of the scope of the Japanese artist. And, as these ideas of floral form are rigidly adhered to by each successive generation of garden-lovers, aided by the love of the whole race for floral beauty, we feel that we can understand somewhat the reason of the high position that their favourites of the floral kingdom occupy.

And in the creation of a garden one must admit the painstaking perseverance of the Japanese garden artist. His aim is perfection of line and arrangement. Nothing is too much trouble. The selection of stones for the formation of a bit of rock-work would do credit to a first-class jeweller at work upon a royal coronet. Anything that does not meet with the approval of the discerning eye is placed aside as useless for the purpose in hand. And whether the worker is busy training one of those gnarled miniature trees, or is making a replica of a mountain scene, with the "great" Fujiyama itself in the background, one notes the same observant, detailed care. Then again, the "ideal" Japanese garden is a haunt of pleasure. It is a garden where one can live sunny, peaceful days during the warmer months. It will have its tea-house, with all its simple, charming accompaniments for the serving of light, dainty meals. There will be the quiet resting seats under the shadow of bamboos, where one can view the pools and waterway fringed with reeds and rushes, and gemmed with water lilies, the haunting groups of heaven-hued irises, and the "fire-lit masses" of azaleas clothing the rugged banks. There will be the quaint stone pathways, where one can walk in shadow and sunshine during the day, and which at eventide are diffused with the faint, soft lights emanating from "stone" and "swinging" lanterns. And, furthermore, one has the advantage of perfectly restful scenery, soothing to the wearied nerves, and possibly, the "garden bath," which was not the least charming feature of some of the gardens of "Old Japan."

But in the furtherance of this idea of the Japanese garden, let me impress upon the reader the value of proportion in arrangement. An undue preponderance of stone-ware, a too free use of tree or shrub groupings, a garden-house which becomes unwieldy in comparison with the size of the garden, an injudicious use of rock, will each and all take much from the beauty of the scene, and may possibly conduce to a grotesque effect.

Much remains to be done on the lines indicated, and whether one decides on a "typical Japanese garden," or what is equally charming, an "English garden which embodies some of the finest phases of Japanese garden art," they will find that both portray an interesting aspect of garden art, and both will do much to further horticultural progress.

Already the horticultural trader is finding out that he is being asked to provide Japanese plants, trees, and stoneware which were an unknown demand in the days that are past, and the wider outlook and the closer touch with the Far Eastern Empire should be productive of good.

One lesson which the Japanese teach might well be taken to heart by ourselves. That is, the utilisation of "native" plants. We in forming garden haunts of beauty have room for improvement in this matter.

P. S. Hayward.

ROSE PERGOLA AT STRATFIELDSAYE.

The illustration given herewith of the admirably furnished pergola which forms a highly attractive feature of the charming gardens of Stratfieldsaye Rectory can hardly fail to interest a large number of our readers. It is an excellent example of the type of pergola that has the merit of being simple, inexpensive, and admirably adapted for the display of the distinctive charms of rambling and other roses of scandent habit to the best advantage. The pergola has also the merit of being sufficiently substantial to bear its precious burden of flowers for many years, and it is of interest as showing that the genial president of the National Rose Society appreciates garden roses not less highly than he does exhibition roses, with which he has achieved so much success during the long period over which his career as a rosarian has extended. The pergola in the rectory gardens at Stratfieldsaye was constructed within a short period of Mr. Page-Roberts becoming settled in his new home, and it extends from within a short distance of the rectory to the entrance to the somewhat quaint church. The design is sufficiently shown in the accompanying illustration, and originally it was planted on one side with roses, and on the other with various climbing plants, comprising, among other subjects, several of the ornamental vines and Actinidia chinensis. This arrangement was regarded by Mr. Page-Roberts as somewhat unsatisfactory, and he removed the miscellaneous plants from the side of the pergola that had been devoted to them and replaced them with roses. It need hardly be said that the finest of the climbing roses have been utilised in clothing the pergola, but it may be mentioned that René Andre and Helene are especially conspicuous among the varieties that are prominent in the illustration.

Those who have had an opportunity of seeing the gardens of the Rev. F. Page-Roberts in East Anglia, and at Stratfieldsaye, are well acquainted with the fact that he has a strong affection for hardy perennials, and the fine border that flanks the pergola is the best possible proof that could be had of the success with which he cultivates them, and the taste with which they are arranged.

[Photo: F. Mason Good.

AN ADMIRABLY-FURNISHED ROSE PERGOLA IN THE STRATFIELDSAYE RECTORY GARDENS.

PREPARING ROSES FOR EXHIBITION.

The successful exhibition of roses can only be acquired by patience and experience. Of course, one must secure the right quality of bloom first, but many even then fail to put the flowers up to the best advantage. Only observation and care can teach one which varieties need cutting earlier than others, and in what stages of development they will travel best. Some roses need to be cut almost in the bud state, while others will remain perfect from the time they are culled from the plant. However careful one may be, a sudden change in the weather and temperature frequently upsets all calculations, and it is advisable to carry spare blossoms in varying stages of development of those sorts which expand most freely. Then one has to allow for the length and duration of journey.

It is well to cut late in the evening or very early in the morning. Quite a different flower would be needed when one is to travel from late afternoon until ten o'clock the next day, than if the exhibition tent is in your own district. The fresher the rose can be cut the better, but I would prefer not to cut them during too bright sunshine. Bright sun and an easterly wind—such as the farmer delights in for haying—is much against cut roses. However careful one may be to place them in water immediately, the flowers often grow less instead of larger.

Never set the roses up at home. There are certain to be alterations needed upon arrival at the show. Have boxes and tubes all ready, and the flowers placed about where you think they will need to be arranged, but leave the final touch until the last, when everything will look fresher. A little taste in the arrangement of colours goes a long way towards setting off the blooms to the best advantage, and neatness counts in adjudication.

Do not make the mistake of looking at your own box with partial eyes; our own geese are apt to look like small swans if we regard them long and favourably enough. Nor must we think of what a certain flower has been. That is not the question for the judges, but what it is at the moment they see it. I have often noticed what was undoubtedly a grand flower left in a stand after its chief phases of beauty had passed. Amateurs often fail here. They cannot lose sight of what a good specimen it has been.

Regulation boxes are used at almost all rose shows now, most of the societies being affiliated with the N.R.S. Fix the blooms up boldly, so that one can see all around them, when they will appear larger. Always have plenty of water in the tubes. I have tried a number of things in the water to help keep flowers fresher, but never really found any benefit therefrom. It is a good plan to cut off the bottom of the stems frequently with a sharp knife.

If you require large flowers the buds need to be thinned as soon as they can be picked out.

A. Piper.

AMONG THE ALPINE FLOWERS.

"The fairies have been busy while you slept;
They have been laughing where the sad rain wept,
They have taught beauty to the ignorant flowers;
Set tasks of hope to weary wind-torn bowers."
—E. Nesbit.

After a long duration of glorious weather, in which every flower in bloom seemed to laugh with pleasure, the inevitable change came, and "rain, rain, rain," was the burden of the song. But that, also, has almost passed away, and we see where "the fairies have been busy" among the flowers. Some of our favourites have had their blossoms scattered for the year, but others have been brought forth to give pleasure to us, and we find much to observe as we wander through the narrow paths, taking note of what the rain and the succeeding sunshine have had to yield us.

Sun Roses.

Sun roses, which a few days ago bewailed the absence of their lover, now rejoice in his presence and his gaiety. They open their petals and seem to smile upon the world, as if they thought that the time of their discontent was over, and all would be well. What delightful things are these when on a sunny bank! Each morning they open a fresh supply of blossoms, and each afternoon or evening, as the case may be, they cast them off as one would cast off rejected raiment. Next morning they are covered with bright flowers again. And so they go on for long, provided their requirements are satisfied. And these are few. Give them a dry bank, a sunny place, some stones about their roots to keep them from excessive drought, and they are happy. Some have an impression that they require rich feeding, but that is an error. They are like the "country mouse" in their fare. Yet they do not flourish, or, at least, do not give the same satisfaction, when they are in too dry a place. I find that they soon drop their petals if in such a place, and the point is how to hit the golden mean. Then they like shelter from wind also, and a sheltered place will sometimes mean hours of difference in the duration of bloom; the plants exposed to wind losing all their flowers in a few hours in stormy or gusty weather.

As to varieties, their name is legion, and we may choose almost any single-flowered one sold by a firm of repute as a named variety with confidence that we are sure to obtain a helianthemum which is worthy of its room. But we must have a few double varieties, and the first choice of these should be made with H. venustum plenum, or H. amabile fl.-pl. (called Mrs. C. W. Earle by some), with its vivid red flowers held well up to the light. Then we must add its daughter flower, Jubilee, which is bright yellow, and its bronzy sister, Old Gold. All are akin, the two last being derived by sports from the first, and all alike have the merit, denied to the great number of the double helianthemums, of holding their flowers well upwards. The others require to be planted high on the rockery, the weight of the blossoms bearing down their stalks, too delicate and weak to hold up the double flowers.

Ofttimes these flowers can be bought in pots, and so can be planted out at any time. One word of caution in planting should be added, this being that plenty of room should be given to each plant. The sun roses are most ornamental when three feet or so across.

Ajuga genevensis Brockbanki.

Ajugas, or bugles, are not extremely popular among the lovers of alpine flowers, although some of the species and their varieties are excellent for many purposes. The Genevan one is seldom seen, and its form, called Brockbanki, is met with at the present time in very few gardens. In June and July it is very ornamental, with its deep blue flowers, in longish spikes for the height of the plant, the deep, almost cobalt blue, harmonising well with the dark green foliage. Its only fault is that it is inclined to creep a little at the roots, but it is not excessively aggressive in this respect, and is not thus difficult to keep within bounds. Its height, with me, is generally about nine inches, and it is a plant which has never lessened in one's estimation during the many years I have had it in my garden. It appears to be very easy tempered in every way, objecting to nothing almost in the way of soil, flowering as well in shade as in sun, and standing dry weather well, although it has evidently a liking for a reasonable amount of moisture at its roots. It is also good for the front of the border.

Dianthus alpinus.

The alpine pink, Dianthus alpinus, is one of the gems of a genus which has, one may say it with all respect, a perfect title to the name of the "divine flower," a literal translation of the name of dianthus, from dios, divine, and anthos, a flower, the name given by Theophrastus to the race. It is a gem indeed, and all who can grow it delight in and are proud of its lovely carmine, crimson-dotted flowers. It is one of the alpines coveted by everyone, and one which, although capricious and incomprehensible in some of its requirements, it is not at all difficult to do in many gardens. It seems to me to like an almost level place on the rockery, with stones about it sufficient to keep the soil moist, but still in a soil which is of freest drainage. Only a few inches high, it is an exquisite flower, worthy of all care, and easily purchased in pots, and also easily raised from seeds. As for the white variety, well! one must agree with a certain alpine pundit who tells us that it "is a blank disappointment" to him. We have plenty of good white pinks, and when we see this D. alpinus albus beside its sister we are truly disappointed with it. But the typical alpinus is a perfect gem.

Dianthus cæsius.

The good old Cheddar Pink, Dianthus cæsius, has given us so many descendants, some possibly hybrids, that its identity is almost lost in gardens. It is beautiful indeed, with its fringed pink flowers, and there is hardly one of its progeny which is not worth possessing on the rockery. They make good masses of grey foliage, and give so many flowers that they are a good "stand-by" if we have little else in these days of late June and early July. Although a lime or chalk lover, D. cæsius and its varieties are all so accommodating that they can be cultivated successfully as well on the sandstone or granite as on the chalk rocks of their own home.

Other Flowers.

But we have many flowers besides these, for have we not masses of sedums, rose, and yellow, and white, and various shades between? And we have yet late saxifrages, giving plumes or spikes of white or spotted flowers. There are sempervivums, sending up great fat stems, and, while the blossoms carry death to the rosette which blooms, making a great effort to startle the world with their wonderfully starry flowers in such great heads. From bronze and green, from silvery and woolly rosettes, rise these strange-looking flowers, which we look upon with mingled pleasure and regret—pleasure beca their character—regret because the plant dies in giving birth to this galaxy flowers. Then there are claytonias, niums, erodiums, poppies, dwarf ver calceolarias of approved hardihood, and host of other blossoms of the summer time, gay or quiet in their colouring, but mostly fascinating in their mien. S. Arnott.

ONION DISEASE.

In the present season large areas of onions are to be found diseased, with "blind" or "bull-headed" plants, and it is often noticed that one portion of a bed is affected while the remaining part is healthy.

The mischief is every extensive, and differs from the disease caused by the Onion Fly (Phorbia cepetorum). On amination of the diseased bulbs by a powerful microscope, every plant, on being open, will be found to be infested by eelworm (Tylenchus devastatrix).

Onion plants attacked by eelworms early stage of their growth have sw and twisted leaves, in which the nem are found in great numbers. When bulb is more advanced it swells unnatu in the upper part, and becomes soft pulpy. It splits open, the outer folds away, and the whole bulb soon decays. the growing parts of the bulbs eelw are found in all stages of existence, large colonies of eggs. The diseased p should be carefully taken up with a three-pronged fork, used in market dens, or some other handy tool, so every particle of bulb and leaf, and the fibrous roots are removed. These be at once burned. Do not leave the lying on the ground, because either the worms or the eggs will be transferred to the soil. The eggs may also be carried by surface water to other parts of the garden.

Eggs containing the embryo eelwor be kept dry for six months without their power of hatching, and young worms have the power of resuming tion and active life after they ha mained in a perfectly dry condi dead plant tissues, or in a dry between two and three years. It is rent that this faculty enormously in the chances of the distribution and s of this pest, which may be carried gardens in the dried-up state with made from infested clover or straw

It may be said at once that this pest extremely difficulty to deal with. A rotation of crops should most certainly be selected that will allow as long an interval as possible to elapse before another onion crop is planted on infested ground. subject to this pest and intended fo should be very deeply dug, not two spits, and in the winter. A of quicklime or gas lime at the rate ton per acre, or 14lb. per pole, worked into the soil during the In the spring, after the onion tablished, apply, as a top-dre ture of quicklime and soot in the tion of one bushel of soot to two of lime. This should be broadcasted damp or rainy weather, and lightly in between the onion rows as soon as the soil is dry enough. J. J. Willis.

Harpenden.

A Good Crop of Almonds. cording to "The Globe" 360lbs. have been gathered from the alm in the Bishops Park, Fulham, and sold ten guineas.

THE MALE FERN.

The Male Fern (Lastrea filix mas) is one of the so-called Buckler fern family, the little skinlike covering over the spore heaps at the back of the fronds being of a kidney shape, somewhat resembling an ancient buckler or shield. The Shield ferns (Polystichums) are, however, a distinct family, having the said cover or indusium quite round and attached to the frond by a very short central stalk, or rather boss. The Male Fern is probably the commonest native fern we have, since it is one of the least exacting as regards soil or the general conditions which determine fern growth. In many parts of the country it grows freely in the hedges and ditches by the road side, and in abundance in woods and shady glens.

It can hardly be confounded with any other species, unless it be with its relative L. montana, the Lemon-scented Fern, but even from this it differs in the fact that the side divisions of the frond only begin about one-fourth the way up, commencing as fairly long ones surmounting a bare stem, which then continues to form the midrib of the frond. These divisions are divided once again into pinnules with toothed edges, the frond thus resembling a coarse lance-shaped feather tapering off to an obtuse point. L. montana, on the other hand, has its side divisions commencing as short lobes at the ground level, hardly any bare stalk there being seen, while a distinct and agreeable lemon-like odour, perceptible when a frond is drawn gently through the hand, plus a much lighter yellowish-green tint, also distinguishes this clearly from the Male Fern we treat of. The Male Fern is one of the so-called Shuttlecock type, i.e., the fronds spring in a circle from a central caudex or rootstock. They rise in the spring, and as they ascend and uncoil, the tip hangs down on the inner side like a shepherd's crook, while in L. montana the stem rises erect with a spiky ball at the top. This bending determines also a difference between the Male Fern and the Shield Fern, since with the latter the frond tip turns over and hangs backward, like a crook turned the reverse way, so that even before the fronds clearly indicate the species to a beginner, these peculiarities establish the species.

In the autumn, the fronds of the common Male Fern develop a weak spot near the rootstock, and fall down, perishing later on during the winter. This is the rule, but there are exceptions, for it has been found that the Male Fern has two sub-species, viz., L. pseudo-mas and L. propinqua; and L. pseudo-mas, or the Hard Male Fern, is much more robust and tougher in texture, so that in protected situations it retains its fronds through the winter and well into the following season. L. propinqua, on the other hand, is even softer and more thoroughly deciduous than L. filix mas; it is distinguished by somewhat crispy sub-divisions, and other small differences which we need not define here, as it only occurs locally. As we have said, the Male Fern is not dainty, and consequently as a cultivated plant or even as a neglected one in the open, it holds its own, and in time forms robust clumps, since it has a knack of producing lateral offsets, which soon assume full size and transform a single crown into a bush.

In this connection, we may mention that this has a somewhat dwarfing effect on all the plants so crowded, and the only way to grow the fern to the best advantage is to remove these and keep the original crown free from their competition for root room and frond space. Each such offset can be pulled away with its own bunch of roots, affording thus a ready means of propagation. Owing to its easy growth, nearly all gardens, and particularly suburban gardens, show specimens of this species. There must be many thousands in London suburban gardens, and this brings us to the curious consideration that, despite this general appreciation of the common type, the many far more beautiful varieties of it which exist are only seen in recognised collections.

Few people seem to be aware that there are forms of this bearing beautiful tassels at every tip, such as cristata, polydactyla, grandiceps, ramo-cristata, ramosissima, ramulosissima, and many others of the crested section; a number of beautifully dwarfed varieties, in which the charm of the larger ones is condensed into compact little plants of a few inches in height, gems for window or case culture; and a host of others in which the make of the fronds, their cutting, and habit is very different from the common type from which one and all sprang, and whose hardiness and ease of culture one and all have inherited. Most of these are obtainable for a few pence apiece, and once acquired are a permanent possession, plus the power, common to most, of the lateral propagation above alluded to, and the faculty of reproducing themselves truly through their spores if their owners care to devote themselves to that most interesting branch of fern culture, spore raising. Of late the popular interest in these beautiful varieties of this species, and of most of the other species indigenous to Great Britain and Ireland, has greatly increased, and the absurdity is being recognised of growing only what the connoisseur regards as the weed forms, when for a small outlay a collection of many different forms could be made to replace a monotonous repetition of, it may be, scores of the same and inferior type.

A well-grown specimen of L. f.-m. cristata, known as the King of the Male Ferns is before us as we write. We have had it over 30 years; it is in a huge pot, has a trunk à la Tree Fern, nearly eighteen inches high, and a magnificent circlet of fourteen 4ft. fronds bending symmetrically with hundreds of fine tassels at all terminals. This is of the hard sub-species L. pseudo-mas, and often retains a double set of fronds, those of the previous season remaining perfectly green long after the succeeding circle of new ones is perfected. Such a specimen is worthy of a place of honour in any conservatory, and not far from it is a row of little pots accommodating a dozen or more seven or eight-inch dwarfs of equal beauty on a smaller scale. If our readers would obtain a specimen or two of this "King," and plant it among the meaner subjects in their gardens, they would speedily determine to oust a host of the latter in favour of the diverse and more charming forms we refer to.

Chas. T Druery, V.M.H., F.L.S.

MR. CONWAY JONES'S CHAMPION SET OF TEA ROSES AT THE N.R.S. EXHIBITION, JULY 2.

FEEDING WALL FRUIT TREES

The growing of fruit trees against walls being in some ways unnatural, they need more attention in this respect than trees in the open. It must be borne in mind that their feeding area, instead of extending to a radius of several feet or yards all round the tree, is limited to one-half of a circle, by reason of the boundary formed by the foundations of the wall—unless the latter has been built on arches, which is not very likely in the case of the ordinary garden wall—none but large and old trees, such as wall pears, ever pushing their roots to the other side of the wall to any good purpose. Moreover, that part of this feeding area next to the wall is usually in a dry condition even when the ground elsewhere is wet. Both of these conditions restrict the food supply of the tree, which needs to be larger than that available for trees in the open, because, owing to the general practice of protecting wall fruit trees from frost, it is no uncommon thing to have good crops year after year, sometimes even, as in the case of peaches and nectarines, a blank year being quite exceptional. This does not occur with any sort of fruit in the open, with the exception of bush fruit. The combined result of these conditions is often seen in enfeebled trees, making but poor growth, and producing small fruit or a very light crop.

NEW HYBRID TEA ROSE COUNTESS OF SHAFTESBURY.
Exhibited by Mr. Hugh Dickson at the N.R.S. Show, July 2, and awarded gold medal.
Flowers two-thirds natural size; colour, bright rose-pink.

When to Feed.

The season of the year at which trees are fed, and the character of the manure applied, must be determined by careful observation of the tree. If a tree is bearing little or no fruit, and is making healthy young growth much in excess of a foot in length, no manure should be given to it that year. If, however, though making good growth, it is bearing a heavy crop of fruit, then the application of liquid manure after the fruit has stoned, or when the fruit commences its final rapid swelling before beginning to colour (that is, the ripening colour as distinct from the dark red colour of apples, peaches, etc., while still in a very immature state), will have the effect of increasing the size of the fruit considerably, and aiding the tree at the same time. Some liquid manure may also be applied after the fruit is gathered, and the tree pruned and nailed up for the winter, as I believe in doing as soon as the fruit is picked, from the end of August onwards. This helps the fruit buds for the next season to swell up and become fully developed, and may make the difference between the blossom setting freely and proving abortive, while there is little if any danger of the tree starting into fresh growth.

Liquid Manure.

Liquid manure, too, of any sort, especially the drainings from a farmyard or stable, applied during the winter, would be beneficial to such a tree, that is, one bearing well, and making moderate growth. If, however, the tree is making very strong growth, as well as producing a good crop of fruit—not a general occurrence—then it would be better to give a good soaking of plain water only two or three times during the summer, and perhaps once after the fruit has been gathered. Though, as just stated, it is not usual for a tree to make unduly strong growth and produce good crops of fruit at the same time, some of the strong-growing plums, especially the gages, sometimes combine the two, especially in their early years. I have a tree of Oullin's Golden Gage on a wall, and I had to lift it two successive years before I could get it even to flower. The last two years it has produced heavy crops of the finest fruit, and it still makes such strong growth that I have never yet given it any liquid manure. Still, I give the tree a good soaking occasionally with plain water both in winter and summer.

Autumn Dressings.

But there are trees on most garden walls which produce good crops year by year, and make less and less growth, and this leads to a state in which the tree makes very feeble growth, and produces little or no fruit, or only once in two or three years. Here something more is necessary, and with care, such a tree may be regenerated in a couple of years. Towards the end of September or early October the surface soil should be carefully removed within a radius of four to six feet from the stem, and sufficiently deep to expose a good many of the surface roots, the soil being carefully worked away from them with a small hand fork. Then there should be worked in amongst the roots and spread over them any good soil that can be obtained, such as fresh, rich turfy loam, or a mixture of this and old cucumber or marrow bed. If this is watered in fresh root fibres will be formed in the new material before the winter, and the tree will probably make much better growth, and even take on a new lease of life, especially if this treatment is accompanied by some shortening of the branches. A mulch should be put over the new soil when winter approaches, and removed when the sun begins to get warm in March, liquid manure being given during the winter and throughout the summer if the growth of the tree is not very strong.

Applications of Lime.

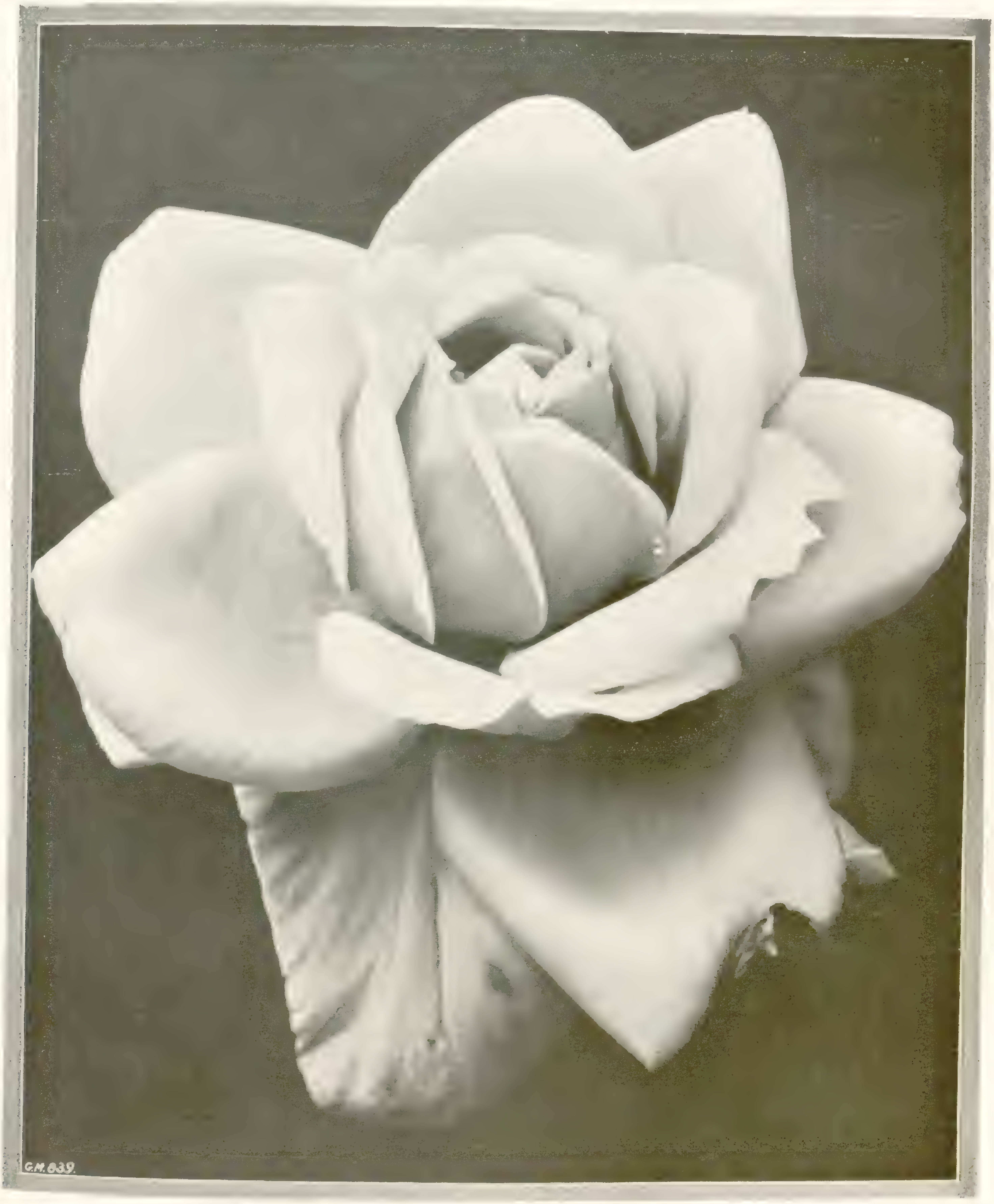
But liquid manure and farmyard or stable manure are mainly nitrogenous, especially the former, neither of them containing much of the elements of lime and phosphorus, which are scarcely less important to fruit trees, their absence sometimes accounting for their enfeebled state. All stone fruit trees especially need lime, and if the soil is naturally poor in this constituent, they will soon become exhausted or frequently rest from bearing, unless lime is applied in some form or other. We probably do not realise the amount of soil material that is removed by a tree in producing a good crop of stone fruit. Most garden soils are more or less poor in lime, even when the original soil was not so, and it is a good thing to apply basic slag in the autumn at the rate of two ounces to the square yard, and lightly hoe it in, as this supplies both lime and phosphates. This, however, is not so effective on light soils, and on such it would be better to apply a dressing of lime in the autumn followed by 26 per cent. superphosphate of lime early in the spring at the same rate as that recommended for the basic slag. The reason trees rest alternate years, or two years out of three, is often because they have exhausted the supplies of lime within reach. Phosphate has the effect of inducing short-jointed and fruitful growth, and is thus the best plant food which can be applied to trees making a fair amount of growth, though, as stated above, nitrogen is essential for [illegible] vigour of growth.

Deficiency of Potash.

On garden soils which have been given animal manure for many years there is not generally a deficiency of potash, but where trees have been established for a number of years they may easily have exhausted the available stores within reach, and as it is this constituent which is regarded as primarily responsible for the colour and flavour of fruit, especially the former, we cannot afford to neglect it. Farmyard manure contains a fair amount, and liquid manure made from rich guano usually contains some, but with old-established trees these sources may be well supplemented once in two or three years by a dressing of kainit, a cheap potassic manure, ten or twelve per cent. of which is actual potash. It should be applied in the autumn at the same rate as recommended for basic slag, sprinkling it over the soil as far as the roots are expected to extend, and lightly hoeing it in.

Observations.

It is often asked by inexperienced amateurs whether fruit trees should be manured, and, if so, what manure should be used. It will be gathered from the above that no general answer to such inquiries is possible, and that each tree should be supplied according to its needs, the latter being ascertained solely by careful observation of the growth of the tree. As a rule, trees receive too much manure in their early days, and too little when they are bearing heavy crops of fruit, and we should try and reverse this practice. When the fruit has been gathered from a tree many seem to take no further interest in that tree until they look for blossom in the following spring, and that is a great mistake, and the cause of non-success with many trees. After the fruit has been gathered it is too late to alter the amount of fruit buds for next season, but upon our treatment of the tree may depend the fertility or otherwise of the blossom, an exhausted tree not having the power to properly develop its embryo blossom within the fruit buds, either the pollen or the ovules being defective. Alger Petts



H.T. ROSE MADAME MELANIE SOUPERT.

A superbly-developed bloom of this fine rose, for which Messrs. McGredy and Son were awarded the silver medal for the best bloom of hybrid teas exhibited in the trade classes at the N.R.S. Exhibition, July 2; colour, soft cream-yellow, with deeper centre.

SPRAYING TRIALS AT THE ROYAL SHOW.

A few days before the Royal Agricultural Show at Gloucester a number of farmers, fruit-growers, and others met in the orchard of Mr. Martin Chart, at Hucclecote, to witness what proved to be a very interesting trial of apparatuses for spraying purposes. This is the first time a competition of the kind has been arranged by the Royal Agricultural Society, and the results were in every way encouraging to the promoters. It was evident from the interest taken in the proceedings that spraying, first as a means of checkmating insect and fungoid attacks on fruit trees, and secondly for the purpose of lime-washing walls and buildings, has come to stay, and people are beginning to realise that where fruit is grown, or there is much lime-washing to be done, a spraying apparatus is an essential part of the outfit.

The judging was in the hands of Messrs. G. Champion, of Maidstone, and Mr. C. H. Taylor, of Worcester, with Mr. F. S. Courtney as consulting engineer, and every praise is due to them for the way in which they stuck to what proved to be a long and tedious task. In the first class two prizes of £20 and £10 were offered for the best movable plant for spraying fruit trees and bushes in large plantations, to be worked by steam, petrol, or mechanical power. Clean water was first used, and then lime-wash, and though the latter served the purpose of testing the machines, the material used, and the method of mixing came in for adverse criticism on part of those present who are experienced in spraying with lime and Bordeaux mixture. Four machines were put on trial in this class, and the first prize went to Messrs. Weeks and Son, Lim., Maidstone, who had a powerful and economical apparatus, driven by a paraffin oil engine, which showed excellent capacity for dealing with a large number of trees in a short time. A main pipe was laid between the trees, and to this branches were attached, which threw fine sprays to a considerable height and distance. Messrs. Drake and Fletcher, of Maidstone, won the second prize with a powerful and compact apparatus, the barrel containing the insecticide being attached to the engine. Another apparatus in this class was one from Messrs. Duke and Ockenden, which was specially designed for getting to the tops of tall trees. The petrol engine and the receptacle for the insecticide were mounted in a waggon that was also provided with a wooden tower, and from the top of this the spray jet was manipulated. A spray jet called the "Mystery," was used by this firm, and it struck us as being an excellent contrivance for throwing a fine spray. The plant used by the Weald of Kent Engineering Company was a very handy apparatus, so far as the engine was concerned, but the fact that the tub containing the liquid had to be moved by hand was against it in point of portability.

MRS. ORPEN'S FIRST PRIZE BASKET OF ROSES (IRISH ELEGANCE) AT THE N.R.S. EXHIBITION, JULY 2.

For the best machine worked by hand-power two prizes of £10 and £5 were offered, and it was neither fair to the exhibitors nor the judges that small knapsack sprayers should have to compete with machines of greater capacity on wheels. Here, again, Messrs. Weeks and Son, Lim., were placed first with a sprayer furnished with a wooden tank, a good pump, and ample arrangement for pipes and jets. This was undoubtedly one of the handiest and best-finished machines exhibited. Messrs. Drake and Fletcher won second prize with a handy, powerful, and portable machine, and there were several others well worthy of mention. We were much struck with the sprayers displayed by Messrs. R. Burland and Sons, Wigan, which are particularly adapted for lime spraying. No. 1 is a handy little machine on wheels, and No. 2, which is mounted on runners, is good for getting about amongst trees under conditions unfavourable for wheels. No. 3, which is mounted on a wheelbarrow, is also a very portable and powerful sprayer.

Messrs. Llewellins and James, Lim., Bristol, were represented by a useful machine with a metal tank and good pumping power. An apparatus fitted with handles for carrying about, a powerful pump, a number of pipes, and still more jets, was shown by Messrs. Liversedge and Co., of Evesham, but it did not succeed in obtaining an award. The Weald of Kent Engineering Company showed a sprayer on wheels which displayed considerable power, but the waste of insecticide from the jet came in for some critical comments. We were very much taken up with three sprayers shown by Messrs. Marshall and Philip, Aberdeen. They struck us as being particularly light, handy, and portable, and one of the galvanised tanks was lined with copper for using sulphate of copper solutions. The hydraulic sprayer shown by Messrs. Duke and Ockenden had plenty of power, and did its work well, but the receptacle for holding the insecticide was not attached to the machine, which naturally told against its portability.

There was a number of knapsack sprayers on trial, and it was a great pity they were not put in a class to themselves. The [illegible] Distinguishing Company were represented by a number of automatic sprayers, well adapted for garden and greenhouse work, and the Four Oaks Undentable Syringe and Spraying Machine Company sent several of their well-known sprayers. Mackie's, Lim., Reading, showed several specimens of the sprayers that are well known to gardeners and fruit-growers, and in general use, and in the way of novelties a good deal of attention was paid to the French machines, shown by Messrs. Besnard, Maris, and Antoine, Paris. One particularly useful sprayer was a knapsack with an arrangement for fitting a long lance, and the Frenchman who manipulated the apparatus demonstrated its capacity for spraying standard trees of moderate height. A very ingenious apparatus was that shown by Messrs. Mayforth and Co., London. The sprayer was fitted with pipes and jets, suitable for spraying charlock and potatoes, and there was also a device attached to the sprayer for making and applying paraffin emulsion in the process of spraying.

The above is a general outline description of the sprayers used, and the proceedings which occupied two days, were followed with close interest. In short, we look upon these interested trials of this kind as being extremely useful, and we hope they will be continued in the future. Both the place and the material provided by Mr. M. Chart were of an ideal character, and, though there was room for some criticism, the trials as a whole were of a highly educational character.

BIG CROPS OF MELONS.

If Mr. Garner had opened his notes on this subject by saying "The majority of cultivators did not, ten years ago, [illegible] many melons from a given space as they ought" I should have agreed with him, but when he says cultivators "do not [illegible]" etc., I join issue with him, and [illegible] many melon-growers saying Mr. Garner can not be very well conversant with present-day practice.

The cordon system of melon culture is becoming quite old. I do not remember an instance of any other method being practised in gardens that I have visited for a long time. This plan has much to recommend it, not only in the number of fruits obtained in a given space, but in the extended season that such a system offers, and the more varieties one can grow the longer the season of ripe fruit, even from one crop.

E. Molyneux.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

CYMBIDIUMS.—Many of the species and hybrids of the genus cymbidium will now be rooting, and the plants should be repotted or top-dressed without delay. It is desirable where these plants need repotting to see that ample clean drainage is used. The plants belong to the thick-rooted section of orchids, and are therefore gross feeders, and during the season of active growth every attention must be given to proper drainage so that there is no possibility of stagnation. The compost we find suitable is about equal portions of fibrous loam, osmunda fibre, or good peat, and chopped sphagnum moss. Sufficient broken crocks should be added to render the compost porous. Water all freshly-potted plants as soon as repotting is completed, and keep them well shaded for a few weeks, and the atmosphere about the plants should be kept in a humid condition. Spraying overhead will be beneficial whenever the outside conditions will admit of syringing being done.

PHAIO - CYMBIDIUM CHARDWARDIENSIS does well and flowers most satisfactorily when treated under the same conditions as the phaius. It should be annually repotted, and as the new growths have now advanced to the stage when the young roots make their appearance, the plants should be carefully turned out of their pots and repotted. The roots of this plant are exceedingly fleshy and brittle, so that care must be exercised when removing the old potting compost; select clean pots, and provide ample drainage; the potting compost should be of the kind previously advised for phaius.

SEEDLING DENDROBIUMS, CATTLEYAS, ETC., pricked off early in the spring, will now be rooting freely, and where they were put in store pots (several together) they should now be potted off singly into 2in. pots. If we are to flower our seedling orchids within a reasonable time, it is desirable that we give them every encouragement to make the desired progress. In the earlier pottings the object is to obtain as much advance in growth as possible, so that whatever material is used should be of an open and porous nature. Firm potting should be avoided, as the looser the material the better the roots enter into it, and with abundance of roots satisfactory growth may be anticipated. It is only by constantly attending to the requirements of the young plants that we may hope to obtain early flowering. We find that a compost of about one-half finely-broken leaves, intermixed with equal proportions of chopped peat and sphagnum moss, and sufficient sand added to render the compost porous, suits the seedlings well in the early stages of growth; but, as the plants grow older the leaves are reduced, and more peat and osmunda fibre used until the ordinary potting compost is reached at the time the plants attain flowering size. — H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

PALMS.—When largely used in the mansion and in the unfavourable atmosphere of public rooms, palms should receive special attention, and, in common with subjects grown in warm houses, be frequently sponged to keep them clean and healthy. Any leaves injured or ragged at the points should be neatly trimmed; this, I must confess, in no way improves the appearance, but of necessity must at times be done. When the plants can be top-dressed by the removal of about one inch of surface soil, add good loam, and a little sand to keep it from setting hard, and about a dessert spoonful of a good fertiliser to a six-inch pot. Use tepid water for the first watering, and in sufficient quantity to well saturate the whole mass of soil and roots.

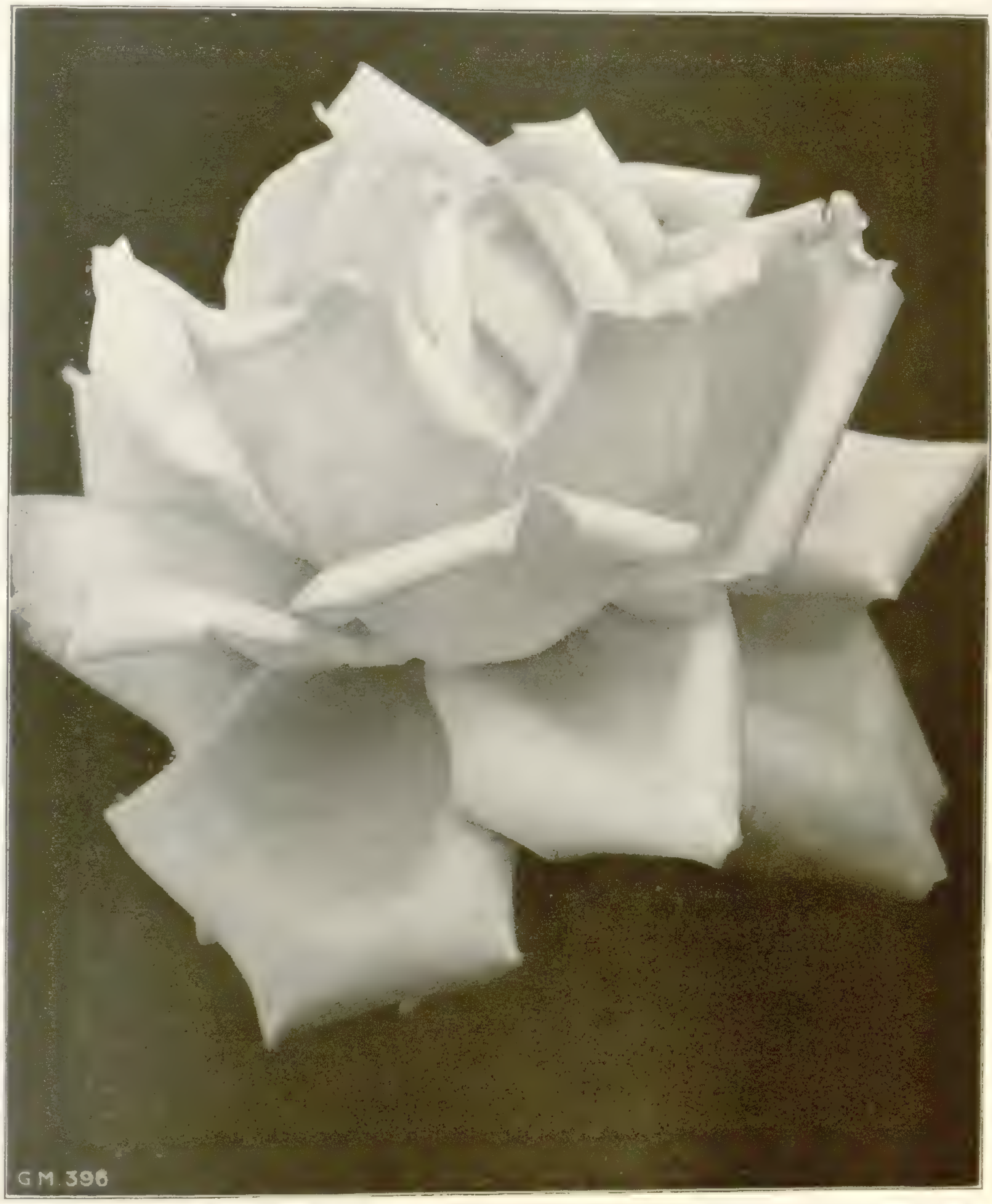
BEGONIA GLOIRE DE SCEAUX.—This variety should be cultivated in the stove and shaded during bright sunshine. Keep a sharp watch for thrips, which sadly disfigure the plants by feeding on the under sides of the leaves. In order to preserve the beauty of the foliage the plants should not be damped overhead, yet the syringe must be freely used between the pots below the leaves. When grown to a large size this begonia is very effective in decorations. It is necessary to start early in the season to secure strong plants, and these have to be repeatedly potted when the state of the roots show this to be necessary. When strongly grown, lateral growths are freely made, which makes the specimens assume a pyramidal form. Should these growths not be forming pinch out the points of the leading shoots to induce branching growth.

BEGONIA GLOIRE DE LORRAINE. — The difference between this begonia and the preceding one is very marked. In this case five-inch pots, and even smaller, will suffice for fine specimens when given close attention. The flowers should not be allowed to remain upon plants that are not developed to the desired size, nor on those required for autumn display.

MANETTIA BICOLOR.—This should be grown in a warm, moist house near to the glass, and, in order to keep it clean make free and frequent use of the syringe. Loam, peat and sand, three-parts of the former to one of peat and some sand, make up a good compost. If the plants have been raised from cuttings, 4in. pots will be about the size they now occupy; shift into 6in. pots before the plants get pot-bound. A trellis will be necessary to accommodate the growths by the time the plants are in full flower.

CLERODENDRON FALLAX.—This will now have filled its pots with roots, and must be liberally supplied with some form of stimulant, as it is a gross feeder.

CLERODENDRON THOMSONÆ. — This species will be making rapid growth, and a good plan is to train the shoots up strings, in which position they ripen much better, and can be easily taken down and trained to any required shape; if not repotted recently, top-dress with good loam, peat, and a little artificial manure. — W. Fyfe, Lockinge Gardens.



NEW H.T. ROSE, GRACE MOLYNEUX.

A beautiful hybrid tea, exhibited by the raisers, Messrs. Alex. Dickson and Sons, at the Holland Park Show, July 6 and 7, when it received an Award of Merit. The blooms are of large size, and the colouring cream-white, tinted rose.

FRUITS UNDER GLASS.

EARLY VINES. — When the grapes have been cut the structure should have a thorough cleansing, more especially if the vines have been infested with insect pests. In a properly-managed house they should not have been so attacked, except where other plants are grown in these houses. If any mealy bug has become located in the vinery, as soon as the fruit has been all cleared give the vines a thorough washing with a garden engine fitted with a strong force pump. A good liquid to use is one prepared as follows: To every gallon of warm water add one small wine glass of petroleum and a little sulphur. Thoroughly mix, and then syringe with force every part of the house. Another man or lad should work a syringe into the mixture during the spraying so as to keep the oil and water well mixed. Those inexperienced will find it best to use a proprietary article, such as petroleum emulsion. If this washing is given once every week throughout the season, and the vines well syringed with clear water every day, the pest, whatever it may be, will soon be reduced to a minimum, and in a short time, with skill and perseverance, be effectually eradicated.

SUCCESSION VINERIES.—Look over all the bunches, and see that the berries are not pressing each other. If this is so, a few berries must of necessity be taken out. This should be done skilfully, so that the right berry is removed, as a wrong berry taken out at this time may spoil the symmetry of the bunch. Carefully pinch off the laterals as often as may be necessary, and see that the borders are in a nice moist condition. As soon as the berries have completed the stoning process give a good dressing of some approved manure.

MELONS.—The last batch of these should now be planted in the position in which they are to fruit. The plants should be freely syringed on fine afternoons, and the flowers be pollinated about 11.30 a.m., as at this time the pollen will be quite dry. Do not leave sufficient fruits on the vines to unduly tax them, and as soon as they commence to swell give a little manure to stimulate development, as these fruits require pushing for the first two or three weeks. Melons can be grown excellently in frames at this season, and these fruits are very useful in August and September for despatching to Scotland and elsewhere. They are usually much appreciated, and no fruits pack much easier than these.

FRUIT TREES IN POTS. — When the fruits have all been gathered the trees may be placed in a sunny position outside, taking care that they do not become dry; at least, not dry enough to cause flagging of the foliage, as this would seriously affect their well-being for another season. They should have a good washing occasionally with the garden engine during periods of dry weather. Trees in cool houses must receive special care in watering, more especially in dull, cloudy weather. A supply of soot water occasionally helps the colouring of the foliage, whilst trees bearing good crops should have some diluted cow manure alternately with some approved artificial fertiliser. Syringe the foliage on bright mornings, and at closing time or about four p.m. Keep all lateral growths properly stopped so that the trees may be kept in shape. It is quite possible to make a good shaped tree out of one that has become unshapely, with careful manipulation of the shoots during the growing season.

TOMATOES.—It will be necessary during the next week or two to sow some tomato seed to furnish plants for producing supplies during the autumn and early winter months. Sow thinly, and grow the plants quite in the open. Duke of York and Sunrise are both excellent for the purpose. Tomato plants now cropping should receive a supply of liquid manure weekly, and all the side growths or laterals kept pinched off.—W. A. Cook, Leonardslee Gardens, Horsham.

THE KITCHEN GARDEN.

CAULIFLOWERS.—The early plants will be producing their heads rapidly now. Do not allow the heads to be exposed, but cover them with leaves or brown paper to retain their purity. To extend the supply over as long a period as possible, a number of them may be lifted with their roots and laid in under a north wall or hedge, or in some other cool position. Keep them moist at the roots with an occasional watering. The successional plantings will be improved by giving them applications of liquid manure about once a week during their early growth.

SHALLOTS will be ripening off their growth, and when it is completed have the bulbs pulled up and placed in a position where they will gradually dry, such as an airy shed, to be in readiness for storing later on.

GLOBE ARTICHOKES.—In many places these are considered one of the choicest dishes, and it is necessary that the heads should be fleshy and well fed to be satisfactory. To accomplish this the stems should be disbudded, leaving only the centre head and the growth thinned out to only the strongest shoots to stand at a fair distance apart, and be able to enjoy exposure to light and air. On sandy soils a mulching of manure will be found beneficial, with supplies of liquid manure-water at short intervals.

SPRING CABBAGE.—A small sowing of seed may be made during the next week or so. The plants from this sowing will be found useful for planting at about a foot apart on a south border for the first cutting. Early plants are prone to running to seed, especially some varieties. After repeated trials with many cabbages, I still consider Ellam's Early the most reliable and less subject to bolting for the early crop. Choose a well-tilled piece of ground for sowing, and apply a dusting of soot and lime to the surface, working it in with the rake. If the weather is dry watering the drills may be necessary before placing the seed.

RUNNER BEANS. — The plants will be making headway, and will require ample moisture at the roots to enable the plants to set their pods perfectly. In most cases a mulching on each side of the rows will assist them, as will a weekly watering of liquid manure. Gather the pods regularly to avoid allowing many large pods remaining unnecessarily at one time.

AUTUMN-SOWN ONIONS.—These will be bulbing at a rapid rate now. Carefully bend over the top growth at the neck, and if the bulbs are required for special purposes the plants may be given artificial manure of suitable kind, which should be watered in. Remove all weeds and keep the surface soil loose by frequent stirrings.

EARLY BRUSSELS SPROUTS AND BROCCOLI will be nicely established. Work the fork lightly amongst the plants, and slightly mound the stems with the soil to enable them to better resist the winds. In doing this remove any defective plants and replace with others.

GENERAL REMARKS. — Early rhubarb crowns may possibly be throwing up seed stems; if so, cut the stems away and manure the plants. Pull up spinach as soon as it goes to seed; if not too far advanced, it may be dug in when preparing the ground for further crops. The season so far has been convenient for killing weeds before they reach the seeding stage, which is of immense value in not only saving labour of this season, but also that to come. This being a most active growing part of the season, continue to keep them as far as possible from making headway and casting seed.—Charles Flack, Cholomondeley Castle Gardens.

Halesia hispida.—The "Snowdrop or Silver-bell" tree is a familiar object in many gardens, for large examples are met with fairly frequently. The species under notice is not, however, so well known, and good specimens are rarely seen. It differs considerably from the common species, both in foliage and flowers, and has been called by another generic name, i.e., pterostyrax. It is a native of both China and Japan, and forms a large, spreading bush, or small tree. The leaves are oval, six inches or more long, and three inches wide, with small, regular teeth along the margin. The flowers are borne at the end of June and early in July in large pendulous panicles, and are white in colour. The petals are narrow, and the stamens prominent, the combination of the two giving the flower a fringed appearance. It thrives well in light loamy soil, and should have a place on a lawn or in some other position where it may be seen from all sides. It is not the best of subjects for a shrubbery.—W. D.

TREE PÆONIES IN POTS.

Where the tree pæonies succeed in the open they produce a gorgeous display when in bloom, but, unfortunately, it is not in every locality where they succeed. The main factor to success is a warm, sandy loam or peaty soil, which is so much warmer in spring. Where the soil is of an opposite character—cold, heavy, and retentive of moisture—it is difficult to induce the plants to exist. Certainly they give, under such conditions, a poor idea of their great beauty, as seen under more favourable conditions.

Where a cool greenhouse, peach house, or any cool glass structure is available, tree pæonies may be successfully grown, as they will revel and well repay the attention bestowed upon them by their rich display of colour in May. Even where the soil is quite suitable for their growth the air frost too often spoils the season's display by injuring the young growth, and thus checking the development of the flower buds. The glass protection then renders the plants free from this danger. Early in the autumn is a good time to pot up the plants ready for next season's display, and the following varieties will provide a suitable selection.

Double.—Alba lilacina, white, with lilac tips. Van Houttei, bright carmine. La Ville de St. Denis, delicate pink, centre tinted carmine. Leopold, rich rose-violet. Louise Mouchelet, flesh pink. Madame Laffay, rose-violet. Odorata rosina, satin white. Eliarsi rosea, maroon. Grand Duc de Bade, violet-rose. Lactea, pure white. Imperatrice Josephine, rich rose-lilac.

Single-flowered. — William Tell, pure white. Versicolor, deep purple, shaded violet. Samarang, vermilion, dark spots. Rose Chere, brilliant satin pink. Reine Amelia, rose-carmine, tipped violet. Purpurea, deep violet-purple. Professeur de Savoye, bright salmon-orange. Prince de Wagram, bright flesh. Madoni, rose-lilac, crimson centre. Baron D'Ales, fine rose-salmon. Blanche Noisette, blush white. Capitaine Champion, cream-white, centre stamens sprinkled with gold. S. H.

STYRAX JAPONICA.

The two or three species of styrax in general cultivation are all ornamental plants and worthy of inclusion in the most select collections. S. japonica forms a large, spreading shrub 15 to 20 feet high eventually, but is more frequently met with about half that height. The leaves are small and ovate, with serrate margins, the flowers white, in axillary, pendulous racemes. The racemes are very loose in appearance and composed of about half-a-dozen flowers each. As they are borne freely, a good-sized bush covered with flowers presents a very attractive appearance. Such specimens are occasionally met with. A very fine one has long been famous in Messrs. Veitch's Nursery at Coombe Wood, whilst a nice example, 16 to 18 feet high, may be seen in Lord Clinton's garden at Stevenstone, N. Devon. Like the other styraxes this is very impatient of root disturbance, and the transplanting of a large example must be done with great care. When first planting it a position should be selected which is likely to be a permanent one, and the plant should, if possible, be planted from a pot. Though it thrives in loamy soil it appreciates a little peat, and it is a good plan to place a little about the roots at the time of planting. Although originally described as a Japanese plant it is found in China also.
W. D

GREAT FLOWER SHOW AT HOLLAND PARK.

(Concluded from page 528.)

had beautiful displays of liliums, spiræas, Dorothy Perkins, and rambler roses, and a glorious lot of perpetual carnations set up in great stands and vases—a splendid exhibit.

Very beautiful were the roses from Messrs. Alex. Dickson and Sons, Newtownards, Ireland, and they were almost entirely new varieties of their raising, and included Grace Molyneux (A.M.), May Countess of Ilchester, Mrs. Arthur Munt, Mrs. David Jardine, Nita Weldon, Walter Speed (A.M.), Duchess of Wellington, soft yellow (A.M.), Harry Kirk, J. Cuff, G. C. Waud, and Elizabeth Barnes. Mr. S. Mortimer, Farnham, was an extensive exhibitor of sweet peas, and Messrs. Merryweather and Sons, Southwell, Notts, staged a group of roses, in which their bright red polyantha variety named Jessie was a great attraction. Messrs. G. Bunyard and Co., Maidstone, had a fine bank of hardy flowers, and contained grand lots of popular things. Mr. Chas. Turner, Slough, sent King of Delphiniums, a lovely blue and white variety. Mr. A. L. Gwillim, Eltham, put up a group of his finely-selected double tuberous begonias.

The hardy flowers from Messrs. T. S. Ware, Ltd., Feltham, made a brave display, but these were put in the shade by the grand lot of begonias staged by this firm; these, as usual, were finely grown, and Mrs. A. P. Brandt, pink; Thos. Rooney, white; Duchess of Connaught, salmon; and Patrick Ainslie, scarlet, were very attractive. Messrs. H. B. May and Sons, Edmonton, brought up a collection of choice varieties of hardy ferns, and a selection of zonal pelargoniums. Mr. Usher, gardener to Sir Randolf Baker, Bart., Ranston, Blandford, showed a grand lot of sweet peas, staging great sheaves of Mrs. A. Ireland, Mrs. Hardcastle Sykes, Clara Curtis, The King, The Marquis, Evelyn Hemus, Sunrise, Lavender George Herbert, etc. Mr. C. W. Breadmore, Winchester, was another very large exhibitor of sweet peas, his big group including beautiful blooms of Dazzler, Constance Oliver, George Herbert, Helen Lewis, Princess Juliana, Kathleen MacGowan, Marjorie Willis, Henry Eckford, Mrs. Collier, and Mrs. A. Ireland. Messrs. Jas. Veitch and Sons, Chelsea, had a charming lot of standard fuchsias, a goodly group of carnations, and splendid gloxinias. Splendid carnations of the perpetual class were staged in quantity by Messrs. Bell and Sheldon, Guernsey. Roses, chiefly decorative varieties, made up a good exhibit from Mr. Chas. Turner, Slough, who also had a display of carnations.

Popular garden roses were submitted by the King's Acre Nursery Company, Hereford. Messrs. Jarman and Co., Chard, had a bright lot of sweet peas, the variety Mrs. Townsend (A.M.) being very largely shown; this has a light blue flaking on the standard that is very pretty. Messrs. Blackmore and Langdon showed a beautiful lot of their exquisite frilled single begonias in various colours, and a grand lot of their splendid double varieties, of fine form, lovely colours, and great size—Duchess of Cornwall, big and very rich deep crimson, was a stately variety, and Mrs. Lockwood was equally fine. One of the finest displays of carnations was that put up in the orchid tent by Mr. C. F. Waters, Balcombe, Sussex, which included perpetual, Malmaison, and border varieties, and showed them all in goodly numbers associated with Asparagus Sprengeri; Helen Countess of Ilchester, Daffodil, and Britannia were very fine.

Messrs. W. Cutbush and Son, Highgate, presented a very pleasing group of roses, pink spiræas, Malmaison and perpetual carnations, and the bright Coleus Cordelia in the big tent. Mr. F. Bright, gardener to J. Friedlander, Esq., Reading, showed half-a-dozen giant pyramidal fuchsias, single varieties, clothed from base to summit with graceful flowers. Messrs. H. B. May and Sons, Edmonton, had a very big group of choice ferns, such as nephrolepis, gymnogrammas, polypodiums, asplenium, platycerium, etc., and every plant in a fine, well-arranged exhibit, was perfectly grown. The group of fine foliage plants submitted by Messrs. James Veitch and Sons, Chelsea, was a good feature, and here the fine cultivation evidenced was as greatly admired as the selection of subjects. Crotons, anthuriums, dieffenbachias, bertolonias, aralias, nepenthes were prominent plants, and with these were a few cannas and orchids.

NEPHROLEPIS MAGNIFICA.

A remarkably beautiful nephrolepis with finely-cut and elegant fronds, exhibited by Messrs. Stuart Low and Co. at the Holland Park Show, July 6 and 7, when it received an Award of Merit.

Messrs. W. Paul and Son, Waltham Cross, filled one corner of the big tent with a glorious exhibit of roses. They had a groundwork of cut flowers, set in vases and baskets, and these were largely of varieties of their own raising; over these rose pillars and standards of Fairy, Helene, Tausendschon, Hiawatha, and Leuchtstern. Messrs. G. Jackman and Son, Woking, were extensive exhibitors of roses and hardy border flowers. Mr. H. J. Jones, Ryecroft Nursery, Lewisham, set up good sweet peas in great variety.

A charming group of sweet peas was set up by Messrs. Sutton and Sons, Reading, who made a great display of The Queen, Helen Lewis, Clara Curtis, Mrs. C. W. Breadmore, The Marquis, Prince Olaf, John Ingman, Helen Pierce, and a great array of seedlings from The Queen, all beautiful. Messrs. E. W. King and Co., Coggeshall, were represented by a very fine exhibit of splendid sweet peas, putting up fine bunches and half a dozen arches of flowers. Conspicuous varieties were Enchantress, Helen Lewis, Elsie Herbert, St. George, Mrs. William King, Anglian Blue, Miss L. E. King, Constance Oliver, and several good seedlings.

OUTSIDE EXHIBITS.

Messrs. J. Cheal and Sons, Crawley, had a big display of ornamental trees and shrubs outside the tents, the tree ivies being conspicuously good. Messrs. David Russell and Son, Brentwood, also had a big exhibit of hardy ornamental and flowering shrubs out of doors, and Messrs. Cutbush and Son, Highgate, had a large display of clipped trees and shrubs. Messrs. Fromow and Sons, Chiswick, contributed maples and other hardy shrubs of ornamental character outside one of the tents.

Messrs. James Carter and Co., Holborn, arranged a very tateful display out of doors, once more taking as their design a Japanese garden, with its dwarf trees, rockwork, water lilies, and choice hardy flowers. The arrangement was excellent, but the weather prevented many from inspecting it. Messrs. John Waterer and Sons, Bagshot, contributed a bold group of ornamental shrubs, rhododendrons, kalmias, etc. Mr. L. R. Russell, Richmond, had a pool of water lilies surrounded by bamboos, and hardy ornamental-leaved and flowering shrubs.

Mr. J. Forbes, Hawick, had some fine phloxes and pentstemons and violas arranged out of doors, and among the latter we made special note of Emile Rodigas, Sir Dighton Probyn, Crimson Gem, Phryne, Lady Forbes, Dr. E. Behring, A. J. Allsop, Galatea, and Edwin Beckett.

ORCHID COMMITTEE.

A grant exhibit of orchids beautifully arranged by Messrs. Charlesworth and Co., Hayward's Heath, included fine lælio-cattleyas, batches of Epidendrum vitellinum majus, Miltonia Bleuana grandiflora, Ærides Houlletiana, Odontioda Bradshawæ, the new Miltonioda Harwoodi (Cochlioda Noetzliana, and Miltonia vexillaria), Odontioda Charlesworthi, Vanda cærulea, Cymbidium tigrinum, L.-c. Aphrodite magnifica, and a group of very quaint orchids of botanical interest.

Charmingly arranged was the display of orchids from Messrs. Sander and Sons, St. Albans, who had bold, tall pyramids of miltonias, lælio-cattleyas, odontoglossums, phalænopsis, etc., the latter being unusually fine. Lælio-cattleya Martinetti The Prince (F.C.C.), was a feature of this very fine display. Messrs. Stuart Low and Co., Bush Hill Park, Enfield, had a bright group of orchids, cattleyas, miltonias, oncidiums, Epidendrum vitellinum majus, Odontoglossum armainvilliersense, and Cymbidium Lowianum being the principal contents.

Mr. Balmforth, gardener to F. Mentieth Ogilvie, Esq., The Shrubbery, Oxford, had here as fine a lot of orchids as at the Temple Show, setting up grand lots of Miltonia vexillaria, Odontoglossum crispum, O. Harryanum, Cypripedium callosum Sanderæ, Miltonia vexillaria Chelsiensis, Phalænopsis, thunias, lælio-cattleyas, etc., and a fine spike of Odontioda Bradshawiæ with twenty-five flowers.

Messrs. Moore, Lim., Rawdon, Leeds, contributed a beautiful exhibit of orchids, their selection of brightly-blotched odontoglossums showing up well among excellent lælio-cattleyas, cattleyas, cypripediums, and phalænopsis. Mr. Edward V. Low, Vale Bridge, Haywards Heath, sent a small group of choice orchids that included white varieties of Cattleya Mossiæ, Odontioda Goodsoniæ, and Cœlogyne pandurata. Miss W. Walters Anson, Dovedale, Streatham, brought forward a fine series of orchid pictures, beautifully executed in water colours.

FRUIT AND VEGETABLE COMMITTEE.

Mr. T. Coomber, gardener to Lord Llangattock, The Hendre. Monmouth, exhibited twenty splendid fruits of The Queen pineapple, and magnificent fruits of Royal Sovereign, The Leader, The Laxton, The Alake, Trafalgar, Cropper, Gunton Park, Sir Chas. Napier, Bedford Champion, Reward, Sir Joseph Paxton, the pale Louis Gauthier, The Bedford, and Fillbasket strawberries. Mr. Wm. Poupart, Fernleigh Orchards, Twickenham, showed a large set of splendid bottled fruits, representing a great number of kinds, all in glass-stoppered bottles.

A large and very attractive exhibit of strawberries came from Messrs. Laxton Brothers, Bedford, and many covetous eyes looked over them. The varieties shown in quantity were Royal Sovereign, Fillbasket, Reward, Leader, Cropper, Mentmore, Sir Joseph Paxton, The Bedford, Profit, Pineapple, Bedford Champion, and Rival. A collection of melons, grapes, peaches, etc., came from the Horticultural College, Swanley.

Cherry trees in pots, heavily laden with splendid ripe fruits, made up a very attractive exhibit from Messrs. Bunyard and Co., Maidstone; the variety Ludwig's Bigarreau was very fine in size of berry and crop. The same firm staged a set of strawberries. Mr. Camp, gardener to S. Heilbut, Esq., Holyport, Maidenhead, brought up a lot of splendidly-grown and finely-fruited pot trees of cherries, figs, peaches, and nectarines.

A magnificent collection of vegetables set up in splendid style by Mr. E. Beckett, V.M.H., gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree, was greatly admired; indeed, rarely have vegetables been so attractively shown, even by Mr. Beckett. He had beautiful heads of First Crop, Magnum Bonum, and White Queen cauliflowers, and fine dishes of Early Giant, Centenary, Superlative, and Duke of Albany peas, The Sutton marrows, Intermediate, Early Gem, and Scarlet Horn carrots, Sunbeam, Winter Beauty, and Perfection tomatoes, Duke of York, Herd Laddie, and King Edward potatoes, seakale, beet, Solid White celery, turnips, lettuces, artichokes, cucumbers, French beans, radishes, and egg plants.

Messrs. Sutton and Sons, Reading, displayed a collection of over forty varieties of culinary peas of the first early class, and some of those that attracted special attention were Early Giant, May Queen, Ideal, Pioneer, Duchess of York, World's Record, King of the Dwarfs, Centenary Marrowfat (very fine), Ideal, and Reading Wonder.

HORTICULTURAL SUNDRIES.

The horticultural sundries department grows with each successive year, and on this occasion very many new and attractive articles constructed for the purpose of lightening the labours of the gardener were placed on exhibition by specialists in their several directions. Messrs. Wm. Wood and Sons, Lim., Wood Green, showed an immense variety of patent appliances, plant foods, and insecticides. Indeed, a fitting sign for this extensive and really interesting display would have been "Everything necessary for use in the garden."

The Alpha Fire Extinguisher, Lim., Ross, Herefordshire, showed their well-devised sprayers in various sizes and patterns. Their horizontal knapsack is certainly a good one. Messrs. James Hill and Co., Lim., 100a, Queen Victoria Street, E.C., showed tools, preserving bottles, thermometers, etc. Messrs. C. Toope and Son, Stepney, E., showed their well-known heating apparatus, and portable propagators. Beehives, fruit preserving bottles, and the Osterley table trays were exhibited by Messrs. Abbott Brothers, Southall. Boilers and heating apparatus came from Messrs. Chas. P. Kinnell and Co.,Southwark Street, S.E. Messrs. Blake and McKenzie, Lim., Liverpool, showed paper travelling pots, floral albums, seed measures, and an ingenious contrivance for counting sweet pea seeds.

Messrs. Cooper and Nephews, Berkhamsted, put up samples of their spraying fluids and weed killers. Apterite for killing ground vermin was also exhibited. The "Besnard" sprayers were shown by Messrs. Darcy and Co., 15, Seething Lane, E.C. Mr. W. J. Robertson, Cowleigh Road, Malvern, had samples of "Nitrolin" and "Bruin" fertilisers, the former being a new thing in plant foods. Messrs. Corry and Co., Lim., Shad Thames, S.E., made a display of their well-known specialities. The improved Lethorion cone, and the firm's special winter wash were new articles on this stand. Messrs. Walter Voss and Co., Lim., Millwall, E., showed a variety of chemical preparations, including a new remedy for cucumber spot called the Carlton spot fumigant. The Carlton sweet pea manure was shown, and also specimen blooms grown by its aid.

Acme labels were shown by Mr. John Pinches, 3, Crown Buildings, Crown Street, Camberwell, S.E., who also had a good rose box, its distinctive feature being an easily detachable hinge. Messrs. D. Dowel and Son, Ravenscourt Avenue, Hammersmith, W., showed a variety of pots and vases for plants, bulbs, and cut flowers. Messrs. Wakeley Bros., Bankside, S.E., showed their well-known hop manure. Models of greenhouses and boilers were staged by Messrs. J. Weeks and Co., Chelsea. Messrs. T. J. Syer and Co., London, showed tools. Messrs. De Luzy Frères, Camberwell, S.E., showed sprayees, sulphur bellows, etc. French cloches were exhibited by Messrs. W. E. Chance and Co., Halesowen Street, Oldbury. Messrs. W. Dietz and Co., Crown Court, Pall Mall, S.W., showed some excellent cigarettes, named The Albemarle, probably interesting to a good many gardeners, although scarcely within the term "Garden sundries."

The Palace Condiments, prepared from recipes of the King's chef, were shown by Messrs. Gillard and Co., Walthamstow. Messrs. Michael Rains and Co., Holborn, W.C., showed specially adapted fountain pens for garden use. Microscopes and seed testers were also to be seen on this stand. Messrs. W. Herbert and Co., Hop Exchange, S.E., had a varied display of garden requisites. Mr. M. Johnston, New Park, Cranleigh, Guildford, showed some excellent samples of fibrous loam. Tubs for shrubs were shown by Mr. T. J. Elwin, 22, Weaver Street, Spitalfields, E. The Gardeners' Magazine occupied a stand in one of the long tents, on which were displayed various books on horticultural subjects, specimen illustrations of flowers and plants, etc. The Colorado Orchard Heater Company, Hounslow, showed their special apparatus for fighting the frost in orchards. The Pattisson Horse boots were displayed by Messrs. H. Pattisson and Co., Greyhound Lane, Streatham. Mr. R. B. Hayward, 22, Addle Street, London, E.C., had on view garden order books, note books, and sleeve protectors, which are designed to save the sleeves of gardeners. A variety of baskets were shown by the Meath Home of Comfort for Epileptic Women and Girls, Godalming.

The French Cloche Company, Caxton House, Westminster, put before visitors the cloches, crates, etc., as used in the pursuit of French gardening. Messrs. R. Jackson and Co., 171-2, Piccadilly, W., displayed glass ware of useful and ornamental design, also bottled fruits in patent bottles. Messrs. Pradal Irénée and Co., 27, Castle Street, London, W., showed excellent wire-bound tubs for trees and shrubs. Mr. F. Hickson, 23, South Hill Park, Hampstead, N.W., contributed his brass-wire flower displayers, and also pulp-ware bowls. Outside the tents were grouped various exhibits of horticultural buildings, garden furniture, and machinery. Here again Messrs. William Wood and Sons, Lim., were extensive exhibitors. The Castle Ship-breaking Co., Lim., Baltic Wharf, Millbank, Westminster, exhibited their artistically designed, and well-made teak-wood garden seats.

Messrs. Jas. Crispin and Sons, Bristol, brought a nice little greenhouse, some useful frames, and seed protectors. Shanks's lawn mowers in various sizes were on view, as also were those made by Messrs. T. Green and Sons, Lim., Leeds. The motor-driven machines are very compactly made, and serviceable-looking.

Messrs. C. and W. Buswell, Victoria Works, Torquay, put up a number of small garden tents, the "Luxuriant" hammocks, and garden seats. A feature of the tents exhibited was that no centre-pole was used, and no rope supports. The whole construction is neat and very economical of space. A neat little tent table with folding flaps attracted our attention. A remarkably good frame was exhibited by Messrs. Storrie and Storrie, Glencarse, Perthshire. The design is the firm's own, and the outstanding feature is a hooped device, by means of which the lights may be fixed at any desired angle, admitting air, but excluding both wind and rain. Drip is prevented by using single sheets of glass, and the construction of a centre gutter for carrying off the water. The Patent Safety Ladder Company, Peterborough, exhibited adjustable ladders of very useful make. Messrs. J. Carter and Co., High Holborn, made a most effective display of garden vases, designed to combine artistic beauty and serviceability, particularly in regard to the requirements of the plants to be grown in them. Sundials were included in this effective exhibit. Ornamental pottery was also shown by Messrs. Jas. Stiff and Sons, Lambeth, S.E. Messrs. G. B. Kent and Sons, Lim., 75, Farringdon Road, E.C., showed brushes and brooms.

Well-designed trelliswork, rose supports, and garden seats were shown by Messrs. W. Walters and Co., Water Lane, E.C. Mr. A. C. Harris, Leicester, exhibited a patent rose-gatherer, called the "Gripper garden walking stick." Messrs. Pearce and Co., Holloway Road, London, showed a small, well-built greenhouse. Mr. G. W. Riley, Herne Hill, S.E., displayed rustic buildings, arbours, and arches in great variety. A well-constructed summer-house with thatched roof was prominent among the examples here shown.

Mr. Alex. Hamilton, 11, Conduit Street, W., contributed some good tables and seats made of teak wood. The designs were good. Well-made tubs for shrubs were included in the exhibit. The well-known lawn mowers from Messrs. Ransomes, Sims, and Jeffries, Lim., Ipswich, were on view, hand, horse, and motor machines being represented. Messrs. H. Scott and Sons, Woodside, S.E., displayed rustic work, tools, and packing cases. Greenhouses, pits, and forcing houses were shown by Messrs. Wm. Duncan Tucker and Sons, Lim., Tottenham. The "Caloricult" forcing-house, for intensive culture, was exemplified by an erection of considerable merit. The Potters' Art Guild, Compton, Guildford, showed sculptural work and garden ornaments. A large display of artistic pottery was made by Messrs. Liberty and Co., Regent Street, W. The famous firm of Doulton and Co., Lim., Lambeth, S.W., showed beautiful vases, fountains, and statues. Messrs. Lloyd, Lawrence, and Co., 29, Worship Street, E.C., exhibited the Pennsylvania lawn mowers and sweeping machines. Seats and tables were shown by Messrs. T. J. Syer and Co., Wilson Street, E.C. Messrs. Inmans and Co., Royal Rustic Works, Stretford, Manchester, showed thatched summer houses and rustic seats. The Philadelphia Lawn Mower Company, Scrutton Street, E.C., showed their machines in various sizes.

MEDALS AND CUPS.

Gold Medals.—The Rt. Hon. Lord Llangattock (gardener, Mr. Coomber), for pineapples and strawberries; Hon. Vicary Gibbs (gardener, Mr. E. Beckett), for vegetables;

F. Menteith Ogilvie, Esq., for orchids; Messrs. G. Bunyard and Co., Maidstone, for fruit trees in pots; Messrs. J. Carter and Co., Holborn, for Japanese garden; Messrs. Charlesworth and Co., Haywards Heath, for orchids; Messrs. W. Cutbush and Son, Highgate, N., for flowering and herbaceous plants; Messrs. H. B. May and Sons, Upper Edmonton, for exotic ferns; Messrs. W. Paul and Son, Waltham Cross, for roses; Messrs. Amos Perry, Enfield, for rock and water garden; Messrs. M. Prichard, Christchurch Hants, for herbaceous plants; Messrs. Sander and Sons, St. Albans, for orchids; Messrs. Sutton and Sons, Reading, for sweet peas and culinary peas; Messrs. J. Veitch and Sons, Chelsea, for foliage plants, and one also for gloxinias, flowering plants, etc.; Messrs. R. Wallace and Co., Colchester, for formal water garden and herbaceous border.

Silver Cups.—Sir Jeremiah Colman (gardener, Mr. J. Collier), for orchids; Sir Randolph Baker (gardener, Mr. A. E. Usher), for sweet peas; J. Friedlander, Esq. (gardener, Mr. F. Bright), for fuchsias; S. Heilbut, Esq., Maidenhead, for cherries in pots; Messrs. W. Artindale and Son, Sheffield, for herbaceous plants and violas; Messrs. Barr and Sons, Covent Garden, for herbaceous plants and Japanese trees; Messrs. Blackmore and Langdon, Bath, for begonias and delphiniums; Messrs. G. and A. Clark, Dover, for herbaceous and flowering plants; Messrs. W. Fromow and Sons, Chiswick, for Japanese maples and shrubs; Messrs. Hobbies, Lim., Dereham, for roses; Messrs. E. W. King and Co., Coggeshall, Essex, for sweet peas; Messrs. H. B. May and Sons, Upper Edmonton, for hardy ferns; Messrs. Paul and Son, Cheshunt, for roses and pæonies; Mr. G. Reuthe, Keston, for alpines, herbaceous plants, etc.; Mr. L. R. Russell, Richmond, for ivies and foliage plants; Mr. R. C. Notcutt, Suffolk, for herbaceous plants, etc.; Messrs. S. Low and Co., Bush Hill Park, for orchids and flowering plants; Messrs. J. Veitch and Sons, Chelsea, for group in open air and carnations; Messrs. T. S. Ware, Lim., Feltham, for begonias and herbaceous plants; Messrs. E. Webb and Sons, Stourbridge, for sweet peas and vegetables; Lieut.-Colonel C. Heseltine, Lymington, Hants, for roses; Mr. A. J. Paskett, for sweet peas and carnations; and Mr. W. H. Page, Hampton, for carnation, etc.

Silver-gilt Flora Medal.—Miss M. W. Anson, Streatham, for orchid paintings. Messrs. G. Jackman and Son, Woking, for herbaceous plants. Messrs. W. Bull and Son, Chelsea, for foliage plants. Mr. C. Turner, Royal Nurseries, Slough, for roses and carnations. Messrs. J. Cheal and Son, Crawley, Sussex, trees, shrubs, and herbaceous plants. Messrs. Bell and Sheldon, Castle Nursery, Guernsey, for carnations. Mr. W. J. Unwin, Histon, Cambs, for sweet peas. Mr. C. W. Breadmore, 120, High Street, Winchester, for carnations. Messrs. H. Cannell and Sons, Swanley, for cannas and hybrid fuchsias. Messrs. J. Carter and Co., 97, High Holborn, W.C., for sweet peas, etc. Mr. F. Lilley, Guernsey, for gladioli. Messrs. F. Cant and Co., Braiswick Rose Gardens, Colchester, for roses. Mr. G. Lange, Hanworth Road, Hampton, Middlesex, carnations. Messrs. J. W. Moore, Lim., Rawdon, near Leeds, for orchids. Messrs. B. Ladhams and Son, Shirley, Southampton, for carnations. Messrs. Alex. Dickson and Sons, Lim., Newtownards, co. Down, for new roses. Mr. A. F. Dutton, Iver, Bucks, for carnations. Mr. C. F. Waters, Balcombe, Sussex, for carnations. Messrs. G. Bunyard and Co., Lim., Maidstone, for fruit trees, herbaceous plants. Messrs. A. Gwillim, Lim., Cambria Nursery, New Eltham, for begonias.

Silver Gilt Knightian Medal.—Messrs. Laxton Bros., Bedford, for strawberries. Mr. W. Poupart, Twickenham, for bottled fruits.

Silver Knightian.—The Swanley Horticultural College, for fruit and vegetables.

Silver Gilt Banksian Medal.—Messrs. Kelway and Sons, Langport, for sweet peas and hardy plants. Messrs. B. R. Cant and Sons, Colchester, for roses. Messrs. Carter Page and Co., London Wall, for sweet peas. Messrs. G. Prince, Oxford, for roses. Messrs. Stark and Son, Norfolk, for sweet peas. Miss Hemus, Upton-on-Severn, for sweet peas.

Silver Flora Medal.—Mr. W. A. Chaplin, Waltham Cross, for sweet peas and roses. Messrs. R. H. Bath, Lim., Wisbech, for carnation, roses, and delphiniums. Messrs. J. Forbes, Lim., Hawick, N.B., for phloxes, pentstemons, violas, and pansies. Mr. H. Hemsley, Crawley, for rock garden, hardy ferns. Messrs. J. Peed and Son, N. Norwood, S.E., for carnations and caladiums. The American Carnation Nursery, Sawbridgeworth, carnations. Messrs. Bees, Lim., Liverpool, for primulas and pot plants. The Guildford Hardy Plant Nursery, for hardy herbaceous plants. Messrs. Gunn and Son, Olton, Warwick, for herbaceous plants. King's Acre Nurseries, Lim., Hereford, for roses. Mr. C. Blick, Hayes, Kent, for carnations. Mr. E. V. Low, Haywards Heath, for orchids. John Rutherford, Esq., Blackburn, for orchids. Mr. Clarence Elliott, Stevenage, for alpines. Messrs. David Russell and Son, Brentwood, for hardy trees and shrubs.

Silver Banksian.—Mrs. Miller, Marlow, Bucks, for Moyleen orange jelly and chutney; Messrs. Merryweather and Sons, Southwell, for roses; Messrs. J. Waterer and Sons, Bagshot, for Kalmia latifolia; Messrs. J. K. King and Sons, Coggeshall, Essex, for sweet peas; Messrs. G. Mallett and Co., Cheddar, Somerset, for alpine flowering plants, etc.; Mr. W. J. Godfrey, Exmouth, for Solanum Wendlandi; Messrs. R. Harkness and Co., Hitchin, for roses; Misses K. and E. Hopkins, Shepperton, for rockery and rock plants; Messrs. W. Seagrave and Co., Sheffield, for violas; Mr. W. Iceton, Putney, for lily of the valley; Mr. H. H. Crane, Highgate, for violas and violettas; Messrs. J. Piper and Son, Bayswater, for trained box and yew trees; Messrs. Whitelegg and Page, Chislehurst, for alpine and herbaceous plants.

Silver Gilt Flora Medal.—Mr. G. W. Riley, Herne Hill, for garden furniture; Messrs. Wm. Wood and Son, Lim., Wood Green, for garden furniture.

Silver Gilt Banksian Medal.—Lamp Pump Syndicate, Carey Street, for lamp pump.

Silver Flora Medal.—Messrs. C. and W. Buswell, Torquay, for sundries; Mr. Castle, Millbank, for wooden garden furniture; Messrs. Thos. Green and Son, Lim., Southwark, for mowers; Messrs. Liberty and Co., Regent Street, for garden pottery, etc.; Potters' Art Guild, Guildford, for artistic pottery; Messrs. Ransomes, Sims, and Jefferies, Ipswich, lawn mowers.

Silver Banksian Medal.—Four Oaks Syringe Company, Birmingham, for sundries; Messrs. S. Pradal, Oxford Street, for patent tubs; Messrs. A. Shanks and Son, Cannon Street, for mowers; Messrs. W. Voss and Co., Millwall, for sundries.

Bronze Flora Medal.—Messrs. Doulton and Co., Lambeth, for garden pottery; Lloyd, Lawrence, and Co., Finsbury, for mowers; H. Scott and Sons, Woodside, for sundries.

Bronze Banksian Medal. — Messrs. W. Duncan Tucker, and Sons, Lim., Cannon St., for garden furniture; Messrs. Headly and Edwards, Cambridge, for garden furniture.

CERTIFICATES AND AWARDS.

First-Class Certificates.—To Primula Littoniana, from Messrs. Bees, Lim.; to Læliocattleya Martinetti The Prince, from Messrs. Sander and Sons.

Award of Merit.—To Nephrolepis magnifica, from Messrs. S. Low and Co.; to Rose Ariel, from Messrs. Paul and Son; to Roses Duchess of Wellington, Walter Speed, and Grace Molyneux, from Messrs. Alex. Dickson and Sons; to Delphinium White Queen, from Messrs. R. Wallace and Co.; to Carnation Lieutenant Shackleton, from Mr. Blick; to Cattleya Mossiæ (Wagneri) Sanderæ, from Messrs. Sander and Sons; to sweet peas Masterpiece and Mrs. H. Bell Improved, from Messrs. Dobbie and Co.; Mrs. Townsend from Messrs. Jarman and Co.; Doris Usher, from Mr. A. E. Usher; and Colleen, Mr. W. Deal.

Certificate of Appreciation. — To Messrs. Charlesworth & Co., for Miltonioda Harwoodi.

Cultural Commendation.—To Mr. J. Friedlander (gardener, Mr. F. Bright), for specimen fuchsias.

CARDIFF AND COUNTY HORTICULTURAL SOCIETY COMING OF AGE SHOW.
SOPHIA GARDENS, CARDIFF,
WEDNESDAY and THURSDAY, July 21st and 22nd, 1909.
Most liberal prizes for this show.
MONEY, PLATE, etc., Amounting to about £400.
Many special features this year.
Schedules free to any address.
Mr. A. MAURICE BAILEY, Secretary.
24, Duke Street, Cardiff.

NATIONAL SWEET PEA SOCIETY.
NINTH GRAND EXHIBITION.
FRIDAY, July 23, 1909.
ROYAL HORTICULTURAL HALL, VINCENT SQUARE, WESTMINSTER, S.W.
Entries close Saturday, July 17.
CHARLES H. CURTIS, Hon. Sec.
Adelaide Road, Brentford.

POTTER'S BAR & DISTRICT AMATEUR ROSE SOCIETY.
(Affiliated to the National Rose Society.)
The Show will be held on THURSDAY, July 15th, 1909. Entries close July 8. Classes for Amateurs open to all England. Classes for Members, Nurserymen, and Others.
For Schedule and Entry Forms, apply to H. R. DARLINGTON, Park House, Potters Bar.

WOLVERHAMPTON FLORAL FETE.
COMING-OF-AGE SHOW.
13, 14, and 15 JULY, 1909.
NEXT WEEK

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

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National Rose Society.

The National Rose Society's Metropolitan Show has now become something more than a great gathering of rosarians and other horticultural folk; it has become a great society function, and as such draws a great crowd if the day be fine. Fortunately, July 2 was a fine day, the first really fine day since Whitsuntide, and so there was a splendid attendance at the gardens of the Royal Botanic Society, Regent's Park.

Once again Her Majesty the Queen, accompanied by Princess Victoria, visited the show, and took a keen interest in the flowers. Miss Willmott, V.M.H., the Rev. Page Roberts, Mr. E. Mawley, V.M.H., and Mr. Chas. E. Shea, were in attendance upon her Majesty during her tour of the exhibition.

As a spectacle it was a good show; but from a rosarian's point of view it was a quite third-rate display, and there were many bare spaces on the tables, telling of hopes unfulfilled. The decorative section of the show was unusually attractive.

NURSERYMEN.

The competition for the trophy and gold medal that carries with it the nurserymen's championship is always keen, and the class for seventy-two blooms, distinct, invariably attracts a great deal of attention. This year there were five contestants for the honour, and premier position was secured by Messrs. Alex. Dickson and Sons, Royal Irish Nurseries, Newtownards, with a good set for the season. The best specimens were of C. J. Grahame, Lady Vincent, Killarney, Governor Roosevelt, Gustave Piganeau, Lyon Rose, Mrs. H. Brocklebank, Mdme Melanie Soupert (very fine), Caroline Testout, Mildred Grant, A. K. Williams, Dean Hole, Marchioness of Londonderry, Mrs. David McKee, Ulster, Bessie Brown, and Frau Karl Druschki. Messrs. B. R. Cant and Sons, Colchester, were placed second, many of their flowers being weatherbeaten. Messrs. Frank Cant and Co., Colchester, third, and the King's Acre Nursery Company, Hereford, fourth.

The class for forty varieties, three blooms of each, is a very interesting one. There were four competitors, and the first prize was won by Messrs. A. Dickson and Sons, Newtownards, who contributed good flowers of Rhea Read, Bessie Brown, Caroline Testout, Mrs. J. Laing, Frau Karl Druschki, Mrs. W. J. Grant, Mrs. David McKee, Tom

Wood, Joseph Hill, Mdme. M. Soupert, Mrs. H. Brocklebank, and John Cuff; Messrs. Frank Cant and Co., Colchester, second; and Messrs. B. R. Cant and Co., third.

In the second division of the nurserymen's section there were six competitors in the class for forty-eight blooms, distinct, and here the chief place was secured by Mr. George Prince, Longworth, Berks, and his best flowers in a moderate set were Maman Cochet, Mrs. David McKee, Ulrich Brunner, Johanne Sebus, Mrs. E. Mawley, Betty, The Bride, Souv. d'Un Ami, Caroline Testout, and Frau Karl Druschki; Messrs. G. Mount and Sons, Canterbury, came second; Mr. W. Leggett, West Bergholt, Colchester, third; and Messrs. J. Burrell and Co., Howe Nurseries, Cambridge, fourth.

The best twenty-four blooms, distinct, formed a class that brought out eleven competitors, Mr. Henry Drew, Longworth, Berks, leading with very fair specimens of Mildred Grant, J. B. Clark, Mdme. Ravary, Helen Keller, Bessie Brown, A. K. Williams, Florence Pemberton, Caroline Testout, Lady Ashtown, Gustave Piganeau, White Lady, Ulrich Brunner, Chas. Lefebvre, Robert Scott, Gladys Harkness, Countess of Annesley, Marchioness of Dufferin, Marchioness of Downshire, Francois Michelon, K. A. Victoria, Richmond, Wm. Shean, and C. J. Grahame; Mr. E. J. Hicks, Twyford, Berks, a good second; and Messrs. Perkins and Sons, Coventry, third. There were eight stands of sixteen trebles, the premier set coming from Messrs. George Mount and Sons, Canterbury, whose best blooms were of Mrs. David McKee, C. J. Grahame, Mdme. Melanie Soupert, Frau Karl Druschki, Richmond, Mildred Grant, Mrs. J. Laing, and Joseph Lowe; Mr. G. Prince, Longworth, second; and Mr. Henry Drew, Longworth, third.

In the open nurserymen's section Mr. E. J. Hicks, Twyford, led for a stand of eighteen blooms of any crimson rose, with good flowers of Richmond: there were six entries, and the King's Acre Nursery Company came second with Richmond. Messrs. Samuel McGredy and Son, Portadown, Ireland, were an easy first for a stand of any white or yellow rose with Mdme. Melanie Soupert, grandly shown, one of the blooms being the medal H.T. rose; The Devon Rose Nursery Company second with Frau Karl Druschki; and Mr. Hugh Dickson third; twelve entries. For any other than a yellow, white, or crimson variety, eighteen blooms in a stand,Mr. Walter Bentley, Belgrave, Leicester, was first with the pink H.T. Lady Faire; Messrs. A. Dickson and Sons second with Lady Ashtown; and Messrs. B. Cant and Sons third with Mrs. J. Laing; eleven entries.

Messrs. F. Cant and Co. led for a dozen flowers of White Maman Cochet; Messrs. D. Prior and Sons, Colchester, coming third. For a dozen flowers each of Frau Karl Druschki and J. B. Clark, Messrs. D. Prior and Sons were an excellent first with beautiful blooms; Messrs. G. Mount and Sons, Canterbury, second.

NURSERYMEN'S TEA ROSES.

The D'Ombrain Challenge Cup offered as the premier award for twenty-four tea and noisette roses, distinct, was won by Mr. George Prince, Longworth, with good flowers that showed some weather stains; the best varieties were Cleopatra, Bridesmaid, The Bride, Comtesse de Nadaillac, Muriel Grahame, Medea, Mdme. Jules Gravereaux, Mdme. Constant Soupert, Princess of Wales, White Maman Cochet, Molly Sharman Crawford, Golden Gate, and Comtesse de Nadaillac; second prize fell to Mr. Henry Drew, Longworth; and third to Mr. John Mattock, Headington.

Messrs. J. Burrell and Co., Cambridge, secured the first prize for a dozen tea roses with small, clean flowers of Medea, Hugo Roller, Niphetos, Anna Olivier, and Madame Jules Gravereaux; Messrs. G. Mount and Sons, second, and Messrs. W. and J. Brown, third. A pretty class is the one for fourteen varieties of tea or noisette roses, three blooms of each, arranged in vases, a space of 3ft. by 3ft. being allowed for each exhibit. There were three competitors, Mr. George Prince winning with a set that included Catherine Mermet, Souv. de Pierre Notting, Mrs. E. Mawley, The Bride, Madame J. Gravereaux, and Bridesmaid, in fine condition. Mr. H. Drew second, and Mr. J. Mattock third.

NURSERYMEN'S VASES AND DECORATIVE ROSES.

For a dozen varieties of roses, staged in vases, seven blooms of each, Messrs. D. Prior and Sons, Colchester, were first with Liberty, Maman Cochet, Obergartner Terks, John Ruskin, Lady Ashtown, Dean Hole, Caroline Testout, Mrs. W. J. Grant, Ulrich Brunner, Bessie Brown, and Madame Jules Gravereaux; Messrs. A. Dickson and Sons, Newtownards, second, and the Devon Rose Nursery Company, Torquay, third. Mr. John Mattock scored for nine varieties of tea and noisette roses, seven blooms of each, in vases, and he showed Souv. de Pierre Notting, White Maman Cochet, and Mrs. E. Mawley best; Mr. Henry Drew second, and Mr. G. Prince third.

Premier award for thirty-six distinct varieties of decorative roses was won by Messrs. Frank Cant and Co., Braiswick, Colchester, whose best roses were of Ed. Meyer, Anna Chartron, Marie Pavie, Mrs. E. G. Hill,Lady Battersea, and Gustave Regis; Mr. J. Mattock, Headington, Oxford, second, and Mr George Prince, Longworth, Berks, third. These exhibits were set out on separate tables 6ft. by 4ft. Mr. Charles Turner, Slough, led for eighteen bunches of decorative roses, and he had charming bunches of Madame Abel Chatenay, Mrs. Aaron Ward, Mrs. Peter Blair, Papa Gontier, etc.; Messrs. W. Spooner and Son, Woking, second, and Messrs. G. Cooling and Sons, Bath, third.

Mr. Charles Turner, Slough, led for eighteen bunches of garden roses, summer flowering varieties, and he showed such favourites as Rosa Mundi, Rene André, Red Damask, Una, Gardenia, and Pink Provence; Messrs. G. Cooling and Sons, Bath, second.

The finest collection of twelve varieties of single roses arranged on a space 6ft. by 3ft., was from Messrs. Frank Cant and Co., Colchester, who had splendid bunches of Irish Harmony, Morgenrot, Carmine Pillar, Irish Glory, Lady Curzon, Rugosa alba, Jersey Beauty, etc.; Messrs. Wm. Spooner and Sons, Arthur's Bridge, Woking, second, and Messrs. G. Cooling and Son, Bath, third.

NEW ROSES.

The best box of a dozen blooms of new roses came from Mr. Hugh Dickson, Belfast, who showed clean specimens of Queen of Spain, Lyon Rose, Miss Cynthia Horde, Mrs. Harold Brocklebank, W. K. Smith, Souv. de Fred Vercellonne, Rene Wilmark, Urban, Mrs. William Cooper, Madame Segond Weber, Madame Maurice de Luze, Mrs. E. W. Kershaw, Mrs. P. H. Coates. Second prize was awarded to Messrs. A. Dickson and Sons, and Messrs. Perkins and Sons, third; nine competitors. Messrs. A. Dickson and Sons, scored for nine flowers of any new rose with Lady H. Vincent; Mr. Hugh Dickson, Belfast, second with W. R. Smith, and Mr. G. Prince third with the Lyon Rose.

GROUPS OF ROSES.

For a representative group of roses arranged on a space not exceeding 250 square feet. Messrs. Hobbies, Lim., Dereham, gained the gold medal and first prize with a display that consisted largely of weeping standards of Dorothy Perkins and Lady Gay, these rising over dwarf specimens of the same varieties. Dwarf plants of Aennchen Muller, Mrs. W. H. Cutbush, and Baby Dorothy, with small vases of tea and hybrid tea roses, were used to form a border. Messrs. Paul and Son, Cheshunt, came a close second with pillars of the new Ariel, Buttercup, Electra, etc., with baskets and vases of Mrs. Peter Blair, Una, Le Progres, Richmond, Ulrich Brunner, Conrad F. Meyer, Farberkonigen, Madame Ravary, etc., in the foreground.

The finest group of cut roses arranged on the tabling, and occupying a space of 100 square feet, came from Messrs. George Mount and Sons, Canterbury, who won the gold medal, and set up a splendid exhibit, filling tall stands with lovely flowers or sprays of Richmond, Madame Abel Chatenay, F[illegible] Karl Druschki, Joseph Lowe, Mrs. J. Laing, Gustave Regis, Electra, Dorothy Perkins, Rene André, etc. Messrs. W. and J. Brown were an excellent second, putting up a beautiful exhibit; Mr. J. Mattock, Headington, third. There were five entries.

Messrs. Hobbies, Lim., Dereham, had the best arch of roses, covering a rustic arch with Tausendshon and Dorothy Perkins. Messrs. Paul and Son, Cheshunt, second with Goldfinch and Wallflower.

AMATEURS.

The amateur champion trophy for the best thirty-six blooms, distinct, was on this occasion won by Mr. Conway Jones, Hucclecote, Gloucester, with a set that did him great credit, but below championship form; his best flowers were C. J. Grahame, Marechal Niel, Gustave Piganeau, J. B. Clark, Captain Hayward, and Alice Lindsell; Mr. E. J. Holland second with a set possessing much merit; Mr. E. B. Lindsell, Bearton, Hitchin, third, and the Rev. J. H. Pemberton, Havering, fourth.

Alfred Tate, Esq., Downside, Leatherhead, scored for two dozen blooms in the open amateur class, and he was followed closely by Rev. T. G. Henslow, Chippenham, both showing fairly well. Mr. Conway Jones scored again for a dozen trebles, and here he had Hugh Dickson and Marechal Niel good; Mr. E. J. Holland second with fine flowers of Mildred Grant, White Maman Cochet, Mrs. T. Roosevelt, etc. The Rev. J. H. Pemberton had the finest nine flowers of one variety with Bessie Brown; Mr. E. J. Holland, Sutton, second, with Mrs. W. J. Grant; and Mr. G. A. Hammond, Burgess Hill, third with Mrs. J. Laing.

Mr. E. M. Eversfield, Denne Park, Horsham, won the Veitch Memorial Medal for twenty-four blooms in the class open to growers of fewer than 3,000 plants, and he was followed by Mr. C. C. Williamson, Wilstead, Canterbury, and both showed fairly well. Mr. Eversfield was also first in the section, both for a dozen trebles and [illegible] blooms of one rose, showing Lady Ashtown in the latter class.

The Captain Christy Cup for growers of fewer than 2,000 plants was won by Mr. W. R. Hammond, Grovelands, Burgess Hill, with a two-dozen set that contained a few good blooms and many poor ones; Rev. J. [illegible] Fellowes, Bunwell Rectory, Attleborough, second; and Rev. R. Powley, Upper Scudamore, third; there was a keen competition, but few good blooms. Mrs. E. Croft Murray, Perivale, Ryde, led for eighteen blooms; Mr. G. R. Bonnor, Gloucester, second; and Mr. G. Speight, Market Harborough, third. The best eight trebles came from Rev. R. Powley, who was followed by Mr. F. Slaughter, Steyning, and Mr. W. Colin Romaine, Old Windsor.

In the section open to growers of fewer than 1,000 plants, Dr. C. Lamplough, Alverstoke, scored for a dozen flowers; Rev. J. B. Shackle, Dropmore Vicarage, Maidenhead, second; and Mr. A. C. Turner, the White House, Walton-on-Thames, third. The Rev. J. B. Shackle had the best vase of five blooms.

The Grahame Memorial prize, [illegible] growers of fewer than 750 plants, was won by Mr. Harry Richards, West Ridge, [illegible] who had the best dozen blooms, and [illegible] contained Mdme. Jules Gravereaux, K. A. Victoria, Mildred Grant, Hugh Dickson, [illegible] Caroline Testout in fine style; Mr. E. Lehmann, Ifield Lodge, Crawley, second; [illegible] Rev. F. R. Burnside, Great Stambridge Rectory, Essex, third. Dr. Lamplough [illegible] extra class for six trebles, and he had a [illegible] set.

The Ben Cant Memorial prize, off[illegible] class for nine flowers, open to growers [illegible] fewer than 500 plants, was won by Mrs. [illegible] Moulden, Bandon, Stevenage, with [illegible] clean flowers of C. J. Grahame, Captain Hayward, White Maman Cochet, Mrs. [illegible] ley, Marquise Litta, Mrs. J. Laing, [illegible] Maman Cochet; Mr. Vivian Bell [illegible] Mr. Lewis L. Pawle, Ronsham, [illegible] third. Mr. G. C. Sawday, Rydal [illegible]

Weybridge, had the best six blooms, Mr. H. Clinton Baker, Bayfordbury, Hertford, coming second, and Mr. J. Gibb, Westfield, Reigate, third. In the same section Mr. V. Rolt had the best vase of five blooms—Mildred Grant, and Mr. J. Gibb was second.

In the extra class for a dozen flowers, Dr. Lamplough was a good first with a very bright set that included Hugh Dickson, White Maman Cochet, J. B. Clarke, Mrs. T. Roosevelt, and Bessie Brown in fine condition; Mr. C. F. H. Leslie, Epcombe, Hertford, second, and Mr. Vivian Rolt, Storrington, Pulborough, third. In the extra class for nine blooms, Mr. C. F. Brown, Slough, scored a first; Mr. W. P. Pankridge, Petersfield, second, and Mr. Alan Searle, Ashton Lodge, Bassett, third. Mr. E. M. Burnett, Westward Road, Southampton, had the best vase of five blooms—Lady Ashtown, and Mr. Kepel H. Gifford, Edensor, Slough, had the best set of four trebles, with Mr. Rolt second.

Mr. C. A. L. Brown, Hatfield Peverel, Essex, led for six blooms in the small growers' section with very fine examples of Mrs. Roosevelt, Bessie Brown, J. Ruskin, Florence Pemberton, Mildred Grant, and Dean Hole; Mr. W. G. Pedley, Hillside, Hoddesdon, second, and Mr. F. Barnatt, Well Hall, Eltham, third. There appeared to be about twenty competitors in this class for growers of less than 200 plants. In this same section Mr. A. E. Protheroe, Bourne House, Plough Lane, Purley, won for six flowers in not less than four varieties, followed by Mr. G. Gosling, Stratton Audley Park, Bicester, and Mr. A. Wilkinson, North Finchley.

The challenge cup for roses grown within eight miles of Charing Cross was won by Mr. Ramon de Escofet, Kingsley Dene, Green Lane, Dulwich, with six very fine, clean, and large flowers of Caroline Testout, Frau Karl Druschki, Mrs. J. Laing, Killarney, Florence Pemberton, and Captain Hayward—a beautiful set; Mr. H. Whitmee, The Briars, North Finchley, second; and Mr. H. Williams, Torrington Park, North Finchley, third.

The Rev. J. T. Kershaw, Corsley Rectory, Warminster, led for four trebles, and was followed by Mr. F. J. Borland, Stalheim, Sutton, Surrey; and the Rev. H. Tower, M.V.O., Holy Trinity Rectory, Windsor. In the maiden class for a dozen roses the honours fell in order of mention to Mr. G. R. Bourne, Barnwood, Gloucester; Rev. T. G. Henslow, Stanton St. Quintin, Chippenham; and Mr. E. Jackson, Rochford, Essex. Mr. J. Stuart, Broomhill, Harrow, led in the section for nine flowers; Mr. S. F. Jackson, Danehurst, Epsom, second; and Mr. C. W. Edwards, Ringstead Road, Sutton, third.

In the open extra class for amateurs, Mr. G. A. Hammond, Cambrian House, Burgess Hill, had by far the best set of two dozen flowers, his Mdme. Jules Gravereaux, Mdme. Melanie Soupert, Frau Karl Druschki, Mrs. J. Laing, Richmond, Caroline Testout, and Mrs. T. Roosevelt being good examples; Mr. Conway Jones second, and Mr. E. M. Eversfield, Horsham, third.

Mr. Hammond led for a dozen blooms, winning the Harkness cup with a good set, in which Mildred Grant, and Mrs. Theodore Roosevelt were excellent; Mr. Alfred Tate second. Mr. Eversfield was first for a set of nine teas and nine hybrid teas, with good blooms, all, unfortunately, weather marked; he was the only exhibitor. Mr. Conway Jones staged the best six new roses, with Rev. J. H. Pemberton second; Mr. Jones had Lady H. Vincent, Mrs. Brocklebank, Laurent Karl, Molly Shawman-Crawford, Lady Ursula, and Wm. Shean.

Miss B. H. Langton led for a collection of roses, not more than seven varieties; Mr. H. R. Darlington second, and Mrs. Wightman, Bengeo, Herts, third.

Mr. J. Ockendon, West Green, Crawley; Mr. E. M. Burnett, Westward Road, Southampton; Mr. F. H. Fieldgate, Shrub End Road, Colchester; Mr. H. Honeychurch, Enfield; Mr. R. Dow, Lowood Hasketon, Woodbridge, were other prize-winners in amateur classes.

AMATEURS' TEA ROSES.

Mr. Conway Jones, Hucclecote, Gloucester, won the amateurs' tea rose trophy and championship, with two dozen blooms, his set consisting of Mrs. E. Mawley, Mdme. E. Labelles, Mdme. Vermorel, Cleopatra, Souv. d'Un Ami, Lady Roberts, Souv. de S. A. Prince, F. Von Marechall, Mdme. Constant Soupert, Harry Kirk, Maman Cochet, White Maman Cochet, Mdme. J. Gravereaux, Mrs. Myles Kennedy, Marechal Niel, Souv. de Pierre Notting, Medea, and Niphetos.

The Prince Memorial Cup for a dozen tea roses was won by the Rev. J. R. Fellowes, Attleborough, and he had good flowers of Cleopatra and Mdme. Jules Gravereaux; Mr. E. M. Eversfield second; and Mr. A. Tate third. Mr. Eversfield had the best vase of a tea rose, showing Souv. de S. A. Prince.

Rev. R. Powley, Upton Scudamore, led for a dozen tea roses in the section open to growers of less than 500 plants, and he had good flowers of Freiher van Marechal, White Maman Cochet, and Mrs. E. Mawley, Mr. G. R. Bonner, Barnwood, Gloucester, second; and Mr. H. R. Darlington, Park House, Potters Bar, third. The best nine teas came from Mr. F. Slaughter, whose varieties were Maman Cochet, White Maman Cochet, Mrs. E. Mawley, Mdme. Constant Soupert, Mdme. Jules Gravereaux, Souv. de Pierre Notting, Marie Van Houtte, Mdme. Verniell; and Boadicea; Mr. A. Evans, Marston, Oxford, second; and Mr. M. Whittle, Belgrave, Leicester, third. Mr. H. C. Baker, Bayfordbury, led for six tea roses, with Dr. Lamplough second, and Mrs. E. Horne, Reigate, third.

In the extra amateurs' class for trebles, teas, and noisettes, Dr. Lamplough, Alverstoke, scored with Mrs. Edward Mawley, Comtesse de Nadaillac, White Maman Cochet, and Madame Jules Gravereaux; Rev. R. Powley second, and Mr. M. Whittle, Leicester, third. In an extra maiden class for six roses in not less than three varieties, Miss Langworthy, Gays House, Holyport, led.

AMATEURS' DECORATIVE ROSES.

Mr. Alfred Tate led for eighteen bunches of decorative roses, with a glorious display, wherein Gustave Regis, Lady Curzon, Gloire de Rosamanes, and Gottfried Keller were excellent; Rev. J. H. Pemberton, Havering, second. For a dozen bunches of decorative roses Lady Sutton, Barban Valence, Newbury, was a comfortable first, showing Carmine Pillar, Bardou Job, Aglaia, and Irish Beauty, finely; Mr. Conway Jones, second.

Mr. Edward Mawley led for six bunches of decorative roses, followed by Mr. C. L. Gordon Clark, Fetcham Lodge, Leatherhead. Sweet Briar roses, six bunches, were best shown by Lady Sutton, who set up Amy Robsart, Anne of Geierstein, Meg Merrilees, Rose Bradwardine, Jeannie Deans, and Flora Norton; Mrs. E. Horne second, and Mr. H. R. Darlington, Potter's Bar, third.

In another class for half a dozen bunches of decorative roses, Miss B. H. Langton scored with splendid bunches of Macrantha, Una, Hebe's Lip, Lady Curzon, Carmine Pillar, and Rugosa alba, Rev. J. H. Pemberton second. The Rev. J. B. Shackle was first, and Mr. H. E. Molyneux second for five bunches of garden roses. Mr. O. G. Orpen led for five stands of garden roses with fine sets of Una, Dawn, Crimson Damask, Moschata alba, Bardou Job, and Maharajah; Rev. J. H. Pemberton, second, and Miss B. H. Langton, third.

LADIES' CLASSES.

There was a fine competition in the lady amateur's class for a circular table decoration, ten competing. First prize was won by Miss West, Firth Dene, Reigate, who used Richmond rose most effectively; Miss J. B. Langton, Raymead, Hendon, second, and Mrs. O. G. Orpen, West Bergholt, Colchester, third with a design in Gottfried Keller and Una that attracted more attention than any other. Mr. Orpen's prize for an ordinary table decoration was won by Mrs. W. Smith, Sparrow Hewe Hall, Bushey Heath, with a lovely design in Irish Elegance; Mrs. C. Lamplough second, and Mrs. A. T. Booth, Lynton, Westbury Road, Woodside park, N., and Mrs. F. H. Cooke, Birch, Colchester, equal thirds. There were thirteen entries.

Mrs. T. H. Cooke had the best bowl of exhibition roses, showing Mrs. W. J. Grant. Miss J. B. Langton had the best bowl of decorative roses, using Dawn. Mrs. Orpen second with Lady Curzon. Mrs. W. Smith led for a vase of roses, and Miss J. B. Langton came second, with Mrs. E. Mawley third. Mrs. Orpen led for a basket of roses, using Irish Beauty and Irish Elegance in beautiful style; Mrs. T. H. Cook second with a basket of Madame Abel Chatenay, and Miss A. F. Harwood, Colchester, third. Mrs. Duckworth, Elmstead, Twickenham, had the best bowl of Wichuraiana roses, and Miss J. B. Langton came second. Mrs. H. Williams, Torrington Park, North Finchley, was first for a bowl of decorative roses, showing Madame Abel Chatenay finely; Miss E. M. Robinson, Hornchurch, second.

Miss M. Fodea, Marlowe's Nurseries, Hemel Hempstead, led in the ladies' (traders') class for a table decoration of roses, winning with a well-finished design of Madame Abel Chatenay; Mrs. E. P. Butcher, Upper Brook Street, Ipswich, second with bronzy varieties, and Miss Ada Townsend, Lower Broadheath, Worcester, third. For a bowl of roses, Miss Ada Townsend, with Liberty, Mrs. A. R. Bide with Simplicity, and Miss Harkness with Madame Abel Chatenay, won the awards in the order of mention.

GOLD MEDAL ROSES.

Mr. Hugh Dickson, Belfast, secured a gold medal for Countess of Shaftesbury, a big rosy-pink flower, and also a gold medal for Lady Pirrie, a delightful salmon-orange-pink combination in a H.T. variety. This firm secured a card of commendation for the single yellow Muriel Jamieson.

Cards of Commendation were awarded to Messrs. McGredy and Sons, Portadown, for Mrs. Herbert Stevens; to Dr. Campbell Hall for a single scarlet seedling; to Messrs. W. Spooner and Son, Woking, for Thelma, a single rose-pink flower; to Mr. T. M. Bradley, Peterborough, for Climbing Lady Ashtown; to Messrs. A. Dickson and Sons, Newtownards, for Theresa, a pretty copper-shaded pink variety; and to Messrs. Paul and Son for Ariel.

SILVER MEDAL ROSES.

The medal blooms, or best blooms were as follows:—Nurserymen—Messrs. A. Dickson and Sons for a H.P. with A. K. Williams; Messrs. S. McGredy and Son, for a H.T., with Madame Melanie Soupert; and to Mr. H. Drew for a T. rose with Mrs. E. Mawley. Amateurs—To Mrs. Croft Murray, Isle of Wight, for a H.P., with Mrs. J. Laing; to Mr. E. B. Lindsell, Hitchin, for a H.T., with Mildred Grant; and to Mr. F. Slaughter, Steyning, for a tea rose, with Maman Cochet.

Hanley Floral Fete.

It is possible that the Hanley Fete, held in Hanley Park on July 7 and 8, will be the last held under the present title, because, under the federation of the Pottery Towns, the title of the next great show will probably be Stoke Floral Fete. The good folks of Hanley are most enthusiastic over their show, and well they may be, for in the first place it is not so very many years since a large part of the present site of 65 acres, comprising the beautiful park, consisted of pits and heaps of mine and furnace refuse. The exhibition filled five big tents this year, and there were nearly 500 entries. There is a large, hard-working committee, and a staff of stewards, all keen and reasonable men who, under the genial lead of Mr. Wm. Poulson, the secretary, carry out their duties admirably, and give timely help to a hurried Press man.

Roses, groups, table decorations, and specimen plants were the leading features, but the children's show, consisting of over 2,000 entries, is not the least important part of the committee's work. One fine class here was for a diary of the flowers, plants, and trees in the public parks, kept in exercise books by the children. There were 240 such diaries, and one little chap had noted some characteristics of no fewer than 161 distinct plants. Many had made sketches to illuminate the text, and a few had even coloured their sketches. We wish the Pottery people good luck in this interesting educational work.

GROUPS AND PLANTS.

There was but one exhibitor in the class for a group of orchids, so that Messrs. J. Cypher and Sons, Cheltenham, had a walk over, and secured the silver challenge cup offered by Thos. Godwin, Esq., in addition to the substantial money award of £15. The arrangement was a large semicircular one, on a table, and here, with a pleasing association of ferns and palms, the Cheltenham firm displayed Cattleya gigas, Vanda cærulea, Epidendrum prismatocarpum, Anguloa Clowesi, miltonias, Masdevallia tovarensis, odontoglossums in variety, thunias, and numerous cypripediums.

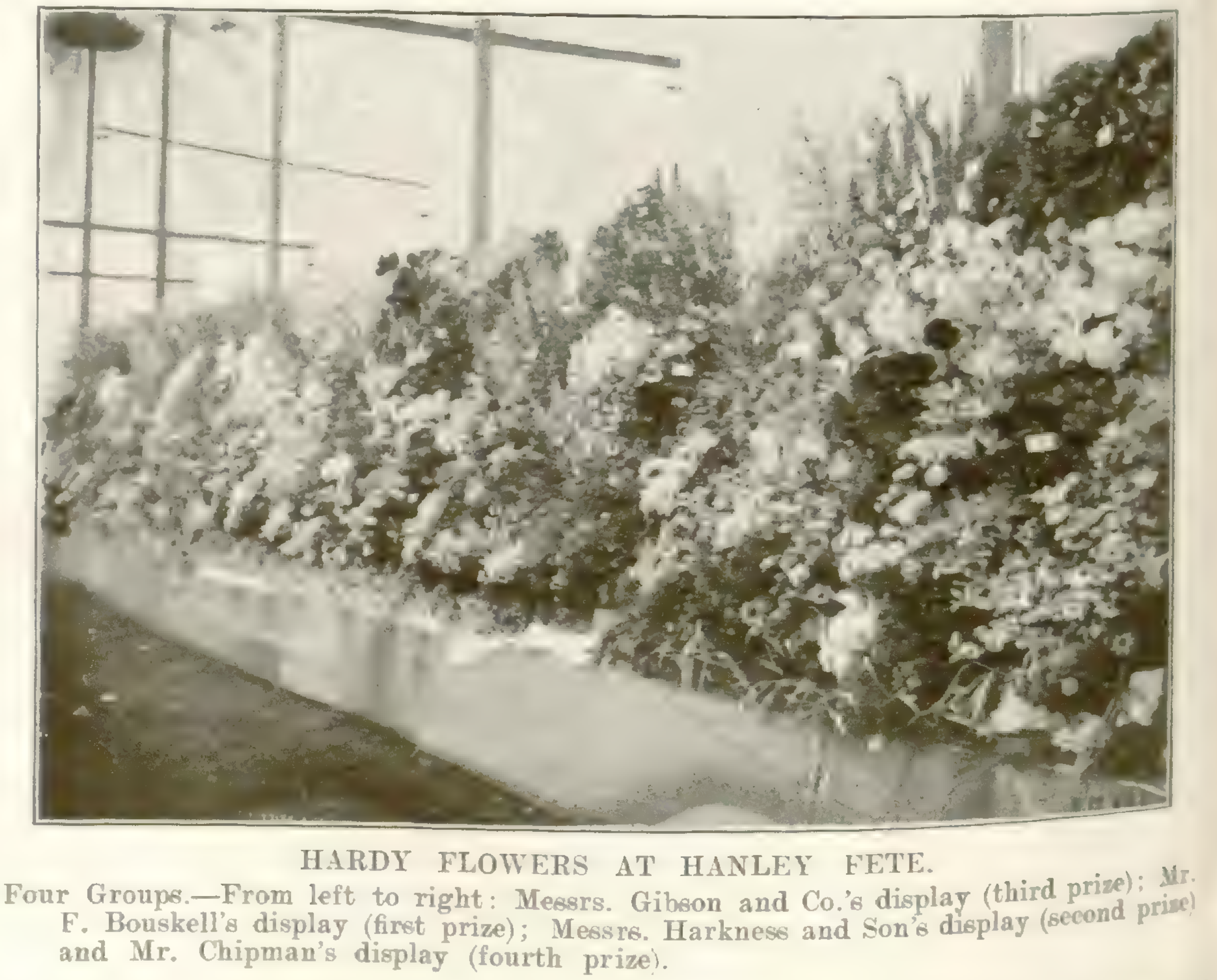
FIRST PRIZE AMATEURS' GROUP AT HANLEY FETE.
Exhibited by Mr. Chas. Roberts, gardener to Mrs. Swann, Halston Hall, Oswestry.

In the principal group class an arrangement on an area of 300 square feet was necessary, and prizes of £25, £20, £15, £10, and £6 were offered, with a special prize of £6 6s. added to the premier award by Messrs. Brown-Westhead, Moore, and Co., of Hanley, and a special of £3 3s. added to the second award by Messrs. Taylor, Tunnicliffe, and Co., of Hanley. The displays were all nearly square, and presented two sides to direct view. Premier honours were secured by Messrs. J. Cypher and Sons, Cheltenham, among five competitors, and they put up a very beautiful exhibit with a graceful centre arrangement of palms, dracænas, crotons, and light roses. The corners were marked by mounds of ferns and crotons, with arching sprays of odontoglossums, and a forward central mound at either side was composed largely of orchids. Some splendidly grown crotons rose as isolated specimens over the intervening groundwork, and cattleyas, ferns, Rex begonias, liliums, and caladiums were used in the "valleys," while green moss gave a good finish to the whole. Mr. Wm. A. Holmes, West End Nurseries, Chesterfield, secured second place, and had some splendid crotons, but he lacked flowering plants; Mr. Wm. Vause, Leamington, won the third place, using Dorothy Perkins roses freely; Messrs. R. Simpson and Son, Selby, Yorks, fourth.

In the amateurs' section great interest centred in the class for a group arranged on 200 square feet, and here there were four entries. The first prize of £10 10s. was won by Mr. Chas. Roberts, gardener to Mrs. Swann, Halston Hall, Oswestry, whose combination was a rather unique one. He had fine examples of Dracæna Victoria, good crotons, gloxinias, anthuriums, liliums, amaryllis, excellent specimens of Phœnix Roebelini, and under a central pendulous Dorothy Perkins rose he grouped dwarf sweet peas and carnations. It was a fine effort, and only needed about half a dozen good odontoglossum spikes to give it a final touch of beauty. Mr. B. Smith, gardener to J. A. Maddock, Esq., The Cedars, Alsager, was second, and Mr. A. Ruff, gardener to J. Tams, Esq., The Hayes, Stone, Staffs, third, the latter showing a very bright design, in which liliums were very prominent.

Messrs. J. Cypher and Sons secured first prize for eight orchids with large examples of Lælio-cattleya callistoglossa, Vanda cærulea, Cypripedium A. de Lairesse, Miltonia vexillaria, Epidendrum prismatocarpum, Cattleya Gaskelliana, C. gigas, and C. Mendeli. Mr. Wm. Vause, Leamington, took second place, showing a good Cymbidium Lowianum, Sobralia macrantha, etc.

Messrs. Jas. Cypher and Sons, Cheltenham, led for six specimen foliage and six specimen flowering plants (twelve plants in all), and showed giant examples of Croton Countess, C. Warreni, Kentia Forsteriana, K. australis, Ixora Williamsi, Allamanda nobilis, Erica ventricosa magnifica, a huge E. Cavendishiana, and Bougainvillea Cypheri; Mr. Wm. Vause, Leamington, was a good second. The best six plants in bloom came from Cheltenham, the Messrs. Cypher putting up very fine examples of Allamanda Hendersoni, Bougainvillea Cypheri, Erica depressa, E. ventricosa magnifica, Statice Gilberti, and Ixora Williamsi; Mr. Vause was second, and he had Statice profusa and S. intermedia in fine condition.



HARDY FLOWERS AT HANLEY FETE.
Four Groups.—From left to right: Messrs. Gibson and Co.'s display (third prize); Mr. F. Bouskell's display (first prize); Messrs. Harkness and Son's display (second prize) and Mr. Chipman's display (fourth prize).

The class for six palms was well filled, and the tall specimens made up a graceful central feature in the rose tent; the awards fell, in order, to Messrs. J. Cypher and Sons, Mr. Wm. Vause, and Messrs. R. Simpson and Sons.

In the local amateurs' classes some remarkably good plants were shown, giving evidence of what careful attention will produce, even in the Black Country. Mr. G. A. Donkin, Cemetery View, Longton; Mr. C. Becket, Woodend Road, Hanley; and Mr. W. J. Lawton, Kent Green, Stoke, secured the awards for a group of plants; and Mr. Jervis Vickers, Beresford Street, Hanley, was particularly successful in the plant classes, scoring for three fuchsias, three zonal pelargoniums, twelve greenhouse plants—a fine set of pelargoniums and fuchsias, staged in a keen competition, for six greenhouse plants in bloom, and for three pelargoniums.

In other plant classes, Mr. H. Hughes, Newcastle, Staffs, was successful for zonal pelargoniums; Mr. T. Parry, Park Road, Wollaston, Nantwich, for exotic ferns; and Mr. A. Handley, Coulton Road, Burslem, for fuchsias.

FLORAL DESIGNS.

Some startling displays of floral art were made in the special class for a collection of designs. There were three competitors, each having a space 15ft. by 6ft. The chief award of £10 was won by Messrs. Lewis and Sproson, Penkhull Nurseries, Stoke-on-Trent, who had a big Dreadnought made of pinks, and a Zeppelin airship of carnations; but their chaplet and crescent of roses, and harp and lyre of pinks, were charming. The King's Acre Nursery Company, Worcester, had a fine floral swan of pinks and white lily petals, and a large harp of pinks and cattleyas, and they won second place; Mr. Amos Carr, High Street, Cheadle, had a tall pergola of Japanese irises and pinks as a chief feature.

The class for a dinner table, decorated with roses and foliage, brought five entries, all of which were of considerable merit. The premier position was secured by Mr. W. T. Mattock, Headington, Oxford; Mr. W. J. Garner, Hale, Altrincham, being second; and Messrs. Lewis and Sproson, Penkhull

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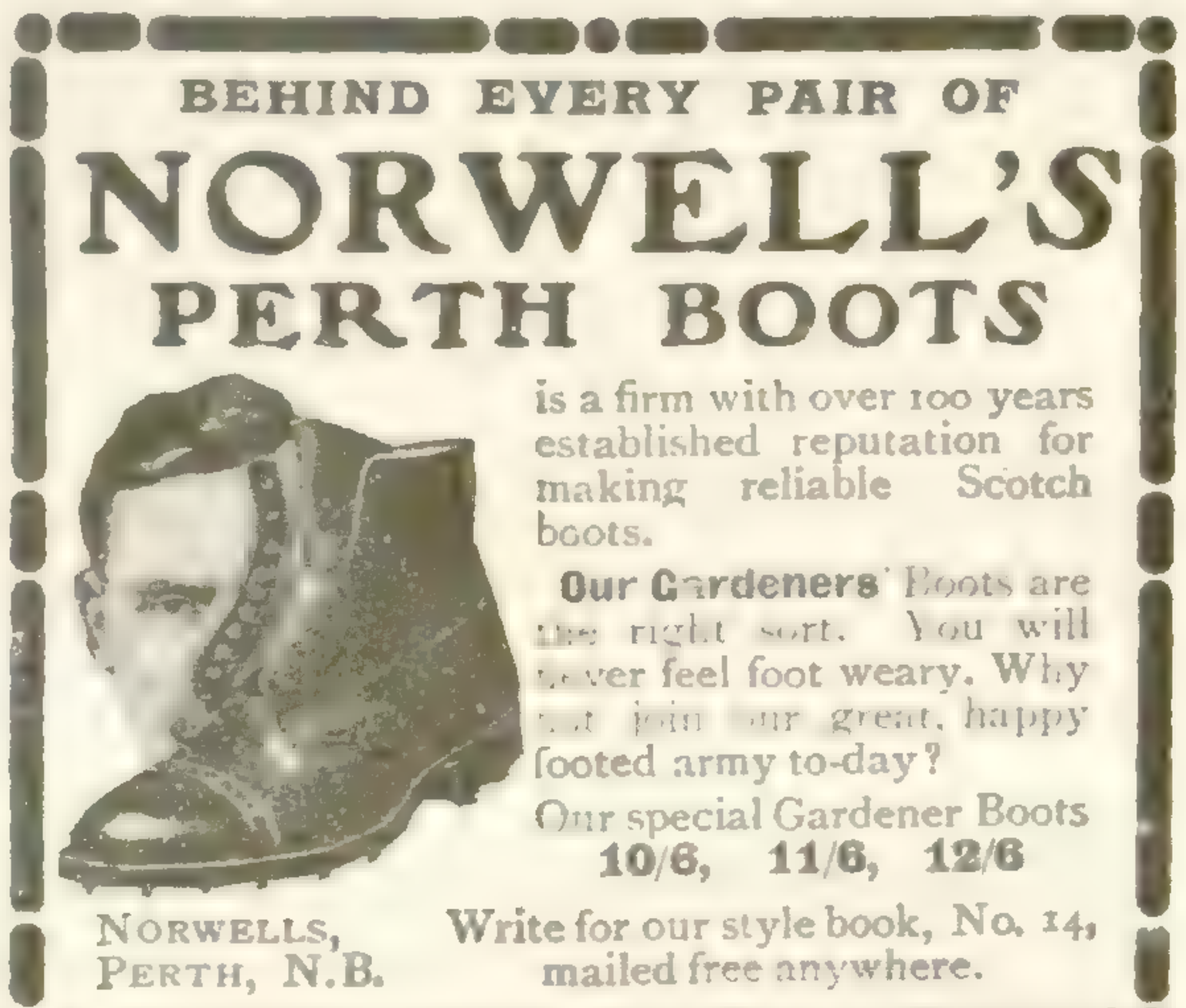
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Nurseries, Stoke-on-Trent, third. An additional prize was awarded to Messrs. Townsend and Sons, Worcester. In a similar class, but for a table decorated with flowers, other than roses, there were nine entries, five being devoted to carnations, and four to sweet peas. The first prize was claimed by Messrs. Lewis and Sproson, whose tasteful arrangement was distinctly pleasing. Mr. W. J. Garner followed, and third prize fell to Mr. J. White, jun., 22, Silverdale Road, Newcastle, Staffs. Mr. Wm. Marple, Penkridge, came fourth with his table of sweet peas, and Mr. W. T. Mattock was awarded a special prize for roses.

CUT FLOWERS.

A large number of classes were devoted to roses, and in all of these the competition was very keen, and the blooms, though still showing signs of bad weather on the outer petals, were cleaner than at the Metropolitan Rose Show. Messrs. Frank Cant and Co., Colchester, led for seventy-two roses with a very clean set of blooms, their Mildred Grant, Frau Karl Druschki, and White Maman Cochet being beautiful examples; Mr. Hugh Dickson, Belfast, second; Messrs. R. Harkness and Co., Hitchin, third; and The King's Acre Nursery Company, Hereford, fourth. The best set of forty-eight varieties of roses, distinct, came from Messrs. R. Harkness and Co., Hitchin, whose Mdme. Jules Gravereaux, Mdme. Melanie Soupert, and Hugh Dickson were fine specimens; Messrs. Perkins and Sons, Coventry, second, with a large number of light-coloured flowers; Messrs. Townsend and Son, Worcester, third; and Mr. Hugh Dickson, Belfast, fourth.

A class for new roses is always of great interest, and the one here for twelve introduced during 1907-8-9, arrested a great deal of attention. Mr. Hugh Dickson, Belfast, led with Mrs. S. Clarke, Miss Cynthia Forde, G. C. Waud, Yvonne Vacherot, Rene W. Nolan, Queen of Spain, Mdme. Segond Weber, W. K. Smith, Lyon Rose, J. Cuff, and Lady Helen Vincent; Messrs. Perkins and Sons second; and Messrs. Frank Cant and Co., third.

Mr. Hugh Dickson scored for three dozen varieties of roses, three blooms of each, and his best sets were of Lyon Rose, General McArthur, Mrs. David McKee, Mdme. Melanie Soupert, and Joseph Hill; Messrs. F. Cant and Co. a good second; The King's Acre Nursery Company third; and Messrs. Townsend and Son fourth. Messrs. Perkins and Sons were first, Messrs. F. Cant and Co. second, Mr. Hugh Dickson third, and Mr. W. J. Mattock fourth for two dozen H.T. roses, in a class of eight entries.

Mr. W. J. Mattock secured the premier award for two dozen tea-scented roses, and was followed in order by Messrs. Frank Cant and Co., and Messrs. Townsend and Son. Messrs. Frank Cant and Co. had the best box of twelve white roses, and Messrs. Perkins and Sons came second, each showing Frau Karl Druschki.

Sweet peas were well shown, and for a dozen bunches Mr. Marple, Penkridge, was first with clear, bright flowers of Helen Lewis, Primrose Spencer, Evelyn Hemus, etc.; Mr. J. Bowler, Woodseaver, Market Drayton, second; and Mr. W. White, Highlands, Newcastle, Staffs, third. Mr. A. H. Hickman, Cooking, near Kidderminster, won first prize in Mr. H. Eckford's class for twelve bunches, and also led in Messrs. Webb and Sons' class for six bunches; Mr. C. Holden, Tavistock, New Ascott, Birmingham, led in the class for six bunches, provided by Messrs. Bakers.

A splendid bank of hardy flowers was made up by the displays of the four competitors in the class for a display made on a space 16ft. by 4ft., and here the chief award of £10 was well won by Mr. F. Bouskell, Market Bosworth, Nuneaton, an amateur grower, who had a glorious lot of delphiniums, campanulas, irises, poppies, pyrethrums, and no fewer than ten varieties of verbascums, including several of his own seedlings that give new shades of colour. Messrs. Harkness and Sons, Bedale, second; Messrs. Gibson and Co., Leeming Bar, Bedale, third; and Mr. Wm. Chipman, Chester Road, New Ascott, Erdington, Birmingham, fourth.

FRUIT AND VEGETABLES.

The leading class for fruit was for a dessert table, set with not more than fourteen dishes of fruits, and decorated with flowers and foliage. The first prize was secured by Mr. J. Doe, gardener to Lord Saville, Rufford Abbey, Notts, and the quality of the fruit and the tasteful arrangement were alike excellent. Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby, was second. For a collection of twelve dishes of fruit, decorated with plants or cut flowers, the leading award was secured by Mr. J. H. Goodacre, Elvaston Castle, Derby, and his grapes and pineapple were good; pink Malmaisons were effectively used as decorative material. Mr. Wm. Nicholls, gardener to Lady Beaumont, Carlton Towers, York, was second.

For six dishes of fruit, first prize fell to Mr. T. Bannerman, gardener to Lord Bagot, Blythfield Hall, Rugeley; and second to Mr. J. Doe, Rufford Abbey. Mr. Wm. Nicholls, Carlton Towers, led for four bunches of grapes, and Mr. T. Bannerman was second. Mr. Doe also scored for two bunches of Black Hamburgh grapes; Mr. Alfred Ruddock, gardener to E. A. Young, Esq., Tanybryn, Bangor, being second; and Mr. Goodacre third. For any other variety of black grapes, Mr. Alfred Ruddock led with Gros Maroc; Mr. W. Nicholls was second, and Mr. T. Bannerman third. For two bunches of White Muscat grapes, Mr. Goodacre led, Mr. Wm. Nicholls and Mr. J. Doe following in the order given. In the "any other variety of white" class, Mr. Wm. Nicholls and Mr. T. Bannerman won in the order named.

Mr. Wm. Nicholls was particularly successful in the vegetable classes, winning firsts in all three classes, viz., the open class, the special class provided by Messrs. E. Webb and Sons, and also that of Messrs. Sutton and Sons. Really good peas, cauliflowers, and tomatoes were features in all three collections.

NON-COMPETITIVE EXHIBITS.

A fine display of vegetables, flowers, and plants was arranged by Messrs. E. Webb and Sons, Wordsley, Stourbridge. Sweet peas on tall stands were an outstanding feature, and brilliant gloxinias, white liliums, and Hydrangea paniculata added to the elegance of this exhibit; while the vegetables were, of course, of excellent quality. Mr. Robert Bolton, Warton, Carnforth, staged sweet peas, and his fine bunches of Elsie Herbert, Mrs. A. Ireland, Helen Lewis, and many other good sorts were lightly arranged in clear glass vases. From Messrs. Jarman and Co., Chard, came roses, zonal pelargoniums, a few carnations, and a batch of their delicately tinted sweet pea Mrs. Townsend. A small group of Spanish irises, early-flowering gladioli, and border flowers was arranged by Messrs. Thos. Davies and Co., Wavertree, Liverpool. Mr. Edmund Cole, Rosarian Nurseries, Ashbourne, showed sweet peas. Mr. W. T. Mattock, Barton End Nursery, Oxford, made a nice display of roses, in which hybrid teas and teas were largely used in bunches, a few tall stands breaking the general level.

Mr. H. N. Ellison, West Bromwich, put up a very useful collection of ferns, showing Adiantum Farleyense, nephrolepis, and davallias in good style. Mr. Thos. W. Darlington, Warton, Carnforth, showed sweet peas, using fancy baskets as receptacles. From Messrs. Clibrans, Altrincham, came a large group of well-grown Dimorphanthus mandschuricus variegatus.

LONDON POTATO MARKETS.

New potatoes are fairly plentiful, but not so good as usual, owing to lack of sunshine. The demand is steady.

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ANSWERS TO CORRESPONDENTS.

NEW NEPHROLEPIS. — Somerset: Nephrolepis todeaoides was introduced by Messrs. T. Rochford and Sons, Broxbourne, awarded a first-class certificate by the Royal Horticultural Society on October 7, 1906, and was figured in our issue of October 27, of that year, p. 710. Nephrolepis Whitmani was raised in the United States, we figured it on p. 107, February 16, 1907, and it gained an Award of Merit in London on February 12, 1907, when shown by Messrs. Hugh Low and Co. Nephrolepis Amerpohli is also an American-raised variety, but we do not remember the exact date of its debut in this country, but we remember it was well shown at the Temple Show of 1908 by Messrs. J. Hill and Sons, of Edmonton.

AMERICAN GOOSEBERRY MILDEW.—N. F., Effingham: The fruits are not affected by the American Gooseberry Mildew, but the leaves are suffering from an attack of red-spider. Give the trees a few good hosings, and then spray them with a nicotine and soft soap solution. We believe the American Gooseberry Mildew was first discovered in this country as a possible epidemic near Tewkesbury in 1906.

SEEDLING SWEET PEAS. — F. E. R., Cambridge: It is very desirable to secure good growth on the plants before allowing them to seed, for if they are permitted to set seeds at once growth will be greatly checked, and the crop thereby reduced. Cut off all the flowers for another fortnight, and then permit the plants to go to seed. Where the quantity dealt with is comparatively small, it pays to examine the rows once or twice a week, as soon as the seeds begin to ripen, and remove the ripe pods, placing these in labelled bags or boxes to await the final shelling and cleaning.

TOMATOES FOR SEED.—E. H., Timperley: Pick the fruits as soon as they are ripe, i.e., ripe enough to eat raw, and place them for a few days on a greenhouse shelf, in the sunshine. Then cut each fruit in half and remove the seeds with a small spoon or other suitable implement, and place them in a hair sieve. Give a thorough washing with clear water, drain, and spread out on paper in a sunny position to dry. It may be necessary to mix the seeds with fine dry silver sand and spread a thin layer on boards or paper in a greenhouse, where sunshine can reach them; a good rubbing of the seed and sand mixture between the hands, as the mass becomes nearly dry, will remove the sticky juice, and, after a little further drying, the sand with the impurities may be sifted away from the seed. Some varieties are more difficult to clean than others, and in some instances a thorough washing in a deep hair sieve, under a tap of water, will suffice, to be followed by drying in the sunshine.

BEDDING ROSES.—H. P. J., Hereford: We strongly recommend you to visit rose gardens and rose nurseries this season, and make notes of roses that are useful for beds and pleasing to yourself. We may add, for your assistance in note-taking and observation, that the following are all of great excellence for the purpose, and can be strongly recommended:—Hybrid Perpetuals: Captain Hayward, Dupuy Jamain, Frau Karl Druschki, General Jacqueminot, Mrs. John Laing, Mrs. R. G. Sharman Crawford, Paul Neyron, Ulrich Brunner. Hybrid Teas: Augustine Guinnoiseau, Camoens, Caroline Testout, La France, Madame Ravary, Marquise of Salisbury, Mrs. W. J. Grant, and Princess [illegible]. Tea-scented: Corallina, Dr. Grill, [illegible]tress, General Schablikine, Gloire de [illegible], Janet Lord, Madame Host, Marie Van Houtte, Mrs. B. R. Cant, and Raoul Chauvry. Chinas: Common China, Duchess [illegible] York, Fabvier, Laurette Messimy, Madame E. Resal, and Queen Mab. General Jacqueminot and Gloire de Dijon should, at the time of after pruning, have their long shoots slightly shortened, and then pegged down to within a few inches of the surface. These long shoots will produce growths and flowers through the greater part of their length, and produce an exceedingly beautiful effect. If the long shoots are shortened, as in the case of the moderate growing varieties, they will produce other stout shoots, and there will be but few flowers.

ANTS ON NECTARINE AND PEACH TREES.—I. H., Kingscliffe: When ants have once made themselves at home in a fruit house they are a great nuisance, and do no small amount of harm. The first thing to do is to locate the nest, and if this is in a position where strong measures may be taken without any harm resulting to the contents of the house, then carbolic acid diluted with about ten times its weight of water, poured into the nest will account for most of the ants. Undiluted paraffin will answer the same purpose, and some should be poured in every few days until all evidence of the ants is obliterated. If the nest cannot be dealt with in this or similar manner, with oils or poisons, it may be possible to use very hot water, almost at boiling point, because very few roots would be killed by the heat of the water if care were taken to pour it directly into the nest. Failing the opportunity to use these methods, then trapping must be resorted to. Sponges dipped in treacle; black treacle spread on brown paper; and half-picked bones; all form excellent traps for ants, but whatever trap is used it must be persevered with. Place a broad piece of brown paper round the stem of the tree, near the ground, gum down the overlapping edges, and tie at the top and bottom of the band; then chalk the surface of the brown paper thoroughly so as to form a broad continuous ring of chalk all round, and if the chalking is well done no ant will pass over it. Grease banding, as for the winter moth, would probably serve the same purpose and prevent the ants from climbing the trees.

DISEASED TOMATOES. — W. H. F., Bristol The fruits sent are suffering from an attack of black rot (Macrosporium tomato), a fungus that gains entrance to the fruit by means of the most minute puncture of the skin. In damp, cool seasons, and in unheated houses that are kept close during continuous dull weather, the disease frequently makes its appearance. Remove and burn all affected fruits, and spray with a weak solution of sulphide of potassium to prevent the fungus from gaining a foothold.

NAMES OF PLANTS.

K. M., Mill Hill.—1, Trachelium cærulum; 2, Calceolaria amplexicaulis.

B. S., Coniston.—1, Spiræa aruncus; 2, Iris Kæmpferi; 3, I. florentina; 4, Campanula garganica.

M. A. F., Epworth.—1, Fuchsia triphylla; 2, Ostrowskia magnifica; 3, Kalmia latifolia; 4, Cestrum elegans.

R. W., Frome.—1, Cattleya Loddigesi; 2, Sobralia macrantha; 3, Monstera deliciosa; 4, not recognised; 5, Gymnogramma Matthewsi.

C. S. S., Rottingdean.—1, Adiantum cardiochlæna; 2, Lygodium dichotomum; 3, Asplenium lucidum; 4, Helenium Hoopesi; 5, Bahia lanata; 6, Deutzia crenata fl. pl.

FORTHCOMING ENGAGEMENTS.

SATURDAY, July 10.—Edgware Rose and Sweet Pea Society.
National Amateur Gardeners' Association Exhibition, Royal Botanic Gardens, Regent's Park.
Purley Horticultural Society.
MONDAY, July 12.—United Horticultural Benefit and Provident Society; Committee Meeting.
Baltic Rose and Sweet Pea Show.
TUESDAY, July 13.—Wolverhampton Floral Fête (Three Days).
Saltaire Rose and Sweet Pea Show.
National Sweet Pea Society, at Saltaire.
[illegible] Rose Show.
WEDNESDAY, July 14.—Luton Rose and Sweet Pea Show.
National Rose Society, Provincial Show at Luton.
Beckenham Horticultural Society.
Woodbridge Horticultural Society.
Formby Horticultural Society.
THURSDAY, July 15.—Malvern Horticultural Society.
Potter's Bar Horticultural Society.
Ibis Horticultural Society.
FRIDAY, July 16.—Ulverston Rose and Sweet Pea Show.
National Sweet Pea Society's Outing to Reading.

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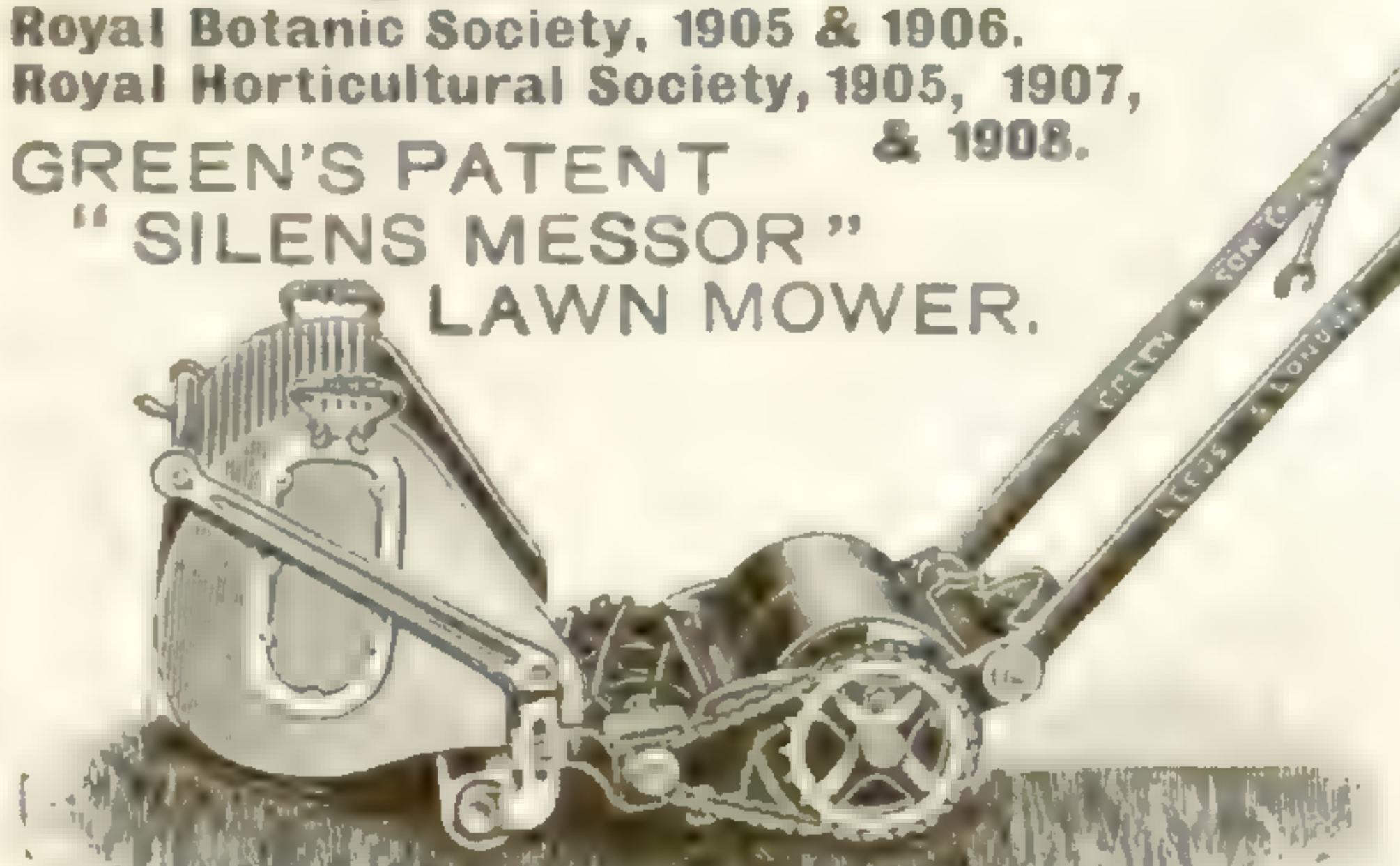

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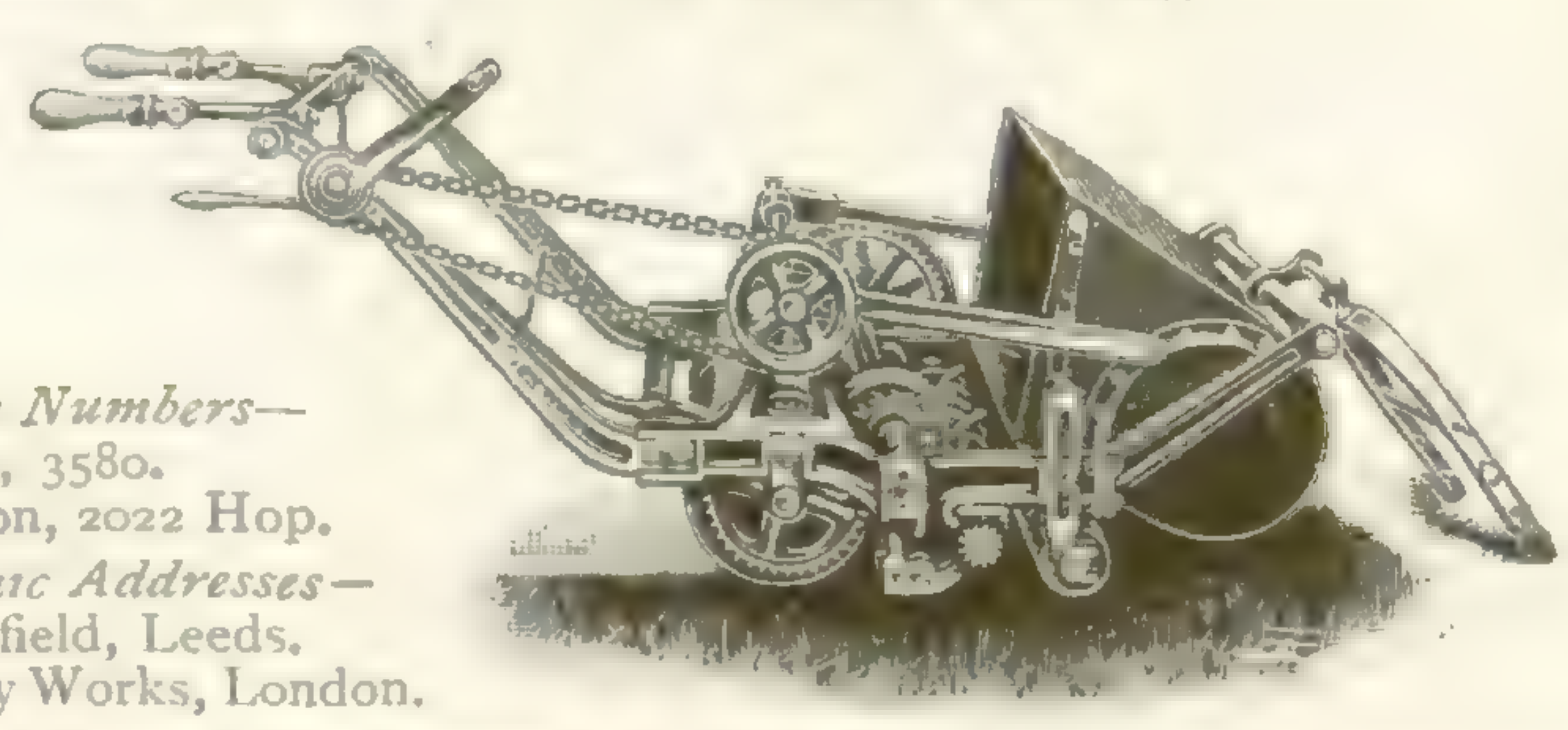

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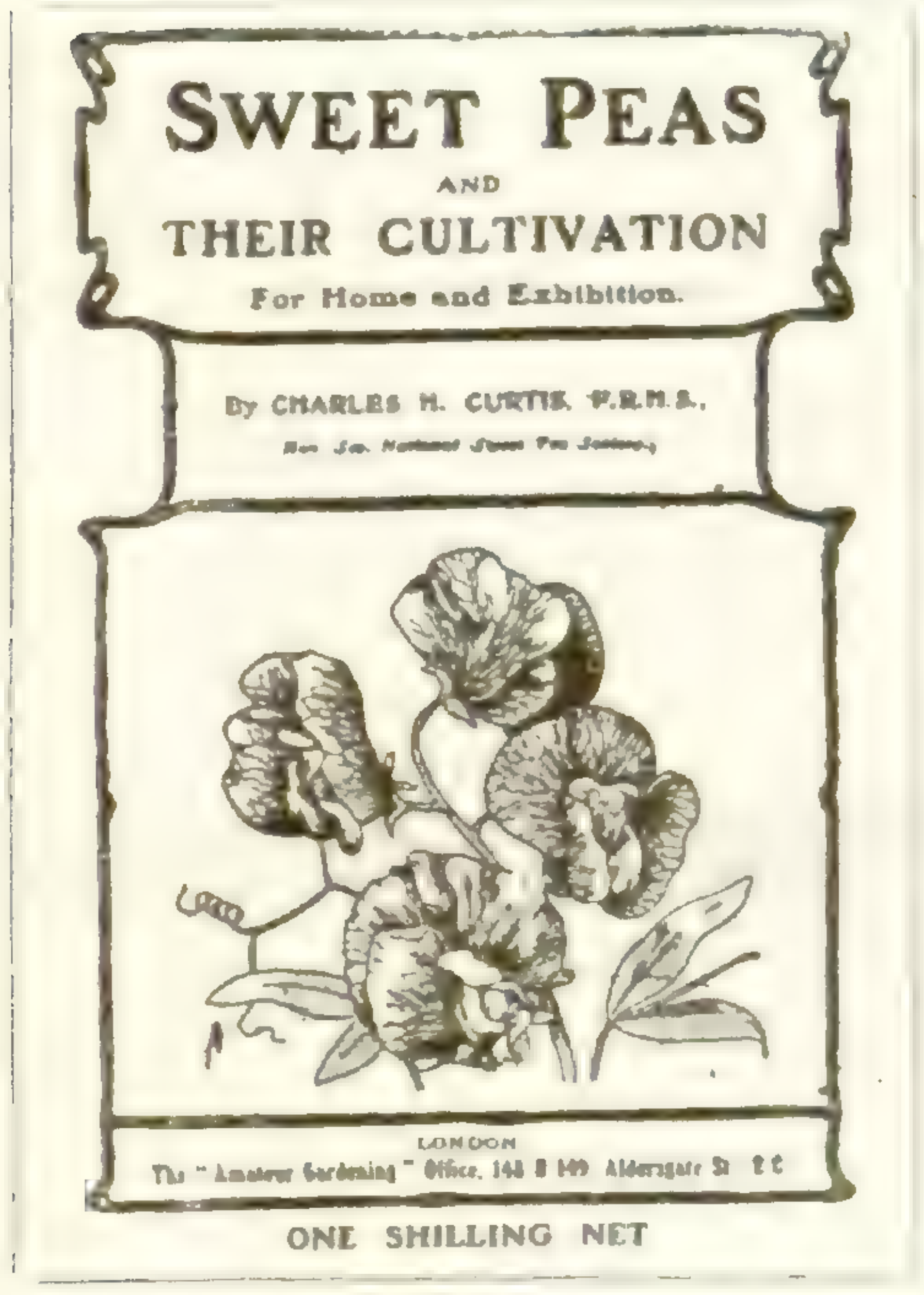

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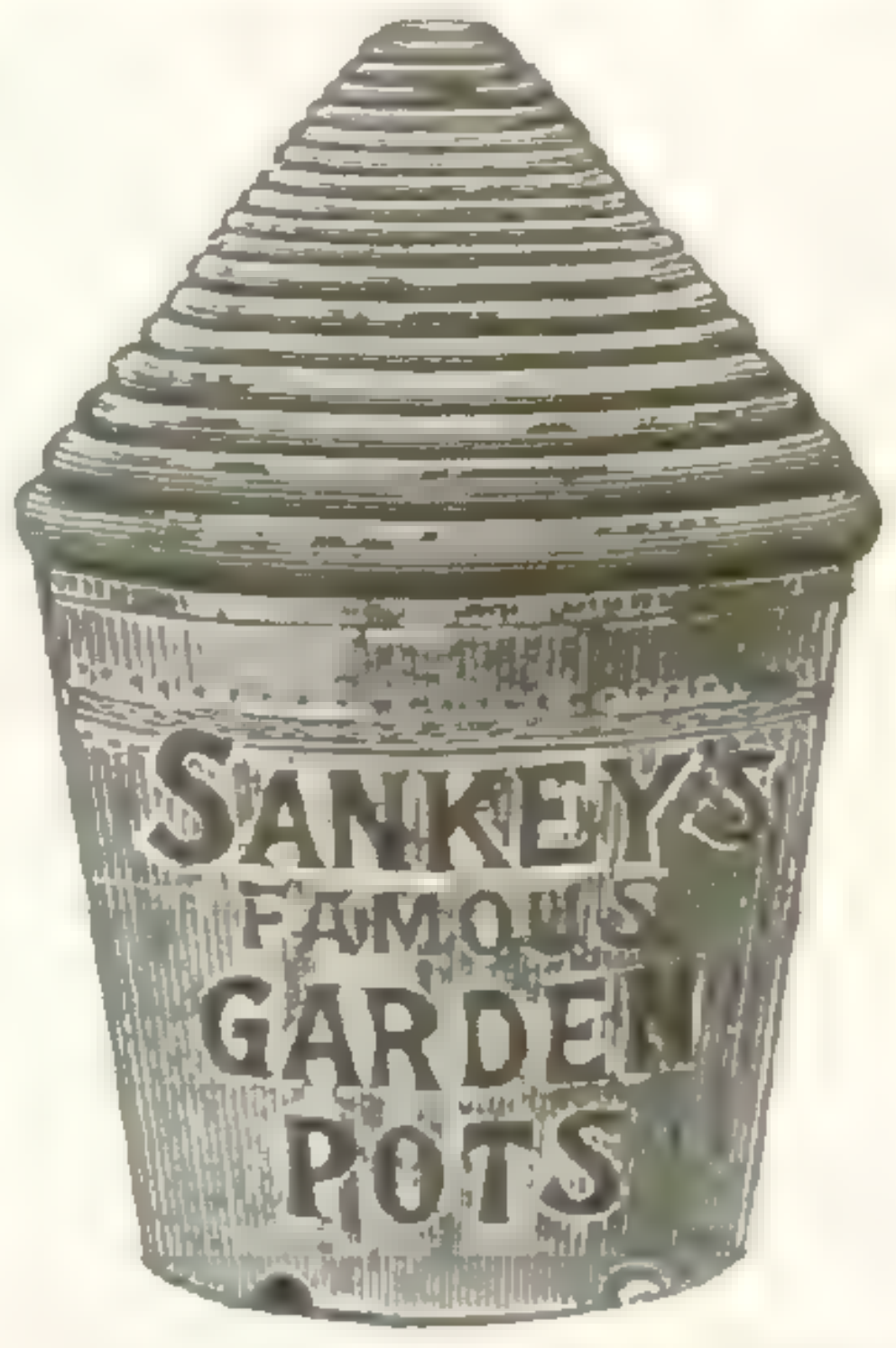

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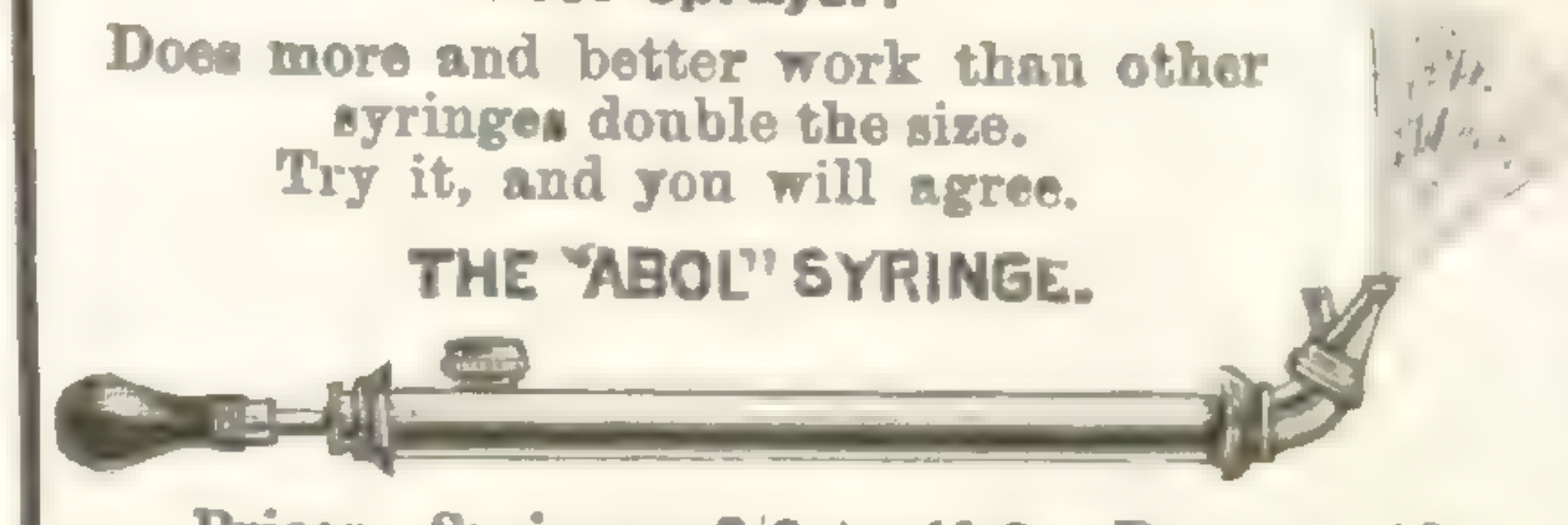

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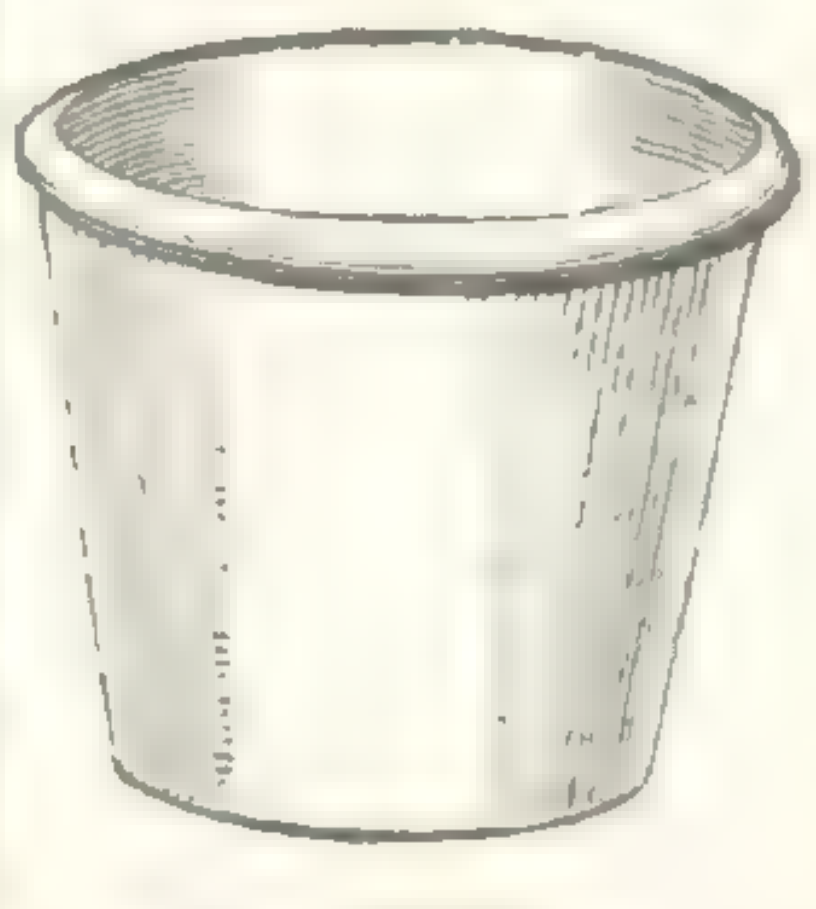

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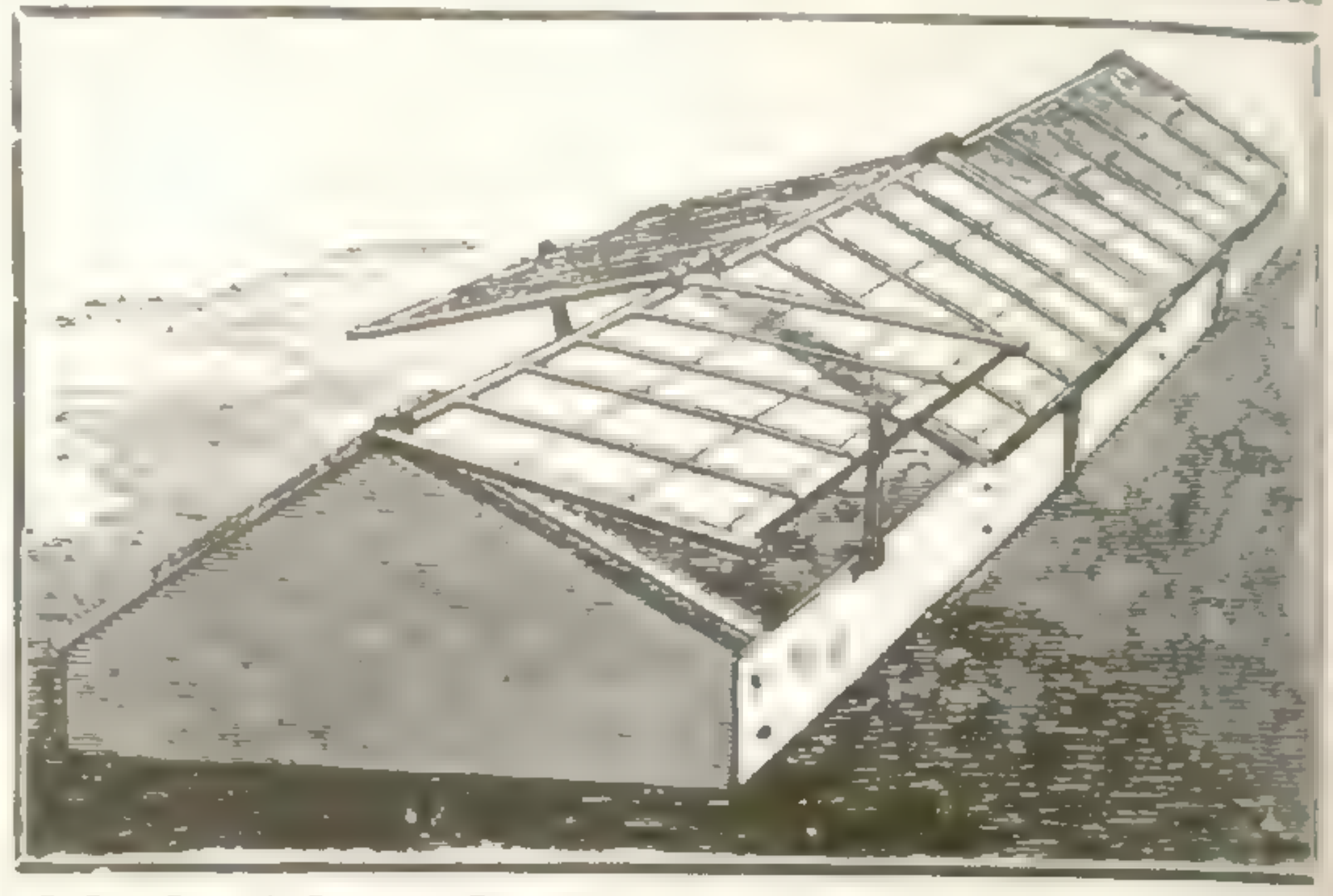

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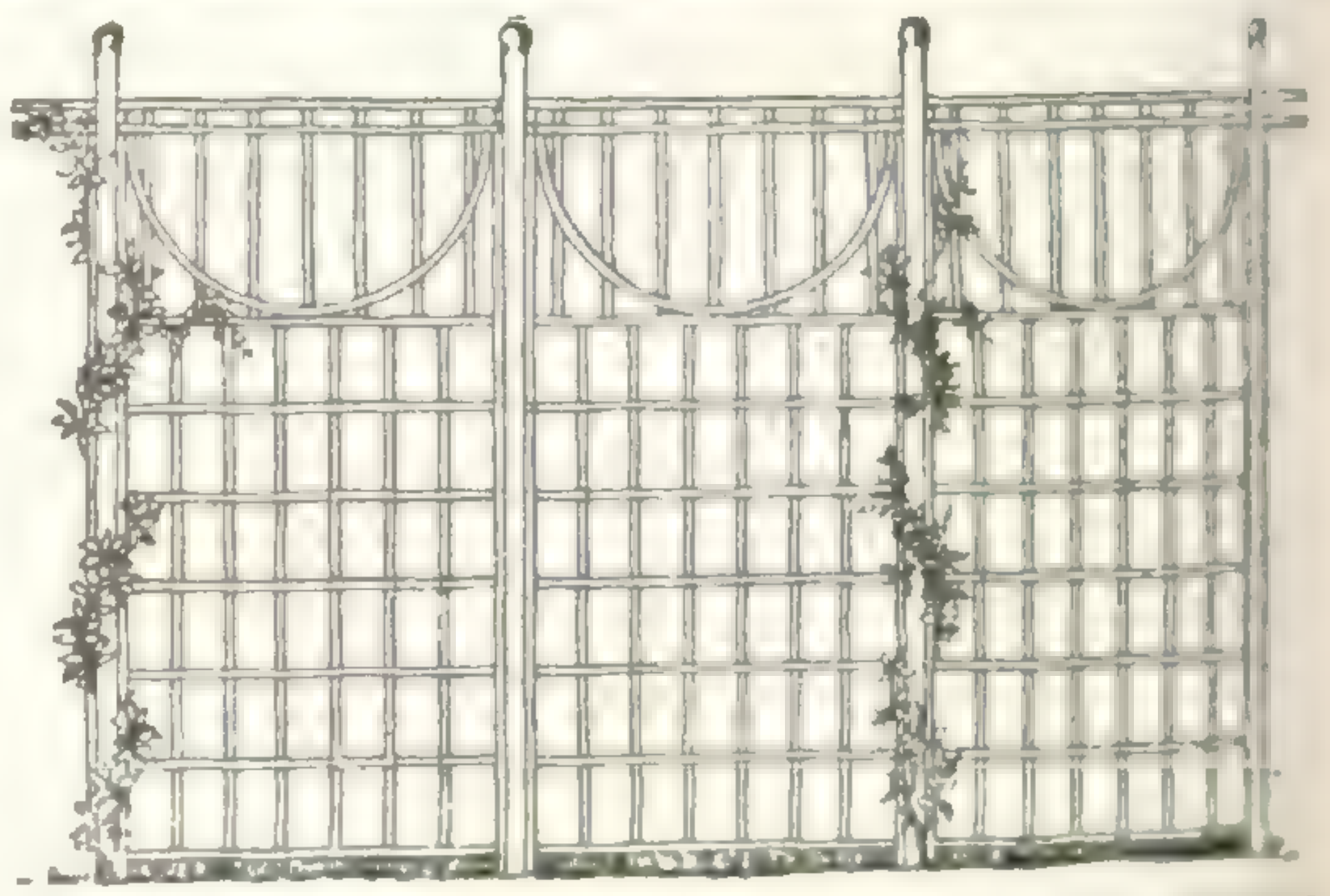

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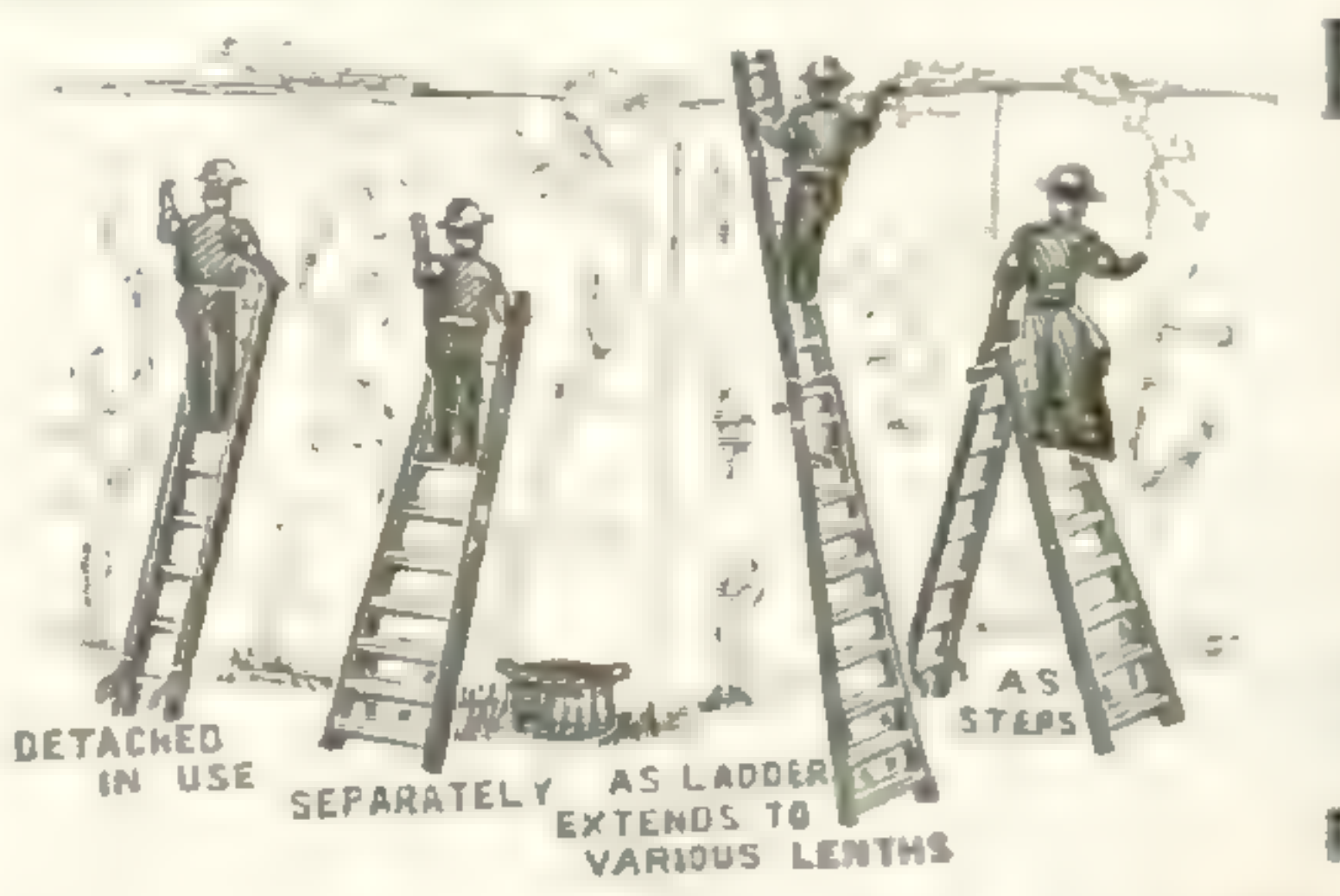

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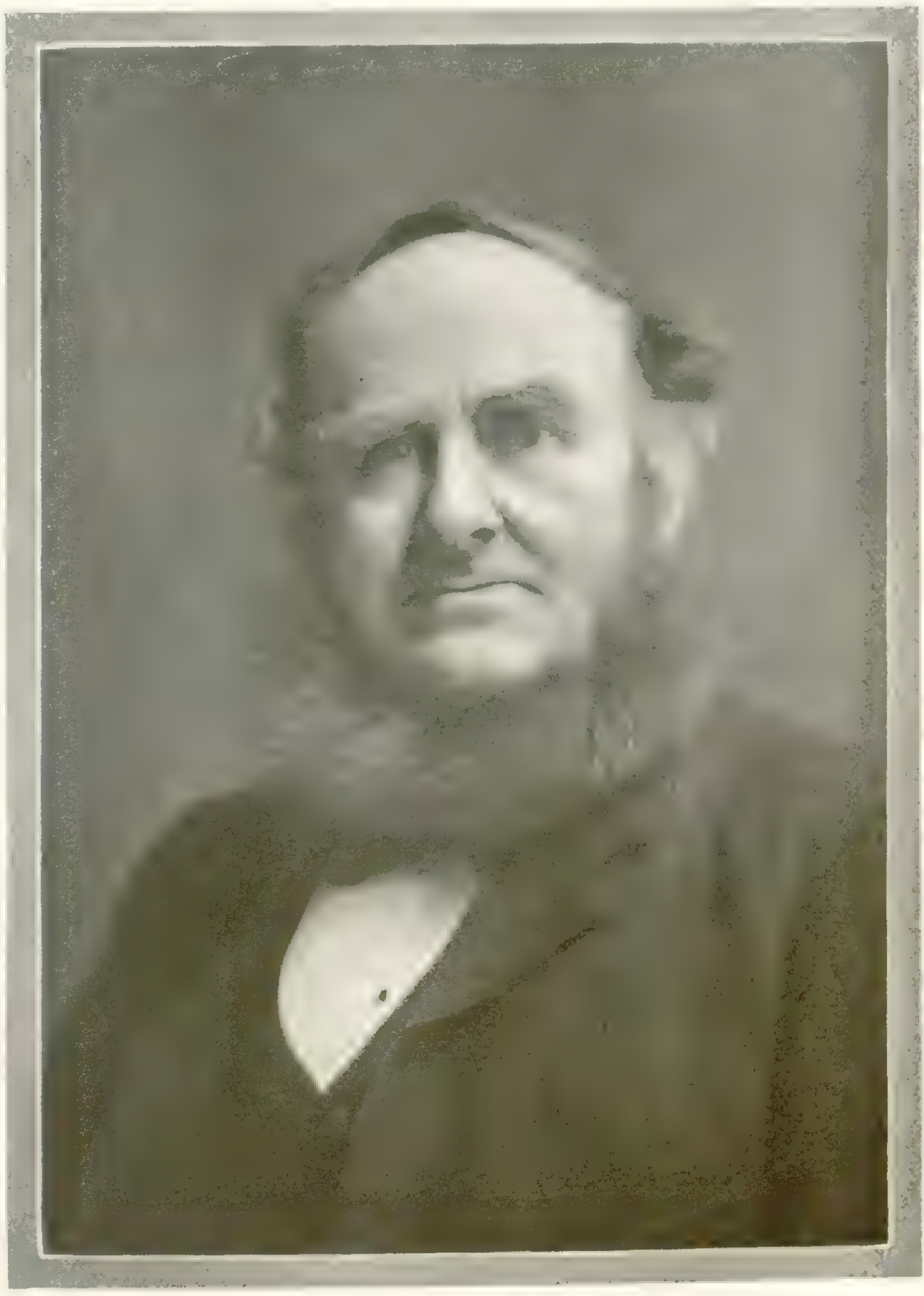
VOL. LII.—No. 2,907. SATURDAY, JULY 17, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Spores.

Spores belong to the category of things amid which we live, move, and have our being, which pervade our environment in unimaginable myriads, and yet the vast majority of us may never see one, or even be aware of their existence. Seeds, as we know, vary much in size, and in some cases are very small, like fine dust, but spores are so much smaller that they can only individually be discriminated under a good lens, and some of them require a very high power indeed. Nevertheless, despite their minuteness and apparent insignificance, they are very wonderful little bodies indeed, since, however minute, in each one is locked up pro tem. the power of producing the parental form of the vegetable whence it was derived, just as perfectly as a seed. Practically, it is a cell imprisoned in a protecting skin or husk, but it differs from a seed, since this cell has not been fertilised, and hence cannot produce the parental form direct, but only in a roundabout fashion. The spore producing plants are extremely numerous, embracing all the seaweeds and the lower classes of land plants, such as the lichens, which form crusts upon rocks; marchantias, etc., which invade our flower pots in damp greenhouses, covering the soil with flat, bright green leathery growths bearing little cups full, not of spores, but of loose buds, and jutting out into spore-bearing columns like dwarf turnstiles or spindle-legged tables; the mosses in all their delicate variety; the horsetails or equisetums, with their stiff-ribbed stems and regular whorls of branches; and last, but not least, our wonderful wealth of ferns, with their diverse frondage and range of size, from a tiny grasslike tuft to a wide-spreading majestic tree. In all these cases spores are produced in incalculable numbers. A full-sized tree fern may yield every season many thousands of millions, and yet every one will be as capable of producing a tree fern to match as the huge cocoanut on a not very dissimilar palm, whose fruits may be reckoned by the score only. Despite, however, this great disparity of numbers, and the consequent apparently reduced chance of the palm to reproduce itself on a large scale, the minuteness of the spore is so great a handicap in the start for existence that it is only one in many millions that succeeds in its mission, since despite its innate capacity to fulfil it, it is at the mercy of a thousand destroying factors, while the huge cocoanut, if it escape the monkey or the land crab, or man himself, is fairly sure to hold its own and establish itself as a palm tree. Spores, however, by virtue of their minuteness and multiplicity, possess the advantage of wider dissemination than the heavier seeds. They are practically ubiquitous, especially those produced by the great family of the fungi. The very air we breathe is peopled by them, and it is due to this pervasive quality that we have only to expose some dead organic matter to the atmosphere in order speedily to find it invaded by deposited spores capable of forming colonies of their particular breed upon it, and thus creating new centres for further propagation and dissemination of their kind. Nay! as we know to our cost, the organic matter may not even be dead, but only weakly, to fall a prey to the invaders; our very veins are a constant battlefield between the inhaled life germs of microscopic foes and the defending life germs in our blood, which have been beneficently provided for their destruction. A wound inflicted in our flesh forms at once the scene of a potential invasion, which the wise physicians of these enlightened days baffle by antiseptics or germ killers. The bruised leaf on our pet plant becomes at once a point of attack, and the weakness induced by high cultivation and unnatural methods of propagation gives rise to many devastating diseases, solely due to spores, which are, so to speak, ever on the watch for a chance. Fortunately for mankind, the more the life histories of the inimical germs are investigated and established, the greater becomes our power of frustrating their attacks, since there is nearly always some weak point in the cycle of existence by which, when ascertained, we can baffle them. These foes, too, have their own internecine warfares, and we are thus sometimes enabled to profit thereby when once our scientists have grasped the situation.



MR. JAMES GRIEVE.

Mr. James Grieve.—It is with very great pleasure we present in this issue the portrait of one of the most famous of Scottish florists. No one who has had associations with the exhibitions of the Royal Caledonian Horticultural Society and the Scottish Horticultural Association during the last quarter of a century can fail to know Mr. James Grieve, for he has a happy knack of making friends with all horticulturists who visit the shows in the Scottish capital, and a hearty welcome from such a sturdy and genial Scotsman soon makes one feel at home. Mr. James Grieve has for many years been associated with the nursery and seed trade, and was manager to one of the principal Scottish firms ere he commenced business for himself. He has always been a very keen florist, and holds strong views upon the correctness of form and marking in pansies, violas, tulips, pentstemons, dahlias, etc. He has been very successful as a raiser of flowers, and that very useful early apple, named James Grieve, indicates the interest he has taken in pomology. Mr. Grieve has been a member of the council of the Royal Caledonian Horticultural Society, and has, in other ways, rendered great service to horticulture in the North.

Vegetable Imports. — The imports of vegetables during the first six months of the year were rather smaller than those in the corresponding period of 1908. Of potatoes the imports amounted to 2,607,657 cwt., of the value of £1,070,034, and of the total 1,169,669 cwt., of the value of £537,741, were received from the Channel Islands. The imports of onions were 3,105,833 bushels, of the value of £626,179, or a decrease in quantity of about 1,000,000 bushels, and in value of about £136,000. The imports of tomatoes amounted to 522,165 cwt., of the value of £427,623. In the value of unenumerated vegetables there was a material increase, the total for the six months being £298,649.

Wolverhampton Floral Fete.—The "coming of age" of the great horticultural gatherings at Wolverhampton was celebrated on Tuesday and two following days, and the exhibition associated therewith was a splendid success, although the weather was far less favourable than could have been wished. There was a magnificent display of plants, flowers, fruits, and vegetables, arrangements as near perfection as one can hope to see; and among those who have been actively engaged in carrying out the fêtes there was a strong sense of satisfaction with the result of past efforts, and a feeling of hopefulness with regard to the future. The committee, as stated in our report, marked the event by materially augmenting the schedule; and they also showed their appreciation of the services rendered by Mr. Alderman Craddock, the chairman of the committee, by presenting him with a handsome silver rose bowl. The presentation was made at the luncheon on Tuesday, by the Mayor of Wolverhampton, who presided. In handing the bowl to Mr. Alderman Craddock, the Mayor mentioned that he had been connected with the committee from the first, and had rendered yeoman service, the last five or six years as chairman.

Pæonies from Langport.—A large gathering of the flowers of herbaceous pæonies which Messrs Kelway and Son have kindly sent us, indicate in no uncertain manner the great interest and the wondrous display of colour the extensive quarters devoted to these flowers in the Langport nurseries afford at the present time. From the varieties included in the collection of flowers, which produce a charming effect on our table, the following have been selected for their exceptional excellence: Ethelreda, deep rose; Limosel, red rose; Summer Day, cream-white; Kitty Green, pale pink; Lady Esther Smith, creamy-white, an elegant variety with anemone centre; Sophia Miller, a distinct variety, with pink guard petals and white centre, Duchess of Somerset, silvery-pink; Lord Avebury and Cavillaria Rusticana, two handsome crimson varieties; Rev. W. Wilks, blush, with deeper centre; and Kelway's Queen, blush-white. The whole of the varieties mentioned belong to the double-flowered section.

Brussels International Exhibition.—As previously announced in these pages an international exhibition on an exceptional scale will be held at Brussels from May to October next year. Unusual importance attaches to the British section, and manufacturers and other exhibitors have to consider in regard to it a totally new situation. For the first time what may properly be called a representative national exhibit is to be attempted, and this is being organised on novel lines. Exhibitors are no longer to be dependent on a voluntary committee, or left to instal their goods as best they can, or required to defray the cost of a general scheme of decoration, or engage in a speculation the cost of which they cannot ascertain beforehand. The section is in charge of a new department of the Board of Trade, which has been placed under the charge of Mr. Wintour, acting in touch with them and taking responsibilities for these matters. Agriculture and horticulture will, it is believed, be strongly represented, as, in addition to the permanent display, special exhibitions will be held at intervals during the period over which the exhibition will extend. The Royal Commission for Great Britain is influentially constituted, and the committee on agriculture, horticulture, and food products includes the following co-opted members of the Commission: Mr. Charles Adeane, Mr. E. A. Bowles, Mr. Edward Brown, Mr. W. A. Bilney, Mr. T. Bevan, Mr. Richardson Carr, Sir Gilbert Greenall, Bart., Mr. A. J. Giles, Dr. Otto Hehner, Mr. A. W. Last, Mr. R. N. Leonard, Mr. T. H. Middleton, Sir Daniel Morris, K.C.M.G., Mr. H. B. May, Mr. H. A. Newton, Mr. A. B. J. Norris, Lieut.-Colonel Prain (Royal Botanic Gardens), Mr. C. Harman Payne, Mr. A. G. L. Rogers, Mr. Arthur Sutton, Mr. Harry Veitch, and Mr. J. W. Wheeler-Bennett.

Holland Park Show.—Owing to a slip of the pen in the preparation of our report of the Holland Park Show, Mr. W. H. Page, of the Tangley Nursery, Hampton, did not receive the credit to which he was entitled for his fine exhibit on that occasion. The credit was given to another exhibitor, and we hasten to make the correction thus prominently. Mr. Page had, in his customary style, beautiful displays of liliums, spiræas, Dorothy Perkins and other rambler roses, and a glorious lot of perpetual carnations, set up in great stands and vases, these forming, as stated in our report, "a splendid exhibit."

Fruits of Foreign Growth were imported in somewhat larger quantities during the six months ending with June last than during the first half of the two preceding years. The increase would have been very considerable had there not been a large decrease in the apple imports. The imports of apples aggregated 1,115,330 cwt., of the value of £811,303, or a decrease in quantity of about 400,000 cwt., and in value of nearly £200,000. In the imports of apricots and peaches there was also a decrease, the quantity having been 2,107 cwt., as compared with 4,003 cwt., but the value was higher, the figures for 1909 and 1908 being £11,523 and £11,406 respectively. Banana imports aggregated 3,111,999 bunches, of the value of £871,831, these figures showing substantial increases. Of cherries the imports were much larger than in the first six months of last year, and amounted to 119,029 cwt., of the value of £170,137, these figures representing an increase in quantity of about 30,000 cwt., and a decrease in value of nearly £17,000. Currants were imported in largely increased quantities, the total having been 14,132 cwt., of the value of £16,939. In the imports of gooseberries there was a decrease of about 1,000 cwt., the aggregate having been 17,646 cwt., of the value of £9,504. As compared with the corresponding period of last year there was a material decrease in the imports of grapes, the quantities having been 9,993 cwt., as compared with 15,923 cwt., and the value £46,939, as compared with £64,424. There was a decrease in the imports of lemons and nuts, and an increase in the imports of oranges, the latter aggregating 1,561,1[illegible] cwt. of the value of £1,824,719. In the imports of pears there was a substantial increase, the total being 18,711 cwt., of the value of £31,420. Plums also were received in increased quantities, the total being 2,023 cwt., of the value of £9,703, as compared with 1,177 cwt., of the value of £2,526, in the corresponding period of last year. Of strawberries the imports were 36,398 cwt., of the value of £47,682, these figures representing an increase in quantity of about 7,000 cwt., and in value of about £5,000. The value of unenumerated fruits was £55,252, as compared with £45,240 in the first half of last year.

Epping Forest.—Especially attractive was this magnificent open space when a few days since, it was visited by the Epping Forest Committee and a large contingent of friends, including many ladies. At the dinner which followed the inspection of Wanstead Park and the forest, the chairman, Mr. Deputy Cuthbertson, presented the late chairman, Mr. Deputy D. Matthews, on behalf of the Epping Forest Committee, with a handsome rose bowl, as a souvenir of his year of office. The latter, in acknowledging the gift, spoke in high appreciative terms of the manner in which Mr. A. McKenzie, the superintendent, discharges the duties of his office.

Market Gardeners and the Land Taxes.—At a recent meeting in London of the National Federation of Fruit and Potato Traders' Associations, the following resolution was adopted: "That this federation learns with great dismay that it is proposed to impose further burdens of taxation upon land, and respectfully desires to call the attention of the Chancellor of the Exchequer to the following points affecting the market gardening industry: 1. Market gardeners send daily consignments at a very early hour to populous centres, and are, therefore, compelled to carry on business within the collection and delivery area of railway stations. 2. As market gardeners cannot move further out for the above reason, the effect of the undeveloped land tax on their industry would be to increase the heavy burden already imposed upon them. 3. If market gardeners should succeed in throwing any portion of this increased burden upon their customers, the result would be to increase the cost of two most important items in the nation's food supply —fruit and vegetables. 4. Market gardeners employ more hands pro rata than the ordinary agriculturists, and for this reason should share the exemption from the undeveloped land tax conferred upon every other trade, business, or industry except agriculture. 5. The proposed increment duties will also bear very heavily upon the market garden industry. As building development advances the market gardener has to move, and has to expend large sums on making new greenhouses and other buildings, and especially in heavily manuring the new soil. By selling his interest in the land for more than he gave the market gardener is at present able to provide a fund towards such new [illegible], but on such occasions the industry [illegible] suffer severely if in future the [illegible] insists upon taking 20 per cent. of the increment under the provisions [illegible] Finance Bill."

WOLVERHAMPTON GREAT FLORAL FÊTE,

JULY 13, 14, and 15.

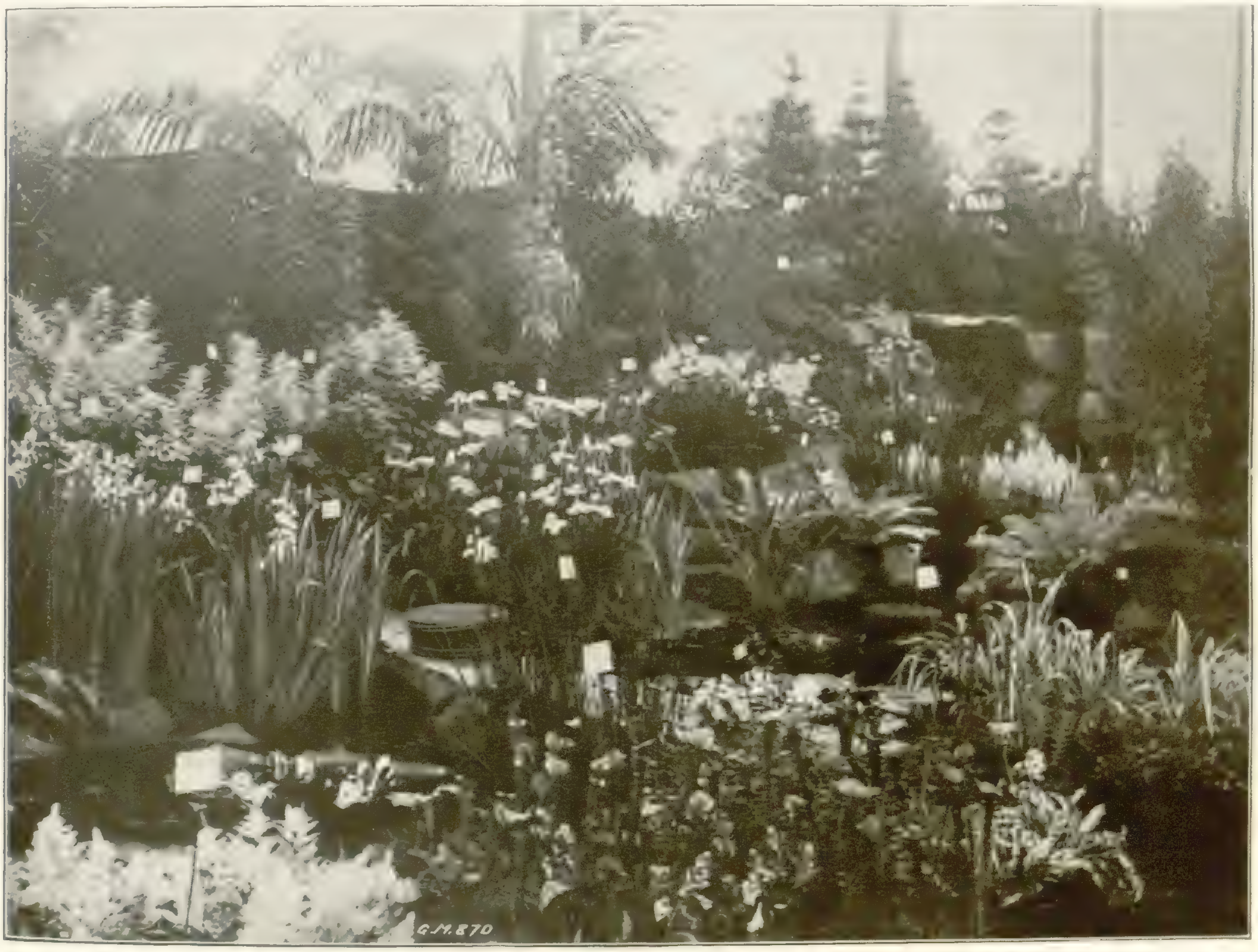
◆

The great floral fête that has been held at Wolverhampton during the past week has been of exceptional interest from the fact that it was the twenty-first of the great gatherings that have brought the town into prominence as one of the more important of the centres of horticultural activity. The fêtes, which are under the management of an influential committee, and are held in one of the most beautiful of the public parks, namely, West Park, have been highly successful from the first, and from the profits upwards of £6,000 have been expended in improving and beautifying this magnificent open space. To mark so important an event as the coming of age of the fêtes, the committee greatly augmented the schedule by providing new classes and adding to the value of the prizes in the leading classes that have had a place in the arrangements for some years past. For example, the prizes in the class for a display of miscellaneous plants were increased to £100; those in the class for a group of fine foliage plants to £57; for seventy-two roses, to £42; for an arrangement of hardy border flowers, to [illegible]; for a collection of fruit trees in pots, to £44, and so on. The show was throughout of a high order of merit, and it would be difficult to speak too appreciatively of the admirable manner in which the arrangements were carried out, or of the services rendered by Mr. Alderman Craddock, the chairman of the Committee of Management; Mr. F. T. Beck, chairman of the horticultural section; and Mr. W. E. Barnett, the secretary, in bringing so important an undertaking to a successful conclusion. The weather, unfortunately, was not favourable, and on Tuesday during the greater part of the afternoon the rains were torrential in character.

GROUPS AND SPECIMEN PLANTS.

For a long series of years groups arranged for effect have constituted a great feature of the Wolverhampton flower shows, for the committee has given such liberal encouragement as to induce exhibitors from far and near to take part in the competition and to do their best. This year the liberality of the prizes was such that in the open class for a display of miscellaneous plants, in or out of bloom, they amounted in the aggregate to £100. The contest was a very keen one, and Messrs. J. Cypher and Sons, Cheltenham, were succesful in winning the premier prize of £40 with an arrangement that quite surpassed all their previous efforts, which, as so well known to our readers, have been great. To describe so beautiful an arrangement in a manner that would convey an adequate idea of its distinctive character and great charm would be impossible, and no illustration in black and white would do it justice. It may, however, be of interest to mention that along the front Messrs. Cypher had in the centre a light arch tastefully decorated with carnations, and that on the right and left were two small mounds, surmounted by an elegant palm or a richly coloured croton, and clothed with flowering and fine foliage plants. At the back were tall plants and standards of cut flowers, and prominent among the former were finely developed specimens of kentias. The spaces between the mounds, the tall standards, and the specimen crotons and other subjects were filled with the choicest of the fine foliage plants of varying heights, and numerous choice orchids. Conspicuous among the latter were finely flowered examples of Odontoglossum crispum in variety, Cattleyas gigas, Gaskelliana, and Mendeli, Lælio-cattleya Canhamiana, and L.-c. Aphrodite, Oncidium leucochilum, O. flexuosum, and Vanda cærulea, the last-named being especially attractive. Mr. W. A. Holmes, Chesterfield, was second with an admirable arrangement, and Mr. W. Vause, Leamington, occupied the third place with a group characterised by much taste.

The prizes offered in the class for a group of ornamental-leaved plants were also most liberal, the entries were numerous, and on the whole the arrangements were of a high order of merit. The competition was very close for first place between Mr. W. A. Holmes, Brampton, Chesterfield, and Messrs. J. Cypher and Sons, and in the result these exhibitors were awarded the first and second prizes in the order of their names. The second prize group was so remarkable for the high quality of the plants, and also for the taste shown, that it was thought by some of the experts that it might have been placed first. Mr. J. V. Macdonald, gardener to Sir E. H. Kenrick, Edgbaston, was third prizetaker with a remarkably fine group. Mr. W. Vause was awarded an extra prize for a



A BEAUTIFUL BOG, WATER, AND ALPINE GARDEN AT THE WOLVERHAMPTON FLORAL FETE.
Arranged by Messrs. Bakers, and awarded the special prize of £50 for the best exhibit in the show.

meritorious arrangement. There was a good competition in the class for a group of flowering and fine foliage plants arranged by gentlemen's gardeners. The groups ranked high in merit, and the most successful exhibitors were Mr. A. Cryer and Mr. R. W. Manning. **The class for a group of** flowering plants, one kind only (but any number of colours or varieties of the same kind), to occupy a space of 50 feet super., was a very interesting one. There were six or seven entries, and far away from the other groups, excellent as they were, was the collection of tuberous begonias shown by Messrs. Blackmore and Langdon, Twerton Hill Nursery. Bath. The group comprised some well-grown and splendidly flowered plants, **representing about fifty** of the finest varieties in cultivation, these consisting chiefly of the superb forms that have originated with these well-known and highly successful raisers. Messrs. Hobbies, Dereham, were a good second with rambling roses, and Messrs. J. Cypher and Sons were third with heaths.

A CHARMING ROCK AND WATER GARDEN AT THE WOLVERHAMPTON FLORAL FETE.

Arranged by Messrs. Backhouse and Son, who were awarded the large gold medal.

There was but one collection of twenty specimen stove and greenhouse plants, and this was contributed by Messrs. J. Cypher and Sons, who were deservedly awarded the first prize. The collection comprised finely flowered examples of Ixora Williamsi, Chironia ixifera, Ixora regina, Clerodendron Kæmpferi, and other well-known subjects. For six stove and greenhouse plants, Mr. A. Cryer, gardener to J. A. Kenrick, Esq., Edgbaston, was first with large, splendidly flowered specimens of Crassula coccinea, Bougainvillea glabra, Ixora coccinea, and Clerodendron Balfouriana; Mr. W. R. Manning, Dudley, was a good second, with a group in which Allamanda Hendersoni was the most noteworthy specimen.

The first prize for twelve gloxinias was awarded Mr. C. Weaver, gardener to B. H. Mander, Esq., Wolverhampton; second, Mr. T. Whysall, gardener to W. E. Stevenson, Esq., Ashby-de-la-Zouch; third, Mr. J. Dickson, gardener to G. C. M. Mander, Esq., Wightwick. Mr. C. Weaver won for twelve begonias, followed by Mr. A. Cryer, and W. E. Smith, Esq., Great Wyrby.

ROSES.

Roses, for which liberal provisions were made, constituted a very extensive and delightful feature. The competition was not very keen in the amateurs' division, but in that for trade growers the classes were so well filled that it was not an easy task to obtain a high position. In the great class for seventy-two blooms, distinct, in which a sum of £20 was offered as the first prize, the competition was of the keenest, and the premier award was made in favour of Mr. Hugh **Dickson, Royal Nurseries, Belfast.** The blooms throughout were of the largest size, superbly coloured, and finely finished. Especially deserving of mention were those of Mildred Grant, Mdme. M. de Luze, Mrs. William Cooper, Helen Keller, Mme. Leon Pain, C. K. Douglas, Charles J. Grahame, Miss C. Forde, Hugh Dickson, Lyon Rose, Countess of Annesley, Triumph, Lohengrin, Pharisaer, Kaiserin Augusta Victoria, and General Jacqueminot. Messrs. Frank Cant and Co., **Braiswick Rose Gardens, Colchester,** were a close second with blooms hardly so large in size as those in the first-prize collection, but well finished, and rich in the high coloured varieties; Messrs. R. Harkness and Co., Hitchin, who were third, also staged blooms of great merit. There were five competitors in the class for forty-eight blooms, and, notwithstanding the unfavourable weather that had obtained some time previously, the blooms were throughout of a high degree of merit. At the head of the competitors were Messrs. J. Townsend and Sons, Worcester, with an excellent set, in which Hugh Dickson, Mdme. Melanie Soupert, Robert Scott, Mildred Grant, Her Majesty, Oberhofgartner Terks, Captain Hayward, Bessie Brown, Florence Pemberton, and Pharisaer were conspicuous; the second and third prizes were awarded to Messrs. Perkins and Son, Coventry, and Mr. Hugh Dickson.

In competition for the prizes for twelve roses, three trusses each, Messrs. J. Townsend and Sons occupied the first place with a good set of blooms, and Mr. Hugh Dickson, Messrs. R. Harkness, and Messrs. Frank Cant and Co. were second, third, and fourth respectively. Still more spirited was the contest for the prizes for twenty-four blooms, and Mr. W. T. Mattock, Headington, Oxford, scored with a set remarkable for the large size and finish of the blooms; Messrs. J. Townsend and Sons followed closely for second place; and Mr. E. J. Hicks, Twyford, Berks, was a very close third.

New roses were well staged, and in the class for twelve varieties, introduced within the past three years, Mr. Hugh Dickson was first with finely developed blooms of the Lyon Rose, Reve Wilwart, Urban, Mdme. Segond Weber, Mrs. Aaron Ward, Laurent Carle, Lady Helen Vincent, Milly C[illegible], Harry Kirk, Baron A. von Biel, H. Armitag Moore, Lady Ursula, and Comtesse I[illegible] Harding; Messrs. Perkins and Sons were a close second; and Messrs. R. Harkness and Co. third.

There was a long line of boxes in competition for the prizes for twelve blooms of any dark rose, and here the first place was occupied by Mr. Hugh Dickson with medium sized and superbly coloured blooms of Hugh Dickson; and Messrs. J. Townsend and Sons were second, and Messrs. R. Harkness and Co. third with the same variety. Not less keen was the contest for the prizes for twelve blooms of any one light rose, and here Messrs. J. Townsend and Sons occupied the premier position with **Bessie Brown in a high** state of development; Her Majesty secured for Messrs. Perkins and Sons the second prize, the blooms large, fresh, and well coloured, and Mr. H. Dickson, who was third, staged Mrs. Theodore Roosevelt in capital condition.

Garden roses constituted a large and most attractive feature, the flowers generally being of high quality and good colour. Mr. **J. Mattock, New Headington,** scored in the **class for nine varieties with a fine set; Messrs. Frank Cant and Co. were a close second with a beautiful collection that was of much interest, as it admirably represented the several classes of roses best adapted for the decoration of the garden.**

Bowls of roses were **highly attractive, and the premier award was made in favour of** Mr. W. J. Garner, Hale, near Altrincham, who had a bold arrangement of flowers of Caroline Testout; Mr. E. Hicks was a close second with a charming arrangement of flowers of teas and hybrid teas; Messrs. J. Townsend and Sons were third with a daring arrangement of crimson and white roses. The class for a vase of roses was a good one, and **Mr. E. Hicks was a splendid first** with a de**lightful arrangement of pink teas; Mr. W. J. Garner followed for second place, and Messrs. Perkins and Sons** were third.

Messrs. Hobbies were the only **exhibitors in the classs for climbing roses in pots, and** staged a collection that well **merited the first** prize that was awarded. The plants ranged from three to four feet high, and were splendidly flowered, Minnehaha, Tausendschön, Delight, Hiawatha, Paradise, and Dorothy Perkins being conspicuous among the varieties **represented in the group.**

Teas and noisettes were represented by numerous collections in the class for twelve blooms, and the blooms were throughout remarkable for their high quality. Mr. W. T. **Mattock was successful in taking premier** honours with finely developed blooms of Mrs. Edward Mawley, White Maman Cochet, **Muriel Grahame, Medea,** Catherine Mermet, **Madame Jules Gravereaux, Comtesse de Nadaillac, Mme. Vermorel, and other of** the finest varieties. **Messrs. Frank Cant** and Co. had a remarkably fine set for the second place, and Mr. John Mattock was a good third. The class for nine varieties, [illegible] blooms of each, and arranged in vases, was a good one, and the first and second prizes were awarded to Mr. W. T. Mattock and Mr. J. Mattock, both of whom staged well.

There was a fine display of roses in the tent devoted to the productions of amateurs, although some of the classes were not so well filled as could have been wished. Mr. [illegible] Foley Hobbs, Worcester, was exceptionally successful, his blooms being throughout in a high state of development. He was successful in obtaining premier honours for thirty-six blooms; for six varieties, three blooms of each; for twenty-four blooms, distinct, for twelve blooms, distinct, and for twelve [illegible] scented and noisettes. In the classes [illegible] to growers resident within twelve [illegible] of Wolverhampton the more successful [illegible] exhibitors were Mr. W. Froggatt, [illegible]ford, Tettenhall; Mr. John Smith, gardener to Walter Marchant, Esq., of Shifnal, and Mr. W. Parkes, Gatacre Park.

SWEET PEAS.

Sweet peas made a fine display [illegible]standing the unfortunate clashing [illegible] with the National Sweet Pea [illegible] vincial show at Saltaire. In the class for eighteen varieties Mr. T. Jones won with a splendid lot, Audrey Crier, Olive Bolton, and Evelyn Hemus being especially noteworthy. A close second was Mr. A. E. Usher, gardener to Sir R. Baker, Bart., Blandford; third, Messrs. Hobbies, Lim., Dereham; fourth, Mr. W. Marple, Penkridge. In Mr. Eckford's class for twelve bunches, Mr. Usher led with splendid blooms of a dozen really good varieties. Mr. J. Haycock, Ruabon, second. In Mr. Robert Sydenham's class the lead was again taken by Mr. Usher, with Mr. T. Parry, gardener to Mrs. Chappell, Warwick, second. Mr. H. B. Howe, Leicester, third, and Mr. Hickman fourth. In the same firm's class for six varieties Mr. Haycock led, his varieties being Etta Dyke, Paradise, Clara Curtis, George Herbert, Evelyn Hemus, and Black Knight; Mr. W. H. Shaw, gardener to A. Ashworth, Esq., Gresford, was second, and Mr. W. H. Holloway, Shrewsbury, third. Mr. H. Taylor, gardener to the Right Hon. Lord Hatherton, Penkridge, fourth. Messrs. Baker's class for six varieties sweet peas brought three entries, Mr. Usher being the most successful competitor, followed by Mr. T. Jones and Mr. W. H. Shaw for second and third places in the order named. Messrs. Webb's class was also led off by Mr. Usher, Mr. W. H. Shaw being second, and Mr. H. Davis, gardener to Watson Smith, Esq., Stourbridge, third.

In the amateurs' class for twelve bunches of sweet peas Mr. Usher secured the leading position, and Mr. T. Parry took second place, with Mr. F. Stead, Wolverhampton, third.

DECORATIONS.

In the class for a bridal bouquet (with orchids) and two bridesmaids' bouquets (without orchids) the first prize was awarded to Messrs. Perkins and Sons, North Western Arcade, Birmingham. The bride's bouquet of white odontoglossums, pancratiums, and lily of the valley, and the two bridesmaids' of Mrs. Burnett carnations and lily of the valley, were exquisitely built. Mr. W. J. Garner, Hale, near Altrincham, took second, and Mr. J. E. Knight, Wolverhampton, third. For a featherweight bouquet Messrs. Perkins and Sons, again led, using oncidiums and odontoglossums, Mr. Garner's spray-like arrangement of mixed orchids being second, and King's Acre Nurseries, Lim., third. Mr. F. Jenks, Codsall, used sweet peas, with which he secured fifth prize.

A popular class, which brought eight entries, and proved a great attraction to the lady visitors, was that for a dinner table decoration. The judging of this class was a very difficult task, but after careful scrutiny the coveted award was given to Messrs. Townsend and Sons, Lower Broadheath, Worcester. The scheme was carried out in amber-shaded roses, and a few blooms of deeper shade, with francoa, gypsophila, and light foliage. Mr. W. J. Garner, Altrincham, secured second with gloriosas and a few white flowers, garnished with Asparagus plumosus. Glass and cutlery were used on this table. Mr. S. Coster, Handsworth, was third with roses of yellow and bronze shades, trails of selaginella being used as embellishments. Miss M. Clarke, Birmingham, came fourth with a very delicate arrangement in flesh-pink and white, a mirror being used as centrepiece.

In a similar class excluding florists and their assistants, there were six competitors, the lead being taken by Miss F. Jenks, Codsall. The flower used was sweet pea Miss [illegible], and maidenhair fern and selaginella were used as foliage. Second prize went to Miss M. Clarke, Birmingham, pink carnations being chiefly used. Similar flowers gained third for Mr. J. Warwick, Derby; Miss Ethel Barnett, Wolverhampton, being fourth with Plumbago capensis and yellow sweet peas. Mr. A. Cryer scored for a collection of decorative plants and bunches of cut flowers; Mr. R. Maybury, gardener to J. Evans, Esq., Wolverhampton, second; and Mr. J. F. Simpson, gardener to Lieut.-Col. Mander, Compton, third.

For a stand of cut flowers for table, first prize went to Mr H. Blakeway, Rugby, for an elegant arrangement of gloriosas. Mr. J. Phillips, gardener to R. E. W. Benington, Esq., Wolverhampton, was second with carnations, and J. A. Warrick, Esq., Derby, third with sweet peas.

HARDY FLOWERS.

The class for a collection of hardy border flowers constituted a feature of much interest and attraction. Messrs. G. Gibson and Co., Leeming Bar, Bedale, scored with a well-arranged asortment of showy and popular subjects, such as delphiniums, pæonies, oriental poppies, verbascums, and liliums, with campanulas, potentillas and other smaller things in the foreground. They were closely followed by Messrs. J. Harkness and Sons, Bedale, who had glorious delphiniums and gaillardias as well as many other good things. Third prize was awarded to Messrs. G. Bunyard and Co., Lim., Maidstone, for a very fine collection. For a collection of delphiniums, occupying six feet by five feet, staged naturally with full length of stem, Messrs. Blackmore and Langdon led off with a really marvellous collection, embracing the very cream of these stately and lovely flowers. Among the rich blues there stood conspicuous Harry Smethum and Novelty, while the rosy lilac of Lilacina and the lavender of Twertonian added a pleasing variety. Second place was well secured by Messrs. G. Gibson and Co., some extra fine seedlings being prominent on this stand. Mr. A. Cryer, gardener to A. Kenrick, Esq., Edgbaston, was third. In the collection of hardy flowers, occupying eight feet by five feet, Mr. C. Holder, Birmingham, was first, and Mr. G. Hollis, gardener to F. Bouskell, Esq., Market Bosworth, second. For twelve kinds of hardy flowers Mr. J. F. Simpson, Compton, led with some bright and telling bunches of popular things; Mr. G. Hollis followed with a nicely arranged collection, and Mr. C. Holder was third.

An attractive class was that for an arrangement of pansies and violas on a stage seven feet by three feet, the lead was taken by Messrs. W. Pemberton and Son, Bloxwich, whose blooms of grand quality were arranged in glass vases in a most artistic manner. A large mirror formed an effective background, in front of which the flowers stood out to show their merits to the full. Second place was secured by Messrs. Bostock and Son, Moseley, Birmingham, who adopted a similar but slightly heavier style of staging; third, Mr. W. Chipman, Birmingham.

MISCELLANEOUS CUT FLOWERS.

For twelve cactus dahlias, distinct, there were five entries, the blooms at this early season being rather small. Mr. F. Lea, Stourbridge, secured first; Mr. G. Burgess, Wolverhampton, second; and Mr. J. T. Broadhead, Bushbury, third.

FRUIT AND VEGETABLES.

Prizes of a liberal character were offered for a display of fruit trees in pots, and Messrs. Rivers and Son, Sawbridgeworth, received the premier award of £20, with an added prize of £5 contributed by Mr. Alderman Craddock, for a collection that fully sustained their high reputation as cultivators of fruit trees in pots; the collection comprised about fifty trees, and included the finest of the peaches, nectarines, cherries, plums, oranges, shaddocks, grapes, and figs, with several of the best dessert apples, especially noteworthy among the latter for its brilliant colour was Lady Sudeley. The peach trees included four finely formed pyramid trees of Duke of York, carrying heavy crops of fruit in a perfect state of maturity. The trees had been grown from the beginning of the season in an unheated house, and were therefore of special interest as indicating the usefulness of the variety for growing under glass without the aid of fire-heat. The second prize was awarded to the King's Acre Nursery Company, Hereford, for a good collection.

Mr. J. Doe, gardener to Lord Savile, Ollerton, secured first prize for eight dishes of

A FINE GROUP OF TUBEROUS BEGONIAS

Exhibited at the Wolverhampton Floral Fête by Messrs. Blackmore and Langdon, who were awarded the first prize in the class for a group of one kind of plant, without restriction as to number of varieties.

fruit. His collection comprised grand bunches of Madresfield Court and Muscat of Alexandra grapes, a good seedling melon, Brown Turkey figs, and excellent peaches and nectarines. Mr. W. Parker was second with a collection including apples as well as the fruits already named. For four bunches of grapes, Mr. J. Doe led with Black Hamburgh and Buckland Sweetwater; Mr. W. Parker second. Mr. Doe led for two bunches of white, and again for two of black.

Mr. J. Gibson, gardener to the Duke of Portland, Welbeck, Worksop, won first in the class for ten dishes of vegetables; his dish of Sutton's Centenary was of marvellous quality, and the Canadian Wonder beans, White Leviathan onions, Early Gem carrots, Magnum Bonum cauliflower, and, in fact, all the dishes were of highest quality. The second prize in this class fell to Mr. A. R. Searle, gardener to the Marquis of Northampton, who also had a grand lot of produce. Mr. J. Gibson was successful in Messrs. Sutton's special class for six dishes of vegetables, showing for first place their New Red Intermediate carrot, Magnum Bonum cauliflower, Perfection tomato, Centenary pea, White Leviathan onion, and Superlative potato. He was followed by Mr. A. R. Searle, Mr. T. Whysall, Mr. H. S. Foster, and Mr. H. Davis in the order indicated. In Messrs. E. Webb and Sons' class for six dishes, Mr. H. Davis was first, and Mr. H. Taylor was second. In the same firm's class for eight dishes, Mr. A. R. Searle led with a splendid collection; Mr. H. S. Foster was second, and Mr. H. Davis third. Messrs. Dickson and Robinson, Manchester, offered prizes for two bunches of their tomato Moneymaker, and Mr. T. Parry won with bunches carrying nine good fruits each; Mr. H. S. Foster was second with larger bunches, but the fruit was not ripe.

NON-COMPETITIVE EXHIBITS.

The very least that can be said of the many and varied exhibits by the trade, and a few private growers who were satisfied to exhibit outside the competitive classes, is that they constituted a really grand show in themselves. One of the most important features of the show was a very elaborate water, bog, and rock garden arranged by Messrs. Bakers, who, as local nurserymen, successfully held the field against all comers. Occupying a superficial area of 1,500 square feet, the design was at once bold and realistic. In pools were planted irises, rushes, nymphæas, etc., with gunneras, sarracenias, and ferns at the water's edge. On the moist boggy slopes, and in cool recesses, were spiræas, gillenias, eulalias, and a variety of suitable subjects, and these were backed up by bamboos and small coniferæ. This was altogether an exhibit of more than ordinary merit, and was awarded the special prize of £50 for the best exhibit in the show. Despite this great effort, Messrs. Bakers occupied another thousand feet with cut roses, sweet peas, and hardy flowers. We would much like to have given a detailed description of the many good things staged in each of these sections, but space will not permit.

A splendid model rock and water garden was arranged by Messrs. J. Backhouse and Sons, Lim., York. The general plan followed was that of an irregular bank of rock with water at base, one or two irregular mounds in the foreground serving admirably to dispel any sense of hard formality. Alpines were cleverly used among the boulders, nymphæas floated on the water, and the background of the whole was made up with ornamental foliage plants, rambler roses, etc. Messrs. Webb and Sons, Wordsley, Stourbridge, arranged on a huge but elegant brass framework, in the design of a Temple of Flora, a most tasteful display of sweet peas. Excellent blooms of the best varieties were artistically arranged, and the result was truly good. The base of the stand was occupied by vegetables, gloxinias, and ferns. Messrs. W. Cutbush and Son, Highgate Nurseries, London, N., arranged an effective group of flowering and foliage plants with tall stands of cut carnations distributed at intervals. The dwarf polyantha rose Mrs. W. H. Cutbush, and a batch of Spiræa Peach Blossom were features of the exhibit. Hardy flowers were staged by Messrs. T. S. Ware, Lim., Feltham; Delphinium Yvette Guilbert was particularly good, and the white phlox Lady Napier proved an excellent associate with the brighter colours. Zonal pelargoniums and roses were staged by Messrs. Jarman and Co., Chard, who also showed early-flowering gladioli and sweet sultans. A few good sweet peas occupied one end of the stand. A fine group of caladiums was arranged by Messrs. J. Peed and Son, West Norwood.

Mr. C. H. Herbert, Acocks Green, Birmingham, exhibited his new perpetual-flowering pink Progress. The blooms, of capital form and quality, were of that vigour and substance which bespeaks natural, open-air culture. Messrs. Gunn and Sons, Olton, Warwickshire, had a big bank of their ever popular phloxes. The best and newest varieties were shown in grand form. A bed of alpines and some good violas occupied the front of the stand. From Messrs. B. Ladhams, Lim., Shirley, Southampton, came good gaillardias, pinks, and other hardy flowers. Mr. C. F. Waters, Balcombe, Sussex, had a grand display of perpetual-flowering and border carnations. The quality of the flowers was supplemented by capital taste in arrangement. Miss S. S. Thompson, Alfred Road, Handsworth, staged a nice collection of cacti and other succulents. Mr. E. H. Suckling, Lichfield Street, Wolverhampton, staged some fine Canterbury bells, sweet peas, and hydrangeas, and in the centre of the stand was a harp, 'cello, and cushion, cleverly devised in flowers.

Hardy border flowers were staged in great variety by Messrs. Dicksons, Lim., Chester. Among the many beautiful things shown, the delphiniums stood out bold and conspicuous. Violas, pansies, sweet peas, and zonals were well shown by Messrs. Dobbie and Co., Rothesay. All were of the high order of merit customary to these experienced growers and exhibitors. Messrs. Hewitt and Co., Solihull, made a very attractive display of hardy flowers; liliums, delphiniums, and carnations were particularly good. A nice group of violas were staged by Mr. W. L. Pattison, Cherry Orchard, Shrewsbury. His blooms of the popular and newer varieties were of good form and colour.

Ferns were effectively shown by Mr. H. N. Ellison, West Bromwich. A massive piece of Platycerium alcicorne occupied the foremost position in the centre, and was surrounded by adiantums, gymnogrammas, nephrolepis, and a host of other good and useful ferns. A group of Dimorphanthus mandschuricus variegatus was shown by Messrs. Clibrans, Altrincham. From Guernsey Messrs. Lilley brought a fine array of Gladiolus Colvillei, G. cardinalis elegans, and a new variety named King Edward.

An extensive and really first-class collection of vegetables were staged by Mr. E. Beckett, gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree. There were some eighty dishes, every one of which was a model of perfection. From Mr. Charles Barnett, Albrighton, near Wolverhampton, came capital fruiting plants of an excellent tomato and also a quantity of cut bunches of the same variety. Mr. Joseph Lambert, 46, Dantzic Street, Manchester, showed rustic and other devices for the arrangement of cut flowers. Another exhibit of the same order came from Mr. A. Edwards, Arnold, Notts. A bright and pleasing arrangement of zonal pelargoniums in bunches came from Mr. Vincent Slade, Taunton. A display of sweet peas was made by Mr. T. W. Darlington, Warton, Carnforth.

The Wolverhampton Corporation Parks and Baths Committee staged foliage plants and some good plants of Pelargonium Paul Crampell. Another group from the same source furnished the end of one of the tents. Messrs. Robert Sydenham, Lim., Birmingham, staged sweet peas in elegant and tasteful manner, the value of the Sydenham table decoration devices being well exemplified.

The Gardeners' Magazine occupied its own tent near the secretary's pavilion, and in it displayed illustrations of flowers, plants, etc., and a large assortment of horticultural works for both professional and amateur gardeners.

Outside the tents Mr. J. E. Knight, Wolverhampton, made an elaborate display of rambler roses on rustic arches, pillars, etc., with beds of zonals, begonias, etc., and at the background was an arrangement of rockwork, suitably planted with alpine and kindred plants. A summer-house and rustic seats and flower stands made up a very attractive and creditable exhibit.

Messrs. Tom B. Dobbs and Co., Wolverhampton, had a rustic pergola, with a large temple-like centrepiece. Rockwork occupied the base, and shrubs, flowering plants, etc., were lavishly used.

SPECIAL AWARDS.

Silver vase, of the value of £50, or £50 in cash, for the most meritorious and effective display in the show, Messrs. Bakers, of Lichfield Street, Wolverhampton, for their water, bog, and alpine garden.

Large Gold Medals.—Messrs. Webb and Sons, Wordsley; Messrs. J. Backhouse and Son, York; Messrs. Bakers, Wolverhampton (two); Mr. E. Beckett, V.M.H., gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree.

Gold Medals.—Messrs. Dobbie and Co., Marks Tey; Messrs. W. Cutbush and Son, London; Messrs. J. Peed and Son, London.

Silver-gilt Medals.—Mr. C. F. Waters, Balcombe; Messrs. Gunn and Sons, Olton; Mr. John E. Knight, Wolverhampton; Messrs. Hewitt and Co., Birmingham; Messrs. Dicksons, Chester; Messrs. T. S. Ware, Lim., Feltham; Messrs. T. Rivers and Son, Sawbridgeworth; Mr. F. Lilley, Guernsey; the Wolverhampton Corporation.

Silver Medals.—Messrs. E. and H. Suckling, Wolverhampton; Messrs. B. Ladhams, Lim., Southampton; Messrs. Jarman and Co., Chard; Messrs. Clibrans, Altrincham; Mr. R. Sydenham, Birmingham; Mr. B. Slade, Taunton; Mr. T. Darlington, Carnforth; Mr. H. N. Ellison, West Bromwich; Messrs. Tom B. Dobbs and Co., Wolverhampton.

Bronze Medals.—Miss Thompson, Handsworth; Mr. C. Barnett, Albrighton (two).

BRUSSELS EXHIBITION, 1910.

During the Holland Park Show an informal meeting of horticulturists was held in the Lecture-room of the Royal Horticultural Society, Vincent Square, at which representatives of the Council of the Society, of the National Chrysanthemum Society, and other horticultural organisations were present. The principal object of the gathering was to receive the chairman of the Executive Committee of the British Section of the Exhibition, the Right Hon. the Earl of Lytton, to hear from him particulars of the work and operations of the Royal Commission, and to afford to horticulturists the opportunity of obtaining detailed information with a view to their sending exhibits to the exhibition.

The chair was taken by Sir Albert Rollit, who told the meeting what had already been done in relation to the exhibition. Lord Lytton stated the principal reasons for exhibitors coming forward to represent the British horticultural industry. There will be space for the maintenance of a permanent garden in the grounds, similar to the gardens of Belgium, France, etc., and there will be periodical flower shows.

The Rev. Mr. Wilks, secretary of the Royal Horticultural Society, with several members of the Council, Mr. Harman Payne (foreign corresponding secretary of the National Chrysanthemum Society), and others requested information, and the proceedings closed with a cordial vote of thanks to Lord Lytton for his attendance and speech.

Sir Albert Rollit communicated to those present the fact that Mr. Bunyard, of Maidstone, had promised to send a fruit [illegible]. The new department of the Board of Trade which deals with foreign exhibitions [illegible] simplified the business of exhibiting.

APPLE BLOSSOM WEEVIL.

A mischievous pest which is doing tremendous damage in orchards, unobserved by many people, is the Apple Blossom Weevil (Anthonomus pomorum). This pest is responsible for the curious brown-capped, unexpanded blooms to be found on the trees just now. The ravages of this insect have been especially severe this year, owing to the very cold weather at the time the apple bloom was opening, checking and retarding it, thereby affording considerable advantage to the weevil.

LÆLIO-CATTLEYA MARTINETI THE PRINCE.

A handsome hybrid exhibited at the Holland Park Show, July 6 and 7, when it received a First-class Certificate. The flowers are large, and richly coloured; the sepals and petals deep orange, and the lip rich purple.

In the spring, just when the blooms are ready to open, and the petals are showing above the calyx, the weevil ascends to the branches of the tree, laying her eggs inside the unopened blooms. This is an operation taking about three-quarters of an hour for each egg, the female first puncturing the bloom, then laying the egg, afterwards pushing it inside and closing the aperture with some sticky substance. Inasmuch as the weevil leaves off egg-laying when the blooms expand, it is obvious that with good growing weather we shall have a fewer number of affected blooms than if the cold weather retards the opening and prolongs the egg-laying period. In a few days the egg hatches and a maggot of whitish colour is produced, this eating the reproductive organs of the flower, sometimes even commencing on the rudimentary apple, as could be frequently observed this year, probably owing to unfavourable weather retarding its physical changes. The maggot moults into a yellowish pupa, which is probably its most generally observed state, and the latter again into the perfect weevil, which soon eats its way out of the brown unopened petals, and escapes amongst the leaves of the tree. At the time of writing many have made their way out, but a good many still remain in the capped blossoms on the trees.

If the latter be examined, the point at which the egg was inserted can be clearly seen by the difference in the colouring on the petal. It is quite clear that spraying can be of very little, if any value, considerable doubt seeming to exist as to whether the mature weevil feeds at all on the leaves, so that poisoning with arsenates does not seem very hopeful, and the chance with any of the contact washes even less so; and, further, it is obvious that, while in the blossom, the weevil is amply protected by the closed petals.

Hand-picking seems at present to be the only practical remedy, and of course this can only be carried out to a limited extent and only upon the smaller trees. If a careful watch is kept, the affected buds can be picked just before the weevils leave, when they are somewhat more easily removed than earlier in the season. I have frequently noticed that they seem fixed on very tightly, and one is in danger of breaking off a fruit or perhaps the whole spur in picking off those we wish to destroy.

A method of combating this pest, which promises some hope of success, is the jarring of the trees after the weevil has emerged from the blossom. It has been noticed that when the tree is jarred suddenly and vigorously the beetle falls to the ground. If, therefore, we have something in the nature of a cloth or large board covered with a sticky substance underneath the tree, we shall catch the beetles which fall off when a sudden blow is given to it.

Something of the nature of a light wood frame, made of batten, with a handle in the middle of one end and covered with canvas or American cloth should answer very well for the purpose. In large orchards, where it is possible to run poultry underneath the trees, this method might be tried, jarring the beetles off for the fowls to pick up. I have no personal knowledge as to whether they would eat them, but I should consider it very probable indeed.

The beetle hibernates in rough bark, moss, and lichen on the trees, as well as under stones and rubbish on the ground, so that thorough winter washing should be a considerable aid to combating its attacks. In this connection it seems that lime-wash of some sort must be of great service, as, if the tree is thoroughly coated, some quantity at least of the beetles must be prevented from escaping from their winter quarters. Like the other pests to which I have referred, this one seems enormously on the increase. Fifteen years ago we had to search for examples on our plantations, now we can find all too many on the first tree we look at, and no doubt it is the same all over the country, both in private gardens as well as in the market plantations of commercial men, so that it behoves us to do all that lies in our power to lessen the numbers of the foe, at least in our particular corner.

Fred. W. Hammond.

Brentwood.

LATE CELERY.

Late celery is a most important vegetable, and for autumn, winter, and spring use it is indispensable in the majority of gardens. It is valuable eaten in a raw state, or cooked as a vegetable. There is certainly no crop that I am acquainted with which does so much to improve the ground as this. Even the most stubborn and retentive soil, after it has been utilised for the culture of celery, is brought to a condition of fertility owing to the depth it is worked, and its exposure to the weather.

Late sowings may be planted at any time during the present month, but the earlier the better. It is a capital plan, where sufficient ground is not available, to take out the trenches between the rows of midseason peas, as these afford the celery a slight shelter, and immediately the plants become established, and the pea crop is over, the latter should be removed, and the ground between the trenches be forked and the space planted with lettuce, endive, radishes, spinach, or other crops which will be over before it is necessary to finally earth up the celery.

The trenches should be of good depth, and three parts filled with good half-decayed farmyard manure, made very firm; three inches of the finest of the soil taken from the trench should be placed on the top of the manure for planting. Single rows are to be preferred, as these are much more easily managed, but where space is limited two or three may be grown, providing sufficient room is allowed between the plants. From ten to fifteen inches is a reasonable distance to allow for celery. The plants should be carefully lifted, with as good a ball of soil and roots as possible, and if the growth has become drawn the outside leaves may be shortened back with good results. Plant very firmly, and give a thorough soaking. Look out for and remove every evidence of celery maggot that can be seen.

As is generally known, celery is a moisture-loving plant, and it is almost impossible to give too much water at the roots, or, during hot weather, overhead in the evenings. Liquid manure should be given in abundance at every other watering, and soot should be applied freely about once a week, or at least every ten days, both over the foliage and at the roots. Not only has the celery fly a great dislike to soot when applied in a fresh state, but soot acts as a splendid stimulant to this, as to many other vegetables. Side growths and split leaves should be removed at intervals, and the surface soil about the plants slightly stirred with the Dutch hoe frequently.

For late supplies earthing up should be deferred as long as possible, for the reason that immediately celery is bleached it becomes tender, and in very many cases it is owing to early earthing that celery does not keep well during severe weather. It is necessary also to carry this important work out piecemeal, i.e., only a small quantity of the finest soil should be added at one time, and this should be placed carefully, but firmly, round the base and between each plant. To accomplish this work properly it requires three pairs of hands, one on either side of the trench to add the soil, and the other to place it round with the hands. This work should be completed before we are likely to receive any very severe weather, and it will be necessary, when a continuous frost is imminent, to place a light covering, such as bracken, straw, or long litter, over the top of the plants.

Perhaps the most important point to observe in relation to the culture of late celery is the selection of varieties. There are many valuable varieties which can be grown for early use, but these are not sufficiently hardy to withstand severe winter. Pink and red varieties are generally to be preferred to white ones, and among these varieties, after many years' experience, I have found none to surpass Standard Bearer and Major Clark's as reds, while Aldenham Pink we have proved to be excellent for this purpose.

E. Beckett, V.M.H.

Aldenham House Gardens.

THE INFLUENCE OF FLOWERS.

The smell of Violets hidden in the green
Poured back into my empty soul and frame
The times when I remember to have been
Joyful, and free from blame.
—Tennyson.

The love of flowers is not necessarily accompanied by the love of gardening, nor the latter by the love of flowers, and most of us know people who take delight in one and not the other. Neither is the effect the same upon the individual, for, while nothing but good can come of the love of flowers, devotion to gardening may easily become such an obsession that a man's business or profession may suffer in consequence, to say nothing of family life. Gibbon, in his "Decline and Fall of the Roman Empire" states that "when Diocletian was solicited to reassume the reins of government and the imperial purple, he rejected the temptation with a smile of pity, calmly observing that if he could show Maximian the cabbages which he had planted with his own hands at Salona he should no longer be urged to relinquish the enjoyment of happiness for the pursuit of power." To come to modern times, the authoress of "A Summer Garden of Pleasure" says in the preface, that if a man desires to be a free man, "gardening he should shun like gambling and take refuge in cities and hotels from this pernicious enchantment." Against the love of flowers no such warning is necessary.

The appreciation of natural beauty, even of that of flowers, is largely a matter of cultivation. Though children like picking primroses and violets, it is rather the act of picking than the contemplation of the beauty of the flowers which gives them pleasure, as is often shown by the way the flowers are cast aside after being gathered. And yet the capacity to obtain pleasure from looking at flowers is one that, unlike the enjoyment of art, poetry, or music, can probably be acquired by the majority of people, educated or the reverse, if only the opportunity is given them; and it is one of the sad things about our great cities that there are so many who seldom or never know what it is to see a flower away from a public garden or shop window, for flowers must be held in the hand if we are to have that intimate acquaintance with them which is necessary to a full enjoyment of their beauty. An eastern philosopher of long ago advised anyone who had two loaves to go and sell one and buy a narcissus with the proceeds, and there is a deal of wisdom in the spirit of the advice, the author of it realising the importance of food for the soul as well as for the body. One who has acquired a real love for flowers has added to his mental wealth, and he who in any way implants the beginning of a similar love in other people is thereby adding to their wealth by increasing their capacity for pure enjoyment—enjoyment which, so far from cloying, grows by what it feeds upon, and can be often ministered to without expense, and never necessarily at any great cost. The following simple lines give beautiful expression to the effect produced by prolonged contemplation of even the humblest flower:

A pitcher of mignonette
In a tenement's highest casement;
Queer sort of a flower-pot—yet
That pitcher of mignonette
Is a garden in heaven set
To the little sick child in the basement.
The pitcher of mignonette
In the tenement's highest casement.

But there is another way in which flowers have an influence over us apart from the spell which their beauty casts upon us, and that is in the power of association. Happy is he whose childhood was passed amongst flowers, for he has a wealth of innocent memories which can be recalled to-day, after the lapse of half a century, in all their freshness, by the sight of some of the commonest flowers either in wild nature or in the garden; and no one is any the worse but probable the better, for having his thoughts occasionally directed to the time when he was at least more innocent of evil than now, if not better.

Then, again, flowers suggest to us or serve as illustrations for very helpful lessons. Men were once told to think upon the lilies (? anemones) of Palestine and learn a lesson of trust for the future. Wordsworth found a sermon in the daisy whenever he saw it, for he says:

Man is soon depressed;
A thoughtless thing! who, once unblest,
Does little on his memory rest,
Or on his reason;
But thou wouldst teach him how to find
A shelter under every mind,
A hope for times that are unkind,
And every season.

And again:

If stately passions in me burn,
And one chance look to thee should turn,
I drink out of an humbler urn
A lowlier pleasure.

And lastly, there is the indescribable influence of flowers, not felt by those whose minds are not attuned to it, but felt very powerfully by some. We might call it the mystic influence, and Wordsworth is the principal exponent of it. The effect produced upon him by the sudden sight of "a host of golden daffodils" is known to everyone, and, to quote from one of his poems to the daisy again, he says:

And all day long I number yet,
All seasons through, another debt,
Which I, wherever thou art met,
To thee am owing;
An instinct call it, a blind sense;
A happy, genial influence,
Coming one knows not how, nor whence,
Nor whither going.

And again:

One impulse from a vernal wood
May teach you more of man,
Of moral evil and of good,
Than all the sages can.

Nor must we forget the last two lines of the "Intimations":

To me the meanest flower that blows can give
Thoughts that do often lie too deep for tears.

Kingsley, too, tells us that we should—

See in every hedgerow
Marks of angels' feet.

Though few of us can ever expect to see in a daisy or a lesser celandine what Wordsworth saw, times do come, more or less rarely, to most of us when, owing, perhaps, to a peculiar receptivity of our normal state, flowers speak to us in a most unexpected way; and when we think of these and the various ways in which they influence different natures, the encouragement of the love of flowers becomes full of possibilities in its effects, even to the extent of sending people back to the land.

Alger Pe

ROSES AND ROSE BUDDING.

July and August being the best months for this most important operation in increasing the stock of roses, a few practical hints may be welcome. One cannot set a precise time for budding; the stocks are not always equally ready, nor can we procure buds of the desired variety at any given time. We should endeavour to have the bud in as nearly the same condition as the stock in which it is to be inserted. Of course, it frequently occurs that the stock is much older (often a couple of years or so) than the shoot the bud is to be taken from, but the main point is to have the bud fairly ripe, with sap still well on the move, and to secure similar conditions with the stock. A much better union is obtained, and the whole matures together.

Another point not sufficiently attended to is the selection of buds. Do not propagate from weaklings if it can possibly be avoided. A great deal depends upon a good commencement, with thoroughly healthy stock, and much more care might well be taken in this matter, and the constitution of the stock be improved. Shoots that have flowered will usually produce a more floriferous plant than those buds from shoots that did not flower. I feel there is more in this than many amateur growers would believe. It is different when dealing with the extra strong growers, such as Ulrich Brunner, Madame Gabrielle Luizet, Margaret Dickson, and those of the climbers often classed as Dijon teas. These more frequently flower upon the first growth when starting from the bud, especially if the buds were selected from long and rampant growths. This is natural when we bear in mind that such growths have generally the embryo buds stored up for next season's flowering. You will sometimes find a run of a dozen or more maiden plants that will be flowering upon short growths, while a following sequence of plants may be six to eight feet high and flowerless. Observation has proved this to be from buds taken off shoots that were flowerless or otherwise the previous season. There is not so much in this when dealing with climbers, because all of these will soon come into stronger growth, but I contend it is well to select carefully when we find what an effect it evidently has upon future growth.

Then, again, we find some few roses that produce far superior blooms upon one plant than upon another, and many of our best teas and hybrid teas do this. For instance, I have had two plants of Maman Cochet side by side, and of these one produced a continuance of perfect blossoms, while the other was constantly throwing a large proportion of split and badly-coloured flowers. Souvenir d'un Ami, Comtesse de Nadaillac, and a few more are very peculiar in this direction, and so I would endeavour to work from the most reliable plants.

Too strong growing a stock does not find favour with me. We often find the bark has grown so coarse as to completely bury the rose bud, the attached bark of which scarcely increases in size. This is why we do not feed our stocks, except it be to water them when too dry to allow of the bark being readily raised. The easier the bud comes away from the rose shoot, and the easier and cleaner it can be inserted in the stock, the greater are the chances of success. I would warn against too close tying.

As to stocks; these are many. You can have dwarf briars in three forms, viz., seedling, cutting, and the short eighteen-inch briar stem from the hedgerow. Briars are undoubtedly the best all round. The manetti may be used for a few of the hybrid perpetuals, and is very useful when one wants exhibition flowers from maiden growths. Monsieur Noman, Horace Vernet, A. K. Williams, Louis Van Houtte, and a few more generally produce a better flower from a maiden than an established plant, and the manetti is stronger than the briar. When the bud is inserted well upon the crown of the dwarf stock one is not much troubled with suckers. The short standards are grand for our choicest teas and hybrid teas that have a tendency to droop, and is just what is needed to keep the flowers off the ground.

One can also bud upon any other rose that is not of the desired quality or colour. Provided the plant is doing well, I would bud upon it where it stands, and cut back to this point the following season, thus obtaining the desired variety upon the same position, and saving a season or so. So long as the rose is doing well there is no reason whatever why it should not answer as a foster stock to a more desirable variety.

A. Piper.

STRAWBERRIES—PAST AND PRESENT.

Notwithstanding the fact that raisers have been successful in evolving many stocks more or less distinct, one finds when visiting gardens, whether private or devoted to market crops, that the old favourite strawberries of past years are still largely grown. In a vicarage garden recently, we found Princess Alice in bearing, a strawberry that carries one's mind back quite 30 years. Then it was a great favourite, but how few still cultivate it? In those days it was regarded as free-bearing, and I believe as early also.

At Eastwood Park, Gloucestershire, the seat of Sir G. Jenkinson, Bart., we found recently, thriving and much esteemed beds of Dr. Hogg, Vicomtesse H. de Thury, and British Queen in the company of Royal Sovereign, Scarlet Queen, and the more recently-introduced Laxton's Reward. Comparisons in flavour were made, and the merits in this respect of the old and new were discussed. In the result it was unanimously conceded that the old stock occupied an unchallenged position. Mr. Lippiatt, who has been gardener at Eastwood for the past 22 years, has tried newer varieties, but he says some of them serve only for the servants' hall, they are not permitted in the dining-room, nor will they pass the censorship of the critical owner of Eastwood Park. In going to this extent of criticism in regard to some of the newer varieties, it does not follow that their merits are decried because of the adverse opinion of one or two persons. Palates are not all alike, a fact borne out by the popularity of Royal Sovereign, a by no means highly flavoured strawberry compared to British Queen.

Even the most ordinary palate will concede the flavour point when given a ripe berry plucked from the plant, first from Reward, then from Vicomtesse H. de Thury, and when one's tastes are educated in flavour matters, it is comparatively easy to understand preferences. We can well remember some fifteen or more years since how one market grower claimed, and easily obtained, advanced prices for his British Queens; his difficulty was to get sufficient for his customers' needs. The case is different now, for in the present market distribution strawberries are strawberries, and regarded as such without critical distinction, save for size and colour. Dr. Hogg we can remember as a great favourite from 20 to 25 years since, for its firm flesh and sweet and rich flavour made lasting impressions on the memory. The plants of that period grew and thrived in heavy working soil, having an underbed of stiff clay; the same conditions, we believe, obtain at Eastwood, for the plants there were possessed of remarkable vigour, both in leaf and crop, as were also all other varieties. Royal Sovereign, which shared space in company with these others already notified, required a full yard space between the rows, so spreading were the leaves and fruit trusses. A seedling raised at Eastwood from a cross effected between the last-named and Vicomtesse H. de Thury, supplied a large fruit and sweeter flavour in its berries than the latter, but in leaf it was scarcely distinguished from Royal Sovereign.

We find in the market gardens of some districts that the once general favourite Sir J. Paxton, not only remains, but is really gaining an extension of space and popularity. It has a darker crimson colour than many of its compeers, and under suitable culture gives berries as large as Royal Sovereign, and when flavour comparisons are made, the old and respected knight offers a dignified challenge. Royal Sovereign, although cultivated by hundreds of acres, has a very prominent failing, namely, the length both of its leaf stalk and fruit trusses. In the spring months, when the flower buds advance, they are exposed to the damaging influence of prevailing frosts. In very many early plantations this year all the most forward buds were found to have blackened centres, and many growers had proof of the delusion of safety based on the faith of unopened buds. Noble, one of the pioneers of the modern strawberry, is now seldom heard of, though there is evidence of its service in later introductions. Nor do we hear of James Veitch and Cockscomb, the giants of the seventies. Auguste Nicaise, perhaps the largest and most enviable of forcing stocks, seems to have been lost in the maze of names found in the gardens of to-day. Berries of the most handsome outline and colour often turning the scales at 2½oz., were obtained, and these induced the more ambitious and successful to aim at the full 3oz. berry. The effort thus made has now been transferred to the favourite Sovereign.

Leader is still a useful first early, but is valued only in a yearling state. On young beds large berries of a deep colour come early and plentifully, and what is important, its leaves protect the rising flower trusses from frost. Givon's Prolific is one of the most fertile strawberries we know. With us this year a two-year-old bed presented one of the finest floral pictures we have seen in a strawberry plantation, the neat leaves being almost concealed beneath the profusion of flower and bud. Its season often extends into August, and most acceptable supplies are obtained through the latter part of July. Latest of All must not be confused with Laxton's Latest, the latter being a comparatively new variety not yet fully proved, but is well reported of by some who have grown it. The older stock in heavy soil proves still a dependable strawberry, giving heavy crops and fine berries when Royal Sovereign supplies are over.

Dumbarton Castle, a bright fruited Scotch variety, is retained for its useful successive service. It produces solid fruits, and has a neat habit of growth. Bedford Champion and The Bedford are maincrop varieties which provide large berries of sweet flavour and fine colour, but are of soft texture. Of the newer Reliance and Progress we have not had sufficient experience to enable us to express an opinion.

W. Strugnell.

Rood Ashton Gardens.

MECONOPSIS IN THE OPEN GARDEN.

The discovery of Meconopsis integrifolia was due to the Russian Przewalski, from whose herbarium specimens Maximowicz, erroneously named it Cathcartia villosa, and this was subsequently corrected by Franchet. Along with seeds of several other plants, and described as from Yunnan, seed of M. integrifolia came into the possession of M. Maurice de Vilmorin, from these plants were raised, the first of which flowered in April, 1896, and the remainder the following year. Unfortunately the plants failed to produce seed, so that the final honours associated with Meconopsis integrifolia must undoubtedly be credited to the enterprising firm of Messrs. J. Veitch and Sons, of Chelsea, to them we are indebted for its rediscovery, and also for its distribution. They say, with reference to it, "In the neighbourhood of Tatieu-lu the magnificent yellow poppy was discovered by Wilson, who secured seed from which plants were raised that flowered at Langley in September, 1904, and was distributed the following year." Not only have they given to gardens a plant of great beauty, but they have placed it within easy reach of all, and it is matter of history that Meconopsis integrifolia appears triumphantly in this firm's exhibit every year, at the Temple Show. At the one recently held they contributed a group that testified alike to the vigour of the species and to the skill displayed in its cultivation.

Since its introduction M. integrifolia has been the ambition of hardy plant specialists. In every respect it is typical of that inordinate beauty characteristic of the entire genera; sharing features common to other species, it has also characters peculiar to itself which render it most distinct. The foliage is grey-green, densely clothed by innumerable fine needle-like hairs of a golden-amber colour, the leaves are variable, at times long and narrow, they occasionally measure three inches across, and are always arranged in the form of a rosette. The golden ball-like flowers are carried upon slender stalks which spring at close intervals from the upper part of a simple stem, these do not partake of the ephemeral nature of the poppy race, as I have noticed flowers remain effective for a fortnight. The plant is a hardy biennial, and attains a height of two feet under favourable conditions; it is deciduous, though not to the same extent as with M. aculeata and M. racemosa.

The crucial stages in growing M. integrifolia are those of seed raising, and in providing suitable flowering quarters; practice will readily overcome the first, but intuition is necessary in interpreting their wants when planting permanently in the open.

Seed is short-lived, and must be sown as soon as ripe, or at latest early in spring; pots or pans may be employed for sowing, but the drainage must be ample. Use a potting compost of sandy loam and peat—that which is used for hard wooded greenhouse plants is suitable—with this fill the pots with soil and water it, and as soon as the excessive moisture has drained off, sow the seeds upon the surface and lightly cover with sifted soil. Place the seed pots in a cool frame and exclude light. When germination becomes evident admit light, but shade from direct sunlight. Water must be carefully supplied as the seedlings easily damp off at this stage, and air must be given on favourable occasions. As the seedlings become large enough to handle, put them singly in small pots, employing a compost similar to that used for seed sowing. Maintain a light shade during periods of bright sunshine, and spray the plants overhead morning and evening. Towards the end of July they will be ready for planting out, those intended for flowering in pots are grown on under the above conditions, repotting as becomes necessary; nine and ten inch pots are suitable for flowering specimens.

The best position for permanent planting, not only for this species, but for all the meconopsis is, I rather fear, a laboured point. Travellers emphasise what their leaves proclaim, that they are plants adapted to an atmosphere always more or less charged with moisture—veritable children of the mist—and it is here that numbers of English growers have failed in a too generous interpretation of this weakness, thereby subjecting the roots to a surfeit of moisture. From what I have seen of meconopsis in other gardens, compared with my own experience, I am led to avoid those contracted pit-like depressions, so frequently found as accessories to the rose garden, and generally recommended as inviting success, choosing in preference some sheltered bay among choice shrubs, and if the ground is comparatively flat so much the better for our purpose. The soil must not contain lime, and should consist of the best sample of loam, peat, and oak leaves procurable. Plant the foreground thinly with pernettyas, introducing Kalmia latifolia or similar shrubs behind, and subordinate their increase in width to the primary object of supplying shelter; group among these the various species of meconopsis, those dwarf in stature to the front, paniculata and Wallichi behind, the result will be a winter effect satisfying to the most exacting, as these two species have foliage that is marvellously beautiful and evergreen, the rain drops rest among the hairy leaves, reflecting the sunlight so that they almost vie in brilliancy with that produced by the gaily coloured fruits of the pernettyas. From May onwards till autumn the floral feast will be one of ever-varying beauty, the garment of the meconopsis is in essence that which the poppy always wears, the former supplying those colours which the latter singularly lack, the texture of their petals is as silk compared with a common fabric, their nobility in comparison to a plebeian race.

One of those idiosyncrasies which often force themselves upon the practical cultivator is that species so dissimilar in nature and habit and widely separated geographically should find congenial quarters in the same garden plot, such is my experience with M. heterophylla, the only American species, and M. Wallichi from the Sikkim Himalayas, and my contention for a drier rooting medium is amply justified by the behaviour of these species; so far Wallichi has topped the measuring rod at seven feet six inches, perfect pyramids of the most exquisite silky blue, while heterophylla makes thick little bushes two feet high of deep grey green leafage, clothed with fairy stems, supporting the deep orange and maroon blotched flowers.

Thomas Smith,

Walmsgate Gardens, Louth.

ROSE ARIEL.

An elegant variety of climbing habit, raised by Messrs. Paul and Son, and bearing large single rose-coloured flowers. Card of Commendation, National Rose Society, July 2; A.M., R.H.S., Holland Park, July 6.

CROTONS FOR TABLE DECORATIONS.

The present season, so far, has been exceptionally cool and overcast. The fitful sunshine has made the work of shading plant houses a difficult one; but, with regard to crotons, I do not trouble about any shading. The plants in small pots intended for table decoration during the autumn and winter months, are left fully exposed to the sunshine throughout the summer months. It is a very important point in connection with the cultivation of these lovely foliage plants, that all basal leaves be sound, of normal length, not seared and stumpy, and of rich colour. All experienced cultivators of crotons know well the value of such examples. In order to obtain these good features they are arranged on empty inverted flower pots on the front, or central stage, or on shelves. Each one must be clear of its neighbour, so that light and the sun rays can reach all the leaves. I do not hesitate to syringe the plants early in the afternoon when the sun is shining on them if it be necessary to do so. A high temperature is maintained, and a very moist atmosphere. Careful watering is essential to success. In lean-to structures the plants must be turned half-way round once every week. So treated very nice specimens will be available for table use later on.

Geo. Garn

EARLY PEAS IN 1909.

The late spring was a very trying one for gardeners, especially in districts where winter vegetables suffered so much from frost. The cold weather in March retarded growth considerably, and made this one of the latest seasons I can remember, and had it not been for the fine weather we experienced during the early part of April and the few warm days in May we should have been faring badly at the present time. The weather during June was all that one could desire for the production of weeds, as there was ample moisture to keep them growing, and very few opportunities to clear them off the ground. Peas, too, during the showery weather, made good progress, and though they are not so early as they have been some seasons, the crops are good, pods being abundant, and well filled.

The varieties of good early peas are now so numerous that there is no necessity to grow any of the hard, round-seeded sorts, and as each year there are a number of new kinds put on the market, some being still an improvement on their predecessors, there are sufficient to choose from to suit any soil or situation. Seasons, soils, and cultivation have much to do with the earliness, growth, and productiveness of this vegetable, for while, under ordinary treatment, varieties like Chelsea Gem, English Wonder, and others of their type only grow to a height of eighteen inches, under liberal cultivation their haulm will attain a length of five feet, or even more. This season I have seen Chelsea Gem grow fully five feet high, and clothed with pods the greater part of its length. There is no real difference in the time of gathering, as these tall plants flowered quite as early as the dwarf ones, and the peas were ready to gather about the same date. If these so-called dwarf kinds can be induced to grow more than double their reputed height, and produce heavy crops, what advantage is there in growing the taller ones? Here, I may remark that it is only by intensive cultivation that these dwarf varieties can be induced to grow so tall, for, as a rule, dwarf ones are more difficult to grow than the taller varieties, hence the reason for their preference.

Although Sutton's Pioneer, like several others of recent introduction, are considered to be dwarf, with me they have attained a height of from four to five feet, and we always put sticks to them to support growth of that height. This was sown on February 2, and though the season has been so backward, it was ready to gather on June 18. The haulm and foliage are dark green, and pods and seeds of the same colour. The flowers are small, and only produced singly, but as the joints on the growths are so close together, the crop is ample. When growers are better acquainted with such first-class kinds they will doubtless discard the older ones. World's Record is another pea of about the same height, but the foliage and pods are of a much lighter green hue. When well grown this is a first-class variety, but it needs liberal treatment. Reading Wonder has dark foliage and pods, and grows to about the same height as the two preceeding, and, like them, is of first-class quality. Advancement gives fine well-filled pods of the Daisy type, from which it is said to be a seedling.

To give a detailed account of all these

H.T. ROSE DUCHESS OF WELLINGTON.

A beautiful variety exhibited by the raisers, Messrs. Alex. Dickson and Sons, at the Holland Park Show, July 6 and 7, when it received an Award of Merit. The colour, apricot-yellow, with coppery-red centre.

early dwarf kinds would take up too much space, but, I may add, of all the dwarf ones grown here Edward VII. is by far the most productive. The foliage is broad, of a deep green colour, heavily marbled; the haulm growing to the height of between four and five feet, and is very robust. The pods are large, produced in pairs, and of a very dark green hue. The seeds are large, and of excellent flavour. It is one of the most prolific peas I have ever grown.

There are many new taller varieties, but these, on good ground and under liberal treatment, take up too much room, especially is this so in exposed places, and where good pea boughs are difficult to procure, for unless peas are well staked the wind is apt to blow them about and damage the growth, thus reducing the chance of the plants bearing a full crop of pods; but, as before remarked, these tall varieties are far less difficult to grow than the dwarf ones, especially on light, dry soils. Amongst these International, which is much after the style of Duke of Albany, but earlier; Harvestman, Edwin Beckett, and some others are good. I grew Gradus the year in which it was sent out, and considered it a very fine pea, but since that date it has deteriorated, showing how necessary it is to re-select the stock frequently.

H. C. Prinsep.

Buxted Park Gardens.

"STREAK" IN SWEET PEAS.

A few days ago I had a conversation with several of our most successful sweet pea growers, and all assured me that their plants were affected with "streak." Further, one grower said that everyone to whom he had spoken on the subject complained of "streak." My own plants are badly affected; in some instances there are isolated plants quite free from it, growing nearly five feet high, and bearing flowers, while others near them are stunted, and the flowers they are striving to bear are also stunted, and fall off before they are fully developed.

The young plants seem to be perfectly free from "streak," and to grow well until they attain to a height of about eighteen inches or two feet, and then the points of the shoots begin to show unquestionable signs of distress.

Two years ago, and even last year, one only heard of isolated cases of "streak"; but this year, so far, the disease seems to be very prevalent indeed, and, judging from my own experience, and that of other growers, I firmly believe that it will very soon work as much havoc among sweet pea plants in the country as the hollyhock disease did many years ago. One cultivator told me he had, he thought, discovered a remedy, if so, I hope he will make good use of it. So far, I feel sceptical in the matter, and would like to enlist the help of the National Sweet Pea Society, and I would suggest that a conference of expert growers be held at the forthcoming exhibition at Vincent Square to discuss the subjust of "streak" especially. The time seems opportune, and, in view of the rapid progress made by the disease in the past, no delay must occur in attacking the disease itself, else, I am afraid, it will soon dishearten all growers. I believe the disease is caused by a fungus growth, but I have not heard that anyone really knows what "streak" is, but many are painfully conscious of its dire effects on the plants.

G. Garner.

NEW PLANTS, ETC.

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LÆLIO-CATTLEYA MARTINETI THE PRINCE.

This is a fine and very handsome variety of the popular hybrid derived from Lælia tenebrosa and Cattleya Mossiæ. In this case the aurantiaca variety of C. Mossiæ was used as a parent. The sepals and petals are orange, with a bronzy suffusion, and the rich purple lip has veins of deeper purple. F.C.C., R.H.S., July 6. Messrs. Sander and Sons, St. Albans.

PRIMULA LITTONIANA.

A new and very distinct primula, found in China by Mr. G. Forrest. Its inflorescence is spicate, and reference to our illustration on p. 528 will show its distinct character. The flowers are rosy-lilac, with purplish base, and a prominent feature of the spike are the deep blood-red calyces. The showy calyces are very attractive at the top of the spike, where the flowers are not expanded, and contrast with the lighter hue of the flowers below. The leaves are greyish-green, and the spikes may be from 1ft. to 2ft. high. F.C.C., R.H.S., July 6. Messrs. Bees, Lim., Liverpool.

MILTONIODA HARWOODI.

A wonderful little orchid, obtained by crossing Miltonia vexillaria with Cochlioda Noetzliana. Only one flower was borne by the seedling plant, and it was about two inches long, flattish, and showing strong evidence of the miltonia parentage. The sepals and petals are rosy-scarlet, and a little recurved, the flat lip being rosy-salmon, with creamy-white shading. Certificate of Appreciation, July 6. Messrs. Charlesworth and Co., Haywards Heath.

CATTLEYA MOSSIÆ WAGNERI VAR. SANDERÆ.

This is a very fine form of the white C. M. Wagneri, and is remarkable for the breadth and fringing of the petals and lip, and for the purity of the whiteness. A.M., R.H.S., July 7. Messrs. Sander and Sons, St. Albans.

ROSES.

Ariel.—A beautiful single rose of fine habit for furnishing pillars. It has dark shining foliage and a profusion of large flowers, deep rose shaded with dark crimson. Each bloom is three or four inches across. Commendation, N.R.S., July 2; A.M., R.H.S., July 6. Messrs. Paul and Son, Cheshunt.

Duchess of Wellington.—A beautiful H.T. rose of fine growth, and with good foliage. The flowers are rich apricot-yellow, and the long buds are especially attractive. A.M., R.H.S., June 6. Messrs. Alex. Dickson and Sons, Newtownards.

Grace Molyneux.—A large and beautiful H.T. rose, producing broad-petalled full blooms, that have a salmon-pink centre surrounded by soft white. A.M., R.H.S., July 6. Messrs. Alex. Dickson and Sons, Newtownards.

Walter Speed.—Another good H.T. rose, with full centred blooms that are white, shaded with pale yellow, and with salmon-tinted centre. A.M., R.H.S., July 6. Messrs. Alex. Dickson and Sons, Newtownards.

Countess of Shaftesbury.—A large and bold H.T. rose of deep rose-pink hue, and with broad petals of fine form. Gold Medal, N.R.S., July 2. Mr. Hugh Dickson, Belfast.

Lady Pirrie.—A charming H.T. rose of medium size; colour, rich golden-apricot shaded with orange-salmon. Gold Medal, N.R.S., July 2. Mr. Hugh Dickson, Belfast.

Theresa.—A very pretty H.T. variety, with small, shapely blooms that are yellow, shaded with apricot and rose. Commendation, N.R.S., July 2. Messrs. Alex. Dickson and Sons, Newtownards.

Muriel Jamieson.—A bright apricot-yellow single rose, very distinct and attractive. Commendation, N.R.S., July 2. Mr. Hugh Dickson, Belfast.

Sheila Wilson.—A brilliant red single rose. Commendation, N.R.S., July 2. Dr. J. Campbell Hall.

Mrs. Herbert Stevens.—A pretty, creamy-white hybrid tea rose. Commendation, N.R.S., July 2. Messrs. S. McGredy and Son, Portadown.

Climbing Lady Ashtown.—A climbing form of the beautiful H.T. variety. Commendation, N.R.S., July 2. Mr. F. M. Brad Peterborough.

SWEET PEAS.

Mrs. Townsend.—A waved variety with white ground, shaded and flaked with heliotrope-blue. A.M., R.H.S., July 6. Messrs. Jarman and Co., Chard.

Doris Usher.—A strong-growing variety, with bold broad standard. B pink. A.M., R.H.S. Mr. A. E. Usher, gardener to Sir Randolf Baker, Bart., Ranston, Blandford, Dorset.

Colleen.—A waved variety, with bright rose standard and whitish wings. After the character of Apple Blossom Spencer as shown. A.M., R.H.S., July 6. Mr. William Deal, Brooklands, Kelvedon.

Masterpiece.—A very fine sweet pea bright lavender-blue self. A.M., R.H. July 6. Messrs. Dobbie and Co., Rothe

Mrs. Henry Bell Improved.—A delig sweet pea, and distinctly finer than charming type of which it is an imp and more vigorous stock. The colour is pink over a cream ground. A.M., R.H. July 6. Messrs. Dobbie and Co., Rothe

NEPHROLEPIS MAGNIFICA.

Yet another of the plumose nephrolep This one has a general resemblance to N. amerpohli, but the fronds more finely divided than in the case of N. lycopodioides. A.M., R.H.S., July 6. Messrs. Stuart Low and Co., Bush Hill Park, Enfield.

CARNATION LIEUT. SHACKLETON.

A useful border carnation; yellow, with salmon. A.M., R.H.S., July 6. Mr. Charles Blick, Warren Nurseries, Hayes.

MESSRS. R. WALLACE & CO.'S DISPLAY AT HOLLAND PARK.

The great exhibition held by the Royal Horticultural Society at Holland Park on the 6th and 7th inst. contained many features that strongly appealed to visitors by reason of their distinctive character and attractive appearance; and prom among these was the magnificent d arranged by Messrs. R. Wallace and C Colchester. As stated in our rep this great gathering which appea our last issue, this formed one of the distinct and striking displays in the and was of much interest as evide the great value of hardy flowers, wh in the production of bold and rich The basis of the arrangement was a terrace of considerable length, and the front was a stone pathway, wh on one side a broad border, in which delphiniums, campanulas, irises, kni liliums, Ostrowskia magnifica, and choice subjects were tastefully arrang bold groups. Against the tent was a of cupressus, which formed an admira background to the flowers. On the other side of the walk the retaining wall was filled with small-growing plants suitable for walls and rockeries. In front of the wall was a narrow border, in which the fine forms of the species of ferns indig this country were arranged in ass with small groups of primulas. rangement was a veritable trium arrangement of hardy plants and flowers, and brought Messrs. R. Wall and Co. the praise they so well deserved.

"CHRYSANTHEMUMS AND HOW TO THEM FOR EXHIBITION," by J. B. Wroe. Edition, revised to January, 1909, and including the new varieties.—Full details on timing and stopping for Northern, Southern, and M tions of the best varieties, illustrated taking the buds, cuttings, staging, et net, by post 1s. 2d.; cloth, 1s. 6d., by from W. H. and L. Collingridge, 148 and gate Street, London.

PERENNIAL CORNFLOWERS.

Centaureas, or cornflowers, of perennial habit are very useful in the garden, not only being ornamental in the borders, but frequently proving excellent for the supply of cut flowers. They are not, it is true, so light in formation as the annual cornflowers, so well known, but they give blooms of much value, while their perennial habit and their hardiness make them most valuable to many.

The cultivation of the greater number is of the simplest kind, and all those here mentioned will thrive in any good loam, and will annually afford a bright display and a valuable succession of cut flowers. They can be raised from seeds or increased by division at almost any time after flowering, preferably in autumn or early spring.

MESSRS. R. WALLACE AND CO.'S FINE GOLD MEDAL DISPLAY AT THE HOLLAND PARK SHOW.

A tall and handsome centaurea for the back of the border is C. babylonica, about five feet high, and having pretty silvery foliage and large golden yellow flowers. It is a most effective plant indeed.

Then in C. dealbata we have a dwarfer but very charming species, this having flowers of a pretty rose-pink and silvery leaves. It is only about a foot and a-half high, so that it is excellent for near the front of the border. C. glastifolia, about three feet high, has branching stems, with bright yellow flowers, and is also a good border plant. The silvery-leaved C. gymnocarpa, with flower heads of a rosy purple, and about two and a-half feet high, is good; and in the handsome, if a little coarse, C. macrocephala, we have a striking thing, with heads like those of a golden yellow thistle. It grows at times more than four feet high.

In the varieties of Centaurea montana we have a most valuable set of forms, which will give plenty of cut flowers, and will yield them in succession if not allowed to seed. C. montana is an old-fashioned plant with blue and purple flowers; alba has pretty white blossoms; major is very much finer than the type, both in colour and size; rubra, one of the prettiest and most useful, has rosy blooms; and one we do not often meet with, which is called sulphurea, has pale yellow flowers. All these are very useful indeed. In the two-feet C. orientalis we have another yellow cornflower with pretty, finely-cut leaves and the blooms of a sulphur yellow. C. pulchra is thistle-like in its flowers, and in their colour, which is pink.

There is yet another yellow cornflower which calls for notice, and this is ruthenica, a charming species indeed, having pretty leaves, a good habit, and flowers of a pleasing straw-yellow hue. Orientalis and pulchra are about two, and ruthenica about three feet and a-half high. All these cornflowers bloom in summer, the whole affording a possibility of securing flowers from one or more from May until October.

S. ARNOTT.

Primula malacoides.—Many and interesting as the primulas are that are already in commerce, this new species from China will form a valuable acquisition to them. It is of graceful appearance, attaining a height ranging from 18 to 27 inches, and is immensely floriferous, well-grown plants producing from forty to fifty flower-spikes, each spike again bearing from sixty to eighty flowers, deliciously scented. The colour is a rosy-lilac, with orange-yellow centre. Unfortunately, P. malacoides is not sufficiently hardy to stand the variations of our winter outside, but it is an ideal plant for the cool greenhouse or conservatory. It is of easy culture, and produces seed abundantly. Plants raised from seed sown in spring will come into bloom the following autumn and continue in flower over a period ranging from four to six months.—P. H.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

SEEDLING ODONTOGLOSSUMS. — It will be found on examination of the plants that many of the seedlings with one year's growth and upwards are producing new roots, and any that require more pot room or fresh material about their roots should have attention without delay. It is not usual to advocate disturbing the cool house orchids for repotting purposes at the commencement of the hottest and most trying season of the year, but I find that with proper attention the young seedlings may be repotted practically at all seasons of the year. The root action must, however, be active when repotting is done. The idea of procuring flowering plants from seed as rapidly as possible is perhaps more desirable in the case of odontoglossums than with any other class of orchids. With this end in view every encouragement must be given in the early stages of growth. The first pseudo-bulb is produced in about two years from sowing seed. On the strength or weakness of this first completed pseudo-bulb will depend to a considerable extent future development. It is thus essential that from the time the seedlings are placed in a separate pot and are thus afforded a separate existence, that no check of any kind should be permitted.

REPOTTING SEEDLINGS.—It is a good plan in the early stages of growth to repot when the roots have reached the sides of the pots, and thus the seedlings are treated much in the same manner as the methods in practice with other classes of plants. In the early stages, the compost should be fine so that there may be no obstruction to the young roots. When they become more advanced the compost should be coarser and rendered porous by a liberal addition of sand and finely broken crocks. The compost we find the most suitable is one consisting of about equal portions of finely chopped peat or osmunda fibre and sphagnum moss. Where leaves have been used in the potting compost for other orchids they may be included in the compost for seedlings, but unless some previous experience has been gained with a portion of leaves in the compost, I would not advise their being included.

SEEDLINGS that are reaching their mature stage and anticipated to be sufficiently strong to produce flowers with the developing growth, should be given liberal root room at the final potting, and the compost should also be made moderately firm. I find that better flowers are produced both in substance and colour where the potting has been firm immediately previous.

SMALL SEEDLINGS.—The seedlings that were raised in the early months of the year will in many cases have reached the stage at which the first leaves are being formed and the roots are making their appearance. When in this state no hesitation need be felt in giving them separate pots at once, and they may be potted singly. It is often a case of not being able to provide space for the accommodation of the seedlings when potted singly, and there is then no alternative but to place them several together in a pot, but it is a considerable advantage to have them singly as the individual requirements of each one is then more readily attended to.—H. J. CHAPMAN, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

CONSERVATORY.—As we have reached what may possible be the warmest part of the year, there may be some occupants of the warmer houses that have somewhat outgrown their positions. With a slight degree of hardening off they may serve a very useful purpose in the embellishment of the conservatory, and nothing provides a nicer change from the wealth of bloom that we have been having than finely coloured plants of crotons, dracænas, dieffenbachias, etc. Providing they are kept fairly moist at the roots, and not placed where they are subjected to direct draughts, many of them will keep in good condition till the autumn.

CLIMBERS.—Look to the climbers, and keep them nicely tied in; and where bougainvilleas are grown they must be kept well away from where people are likely to walk or sit, as a scratch or two from them oft gives rise to pain that continues for a considerable time.

CHRYSANTHEMUMS.—These are now needing constant attention in respect to tying, and as the season, so far, has been fairly moist, they will be growing quite as freely as we wish, so do not use the syringe too freely, and keep them as dry as possible at the roots without letting the leaves flag. This will tend to harden the somewhat sappy growth. If the plants were potted early some of the stronger-growing varieties may need a little stimulant, cow manure and soot at this stage being quite enough for them, although towards the end of the month a little artificial fertiliser may be used, or a light top-dressing of soil with a little manure added.

POINSETTIAS AND EUPHORBIAS.—The later batches of these should now be rooted nicely, and be shifted into 48's. Use nice fibrous loam, and, after potting, shading must be given them for a time, a moderately warm pit being very suitable quarters. After they are nicely rooted the euphorbias would do well trained up the trellis of a melon or cucumber house, it being quite essential they should make good short-jointed growth, to ensure them flowering freely.

PELARGONIUMS, REGAL AND FANCY.—These, having gone out of bloom, should be gradually hardened off by withholding water, and, after a while, may be turned on their side and placed in full sun to finish ripening. If an increase of stock is necessary cuttings should be inserted at once, and these will root freely if placed on a shelf in an intermediate house, and given an occasional syringing.

HUMEA ELEGANS.—Young plants should now be potted off into 60's, and be kept steadily growing, and as hardy as possible, coddling in the early stages generally resulting in a loss of foliage early in the spring. I prefer to keep them in a quite cold frame, removing the lights entirely when they are nicely rooted.

CYCLAMEN.—The young plants will now be sufficiently advanced for shifting into 48's, in which they should bloom. A light rich compost should be used, for example, one prepared with loam, leaf-soil, and good coarse sand, with a little bonemeal, charcoal, and finely broken crocks. In such a compost they may be potted firmly, keeping the corm well up out of the soil, this obviating the tendency of the flowers to damp off at the base during the winter. After potting place in a quite cold frame, and water very carefully. Keep it fairly close till the roots are running freely, when all the air possible may be given, but a little shade during the hottest part of the day is very beneficial to the plants.

BEGONIAS.—These will require a good liberal treatment, and if large blooms are required all female blooms must be removed as they appear, and great care must also be taken to remove all decayed leaves and flowers; particularly is this necessary in damp weather, the stems being very susceptible to damping off.—THOMAS STEVENSON, Woburn Place Gardens.

THE FLOWER GARDEN.

INSECT PESTS.—Notwithstanding the heavy rains which we have experienced at varying intervals, insects have been extremely prevalent this season on all classes of plants (our nymphæas when closely examined being smothered), and in order to repel the attacks syringing has had to be resorted to largely. This should be performed as late in the evening as possible, and in the morning the plants should receive a thorough syringing with clear water. There are many good insecticides on the market, which, if used according to the respective directions, will be found effectual. An excellent wash can be made by dissolving a small quantity of soft soap in water. Where possible, rain water should be used, and a syringe with a spray nozzle fitted for producing a fine spray, which is both economical and effective.

EARWIGS.—Where these abound in large numbers they are a source of continual worry, and will soon do an irreparable amount of mischief. Therefore means must be taken to catch them. By far the best method is to cut up the stalks of broad beans, after drying them, into lengths of about eight inches. Place these in the plants of dahlias, chrysanthemums, etc., and remove them each morning and blow the contents into a bottle of water.

THE ENGLISH IRIS.—This, one of the most attractive of the iris family, is now flowering profusely, and lends a brilliant tone of colour to the borders and open spots in the shrubberies. For this purpose the mixed varieties can be had fairly cheap, and deserve to be planted largely. These are excellent for the supply of flowers for filling vases, and last for a considerable time.

SWEET PEAS.—These are making a brilliant display, and seem to be unusually fine throughout the country. Apply a good mulch, as this will be found of inestimable value should there be a period of dry weather. If the flowers are not required in a cut state, the rows or clumps should be examined periodically, and all forming seed pods removed. This will greatly add to the season of flowering, and pay for the little extra labour involved.

SHRUBS AND TREES.—Many of these will now require to be judiciously pruned, shortening back many of the summer growths, both for the sake of keeping the plants shapely and from occupying more than their allotted space. Thousands of fast-growing trees and shrubs are annually ruined by having their leading growths cut in two by ties, or seriously injured thereby. These should at this season be carefully examined and refastened where necessary. Since I invented and adopted the system of securing our trees with straps we have had very little difficulty in this respect, and these are easily loosened when required, and if by chance they are overlooked there is little chance, owing to their width, of their doing any serious damage. All stakes should be examined, and where at all uncertain, fresh ones should be used, as during the next three months west and south-westerly winds are generally very prevalent. Make secure also any strong growing perennials in the shrubberies or other parts of the garden, such as hollyhocks, delphiniums, lupins, campanulas, etc. — E. BECKETT, Aldenham House Gardens.

HARDY FRUITS.

MORELLO CHERRIES.—Thoroughly examine the trees for signs of black fly, and if any are found, give the foliage a couple of sprayings with an approved insecticide, but if the points of the young shoots are found badly infested with this [illegible] fill a hand bowl about three parts full with the insecticide, and dip the ends into it. This is, perhaps, a little more trouble than spraying, but is much more effective. After the trees are proved to be free from insect pests commence to train in as many of the young growths as there is room for. Lay them in perfectly straight, and not too thickly, four inches apart will be found a suitable distance. All remaining shoots may be shortened back to five or six leaves, and when pruning the trees in the winter these should be cut back to within an inch or an inch and a-half of their base for the purpose of forming useful fruiting spurs.

DESSERT CHERRIES.—As the trees are cleared of their fruit, remove the netting and cleanse the foliage from all insect pests. Train in the young growths that have been reserved for extension, or for filling up vacant portions of the trees. When tying use fairly broad strands of raffia, and allow plenty of room for the natural swelling up of the young wood. The slightest damage done to these at this season will invariably result in the loss of the branch sooner or later by gumming. All sublaterals should be kept pinched back to one leaf.

OUTDOOR VINES.—Continue to train in the young canes required for extension, and stop all laterals at the second leaf beyond the fruit, reduce the number of bunches to about one bunch to each foot and a-half super of wall space. Outdoor vines are often planted in odd corners, and the roots are in consequence very much restricted. Where this is so, a little attention is necessary in keeping the borders well supplied with moisture, and where the vines appear weakly, or are carrying a full crop of fruit, two or three dressings of a reliable fruit manure dusted on the border and well watered in will prove very beneficial.

THE FIG.—Attend to the tying in of the new wood, selecting the short-jointed shoots in preference to the more sappy ones. Avoid crowding the branches, but allow plenty of room for the proper development of the leaves. These like grape vines will require considerable attention at this season in the matter of keeping the border well supplied with moisture, and the foliage kept free from the attacks of red spider by frequent syringing with rain water.—GEO. WOODGATE, Rolleston Hall Gardens.

Nymphæa Wm. Doogue is typical of the latest development in hardy water lilies, the leaves are large and green, resting prostrate upon the surface of the water; the flowers are large, full, and globular; the petals numerous and tapering to a point, the colour delicate flesh-pink, and with the accompanying pale golden centre like the finest filigree, it forms in the aggregate one of the most beautiful and refined of all water lilies. This nymphæa is of American origin, and it succeeds in shallower water than [illegible] the Marliac hybrids.—THOMAS SMITH.

CARDIFF AND COUNTY HORTICULTURAL SOCIETY COMING OF AGE SHOW.
SOPHIA GARDENS, CARDIFF,
WEDNESDAY and THURSDAY, July 21st and 22nd, 1909.
Most liberal prizes for this show.
MONEY, PLATE, etc., Amounting to about £400.
Many special features this year.
Schedules free to any address.
Mr. A. MAURICE BAILEY, Secretary.
24, Duke Street, Cardiff.

LEICESTER. — ABBEY PARK FLOWER SHOW will be held on the 3rd and 4th August next. Open Class, Group of Plants, £20, £15, £10, £6. Liberal prizes for Collections of Fruit; Displays of Roses, etc. Schedules and full particulars from JOSEPH BURTON, Superintendent.

NORTHAMPTON MUNICIPAL HORTICULTURAL SOCIETY.

GRAND EXHIBITION OF
FLOWERS, FRUITS, and VEGETABLES,
August 4th and 5th, 1909.
At
ABINGTON PARK, NORTHAMPTON.
Upwards of £300 in Prizes.

ENTRIES CLOSE JULY 28th, 1909.

Schedules on application to
JAS. B. PALMER.
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SHREWSBURY GREAT FLORAL FETE.
AUGUST 18 and 19, 1909.

OVER £1,100 IN CASH PRIZES.

Schedules for this year are now ready, and may be had post free from—
Messrs. ADNITT and NAUNTON, Hon. Secs.,
Shrewsbury.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

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Saltaire Rose and Sweet Pea Show.

In the beautiful valley of the Aire—the famous Aire Dale—and in one of the most interesting places in Yorkshire, i.e., Saltaire, the National Sweet Pea Society held its third provincial show on Tuesday July 13, in Saltaire Park. The show was held in conjunction with the Saltaire, Shipley and District Rose Society, a society that in the seven years of its existence has progressed wonderfully, and made its annual exhibition a fashionable function in the Bradford district. There is an enthusiastic committee, under the chairmanship of Mr. F. Jowett, and with Mr. E. Wright as hon. secretary. P. H. Illingworth, Esq., M.P., is president, and Mr. G. C. Waud and Mr. J. Roberts, the past presidents, take a keen and personal interest in the proceedings, and each Lord Mayor of Bradford makes it a pleasurable duty to be present at the exhibition.

The show was not up to expectations, or, rather not up to the hopes entertained, and only the clerk of the weather was to blame. The competition was not really keen in any of the classes, either of roses or sweet peas, but there was some very fine flowers in both sections, the colouring being unusually good. There were a number of rose experts present, and a still larger number of sweet pea notabilities, and Messrs. H. J. Wright and C. H. Curtis officially represented the National Sweet Pea Society. All the show arrangements were good, and two huge marquees amply sufficed to hold the fragrant exhibits.

MR. T. BOLTON'S GOLD MEDAL NON-COMPETITIVE DISPLAY OF SWEET PEAS

At the National Sweet Pea Society's Provincial Show at Saltaire, July 13.

SWEET PEAS.

In the Yorkshire class, for the James Hill cup (one dozen bunches), the first prize fell to Mr. S. F. Brotherston, gardener to F. Samuelson, Esq., Breckenbrough Hall, Thirsk, who had good bunches of Evelyn Hemus, J. Ingman, J. Grieve, King Edward, Etta Dyke, Helen Lewis, The Marquis, Audrey Crier, Prince of Asturias, Aurora, Mrs. C. Mander, and Countess Spencer; a beautifully clean set. Mr. W. Heslington, Vore Garth, Littlethorpe, Ripon, second.

The Edwards Challenge Trophy, or Provincial Cup, for the best twelve bunches, was won by Mr. Thos. Stevenson, gardener to A. E. Mocatta, Esq., Woburn Place, Addlestone, Surrey, with grand bunches of Mrs. H. Bell, J. Ingman, Nora Unwin, Prince of Asturias, Evelyn Hemus, Clara Curtis, Mrs. H. Sykes, Marquis, Helen Lewis, Audrey Crier, and Elsie Herbert. Mr. Stevenson also won this cup at Dublin last year. Mr. W. Hopkins, gardener to Francis Wellesley, Esq., Westfield, Woking, second with a set that could have been only two or three points behind. He had lovely bunches of Mrs. Routzahn, J. Ingham, and Evelyn Hemus.

The Breadmore Challenge Trophy, a handsome silver salver, was won by Mr. Fred. J. Harrison, Rosedene, Ulverston, with a dozen good bunches of blooms that were a trifle small, but very fresh and clean; he had Helen Lewis, King Edward Spencer, and Marjorie Willis, which were very good; Mr. D. M. Pike, Railway Hotel, Newark, second.

Premier award for twelve bunches of sweet peas, trade excluded, fell to Mr. W. Hopkins for refined blooms of Helen Pierce, St. George, The King, Evelyn Hemus, Clara Curtis, Constance Oliver, John Ingman, Kitty Clive, Mrs. C. W. Breadmore, etc.; Mr. D. M. Pike was again second with a good set. Mr. A. A. Elliott, Kirkgate, Ripon, led in Mr. Sydenham's class for six bunches of sweet peas. In the class provided by Messrs. Dobbie and Co., for a dozen bunches, Mr. Thomas Stevenson again scored, and had Mid Blue, Mrs. A. Ireland, and Jessie Cuthbertson in fine condition. In Mr. Mackereth's class for six varieties, Mr. F. J. Harrison scored with a beautiful set, and in a class for six waved varieties, provided by Mr. H. J. Wright, he was again to the fore, showing well.

In the Classification class Messrs. Jones and Son, Shrewsbury, led, followed by Mr. C. W. Breadmore; the former had excellent blooms of Queen Alexandra, Jeannie Gordon, and Mrs. Collier. For a dozen bunches of waved sweet peas, distinct, Messrs. Jones and Son, Shrewsbury, led, and in their set they had splendid bunches of St. George, Apple Blossom Spencer, Elsie Herbert, George Herbert, Helen Lewis, and Mrs. Hardcastle Sykes; Messrs. Bolton Brothers, Carnforth, second, and Mr. C. W. Breadmore, Winchester, third.

Messrs. Bolton Brothers, Carnforth, led in both classes for American varieties of sweet peas, one dozen, and six bunches, distinct, and their best bunches were of White Spencer, Mrs. Routzahn, Asta Ohn, Ramona Spencer, Tennant Spencer, and Apple Blossom Spencer. Mr. A. A. Elliott led for one bunch of The Queen.

In the local classes for nurserymen, Mr. W. Heslington, Vore Garth, Littlethorpe, Ripon, led for twelve bunches, distinct, and Mr. R. Eichel, Elphick, led for six bunches, distinct.

Mr. Heslington scored in another class for six bunches, distinct. Mr. T. Shackleton, Crosshills, led for a dozen bunches, distinct, in the ten-mile-radius class, and Mr. Taylor, gardener to G. C. Waud, Esq., Ferniehurst, Baildon, came a good second. Mr. Shackleton, and Mr. T. Atkinson, Saltaire, were also successful in other local classes.

In the single bunch classes the premier awards were secured as follows: Red-flaked, Mr. Stevenson, with Jessie Cuthbertson; blue-flaked, Mr. Stevenson, with Prince Olaf; bicolor, Mr. Stevenson, with Mrs.

SWEET PEA PROVINCIAL CUP COMPETITION, TWENTY-FOUR BUNCHES,

At the National Sweet Pea Society's Provincial Show at Saltaire, July 13. Front set, Mr. T. Stevenson's first prize collection; furthest set, Mr. Hopkins' second prize collection.

Andrew Ireland; cerise, Mr. Stevenson, with Chrissie Unwin; rose and carmine, Mr. Stevenson, with Marjorie Willis; pink, Mr. Stevenson, with Countess Spencer; cream pink, Mr. Stevenson, with Constance Oliver; orange, Mr. Stevenson, with Helen Lewis; yellow shades, Mr. C. W. Breadmore, with Primrose Spencer; lavender, Mr. Stevenson, with Frank Dolby; blue, Mr. Stevenson, with Lord Nelson; mauve, Mr. Stevenson, with A. J. Cook; violet and purple, Mr. Stevenson, with Rosie Adams; maroon, Mr. Stevenson, with Prince of Asturias; magenta, Messrs. Jones and Sons, with Menie Christie; picotee-edged, Mr. Stevenson, with Elsie Herbert; blush, Mr. Samuelson, with Mrs. Hardcastle Sykes; crimson, Mr. J. Samuelson, with The King; and white, Mr. T. Stevenson, with Nora Unwin.

FLORAL DECORATIONS.

This section was a fairly good one, and the prizes were well contested. The silver medal, epergne, and first prize for a table decoration of sweet peas were won by Messrs. Jones and Son, Shrewsbury, for a charming arrangement of pink and cream flowers; Mr. T. Stevenson and Mr. F. J. Harrison second and third with pink flowers; and Mr. A. A. Elliott, fourth. Mr. T. Stevenson was first and Mr. J. D. Barratt, Yeadon, second, for an epergne of sweet peas, and each showed well. The vase class brought out a good lot of competitors, and here the awards were made in favour of Mr. Thos. Stevenson, and Mr. C. W. Breadmore, Winchester, in the order named, for charming arrangements. Mr. Stevenson, Messrs. Jones and Sons, Shrewsbury, and Mr. C. W. Breadmore, were placed in the order of mention for three buttonhole bouquets and one lady's spray.

ROSES.

In the open class for 72 blooms, distinct, the very beautiful silver rose bowl, presented by Mr. G. C. Waud, was again won by Messrs. Alex. Dickson and Sons, Newtownards, Co. Down, with a pretty set of blooms, their best being Fisher Holmes, C. J. Grahame, Frau Karl Druschki, Nita Weldon, Mrs. T. Roosevelt, Marie Van Houtte, Mrs. E. Mawley, and Mildred Grant; The King's Acre Nursery Company, Hereford, second. The Irish firm also came first for sixteen trebles, and they set up Mildred Grant, Frau Karl Druschki, Caroline Testout, Mdme. Jules Gravereaux, and G. C. Waud, in fine style; The King's Acre Nursery Compand second. Messrs. A. Dickson and Sons had also the best thirty-six blooms, and were followed in order by the King's Acre Nursery Company, and Messrs. G. and W. Burch, of Peterborough. The class for twenty-four flowers, distinct, again found the Newtownards roses to the front, with Messrs. G. and W. Burch a good second, but the latter firm led for two dozen H.T.'s, followed by the King's Acre Nursery Company. For a dozen tea roses Messrs. A. Dickson and Sons were an easy first; the King's Acre Nursery Company second.

For twelve blooms of Bessie Brown, the Messrs. Dickson held premier place, and they were also to the front for a dozen specimens of William Shean, but they had to take second place to the King's Acre Nursery Company for a dozen examples of A. K. Williams.

In the open amateur section, Mr. Tom Park was first in nearly all the classes.

There were a few classes for hardy flowers, etc., and here the leading awards were secured by Messrs. W. Artindale and Son, Sheffield; the King's Acre Nursery Company, Hereford; and Mr. M. Brook, Bradford.

NON-COMPETITIVE.

There were several excellent non-competitive displays, and the best of these was a grand exhibit of well-grown stove and greenhouse plants, tastefully arranged, by Mr. Taylor, gardener to G. C. Waud, Esq., Ferniehurst, Baildon, one of the staunchest supporters of the society (gold medal). Mr. Thomas Bolton, Warton, Carnforth, had a splendid exhibit of sweet peas, his St. George, Clara Curtis, W. H. Beaver, Tom Bolton, Evelyn Hemus, and Helen Lewis being very fine unblemished flowers (gold medal, N.S.P.S.).

Silver gilt medals were awarded as follows: To Messrs. Artindale and Son, Sheffield, for a particularly handsome and extensive collection of pansies and violas, admirably staged; Messrs. E. J. Batchelor and Sons, Harrogate, for a splendidly grown lot of Nephrolepis Whitmanni, N. todeaoides, N. Amerpohli, N. elegantissima, etc.; and Miss Hemus (N.S.P.S. Award), Holdfast Hall, Upton-on-Severn, for a goodly collection of sweet peas.

Silver medals fell to Messrs. E. W. King and Sons, Coggeshall, Essex, for excellent sweet peas (N.S.P.S. Award); Messrs. Mawson Brothers, Windermere, for hardy flowers; Messrs. Jas. Backhouse and Son, Lim., York, for hardy flowers and carnations; and Messrs. Bolton Brothers, Carnforth, for sweet peas (N.S.P.S. Award).

Other non-competitive exhibits were set up by Messrs. Dicksons, Chester (hardy flowers); Mr. F. J. Bell, Whitley Bay (violas and sweet peas); Messrs. W. Conway and Sons, Halifax (hardy flowers); and Mr. Wm. Deal, Kelvedon, Essex, new sweet peas, Colleen, Queenie, etc.

Edgware Horticultural Society.

JULY 10.

The village of Edgware retains so much of its old-time character, that it is perhaps one of the most rural of the villages within the same distance of the centre of the metropolis. It is therefore of much interest to find that, while the village possesses much to remind us of the past, the horticultural society that has its headquarters therein belongs wholly to the present, and is one of the most up-to-date of the many associations engaged in the beneficent work of encouraging the development of gardening among all classes. The advanced character of the society is chiefly due to the fact that large numbers of professional and business men have built for themselves houses, and laid out gardens, and have banded themselves together for the purpose of promoting a healthy rivalry among those who take an active interest in gardens, and of giving substantial encouragement to cottage gardeners and allotment holders belonging to the village. The schedule is arranged on quite distinct lines, and might, with advantage, serve as a model for many other societies. Instead of preparing a schedule of so comprehensive a character as to render it difficult to give substantial encouragement to any one class or section, the committee provides classes for a few subjects only, with prizes sufficiently liberal to ensure a good competition. The subjects that are specially encouraged are roses, sweet peas, vegetables, and table decorations, with the result that the display is at once distinct and attractive, and possesses considerable educational value.

Fifteen or sixteen classes were provided for roses, and in two of them valuable challenge cups were offered, in addition to the cash prizes. The most important of those open to nurserymen was that for thirty-six blooms, in which a challenge cup of the value of £10 10s., presented by Mr. C. H. Wainright, the president, and Mr. A. C. Turner formed part of the premier award. There was a very strong competition, and in the result Messrs. B. R. Cant and Sons, Colchester, were adjudged the winners. Their blooms were exceptionally high in quality, and particularly noteworthy among them were the superb examples of Gustave Piganeau, Marie Baumann, Souv. de Pierre Notting, Comte de Raimbaud (silver medal for the best bloom in the trade collections), W. Shean, J. B. Clarke, Lyon Rose, and Hugh Dickson; Messrs. D. Prior and Son, Colchester, who were the winners of the cup last year, were a good second; and Messrs. Frank Cant and Co., Colchester, were a close third. Highly meritorious also were the twenty-four blooms exhibited by Messrs. H. Lane and Son, Great Berkhamstead. In competition for the prizes for twelve teas or noisettes, Messrs. F. Cant and Co. were first with splendidly developed blooms of Muriel Grahame, Madame Jules Gravereaux, Cleopatra, Maman Cochet, and other of the finest varieties; Mr. George Prince, Longworth, Berks, and Messrs. B. R. Cant and Sons, were second and third with blooms of high quality. In the class for twelve bunches of garden roses, Messrs. Frank Cant and Co. occupied the premier place with blooms remarkable for their high quality and effectiveness; conspicuous among the varieties were Lady Wenlock, Mdme. Jules Grolez, Lady Battersea, Auguste Barbier, Mrs. F. W. Flight, and Wedding Bells; Messrs. W. and J. Brown, Peterborough, staged an excellent collection for the second award; and Mr. G. Prince was third.

Very spirited was the contest for the prizes in the class, open to all amateurs, for twenty-four blooms. In this the Edgware Challenge Cup was offered in conjunction with the first prize in cash. Mr. E. B. Lindsell, Bearton, Hitchin, was in splendid form, and obtained premier honours. As this was the third year in which he has been successful in winning the cup, it now became his property. The blooms staged were of good size, fresh and well coloured, and included a superb example of Ulster, which was selected as the finest bloom in the classes open to amateurs and was accordingly awarded the silver medal. Other blooms of exceptional merit were those of Queen of Spain, Mildred Grant, Horace Vernet, W. Shean, Ulrich Brunner, White Maman Cochet, Mdme. Jules Gravereaux, Charles Lefebvre, Mrs. E. Mawley and Oberhofgartner Terks; Miss B. Langton, Raymead, Hendon, was an excellent second and Mr. Waterton, gardener to R. W. Comyns, Esq., Heath Farm House, Watford, was third, but his blooms suffered from being staged too low down on the board. Mr. E. B. Lindsell was successful also in taking premier honours in the class for twelve teas and noisettes with finely developed blooms of well-known varieties. The Rev. F. Burnside, Great Stambridge, Essex, followed closely for second place. In competition for the prizes for twelve blooms, Mr. A. C. Turner occupied the premier position with blooms large in size and of superb quality; Miss B. Langton and Mr. J. Martin, Alexandra Grove, were second and third with excellent boxes.

The class for twelve blooms, in which the competition was limited to amateurs residing within ten miles of Edgware Church, was a good one. The prizes included a handsome challenge bowl, and this, in a close contest, was won by Mr. J. Hart, Potters Bar, who had blooms that represented cultural skill of a high order; Mr. Courtenay Page was second with a fine box; and Miss B. Langton third. In one of the amateur classes for six tea roses, Miss B. Langton was first; and in another Mr. H. K. Judd, Glenberrie, Stanmore, occupied the premier position, his blooms being staged in a high state of development. Other successful exhibitors in these classes were Mr. H. R. Darlington, Park House, Potters Bar; and Mr. A. Merck.

The more important of the classes for sweet peas was that for twenty-four varieties to be shown in vases, and the competition open to trade growers only. There was a very strong competition, more especially between Mr. W. C. Breadmore, Winchester, and Mr. Unwin, Histon, Cambridge, for the first place. In the result Mr. Breadmore was successful in winning the ten guinea cup presented by Mr. A. Merck, and its accompanying cash prize. The flowers were of large size, fresh in colour, and tastefully staged, and the varieties included Apple Blossom Spencer, Dazzler, rich orange scarlet, Paradise Red Flake, Princess Juliana, Snowflake, Audrey Crier, Mrs. Andrew Ireland, Nancy Perkins, Elsie Herbert, George Herbert, Dora Breadmore, and other of the finer varieties; Mr. W. T. Unwin was a very good second with superb flowers of Edna Unwin, Mrs. W. J. Unwin, The Queen, King Edward Spencer, and other of the newer forms; Messrs. E. W. King and Co., Coggeshall, were third with a collection of much merit.

Very spirited also was the competition in the amateurs' class for twelve varieties, in which the Blair Challenge Cup formed an important part of the premier award. The entries were numerous, and the collections closely matched in point of merit, and in the result Mr. C. H. Wainwright, Hill House, Edgware, was successful in obtaining premier honours; Mr. R. Blair followed for second place, and Mr. H. K. Judd was a close third. For four vases of sweet peas, Mrs. A. Tigwell, Harrow View, was first, with flowers of exceptionally high quality; Mrs. Tigwell was first also in the amateurs' open class for twelve vases, with a fine set; and Master P. Du Croz, Canons Park, Edgware, followed for second place, and Mr. H. Percy, King's Langley, was third.

Table decorations were of exceptional merit, and formed an immensely attractive feature. There were eleven or twelve tables, and with one or two exceptions were more or less tasteful. Mrs. Douglas was the first with a table decorated with yellow roses, and Mrs. B. Langton second with a table on which Irish Elegance was used with good effect.

Plants were not numerous, there being comparatively few classes for them. The groups were tasteful and effective, and the awards were made to Mr. Blair, Mr. Samaranga, and Mrs. Du Croz, in the order of their names. Mr. Blair was first also for six miscellaneous plants; Mr. H. K. Judd obtained premier honours for six begonias with finely-grown plants; and Mr. A. Merck, Stanmore, was first for six gloxinias with magnificent specimens, and was also awarded the Royal Horticultural Society's silver Banksian medal.

There was an exceptionally strong competition in the two classes for collections of vegetables, and in the principal one the prizes were awarded to Mrs. Boileau, Sidbury Lodge, Edgware; Mrs. A. Du Croz, and Mr. C. H. Wainwright.

Non-competitive trade contributions were numerous, and of much merit. Messrs. Dobbie and Co., Rothesay, staged a remarkably fine collection of sweet peas, and were awarded a special gold medal; and Messrs. H. and J. Brown, Peterborough, and Messrs. W. Cutbush and Son, Highgate, exhibited large and attractive collections of roses.

MR. J. MATTOCK'S FIRST PRIZE COLLECTION OF GARDEN ROSES
At the National Rose Society's Provincial Show at Luton, July 14.

National Rose Society,

The National Rose Society's Provincial Show, held this year in connection with the Luton Sweet Pea and Rose Society, at Wardown Park, Luton, on July 14, was a most successful affair. The competition was keen in nearly all the classes, and was specially good in the larger trade, open, and amateur classes. There were some splendid blooms, and also a lot of poor ones.

NURSERYMEN.

In the leading class, for thirty-six blooms, distinct, Mr. Hugh Dickson, Belfast, Ireland, led, winning the Jubilee Trophy and Gold Medal with a lovely lot of blooms of Mildred Grant, J. B. Clark, J. Bell, Lady Alice Hamilton, Harry Kirk, Mrs. W. Cooper, Lady Helen Vincent, Mrs. T. Roosevelt, Lyon Rose, Mrs. David McKee, Mrs. J. Laing, Captain Hayward, and J. B. Clark. There were nine entries, and second prize fell to Messrs. A. Dickson and Sons, Newtownards, and third to Messrs. D. Prior and Son, Colchester, with an extra prize for Messrs. B. R. Cant and Sons, Colchester.

Messrs. A. Dickson and Sons, Newtownards, led for seventy-two blooms, distinct, winning the Crawley Cup with a fresh, even lot, in which Mrs. E. Mawley, Medea, Lady H. Vincent, Mildred Grant, and Bessie Brown were excellent. Messrs. B. R. Cant and Sons, second, and Messrs. Frank Cant and Co., Colchester, third. Six entries.

There were five entries in the class for two dozen trebles, and here Messrs. A. Dickson and Sons led, showing Frau Karl Druschki, Mrs. J. Laing, Hugh Dickson, Mildred Grant, K. A. Victoria, Bessie Brown, and Killarney; Messrs. B. R. Cant and Sons, second, and Messrs. F. Cant and Co., third.

The best three dozen blooms, distinct, came from Messrs. G. and W. H. Burch, Peterborough, who were followed in order of mention by Mr. W. Leggett, Colchester, and Messrs. J. Burrell and Co., Cambridge; six entries. Mr. George Prince, Longworth, Berks, scored for sixteen trebles, and he had lovely blooms of Florence Pemberton, White Maman Cochet, and Mrs. E. Mawley; five entries; Messrs. G. and W. Burch second, and Messrs. J. Burrell and Co., third.

Mr. G. Prince led for eighteen varieties, distinct, teas or noisettes, and his best flowers were Mrs. E. Mawley (medal bloom), Mdme. Jules Gravereaux, Cleopatra, and La Boule d'Or; Mr. Henry Drew, Longworth, second, and Messrs. B. R. Cant and Sons, third; four entries. Messrs. Burrell and Co. led for a dozen teas, staging a pretty box of Mrs. E. Mawley, White Maman Cochet, Madame Constance Soupert, Madame Jules Gravereaux., Madame Cusin, The Bride, Souv. de Pierre Notting, Niphetos, Souv. d'Elise Vardon, Molly Sharman Crawford, Bridesmaid, and Jean Ducher; Mr. J. Mattock, New Headington, second, and Mr. W. Leggett, third.

Messrs. A. Dickson and Sons led for a dozen new roses with Nita Welldon, Walter Speed, Molly Sharman Crawford, George Hammond, Lady H. Vincent, Mabel Drew, etc.; Messrs. B. R. Cant and Co. second, and Mr. Hugh Dickson third; eight entries. There were fourteen entries of twelve flowers of a white or yellow rose, and here Messrs. Prior and Son, Colchester, led with Frau Karl Druschki; King's Acre Nursery Company, Hereford, second, with K. A. Victoria; and Mr. F. M. Bradley, Peterborough, third, with Frau Karl Druschki. In the "any other colour" class, twelve blooms, the King's Acre Nursery Company scored with Mrs. E. Mawley; Messrs. D. Prior and Son, second, with Lady Ashtown; Messrs. Bide and Son, Farnham, third, with Queen of Spain.

The best dozen flowers of a light rose were of Frau Karl Druschki, from Messrs. B. R. Cant and Sons; Mr. F. M. Bradley, Peterborough, coming second with J. B. Clark; and Mr. G. Prince third with Hugh Dickson. Messrs. F. Cant and Co., Colchester, had the best set of nine blooms of the new Harry Kirk.

AMATEURS.

Mr. E. B. Lindsell, Bearton, Hitchin, won the Jubilee Trophy and first prize in the amateurs' section for two dozen blooms, leading from eleven competitors with lovely flowers of Mildred Grant, Mrs. J. Laing, Bridesmaid, Duchess of Bedford, Bessie Brown, Yvonne Vacherot, Lady Moyra Beauclerck, Mrs. T. Roosevelt, Mdme. C. Soupert, and Mdme. J. Gravereaux; Mr. Alfred Tate, Downside, Leatherhead, second; Mr. Franklin Dennison, Leamington, third. Rev. T. G. Henslow, Chippenham, led for thirty-six flowers with a fair set, and was followed in order by Mr. E. B. Lindsell and Mr. A. Tate; eight entries. Mr. Alfred Tate scored for eight trebles, and his Mrs. T. Roosevelt was fine; Mr. G. H. Hammond, Burgess Hill, Sussex, second; and Mr. Conway Jones, Hucclecote, Gloucester, third.

MR. E. WIGHTMAN'S FIRST PRIZE COLLECTION OF TWELVE VASES OF GARDEN ROSES

At the National Rose Society's Provincial Show at Luton, June 14.

Mr. Conway Jones scored for nine flowers of one variety with Dean Hole; Mr. R. Foley Hobbs second with Her Majesty (including the medal H.P. bloom); Mr. E. B. Lindsell third with Frau Karl Druschki.

In the section for growers of fewer than 2,000 plants, Mr. W. Times, Hitchin, was first, and he had a medal tea rose in his Mrs. Myles Kennedy; Mr. G. H. Hammond second; and Mr. C. Speight, Market Harborough, third. For six trebles, Mr. Speight beat the Rev. F. Page Roberts, of Stratfieldsaye, while in the class for six blooms of one variety the order of merit was Mr. Hammond, with Lady Ashtown; Rev. F. Page Roberts, with Mrs. Cocker; and Mr. Speight, with Mrs. J. Laing.

Mr. C. B. Lehmann, Crawley, led for twelve blooms in the section for growers of fewer than 1,000 plants, and he was followed in order by Mr. C. F. Leslie, Hertingfordbury, and Mr. Mahlon Whittle, Belgrave Avenue, Leicester. Mr. Courtenay Page, Earldon, Enfield, led for nine distinct varieties, Miss B. H. Langton, Hendon, coming second, and Mr. Herbert Whitman, The Briars, Finchley, third.

In the section for smaller growers, Mr. W. Upton, Claremont Street, Leicester, led for nine blooms; Mr. H. C. Baker, Bayfordbury, Herts, for six blooms; Mr. C. F. Leslie for four trebles; Mr. C. B. Lehmann for six new roses; and Rev. F. R. Burnside, Stambridge Rectory, Essex, for six flowers of one variety—Frau Karl Druschki.

In the tea rose section, Mr. Conway Jones scored well, leading for a dozen distinct varieties, and for nine blooms of one variety —Mdme. Jules Gravereaux. The Rev. J. Fellowes, Attleborough, was second in the larger class.

In the extra classes, Mr. Conway Jones and Rev. J. Fellowes were first and second respectively for six trebles, the former showing Mrs. Myles Kennedy, Maman Cochet, Frau Karl Druschki, Berenice, and Mrs. E. Mawley. For six blooms Mr. Whittle and Mr. Bostock secured awards.

DECORATIVE ROSES.

These were very well shown, and in the class for eighteen varieties Mr. J. Mattock, New Headington, led with splendid bunches of Rosa Mundi, Irish Elegance, Mrs. O. G. Orpen, Edu Meyer, Rubens, and Lady Waterlow; Messrs. F. Cant and Co., second, and Messrs. Paul and Son, Cheshunt, third. Mr. Mattock was also successful in the class for a dozen varieties, and here he showed Bardou Job, Gustave Regis, and Hebes Lip finely; Mr. George Prince, second, and Messrs. F. Cant and Co., third.

In the amateurs' section, Mr. E. Wightman Bengeo, Herts, scored for a dozen bunches of decorative roses, and he put up Maharajah, Madame Leon Pain, Wm. Allan Richard René Andre, Celine Forestier, and Mr Flight in excellent style; Mrs. Dimsdal Coton Court, Cambridge, second.

Mr. E. Mawley, Rosebank, Berkhamst led for six bunches, followed by Mr. F. George, Red Hill, Worcester.

DECORATIVE CLASSES.

Miss J. B. Langton, Raymead, Hendon, was first for a vase of roses with Killarney and Mrs. G. W. Cook, Whetstone, second with Mrs. W. J. Grant. Equal first prizes were awarded in the class for a bowl of roses to Miss J. B. Langton, for Una, and Mrs Jennings, Hemel Hempstead, for Mad Abel Chatenay. Miss J. B. Langton s for a table decoration of roses with a p arrangement of Rosa macrantha Mrs. A. Staddon, Luton, second with I Elegance and Jersey Beauty; and Mrs. nings, third. In another class for a de tion of roses Mrs. G. W. Cook was suc

MEDAL ROSES.

Gold Medals for new roses were awarded to Messrs. S. McGredy and Son, Portadown Ireland, for H.T. rose Mrs. Maynard Sinton white; and H.T. rose Ethel Welch, crea to Messrs. A. Dickson and Sons, N townards, for H.T. rose Mrs. Herbert Ta blush; and to Mr. Hugh Dickson, Belfast for the crimson-scarlet Leslie Holland.

The Silver Medal flowers were:—Nur men: H.T., Mrs. T. Roosevelt, from Mr. H Dickson; H.P., Ben Cant, from Messrs. B Cant and Sons; T., Mrs. E. Mawley, Mr. George Prince. Amateurs: H Madame Melanie Soupert, from Mr. H. vert, Helen's Bay, co. Down; H.P., H Majesty, from Mr. R. Foley Hobbs; T., Mrs Myles Kennedy, from Mr. W. Times.

Bath Rose Show.

JULY 7 and 8.

The annual feast of roses, etc., pro by the Bath Floral and Band Comm was held on the above dates in the Sy Gardens. Favoured by two or three sunshine, a fairly large attendance res but it was evident the number of vis from outside the city was small, owing the fact that within a few days a His Pageant would be the centre of attra Entries were almost a record, but the of the two days preceding caused ma withdrawals, notably those of Mr. A. Gray, Beaulieu, Newbridge Hill.

NURSERYMEN'S DIVISION.

In the nurserymen's division the class 72 varieties produced four competitors, "silver cup or £6" going to Messrs Dickson and Sons, Co. Down, Ireland, fairly even lot of blooms that in Comte Raimbaud (silver medal H.P.), K. Druschki, Her Majesty, Duche Morny, Mrs. Theodore Roosevelt, B Keller, A. K. Williams, Ulster, B Brown, Madame Jules Gravereaux, F Pemberton, George Dickson, Ma Melanie Soupert, George Hammond. Mr. J. Mattock, New Headington, and Messrs. G. Cooling and Sons, Bath. For three dozen trebles there were thre lections, the awards falling in the order to the winners in the preceding Messrs. Dickson's best triplets wer Horace Vernet, C. Testout, Mrs. J. L Marie Van Houtte, Madame M. S Colonel R. S. Williamson, Dean Hole, T. Roosevelt, Robert Scott, Lady A A. Lindsell, and Mildred Grant.

Eighteen varieties, three blooms a good class, Mr. George Prince, Long Berks, leading, his premiers being Mr Mawley, Captain Hayward, J. B. C Duchess of Portland, Mrs. David and F. K. Druschki; Mr. Henry Dr worth, second; and Messrs. Jarman Chard, third. For thirty-six single Drew headed the list, having perfect of Marchioness of Downshire, Grant, Gladys Harkness, C. Testout, Brown; Mr. G. Prince, second Rowland Adams, Charlcombe, third. Eighteen teas is always a g and here Mr. Prince led, securing the N.R.S. silver medal for a grand bloom of Golden Gate, and showing fine blooms of Mrs. E. Mawley, Innocente Pirola, The Bride, Souv. d'un Ami, Jean Ducher, Madame J. Gravereaux, and the two Cochets; Mr. H. Drew, second; and Mr. Mattock, third.

For a dozen roses, five flowers each, in vases, there were four collections, but they were not very attractive, from the fact that the vases, or tubes, were of varied heights and materials. Messrs. A. Dickson and Sons were first, Mr. J. Mattock second, and Mr. G. Prince third. A dozen roses of any one variety, not teas or noisettes, proved a fair class, Mr. Drew heading the list with Mildred Grant; Messrs. A. Dickson and Sons, second, for the same variety; and Messrs. Jarman and Co., third, with Bessie Brown. For a dozen blooms of a tea or noisette rose Messrs. Jarman and Co. and Mr. G. Prince set up Mrs. E. Mawley; Mr. Mattock, third, for a charming set of Marie Van Houtte. Messrs. A. Dickson and Sons scored for half-a-dozen blooms of any new rose, staging Lady H. Vincent; Messrs. Cooling and Sons second with Batheaston Belle, a pleasing shade of carmine-red, and said to be excellent for bedding.

For an arrangement of garden roses, on 40 square feet, the honours were shared by Messrs. A. A. Walters and Son, G. Cooling and Sons, and Rowe and Adams, Charlcombe, Bath; Mr. Mattock led for eighteen bunches, and Messrs. Cooling and Walters took the lower awards.

AMATEURS' DIVISION.

In the amateurs' division Mr. Conway Jones, Hucclecote, presented a splendid box of two dozen varieties, very fine being Mildred Grant, J. B. Clark, Mrs. G. W. Kershaw, Hugh Dickson, John Ruskin, Mrs. T. Roosevelt, Dean Hole, Ulrich Brunner, Captain Hayward, Her Majesty, Mrs. Stewart Clark, Mrs. J. Laing, Madame M. Soupert, W. Shean, Lady Ashtown, Marchioness of Londonderry, and Madame W. Comtesse de Terene. The second award fell to Rev. T. G. W. Henslow, Chippenham; and Mrs. Rosa Rust, Bath (gardener, Mr. R. Merrett), was third. For a dozen trebles Mr. Conway Jones led, having well-balanced blooms of Ulrich Brunner, Madame J. Gravereaux, Dean Hole, John Ruskin, Mrs. J. Laing, and W. Shean, Rev. T. G. Henslow second. Mrs. R. Rust led for eighteen singles, her best being F. K. Druschki, M. Grant, Mrs. J. Laing, Hugh Watson, and B. Brown; the second prize falling to Rev. R. Powley, Warminster, for medium-sized blooms; but in the class for eight trebles he scored for a nice box, in which Bessie Brown, C. Testout, Dupuy Jamain, and Mrs. J. Laing were good. Mr. Conway Jones was once again first for a dozen (H.P.'s and teas, six of each); Rev. R. Powley, second; and Mr. Alan Searle, Southampton (gardener, Mr. O. Micklem), third. The last-named exhibitor scored a first for a dozen varieties; Mr. R. C. W. Dixon, Southampton, second, his F. K. Druschki being selected as the N.R.S. silver medal H.P.

For six blooms Miss Fisher, Devizes (gardener, Mr. F. Burbidge), led, showing M. Grant, F. K. Druschki, and Antoine Rivoire in good condition. Mr. Alan Searle led for four trebles, Dean Hole and F. K. Druschki being excellently well matched; while for a dozen singles Mr. W. Smith, Box, took the award.

The tea classes were excellent, but none too full, Mr. Conway Jones being placed first for eighteen teas, nine triplets, and six trebles (teas); in this latter class a bloom of Medea was awarded the N.R.S. silver medal, the box being largely of yellow roses; Rev. T. G. W. Henslow was second for eighteen.

PLANTS.

Groups of plants at the far end of the big tent were a feature, Mr. Sims, gardener to Major Doherty, being clearly first by virtue of his plenitude of orchids, but Mr. Pearce, gardener to W. Wailes, Esq., Weston Park, secured second place without orchids, his arrangement being bright with Clerodendron fallax, Miss Willmott verbena, and Francoa ramosa; Mr. Hallett, of Larkhill, third. Carnations, in collections, staged in bamboo stands, were exceedingly good, the awards going to Mr. C. Wall and Messrs. Blackmore and Langdon. A fine mass of colour was produced by the begonias arranged for effect, Messrs. Blackmore and Langdon (who had blooms of perfect circular outline, and double, fully six inches in diameter), and Mr. John Walter, sharing the honours. Double and single begonias in pots were well presented, the last-named exhibitor securing premier awards for double and single forms, in sixes, and the firsts for one plant, single and double; Mr. E. L. Sidney came second.

Specimen stove plants were limited, both prizes going to well-grown examples of Bougainvillea Cypheri and glabra. Tables of ornamental foliage and flowering plants secured awards for Major Doherty, Mr. W. Wailes, and Mr. George Hallett; Captain Gilling-Gilling, and Mr. F. Marchant were strong with gloxinias.

MISCELLANEOUS CUT FLOWERS.

In the cut flower classes Messrs. A. A. Walters and Rich and Co. made some grand exhibits with perennials; the most effectively arranged tables of sweet peas coming from Sir Howell Davies, M.P. (gardener, Mr. J. T. Curtis), Mr. E. Viner, and Mr. F. J. Cole; while for a dozen bunches the prizes went to Mr. G. Humphries, Chippenham; Earl of Devon, Exeter; and Mr. A. F. Francis.

Table decorations numbered fifteen: For sweet peas Sir H. Davies, Stoke Bishop, and Mrs. E. Vines were successful; for orchids, Miss E. Vines, Sir H. Davies, and Mrs. Colstone Hale, Warminster, shared the awards; a highly commended card going to Mrs. M. J. Woodland, Frome. In the corresponding class, limited to Bath, Mrs. Fisher led with a light design of rosebuds, yellow violas, and barley; Miss E. M. Sheppard, second, with Iceland poppies, yellow aquilegia, purple violas, and grasses; Miss L. G. Rivington, third. Classes were provided for bouquets, epergnes, sprays, and buttonholes. The collections of wild flowers were most interesting, each collection being named in Latin and English.

STRAWBERRIES AND VEGETABLES.

The strawberry competition was about an average, and exhibits were chiefly from the Batheaston gardens, Royal Sovereign predominating. The awards fell, for six dishes, to Mr. John Ricketts, who put up Royal Sovereign, Sir Joseph Paxton, The Laxton, and Princess Alice; Mr. W. D. Porter second, who had Late Prolific and Progress, in addition to Royal Sovereign and Sir J. Paxton; and Mr. E. J. Ricketts, third, who added Eleanor. The last-named exhibitor was first for three dishes; Mr. Strugnell, gardener to Right Hon. W. H. Long, M.P., Rood Ashton, second, showing Dumbarton Castle and Laxton's Reward; Mr. John Ricketts, third. Royal Sovereign was winner in the single dish prizes, Messrs. E. J. Ricketts, W. J. Downing, and Thomas Evry taking the awards; the last-named had the heaviest dozen berries (16 ounces), Mr. A. G. Andrews (14 ounces) with Royal Sovereign, and Mr. E. J. Ricketts (12 ounces) with Leader.

Some good exhibits of vegetables were staged, Mr. Strugnell securing the champion awards for Messrs. Sutton and Sons' prizes.

MISCELLANEOUS EXHIBITS.

Miscellaneous contributions included a large display of flowers, fruit, and vegetables from Messrs. Sutton and Sons, filling over 100 square feet superficial, in which were twenty varieties of melons, numerous tomatoes, cauliflowers, carrots, cucumbers, and asparagus. Messrs. Milburn, of the Victoria Nurseries, Weston, arranged an extensive rock garden; Messrs. Blackmore and Langdon put up a large collection of begonias; Messrs. Jarman and Co., Chard, sent cut flowers in variety; and Messrs. A. A. Walters contributed about thirty delphiniums, one of which the Rev. E. Lascelles, a variety of exceptional merit recently introduced by the firm, was greatly admired.

Norfolk and Norwich Horticultural Society.

This society held its annual summer show of flowers, fruits, and vegetables on Thursday, July 8, in the grounds of Mr. E. Gurney-Buxton, High House, Thorpe. Unfortunately, the day opened out wet, and continued so till mid-day, which caused a great falling off in the attendance. The exhibits fell off in roses and fruits, but increased in miscellaneous flowers (which included sweet peas) and vegetables.

ROSES AND SWEET PEAS.

In the principal class of the rose section there were three entries, all from growers outside the county. Messrs. B. R. Cant and Son and Messrs. F. Cant and Co. ran each other close for premier position, the awards eventually going in the order named; Messrs. J. Burrell and Co. were third. The two exhibitors in the class for eighteen varieties, three blooms of each, made an effective display, and the blending of whites, pinks, and reds was very pretty. Messrs. Burrell and Co., Cambridge, easily secured first place for eighteen blooms, teas or noisettes, their blooms of Souvenir de Pierre Notting, Mrs. Edward Mawley, and Cleopatra being very fine; Messrs. F. Cant and Co. second. In the class which must contain eight new roses, Messrs. Burrell came first; they had very superb blooms of the Lyon Rose, John Cuff, and Mrs. Aaron Ward. The Rev. J. A. L. Fellowes, of Bunwell, took premier position among the local amateur exhibitors, winning the silver cup presented by Mr. H. Morse, Eaton, with thirty-six splendid blooms. In the collection was the best bloom in the show, a very fine specimen of Mrs. Edward Mawley. Miss Penrice, Witton, had much better blooms than she has sent for some time past, and was thus able to beat Mr. R. Steward, Saxlingham, a keen exhibitor, in this class for thirty-six. In the class for twenty-four blooms, eight varieties, Miss Penrice again scored well, beating the Rev. J. Fellowes. Mr. Cecil Wilson, Thorpe, had a fine dozen blooms. The other classes were rather poorly filled, except that for 12 blooms of one variety. In this, four stands were set up, and again La France, from Miss Penrice, Witton, excelled. Mrs. W. J. Grant, Frau Karl Druschki, and Dean Hole were the varieties staged by the other exhibitors. The Rev. J. A. Fellowes secured another silver cup, presented by Mr. and Mrs. W. Harker, in the extra amateur class for twenty-four blooms. His flowers were far ahead of those of the other two exhibitors.

Experts and visitors proclaimed the sweet pea section as being by far the best feature of the show. The class for twenty-four bunches, distinct varieties, for which a silver challenge cup was presented by Messrs. Daniels Bros., Lim., brought out eight competitors, who filled the whole of one side of the long tent. The chief position was secured by Mr. E. G. Buxton. The blooms were bold yet dainty, and the arrangement of colours reflected great credit upon the gardener. In the collection was a bunch of Audrey Crier, which was awarded the National Sweet Pea Society's medal as the best bunch in the show. Mr. R. Fellowes, Shotesham Park, who came second in this class, had a most beautiful collection. In the class for twelve bunches, Mr. A. J. Stannard, Thorpe, and Mr. Edmund Reeve, Catton, staged the choicest varieties with telling effect, and they took the awards in the order named. Major Cubitt, Thorpe; Mrs. Mills, Brooke; Colonel Rous, Worstead; Mr. E. G. White, Eaton; Mr. F. Dow, Lowood; and Mr. Garrett Taylor, Trowse, were all winners in other classes. Mr. E. G. Buxton's first prize vase was a dainty combination of peas, grasses, and Asparagus plumosus.

CUT FLOWERS.

In this section we extend our congratulations to Colonel Petre, who has returned to the fray after resting for a few seasons. And he returns to take up the position that he was ever wont to occupy—first. Those who have visited Westwick know that only the best kinds are cultivated, and Mr. Davison, the gardener, had brought the best of these. They formed quite an educational exhibit for herbaceous flower growers. Mr. Robert Fellowes, Shotesham Park, occupied the second place, but that does not mean that his flowers were inferior, but from Westwick came bolder bunches, and greater effect. In the class for thirty-six bunches two exhibitors again had a keen fight. This time it was Colonel Rous, Worstead, and Mr. Edmund Reeve, Catton. It was a narrow margin evidently which gave the Worstead flowers the lead, and there were some who even queried the judges' award. Mr. O. Corder, Brundall, was the only exhibitor for twenty-four bunches.

Mr. H. Skelton, St. Helen's House, Norwich, was able to prove, by winning the first prize for a dozen bunches in a strong class, that the best flowers in the best of condition can be grown in the heart of the City of Gardens. His bunch of English Iris Purple Beauty was extra good. Mr. T. Chaplin, Thorpe, had a fine stand of six bunches, and was closely followed by Mr. F. A. Bainbridge, Hethersett, who had coreopsis and shasta daisies in fine form. Hardy annuals were well represented, and the flowering shrubs were extra choice, especially those from Colonel Petre, his bunches of kalmias and hydrangeas grown in the open being very fine. For choice flowers Mr. Fellowes led with orchids, cannas, carnations, and Gloriosa superba, doing him great credit. Colonel Rous, in his stand, had a very nice bunch of the ever-popular tuberose, and quite a big bunch of oncidiums. Captain Meade, first for six bunches, had some grand crinum blooms, and a bunch of very large flowers of streptocarpus. Carnations have never been seen in such profusion as at this show. With very fine blooms of Malmaisons and tree varieties, Colonel Petre, Westwick, had arranged his first prize stand in quite an artistic style. Colonel the Hon. C. Harbord was second with a very bold lot. His blooms of the yellow Cecilia beat everything of the same colour in any stand.

FRUIT AND VEGETABLES.

The fruit and vegetables had a tent to themselves, and made altogether rather a poor display. For thirty-six cherries, Colonel Harbord took premier honours with Rivers' Early Black, while Colonel Petre came second, and Colonel Rous was third. There were some tempting collections of fruit. Mr. I. B. Coaks was first with a very choice display of nectarines, grapes, melons, and strawberries. Colonel Rous ran him hard with a similar selection; and Mrs. E. Kerrison, of Burgh Hall, was a rather poor third.

The four classes for grapes brought out a most tempting display of luscious fruit. Bishop Fisher, Mr. I. B. Coaks, and Colonel Rous secured the prizes in the different classes. There were two classes for melons, Mr. Coaks, Colonel Petre, Bishop Fisher, Colonel Rous, and the Hon. C. Harbord being the prize-takers. Mr. W. J. Birkbeck, Stratton Strawless Hall, appeared to be the only exhibitor in the class for six nectarines, and he was awarded first prize. In the class for six peaches there were three exhibits, and the awards were made in this order: Mr. W. J. Birkbeck, the Hon. Colonel Harbord, and Colonel Rous. There was a good display of strawberries in the three classes, and Mrs. Edmund Kerrison took first place for a plate of 24 berries of one sort (Leader), and Mr. Robert Fellowes, of Shotesham Park, was second with Bedford Champion. Mr. R. Fellowes' collection of four varieties, with which he obtained first prize, was composed of Bedford Champion, Laxton's Trafalgar, Royal Sovereign, and Laxton's Leader. Mr. E. G. Buxton was second, and Mr. W. H. Mills, of Brooke House, third.

TRADE EXHIBITS.

The trade was not largely represented. Messrs. Daniels Bros., Lim., Norwich, had a bold display of sweet peas, which included all the newest varieties; and also displayed groups of new bedding begonias, new heliotropes, and foliage plants. Messrs. Stark and Son, Ryburgh, had the best of the newer sweet peas, most prettily grouped.

Weybridge.

JUNE 30.

The annual exhibition was held in the grounds at Oakfield, the residence of Clutton Brock, Esq., and was a great success. The schedule was a comprehensive one, and the entries were numerous.

A silver challenge cup was offered for the most meritorious exhibit in the show, whether in competition or not. This coveted award went to Mr. T. Stevenson, gardener to E. Mocatta, Esq., Woburn Place, Addlestone, for a magnificent collection of sweet peas, consisting of sixty bunches of well-grown flowers, all lightly arranged with foliage plants. Considering the lateness of the season it was a remarkable exhibit. In competition for this cup, Messrs. J. Veitch and Son, Chelsea, had an unusually fine display of pæonies and other flowers; Messrs. Spooner and Son, Woking, roses; Messrs. Fletcher Bros., Ottershaw, roses and hardy flowers.

Roses were a feature of the show, and for thirty-six, distinct, Messrs. B. R. Cant and Son, Colchester, were an easy first with medium-sized, well-coloured blooms; Mr. F. R. Cant, Colchester, second; Messrs. W. Spooner and Son, Woking, third. For twelve roses, Mr. G. Curnock Sawday, Weybridge, won with desirable blooms in keen competition; Mr. E. Watford second.

Hardy flowers were numerous and good, although many exhibits were made up with inferior kinds. For twelve bunches, Mr. F. Norris, Newhaw, was the most successful in a spirited competition. Sweet peas were very good considering the recent unfavourable weather; Mr. F. Norris won with popular varieties nicely staged.

Plants were numerous and good. For the prizes for a group of miscellaneous subjects arranged for effect in a space of 15 feet by 10 feet, there were four competitors. Mr. C. Guy, gardener to — Howard, Esq., Shepperton, was first with a brilliant collection of flowering subjects, among which clarkias were conspicuous, and palms, crotons, etc., were lightly interspersed; Mr. A. J. Rhodes, gardener to W. J. Monk, Esq., was a good second; the bridge of cork built across the centre was rendered a weak feature owing to it being sparsely clothed with plants. Specimen plants were well shown. For one specimen in bloom, Mr. J. Whitebread had a freely-flowered Stephanotis floribunda, and secured the leading award in stiff competition. Mr. J. Perryman, gardener to Mrs. Harrison, had the premier award for specimen foliage plant with Kentia Belmoreana in perfect condition. Mr. C. Morgan had the best four stove or greenhouse specimens, these being freely flowered. Gloxinias were well displayed, Mr. J. Curtis winning for six plants with large blooms and excellent foliage. Begonias were indeed a feature, not that the plants were exceptionally large, but the flowers were of exceptionally high quality. For six singles, Mr. J. Whitebread won; while in the double-flowered class Mr. W. Stedman secured the leading award.

Prizes were offered for any meritorious exhibit not provided in the schedule. Mr. J. Curtis, gardener to Mrs. Marshall, staged six specimen verbenas, plants fully a yard high, nearly as much across, and beautifully flowered, grown as seedlings from Messrs. Sutton and Sons' strain. They were very fine examples of culture.

Vegetables were plentiful and good. Mr. T. Stevenson, gardener to E. Mocatta, Esq., Woburn Place, Addlestone, won both Messrs. Sutton's and Messrs. Carter's premier prizes for six distinct varieties, with high-class produce arranged in quite the best manner.

Table decorations for ladies formed a pleasing feature, the centre of one large tent being filled with the entries in one class. Mrs. Gally, Walton, secured the coveted award with a happy blending of colour of mauve sweet peas and violas, with suitable greenery; Mrs. Carnock Sawday, with roses, was second; Mrs. W. Mitchell Crawley, Oatlands, third.

Mr. S. Bide, Farnham Nurseries, had an imposing exhibit of wreaths, baskets of roses, etc.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

PALE PLUM LEAVES.—L. M. S., Reigate: The plum, or, at least, that part of it that has the pale silvery leaves, is suffering from the silver leaf disease. This disease has so far baffled all curative efforts, though the action of sulphate of iron, in solution, has, in some cases, appeared to be beneficial. Your best plan will be to cut back all branches carrying silvery leaves to a point where the wood is sound and the foliage healthy, taking care to burn all the leaves and branches removed.

RED SPIDER ON CUCUMBERS.—F. H. T., Canterbury: The leaves sent were infested with red spider. You say they are the lower leaves. It is probable that as the pest only attacks the lower leaves these latter are near the hot-water pipes, and in such a position as to be not easily reached by means of the syringe. Sponge the infested leaves with a solution of soft soap, warm water, and flowers of sulphur, and place an evaporating trough on the pipes and keep it filled with liquid manure. When syringing take every possible care to moisten the lower leaves on both sides.

RAISERS OF NEW ROSES.—E. R., Gloucester: The Lyon rose (H.T.) was raised by M. Pernet-Ducher, Venissieux, Lyons; Rhea Reid (H.T.), by Mr. E. G. Hill, Richmond, Indiana, U.S.A.; Dorothy Page Roberts (H.T.), by Messrs. Alex. Dickson and Sons, Newtownards, Ireland; Grosherzog Friederich (H.T.), by Mr. P. Lambert, Trier, Germany; Mrs. Dudley Cross (T.), by Messrs. William Paul and Son, Waltham Cross; and Madame Segond Weber, by M. Soupert, Luxembourg, France.

DRESSING ROSES.—E. C. F., Chester: One of the regulations of the National Rose Society applies very directly to the subject of your note. It is as follows: All roses must be exhibited as cut from the plant. Artificial aid of any and every kind is strictly prohibited, with the exception of wire or other supports, which are only to be used to keep the blooms erect. A bloom so tied shall not receive any point from the judges. The dressing of rose blooms so as to alter their character is prohibited. A bloom so dressed will be counted as a bad bloom. The insertion of any additional foliage will disqualify the stand. All roses should be correctly named.

STREAKY SWEET PEAS.—Solanum, Sussex: The disease, if such it can be called, is very common this season, and has been brought about largely by the prevailing climatic conditions. Mr. Massee, the mycologist, considers the disease a purely physiological one, a sort of derangement caused by high cultivation following on close in-breeding. There is no cure, though sometimes the affected plants grow out of the streaky condition, if cut back and bright weather follows. Lime should be freely used in soil where sweet peas are liable to show the streaky character and collapse.

COLLAPSED MELONS.—N. H. P., Harrogate: A severe attack of eelworm is the cause of the collapse of the melons. You can do nothing to save the plants now. Remembering that eelworms are liable to attack many crops, you should clean the house as effectively as possible, glass, woodwork, brickwork, staging, and every other part being carefully treated. The soil should be removed and burned, and, after the house is cleared, other crops, preferably pot plants, should be grown in it for at least six months before melons are planted again. The vitality of eelworms is wonderful; they can retain life and recover when kept quite dry for several months.

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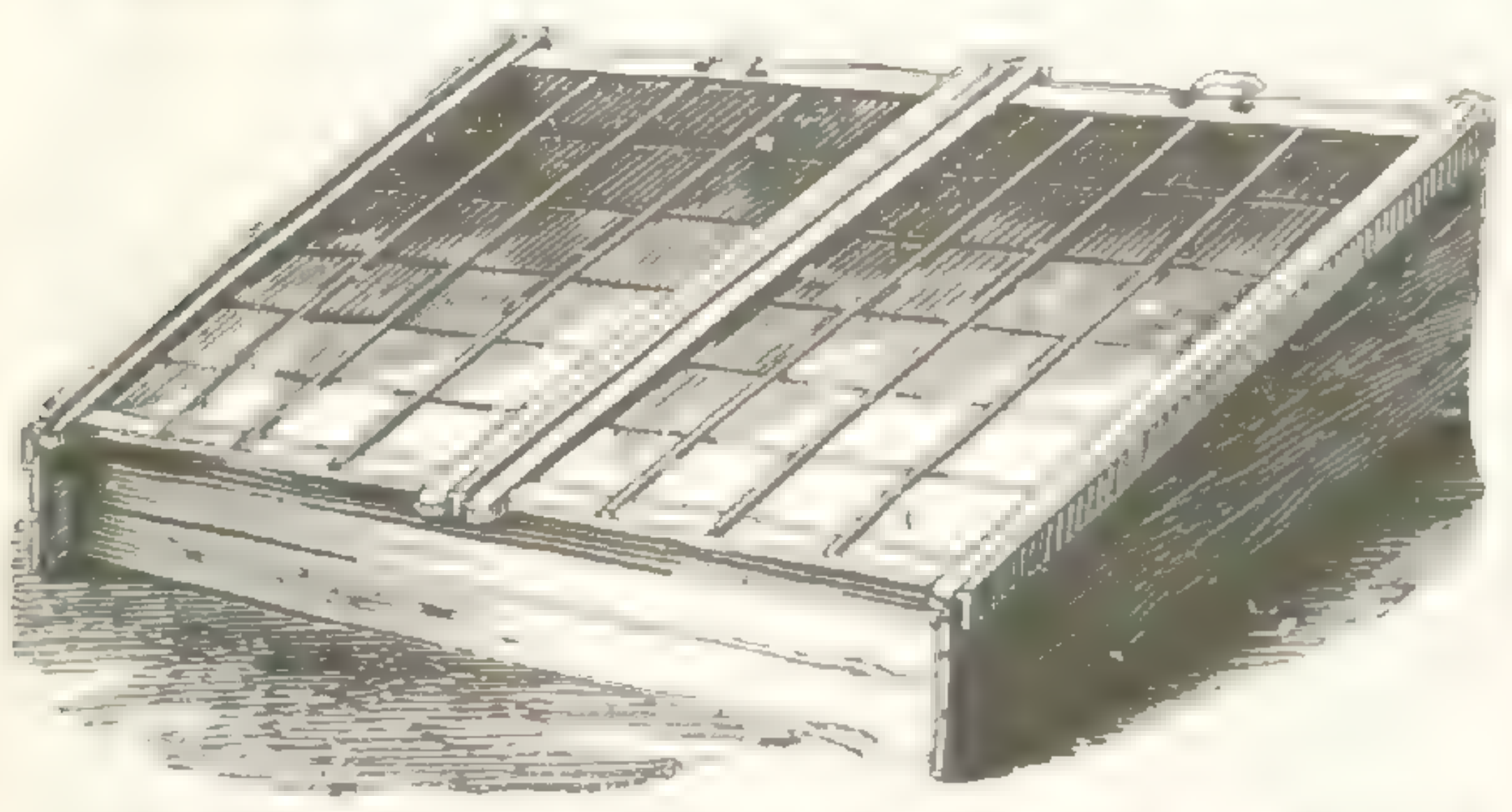

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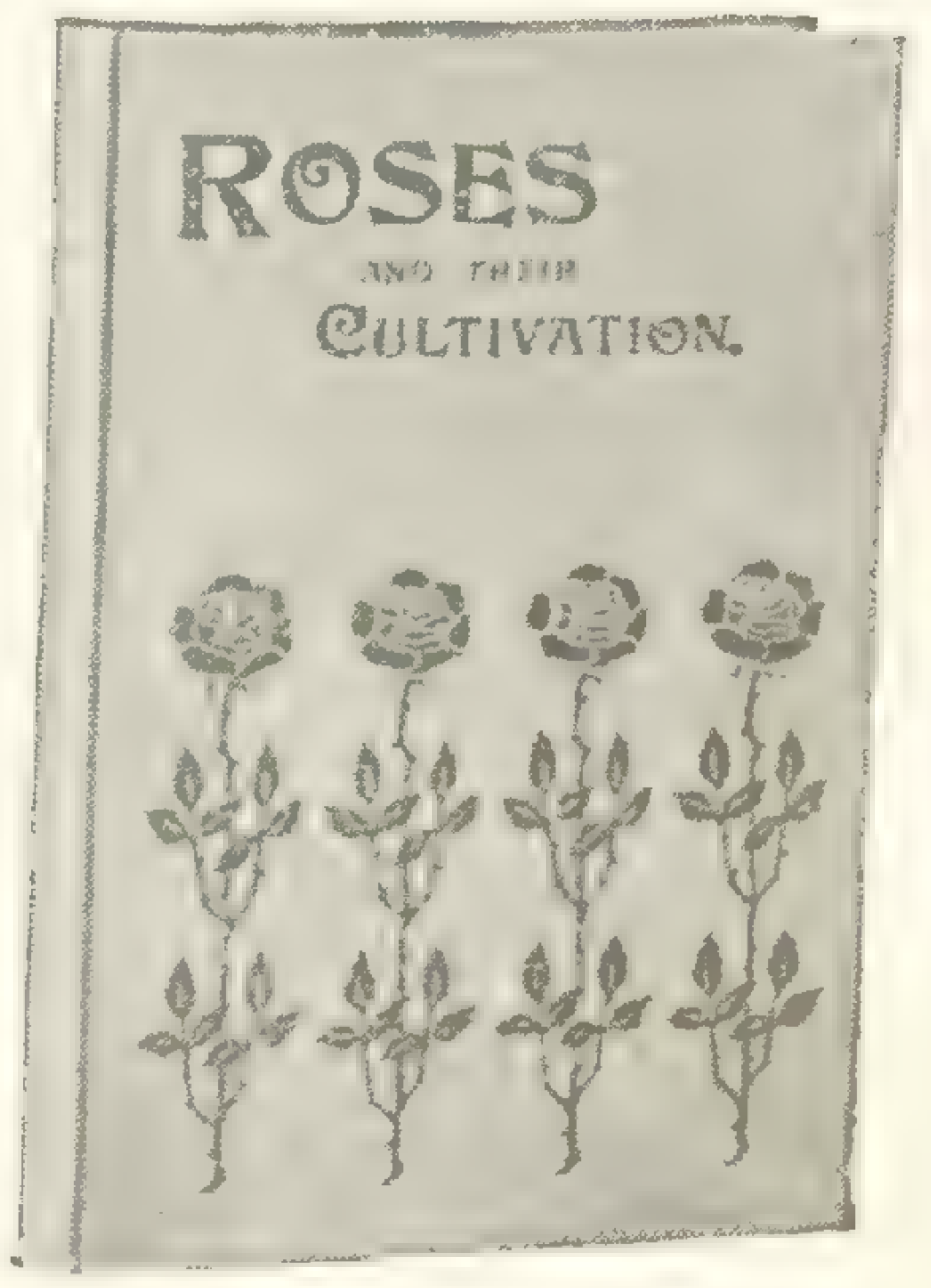

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ROSES TO NAME.—F. S. C., Taunton: We very much regret you should have gone to the trouble and expense of sending us two boxes of rose blooms to name, though the fragrance and beauty of the flowers gave us a great deal of pleasure. It is a practical impossibility to name forty roses without an opportunity of making comparisons in a large collection, and it is quite out of the question for us to grow collections of all kinds of florists' flowers. We have an Editorial notice that generally appears at the head of this section of the paper, drawing attention to the fact that we cannot undertake to name florists' varieties of flowers, but during the past few weeks, when every line of space has been needed for articles, illustrations, and reports, this notice, as well as some others, have been omitted. Your best plan will be to send a set of flowers, duly labelled, to a rose specialist, who will, no doubt, name the varieties for a nominal fee.

SCALDED GRAPES.—O. W. N., Norwood: It is quite evident that the berries have been badly scalded, and this has been brought about by the super-heating of moisture condensed on the berries. During such a season as the present, the bright sunshine very quickly does harm in the case of a vinery not skilfully ventilated, whereas in a season that is bright and sunny one ventilates regularly in accordance with the prevailing weather. Ventilation should begin early in the morning, and be increased according to the weather. Judging from the footstalks of the berries, we believe you have rather overcropped the vines, and this, together with an outside border and a rainy season, may produce a bad case of shanking.

WYCH ELMS.—T. E. M.: The elms are suffering from weakness, and from an attack of fly. The latter can only be removed by a careful system of spraying, and this would be a costly business. The character of the leaves suggests that the trees are in need of assistance at the roots, and we therefore suggest that in autumn and early winter all the trees receive a good dressing of rotten manure, or the mud cleared from ponds, lakes, or river beds, spreading this over the area occupied by the roots. If the trees are not too tall to be sprayed we suggest that during the winter they be sprayed with a caustic solution of potash and soda, such as is used for winter dressing fruit trees. The feeding and cleaning thus given would give the trees a good chance of recovery.

ENGLISH IRISES.—L. C., Bangor: The bulbous iris, of which the English and Spanish sections are the most important from a decorative point of view, are extremely beautiful and very cheap. They should be planted early in the autumn, and produce the best effect when arranged in small groups in the mixed border. They attain to a height of about eighteen inches, and the predominating colours are purple, blue, lavender, lilac, and white; and the Spanish varieties include yellow. The Spanish varieties bloom in June, and are closely followed by the English, which have much larger flowers. English varieties of special excellence comprise: Agrippina, Blue Morant, Columbus, Dr. Hooker, Diana, Empress of India, General Vetter, King of the Blues, Mont Blanc, Mrs. Barkley, Rosinante, Triumph, and The Sultan. The following comprise some of the best Spanish varieties: Alexander von Humboldt, Athalie, Belle Chinoise, Blue Emperor, Caroline Mamisse, Fénélon, Golden King, Hercules, King of the Blues, King of the Whites, La Dame Blanche, La Bien Aimée, L'Unique, Marble King, Royal Blue, Snowball, Sunset, Surprise, The Moor, and Wonderful.

NAMES OF PLANTS.

H. R., Chester.—1, Lupinus arborea; 2, Vitis Henryi; 3, Deutzia crenata.

R. C., Derby.—1, Catananche cærulea; 2, Campanula rapunculus; 3, Primula rosea.

E. F. J., Wantage.—1, Viburnum lantana; 2, Pteris palmata; 3, Platycerium alcicorne.

D. T. S., Epsom.—1, Achillea alpina; 2, Viola cornuta; 3, Veronica spicata; 4, Leycesteria formosa; 5, Pernettya mucronata.

TRADE NOTE.

Messrs. Sutton and Sons, Reading, inform us that the wonderful exhibit of vegetables staged at the R.H.S. show at Holland Park by Mr. Edwin Beckett, V.M.H., who was awarded a gold medal, was exclusively the produce of their seeds. The much admired collection of sweet peas exhibited by Sir Randolf Baker, Bart. (gardener, Mr. A. E. Usher), and awarded a silver cup, was also entirely grown from Messrs. Sutton's seeds.

MARKETS.

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Flowers.

Sweet peas, roses, and carnations are abundant, and only the best flowers, long-stemmed and of distinct colour, obtain good prices.

		s.	d.		s.	d.
Adiantum cuneatum	per doz. bun.	5	0	to	9	0
Arums	per doz.	1	6		3	0
Asparagus	per bun.	1	0		3	0
Carnations	per doz. blms.	2	0		3	6
,,	per doz. bun.	9	0		12	0
,, Malmaisons	per doz.	8	0		10	0
Cattleyas	per doz.	10	0		12	0
Croton leaves	per bun.	1	0		1	6
Cypripediums	per doz. blms.	1	6		2	6
Forget-me-nots	per doz. bun.	1	6		2	0
French fern	per doz. bun.	0	6		1	0
Gladiolus	per doz. bun.	3	0		5	0
Gypsophila	per doz. bun.	2	0		3	0
Iris, Spanish	per doz. bun.	3	0		6	0
,, German	per doz. bun.	2	0		4	0
Ixias	per doz. bun.	2	0		3	0
Lilium auratum	per bun.	2	0		3	0
,, speciosum	per bun.	1	6		3	0
,, longiflorum	per bun.	2	0		3	6
Lily of the Valley	per doz.	6	0		9	0
Mignonette	per doz. bun.	3	0		5	0
Odontoglossums	per doz. blms.	2	0		2	6
Pæonies	per doz. bun.	5	0		10	0
Poppies	per doz. bun.	2	0		4	0
Pelargoniums	per doz. bun.	4	0		6	0
Pyrethrums	per doz. bun.	2	0		3	0
Roses	per doz.	1	0		5	0
Sweet Peas	per doz. bun.	2	0		5	0
Stocks	per doz. bun.	2	0		3	0

Fruits.

The better weather has improved the supplies of and demand for strawberries. Black and red currants sell well.

		s.	d.		s.	d.
Apples, Australian	per case	10	0	to	12	6
,, Tasmanian	per case	10	0		13	0
Apricots	per box	0	8		1	3
Bananas	per bun.	3	0		10	0
Cherries	per box	0	8		1	6
,,	per ½-sieve	3	0		6	0
Currants, black,	per ½-sieve	5	0		6	0
Currants, red	per basket	2	0		2	6
Figs	per doz.	1	3		2	6
Gooseberries	per ½-sieve	1	9		2	6
Grapes, English	per lb.	1	6		4	0
,, Guernsey	per lb.	0	9		1	9
Lemons	per case	8	0		25	0
Melons	each	1	0		2	0
,, French Cantaloupe	each	2	0		3	0
Nectarines	per doz.	2	0		15	0
Oranges, Denia	per case	12	0		22	0
,, Navels	per case	12	0		14	0
,, Valencias	per case	12	0		23	0
Peaches	per doz.	3	0		15	0
Pineapples	each	1	9		3	0
Strawberries	per doz. pun.	4	0		6	0
,, French	per peck	1	3		3	0

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Jersey, new	per cwt.	5	0		5	6
French, new	per cwt.	5	0		5	3
Canary, new	per cwt.	4	9		5	0

FORTHCOMING ENGAGEMENTS.

TUESDAY, July 20.—Royal Horticultural Society: Meeting of Floral, Fruit and Orchid Committees at noon; General Meeting with Lecture at 3 p.m.; Scientific Committee, 4 p.m.

National Vegetable Society: Meeting of Committee, Hotel Windsor, Victoria Street, Westminster, 3 p.m.

WEDNESDAY, July 21.—National Carnation Society's Exhibition, at Horticultural Hall, Westminster.

Women's Agricultural and Horticultural Union Show, Royal Botanic Society's Gardens, Regent's Park.

Cardiff Flower Show; 2 days.

Horsell Horticultural Society's Exhibition.

Trowbridge Horticultural Society's Exhibition.

Malden, Surrey, Horticultural Society's Exhibition.

FRIDAY, July 23.—National Sweet Pea Society's Exhibition, Horticultural Hall, Westminster.

Southampton Carnation Show.

SATURDAY, July 24.—Didsbury Flower Show.

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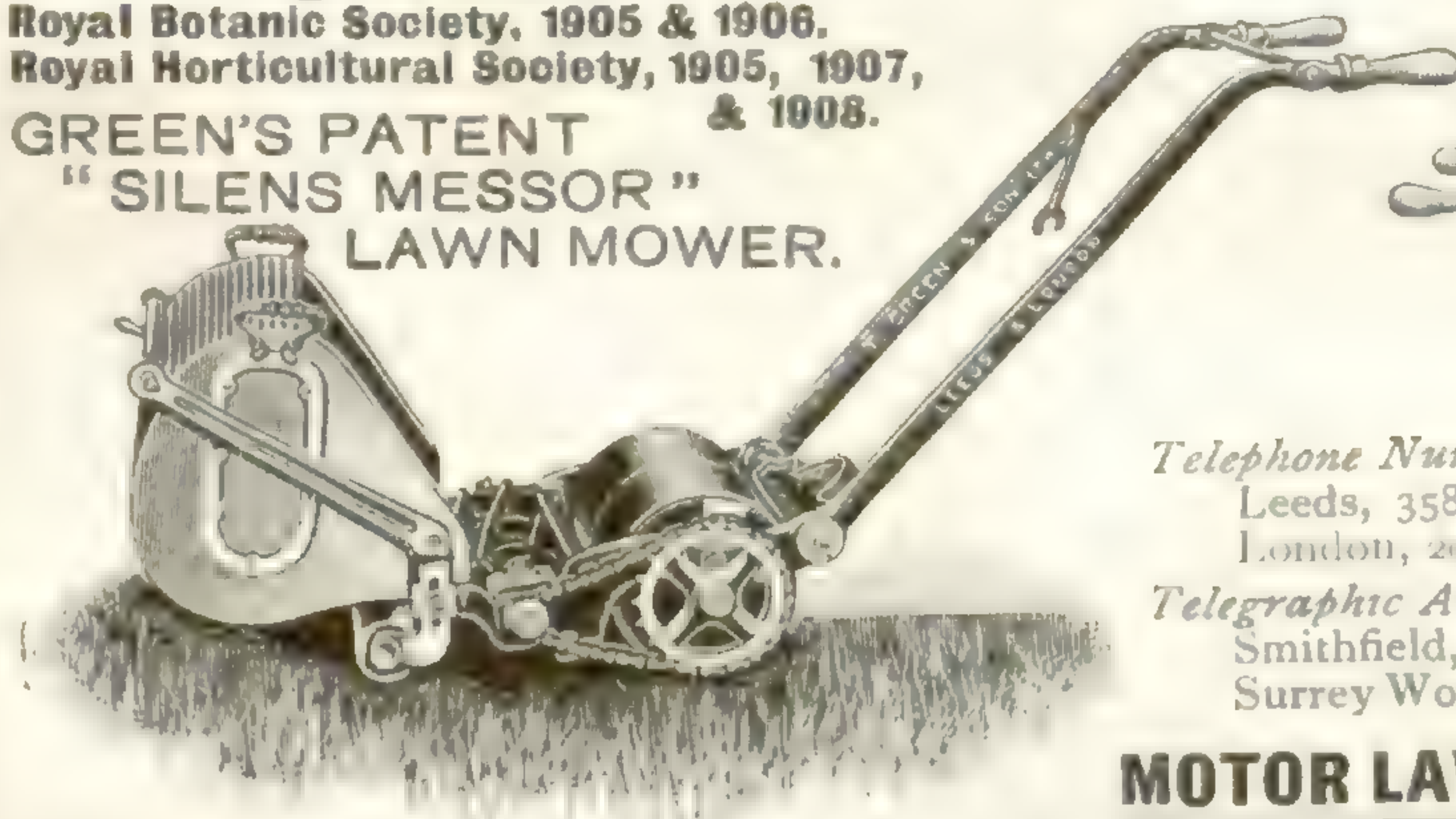

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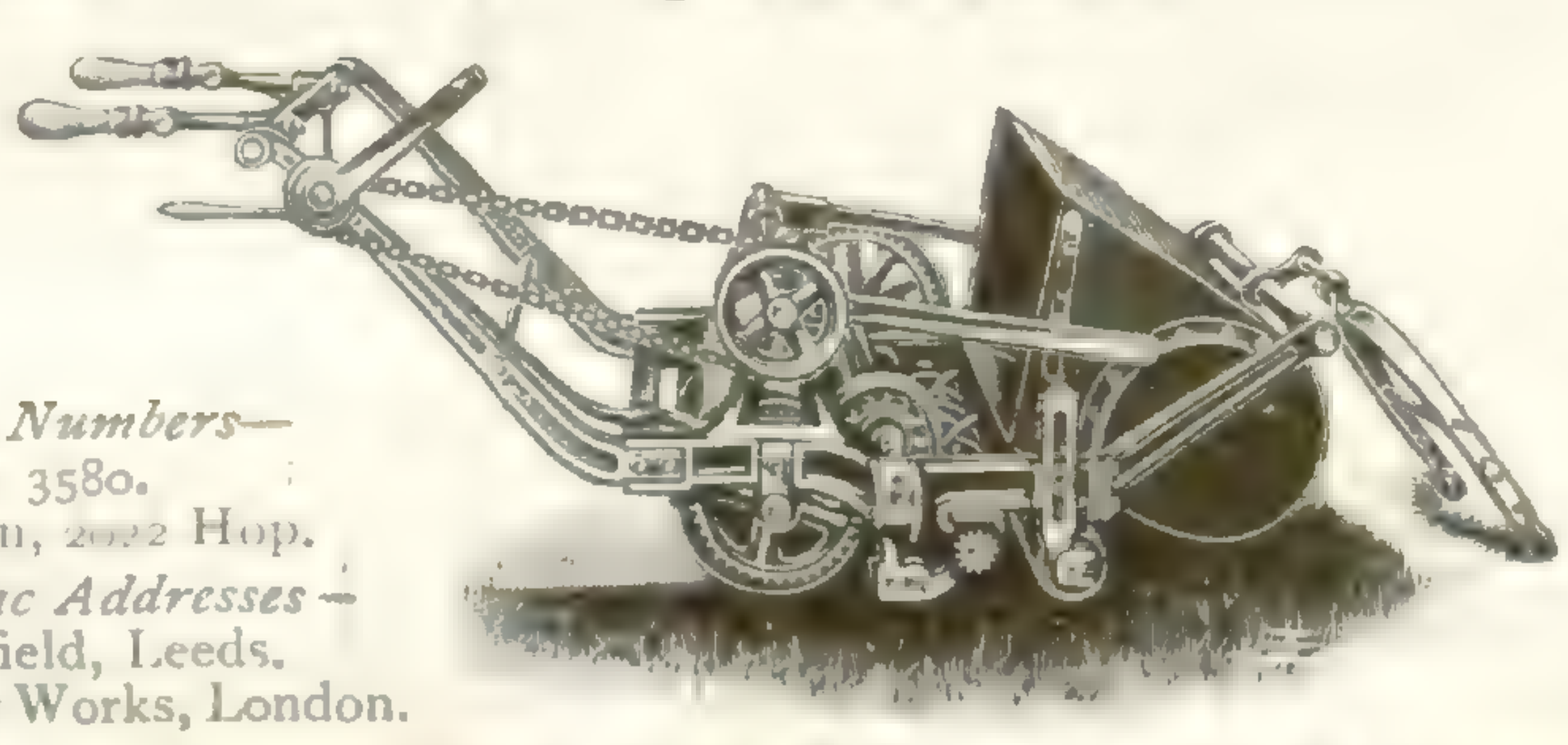

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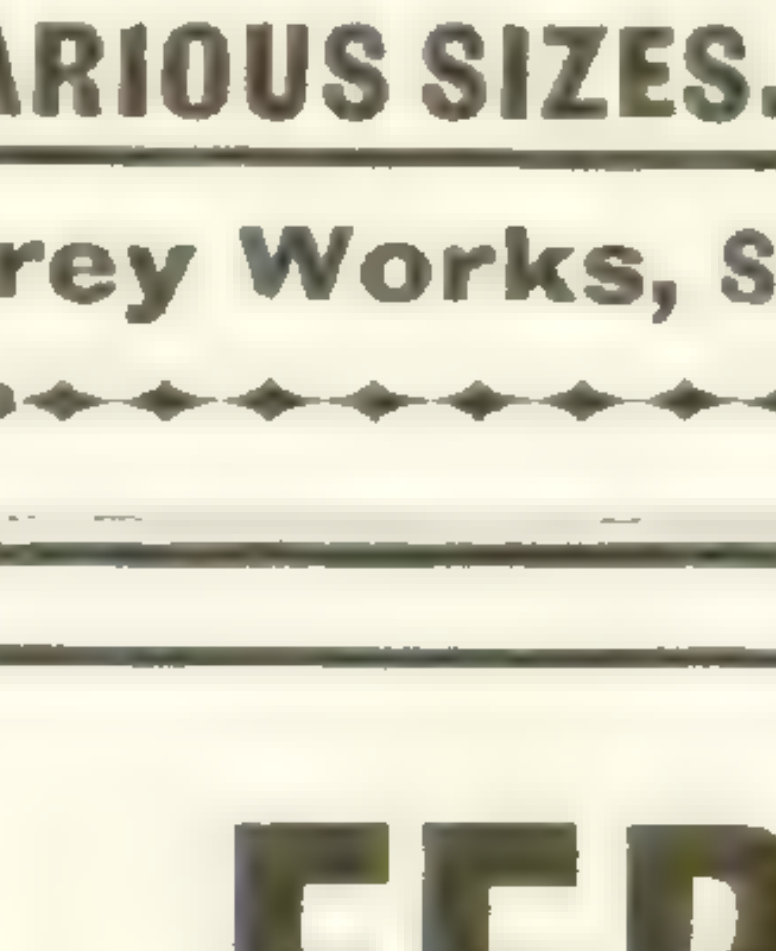

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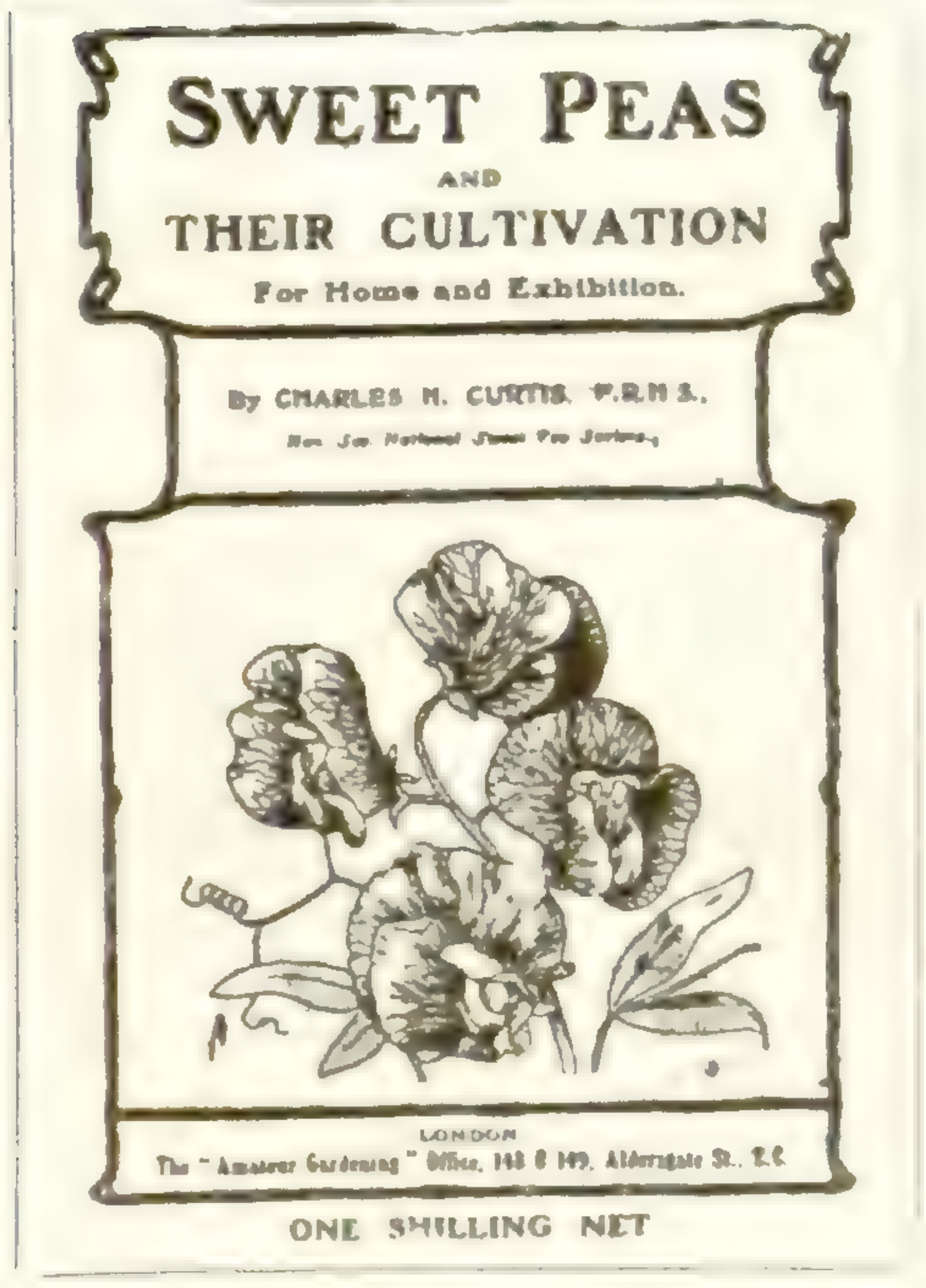

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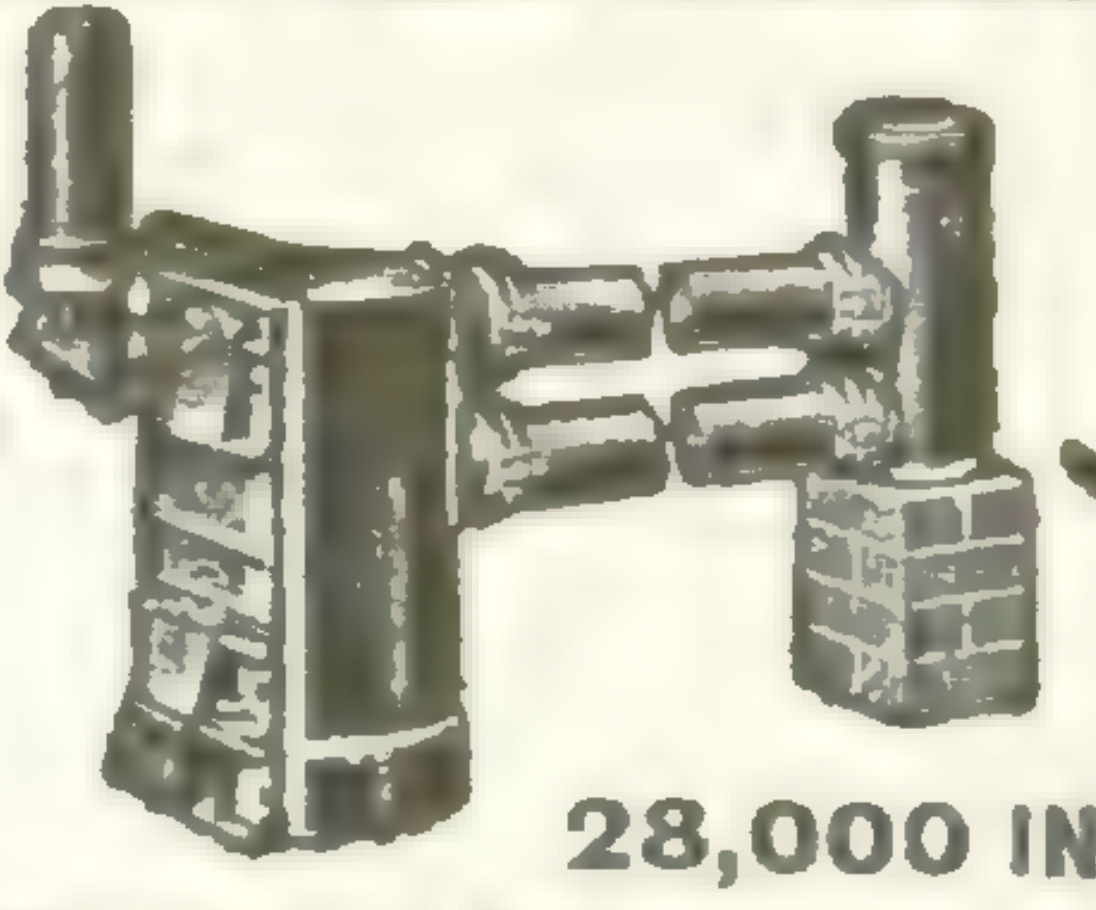

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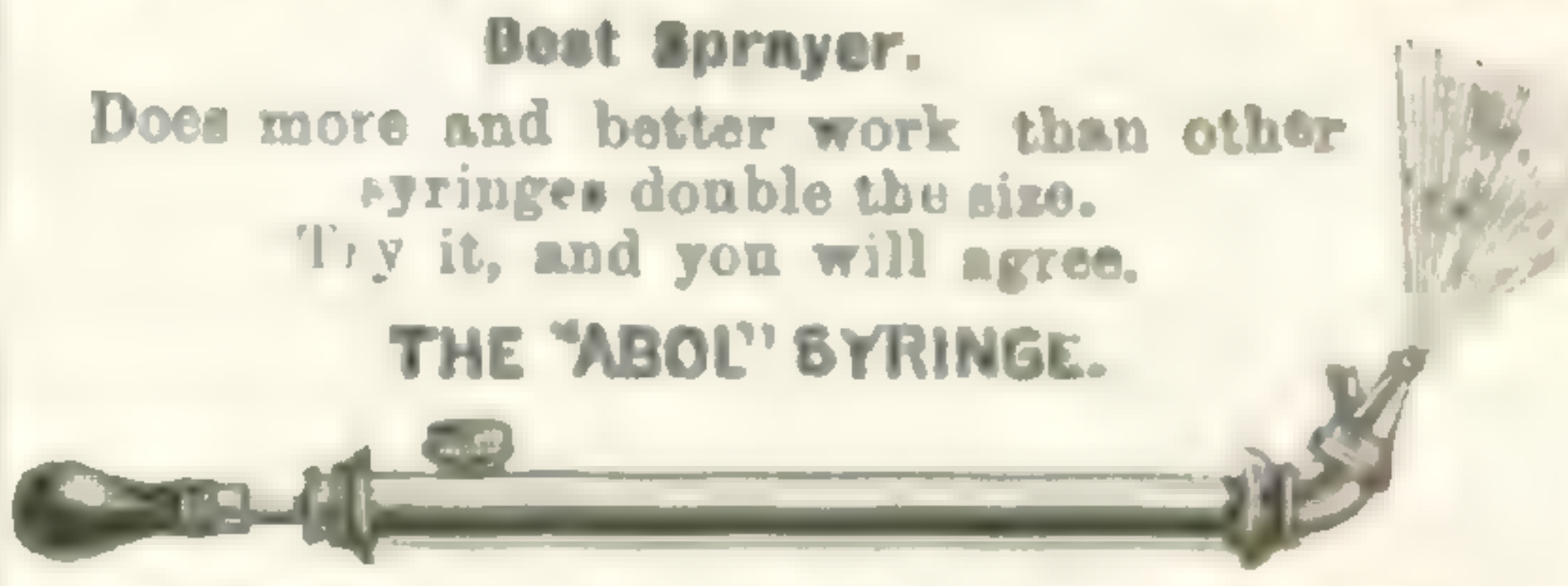

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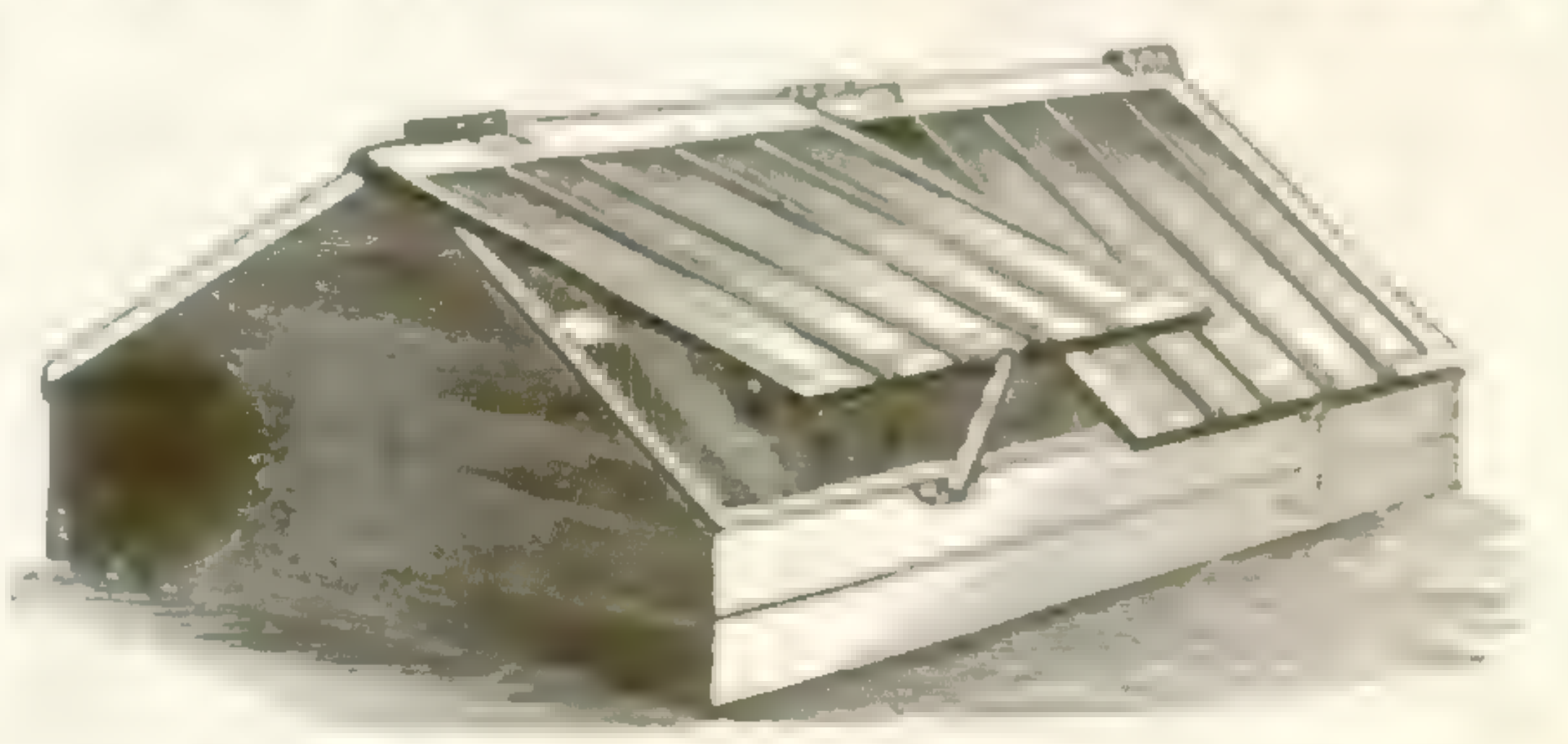

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VOL. LII.—No. 2,908. SATURDAY, JULY 24, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Sweet Peas.

Ten years have run their course since practical expression was given to the decision of the small body of enthusiasts assembled at Edinburgh in the previous autumn that the bicentenary of the introduction of the sweet pea should be celebrated in London in a fitting manner. The great display of sweet peas at the Crystal Palace in the summer of 1900 was the first public exhibition wholly devoted to these exquisitely beautiful and delightfully fragrant flowers, and therefore, apart from the spectacular point of view, was an event of considerable historic importance. Ten years is not perhaps a long period in the history of a flower or class of flowers, but in this case it is long enough to admit of a fairly correct estimate of the influence the competitive gatherings have had, both in stimulating the activity of raisers and extending the cultural area. The evidence on which to base an estimate upon these two points is so abundant and conclusive that there is no occasion to call upon the expert who has been busily engaged in the cultivation of sweet peas, and has closely watched every step that has been taken during the past decade, for his testimony. It is well known to the man in the street that there has been a remarkable development in the colour, form, and size of the flowers, and an enormous extension of their cultivation in the gardens of all classes. This is all the more interesting from the fact that when it became known that an exhibition of sweet peas was to form part of the bicentenary celebration, the promoters were supposed to have allowed their love for the flower to overcome their better judgment, and the proposal was condemned in no half-hearted manner by some, who, while occupying a prominent position in the world of horticulture, had not devoted sufficient attention to the sweet pea to be able to fully appreciate its position and possibilities. It was declared that the flower had reached its highest state of development, and it was therefore futile to look for further improvement, except, it may be, in some little variation in colour. The truism that it is "not wise to prophesy until you know," has been amply justified in this case, and we have further seen that it is not wise to place any limit upon the possibilities of improvement in any class of plants. It was certainly remarkable that an attempt should have been made ten years ago to set a limit to the possibilities of the sweet pea, for during the previous twenty years or so, the late Mr. Henry Eckford had effected such remarkable improvements as to surprise those who had devoted any considerable share of their attention to the flower, and was introducing year by year varieties that were in some way superior to those that had preceded them. The sweet pea had certainly not reached the limit of its possibilities, as proved to demonstration by the magnificent varieties that have been introduced since the bicentenary celebration. We have not as yet obtained a variety bearing flowers that equal in intensity the blue of Salvia patens, or in brilliancy the scarlet of the flowers of the once popular Tom Thumb pelargonium, or in richness the yellow of, say, Golden Glory calceolaria. Yet the development in colour, as evidenced by The King, St. George, and others, is such as to fill one with admiration of the accomplishments of the raisers. Then we have in Countess Spencer and others with flowers of similar form, a quite new type, of immense value both for garden and house decoration. Ten years ago it was declared by more than one of those who objected to the movement then being made that sweet peas were utterly unfitted for exhibition, but it is doubtful whether anyone would venture to give expression to such an opinion at the present time. So far from their being unfitted for exhibition, they produce the most delightful displays, as proved by the exhibitions held annually by the National Sweet Pea Society and other associations that hold exhibitions during July and August. There is hardly an exhibition held during these two months to which they do not contribute liberally of their charms, and to many societies they have proved of immense value by creating renewed interest in their annual gatherings. Several rose societies have altered their titles to enable them to include sweet peas in their schedules, and in all cases the change has proved highly beneficial. We need not speak of the extension of cultivation that has followed the encouragement given by the various societies, for it is now a matter of common knowledge that there is hardly a garden in this country in which sweet peas are not grown. It may, however, be mentioned that their cultivation under glass for supplying cut flowers early in the year has become an important part of the activities of some of the leading growers for market, and that the production of seed has of late years assumed enormous proportions. In taking a retrospective glance over the past ten years, one derives much gratification from what has been accomplished in improving sweet peas and extending their cultivation, and there is justification for being somewhat optimistic with regard to the future. There are, however, matters which give rise to some uneasiness, and we trust that both raisers and cultivators will give such attention to them as will have the effect of preventing any check being given to the cultivation or the popularity of the flowers. It is especially necessary that the evils arising from in-breeding and excessive manuring should

MR. M. E. MILLS.

be more fully recognised than has yet been the case in relation to these flowers. From all sides we hear of plants being affected by what is commonly known as "streak," and in some cases the losses have been considerable. This unhealthy condition is not a disease, but appears to be due to a weakened constitution that may have been brought about by one or both of the causes mentioned. The naming of sweet peas is becoming unsatisfactory, owing to the use of prefixes and suffixes that have but little meaning, and are cumbrous. The practice has arisen of adding Spencer to the more recently introduced varieties having flowers of the Countess Spencer type, with the result that we have now such absurdities as King Edward VII. Spencer, when short distinctive names would have served every purpose, and been more fitting for such dainty flowers.

Mr. M. E. Mills has for so considerable a period taken a leading part in the horticultural activities of Croydon, and occupied a high position in the estimation of those with whom he has been associated, that his many friends in and around this important town will share with us the pleasure we have in presenting our readers with his portrait. There is much that is of interest in Mr. Mills' career, and it appears to us especially interesting that he should have been resident during the greater part of his gardening career at Croydon. This suggests that he made for himself a reputation quite early in life, and that his abilities have been fully recognised by gardeners and by owners of gardens in the district. Especially interesting also is the fact that the first start made by Mr. Mills was as a garden boy in the gardens of Coombe House, Croydon, of which he has had charge during the past twenty-six years. From Coombe House Gardens he went to Pitt Place, Croydon, and after being there some time he passed on to the Forest Hill Nurseries, and became a member of the regular staff. At that time the late Mr. John Laing was busily engaged in the development of the tuberous begonia, and it may be assumed that Mr. Mills was greatly influenced by what was then being done, for he has been highly successful in evolving new forms, some that are adapted for suspended baskets being especially noteworthy. While at Forest Hill, Mr. Mills accepted a position in the gardens of Waddon House, then the residence of the late Mr. Phillip Crowley. While there he accepted the offer of the position of foreman at Coombe House, and on the then gardener leaving to take up a position elsewhere, the late Baroness Heath promoted Mr. Mills to the position of head gardener. On the death of the Baroness, Mr. Frank Lloyd, whose interest in gardening is well known, purchased the manor of Coombe, and retained Mr. Mills' services. Encouraged by a generous employer imbued by a strong love for horticulture, Mr. Mills has proved to demonstration his remarkable cultural and administrative abilities. While devoting such close attention to the management of the Coombe House Gardens as to place them in a prominent position among the horticultural establishments of the district, Mr. Mills has not been unmindful of his responsibilities in other directions. He has in consequence thereof taken a leading part in the management of the several associations in Croydon that have for their object the advancement of gardening.

Botany at Winnipeg. — The Botanical Section of the British Association, which meets at Winnipeg in the last week of August, will have for its President Lieut.-Colonel Prain, F.R.S., Director of the Royal Gardens, Kew. The papers that will be submitted to the section include the production, liberation and dispersion, of the spores of Hymenocetes by Professor Buller; the nucleus phenomena of Ascomycetes in relation to heredity, by Miss H. C. I. Fraser; the nucleus of the yeast plant, by Mr. H. Wager, F.R.S., and Miss Peniston; some problems connected with the life history of Trichodiscus elegans; anatomy of Osmundaceæ; the evolution of the inflorescens by Mr. J. Parkin; and some observations on Spiræa Ulmaria, by Professor Yapp.

The Gardeners' Royal Benevolent Institution.—The secretary, Mr. George J. Ingram, writes: At a meeting of the committee of management, held on Friday, July 9, the following resolution was unanimously adopted: "That this committee desires to record their deep appreciation of the invaluable services rendered to the institution by the horticultural Press at all times, but especially in connection with the recent successful festival dinner, and tenders to them their grateful thanks."

Red Spider is so troublesome a pest in gardens that there are but few gardeners who are not more or less interested in the various methods adopted for its destruction. In the drier atmosphere of the United States red spider does considerable damage during the summer months to runner and dwarf kidney beans, and last year some experiments were conducted in Florida with a view to control the pest. The experiments were conducted in a small field of wax beans which were badly infested. On May 22 a row was sprayed with lime-sulphur at the rate of 1lb. lime and 1lb. sulphur to 25 gallons of water, the lime and sulphur being boiled together in a portion of the water. A comparison with unsprayed plants on May 28 showed that 76 per cent. of the red spiders had been killed by the one spraying. On the same day a row of the beans was sprayed with lye-sulphur (1lb. sulphur and ½lb. lye in 40 gallons of water), and two days later comparison with unsprayed plants showed that no less than 98.4 per cent. of the red spiders had been killed. In another case a row was sprayed with sulphur in water (1oz. to 1 gallon of water), and it was found that 91.7 per cent. of the red spiders had been destroyed. Kerosene-soap emulsion was also tried, and an examination the following day showed that 95 per cent. of the red spiders were killed. The plants sprayed with the kerosene-emulsion showed a few leaves with burned edges, but this was not serious. In all other cases the plants were in no way injured.

Mr. Robert Bolton's Gold Medal Sweet Peas.—We regret that, as a consequence of a clerical error, we credited the award of a gold medal at the National Sweet Pea Society's Provincial Show, Saltaire, to Mr. T. Bolton, instead of to Mr. Robert Bolton, of Warton, Carnforth. The error occurs on pp. 561 and 562 of our issue of July 17. Mr. Robert Bolton, who thoroughly deserved this gold medal award, has introduced many beautiful sweet peas, notably Bolton's Pink, Mrs. Hardcastle Sykes, Clara Curtis, etc.

British Gardeners' Association.—On Wednesday next, July 28, a meeting of gardeners will be held in connection with the great summer show of the Horticultural Society of Northumberland, Durham, Newcastle-on-Tyne, by kind permission of the chairman and council. The first meeting will be held at 2.30 p.m. in the Recreation Ground, North Road, Newcastle-on-Tyne, in a special tent provided by the Executive Council of the British Gardeners' Association, and will be addressed by Mr. J. Weathers, general secretary of the association. Another meeting will be held in the same place at 7.30 p.m. Members of the association have the privilege of entering the flower show on the first day at half price, 1s., up to 5 p.m., on showing cards of membership at the gate.

Northampton Flower Show.—Northampton was long remarkable for its magnificent flower shows, but from some cause they were discontinued. With a lively recollection of the magnitude and interest of the annual competitive gatherings at Northampton, we are pleased to learn that strenuous endeavour is being made to revive the annual flower show on a scale worthy of the traditions of the town. This endeavour has the promise of proving highly successful, for much interest is being taken in the exhibition that will be held at Abingdon Park, Northampton, on August 4 and 5 by the Northampton Municipal Horticultural Society. Intending exhibitors should make note of the fact that entries close July 28. The secretary is Mr. J. B. Palmer, 36, Cyril Street, Northampton.

Boating in London Parks.—During the year ended March 31 the total income received in connection with the letting of boats on hire at five of the London County Council's parks was £4,424, of which amount £1,693 was received from Battersea Park, £385 from Dulwich Park, £786 from Finsbury Park, £194 from Southwark Park, and £1,364 from Victoria Park. The total working expenses were £2,614, leaving a surplus of £1,809 as compared with £1,887 in the previous year. After deducting the debt charges and income-tax the year's working shows a net surplus of £1,175.

National Sweet Pea Society's Exhibition.—In our next issue we shall give an illustrated report of the Metropolitan exhibition of the National Sweet Pea Society, held at the Horticultural Hall, Vincent Square, Westminster, on the 23rd inst.

Infestation of the Evergreen Oak.—In May a correspondent of the Board of Agriculture, resident near Guildford, forwarded a bough of evergreen oak the leaves of which were infested by the larvæ of the moth known as Lithocolletis messaniella. It was stated that apparently every evergreen oak in the immediate neighbourhood was affected, and that some of the younger trees had injuries on every leaf. At the time when the leaves were examined, the insect was in many cases still present in its pupal form, but some of the moths had already issued, and were, no doubt, preparing to lay their eggs for a new brood. These small Tineid moths, which are liable to be mistaken for tiny flies, lay their eggs on the underside of the leaves, into which the newly-hatched larvæ bore. The inside of the leaf is mined until, sufficient food having been taken, the caterpillar pupates. There is usually a brood in May, and another in late autumn. Preventive measures are not easy, as the larvæ cannot be reached inside the leaf. The best course is to collect and burn all infested leaves, and to spray the uninfested trees with paraffin emulsion, or a solution of arsenate of lead, the value of which is known in connection with allied moths. The abnormal weather prevalent during May and June appears to have had great influence on this infestation, for so long as the bright, sunny weather of May prevailed, the moths were to be seen in swarms, but the heavy rains and dull weather that succeeded cleared most of them away.

CARDIFF COMING-OF-AGE SHOW.

On July 21 and 22, in good weather, the Cardiff Horticultural Society held its coming of age show in the Sophia Gardens, and the whole affair was a great success. Seven tents were provided, and these were well filled. Cut flowers were particularly good, and one of the largest of the big tents was almost entirely given up to sweet peas and sweet pea decorations, and this was ever the most crowded section of the show. In the group classes there were some good exhibits, but in the plant classes the standard attained was not high. Neither was fruit an especially good section, though vegetables were excellent for the season.

The Cardiff Society gives considerable encouragement to children's efforts, and one tent was filled with pot plants and garden and wild flowers grown or arranged by the youngsters. The cottagers of the district also had a tent to themselves, and displayed some first-rate vegetables and some very fine pot plants, one specimen of Plumbago capensis standing out as a remarkably fine example of cultural skill.

On this auspicious occasion a deputation from the Royal Horticultural Society visited the show, and made awards; this consisted of Sir Trevor Lawrence, Bart. (president), Rev. W. Wilks, M.A. (secretary), Mr. Harry J. Veitch, V.M.H., Mr. Jas. Hudson, V.M.H., and Mr. H. B. May. The awards made by the deputation were greatly appreciated.

After judging was finished, the president of the Cardiff Society, the Marquis of Bute, accompanied by his brother, Lord Ninian Stuart, entertained the R.H.S. deputation, committee, judges, etc., to luncheon, and this function, with its short and effective speeches by leading horticulturists and local celebrities, was a very pleasant one.

GROUPS AND PLANTS.

Although only three groups were arranged in the great group class, each was a good one, and the competition was keen. Messrs. Jas. Cypher and Sons, Cheltenham, secured the leading award of £15, and on their space of 150 square feet they set up a very bold and effective exhibit, in which Lilium longiflorum and L. speciosum album were most effectively used with cattleyas, odontoglossums, and Begonia Gloire de Lorraine. The bold central mound was brightened by crotons and contrasting alocasias. Small crotons, Rex begonias, and Caladium argyrites made up the edging, and lantanas, ixoras, and ferns filled up the valleys between the central and corner mounds. Mr. Macintyre, gardener to Lady Hill, Rookwood, second; and Mr. W. E. Pearce, gardener to Henry Oakley, Esq., Caldicot, Newport, third, both these latter using Humea elegans freely.

In a smaller group glass, Mr. G. Wall, gardener to J. Llewellyn Morgan, Esq., Llandaff, was first prize winner, and in yet another class, for amateurs, Mr. G. Wall was a good first, with Mr. W. Thurston, gardener to Dr. H. Rees, Holmsdale, Penarth, second.

Mr. Macintyre scored for six table plants in the open class, but was second to Mr. W. J. Garner, Hale, Cheshire, in the amateurs' class for six plants.

ROSES AND HARDY FLOWERS.

Mr. H. Drew, Longworth, Berks, led in the class for eighteen tea and noisette roses, with some good flowers of Mrs. Stephen Treseder, Medea, Mrs. E. Mawley, etc.; King's Acre Nursery Co., second; and Mr. J. Mattock, Headington, Oxford, third. The King's Acre Nursery Co. scored for a dozen H.P. roses, one variety, with Fisher Holmes in good form; and they also led for a dozen flowers of a tea rose with Mrs. E. Mawley in very fine condition. Messrs. S. Treseder and Son, Pwlloch Nurseries, Cardiff, led for two dozen roses, distinct, and they had fine specimens of Horace Vernet, Dupuy Jamain, John S. Mill, Mrs. J. Laing, Caroline Testout, and Marchioness of Londonderry; Mr. J. Mattock second, and Mr. H. Drew third.

The president of the Cardiff Chamber of Commerce gave a piece of plate as first prize in a class for a collection of roses, arranged artistically on a space 9ft. by 4ft. 6in., and this was won by Mr. J. Mattock, Headington, Oxford, with a bold and beautiful display of rambling, H.T., and T. roses set up in stands and vases; he used sprays of foliage to great advantage, and made up a delightful and fragrant exhibit; six entries. Second prize fell to Mr. J. Crossling, Penarth; and third to Messrs. S. Treseder and Son, both of whom showed very well; Messrs. Hobbies, Lim., Dereham, fourth.

The King's Acre Nursery Company, Hereford, scored for a dozen trebles, tea roses, their Golden Gate and Mrs. E. Mawley being well shown; Mr. H. Drew was a close second; and Messrs. James Townsend and Sons, Worcester, third. Messrs. S. Treseder and Son led for twelve trebles, and had Frau Karl Druschki, Horace Vernet, and Her Majesty in fine form; King's Acre Nursery Company second, and Mr. H. Drew third.

MESSRS. JAS. CYPHER AND SONS' FIRST PRIZE GROUP AT CARDIFF COMING-OF-AGE SHOW.

Mr. Fred Treseder, chairman of the committee, gave a valuable piece of plate, which was added to the sum of £5 given by the society, to make a first prize in the open class for a collection of hardy flowers, distinct varieties, arranged on a space 15ft. by 4ft. There were four fine displays, and the chief position was secured by Messrs. G. Gibson and Co., Leeming Bar, Bedale, with a very fine exhibit, wherein the delphiniums, poppies, spiræas, Gaillardia Meteor, Lilium elegans, Potentilla Victor Lemoine, Linaria aurea, and some pæonies were the leading features; Messrs. Artindale and Son, Nether Green Nurseries, Sheffield, a good second, with great sheaves of delphiniums, gladioli, liliums, irises, and kniphofias; Messrs. H. and W. Evans, Llanishen, third.

Mr. C. F. Waters, Balcombe, Sussex, was a capital first for a collection of perpetual and Malmaison carnations, and he was followed by Messrs. Bell and Sheldon, Guernsey, and Mr. Wall, Melrose Nursery, Bath. Mr. Waters was first also for border carnations.

Mr. Robert Went, Llandaff, had a grand set of twelve bunches of hardy flowers, and won the silver cup offered by Mr. Reginald Cory with splendid bunches of Lilium speciosum, spiræas, delphiniums, etc.; Mr. A. R. Searle, Castle Ashby, second; and Mr. Febrey, gardener to J. M. Courtis, Esq., Cardiff, third.

SWEET PEAS.

The National Sweet Pea Society's silver medal and piece of plate, offered for the best six vases of sweet peas, amateurs, were won by Mr. Thomas Jones, Bryn Penylan, Ruabon, with six wonderful bunches of Helen Lewis, Etta Dyke, Menie Christie, Mrs. Henry Bell, Othello Spencer, and Elsie Herbert; Mr. J. Taylor, gardener to J. E. Alan Gibbs, Esq., St. Andrews, was placed second; and Mr. Wheeler, gardener to Mrs. Jenner, Wenvoe Castle, Cardiff, third; thirteen entries.

In the open class for nineteen bunches of sweet peas, distinct, the premier place was filled by Mr. Thomas Jones, Ruabon, who had a grand lot of flowers of Olive Bolton, Etta Dyke, Constance Oliver, Helen Lewis, The King, Clara Curtis, Nancy Perkins, Mrs. A. Ireland, and Mrs. H. Bell, etc.; there were seven competitors. Mr. H. Townsend, gardener to H. Pitt, Esq., Abergavenny, came second; and Mr. W. J. Godfrey, Exmouth, was third. Mr. Thomas Jones was also successful in Mr. Sydenham's class for a dozen varieties of sweet peas, and here again he had wonderfully clean and bright flowers, his Helen Lewis being especially fine; Mr. H. Wheeler, second; and Mr. W. T. Shackson, gardener to Mrs. Rees Jones, Porthkerry House, third.

In the Eckford class for twelve bunches of sweet peas, Mr. J. F. Jones, gardener to Lady Horell, Penarth, secured the premier award, and in Messrs. Webb's class for eight varieties Mr. Thomas Jones was once more an outstanding first, with Mr. J. Taylor a good second. In a class for six bunches, open to Glamorgan and Monmouth, Mr. E. Harvey, The Cleaves, Dinas Powis, won the piece of plate offered by Mr. W. Treseder, and he was followed in order by Mr. H. Wheeler and Mr. A. H. Cossom, gardener to R. T. England, Esq., Rumney Court.

FLORAL DESIGNS.

The best table decoration of sweet peas was adjudged to be the one arranged by Mrs. Percy Phillips, Newport, who used cream-pink flowers in elegant fashion; Mr. J. T. Curtis, gardener to Sir Howell Davies, M.P., Down House, Stoke Bishop, Bristol, second with cream and lavender; and Mr. J. Nixon, gardener to Donald Robinson, Esq., Alderley Edge, third.

Mr. Garner led in the open class for a bouquet of roses with a charming design of Abel Chatenay. The same competitor led for a basket of flowers with a gorgeous and elegant arrangement of orchids, and was followed by Mrs. J. Nixon and Mr. P. Thomas.

FRUIT AND VEGETABLES.

There were four competitors in the class for a dinner table laid for dessert for eight persons. Premier award fell to Mr. W. J. Garner, Hale, Cheshire, for a fair display; Mr. W. Hodge, Albany Road, Cardiff, second, with a pretty exhibit in which cattleyas and odontoglossums were used for decorating the fruit; Mrs. J. Nixon, Alderley Edge, third, with a charming decoration of Mrs. Burnett carnations.

Mr. N. German, gardener to E. H. Edwards, Esq., Llandough Castle, was first for white grapes with Muscat of Alexandria, with Mr. J. T. Curtis second. Mr. T. Wilkinson, gardener to G. A. Gibbs, Esq., M.P., Tyntesfield, Flax Bourton, led for six bunches of black and white grapes.

Mr. W. Barnes, gardener to A. F. Walter, Esq., Bearwood, Wokingham, had the best dish of strawberries, showing Givon's Late Prolific. Mr. A. H. Cossom had the best dish of loganberries, and he led for green gooseberries, Dr. Lynn Thomas, Penylan, scoring for red gooseberries. Gooseberries were grandly shown.

The chief vegetable class was for nine distinct kinds, and Mr. E. Beckett, gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree, won the plate, medal, and cash award offered as first prize, with a beautiful set of Leviathan onions, New Red Intermediate Carrots, Snowdrop potatoes, Canadian Wonder beans, Centenary peas, Everyday cucumbers, and Early Giant cauliflowers; Mr. A. R. Searle, gardener to the Marquis of Northampton, Castle Ashby, Northampton, a good second; and Mr. W. T. Shackson, Porthkerry, third.

Messrs. Sutton and Sons, Reading, provided a class for vegetables, and here the awards were made, in order of merit, to Mr. E. Beckett, Mr. Shackson, and Mr. Searle. Messrs. Webb and Sons' prizes fell to Mr. Searle and Mr. Shackson, who were first and second respectively.

NON-COMPETITIVE.

The very fine group of stove and greenhouse plants, and orchids that practically filled one side of a tent was reminiscent of the Temple Show. This was a splendid display of choice material, well grown, and particular well arranged by Messrs James Veitch and Sons, Chelsea. Choice palms, dracænas, bright crotons, and bold alocasias occupied the major portion of the group, with anthuriums, Gerbera Jamesoni, and Kalanchoe flammea lending further colour effect. Overhead were very fine specimens of nepenthes Dr. J. Macfarlane and N. Hookeriana. Cyanophyllum magnificum, Anthurium crystallinum, and Eugenia myriophyllum were other notable plants in this notable display. The other half of this tent was filled by Mr. Wm. Treseder, Cardiff, with an extensive display, that comprised a group of stove and greenhouse plants, a display of roses, a collection of sweet peas, a rock and water garden, a selection of hardy herbaceous flowers, and a big central grouping of floral designs, in which a lighthouse and a yacht were wonderful compositions, but which also contained beautiful baskets of roses, harps, chaplets, wreaths, anchors, etc.

Mr. H. Farmer, gardener to the Marquis of Bute, Cardiff Castle, arranged a large group of plants, and also set up a large display of strawberries, peaches, nectarines, currants, cherries, gooseberries, etc., with a large arch of finely-fruited pot vines of Black Hamburgh and Foster's Seedling, carrying excellent bunches. Messrs. Cross Brothers, Cardiff, brought a useful set of seats, summer-houses, tents, etc., suitable for garden use. Mr. L. R. Russell, Richmond, contributed variegated ivies, and a collection of flowering shrubs, etc., arranged out of doors.

PART OF MR. WM. TRESEDER'S GOLD MEDAL EXHIBIT AT CARDIFF COMING-OF-AGE SHOW.

The King's Acre Nursery Company, Hereford, showed a very fine lot of fruit trees in pots, and their plums, vines, peaches, nectarines, apples, cherries, and gooseberries attracted a great deal of attention. Messrs. James Carter and Co., erected an elegant temple of sweet peas, and under this, around the vases of flowers, they placed a goodly collection of culinary peas. Messrs. Sutton and Sons, Reading, were large exhibitors, and put up a very pleasing display of sweet peas, sweet williams, and stocks, associating with these charming flowers a selection of their culinary peas, tomatoes, carrots, cauliflowers, tomatoes, and a fine lot of melons. Messrs. E. Webb and Sons, Stourbridge, made up a most effective display of their excellent gloxinias, arranged with sweet peas, and trophies of melons and tomatoes, with selections of their choice vegetables beneath.

Messrs. Stark and Son, Great Ryburgh, displayed a bright lot of sweet peas that included excellent bunches of St. George, The Premier, George Stark, Elsie Herbert, and the bright Kitty Clive. Mr. C. W. Breadmore, Winchester, had a large table of sweet peas in excellent condition, and the flowers were well set up, the stands of Mrs. A. Ireland, Clara Curtis, Audrey Crier, George Herbert, Helen Lewis, and Lavender George Herbert standing out finely.

Mr. J. J. Neale, Penarth, put up a very interesting group of droseras, sarracenias, pinguiculas, nepenthes, and other insectivorous plants, and flanked these with banks of odontoglossums, Phalænopsis Rimestadiana, cypripediums, etc. Messrs. J. C. Wheeler and Son, Gloucester, put up a very large and imposing exhibit of sweet peas and perpetual carnations. Mr. Henry Eckford, Wem, Shropshire, was represented by a lot of beautiful sweet peas that included such good things as King Edward VII., Paradise Ivory, Queen Alexandra, Opal, Zarina, Dodwell F. Browne, Evelyn Hemus, Henry Eckford, and John Ingman. Messrs. Blackmore and Langdon, Twerton Hill, Bath, put up a superb display of double tuberous begonias, their plants and flowers of M. Gwillim, H. M. Arderne, Mrs. W. L. Ainslie, Mrs. C. F. Langdon, and Mrs. G. F. Fry being wonderful examples of fine culture. Mr. F. Lilley, Guernsey, displayed a collection of early gladioli. Mr. W. J. Godfrey, Exmouth, brought some good hardy flowers, including some splendid pentstemons. Messrs. Jarman and Co., Chard, showed their delightful sweet sultans and a collection of roses and sweet peas. Mr. Vincent Slade, Taunton, submitted a brilliant set of cut pelargoniums.

Hardy flowers, well-grown, were well set up by Mr. F. Eames, Frome, and Messrs. B. R. Davis and Sons, Yeovil, exhibited cut flowers of excellent tuberous begonias. Messrs. Barr and Sons' pigmy trees attracted a good deal of attention, and they had a grand lot of hardy flowers. Messrs. Young and Co., Hatherley, Cheltenham, set up a bold group of carnations that contained a number of good new seedlings, and a grand vase of Britannia. Mr. H. N. Ellison, West Bromwich, had a good display of elegant ferns, and Mr. N. Lowis, Bridgwater, showed a selection of hardy flowers. Messrs. Dobbie and Co., Rothesay, exhibited a large group of sweet peas, and staged their flowers effectively.

Messrs. Case Brothers, Cardiff, put up a large display of floral designs, that contained a floral piano composed of dyed laurel leaves and white stocks; this, and a floral clock, attracted a good deal of attention, though not much of admiration. Messrs. Wood and Son, Wood Green, London, N., contributed a display of horticultural sundries; and the Newport Pottery Company, Newport, sent useful designs in garden pottery. Mr. P. Thomas, Cardiff, displayed hardy flowers and water lilies well. Messrs. Bakers, Wolverhampton, brought a very large collection of hardy flowers; and Mr. Amos Perry, Enfield, set up fine spikes of delphiniums. Messrs. Garraway and Sons, Bristol, exhibited cut roses. Messrs. J. Peed and Sons, West Norwood, had a bold group of caladiums.

R.H.S. MEDAL AWARDS.

Gold.—To Mr. H. Farmer, gardener to the Marquis of Bute, Cardiff Castle, for a collection of fruit; to Mr. W. Treseder, Cardiff, for a group of plants; to Messrs. James Veitch and Sons, for a group of plants.

Silver Cup.—To Mr. H. Farmer, gardener to the Marquis of Bute, for a group of plants.

Silver-gilt Flora.—To Messrs. Blackmore and Langdon, Bath, for begonias; to Lady Hill, Rookwood, for a group of plants; to Messrs. J. Cypher and Sons, for a group of plants; to Messrs. R. Wallace and Co., Colchester, for hardy flowers.

Silver-gilt Banksian.—To Mr. Thomas Jones, Ruabon, for sweet peas; to Messrs. Gibson and Co., Leeming Bar, Bedale, for hardy flowers; to Mr. F. Eames, for hardy flowers.

Silver Knightian.—To the King's Acre Nursery Company, Hereford, for fruit trees in pots.

Silver Flora.—To Mr. C. W. Breadmore, Winchester, for sweet peas; to J. J. Neale, Esq., Penarth, for orchids and insectivorous plants; to Mr. Henry Eckford, Wem, for sweet peas; to Mr. L. R. Russell, Richmond, for hardy shrubs; to Mr. J. Mattock, Headington, for roses; to Messrs. Dicksons, Chester, for hardy flowers; to Messrs. Dobbie and Co., Rothesay, for sweet peas; and Mr. C. F. Waters, Balcombe, Sussex, for carnations.

Silver Banksian.—To Mr. H. N. Ellison, West Bromwich, for ferns; to Mr. E. E. Hole (cottager), Barry, for vegetables, etc.; to Messrs. H. and W. Evans, Llanishen, for hardy flowers; to Mr. J. Crossby, for roses; to Messrs. Bell and Sheldon, Guernsey, for carnations; to Mr. R. Went, Cardiff, for hardy flowers and ferns.

Bronze Banksian.—These awards went to cottagers and children; to Messrs. W. Mellings, C. Mellings, B. Webbe, and Duffield.

NATIONAL SWEET PEA SOCIETY.

The special award of a gold medal given by this society for the best exhibit of sweet peas in the show was made in favour of Mr. Thomas Jones, Bryn Penylan, Ruabon, for his first-prize nineteen bunches in the open class.

CARDIFF SOCIETY'S AWARDS.

Gold Medal.—To Mr. William Treseder, Cardiff, for group of plants; to Messrs. James Veitch and Sons, Chelsea, for group of plants; to Messrs. R. Wallace and Co., for display of hardy flowers; to Messrs. E. Webb and Sons, for fruit, flowers, and vegetables; to Mr. H. Farmer, gardener to the Marquis of Bute, Cardiff Castle, for plants and fruits; to J. J. Neale, Esq., Penarth, for orchids and insectivorous plants; to King's Acre Nursery Company, Hereford, for pot fruit trees and hardy flowers.

Silver-gilt Medal.—To Messrs. Blackmore and Langdon, Bath, for begonias; to Messrs. Case Brothers, for floral designs; to Messrs. J. Peed and Sons, West Norwood, for caladiums; to Messrs. Dobbie and Co., Rothesay, for sweet peas; to Messrs. H. and E. Evans, Llanishen, for hardy flowers; and to Mr. L. R. Russell, Richmond, for shrubs.

Silver Medal.—To Mr. Henry Eckford, Wem, for sweet peas; to Messrs. Stark and Son, Great Ryburgh, for sweet peas; to Mr. P. Thomas, Albany Road, Cardiff, for hardy flowers; to Messrs. Sutton and Sons, Reading, for flowers, fruits, and vegetables; to Messrs. Artindale and Son, Sheffield, for violas; and to Messrs. Bakers, Wolverhampton, for hardy flowers.

SYRINGA JAPONICA.

This species of syringa is sometimes referred to as the "Tree Lilac," for under favourable conditions it assumes tree-like proportions. It is a native of Japan, and differs considerably from any other syringa, the inflorescence and flowers reminding one more of those of a privet than a lilac. On free-growing examples the leaves are large, six inches or so long, and wide in proportion, and more or less oval in shape. The inflorescences are in the form of large panicles, four to six inches long and as much through, the individual flowers being small and cream coloured. Flowers are borne with remarkable freedom, and as the flowering time is the end of June and early July, it is a period when they are welcome on account of good flowering shrubs and trees being scarce. As is the case with other lilacs, this one grows most satisfactorily in good loamy soil. To assist it to assume a tree-like habit it is necessary to tie up the leading shoots occasionally when young, and remove, or cut in the side branches. If this is not done there is a tendency to develop a bushy head instead of trunk. As is the case with the other lilacs, it is a good plan to remove the old flower heads as soon as the flowers fade.

D.

AMONG THE ALPINE FLOWERS.

Amid the glories of the summer garden, when roses are not yet past the zenith of their beauty, and border flowers, from the lily to the old border plant which has been handed down to us for generations, the alpine flowers seem modest and quiet indeed. They do not possess the size or the exquisite form of the rose as we know it now, and their modest stature seems mean when compared with the stateliness of many of the border flowers. Yet they have their beauties, and we cannot well overlook these flowers even amid the thousand and one distractions caused by their sisters owning more opulent charms. Let us then glance at these alpine flowers of high summertide, and see if there is aught which can be told regarding them.

Onosma taurica.

The golden drop, Onosma taurica, is not surpassed by any of its congeners in beauty or in serviceableness, although we have a lingering liking for the exquisite O. albo-rosea, which, however, is not so long lived as the older favourite, of which we desire to speak. Given certain conditions, not difficult to secure, O. taurica will give plenty of its drooping, almond-scented yellow flowers, hanging in clusters in the most elegant way. They remind one of some massive golden ear-drop of olden times, and are the admired of all observers who see a good plant full of flower. The foliage is somewhat of a contrast to the smooth and pretty flowers, so rough is it, but yet the two go well together, and a fine plant in a conspicuous position is exquisite and bright in its formation and its coloration. Some find it difficult to keep, especially in wet districts where the winter rainfall is unusually heavy, but the slight precaution of placing a sheet of glass some five or six inches above the plant, to throw off the winter rains, is all that is required to save it from injury. Then, to show it well, it ought to be planted on a little flat on the rockery, and so set that it can trail over the front to show its golden flowers. Poor soil is helpful to it; and also full exposure to the sun should be afforded this onosma. It is easily propagated by taking off cuttings with a heel and inserting them round the sides of a flower pot surfaced with sand well watered in, and placed under glass.

Sedum Aizoon.

It is a mistake to have all the flowers in the rock garden of the same character, and, in addition to the dwarfer sedums or stonecrops, we ought always to keep in remembrance the value of some of the erect-growing species, few of which require any extraneous support in the way of staking. Looking over the rock garden to-day I am reminded of the fact that the old Sedum Aizoon is hardly ever referred to by writers of the present day, although it is a flower which is worth possessing either in the rock garden or in the flower border. It is of erect habit, as already indicated, and is about a foot or a little more in height, sending up from one crown several smooth stems of pretty succulent leaves, each stalk bearing a head of yellow flowers, with every bloom half an inch or less in diameter, and, as a whole, looking well, the harmony between the leaves and the flowers being complete. It takes nothing from the value of Sedum Aizoon to say that it gives no trouble, as it is not a rampant plant in any way. It was introduced from Siberia as far back as 1757, and has all these years retained a position in gardens of a certain class. Although not much seen now under name, it is worth remembering by those who like flowers of its class.

Veronica Lindsayi.

Shrubby veronicas have indeed been a boon to the rock gardens of our land, and there is no limit to the possibilities of this race of flowers in the future. They hybridise so freely, and also vary to some extent from seeds, so that every now and again we have some new form being brought before the flower-loving public. There are very many good evergreen shrubs among them which we can associate with our alpine flowers, and help to clothe our rockeries, and aid in making them free from barrenness of interest at any season of the year. Many of them bloom freely, and among these I do not know any which is more pleasing with me than Veronica Lindsayi, which owes its origin to the love of these shrubs held by Mr. Robert Lindsay, Edinburgh. This hybrid is worthily named after its raiser, and I find it one of the most satisfactory, and one of the hardiest I have here. On the rock garden it is very fine as this is written. One example, fully exposed to the sun and wind, is about a foot and a-half high, and about three feet across. It is practically covered at present with heads of small, pleasing pink flowers, and is admired by all who look upon it in its present condition. It is absolutely hardy here, and gives me no trouble whatever.

Other Flowers of the Time.

The pretty calceolarias called polyrhiza and plantaginea are yet in bloom, and close by a few of the golden blooms of Lithospermum canescens, which contrast well with the deep purple blue of L. prostratum and L. purpureo-caeruleum, both good growers here. Nestling under the Yellow-barked Dogwood is Viola elatior, with soft flowers of delicate blue. Elsewhere Viola Rydbergi and V. cucullata striata, with others of the race, are yet in flower. Erodiums and geraniums, helianthemums and cistuses, in much variety, are bright indeed; while pinks in several species, and a number of varieties, are yet in bloom, some of the single forms of Dianthus plumarius being magnificent with their sheets of colour. Ericas are lovely on the rockwork in white and pink, and crimson and purple. Then there are yet a few saxifrages, and it is the time for the reign of the stonecrops, which brighten many a place on the rockeries with their blossoms of various colour. Many other alpines there are yet in flower to show that they may have their innings even among the glowing and gorgeous show of the summer border flowers.

S. Arnott.

TWO GOOD ROSES.

Although there are new roses of exquisite form and colour introduced every year by various firms, some of the old favourites well maintain their position. I have rarely seen the variety Mrs. John Laing in better form than it was at the Finchley show held there on July 8. A bowl of roses was a conspicuous feature, the variety being Mrs. John Laing. There were about four dozen blooms, on long stems; the flowers were large, and not a petal was damaged. In the districts of Finchley and Barnet some grand roses are grown, the heavy soil suiting them well. At Holland Park Show and other exhibitions, both Mrs John Laing and Ulrich Brunner were well staged, but the latter variety was to be seen in greatest perfection at the Hanley Park Show held on July 7 and 8. Magnificent specimens were staged, of great size, grand form, and exquisite colour. Both varieties are among the best for growing as garden roses, as well as for exhibition.

G. B.

SOLANUM ETUBEROSUM.

Last year, it will be remembered that reports were given on certain results obtained by Messrs. Sutton, of Reading, from seed of this species of tuber-bearing solanum, or potato, which tended to encourage the hope that at last a really disease-proof, or, at any rate, disease-resisting, potato had been discovered. This year we have pleasure in announcing that subsequent experiments so far confirm this expectation, inasmuch as they establish the existence of a practically new strain, which is entirely independent of that susceptibility to the disease which would probably be inherited by a cross with the potato of commerce. The origin of S. etuberosum is, unfortunately, unknown, since no record of such can be found at the Edinburgh Botanic Gardens, whence the tubers were sent to Messrs. Sutton some twenty odd years ago. Since their receipt they have been continuously grown at Reading, with the result that the tubers, originally very small, increased in size to moderate commercial dimensions, and resembled the ordinary potato in all respects save that they were somewhat waxy when cooked.

For nineteen years no berries appear to have been formed, and seminal cultivation could not, therefore, be effected; in 1906, however, a single berry was noticed, and when the seeds from this were sown, some twenty plants being obtained, the remarkable result was precisely such a varied brood as the commercial potato produces from its seed, no two being alike, either in foliage or tuber, while in some of the plants the tubers fully equalled good commercial potatoes in size and quality. Naturally, this led to the idea that the said berry was the result of a cross with some of the common potatoes in the vicinity, in which case, of course, the susceptibility to disease would probably be inherited, and thus discount the fact that S. etuberosum itself had not shown a trace of infection for all the time it had been grown, though associated every season with varieties of the ordinary potato, which had frequently suffered.

To test this material point, therefore, Mr. Arthur Sutton obtained more berries, some self-fertilised by himself, and others self-fertilised by the Rev. A. Paton, quite independently, cross-fertilisation being carefully guarded against by both operators, and other berries were obtained from flowers that were cross-fertilised with the common potato for comparison. The result has fully confirmed Mr. Sutton's belief that the original berry was pure-bred, since the demonstrably pure-bred seeds have produced precisely similar broods of variable plants as constituted the original batch, and the cross-bred seeds have yielded identical results, the net outcome being that pure-bred offspring of S. etuberosum, which has resisted disease for over twenty years, have furnished a strain as variable, and therefore as amenable to selection and improvement, as the common potato.

The assumption that, after all, S. etuberosum might have been a form of the cultivated potato accidentally introduced as a pure and unsophisticated species, appears a reasonable one on the surface, in view of its seminal results, but as against this it is necessary to state that S. etuberosum, named, botanically, as a non-tuberous solanum, has much hairier foliage of a different make to any known cultivated potato, it had very small tubers when first grown, and, quite possibly, as a wild plant, these would be so small as to mislead the botanist who named it; furthermore, its berries are distinctly spotted with white, while those of the cultivated potato show no signs of this; its pollen grains, too, are purely elliptical, a peculiarity of wild species, those of the ordinary potato being very irregular in shape. Finally, we have its persistent resistance to disease as a further differentiating character. Despite therefore its production of such variable offspring, and their resemblance to those of the commercial potato, it is difficult to accept it as really the original progenitor of that tuber which botanists and specialists have sought for so long. That question still remains in abeyance, but hardly that of obtaining a potato which shall really be immune from the disease.

Chas. T. Druery, V.M.H., F.L.S.

SUMMER QUARTERS FOR GREENHOUSE AND STOVE PLANTS.

A number of kinds, known respectively as greenhouse and stove plants, are much benefited by passing a couple of months in the open air during the summer. This treatment naturally hardens their constitution, while the growth made is hard and firm, and well calculated to withstand the unfavourable conditions and comparative absence of light which prevails during the dull season. A matter of much importance is to select a suitable site, which, in addition to being partially shaded, should be well protected from the wind; exposure to south-westerly gales would ruin many subjects, including palms and tree ferns, and in consequence we must seek the friendly shelter of garden walls or shrubberies. Strict attention must be paid to watering, and this work will be reduced to a minimum if the pots are plunged to the rim in coal ashes or cocoanut fibre.

The middle of July is a good time to place the plants in the open for our purpose, and they may be housed any time during September. Amongst palms which may be treated in this manner are Seaforthia elegans, Phœnix reclinata, P. spinosa, and P. dactylifera, Livistona chinensis, Erythræa armata, Chamærops humilis, and Trachycarpus excelsus. Crinums luxuriate in the open, and seem to escape the raids of insect pests when thus placed. C. capense, C. giganteum, C. Moorei, and C. scabrum all benefit considerably by a summer holiday, preferably under the shade of a large tree.

The same applies to many of the more robust ferns, which will stand room treatment with impunity after exposure for a few weeks. Pteris tremula and a number of other kinds, Asplenium bulbiferum, and the gleichenias may be cited as examples. The tecomas are very erratic in their behaviour, from a flowering point of view, when grown entirely under glass, but if grown much in the same way as chrysanthemums, with single stems, and placed outside for two or three months in summer, they may be relied upon, or, at any rate, a large percentage, to bloom when housed in autumn. Succulents enjoy a roasting, and may well be employed in sunny positions as bedders, being arranged upon mounds, the ground being carpeted with Mesembryanthemum cordifolium variegatum, Alternanthera magnifica, and aurea, Mentha Requieni, golden creeping jenny, etc.

Himalayan rhododendrons should be placed outside in a partially shaded and sheltered position early in June, and the middle of October is quite soon enough to house them. It has been found that many orchids receive direct benefit when suspended from trees in the open for a few weeks, and, with respect to tree ferns, there will be no difficulty in finding sheltered nooks for them. It is superfluous to say that they add beauty and grace to the garden, and, further, it may be explained that growth comes to an end late in summer in the open, while, on the other hand, young fronds are produced under glass (when the plants are not summered in the open) quite late in the autumn, which have no chance to mature.

Everyone knows who boasts a garden that Indian azaleas, camellias, heaths, and ericas, eugenias, pimeleas, and quite a number of Cape bulbous plants, are stood outside upon coal ashes from June onwards. This is rational treatment, and nothing but good can accrue from it, provided due attention is paid to watering and cleanliness.

Walter H. Aggett.

TRACKING AND DESTROYING WASPS.

Grapes, peaches, nectarines, apples, pears, and plums are destroyed wholesale by wasps during some seasons, where ample protection is not given them after the ripening process has commenced. There were many queen wasps about last spring, but whether there will be hosts of nests I cannot as yet say. I know that in many seasons, when wasps seemed scarce up to the end of July, and one congratulated oneself on being able to gather the ripe fruits without covering them with netting, disappointment followed, as the wasps suddenly appeared in large numbers. They may do so this year. Every nest should be destroyed. I have had as many as two hundred nests destroyed within a radius of half a mile of the garden. Some nests were found accidentally, but the great majority were located by tracking the wasps to them.

For the benefit of the inexperienced I will explain my method of tracking, which, though not a new one, is very effective. From the boundary of the garden the wasps are watched in their flight to the point where they disappear, then I followed, and waited a few moments for more, tracking them in like manner, until they entered their nest, when I marked the latter with a stick and a piece of white cardboard. Sometimes several nests were located close together. In the evening, about nine o'clock, all the marked nests were visited and destroyed. There are three ways of effecting the destruction of the wasps. The oldest one that I know of is to use damp gunpowder and flowers of sulphur, with a small portion of dry powder at one end of the squib made. When lighted the damp powder emits a volume of smoke, and the dry pinch explodes, and sends home the smoke and sulphur fumes; then the hole is blocked with a lump of turf.

The other method that I like very much is to roll up some pieces of old calico cloth, forming rolls as large as one's finger, and then soak them in turpentine. The saturated rolls of cloth are simple placed [illegible] down the hole, and the latter is blocked with turf. At the end of half an hour all the wasps will be dead, or sufficiently helpless, as to be easily dug out if the grubs are wanted for any purpose.

A very small quantity of cyanide of potassium placed in the mouth of the hole will kill all wasps as they pass in and out, but this chemical is a deadly poison, and requires the greatest care.

Geo. Garner

ERYNGIUM NOTES.

Of the many notable groups of ornamental perennials, the Eryngiums or Sea Hollies, are deserving of widespread culture in view of the distinct effects they create when grouped in the garden.

The glories of these beautifully formed and coloured umbellifers certainly show to the fullest advantage when they are grouped with the usual subjects in the herbaceous borders. The effect of the masses of blue and silver gleaming with a metallic sheen under the influence of the summer sun, is eminently pleasing, and the curious tones of colour exhibited, contrast delightfully with the mingled hues and gay colourings of the July-August flowering perennials.

The shining blue of E. amethystinum and E. Oliverianum, is, perhaps, the most effective en masse of the whole group. But the entire family is abounding in interest and charm. From the dwarfish silvery native E. maritimum, which occurs at so many places round the coast, to the tall evergreen foliaged E. pandanifolia, which makes so bold a group in sheltered places, with its effective foliage and giant waving flower-spikes, one may note many sterling plants for garden decoration.

E. alpinum is one of the very best of the whole family. With its elegant leafage and exquisitely formed flowers, of a delightful blue-green shade, it provides a telling group in the borders. The Ivory Thistle (E. giganteum) is an ornamental silvery-white species of great merit. It possesses a dwarf, compact habit of growth, which renders it of value for any garden. E. amethystinum, which does not always appear in gardens (inferior forms being sometimes substituted for it) is a glorious glistening blue; it grows about three feet high, and is very effective, and should become even more popular as times goes on.

Taller and more robust than the last-named is E. Oliverianum, which, with its variety, superbum, constitutes a most useful subject for border planting, shrubbery groupings, or the wild garden. E. triquetrum is later than the majority in attaining its full beauty. It is of lighter growth, and attains a height of two and a-half feet. Its blending of blue and silver in the stems and flowers is very striking. E. spina alba is a silvery spinose form, not generally in cultivation, but it will well repay the attention necessary to ensure its full development. One does not dislike the effect produced by E. planum and E. dichotomum. The latter has bluish stems and blossoms and branching habit, while E. planum, with its bronzy stems and small bright blue flower-heads, is very pleasing. Varieties of E. planum include album, a greyish-white, and floribundum, an improvement on the type. One would briefly note the bright distinct steely blue of E. Bourgati, a very effective gem.

A well-manured, deeply-dug loamy soil, inclining to heaviness, seems to suit the majority of the eryngiums to perfection, though for E. maritimum a more sandy medium seems desirable. They are readily raised from seed sown in April and early in May in a cold frame, and plants obtained thus are of suitable size for transferring to the borders in the autumn.

Division of old roots is often resorted to for increase of stock, but this method is somewhat slow on account of the time taken for established plants to admit of division to any extent.

It will be borne in mind that eryngiums are useful for supplying material for indoor decoration during the dull months. The flowering stems are cut just as they reach the zenith of their beauty, and are hung head downwards in a cool, dry place that is free from dust. Treated thus, they will gradually dry, so as to retain the colouring, which is so desirable a feature of the group, and will be found useful for filling large vases, etc., for winter decoration.

P. S. Hayward.

A FINE CROP OF HARDY FRUITS.

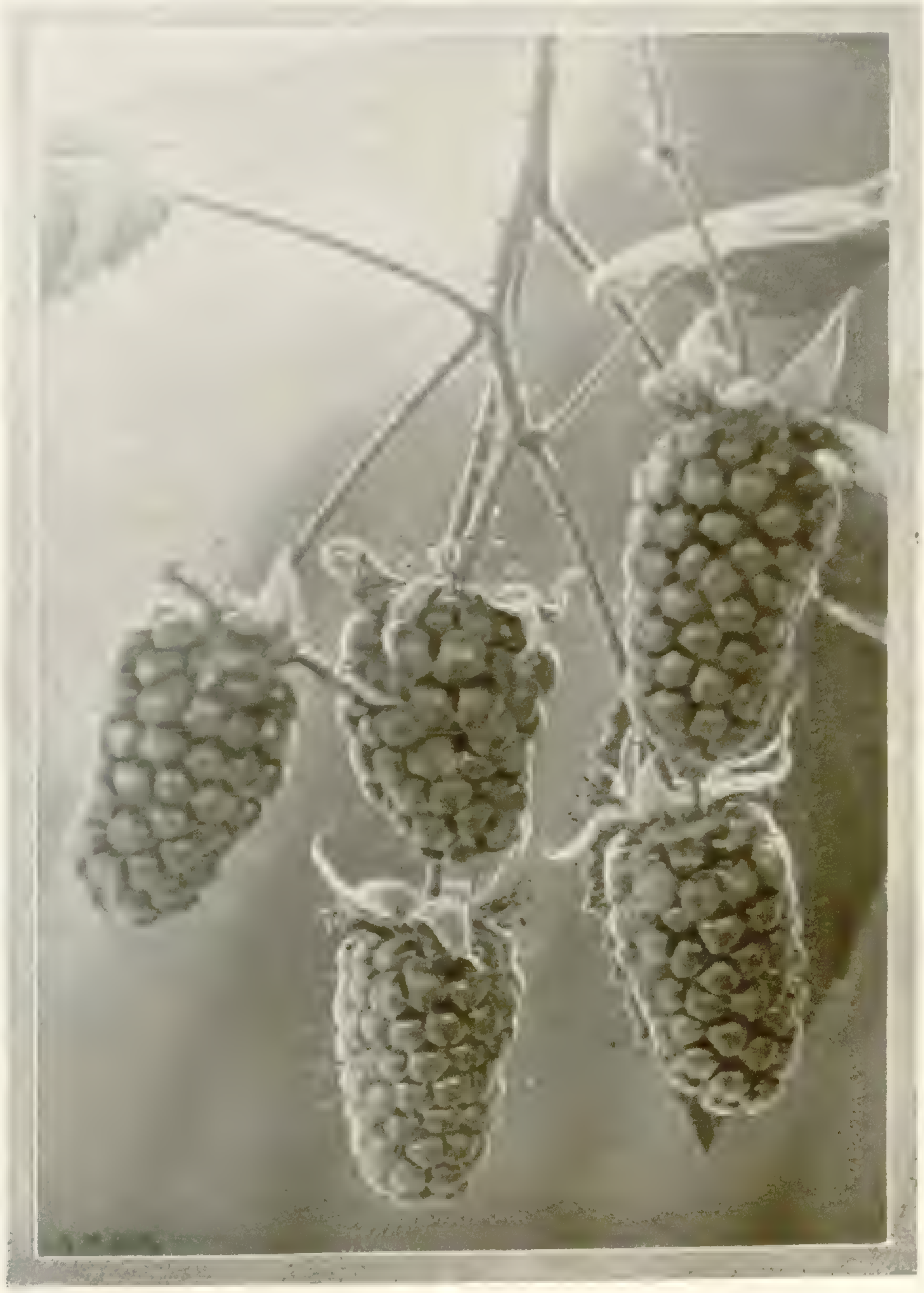
Apples, pears, plums, and cherries, also bush fruits, are growing and fruiting most satisfactorily in the garden of Mr. G. H. Rolls, J.P., Arcadia, Bournemouth. The trees have only been planted about two years, and are growing in a mixture of sand, shingle, and a thin crust of soil, not at all a rich rooting medium. In fact, the ground was previously occupied by fir trees, heather, and ferns, and forms now a part of a fir tree wood, or plantation.

I saw these trees a few days since, and was greatly surprised to see such excellent crops and promising growth. The shoots are clean and healthy, and short-jointed. I said to Mr. Jones, the able head gardener, "You will not be bothered with the work of root-pruning here." "No," he replied, "they cannot get away far." John Downie crab is doing very well in these gardens; fine, healthy bushes are planted in the shrubberies, as well as in the orchard, and all of them are laden with fruits. In the autumn, when ripe, they rival the flowers for beauty of colour and attractiveness.

Geo. Garner.

A NEW LOGANBERRY.

The loganberry, which we received from America some years since, has proved so useful in the augmentation of the supply of soft fruits during the summer months that a new and distinct variety can hardly fail to prove of much value, or to receive a hearty welcome from growers generally. The loganberry, when grown under favourable conditions—and these are not difficult to provide—is highly productive, and the fruits, while suitable for dessert, are especially valuable in the culinary art, more especially for bottling and the making of preserves.



NEW LOGANBERRY, PHENOMENAL.

Raised by Messrs. Stuart Low and Co., and remarkable for its rich raspberry flavour.

The flavour of the fruits of the loganberry is rich, but not equal to that of the raspberry in its highest state of development; yet the fruits are preferred by some because of the seeds being less numerous and softer than are those of the raspberry. The new variety, Phenomenal, which has been raised by Messrs. Stuart Low and Co., Bush Hill Park Nurseries, Enfield, possesses all the characteristics of the type, with the added value of a rich raspberry flavour. The fruits will therefore be available for all the purposes for which raspberries are used, a fact that will not fail to be appreciated by those to whom the hard seeds of the raspberry are objectionable.

The illustration given herewith shows the fruits somewhat below the full size, and it is therefore a point of some importance to mention that they are quite as large as those of the loganberry.

SPRING CABBAGES.

There is probably no vegetable more popular, more wholesome, or more easily cultivated than cabbages available for use during the spring months. Cabbages will succeed in almost any climate, and on any kind of soil, and by selecting suitable varieties, and making various sowings throughout the year, little difficulty will be found in providing a good and continuous supply throughout the twelve months. There is little doubt that cabbages available for use in spring obtain most favour, as they come into use when many of the other vegetables are somewhat scarce, and few people fail to appreciate them when nicely cooked.

Like many other kinds of vegetables, a great improvement in the matter of varieties has been made during recent years, and the newer forms quite supersede many of the old standard varieties, but which, for some reason, are still grown by a few. Every year without exception numerous complaints reach me from various parts of the country with regard to the crops, or a great proportion of them, prematurely running to flower instead of forming hearts. After many years' experience I have come to the conclusion that there are three chief causes for this. The first and most important being selection of bad stocks or varieties; secondly, sowing the seed too early; and, thirdly, a severe check either from bad weather or other causes.

Seed Sowing.

Two sowings at least should always be made, one immediately after the 20th of the present month, and the second, which is the most important, from the beginning to the end of the third week in August. A piece of open ground should be selected that has not been recently manured. This should be broken down very finely, and given a good dressing of fresh soot; sow the seed broadcast, evenly and thinly, over the bed. If the weather is dry give a good watering, and also net securely against birds. The plants should be put into their permanent quarters immediately they are a fair size, and before they become drawn through overcrowding.

Site for Permanent Bed.

I have always practised, and found it to be a capital plan, to let the spring cabbages follow onions, and it generally happens the crop is ready for clearing about the same time as the plants are ready, and nothing is more suitable as a rotation crop. If the ground has been previously trenched for onions, as it should have been, heavy manuring and deep digging will suffice. The ground should again receive a good dressing of soot, the plants should be put out one foot apart from plant to plant, and from eighteen to twenty-four inches, according to the variety, should be allowed between the rows. Plant very firmly, and place a few finely-sifted cinder ashes round each plant. Frequent hoeings should be practised, and any failures made good with plants from the seed bed. Later on in the autumn the plants should be well moulded up, much in the same way as potatoes, pulling the soil well round the heart to protect them against frost. This is all the attention that will be required till early in the spring, when frequent hoeings and slight dressings of some approved artificial fertiliser should be applied to promote quick growth

Any spare plants should be pricked out thinly in a sheltered position, in a skeleton frame for choice, where they can receive some slight protection in case of severe frosts and heavy snowfalls. It is also a capital plan to make a small bed on a south border of some small, quick-maturing variety for very early supplies.

Varieties.

Probably the finest introduction, and the forerunner of many other varieties now largely grown, was Ellam's Early, and, in my opinion, when a true stock is secured there are few to surpass, or even equal it. It combines all the good attributes in relation to a good cabbage. It seldom bolts in the spring, matures quickly, takes up but little room, has a fine appearance, and, above all, the quality is unsurpassed. Sutton's April and Flower of Spring are also of much merit; the last-named is rather later, considerably larger, and a splendid market variety.

E. Beckett, V.M.H.
Aldenham House Gardens.

NOTES FROM KEW.

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Xeronema Moorei.

This rare, singular, and beautiful plant is now in flower in the cool portion of the T range. It is a member of the order Liliaceæ, and from a thickened rootstock produces a tuft of sheathing sword-shaped leaves, from the centre of which the flower spike is produced. The general character of the foliage suggests at once an iris of some kind, but the inflorescence is totally unlike that of any other cultivated plant. The flower spike reaches a height of eighteen inches to two feet, but it is only on the upper portion that the flowers are produced. This portion stands almost at right angles to the main part of the stem, and is therefore nearly horizontal. The flowers, which are crowded along this portion, all point upwards, thus imparting to the raceme a very singular appearance. Individually, the flowers are about an inch long, have an erect, brilliant crimson tube, from the centre of which the stamens protrude fully half an inch beyond the mouth. The general appearance of the inflorescence suggests a large, brilliantly coloured tooth brush. This species is a native of the South Sea Islands, from whence it was introduced, or, according to "Hortus Veitchi," reintroduced, by the late John Gould Veitch. It was awarded a First Class Certificate by the Royal Horticultural Society in 1878, and was distributed by Messrs. J. Veitch and Sons in 1889.

Hæmanthus Katherinæ.

Unfortunately, some of the most beautiful kinds of hæmanthus are not very amenable to cultivation, a feature, however, which cannot be urged against this species, as, with care, it grows and flowers freely, and, as may now be seen in the T range, it is when in bloom really gorgeous. The scarlet flowers are borne in a globular head on a sturdy stem eighteen inches or so in height. The prominent anthers also form a notable feature of the inflorescence. This species needs liberal treatment as to soil, heat, and moisture, when growing, but when the flowers expand they last better in a cooler structure.

Littonia modesta.

This is an exceedingly pretty liliaceous plant, native of South Africa, from whence it was introduced in 1853. It has peculiar bifurcated tubers, which suggest those of that well-known tropical climber Gloriosa superba, to which, indeed, it is nearly allied. This littonia is also of climbing habit, reaching a height of six feet or thereabouts. The bright shining green leaves are each terminated by a tendril, with which it holds on to any support and thus mounts upwards. The flowers, borne singly in the axils of the leaves, are bell-shaped, drooping, and of a rich orange colour. This pretty and uncommon climber is now flowering freely in the T range.

Sandersonia aurantiaca.

A near ally of the preceding, but it does not grow so tall, and the leaves are without tendrils. The flowers are borne singly on long, slender stalks, from the axils of the leaves on the upper parts of the shoots, are broadly urn-shaped, nearly an inch in diameter, and of a bright orange colour. Though not very thick in substance, they remain fresh for some time. Also in flower in the T range. Both the littonia and the sandersonia pass the winter in a dormant state, when they should be kept quite dry. Then, in February or March, they must be shaken quite clear of the old soil, and be repotted in a mixture of loam, leaf-mould, and sand. Watered sparingly, they soon start into growth, and as the shoots lengthen more water must be given.

Aphelandra squarrosa Louisæ.

This is a very distinct aphelandra, and so beautiful that it well merits a place among the most select members of the genus. Like all the others, it forms an upright-growing specimen, clothed with oppositely-arranged leaves, and terminated by a spike of blossoms. In this form the flowers and their attendant bracts are of a clear yellow colour, while the leaves are particularly handsome. They are narrower than in many of the others, being about six inches long, and 1½ inches in width. The ground colour is a dark green, while the course of the midrib and principal veins is white.

Crotolaria capensis.

This greenhouse shrub was introduced from South Africa in 1774, and is flowering freely in the cool portion of the T range, and it well merits notice. It bears a certain amount of resemblance to the hardy Bladder Senna (Colutea arborescens). The leaves are trifoliate, and the flowers, borne in terminal drooping racemes, are bright yellow when fully expanded, but in an undeveloped state are freely tinged with green. It is of easy culture, and a succession of flowers is kept up for some time.

Dimorphotheca aurantiaca.

A bed of this comparatively new annual forms a very striking feature in the herbaceous ground. It reaches a height of about fifteen inches, and the entire bed is quite a mass of its orange-apricot coloured flowers. The dark-tinted disc stands out in a very conspicuous manner.

K.

Mimulus cupreus.—Among the most desirable hardy plants for producing an effective margin to a water pool few are worthy of greater prominence than Mimulus cupreus and the variety Brilliant. Their growth is most luxuriant in a wet place, and provided they receive plenty of sun, their flowering season extends over several months, beginning about the end of May and lasting until the early autumn frosts. Brilliant is the more vigorous of the two, carrying large crimson flowers on stems varying in height from 12 to 15 inches. Cupreus has slightly smaller flowers, [illegible] a most effective shade of coppery [illegible] red; both plants are vigorous growers and soon cover yards of ground where the conditions favour their development. I have known these dwarf mimulus employed as carpeting subjects for roses, and if some care is exercised to prevent overcrowding, there is nothing to prevent their culture being extended in this direction, with the happiest results.—Thomas Smith.

PREPARING STRAWBERRY PLANTS FOR FORCING.

Where a large quantity of strawberry plants have to be grown for forcing, it is necessary to obtain strong runners as early in the season as possible. There are various ways of doing this, but the most simple mode that I am acquainted with is to select an open piece of ground, and, after liberally manuring the same, dig it over and allow the soil to settle down. When the requisite number of plants that were layered into small pots have been shifted into their fruiting pots, plant the remainder in rows on the piece of ground that was previously prepared for them. The rows should be at least three feet apart, but the plants in the rows need not be more than nine inches from each other in the row. By planting early they have time to become well established by autumn, and will be ready to start into growth early in the spring.

The object of having the rows three feet apart is to allow of the pots, when the runners are layered, having ample room. Early in spring the soil round the plants should have a dressing of artificial manure to stimulate growth, and the soil between the rows forked over to encourage root action. All flower spikes should be removed as soon as they appear, as this will encourage the production of runners, and, as soon as these are large enough, they should be layered into pots. By adopting this practice, there is no fear of the runners being trampled on, or the varieties being mixed should more than one variety be grown. Take all runners that are produced from the first two rows into the three-feet space between them, leaving the next space free to walk up and down when watering and otherwise attending to the runners. The third space should be again occupied with the runners, and so on through the plot.

When layering there is no necessity to put any crocks in the bottom of the pots; in fact, they are far better without them. The soil used should be of a light rich nature, and the pots ought to be filled with this to their rim. When layering it is a good plan to plunge the pots in the ground, as this will keep them in an upright position, and save much labour in watering should the weather be hot and dry. It is astonishing how quickly the pots become filled with roots when the soil is kept well moistened.

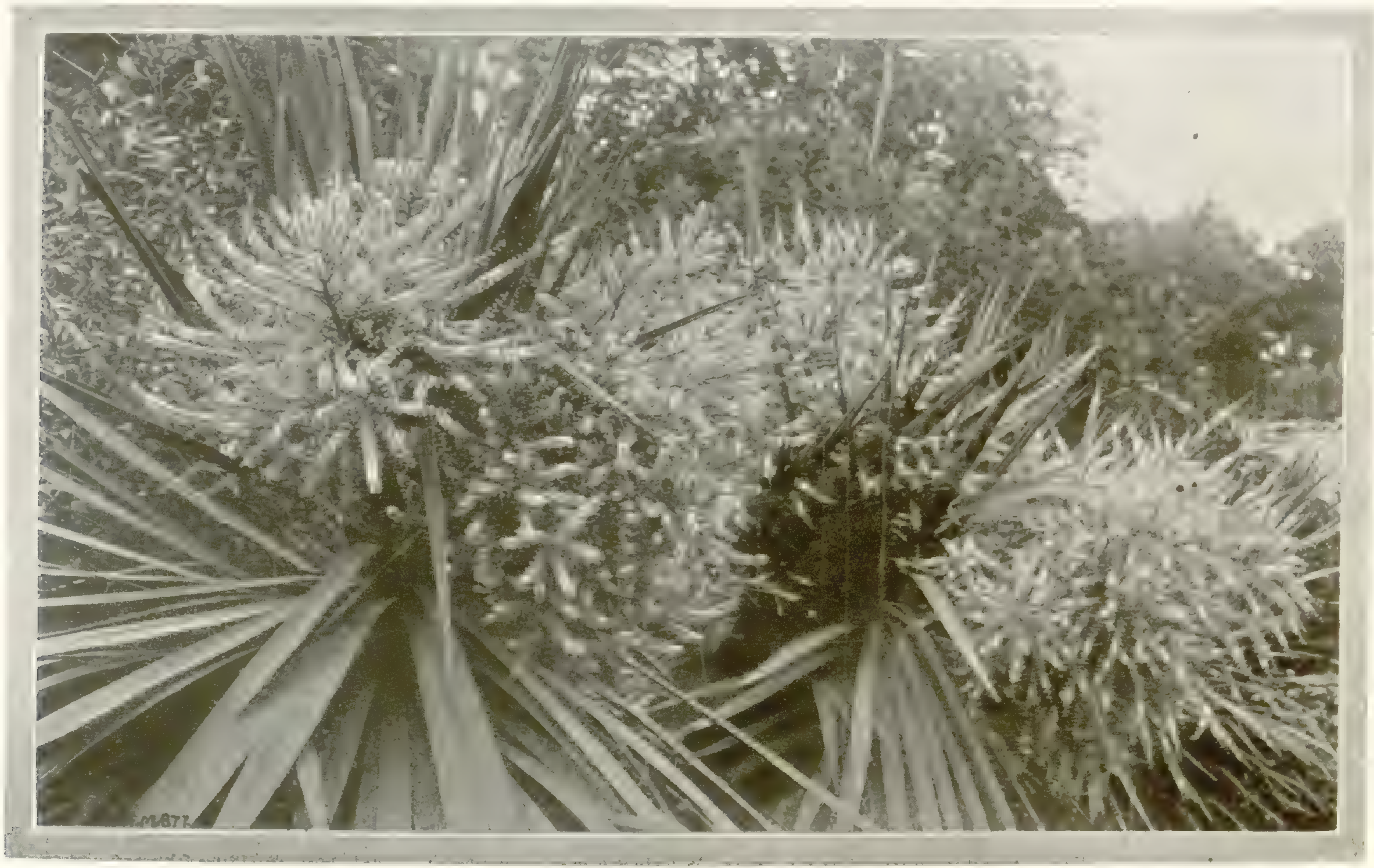
Where ripe strawberries are required early in the year, and a constant supply has to be maintained from that time onward until fruit is ready to gather from the open beds, a large number of plants is needed, and to have the crowns of the first batch of plants well ripened it is essential they be potted up early. In some places it is the practice to keep the plants that were layered in pots the previous summer through the winter in cold frames, and then shift them into their fruiting pots the following July. By adopting this method no doubt fine plants are produced, but it entails much labour in watering while the plants are in small pots, and frequently the crowns split, so that, instead of having one large well-developed crown, there is two or three smaller ones.

I have usually found that runners from young plants are quite early enough, and if these receive due attention in the way of potting and watering, will develop more rapidly than the older plants.

Potting is an operation that requires due care. I have known some people recommend putting a handful of soot over the crocks at the bottom of the pots, others adding so much artificial manure to the soil, but I prefer having the plants well established before any stimulants are given them. If they are put into their fruiting pots in good time, and a rich compost, consisting of good turfy loam, old mushroom bed, or the like, to which a liberal sprinkling of lime rubble has been added, root action will be free enough, but as soon as the roots have reached the bottom of the pots, then will be the time to commence assisting them. When potted they should be stood in an open sunny position on a bed of ashes or gravel. Should worms be troublesome give a sprinkling of soot over the place where the pots are to be stood. The ammonia from this will act as a stimulant to the plants as well as a deterrent to the worms, and in a short time the leaves will cover the pots. For very early forcing they should be rested artificially—that is, where they have to be introduced into the forcing house in December or early in January, sometimes there has not been sufficient frost to arrest their growth. Therefore those that are intended to fruit in February or March should have their crowns ripened by withholding water in November. If they are turned on their sides to the north, the growth will be checked considerably, so that when introduced into heat they will respond more readily to such treatment than plants that have not had a check. There is no difficulty in inducing plants that have been checked by frost starting again freely, but care must be taken not to hurry them too much in their early stages or the flowers will not be thoroughly developed. Some varieties are much easier excited into growth than others, therefore those only should be employed for very early forcing. With us Scarlet Queen does well, but where fruit has to be packed to send to a distance, varieties of the Royal Sovereign type are preferable, as the fruit grows larger, therefore takes up less time in packing.

H. C. Prinsep.

Buxted Park Gardens.



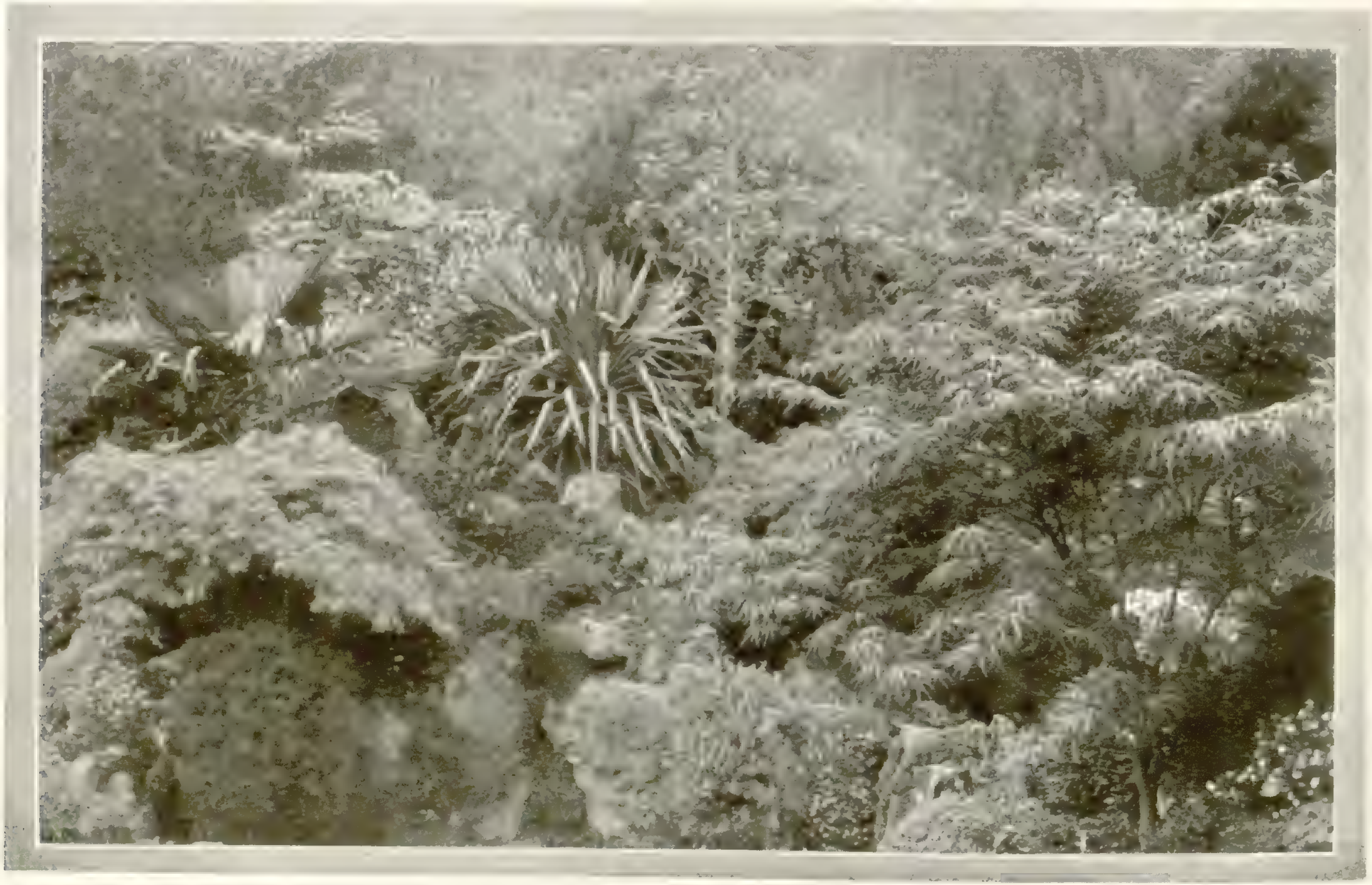
[Photo: S. W. Fitzherbert.

A FLOWERING SPECIMEN OF DRACÆNA AUSTRALIS AT ABBOTSBURY CASTLE.

Peas.—These appear, though late, to be doing exceptionally well this year, and are in many cases growing above their usual height, consequently needing extra support, either by running string on each side of the rows carried by poles, or taller sticks placed thinly, to keep the haulm from damage by bending over. If the last sowings have not already had sticks put to them, they should be seen to before they become too forward. The sticks from the first crops may be available to use again.—Charles Flack, Cholmondeley Castle Gardens.

ABBOTSBURY CASTLE GARDENS.

In the deep valley formed by the sudden declivity of the Dorset Downs on the landward side, and by the steep hill that provides a rampart against the sea winds on the south-west, nine miles as the crow flies from Portland Bill and its turbulent race, and separated from the sea by the high, pebble barrier known as the Chesil Beach, lie the gardens of Abbotsbury, girt about on all sides by groves of evergreen oaks, and thus a sanctuary of peace even when a gale is raging in the West Bay. At all times these sequestered gardens display some special beauty of colour and of form—giant camellias and rhododendrons in flower, magnolias smothered in blossom, tall spires of bloom upon scores of yuccas, huge bushes of pink and blue hydrangeas, or groups of graceful bamboos.



[Photo: S. W. Fitzherbert.

AN EFFECTIVE GROUPING OF JAPANESE MAPLES, PALMS, ETC., AT ABBOTSBURY CASTLE.

Abbotsbury, on account of its sheltered position, can vie with the noted gardens of Devon and Cornwall in the wealth of the exotic and sub-tropical plants that grow within its precincts, and the first thing that strikes the flower-loving visitor is the great size that some of the specimens of rare plants have attained—dimensions that are unequalled in any other spot in the British Isles. The gardens have been considerably enlarged of late years, greatly to their advantage, and there is talk of still further extension.

Some years ago, when resident at Weymouth, I knew the gardens well, but, until last season, had not visited them since the present head gardener Mr. Henry Kempshall, took charge, and, therefore, renewed my acquaintance with pleasure. In the new grounds, where the soil is sandy loam, of a depth of from four to five feet, Pinus insignis has grown to a height of 15 feet in six years. A pretty sight in this portion of the gardens was a hedge of Buddleia variabilis Veitchiana a hundred yards in length, in full bloom. This is cut hard back every year. Three years ago a beautiful picture was presented by 200 spikes of Yucca gloriosa on a bank. Of magnolias there are nearly forty species and varieties. Of these may be mentioned the splendid M. Campbelli, 40 feet in height, which last season bore 160 flowers, some of these, which Mr. Kempshall exhibited at the Truro Daffodil Show last year, created a great impression, and deservedly obtained for him a first prize. Other dimensions are M. Kobus, 20 feet; M. tripetala, 25 feet; M. hypoleuca, 24 feet, this shy-blooming magnolia having flowered: M. Thompsoni, 30 feet; M. stellata, 12 feet in height, and the same in diameter; and M. Delavayi.

Acacias are represented by about 60 species, most of them at present in a small state, as the past two severe winters have killed many of the tenderer forms. Seedlings have been raised of Acacia dealbata, A. melanoxylon, and A. floribunda from seed ripened at Abbotsbury. A specimen of A. dealbata must be fully 40 feet in height. The late hard winters played havoc with the eucalypti, of which there were at one time fifty-two species in the open, but about forty were prepared in pots for planting out last spring. E. coccifera, E. cordata, E. globulus, and E. amygdalina have been raised from seed from trees that flowered in the gardens. E. urnigera has proved to be the hardiest species, as this has been unharmed through the last two winters, which killed fully a thousand eucalypti and acacias.

An example of the New Zealand Ribbon Tree (Plagianthus betulinus), about 50 feet in height and 6 feet in girth, which was believed to be the finest specimen in the United Kingdom, died a few years ago, but the Fiddle-wood (Citharexylon quadrangulare), a native of the West Indies, 20 feet in height, is in the best of health, as is a splendid specimen of Paulownia imperialis 40 feet high. One of the most interesting sights in the gardens is a remarkable specimen of Lagerstrœmia indica 18 feet in height, which is said to flower profusely every year. As a rule, when this plant is met with in West-country gardens it is a little shrub, from 3 feet to 6 feet in height and the example in question is probably unique.

Another surprising thing was a great bush of the pink New Zealand Broom (Notospartium Carmichaeliæ) 7 feet 6 inches in height, and 6 feet through, which, at the time of my visit, was covered with bloom. This is rarely seen except in a small state. Andromeda arborea, planted about 60 years ago, had developed into a tree 18 feet in height and 20 feet in diameter, and Fagus betuloides, the evergreen beech of Tierra del Fuego, was 35 feet high. Another notable specimen was Edwardsia (Sophora) microphylla said to be 70 years old. This had a trunk like a tree, and was 25 feet in height. It was covered with seed pods, and is reputed to flower well every season. Edwardsia Macnabiana, very distinct in habit, with angled shoots, is also grown. Olea excelsa, 45 feet in height, resembles a forest tree; Carya lævigata, with very handsome foliage, is 70 feet high; and a huge specimen of Eugenia myrtifolia is 35 feet in height; while Catalpa himalaicus has attained a stature of 35 feet, and C. Kæmpferi, which was covered with fruit, 20 feet.

Among the oaks are Quercus bicolor, with large and handsome leaves; Quercus Phellos, 25 feet; and Q. glaber, 20 feet. A noteworthy tree is Stransvæsia glaucescens, from the Himalayas, which is 22 feet in height, and the rare Arbutus canariensis is 30 feet high. Among other interesting subjects are Aralia mandschurica, Amyris Plumieri, from the West Indies; Aristolochia altissima, Azara crassifolia, which bears its flowers in little bunches, A. Crippsi, benthamias (Cornus capitata) in numbers, Calycanthus floridus, C. occidentalis, Citharexylon cyanocarpus, Citrus trifoliata, which flowers and fruits freely; the straw-coloured form of Callistemon salignus, 10 feet; variegated chestnut; Clerodendron trichotomum, 18 feet, with a similar spread; Cornus foliosa, with den-cate foliage; C. macrophylla, which colours finely in the autumn; Buddleia Colvilei, B. salvifolia, Daphniphyllum glaucescens, covered with pale blue berries, 12 feet; Deutzia Vilmorinæ, very beautiful, with pure white flowers; Drimys aromatica, 8 feet; D. Winteri, 18 feet; Ehretia serrata, from the East Indies; Exochorda grandiflora, enormous specimens of Fatsia japonica, Halesia hispida, 12 feet; the climbing hydrangea, good specimens of the Maidenhair Tree, Ginkgo biloba.

Lapagerias on a north wall, the rare Laurus canariensis, Liquidambar styraciflua, L. imberbe, Litsea laurifolia, the Alpine Laburnum, Lonicera involucrata, from California, a handsome species with orange-coloured flowers and crimson bracts; Kniphofia Northiæ, Menispermum canadense, Melia Azedarach, 12 feet; Olearia macrodonta, 10 feet; O. nummularifolia, fine examples of the Fan Palm (Trachycarpus excelsus), which flower well; the beautiful Philadelphus mexicanus and P. Coulteri, also from Mexico, which bears large white flowers, pink at the base of the petals; a splendid specimen of the Chilian Philesia buxifolia, probably the largest in the country, 5 feet across and 2 feet 6 inches in height, which was covered with hundreds of flowers; Podocarpus andina, 20 feet; the Pomegranate (Punica granatum), which often flowers well; Rhamnus alpina, 9 feet in height and 12 feet through, very lovely in its foliage; Rhus cotinoides, which assumes brilliant colouring in the autumn; Syringa Emodi, 60 years of age and 20 feet in height; Spiræa Aitchisoni, which has flowered well here for the past three years, though in many gardens it persistently refuses to bloom; Tricuspidaria lanceolata, better known as Crinodendron Hookeri, 10 feet; Vaccinium ovatum, charming in the spring; Viburnum macrocephalum, which blooms well; Vitis Coignetiæ, very beautiful clambering over a fir, and V. orientalis on a wall.

[Photo: S. W. Fitzherbert.

ARUM LILIES GROWING IN THE OPEN AT ABBOTSBURY CASTLE.

The rock garden, which is situated at some little distance from the sub-tropical one, occupies a site on the steep slope between Abbotsbury Castle and the Chesil Beach, and is exposed to the full force of the westerly gales, which fill the air with driven spindrift. In spite of this apparent drawback plants succeed admirably, and a few years ago the mesembryanthemums, of which the finest collection in this country, with the exception of that at the Isles of Scilly, was grown, presented a glorious sight in the spring. Unfortunately, in the severe winter of 1906-1907, when 20 degrees of frost were experienced, the whole of the mesembryanthemums were killed, and, the winter of 1907-1908 being equally hard, the garden was for a time bare of these plants, but a representative collection was put out from pots in the spring of this year.

The rare Primula Palinuri flourishes here, and is a pretty sight when in full flower, with its tall, cowslip-like heads swaying above the green foliage. Among the rare plants in the rock garden are Vella pseudo-cytisus, Myrsine africana, and M. retusa, Genista ferox, and Dasylirion glumaceum, which sometimes flowers. The gazanias, of which there was a good collection, were all killed by the frost, but Zauschneria californica and Convolvulus mauritanicus were in the best of health, as was Potentilla Fredericki. Hydrangea hortensis, in its pink and blue forms, creates a charming picture in the autumn, the walks being margined by great bushes in full bloom.

The Mexican Beschorneria bracteata also makes a fine show, blooming freely, and Senecio clivorum, S. eleagnifolium, and S. japonicum are very effective when in flower. Libertia formosa thrives to perfection, and is grown in quantity, its sheaves of white blossoms having a very pretty effect in the spring. Of bamboos a large number are grown, many having been imported direct from Yokohama. All are in the best of health, and some of the large clumps present a bold appearance and are very ornamental.

The water garden is formed of five pools, connected by a streamlet, which is spanned at intervals by rustic bridges. Here are grown the best of Marliac's and other water lilies, and the margins of the ponds are fringed with arums, gunneras, Indian Rice (Zizania aquatica), papyrus, and a pretty variegated grass, Glyceria aquatica. In the aloe house are some enormous specimens of these plants, and in the winter garden, erected by the Countess of Ilchester about five years ago, there is a fine collection of flowering plants, among which were noticed Mackaya bella, bearing thousands of blooms; Nicotiana glauca, somewhat like a cestrum; Passiflora Banksi, Bignonia aurea, B. jasminoides, B. Ricassolari, B. venusta, Bougainvillea glabra, B. Sanderiana, a fine plant of Lonicera Hildebrandi growing over the roof, Cestrum aurantiacum, C. Newelli, Nicotiana wigandioides, with flower trusses from 3 to 4 feet in length; Luculia gratissima, Eucalyptus ficifolia, with scarlet flowers; Dracæna Draco, Libonia floribunda, Ipomæa Leari, Stephanotis floribunda, Solanum Wendlandi, covered with flower; Jasminum macrophyllum, J. simplicifolium, Trachelospermum jasminoides, Chorozema illicifolia, Melaleuca hypericifolia, Passiflora atropurpurea, Hakea suaveolens, Tacsonia exonensis, scented-leaved pelargoniums, and a collection of succulents.

S. W. Fitzherbert.

Salix annularis is an extremely curious and interesting form of the Babylonian willow, the branches assume the same pendulous habit as the type, but the peculiar character of this plant is very strikingly exhibited in the leaves; the blade of the leaf is rolled backward, so that it forms a kind of ring, while the leaf margins are drawn and twisted in a most curious fashion. The tree grows rapidly in any damp, boggy situation, and although ultimately attaining large dimensions, like the majority of willows, it can by judicious use of the pruning knife, be readily accommodated in gardens of limited extent.—Thomas Smith.

SWEET PEA JOTTINGS.

One of the most pleasant of the functions arranged in connection with the work of the National Sweet Pea Society is that collectively known as "The Outings." These outings have been conducted during several years now, and one is always to the society's trials of sweet peas at Reading. It is impossible to miss the educational value of these visits, or the advantage accruing to the society as a result of the trials and of the meeting together of enthusiasts from all parts of the country.

The visit to Reading was paid on Friday, July 16. There was the usual downpour of rain in the early morning, but the previous day had been fine, and so the Floral Committee was able to get on with its work. Fortunately, the rain kept off during the afternoon and evening of July 16. On this occasion the Floral Committee made no awards, but certain varieties were marked for further consideration, and according to their behaviour during the next ten days the awards will be made. Everyone regretted the absence, through illness, of Mr. Walter P. Wright, whose place as chairman of the Floral Committee was taken by Mr. Martin F. Hitchins, of St. Austell.

NATIONAL SWEET PEA SOCIETY AT MESSRS. COOPER, TABER, AND CO.'S TRIAL GROUNDS, AT WITHAM.

Mr. W. J. Unwin's varieties came out well in the trials. He has a fine waved cream, unnamed in the trials, but it is identical with the finest type of Clara Curtis, both in form and colour, and it is quite true. He has also a good chocolate-maroon self, and the orange scarlet flake that appears to be the same as Mrs. W. J. Unwin, recently exhibited, was very fine.

I quickly picked out Mr. Malcolm's Edrom Beauty in the trials, just as I did at Duns last autumn, when I suggested the title it bears. It is a lovely thing of the Helen Lewis type, and under artificial light it beats the latter easily for colour. George Stark was not so good as last year; it evidently needs a warmer season, as also do several others, Mrs. Andrew Ireland, for instance. A very beautiful white variety, in fact, the best white variety up-to-date, is Stark's White, but as this name cannot stand, the variety will be known as Florence Wright. It has fine form, good substance, exquisite purity, and the pose of the flowers is excellent. At present it is not absolutely true. Messrs. Bide and Sons' Orange King is a glorious colour, vivid orange-salmon, but it is not yet quite fixed.

Some of the novelties were such mixtures that it was difficult to discover the variety. My namesake, from Barnstaple, sent a variety he has named Rajah, and last season it was a fine dark flower, after the style of Hannah Dale, and yet the row at Reading contained not a single plant of Rajah. This is another proof of how new seedlings break up in their second year. Mr. Robt. Bolton has a pretty orange-tinted pink variety, and also a fine bold blush pink, both as yet unnamed.

The American varieties do not show up well in the matter of purity, and Mrs. Routzahn is badly mixed. Splendour Spencer one may regard as a fine stock of Marjorie Willis. Asta Ohn I could not find on trial; it is a good and fairly true waved lavender. As usual, the trials have been well conducted under Mr. Foster's care, and they are now open to inspection by members of the society, who should leave a card with Mr. Drew, Mr. Foster's successor. On the occasion of the visit, Mr. Owen Ridley, chairman of the College Council, once again entertained the party to tea.

On the following day about fifty members visited the trials at Witham, Kelvedon, and Coggeshall. Messrs. Cooper, Taber, and Co.'s grounds were first inspected, but the sweet peas were not yet in bloom, with the exception of a few of the American varieties raised in pots, and the early-flowering Zoolanck and Telemley varieties. Tennant Spencer and Asta Ohn were greatly admired, but it is doubtful whether the former is quite distinct. The sweet peas were disappointing here, and everyone sympathised with Mr. Huggins, Mr. Simpson, and Mr. S. B. Dicks, and blamed the late cold season. But the culinary peas were superb, and there is an extraordinarily fine trial of them, and any members of the N.S.P.S. who are interested in culinary peas are at liberty to inspect the trial on giving a day's notice to Messrs. Cooper, Taber, and Co., Witham.

After being very hospitably entertained to luncheon in the light pea-picking room in the warehouse, the party proceeded to another field to inspect some of the sweet pea seed crops, and here there were many more flowers. Mr. Wm. Deal's grounds at Brooklands, Kelvedon, were soon reached, and here the sweet peas were more forward, and the sunshine made them look all the brighter. Mr. Deal has a great number of seedlings, and his new Colleen and Bertrand Deal came in for a share of admiration; but the greatest interest centred in the seedlings from Helen Pierce, all with the charming marbling shown by that variety, but in a great variety of colouring. One rosy variety is very pretty, and a very dainty pale pink is another good thing. Mr. Deal has waved as well as smooth varieties of those new seedlings. He also has a number of good flaked varieties, quite new and distinct, and he has a lovely pale cerise variety and a brilliant crimson-scarlet self.

Mr. Deal has some lovely pink, salmon, and orange sweet williams, and a charming fringed candytuft, as well as great areas of sweet pea seed stocks and the trials already noticed. Afternoon tea on the lawn behind his pretty house was very welcome after the long walk among the flowers. After tea and a short rest, the party proceeded to Coggeshall, shortened a little by the departure of a few friends, who had a long-standing engagement to meet the Chelmsford horticulturists on Messrs. Dobbie and Co.'s grounds at Mark's Tey.

Messrs. E. W. King and Co. have very extensive grounds at Coggeshall, and grow very large batches of various flowers and vegetable seeds. Their sweet peas cover very many acres; indeed, there are acre blocks of some of the more popular kinds. Very great care is taken to rogue the plots ruthlessly, and Mr. King aims at nothing short of 90 per cent. of purity in his stocks of waved varieties. About three years or more ago I pointed out in these columns that 90 per cent. purity in a variety would prove more profitable than the distribution of unfixed novelties, and Mr. E. W. King, as a business man, holds the same belief.

Among their seedlings the Messrs. E. W. King have a pretty silvery-lavender, and a bright pink that promises well. Great breadths of Mrs. W. King proved to be quite true. Mr. King is growing a stock of Mrs. Routzahn for a customer, but it is so mixed that roguing would reduce the crop to near the vanishing point, and so he suggests the removal of the few purple and red rogues and the disposal of the subsequent crop as a mixture of cream and pink varieties.

The outings serve to show how great is the interest in sweet peas, and the drive through the Kelvedon and Coggeshall districts of Essex brought into view ample evidence of the great trade in sweet pea seeds. Whether this trade continues to expand is a matter largely in the hands of the raisers and growers at home and abroad. If they adhere to the findings of the N.S.P.S., [illegible] for purity of stock, and make up their minds not to split hairs for the sake of a present extra pound or two, then the business will grow. If not, why the end (so far as novelties are concerned) is not far to seek.

One word must be added, and it is our thanks to those who so thoughtfully entertained the party on Saturday. Mr. W. Deal and Mr. E. W. King provided the conveyances from Witham to Kelvedon and Coggeshall and back to Kelvedon station, and in addition to the hospitality already mentioned Mrs. W. King and Miss E. L. King, the mother and sister of Mr. E. W. King, gave us a "strawberry tea" at Coggeshall, and so we returned to our various homes—some were a long way off—amply refreshed after a long day among the queen of annual flowers.

Chas. H. Curtis.

Thyrsacanthus rutilans.—This elegant plant, although not so much seen as in former years, is worthy of a place in every collection, because of its distinct character and beauty when in flower, and not at all difficult to grow. When well established in the pots in which they are to flower, a cold frame occupying a sunny spot will be suitable, and the pots should be plunged in a cool moisture-holding material, provided the drainage is good and risk of stagnant moisture avoided.—Wm. Fyfe, [illegible] Park Gardens.

R.H.S. EXAMINATION IN HORTICULTURE.

At the general examination held on Wednesday, April 21, one hundred and fifty-one senior candidates (over eighteen years of age) entered, of whom nineteen, or upwards of twelve per cent., obtained a place in the first class; sixty-nine, or upwards of forty-five per cent., gained a second class; and sixty, or nearly forty per cent., are placed in the third class. Three candidates only failed to satisfy the examiners.

In addition to these, four students resident in India entered for the examination, the questions set by the other examiners being specially adapted to India by the kind assistance of Lieut.-Colonel Prain, F.R.S., and of these four candidates three obtained a second class, and one failed altogether.

In their report to the Council the examiners (the Rev. Professor George Henslow, M.A., V.M.H., etc., and Mr. James Douglas, V.M.H.), lay stress on the fact that the answers to the questions on the "Principles of Horticulture" were very satisfactory, especially those on physiology, which were certainly the most important, and, they are glad to say, were generally answered. The examiners also report that they were pleased to find that several of the candidates were well instructed in the somewhat new subjects of Ecology and Mendelism.

It is necessary, however, to again urge the importance of candidates studying the instructions printed at the head of their paper before beginning to answer the questions. Fourteen candidates, for example, attempted to answer all the eight questions in "Operations and Practice," instead of confining themselves (as they were instructed) to four, and it is surely needless to say that four answered well are far better than eight answered poorly. In some cases, again, candidates were so prolix in their answers—had so much to say—that they only left themselves time to reply to three questions instead of to four. It is therefore necessary to again urge the importance of candidates practising conciseness in answering questions, otherwise they waste their own time and the examiners' also. The questions on "Practice" were for the most part very well answered.

Although the same questions were this year set to the juniors as to the seniors, an entirely different standard was looked for in their replies.

One hundred and forty junior candidates entered, of whom seventeen, or upwards of twelve per cent., have been placed in the first class; forty-one, or thirty per cent., in the second; and sixty, or nearly forty-three per cent., in the third; twenty-two failed altogether.

With regard to "Principles" the examiners report that as a rule it was only quantity and not quality that was deficient. As far as the students had learnt there were no serious mistakes, and the answers, in fact, were distinctly encouraging.

In "Operations and Practice," again, the examiners report that, considering the age of the candidates, the answers were very satisfactory, and they specially note that many of them showed a very fair knowledge of the different kinds of manures and of their application to the different kinds of soils.

The fact of twenty-two failures out of one hundred and forty should not discourage the students from trying again; all the examiners look for is a quite elementary knowledge of the "Principles" and a fair general acquaintance with "Operations and Practice."

W. Wilks, Secretary.

In the examination of seniors the following were placed in Class I., namely:—

S. N. Frost, Thatcham Fruit Farm, Henwick, Newbury.
J. W. MacCaig, R.H.S. Gardens, Wisley, Ripley, Surrey.
A. R. Iveson, 67, High Street, Shirley, Southampton.
M. K. Milne, Horticultural College, Swanley.
F. W. Bigge, Kingsbury Road, Tyburn, near Birmingham.
J. W. Burnicle, 8, The Knoll, Sunderland.
E. K. Oswald, Studley College, Warwickshire.
W. Miles, R.H.S. Gardens, Wisley, Ripley, Surrey.
M. A. Deacon, Thatcham Fruit Farm, Newbury.
E. L. M. Johns, University College, Reading.
C. Macleod, University College, Reading.
C. W. Mayhew, 11, Claribel Road, near Brixton.
W. Yandel, Longford Castle Gardens, Salisbury.
H. Bramwell, Studley College, Warwickshire.
M. V. Goldie, Studley College, Warwickshire.
N. B. Harrison, Horticultural College, Swanley.
V. Kirby, Horticultural College, Swanley.
W. H. H. Lodge, 3, Viewfield Cottages, Muswell Hill, N.
J. D. Snowden, The Gardens, Shakenhurst, Cleobury Mortimer.

In the examination of juniors the following were placed in Class I.:—

G. P. Boothroyd, Letheringsett Gardening School, Holt, Norfolk.
P. Chisnall, County School of Horticulture, Chelmsford.
L. J. Monk, County School of Horticulture, Chelmsford.
H. R. Amos, County School of Horticulture, Chelmsford.
F. Whiting, County School of Horticulture, Chelmsford.
F. H. Fordham, County School of Horticulture, Chelmsford.
H. H. W. Bowles, County School of Horticulture, Chelmsford.
L. S. Mousley, 10, Lutwyche Road, Catford, S.E.
D. R. Williams, 503, King's Road, Chelsea, S.W.
A. B. Aldridge, 1, Souldern Road, West Kensington.
C. Cooper, White Oak School, Swanley, Kent.
J. Swan, 1, Norval Place, Kilmacolm.
J. W. Seal, Essex Industrial School, Chelmsford.
A. Puddefoot, Kingswood Reformatory School, Bristol.
J. Roiall, Castle Howard Farm School, Welburn, York.
H. Lapitoff, Industrial School, Hayes, Middlesex.
F. Southgate, Essex Industrial School, Chelmsford.

Nymphæas in Summer.—During the height of the flowering season it is important to periodically examine the hardy nymphæas planted in the various ponds and lakes, and where the water area is small measures should be taken to have all spent and decaying flowers and leaves removed. From various causes nymphæas occasionally show signs of deterioration; vermin or water fowl where present will destroy them in a very short time. In some instances the root-stock may either become fasciated, or it produces innumerable adventitious buds, and in either instance the strength of the plant becomes dissipated with the leaves, and flowers developed are quite out of character. Such examples it is best to destroy entirely, and replace with young and vigorous stock. Some varieties of nymphæas are much too prolific in the production of offsets, good examples being found in Marliac's hybrids, many of which increase with marvellous rapidity. May is about the best month for reducing their number, yet many growers defer this work till the present time, and where this operation has been overlooked an early opportunity should be taken to expedite it, the weakest and oldest crowns should be first removed, and if this results in yielding insufficient space between the plants, then a further thinning out of the more vigorous crowns must be resorted to. Overcrowding of hardy water lilies has the tendency—even with varieties whose leaves are normally prostrate upon the water—of forcing the leaves to assume a vertical position, and when these stand clear of the water the result greatly mars the floral effect. New varieties of nymphæas may be purchased and planted this month with every certainty that they will thoroughly establish themselves before winter.—Thomas Smith.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

COOL-GROWING ONCIDIUMS.—There are several species of oncidium that thrive excellently under cool or cool-intermediate house temperature. Some of them are annually imported in large quantities, so that they are easily procured, and at a modest outlay. There are numerous methods by which satisfactory results can be obtained. They may be often found growing in a greenhouse fixed to a piece of rough bark or stump of wood, on rafts, in baskets or pots, while only last year I saw a large specimen of O. flexuosum covered with flowers grown in a tub three feet in diameter. It was exhibited at one of the prominent shows in the North of England, the cultivator being an enthusiastic pitman. They may in all cases be considered profuse-flowering subjects, and it may reasonably be contended that the free-flowering characteristics of some of the species often lead to detrimental effects, especially where the plants have not been relieved of their flower spikes within a reasonable time of their becoming expanded.

The species suitable for cultivation in a temperature normally about 55 degrees, with even 5 degrees lower temperature in winter, are the Brazilian section, which include such well-known and popular species as O. concolor, O. crispum, O. curtum, O. Forbesi, O. Mantini, and O. Marshallianum, practically all summer-flowering kinds, so that the plants may either be procured in flower or in the imported state. I would prefer procuring them when fresh imported. In dealing with imported plants before potting see that all dead and decaying matter is removed from the base and about the roots. Select clean pots or shallow pans just sufficiently large to contain them comfortably. Fill to one-half their depth with clean drainage. After placing the plant in the desired position fill in the remaining space with a compost consisting of about equal portions of fibrous peat, broken oak or beech leaves, and chopped sphagnum moss, with sufficient coarse sand or broken crocks added to render the compost porous. This compost should be pressed moderately firm about the plants.

REPOTTING.—The best time to attend to any repotting requirements is when the new roots make their appearance from the base of the developing growth or recently completed pseudo-bulb. It is not desirable to disturb any of this section of oncidiums for the purpose of repotting more frequently than can possibly be helped, as they usually suffer severely from being disturbed. Care must be observed to thoroughly water as soon as repotting is completed, thoroughly wetting the compost through, shade from excessive sunlight, and keep the atmosphere moist about the plants until the roots have taken hold of the new potting compost.

ONCIDIUM TIGRINUM is one of the most robust of the cool house oncidiums, and it does well grown under the same conditions as that given to the odontoglossums throughout the whole year. There are other allied species which may also be grown under the same conditions, O. unguiculatum, being very similar in habit to O. tigrinum, is sometimes mistaken for it. Both are useful autumn-flowering species, and are useful for decorative and other purposes in private gardens where there is a demand for flowers during the late autumn season; they last a long time in perfection.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

MEDINILLA MAGNIFICA.—The growth of this plant will now need to be well ripened, and, therefore, less shading and less moisture, and more air, should be given. A temperature of 65 degrees, with an abundance of light, air, and careful watering, will suit them. This plant is seldom seen in such magnificent form as was the case at the Holland Park Show on July 6 and 7.

WINTER-FLOWERING PLANTS. — No time should now be lost in giving the final shift. Supposing the general treatment is somewhat similar, the principal object should be to secure well-ripened wood, as without fairly matured growth the best results are seldom secured. Unless the plants are well established by the end of the summer or early autumn this cannot be attained. When stakes are used let them be as few in number as possible, otherwise the plants will not be able to assume their natural habit. There are numerous subjects that are useful for winter decoration that are of small size and easily grown, and amongst them are Panicum variegatum, Isolepis gracilis, Ficus repens, Fittonia Pearcei, and several varieties of selaginella. They all root very quickly, and can soon be grown to a decorative size.

EPIPHYLLUMS.—If growth has been produced under slight shade fuller exposure will be necessary, with a more limited supply of water, it being essential to have the growth thoroughly matured by full exposure to light, with plenty of air, in some pit or frame. While resting, place in a structure with a low temperature, and give only sufficient water to prevent the growths shrivelling. Cuttings are easily rooted, and very suitable for baskets, as the drooping habit so essential is thus secured. The varieties are numerous and beautiful, such as E. Guedenye, large white flowers, scented; E. Russellianum Gaertneri, scarlet flowers; E. salmoneum, E. superbum, E. coccineum, E. Metor, E. Shawi, E. Bridgesi, and many others. Perhaps to be seen to the best advantage they should be grafted upon stems 12 to 18 inches high of Pereskia aculeata. Grafting is best done in the spring, and a long season of growth should be given the first year.

CROTONS.—At this season little difficulty will be experienced in finding some well-coloured shoots for propagating. When sturdy young growths are rooted at this season they have the advantage of retaining their foliage down to the rim of the pot, and little artificial heat is required. For cuttings of well-balanced straight shoots of good colour sixty pots are the best, and when the young plants are well rooted four or five-inch pots afford a good shift, but the size and vigour of the plants should determine the size of the pot to be used. When plants are preferred to cut flowers for table decoration few subjects can surpass in effectiveness well-grown crotons. Much depends upon the early stages of growth and the selection of good cuttings. When once established syringe and water freely, for if allowed to suffer from a deficiency of water the lower leaves are almost sure to drop. When the pots become full of roots liquid manure should be freely given.—Wm. Fyfe. Lockinge Park Gardens.

FRUITS UNDER GLASS.

COLOURING OF GRAPES.—This is an all-important point in the production of grapes, whether for the table or exhibition. A good-sized bunch of grapes loses its charm if not coloured perfectly, and it must be admitted that fresh air is one of the principal factors in obtaining a good depth of colour. A border of sweet, fresh soil is not less essential to success. No matter what the conditions, if the colour is bad there is a fault, and the fault should be found. It may be overcropping, a very common error, for it is very much better to have 100 good bunches than 400 that are indifferently finished Fresh air is an essential in colour production, and as soon as the grapes commence to colour this should be most liberally admitted. On all fine warm days plenty of top and bottom ventilation should be given, but avoid too much on damp days and when east winds are blowing, and admit air when you can do so without causing a draught. There are many ways of giving air by which a draught can be avoided, and this should be taught to everyone who has the charge of grape-growing houses. Another important factor is sufficient moisture in the soil. As I have mentioned in former calendars, too much water can hardly be given up to the period of colouring, provided the drainage is good and the soil sweet.

LATE GRAPES.—The laterals should be pinched frequently, so that no great stoppage of circulation of the sap will be felt, as this is one of the reasons of rapid development of shanking. Give air early in the morning. The top ventilators should be opened an inch or two, and the opening be gradually increased as the day becomes warm. Keep the temperature as even as possible by ventilation; it has not been possible to leave off firing this season up to the present, but it is always an advantage to keep a little heat in the pipes, if only at nightfall.

MELONS IN FRAMES.—These should have the laterals pinched out to prevent overcrowding, and the fruits set up on pieces of slate. Give liquid manure once weekly, and syringe thoroughly morning and evening in bright weather. The syringing should be done occasionally from the back, so that the foliage gets the benefit, and if it can be done alternately so much the better. Do not overcrowd; six to nine melons in a light is sufficient, as large fruits are not so much appreciated as those of moderate size Arrange the ripening so that all frames shall be set at liberty for autumn use by the end of September.

LATE PEACHES AND NECTARINES.—Plenty of air will play an important part in retarding the ripening of the late crops, and the late crops may be kept back some days by judicious ventilation, and in the hottest part of the day a thin shading be drawn over the glass. Keep the growths well tied in, and all laterals stopped or pinched entirely out, and see that the old ties are not cutting the bark, as this frequently induces gumming. The foliage and every part of the house must be well syringed twice daily, and damping the floors, etc., several times in addition in hot weather. The earliest trees should be subjected to the same treatment in order to keep them clean. In packing peaches handle the fruits carefully, and wrap them in tissue paper, and then wrap a little wood wool around each, and pack them in a shallow box, when they will travel any distance quite unharmed. The great thing is to pack tightly, so that the fruit cannot shift.

FIG TREES.—These are now furnishing liberal supplies of fruit, and should be well nourished at the roots, and have frequent syringings. The floors damped down frequently; take out all lateral growths, and any growths not required for next year's fruiting.

CHERRIES.—These fruits, now being gathered, should have all the air possible, and if the lights can be taken off this should be done to give the trees the light, air, and rest they require. See that a sufficient amount of moisture be given the roots.—W. A. Cook, Leonardslee Gardens, Horsham.

THE KITCHEN GARDEN.

CARROTS.—During the next week or so a sowing should be made of the Short Horn type of carrot to ensure a supply of succulent young roots over the autumn and early winter months. If, owing to the maggot or through any cause, the main crop of carrots has been damaged and reduced in quantity, a proportionately larger sowing may be made to cover the deficiency. A sheltered border is a good position for this crop, where, if necessary, some slight protection can be given during the severe weather. Before sowing make the soil into a fine and suitable condition, and give a liberal dressing of soot to the surface. The drills should be at least one foot apart and about two inches deep. Sow the seed fairly thickly, and as soon as the plants are nicely up keep a sharp look-out for fly.

SPRING CABBAGE.—Throughout the northern counties, at least, the main sowing of this crop must not be delayed, if to secure strong, well-established plants before bad weather arrives. Choose a sweetened piece of ground, and sow the seed thinly. Where the young plants cannot be promptly removed and pricked out from the seed-bed as soon as the rough leaves are well formed, the system of sowing the seed broadcast has much to recommend it. Better legged plants with less drawn foliage is often the result than if left in rows and allowed to draw up.

VEGETABLE MARROWS are making rapid progress at this season, and are apt to become very crowded and dense in their growth, which is not conducive to the setting of their flowers properly. Have all unnecessary vine removed, and retain the bearing growths, and so place it that light and air can play freely amongst it. The marrows should be cut as soon as they attain the desired size for use, not allowing them to remain to use up the resources of the plants, as is sometimes seen. Waterings of liquid manure once a week will do much to keep up their vigour and prolong them in a bearing state.

CELERY will in most cases be well established and growing freely from the past wet time it has enjoyed. Where the celery fly is making an attack have all affected parts of the leaves removed by hand, and frequently give dustings of soot over the plants. At no time allow this crop to suffer from dryness at the roots. Light sprinklings of salt along the trenches is beneficial on light, dry soils after waterings.

SPINACH.—A substantial sowing of this important vegetable will be found useful if made within the next week or two to provide cuttings through September and October, and probably, if the weather is favourable, considerably longer, and be the means of saving the winter crop from being required till later in the winter months.

TURNIPS.—Within the next fortnight a large batch of winter turnips should be made. Many families prefer a yellow-fleshed turnip, and, if so, the variety known as Orange Jelly is excellent, but in many cases north it is sown too late for the best returns. The variety All the Year Round is also a reliable turnip for autumn sowing. Chirk Castle Black Stone can also be recommended for a white-fleshed variety, and it is very hardy. A high border that has carried a crop of early peas or potatoes will provide an excellent site for winter turnips. In this position they grow on later in the autumn than in lower situations. Sow the seed in drills at about one foot apart rather thinly. As soon as the young plants are nicely up thin them out to about nine inches apart, and encourage them with light applications of artificial manure till they are safe from the ravages of the turnip fly.—Charles Flack, Cholmondeley Castle Gardens.

EARLY PEAS.

This has been an ideal season for testing the hardiness of peas and their qualities and usefulness in furnishing early supplies. At one period in May the crops were late, at another they were early, and now in June and July they are late, and the majority of varieties are growing too tall, owing to the continued wet and dull weather. Carter's Eight Weeks was, perhaps, the earliest pea, as, sown twenty days later, it came in equal with Reading Wonder. These two varieties I consider the two best early peas, for both are very fine in quality and quite distinct.

Pioneer followed remarkably close, and is a much larger-podded pea. It has a strong constitution, and is about 1½ft. high, and bears immense pods. Green Gem (Sutton's) is a fine early variety with large pods, which are broad and green, and well filled with peas of delicious quality; in fact, the quality is remarkable for a pea of only 1½ft. in height. Early Morn and Early Giant closely follow the last-named, and both are so well known that all I can say is, no one can wish for better varieties. Although it may be said that there are dozens of varieties of peas that should be weeded out, it must be remembered that some varieties grow better in one district than another. Surely some of the new varieties of proved excellence should supersede the old round-seeded varieties.

W. A. Cook.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

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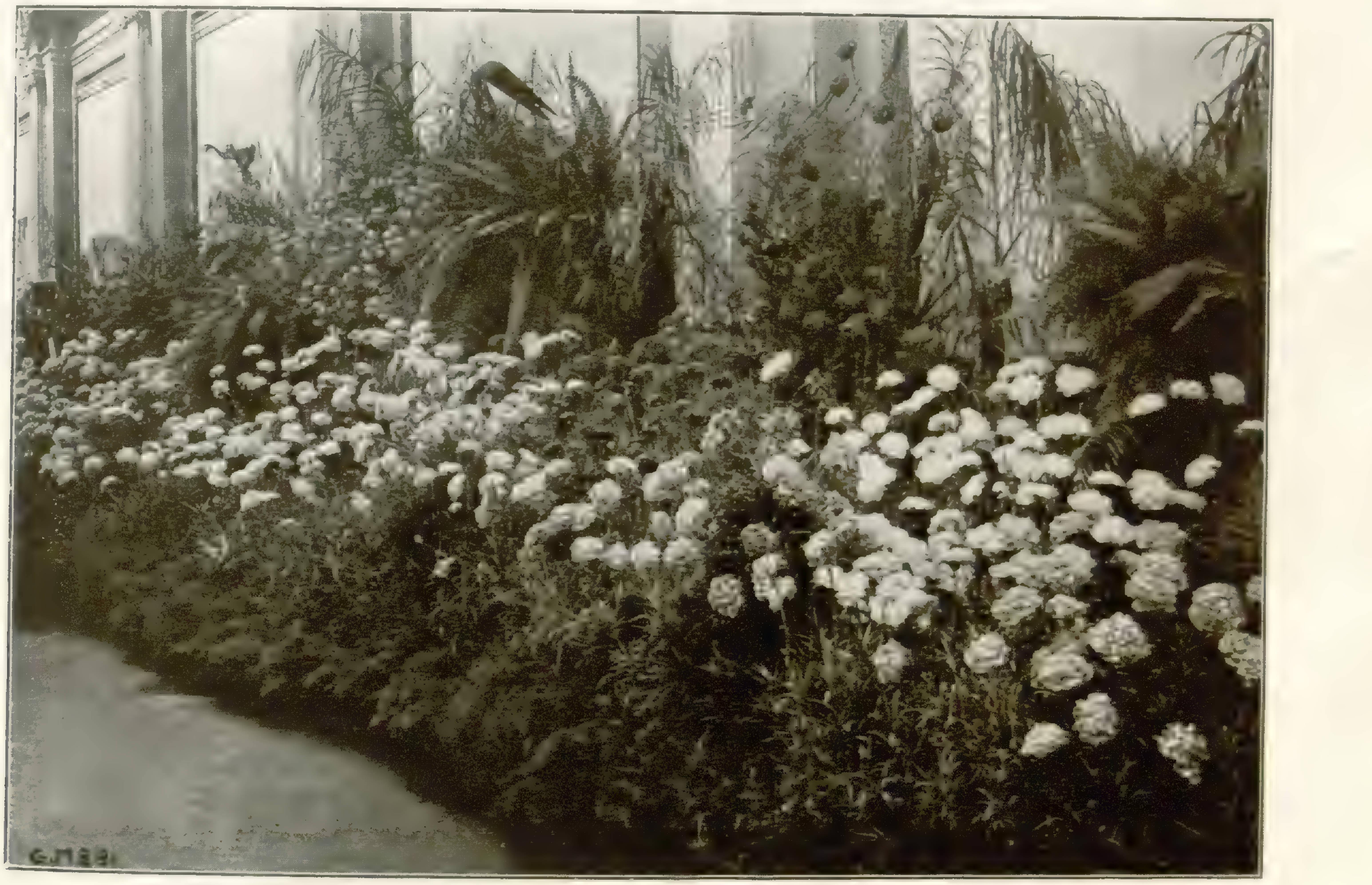
Royal Horticultural Society.

There was a full meeting on Tuesday, July 20, but the number of visitors was smaller than usual. Hardy flowers were greatly in evidence, but the outstanding features were Messrs. Wm. Paul and Sons' new rose Juliet, and Mr. F. Smith's Delphinium Nulli Secundus.

FLORAL COMMITTEE.

Messrs. R. Wallace and Co., Colchester, had a display of hardy flowers that consisted chiefly of eremuri, the kinds being E. Shelfordi, E. Sir Michael, E. Olgæ, E. Bungei, and improved forms of E. Bungei with enormous length of stem. Most of these are of the late Sir Michael Foster's raising. With the eremuri were Lilium auratum platyphyllum, L. Browni, L. elegans Orange King, and some lovely varieties of Iris Kæmpferi. Carnations were splendidly shown by Messrs. W. Cutbush and Son, Highgate, who had a lovely display, and set up fine stands of White Enchantress, Enchantress, Victory, Mr. T. W. Omwake, Mrs. Burnett, Jessica, Beacon, Mercia, etc., and the flowers were in fine form.



THE MAGNIFICENT COLLECTION OF CARNATIONS

For which Mr. A. Grubb, gardener to Cecil F. Raphael, Esq., Porter's Park, Shenley, Herts, was awarded the gold medal of the Royal Horticultural Society at the R.H.S. Meeting on Tuesday last.

A handsome display of roses was made by Messrs. R. Harkness and Co., Hitchin, their stands of Edu Meyer, Mrs. T. Roosevelt, Hugh Dickson, Lady Ashtown, and Mrs. Sharman Crawford showing up well. Mr. W. E. Chaplin, Joyning's Nursery, Waltham Cross, displayed fine flowers of such roses as Frau Karl Druschki, Caroline Testout, Duke of Edinburgh, Earl of Warwick, etc. Mr. A. Charlton, Tunbridge Wells, contributed a bold group of hardy flowers, staging a fine lot of delphiniums. From the Guildford Hardy Plant Company came a selection of hardy flowers, and Messrs. G. and A. Clarke, Dover, had an extensive exhibit wherein Lilium Krameri and Gilia coronopifolia figured conspicuously.

Mr. James Douglas, Great Bookham, Surrey, set up a beautiful lot of carnations, and had vases of fine blooms of T. E. Henwood, Ellen Douglas, Sir Galahad, Agnes Sorrel, Lady Roscoe, Cupid, and Cecilia. A very large exhibit of delphiniums was well arranged along the top of the hall by Mr. Amos Perry, Enfield. These showed a fine range of colour, from deep purple-blue to pale porcelain-blue. A large number were named, and these made up a grand selection of these stately garden flowers. Malmaison, border, and perpetual carnations, growing in pots, were set up boldly by Messrs. Jas. Veitch and Sons, Chelsea, and with these were the fine Lilium miriophyllum, Romneya Coulteri, Solanum Wendlandi, and fine varieties of cannas.

Messrs. Carter Page and Co., London Wall, were represented by a very large and effective display of sweet peas, and they showed all the leading varieties in big masses. Messrs. Jas. Carter and Co., Holborn, set up a very effective double arch of sweet peas, that was greatly admired for its design, its furnishing, and its flowers. Roses were shown by Messrs. Stuart Low and Co., Bush Hill Park, Enfield.

A splendid group of well-grown Malmaison carnations was arranged opposite the entrance by Mr. Grubb, gardener to Cecil F. Raphael, Esq., Porters' Park, Shenley. Old Blush, Princess of Wales, King Oscar, Maggie Hodgson, and The Colonel were shown in large numbers, and all were in pots, as grown, and associated with ferns and palms. At the back of the centre of the display there was a fine batch of the yellow Mrs. Audrey Campbell. Messrs. Jas. Cheal and Sons, Crawley, showed sweet peas and herbaceous flowers in quantity. Mr. W. J. Unwin, Histon, Cambs., staged a beautiful lot of sweet peas, and showed good bunches of the new Mrs. W. J. Unwin, the lavender Frank Unwin, the very bright Edna Unwin, and the pink Gladys Burt, as well as many of the popular varieties. Mr. Frank Lilley, Guernsey, brought over a selection of early gladioli, of the Colvillei section, but did not stage them particularly well.

Cacti in great variety, from Messrs. H. Cannell and Sons, Swanley, made an interesting group. The central circular display on this occasion was of Malmaison carnations arranged over moss by Messrs. Stuart Low and Co., Bush Hall Park, Enfield. Messrs. R. and G. Cuthbert, Southgate, brought forward a selection of the best ivy-leaved pelargoniums, and arranged these with hydrangeas and pink spiræas. Roses were very largely and beautifully shown by Messrs. Wm. Paul and Son, Waltham Cross, and, though they had large boxes, baskets, and stands of their own and other popular varieties, the great interest of their effort centred in their new rose named Juliet (A.M.), a lovely variety that comes as nearly to bright scarlet as we yet have in roses. The petals are soft scarlet with a golden yellow base to each petal. The parentage is said to be Soliel d'Or and a H.P. variety. Anyway, it is a lovely thing, and very fragrant.

Messrs. Kelway and Son, Langport, Somerset, set up delphiniums, but arranged them very stiffly, and thus reduced their beauty; they also showed gaillardias and sweet peas. Messrs. H. B. May and Sons, Edmonton, sent forward ixoras, abutilons, acalyphas, variegated oleanders, and a collection of exotic ferns, their Todea superba under a glass shade coming in for a well-deserved share of special attention. Messrs. H. J. Jones, Ryecroft Nurseries, Lewisham, were represented by a large corner group of very well grown phloxes, associated with gaillardias, and backed by bamboos. Mr. L. R. Russell, Richmond, put up a bold group of caladiums. Mr. G. Reuthe, Keston, put up a very interesting exhibit of hardy flowers, and Messrs. Dobbie and Co., Rothesay, set up fine sweet peas, including Masterpiece, Clara Curtis, and Mrs. Andrew Ireland.

A group of very beautiful delphiniums from Mr. F. W. Smith, gardener to G. Ferguson, Esq., Weybridge, was a great attraction, as it contained a large number of new seedlings of very distinct character. Of great merit are the white varieties with dark centres, and the finest of these is Nulli Secundus (A.M.), white, faintly tinged with green, and with a deep blackish-brown centre. Messrs. Thos. S. Ware, Feltham, put up a collection of alpine and rockery plants.

ORCHID COMMITTEE.

Mr. Collier, gardener to Sir Jeremiah Colman, Bart., Gatton Park, Reigate, brought up several interesting botanical orchids, including Masdevallia muscosa, and Bulbophyllum concinum. From Messrs. Charlesworth and Co., Haywards Heath, came some lovely plants of Vanda cærulea, carrying grand blue flowers, Odontoglossum Pescatorei, O. Eleanor, Miltonia vexillaria albiflorum, Sobralia macrantha alba magnifica, and the quaint Bulbophyllum comosum. Mr. Gurney Wilson, Haywards Heath, showed Brosso-cattleya Digbyana-Mossiæ Glenthorne variety carrying four grand flowers. Mr. Menteith Ogilvie sent Odontoglossum crispum Madonna, a lovely form with yellow-marked lip. From Sir Trevor Lawrence, Bart., came a fine box of Habenaria rhodochilum, for which Mr. W. White received a cultural commendation. The pretty heliotrope-marked Odontoglossum ardentissimum Starlight was well shown by Messrs. Sander and Sons, St. Albans, and gained an A.M. Spathoglottis spicata alba, from Gatton Park, gained an A.M.; and Vanda Miss Joaquin, carrying five grand spikes, from Burford Lodge, secured a cultural commendation. Mr. Alexander, grower to Lieut-Colonel Holford, showed L.-c. Radium and L.-c. purpurata Schilleriana, both very fine.

Mr. De. Barri Crawshay sent Odontoglossum Astarte, derived from O. Harryanum and O. tripudians, and O. Nerissa Rosefieldiensis, a graceful flower in the way of O. Phœbe. A fine plant of Odontioda Charlesworthi, carrying two spikes from one pseudobulb, and an aggregate of fifteen flowers, was shown by Mr. W. Stevens, gardener to W. Thompson, Esq., Walton Grange, Stone, Staffs. In Messrs. Sander and Sons' exhibit of orchids the leading features were Vanda cærulea, Cypripedium Lord Derby, Cattleya gigas, Phaius Humbloti, and Odontoglossum crispo-Harryanum Bruggense, a fine bold variety. Mr. Balmforth, gardener to Menteith Ogilvie, Esq., The Shrubbery, Oxford, contributed a fine group of odontoglossums, chiefly crispums, and O. Harryanum; he also had a large spike of a light red odontioda and numerous examples of Cochlioda Noetzliana. Mr. James H. Hill, Burgess Hill, Sussex, sent a small group of miltonias, with Cattleya gigas, etc. Messrs. Wm. Bull and Sons, Chelsea, showed a batch of Lælia xanthina and Cattleya Mossiæ, set in stove foliage plants. Messrs. Stuart Low and Co.'s orchids made up a pretty group, and included Cypripedium macrochilum giganteum, Odontoglossum crispum Annie, O. Pescatorei, oncidiums, and dendrobiums.

FRUIT AND VEGETABLE COMMITTEE.

A goodly collection of lettuces staged by Messrs. Jas. Veitch and Sons, demonstrated the value of the cabbage varieties, while the peas, picked and on haulm, gave evidence of the merits of Gradus, Telegraph, Duke of Albany, Chelsea Gem, Prodigy, and Telephone. Chelsea Gem, as growing, carried a fine crop. Beet, beans, and Cantaloupe melons were included in the exhibit. The trained gooseberries, shown so well by Messrs. Jas. Veitch and Sons, Chelsea, attracted a great deal of attention, and it was wonderful what huge crops of fruit these one, two, three, four, or five stemmed cordons carried. Langley Gage, Pilot, Keepsake, Broom Girl, Langley Beauty, and Trumpeter, carried enormous crops. Equally as fine, and even far more tempting, were the peaches and nectarines in pots, all finely fruited, the nectarines being unusually fine.

Culinary peas were brought up in large numbers by Messrs. Jas. Carter and Co., Holborn, and there was great admiration for the dishes of Quite Content, Early Morn, Giant Empress, Duke of Albany, The Sherwood, Laxtonian, and various new seedlings. Messrs. T. Rivers and Son, Sawbridgeworth, showed some splendid cherry trees in pots, carrying fine crops of fruit. One tree, of Black Hawk, has been in a pot for 40 years, and borne a good crop of fruit each year; other good varieties were Bigarreau Napoleon, Early Rivers, Emperor Francis, and Bigarreau de Schmidt.

The tomatoes from Messrs. Sutton and Sons, Reading, carried famous crops, and notably good varieties were Maincrop, Golden Queen, Magnum Bonum, Satisfaction, A1, Best of All, Early Market, Winter Beauty, and Dwarf Gem.

AWARDS.

Award of Merit.—To Spiræa Veitchi, from Messrs. J. Veitch and Sons, Chelsea; to Sweet Pea Edna Unwin, from Mr. W. J. Unwin, Histon; to Eremurus Sir Michael, from Messrs. R. Wallace and Co., Colchester; to Nymphæa Mooreana, from Leopold de Rothschild, Esq., Gunnersbury; to Rose Juliet, from Messrs. Wm. Paul and Sons, Waltham Cross; to Delphinium Nulli Secundus, from E. Ferguson, Esq., The Hollies, Weybridge; to Spathoglottis plicata alba, from Sir Jeremiah Colman, Bart., Reigate; to Odontoglossum crispum Starlight, from Messrs. Sander and Co., St. Albans.

MEDALS.

Gold.—Mr. Grubb, gardener to C. F. Raphael, Esq., Porters' Park, Shenley, for carnations; Messrs. Jas. Veitch and Sons, Chelsea, for gooseberries and vegetables, etc.

Silver-gilt Flora.—Mr. F. Smith, gardener to G. Ferguson, Esq., Weybridge, for delphiniums; Messrs. Wm. Paul and Son, Waltham Cross, for roses.

Silver-gilt Banksian.—Messrs. J. Carter and Co., Holborn, for sweet peas; Messrs. W. Cutbush and Son, Highgate, for carnations; Messrs. H. B. May and Sons, Edmonton, for ferns, etc.

Silver Flora.—Messrs. H. Cannell and Sons, Swanley, for cacti; Messrs. Carter Page and Co., London Wall, for sweet peas; Messrs. S. Low and Co., Bush Hill Park, for roses and carnations; Mr. Amos Perry, Enfield, for delphiniums; Messrs. Jas. Veitch and Sons, Chelsea, for carnations, cannas, etc.; Messrs. R. Wallace and Co., Colchester, for liliums, etc.; Mr. Menteith Ogilvie, Oxford, for orchids; Messrs. Sander and Sons, St. Albans, for orchids; Messrs. Charlesworth and Co., Haywards Heath, for orchids; Messrs. Stuart Low and Co., Bush Hill Park, for orchids.

Silver Banksian.—Messrs. T. Rivers and Son, Sawbridgeworth, for cherries; Messrs. J. Cheal and Sons, Crawley, for hardy flowers; Messrs. G. and A. Clark, Dover, for hardy flowers; Mr. Lilley, Guernsey, for hardy flowers.

Gloucestershire Rose and Sweet Pea Society.

JULY 13.

Roses and sweet peas were largely represented at the 21st annual exhibition held in the Spa Cricket Field, Gloucester, on the above date. The schedules provided six divisions each, viz., twenty-nine classes for roses and eighteen for sweet peas, the competition being good all through, and the prizes liberal. The weather conditions being perfect, a large attendance resulted.

ROSES.

Of these there were fully 1,000 specimens in the first nine open classes for professionals and amateurs, while an equal number were presented in the other sections. For forty-eight singles, four collections were staged; the champion prize—£5—going to Messrs. Alex. Dickson and Sons, Newtownards, Ireland, for a set of lovely blooms, the premiers being Mrs. T. Roosevelt, J. B. Clark, Princess M. Mertchersky, John Cuff, Countess of Annesley, Mrs. C. West, Colonel Williamson, Mrs. J. Laing, Mildred Grant, F. K. Druschki, Geo. Dickson, Her Majesty, W. Shean, Duchesse de Morny, Countess of Oxford, Mrs. Hubert Taylor, Mrs. Arthur Munt, Helen Keller, Horace Vernet, H. Brocklebank, Duke of Wellington, and Lady Ashtown; the second award was made in favour of Mr. John Mattock, New Headington, for a very level set of bright blooms; the King's Acre Nursery Company third. Three collections were staged in the class for thirty-six single trusses, and Mr. H. Drew, Longworth, Berks, scored a premier for large shapely blooms; Mr. G. H. Towndon, Malvern, a good second; Messrs. J. Jefferies and Son, Cirencester, third. Eighteen trebles were presented by six competitors, Messrs. Alex. Dickson and Sons leading with finely matched blooms; Mr. J. Mattock second, and Mr. H. Drew third. The last named exhibitor was successful in taking the first prize for eighteen teas or noisettes, the blooms large, shapely, and clean; Mr. J. Mattock second; the King's Acre Nursery Company third. For a dozen triplet teas, Mr. H. Drew was the only exhibitor. For the prizes for a dozen blooms of any dark rose, five boxes were staged, and Mr. H. Drew was first with Hugh Dickson; Mr. J. Mattock second with Dupuy Jamain; and Mr. G. H. Towndon third. For a dozen light roses, seven competed, and Mr. G. H. Towndon led with F. K. Druschki; Messrs. Alex. Dickson and Sons second with Mildred Grant; Mr. A. Middlecote, Upton St. Leonards, third.

In the open amateurs' division Mr. Conway Jones, Hucclecote, led for two dozen varieties with high-class blooms of M. Grant, Prince Arthur, W. Shean, U. Brunner, Earl of Warwick, Charles Lefebvre, F. Pemberton, Countess of Caledon, Marchioness of Londonderry, Mrs. M. Kennedy, Victor Hugo, the Lyon Rose, etc.; Mr. W. Garrett Thorpe, Hucclecote, was a worthy second; the third prize was awarded to Mr. G. R. Bonnor, Barnwood. In Mr. Garrett Thorpe's premier box of eighteen varieties was a medal bloom, the variety being Florence Pemberton; Mr. Conway Jones also secured a medal for a remarkably fine bloom of Madame Jules Gravereaux; and Mr. J. G. Orpin obtained a similar honour for a marvellous bloom of Frau Karl Druschki. The remaining classes for city and county amateurs and cottagers were well filled. In the amateur section Mr. Conway Jones led for eighteen singles and a dozen teas; Mr. Garrett Thorpe, Mr. G. R. Bonnor, Mr. Charles Holbrook, Hucclecote, and Mr. A. Middlecote, very largely shared in the awards.

In the open class for a dozen bunches of garden roses, the cards went to Messrs. Fuller and Maylam, Gloucester; Mr. W. H. Frettingham, Beeston Nurseries, Nottingham; and Mr. J. Mattock, in the order of their names, for splendid arrangements; Messrs. J. Jefferies and Son were awarded a special extra prize; while for displays of rambler roses, Mr. J. Mattock headed the list. In the class for nine vases of garden roses, Lieut.-Colonel G. D. Timms, Matson House; Mr. Conway Jones, and Mrs. Ancrum, St. Leonards Court, shared the honours. Cottagers' exhibits were in large numbers, and excellently staged.

SWEET PEAS.

About 200 vases of sweet peas, with possibly an average of twenty stems each, made a bewildering though a pretty display. Mr. W. J. Thorpe was first for eighteen varieties; Mrs. E. Reeves, Stonehouse, for nine; Mr. J. G. Orpin for nine (within the city limit); Mr. A. V. Wright for six (ditto); Mr. W. Gordon Cumming, Hartbury House, for nine (county limit); and Mr. G. R. Bonnor for twelve varieties (Mr. R. Sydenham's prizes). Dinner-tables decorated with sweet peas or briar roses produced six arrangements, the cards going to Miss D. Hatton, Colebridge House, first, light delicate shades of peas; Miss B. W. Smith, second, sweet peas; Miss L. A. Nichols, third, blush rambler roses.

The non-competitive displays included a very elaborate arrangement of sweet peas in four dozen varieties, and eighteen varieties of carnations, from the nurseries of Messrs. J. C. Wheeler and Son, Gloucester; about fourty vases of peas in variety from Messrs. G. Winfield and Sons, Gloucester; and a display of peas in table decoration vases from Mr. R. Sydenham, Birmingham.

Luton Sweet Pea Show.

The rose section of the Luton Show was this year merged into the National Sweet Pea Society's provincial exhibition, so that in these notes we only refer to the sweet peas, etc. It should be added that the enthusiasm for flowers steadily increases, and Messrs. Marks and Staddon continue as hon. secretaries, and Mr. H. Shane still acts as treasurer.

In several of the sweet pea classes there were no entries whatever. In the open amateurs' class for two dozen varieties, Mr. G. Puxtead, gardener to R. C. Peake, Esq., Redbourne, was the only exhibitor, and he was awarded first for a fair set. Premier award for a dozen bunches, distinct, fell to Mr. A. W. Ralph, Bedford, whose best bunches were of The King, St. George, Elsie Herbert, John Ingman, Countess Spencer, and Nora Unwin; Mr. F. B. Ellis, Sharbrooke, second; and Mr. Cresswell, gardener to the Earl of Lytton, Knebworth, third.

In the local class for a dozen bunches, distinct, Mr. E. Gibbons, gardener to A. Collings Wells, Esq., Luton, led with good bunches of Mrs. Collier, Clara Curtis, Evelyn Hemus, Jessie Cuthbertson, Mrs. A. Ireland, Helen Lewis, Countess Spencer, Etta Dyke, Helen Pierce, Mrs. H. Sykes, and Mid Blue; Mr. G. Puxtead second, and Mr. H. L. Sell, Luton, third. Mr. F. Burr, gardener to R. Burley, Esq., Luton, led for six bunches, and was followed by Mr. G. Bowles, Luton. Mr. Sell was the only exhibitor of three bunches, and was awarded a first prize.

For twelve bunches of five sprays each, Mr. E. Gibbons was a good first, showing Mrs. H. Bell, Evelyn Hemus, and J. Ingman in good form; Mr. J. Woodbridge, North Street, Luton, second; and Mr. F. E. Hall, Redbourne, third. Mr. H. Holyoak, Luton, led for six bunches of five sprays, followed by Mr. C. Waller, Luton.

In the single bunch classes there were some excellent blooms, and prizes fell as follows: White, Mr. M. Freeman, Cheverells, for Nora Unwin; pink, Mr. J. Woodbridge, Luton, for Constance Oliver; crimson, Mr. G. Westwood, Harpenden, for King Edward Spencer; rose, Mr. J. Woodbridge, for John Ingman; picotee, Mr. C. Waller, for Mrs. C. W. Breadmore; orange, Mr. Westwood, for St. George; yellow, Mr. Gibbons, for Clara Curtis; lavender, Mr. Waller, for Frank Dolby; bicolor, Mr. Gibbons, for Tweedy Smith; striped, Mr. J. Woodbridge, for Prince Olaf; maroon, Mr. Gibbons, for Prince of Asturias.

For six bunches of eleven sprays, Mr. A. Merry, Luton, scored, and for three bunches of eleven sprays, Mr. Merry was again first.

In the Ead's Challenge Cup class for six bunches of sweet peas, Mr. Collings Wells, again won the cup, showing John Ingman, Helen Lewis, Nora Unwin, Countess Spencer, Elsie Herbert, and Mrs. H. Sykes, in fine form, his bunch of Countess Spencer winning the Hucklesby Challenge Cup for the best bunch in the show. Mr. J. Woodbridge came second, and Mr. Holdstock, gardener to W. Scarth Dixon, Esq., Luton, third.

The Cottagers' Cup for six bunches fell to Mr. H. Clarke, Leagrave, and for six bunches of twenty sprays each, Mr. J. Woodbridge scored.

Miss H. Shane, Cliftonville, Luton, showed the best epergne of sweet peas, and Mr. Holdstock the best lady's spray. Mrs. Ruff, Sharnbrook, Beds, had the best table decoration of sweet peas, showing a dainty arrangement of Evelyn Hemus and Countess Spencer; Mrs. Munt, Stagenhoe Park, second, and Mr. H. L. Sell, third.

NON-COMPETITIVE.

One of the most wonderful and beautiful of non-competitive displays we have seen for a long time was the magnificent group of flowering and foliage plants so admirably staged by Mr. A. H. Metcalfe, gardener to Sir Julius Wernher, Bart., Luton Hoo. This filled the centre of one large tent, and was a fine display of rambling roses, Malmaison and perpetual carnations, crotons and palms, pink spiræas, hydrangeas, cattleyas, odontoglossums, and a host of other well-grown decorative material.

Mr. W. Bentley, Leicester, showed a collection of decorative and other roses, and Messrs. H. Lane and Son, Berkhamsted, had a collection of ornamental shrubs outside the secretaries' tent, and a selection of hardy flowers inside the sweet pea tent.

Messrs. Wm. Fells and Son, Hitchin, contributed an interesting rock garden exhibit, filled with alpines. Messrs. R. Harkness and Co., Hitchin, contributed a collection of roses, Messrs. Laxton Brothers sent a bank of hardy flowers. Mr. F. M. Bradley, Peterborough, showed roses largely.

Penarth Rose Society.

This newly formed society held its first show in Penarth on July 7, and made from every point of view a splendid commencement. Apart from the classes devoted to roses, the schedule embraced many for other subjects, chief amongst them being those for sweet peas, carnations, begonias, and table decorations. Throughout the classes the exhibits generally were of a high standard of merit, and the arrangements were excellent.

ROSES.

In the open division a class was provided for a collection of blooms shown with their own foliage and buds in a space 9ft. by 4½ft. Three collections were shown, the best, which secured the leading prize, being contributed by Mr. Crossling, Penarth Nursery, who had an exhibit of tastefully arranged and beautifully fresh blooms in great variety. Mr. Stephen Treseder, Cardiff, was placed second and Mr. William Treseder, The Nurseries, Cardiff, third, each staging splendid collections in their usual high-class manner. In a class for twelve varieties, five blooms of each, shown in vases, the three exhibitors previously named were the only competitors, and secured the prizes in the same order, Mr. Crossling's set consisting of Mildred Grant, Mrs. J. Laing, La France, Fisher Holmes, Caroline Testout, Ulrich Brunner, W. Shean, Victor Hugo, Frau Karl Druschki, Mrs. S. Crawford, Comtesse de Turenne, and Suzanne Marie Rodocanachi. The Messrs. Treseder staged similar leading varieties. In this class the National Rose Society's Silver-gilt Medal was awarded, in addition to the first prize in cash.

In the class for twenty-four blooms Mr. S. Treseder was the only competitor, and was deservedly awarded the leading prize, having good blooms of Queen of Spain, Frau Karl Druschki, Mamie, White Lady, Marchioness of Londonderry, Mrs. J. Laing, W. Shean, Alice Lindsell, Ulster, Hugh Dickson, and Duchess of Portland. For twelve blooms of any one dark variety Mr. S. Treseder was first with a good set comprising J. B. Clark; Mr. Crossling followed closely with Victor Hugo. In a similar class for any light variety Mr. S. Treseder was first with Dean Hole; Mr. Crossling second. The last-named was the only exhibitor in a class for a shower bouquet of roses, and staged a tasteful arrangement.

In the amateurs' class for eighteen blooms, not less than twelve varieties, there were five entries. Mr. H. Wheeler, gardener to Mrs. Jenner, Wencove Castle, occupied the first place with good blooms of Frau Karl Druschki, Mdme. Wagram, Ulrich Brunner, Her Majesty, La France, and Mrs. J. Laing; J. W. Courtis, Esq., was a good second. For twelve blooms of teas or hybrid teas there were five exhibitors, J. W. Courtis, Esq., taking leading honours, followed by Mr. H. Wheeler; and for twelve blooms, not less than six varieties, for which the National Rose Society's Silver Medal was added to the premier award, H. Hand, Esq., took the lead, followed by E. R. Payne, Esq., and E. R. Moxey, Esq. In a similar class for twelve blooms Mr. H. Wheeler led, followed by J. W. Courtis, Esq., and E. R. Moxey, Esq.; and for six blooms, A. W. Morris, Esq., was placed first and Mr. W. J. Short second. There were six entries for a bowl filled with roses, open only to lady competitors. Miss Parkhurst was first and Mrs. Flint second.

In the class for sweet peas, nine varieties, in which Messrs. R. Sydenham, Birmingham, provided the prizes, there were two exhibitors, Mr. Wheeler leading with good vases of George Herbert, Nora Unwin, Mrs. R. Spencer, Apple Blossom, Frank Dolby, Mrs. H. Sykes, Countess Spencer, Mrs. A. Malcolm, Helen Lewis; Mr. J. Buckland second. In the society's class for nine vases, the National Sweet Pea Society's Silver Medal accompanying the first prize, Mr. Wheeler again led, staging, amongst others, a good new purple variety named May Gerhold, the second position being occupied by H. A. Gerhold, Esq. In a class for nine varieties, open only to growers within the Penarth Urban District, a Challenge Bowl was offered, and was won by Lady Morel, who staged among others Rosabelle Hoar, Constance Oliver, A. J. Cook, Sutton's Queen, King Edward, Countess Spencer, Etta Dyke; J. W. Pyman, Esq., was a close second. In a class for six vases Mr. E. Harvey, Penarth, was first, with Frank Dolby, Evelyn Byatt, Paradise Ivory, Queen Alexandra, Dudley Lees, and Clara Curtis; Mr. Buckland second.

In competition for the prizes for a collection of carnations and picotees, arranged in a space 6ft. by 3ft., Mr. C. Wall, Melrose Nursery, Bath, obtained premier honours with excellent blooms. He also took first prize for six vases; J. W. Pyman, Esq., was placed first for six vases of border carnations and picotees and also for a single vase of fifteen blooms. Trade exhibits were noteworthy, and certificates of merit were awarded to Mr. Evans, Llanishen, for flowers of hardy perennials; Mr. W. Treseder for pæonies and other hardy flowers; Messrs. Young and Co., Cheltenham, for a fine collection of carnations; and Messrs. Norton and Co., Dinas Powis, for specimen ferns.

Chippenham Rose Show.

JULY 10.

The sixth annual competition of the Chippenham and District Rose Society was held on the above date, and proved a first-class exhibition. For the third year, though not consecutively, this young association has had the experience of very wet days, and this year will prove another heavy loss. The ambition of the executive appears to be not to make a gain, but to encourage rose growing, and to pay its way.

Over 2,000 specimen roses were staged in the six divisions, and the open classes gave an opportunity for admiring any number of very superior blooms. In the class for forty-eight singles, seven competed. Messrs. Alex. Dickson and Sons, Newtownards, Ireland, scored a premier with an exceptionally fine collection; it was, indeed, so good as to be equal to anything that firm has yet exhibited; the best blooms were Her Majesty, Mildred Grant, Princess M. Mertchersky, Mrs. W. J. Grant, O. Terks, Geo. Dickson, Mrs. T. Roosevelt, Victor Hugo, Wm. Shean, Bob Davison, Duchess de Morny, Marchioness of Londonderry, Marquise Lita, Queen of Spain, Alice Lindsell, C. Testout, J. B. Clarke, Mad. J. Gravereaux, Francois Michelon, Bessie Brown, Hugh Dickson, Mad. M. Soupert, Mrs. J. Laing, Mrs. Cornwallis West, Geo. C. Waud, K. A. Victoria, Countess of Annesley, Mrs. Bateman, Mad. G. Luizet, F. Pemberton, Mrs. Foley Hobbs, and Countess of Oxford; the King's Acre Nursery Company, Hereford, second, and in the collection were the two N.R.S. medal blooms, viz., Queen of Spain, H.T., and Mad. Jules Gravereaux, T.; Messrs. F. Cant and Co., Colchester, were third; and Messrs. B. R. Cant and Sons were awarded a special prize. For thirty-six blooms eleven collections were staged, and the first prize was awarded to the King's Acre Nursery Company; and second to Mr. H. Drew, Longworth, Berks; Messrs. B. R. Cant and Sons third; and Mr. E. J. Hicks was awarded an extra. There were nine exhibitors of a dozen triplets, Messrs. A. Dickson and Sons leading, and Messrs. B. R. Cant and Sons second. In the class for twelve teas or noisettes, eight boxes were staged, and Messrs. Alex. Dickson and Sons, Mr. Geo. Prince, Longworth, and Mr. H. Drew were the prize-takers. In the corresponding class for twelve blooms of H.P. or H.T., thirteen boxes were staged, and Messrs. Dickson and Sons were first, Messrs. F. Cant and Co. second, and the King's Acre Nursery Company third.

Bouquets of garden roses, in a dozen varieties, produced an attractive display, Mr. J. Mattock, New Headington, Oxford, leading, Mr. G. Prince, Messrs. B. R. Cant and Sons, and Messrs. F. Cant and Co. taking equal second cards.

In the open amateurs' section Mr. Conway Jones, Hucclecote, was most successful, scoring a premier for two dozen varieties, thus securing the King's Acre Challenge Cup and Gold Medal, and in this class the N.R.S. silver medal with a fine bloom of Mdme. J. Gravereaux; the second prize was awarded to the hon. secretary, Rev. T. G. W. Henslow, Stanton Rectory, Chippenham; Rev. R. Powley, Upton Scudamore, Warminster, third. In the next four classes for eighteen varieties, twelve H.P. or H.T., twelve T. or N., and four triplets, Mr. Conway Jones headed the list with superior blooms, the Rev. R. Powley and the Rev. T. G. W. Henslow taking the lower cards; the Rev. R. Powley first for six teas. In the section limited to a ten mile radius, the Rev. T. G. W. Henslow scored a first for a dozen of any sort, with La France; Mrs. Rogers, Rowden Hill, second; and Mr. W. T. Ball third. The class for twenty-four singles was limited to two exhibits, Rev. T. G. W. Henslow first; he also headed the list for eighteen in a stiffer competition, and again for a dozen teas or noisettes, and six H.P. or H.T. In this division Mr. B. de Bertodano, Cowbridge House, Malmesbury (gardener, Mr. Deadman), secured a silver medal for the best H.P., and Mr. W. Smith for the best tea rose, with a perfect White Cochet. Cottagers also showed well in the five classes for roses.

Tuberous begonias were nicely presented by Mr. Deadman, and Mr. Pitts, gardener to Sir Audley Neeld, Grittleton, both single and double, in groups of six, three, and one specimen.

Sweet peas were beautifully set up in eighteen bunches, the cards going to Mr. Geo. Humphries, Kington Langley, and Sir A. Neeld. Hardy cut flowers as collections represented a wide range of varieties, as staged by Colonel M. Neeld, Langley; Sir A. Neeld, and Miss Ashe, Langley. Strawberries were not a large show, but excellent for quality, the premier award going to Mr. Deadman, whose varieties were Leader, Monarch, Bedford Champion, Sensation, The Bedford, and Royal Sovereign; the heaviest berries from the same exhibitor being Monarch variety.

Miscellaneous contributions included a noble display of perennials from Messrs. Barr and Sons, London, and the King's Acre Nursery Company; Messrs. Geo. Cooling and Sons, Bath, staging a fine arrangement of garden roses, and a smaller collection came from Mr. Rowland Adams, Bath.

National Carnation Society.

JULY 21.

The annual exhibition of the southern section of the National Carnation Society was held at the Horticultural Hall on Wednesday last, and was one of the most successful gatherings the society has held. Show flowers staged in the orthodox manner were throughout of remarkably high quality, and the selfs shown with long stems and foliage were staged in large numbers and capital style, and proved a highly attractive feature. The flowers staged in the competitive classes were supplemented by groups of carnations from Messrs. Stuart Low and Co., Bush Hill Park Nurseries, Enfield, Mr. Grubb, and other exhibitors, which are described in our report of the Royal Horticultural Society's meeting, and by numerous groups of miscellaneous plants, of which the greater number had also been left over. The hall was well filled, and presented a bright and attractive appearance, and there was a large attendance, the hall being crowded throughout the greater part of the afternoon.

In competition for the prizes for eighteen carnation blooms, bizarres and flakes, Mr. J. Douglas, Edenside, Great Bookham, was first with splendidly developed blooms of Master Fred, Guardian, J. S. Hedderley, Gordon Lewis (2), W. Skirving, Admiral Curzon, Sportsman, Sarah Payne, Robt. Houlgrave, Admiral Curzon (premier bizarre), Mrs. Douglas, and several seedlings; Mr. Chas. Blick, Warren Nurseries, Hayes, was a capital second with finely finished blooms. For eighteen blooms of self carnations, Mr. J. Douglas was again first, staging Miss Willmott (2), Mrs. Griffith Jones (2), Splendour, W. H. Parton (2), Mrs. T. E. Henwood (4) (premier self), Daffodil (2), Mrs. Geo. Marshall, Ann Hathaway, Mrs. Robt. Gordon, and Cardinal, in superb form. Mr. Charles Blick was second with a fine stand of blooms. Mr. J. Douglas was first also for eighteen fancy carnations, the varieties being Lord Steyning (2), (premier fancy carnation) Highland Lass, Mrs. Arthur Young (2), Pasquin (2), Liberté, Alice Byron Stewart (2), Highland Lassie, Sam Weller (2), King Solomon, Mrs. Penton, Hidalgo, Sir Lancelot, and Grand Dame; Mr. C. Blick followed closely for second place. Mr. J. Douglas obtained premier honours in the class for eighteen white-ground picotees with a stand in which the following were finely represented: Queen of Spain, President, Fortrose, John Smith (2), H. Kenyon (2), Lavinia, Brunette, Little Phil (2), T. Williams (2), Favourite, Mrs. Sharp, Gannymede; Mr. Chas. Blick second with a fine stand, containing a superb bloom of Alcestis, which was selected as the premier heavy-edged white-ground picotee. The post of honour was occupied in the competition for the prizes for eighteen yellow-ground picotees by Mr. J. Douglas. In the collection were finely developed blooms of Flora McIvor (2), Burgomaster, Exquisite, Togo (2), Cymbeline, Lady Freemantle (2), Santa Claus (2), and Archie Brown; Mr. Chas. Blick second with a good set, which included a fine bloom of Her Majesty, that was selected as the premier heavy-edged yellow-ground picotee.

The section devoted to the classes for six varieties, three blooms of each, to be shown in vases with foliage, was a strong one, and the numerous collections produced a large and extremely beautiful display. For six selfs Mr. Douglas was a capital first with Daffodil, Miss Willmott, Cardinal, Mrs. Griffin Jones, Mrs. T. E. Henwood, Mina Sorrel; and Mr. Chas. Blick was second, with excellent blooms. For six fancy carnations, Mr. J. Douglas was again first, staging Mrs. Arthur Young, Lord Steyne, Erl King, Mr. Penton, Pasquin, Highland Lass (premier fancy carnation). The second award was made in favour of Mr. Chas. Blick. For six yellow ground picotees Mr. Charles Blick was first with splendid blooms of Daisy Boston, Colleen Bawn, Her Majesty, F. W. Goodfellow, Princess Juliana, and Miss Winifred; and Mr. J. Douglas was a close second. Mr. J. Douglas occupied the first place in the class for twelve varieties, three blooms of each, to comprise selfs, fancies, and yellow ground picotees, staging finely-developed flowers of Liberté, Daffodil, Mrs. R. Berkley, Agnes Sorrel, Lord Steyne, Cardinal, Miss Willmott, Pasquin, Amy Robsart, Santa Claus, and Peregrine; Mr. Chas. Blick second with a fine set.

The classes for twelve blooms were well filled, and in that for bizarre and flaked carnations Mr. H. R. Taylor, Cheam, was first with fine blooms of Fireman, Admiral Curzon, Joe Edwards, Torchlight (premier flake carnation), Bedouin, Merton, Tom Attrell, Murillo, and Crusader. The same exhibitor was also first for twelve self carnations, staging the following varieties in fine style, Miss Willmott, Much the Miller, Lady Malta, Maud Allan (2), Duchess of Wellington, Cardinal, Snowflight, W. H. Parton, Carabas, Leslie Miles, Caruso; Mr. H. Mathias, Stebbington, was second; and Messrs. Philips and Taylor, Bracknell, third, both having blooms of much merit. In the class for twelve fancies, Mr. Mathias was a splendid first with Lord Steyne, Devonian (2), Hidalgo, R. H. Rowberry, Liberté, Rony Buchanan, Pluto, Merlin, Erl King, Sam Weller, and Orlando; Messrs. Phillips and Taylor, Bracknell, were a good second; and Mr. W. Sydenham, Melbourne, Derby, a close third. For twelve white ground picotees Mr. H. R. Taylor was a capital first, his varieties being Queen of Spain (2), Dora Bright (2), John Smith, Favourite, Lavinia, Little Phil, Fortrose (premier light-edged picotee), Farino, and Kathleen; Mr. H. Mathias was a close second with blooms in a high state of development. The exhibitor last named occupied the post of honour for twelve blooms of yellow ground flowers, with Libra, Ida, Astrophel, Mrs. Hiriot, Styx, Leonora, Togo, Viola, and Libra at their best; Mr. H. R. Taylor was second, and Messrs. Phillips and Taylor third, with blooms of high quality.

The classes in the second division for undressed flowers of four varieties, to be shown in vases, three in each, were well filled, and the large number of blooms in competition produced an attractive display. For four self carnations Mr. H. Lakeman, Thornton Heath, obtained premier honours with superb blooms of Hildegarde, Miss Willmott, Cardinal, and Mrs. Guy Sebright; Miss Skiffner, Lewes, was second, and Mr. H. R. Taylor third.

For four fancy carnations, Miss Skiffner was first with Richness, Rony Buchanan, Juno, and H. Falkland; Mr. R. Morton, Woodside Park, second; and Messrs. Phillips and Taylor third. In the corresponding class for four yellow-ground picotees, Mr. H. R. Taylor was first with Ophir, Onward, and Mrs. W. Heriot; Mr. H. Mathias second, and Mr. R. Morton, Woodside Park, third. There was a very keen contest in the class for nine varieties, three blooms of each, and to include selfs, fancies, and yellow-ground picotees, and Mr. H. Mathias was first with Peregrine, Helen, Merlin, Miss Willmott, Rony Buchanan, Devonian, Libra, and Sam Weller; Mr. H. R. Taylor second, and Mr. W. Sydenham, Melbourne, third. The blooms were throughout of a high order of merit.

The two sets of classes for six blooms were well filled, and in these the most successful of the exhibitors were Mr. J. Fairlie, Acton; Mr. C. A. Linzee, Arlesford; Mr. E. Charrington, Limpsfield; Mr. E. Hooper, Acton; Mr. J. J. Keen, Southampton; Mr. C. A. Philbrick, Reading; Mr. G. J. Shelden, and Mr. E. Grey. In the fourth division for six varieties, undressed blooms, the chief awards were made in favour of Mr. J. H. Lininglen, Newport, Isle of Wight; Mr. L. G. Guyspeerdt, Mr. C. A. Philbrick, and Mr. A. L. Brown. In both divisions the blooms possessed much merit.

The contributions to the open classes for nine blooms of one variety, undressed, and to be staged in vases with carnation foliage, were numerous, and good, and formed a feature at once distinct and attractive. Here the principal prize-takers were Mr. J. Douglas, Mr. R. Morton, Mr. H. R. Taylor, Mr. H. Lakeman, Messrs. Phillips and Taylor, Mr. C. Blick, Miss Skiffner, and Mr. H. Mathias. In the class for nine blooms of a scarlet carnation, Mr. J. Douglas was first with Cardinal, a superb variety that was awarded a silver-gilt medal for its exceptional excellence.

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Sir J. B. Robinson, Park Lane, W. (Conservatory at Cape Town).
Sir Robt. Peel, Drayton Manor, Tamworth.
Sir Philip Chetwode, Oakley Hall, Market Drayton.
Count Gurowski, Woolhampton House, Reading.
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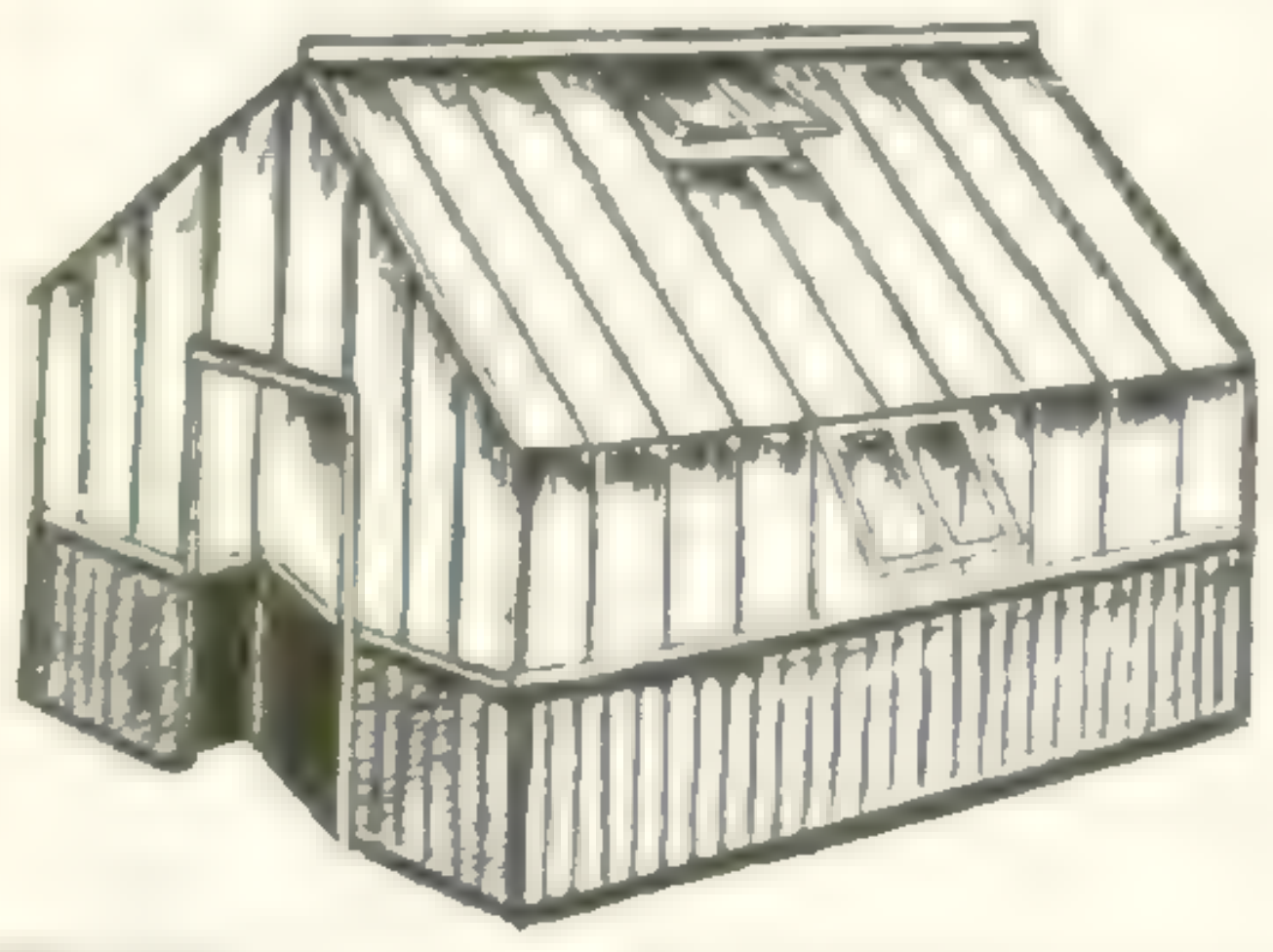

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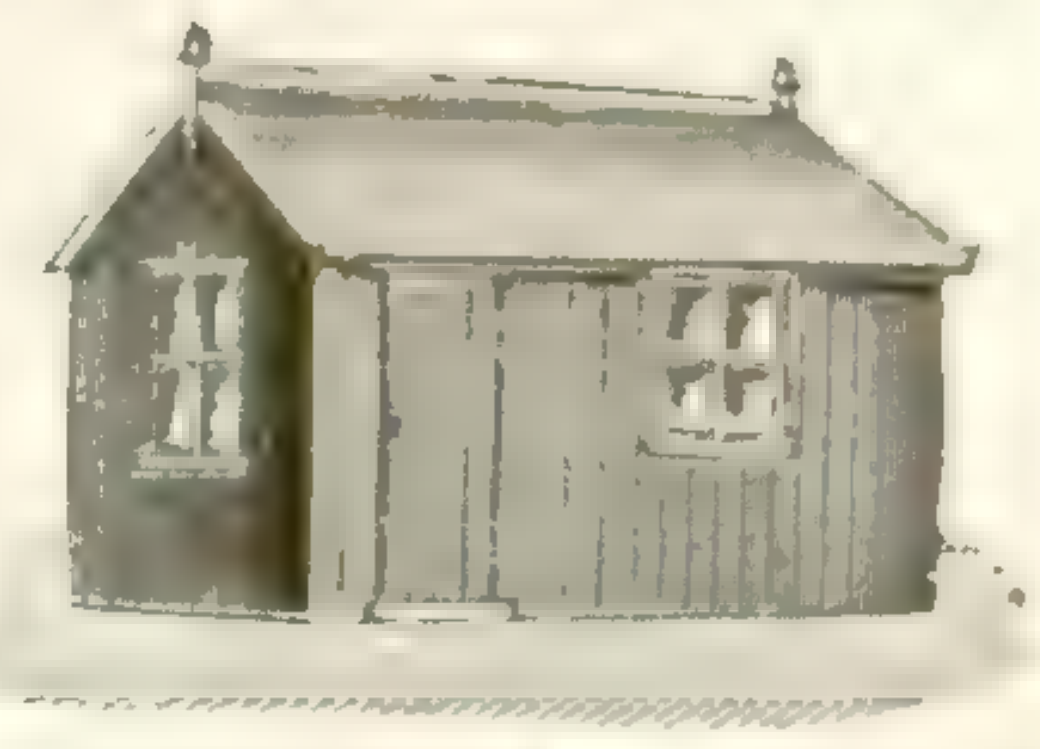

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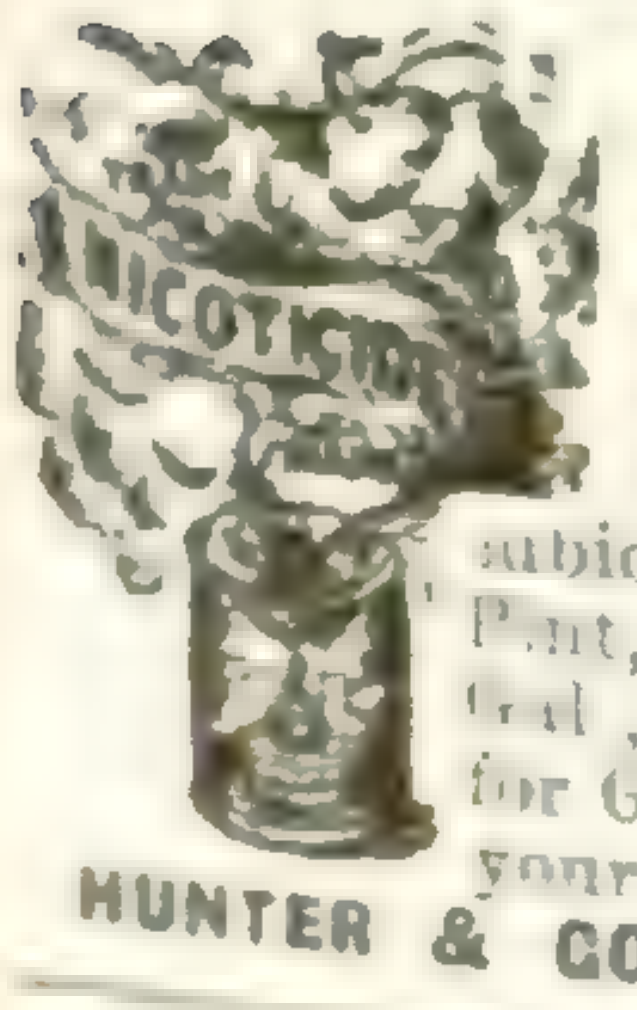

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The Horticultural Club.

Thanks to the very kind invitation extended to the members of this club by Leopold de Rothschild, Esq., a party of gentlemen and ladies, numbering between sixty and seventy, spent a most delightful day at his beautiful estate of Ascott, Leighton Buzzard, on Thursday, the 15th instant. Mr. Harry J. Veitch, who undertook the arrangements, saw to the provision of saloon carriages at Euston, and brakes at Leighton, where the party arrived in time to look round the delightful gardens prior to paying less æsthetic attention to the lunch provided for them by Mr. Rothschild. A prior visit was, however, paid to the renowned stud farm, where several of the priceless race-horses were paraded for the visitors enjoyment, the beautiful creatures demonstrating to the utmost the perfection of equine symmetry, condition, and capacity for speed; the staghounds then came in for a share of admiration, the charming little puppies making the best claim to the ladies' attention.

Sir John Llewelyn, Bart., presided at the lunch, and, after the usual loyal toast, proposed the health of Mr. Leopold de Rothschild, and a cordial vote of thanks to Mr. Harry J. Veitch for the admirable way in which he had enabled them to profit by their host's hospitality. Mr. Veitch, in his reply, made a well merited reference to the kind services of Mr. Jenkins, the head gardener, who acted as guide on this occasion.

The weather, fortunately, was delightful, an oasis of summer in a desert of unseasonable rain and chill, the only reminder of which was a few minutes of threatening misty rain when after lunch the party was driven over to Mentmore, the Earl of Rosebery's estate, the imposing towers of whose mansion formed a salient feature in the broad landscape visible from the Ascott Gardens. Returning to Ascott, tea was provided, after which the party returned to London full of pleasant reminiscences of another delightful outing added to the list of those which it has been the privilege of the members of the club to enjoy for many years past.

Reading and District Gardeners' Association.

The Reading Gardeners' Association is again to be congratulated on bringing to a most successful issue another "Annual" excursion, on Thursday, July 15, when, by kind permission of Lord and Lady Northcliffe, Sutton Place, their delightful and historic residence near Guildford, was visited.

Special coaches were attached to the 9.55 a.m. S.E.R. train from Reading, and a large party, accompanied by the president, Mr. Alderman Parfitt, J.P., assembled at the station, and was augmented by additions at Earley, Wokingham, and Wellington College.

On arriving at Guildford, brakes were in readiness to convey the excursionists, to the number of nearly 150, to their destination, Sutton Place being reached about 11.45, where they were met by Lord Northcliffe's resident agent, Mr. Kay, and the head gardener, Mr. Goatley. A tour of the extensive and beautiful gardens at once commenced, the visitors being first taken through a portion of the Experimental Farm, which their fellow-member, Mr. Chas. Foster, recently inaugurated for Lord Northcliffe, then into the kitchen and walled gardens, everything seen being in a perfect degree of cultivation. The lawns and pleasure grounds surrounding the mansion were next visited, and a peep into the great hall and other parts of the mansion was much appreciated. Mr. Frederick Harrison in "Annals of an Old Manor House," says:

"Sutton Place was built between the years 1520 and 1530, and probably in the years 1523-1525, by Sir Richard Weston, an able statesman and a favourite of King Henry VIII. It is, if not the earliest, at least one of the very first extant specimens in England of a mansion-house built wholly as a peaceful dwelling, and entirely without any thought of defence. . . . The great hall is fifty-one feet six inches in length, twenty-five feet six inches in breadth, and nearly thirty-one feet in height. The fourteen windows—having ninety-two separate lights in all—are adorned with shields and quarries of painted glass, one coat or set of devices in each light."

Luncheon, generously provided by Lord and Lady Northcliffe, was taken at 1.30 p.m. Mr. Kay presided, and was supported by Mr. Alderman Parfitt, Mr. Leonard Sutton (vice-president, who arrived by motor), Mr. W. Pole Routh, Mr. J. Goatley, etc. At the conclusion of the repast several toasts were submitted, and a telegram despatched to Lord Northcliffe thanking him for his generous hospitality. The company was then conducted by Mr. Goatley to (from a professional point of view) the most charming feature of Sutton Place, viz., the glorious and extensive wild garden, where, note-book in hand, many of the members were content to pass the remainder of the day.

At 3 o'clock a cricket match, the Visitors v. Sutton Place Club, was commenced on the splendid ground in the park, the home eleven being found to be strong but generous opponents. Tea, provided by the noble host and hostess, was taken at 5.15, and at 6.15 the brakes put in an appearance to convey the party back to Guildford, Reading being reached at 8.6 p.m. Perfect surroundings, a gloriously fine day, and generous hospitality, contributed to make the excursion to Sutton Place a red-letter day in the annals of the Association.

Thanks are due to Mr. Kay and Mr. Goatley for their efforts to promote the comfort of their visitors.

United Horticultural Benefit and Provident Society.

The monthly meeting of this society was held at the Royal Horticultural Hall, Vincent Square, Westminster, on Monday, July 12, Mr. Charles F. Harding in the chair. Eight new members were elected. The death certificate of the late Mr. William Colton was produced, and a cheque for £71 10s. 2d. was drawn for his nominee, being the amount standing to the late member's credit in the books of the society. The usual quarterly payments from the Benevolent Fund were made, and two lapsed members' accounts paid out. A cordial vote of thanks to the chairman ended the meeting.

East Anglian Horticultural Club.

"A splendid display of flowers, fruits, and vegetables." Such was the general verdict of the members at the July meeting of this club. Sweet peas predominated; roses, with long stems and otherwise, were grand; strawberries supplied the feature of the fruit section; whilst culinary peas saw several keen contests, and some splendid pods of the Matchless Marrow variety. The educational side of the evening was devoted to an essay competition for under gardeners upon the "Cultivation of the Strawberry." Three very good papers were read, and after a short deliberation the judges gave their awards as follows: Mr. E. Hales, first; Mr. E. J. Ottaway, second; and Mr. R. Bird, third.

The next day a party of nearly one hundred members and friends joined in the annual summer excursion. The rendezvous this year was to the beautiful gardens of Earsham Hall, by kind permission of Captain Meade, J.P., D.L. These gardens have many old associations besides a great many modern improvements, carried out under the superintendence of Mr. Andrews, the present head gardener. What was recently a meadow is now a beautiful lake with hardy flowers, shrubs of all kinds, and pergolas of roses. The bamboo plantations surprised everyone. 'Twas a veritable jungle. Adjacent to these was a rock garden, an acre in extent, and filled with gems from the Alps and other places. It was gratifying to see the note books brought out and jottings made on "this and that" subject, as one knows that interest is evoked then, and that lessons are being learnt. The vineries, peach-house, orchid and stove houses all were visited, and Mr. Andrews complimented on the healthy look of the occupants. Many felt sorry when, after a ramble through the fruit and vegetable gardens, the time had come for departing, but as arrangements had been made for tea at Bungay, two miles away, this was inevitable. Thanks were accorded to Captain Meade and also to Mr. Andrews. Whilst every praise was due to Mr. W. L. Wallis, the secretary, for the splendid arrangements he had made for the comfort of the members.

MARKETS.

COVENT GARDEN.

Flowers.

Sweet peas, roses, and carnations continue abundant, and for flowers of good quality there is a brisk demand at fairly good prices.

		s.	d.		s.	d.
Adiantum cuneatum	per doz. bun.	5	0	to	9	0
Asparagus	per bun.	1	0		3	0
Carnations	per doz. blms.	2	0		3	6
,,	per doz. bun.	9	0		12	0
,, Malmaisons	per doz.	8	0		10	0
Cattleyas	per doz.	10	0		12	0
Croton leaves	per bun.	1	0		1	6
Cypripediums	per doz. blms.	1	6		2	6
Eucharis	per doz.	2	6		3	6
Forget-me-nots	per doz. bun.	1	6		2	0
French fern	per doz. bun.	0	6		1	0
Gladiolus	per doz. bun.	3	0		5	0
Gypsophila	per doz. bun.	2	0		3	0
Ixias	per doz. bun.	2	0		3	0
Lilium auratum	per bun.	2	0		3	0
,, speciosum	per bun.	1	6		3	0
,, longiflorum	per bun.	2	0		3	6
Lily of the Valley	per doz.	6	0		9	0
Marguerites, white	per doz. bun.	1	6		3	0
Mignonette	per doz. bun.	3	0		5	0
Odontoglossums	per doz. blms.	2	0		2	6
Pelargoniums	per doz. bun.	4	0		6	0
Roses	per doz.	1	0		5	0
Sweet Peas	per doz. bun.	2	0		5	0
Stocks	per doz. bun.	2	0		3	0
Tuberoses	per doz.	0	3		0	4

Fruits.

Most of the soft fruits are plentiful and of excellent quality.

		s.	d.	s.	d.
Apricots	per box	0	8	1	3
Bananas	per bun.	3	0	10	0
Cherries	per box	0	8	1	6
,,	per ½-sieve	3	0	5	0
Currants, black,	per ½-sieve	5	0	6	0
Currants, red	per basket	2	0	2	6
Figs	per doz.	1	3	2	6
Gooseberries	per ½-sieve	1	9	2	6
Grapes, English	per lb.	1	6	3	6
,, Guernsey	per lb.	0	9	1	9
Lemons	per case	8	0	25	0
Melons	each	1	0	2	0
,, French Cantaloupe	each	2	0	3	0
Nectarines	per doz.	2	0	12	6
Oranges, Denia	per case	12	0	22	0
,, Navels	per case	12	0	14	0
,, Valencias	per case	12	0	23	0
Peaches	per doz.	3	0	12	6
Pineapples	each	1	9	3	0
Strawberries	per doz. pun.	4	0	6	0
,,	per peck	1	3	3	0

Vegetables.

Cauliflowers and peas are plentiful and cheap, and there is an abundance of salading.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	2	6	to	3	0
,, Jerusalem	per bush.	1	9		2	6
Beet	per bush.	2	0		3	0
Beans	per lb.	0	4		0	6
,, Broad	per ½-sieve	2	0		2	6
Cabbage	per tally	2	6		4	0
Carrots, new	per doz. bun.	2	0		3	0
Cauliflowers	per doz.	1	0		2	6
Cucumbers	per doz.	2	0		3	6
Endive	per doz.	1	3		1	6
Horseradish	per doz. bun.	8	0		12	0
Lettuce, Cos	per tally	1	0		2	0
Marrows	per doz.	2	6		3	0
Mint	per doz. bun.	1	0		2	0
Mushrooms	per doz. lb.	6	0		9	0
Onions, Valencia	per case	9	0		12	0
,, Spring	per doz. bun.	2	0		3	0
Parsley	per doz. bun.	1	6		1	9
Peas, English	per bush	2	0		4	0
Spinach	per bush.	1	0		2	0
Tomatoes, English	per doz. lb.	2	6		4	0
,, Guernsey	per doz. lb.	2	3		3	0
Turnips	per doz. bun.	1	6		2	6

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French, new	per cwt.	5	0	5	3
Canary, new	per cwt.	4	9	5	0

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

HEDGE CLIPPING.—E. S., Hertford: The present is a good time for trimming up hedges, as the growth subsequently made will be short and stout, and will become hard and ripe before winter.

FEATHERS AS MANURE.—P. G., Nottingham: According to the Board of Agriculture feathers and feather waste have a considerable value as manure, and excellent results are obtained in some hop gardens by using about 20 to 25 cwt. of feathers, and the limited supply (amounting probably to only a few hundred tons a year) is rather keenly sought after. Large feathers are slow in action, the shafts especially taking a long time to decay; a sample containing many of them is not as valuable as one composed mainly of small, more easily decomposable feathers. The ammonia obtained is usually a little over 10 per cent., a not uncommon price being £5 per ton delivered, giving a unit price of 10s. In spite of the generally good mechanical condition, this price is, perhaps, too high. The price naturally fluctuates; farmers have been known to pay £5 15s., while samples have also recently been offered at 70s. to 80s. At these lower prices, where the unit value is 7s. to 8s., feathers must be considered cheap.

PEAT MOSS LITTER.—C. L. J., Yeovil: Peat moss litter is very valuable as a substitute for straw, as it is very absorbent, and prevents the escape of nitrogen in the form of ammonia. The material used for these products is the layer lying between the living vegetation which usually covers the surface of peat moors and the true black turf which is used as fuel. The process of manufacturing moss litter is a comparatively simple one. The peat is first cut by hand, and dried in large stacks in the open air. When dry it is removed to a factory, where it is torn into fragments by machinery and passed over sieves to remove the dust. The litter is then pressed into bales.

FAILING MULBERRY TREE.—W. S., Croydon: Quite often mulberry trees are sadly neglected until they arrive at a condition from which recovery is difficult. Why the mulberry, one of the most prolific bearers, should be left severely alone to take what care it may of itself, is almost past comprehension: and yet it is so left even in otherwise well-kept gardens. The mulberry delights in a deep, moist root-run, and a warm position, and as it bears large crops of fruit for many years, it rarely receives assistance such as apples, pears, etc., receive. Your tree is being starved, and is suffering from lack of moisture as well as food material. The big elms close to it are robbing it of food and moisture, and unless you can provide a rich top-dressing and keep the robber roots away, the tree will steadily die back.

DISEASED SWEET PEAS.—D. L., Salisbury: The plants are not diseased, i.e., attacked by fungi, but are suffering from a collapse due to the recent prolonged cold and wet weather. Very large numbers of plants have died this season, and a very general opinion is abroad that "streak" is the disease from which they have succumbed. This is not the case. We have seen numbers of plants attacked by "streak," and have been interested in this complaint from its earliest appearance among sweet peas, but where streak claims its tens, the yellowing and collapse takes its thousands. High cultivation, very artificial methods of propagation, close in-breeding, always bring difficulties in their train, and a bad season accentuates the difficulties. Pull up and burn

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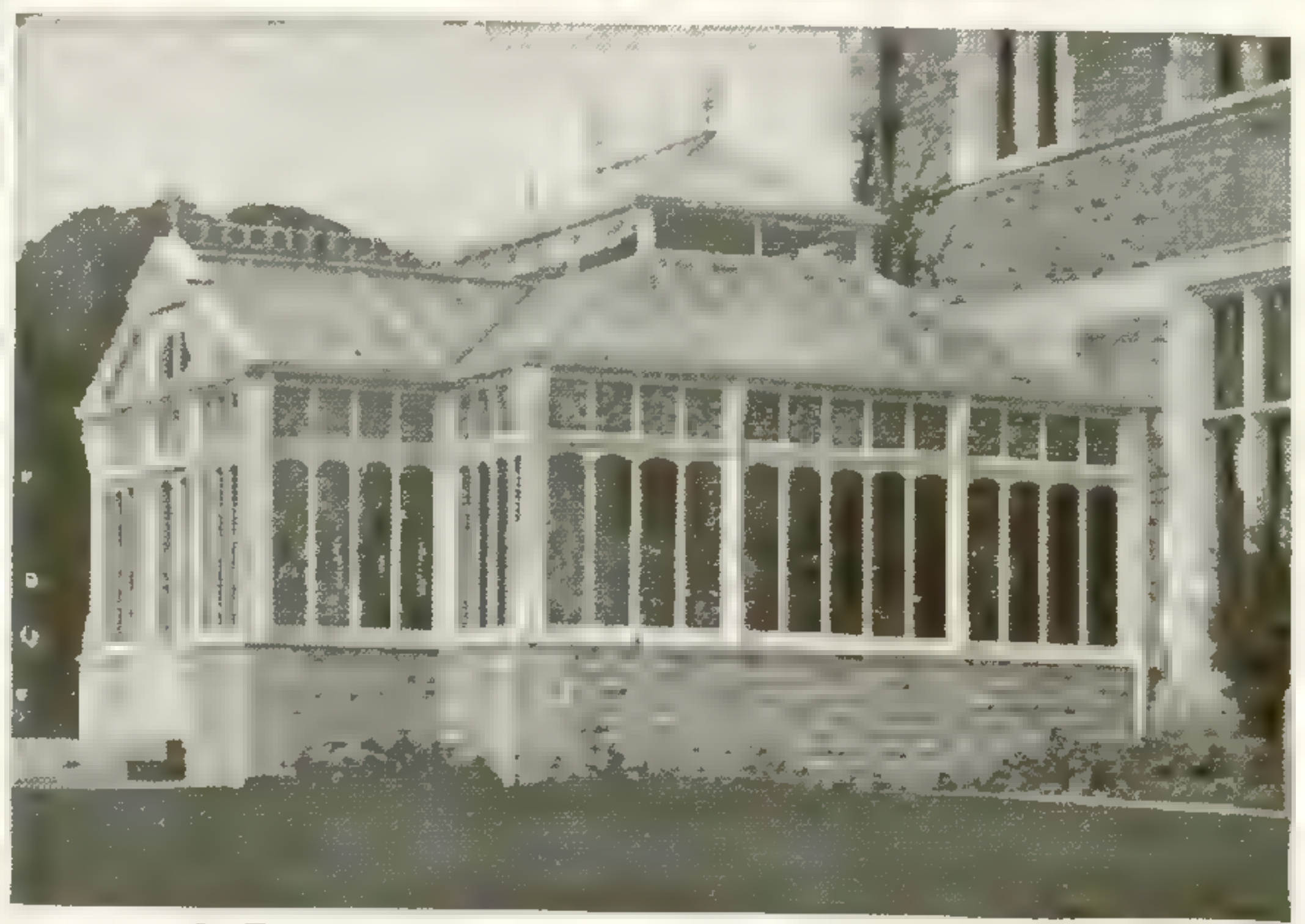

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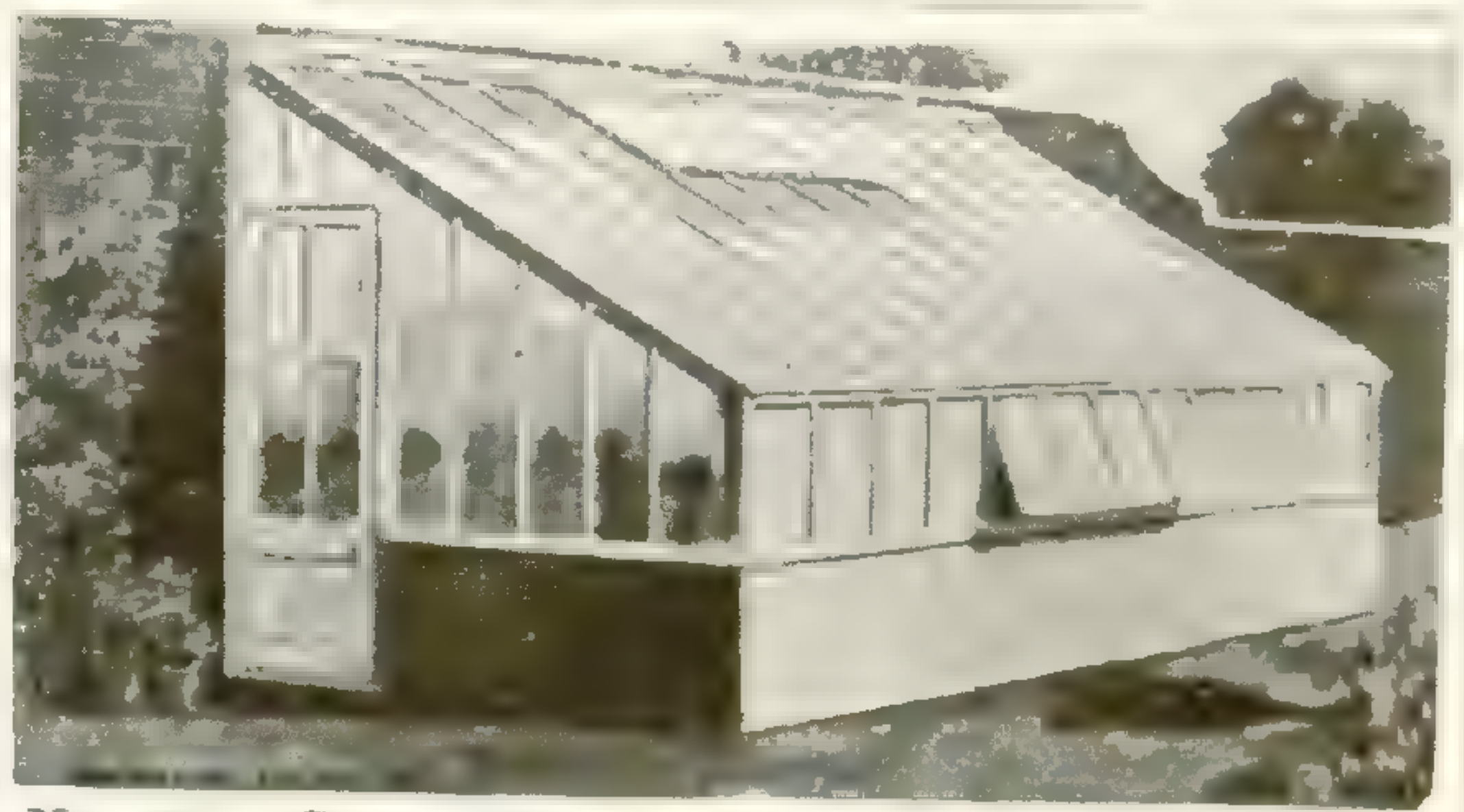

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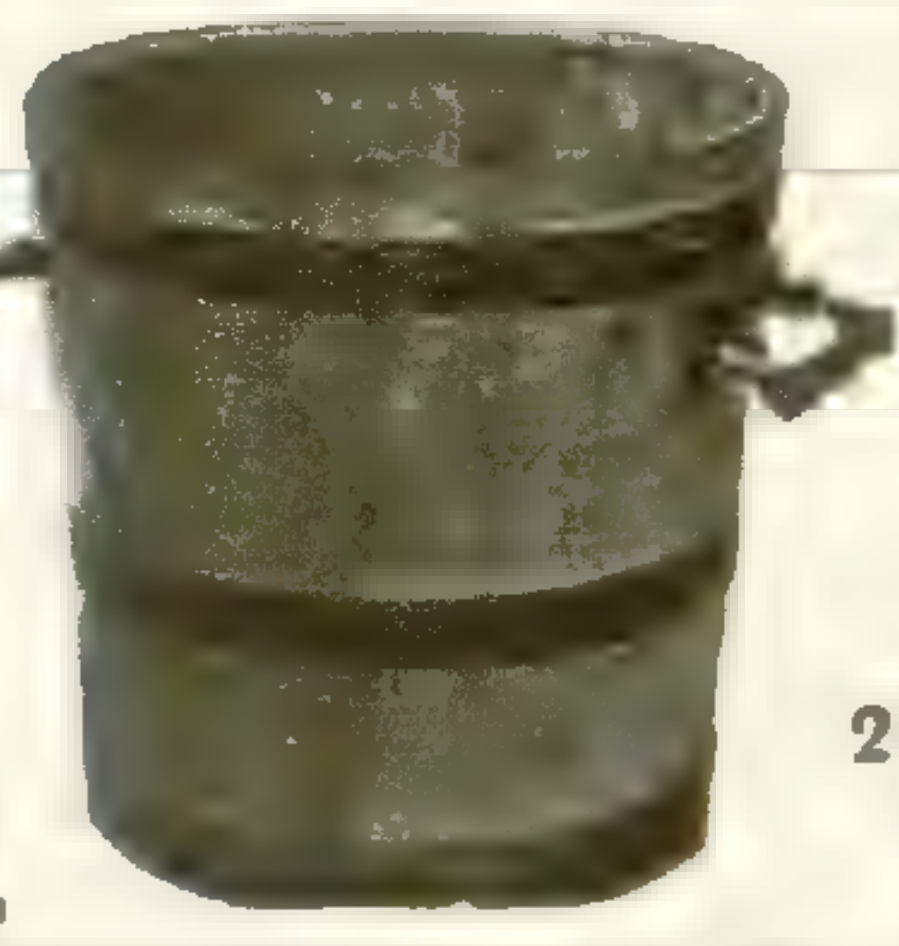

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the plants; you will find the root system is very poor. Make a small sowing out of doors in the autumn, and another in spring, and you are likely to have little trouble from streak or yellowing, but you must keep slugs and birds away.

CARNATIONS.—A., Hornsey: If the seedlings are layered, and the young plants well grown, the flowers should come finer than in the seed bed; that is to say, they would be larger, but whether they would improve in form and colour we cannot tell. You should grow a few of each variety that appeals to you, and test them another year. Artificial manure should be used very sparingly during late autumn and winter, and only then be used for plants that are flowering. Some of the carnation specialists offer a special manure that is good when used according to directions given with it; you will find addresses in our advertising columns. We do not recognise the variety of grape from the small leaf sent.

FLORISTS AND THE FACTORY ACT.—A. R. L., Lingfield: The matter formed the subject of an Order of the Secretary of State, dated October 13, 1908, and this directed that special exceptions be made to the Factory and Workshop Act of 1901, namely: (a) An exception permitting women and young persons employed in a workshop to have the times allowed for meals at different hours of the day; and (b) An exception permitting women and young persons during the times allowed for meals in the workshop to be allowed to remain in a room in which a manufacturing process or handicraft is being carried on; shall extend to women and young persons employed in florists' workshops, subject to the condition that in every workshop the occupier of which avails himself of this exception there shall be affixed a notice showing the names of the women and young persons employed in the workshop and the times allowed to each of them for meals.

CHRYSANTHEMUM CONFERENCE. — E. J. H., Glasgow: A chrysanthemum conference has been arranged for Wednesday, October 6 next, in the Essex Hall, Strand, W.C., in connection with the Floral Committee meeting of the National Chrysanthemum Society. There will be two sessions, one early in the afternoon, and one after the adjournment for tea. The particulars of papers to be read, etc., are not yet forthcoming.

NAMES OF PLANTS.

F. T., Torquay.—Spiræa Douglasi.

P. J., Towcester.—Melaleuca calycina.

E. M., Teignmouth.—Muehlenbeckia complexa.

S. S., Leicester.—1, Gypsophila elegans; 2, Impatiens Sultani; 3, Gasteria verrucosa.

L. K. B., Yeovil.—1, Kleinia articulata; 2, Althæa ficifolia; 3, Hoffmannia Gheisbreghtiana.

M. E. C., Gravesend.—1, Gilia ciliata; 2, Gladiolus psittacinus; 3, Mimulus glutinosa; 4, Dimorphotheca aurantiaca.

C. J. M., Leyton.—1, Gaultheria procumbens; 2, Statice Gmelina; 3, Peristeria elata; 4, Perilla nankinensis; 5, Solanum jasminoides.

Osmanthus ilicifolius purpureus is a singularly effective shrub, and one that is fortunately making great headway in gardens. It appears to succeed under similar conditions to the type, which it resembles in many respects. The most noteworthy character is the colour of the leaves, which are of a rich glowing purple, and this is most pronounced in those of the current season's growth. Here it is planted near to the coloured forms of Prunus spinosa and P. Pissardi, and the polished leaves of this shrub stand out in marked contrast to these others, the colour alone rendering it most distinct and conspicuous at some distance. It is valuable for use in gardens where winter effect is desired, as although the purple colour is much weaker at that season, it still stands out distinct among those shrubs whose foliage is normally green.—THOMAS SMITH.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet,

DATE. 1909. July 11 to July 17.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
July 11—Sunday	1 48	57	53	60	47
„ 12—Monday......	3 12	53	50	64	51
„ 13—Tuesday	2 54	61	56	70	51
„ 14—Wednesday .	5 30	61	58	72	58
„ 15—Thursday ...	6 0	63	58	70	55
„ 16—Friday..	—	58	57	67	54
„ 17—Saturday ...	4 54	66	62	73	58
Means	(total) 24 18	59	56	68	53

DATE. 1909. July 11 to July 17.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
July 11—Sunday	0.18	60	60	57	43
„ 12—Monday ...	—	58	59	57	50
„ 13—Tuesday... ..	trace	59	59	57	47
„ 14—Wednesday .	0.02	60	59	57	55
„ 15—Thursday ..	0.12	61	60	57	54
„ 16 Friday..... ..	0.07	61	60	57	53
„ 17—Saturday ...	—	61	60	57	58
Means ...	(total) 0.39	60	59	57	51

FORTHCOMING ENGAGEMENTS.

WEDNESDAY, July 28.—Haywards Heath Flower Show.
Hook Flower Show.
Ashtead Flower Show.
Chesterfield Horticultural Society.
Leamington Flower Show (two days).
THURSDAY, July 29.—Southport Flower Show (three days).
FRIDAY, July 30.— Cheadle Floral Society (two days).
MONDAY, August 2 (Bank Holiday). — Carshalton Flower Show.
Weybridge Cottagers' Show.
TUESDAY, August 3.—Royal Horticultural Society; Committees meet 12 o'clock. Lecture at 3 p.m. on "Water Plants," by Mr. Fred W. Moore, V.M.H.; Scientific Committee at 4 o'clock.
Leicester Floral Fête (two days),
Thornton Heath Flower Show.
WEDNESDAY, August 4.—Northampton Summer Show (two days).
SATURDAY, August 7.—French Horticultural Society of London.
MONDAY, August 9.—United Horticultural Benefit and Provident Society; Committee Meeting.
TUESDAY, August 10.—Royal Botanic Society's Anniversary Meeting.
Claycross Horticultural Society.
WEDNESDAY, August 11.—Chippenham Horticultural Society.
Taunton Deane Flower Show (two days).
East Anglian Horticultural Club Meeting.

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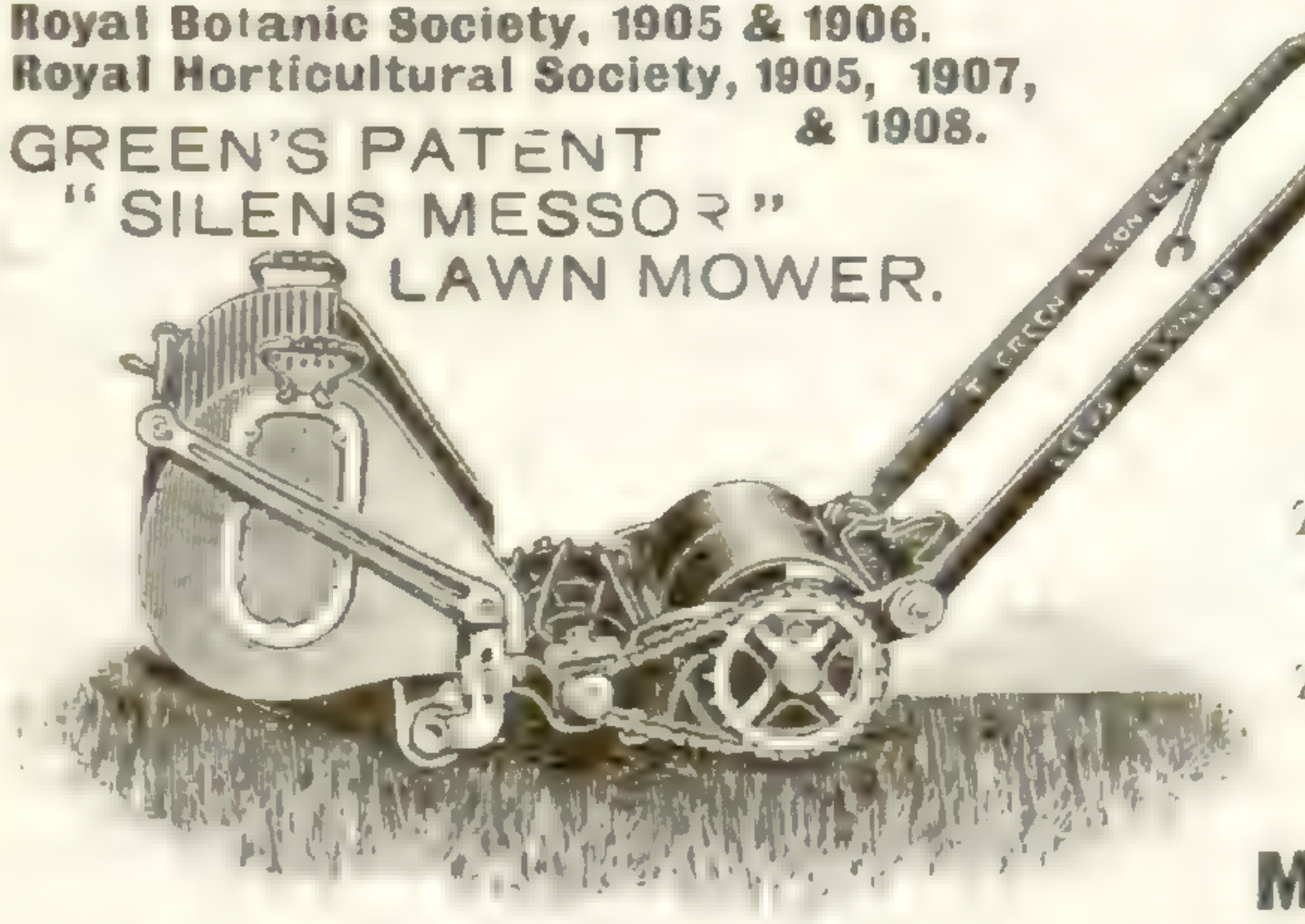

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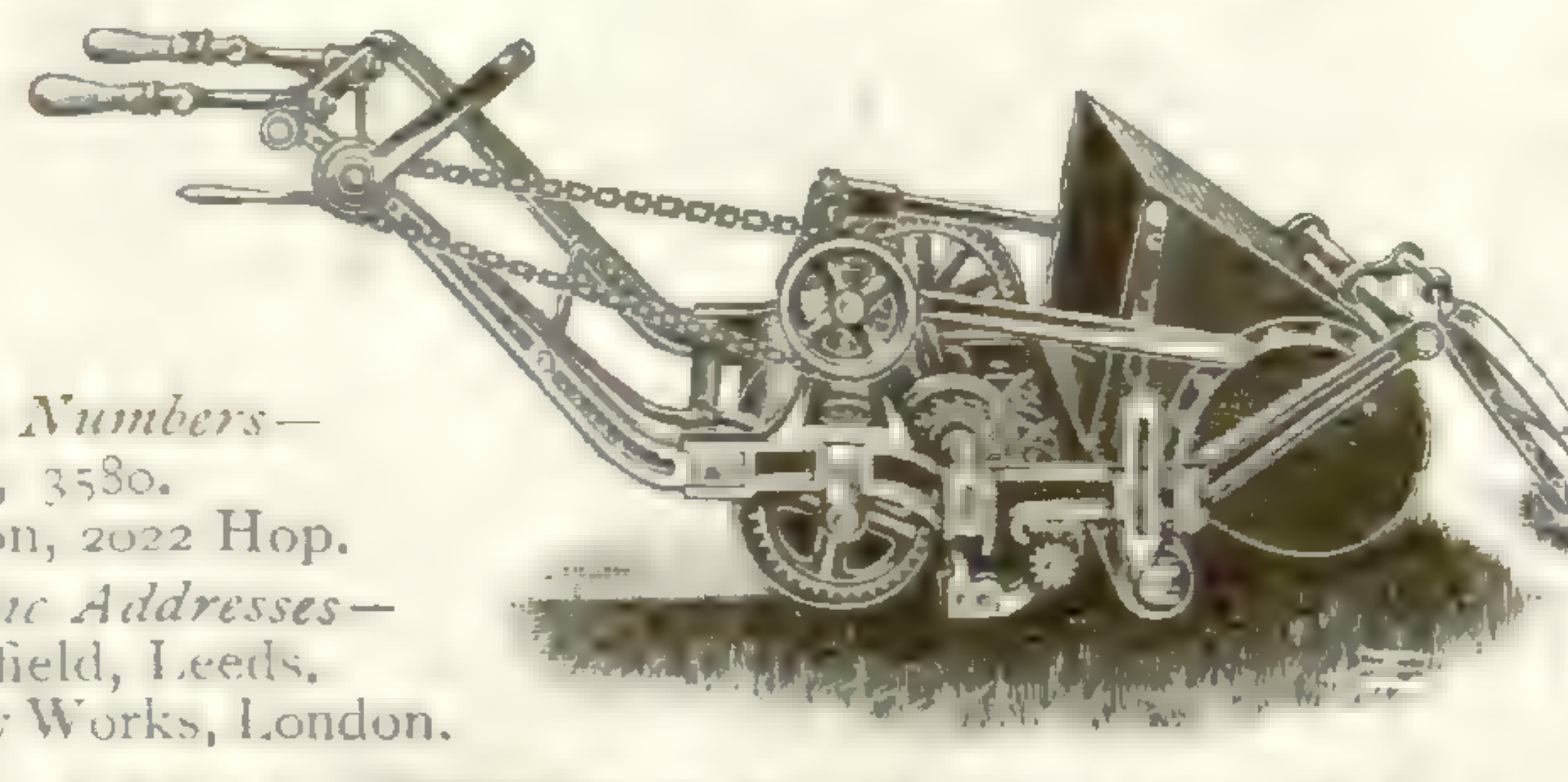

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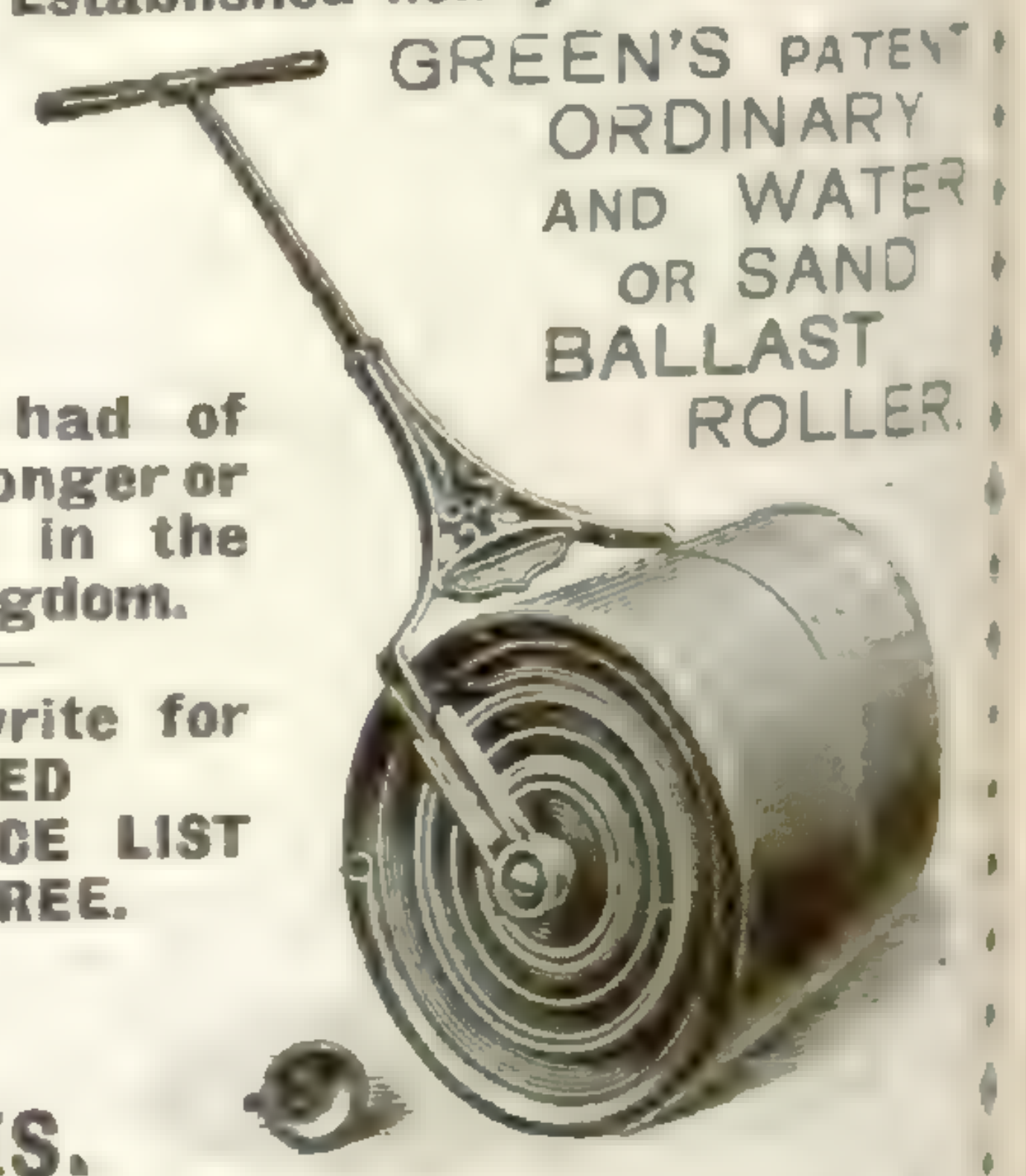

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THE
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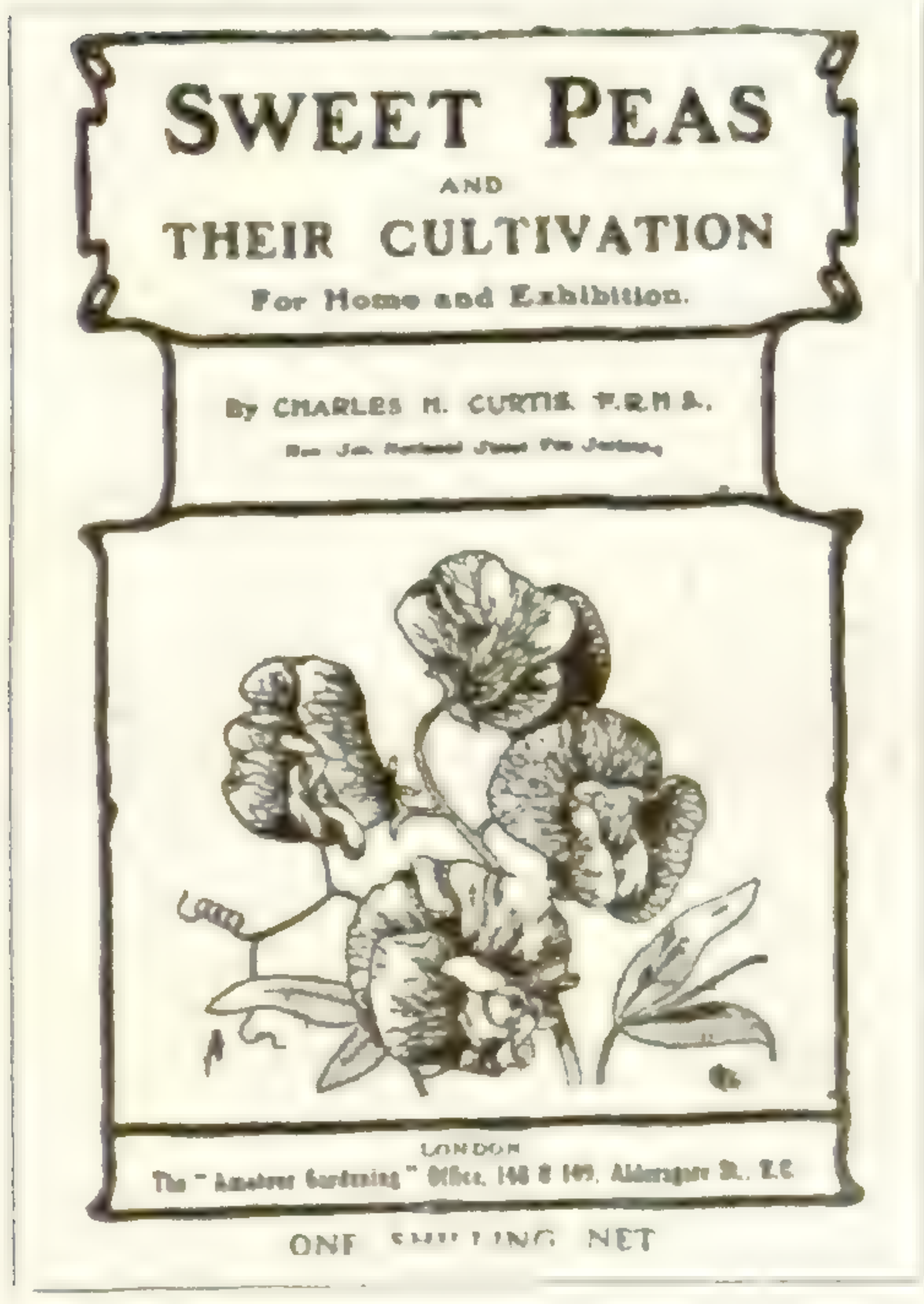

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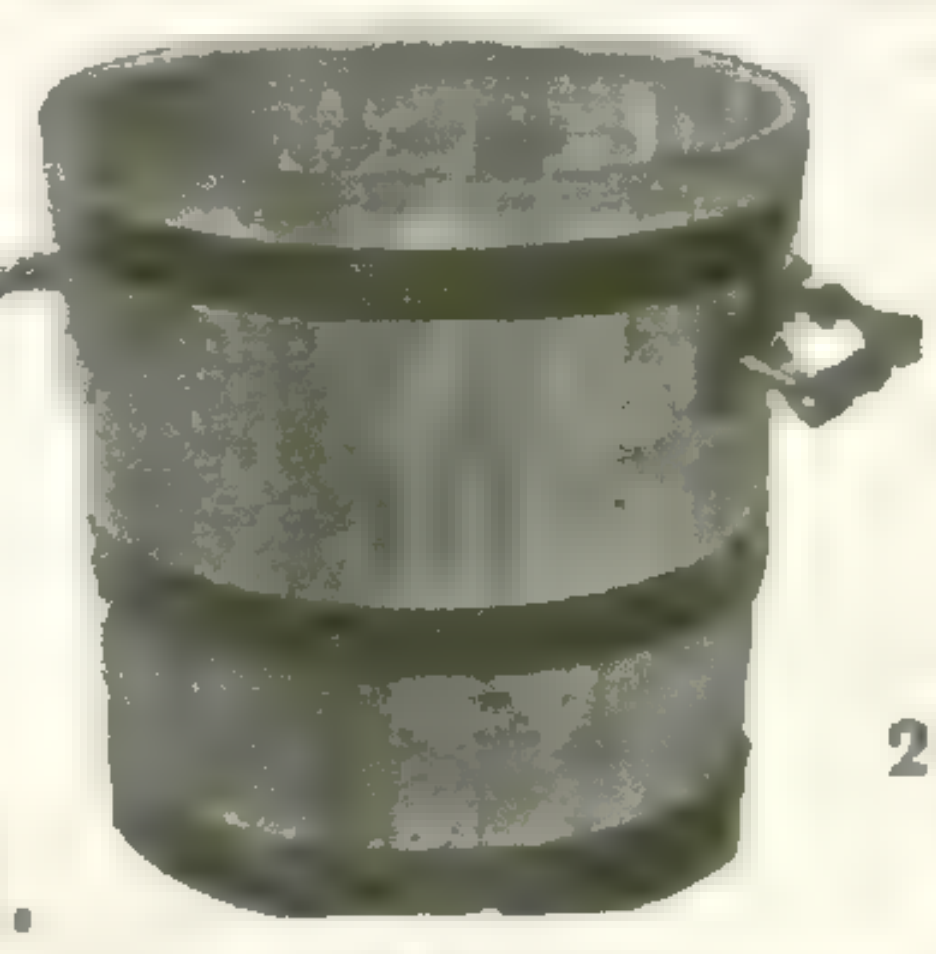

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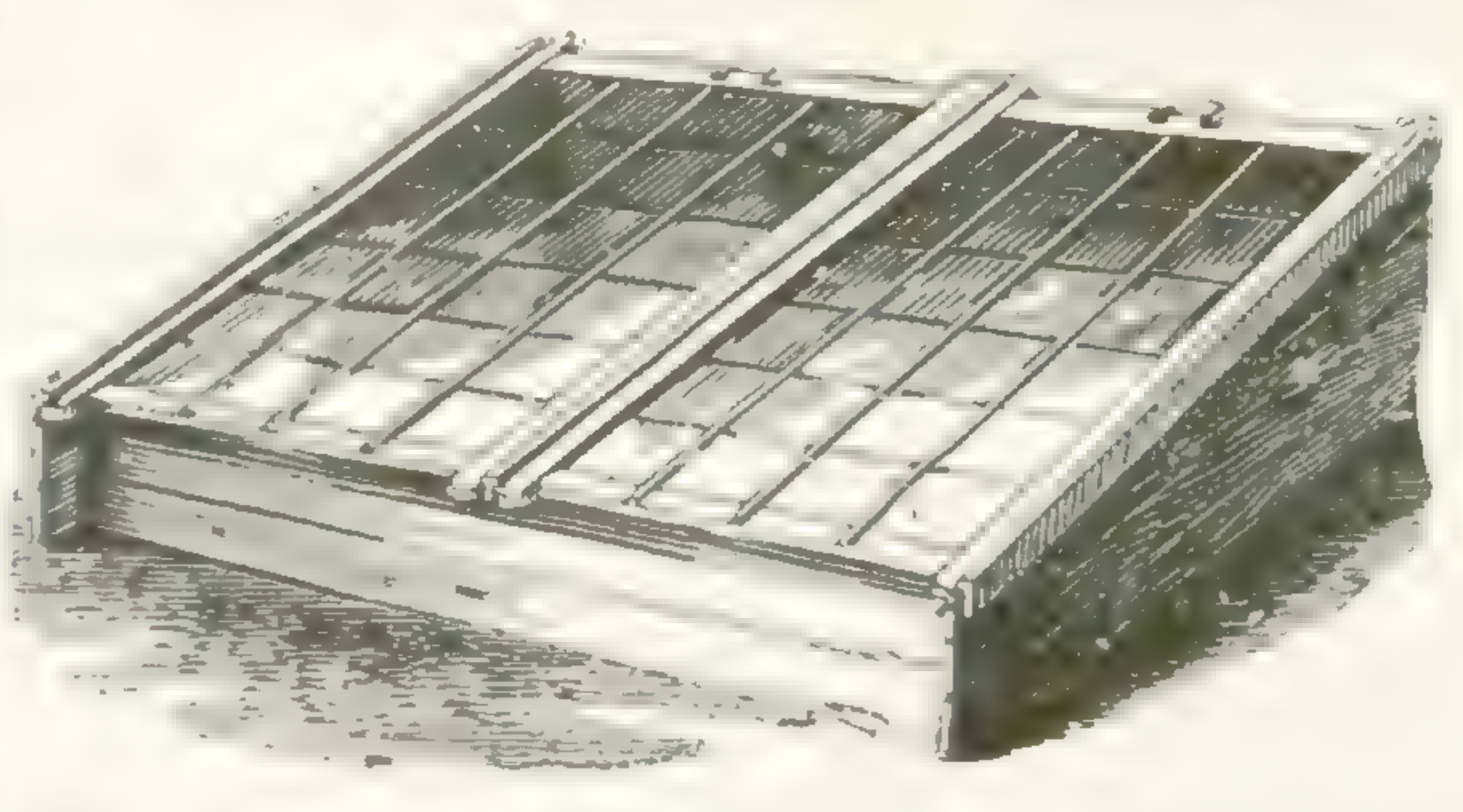

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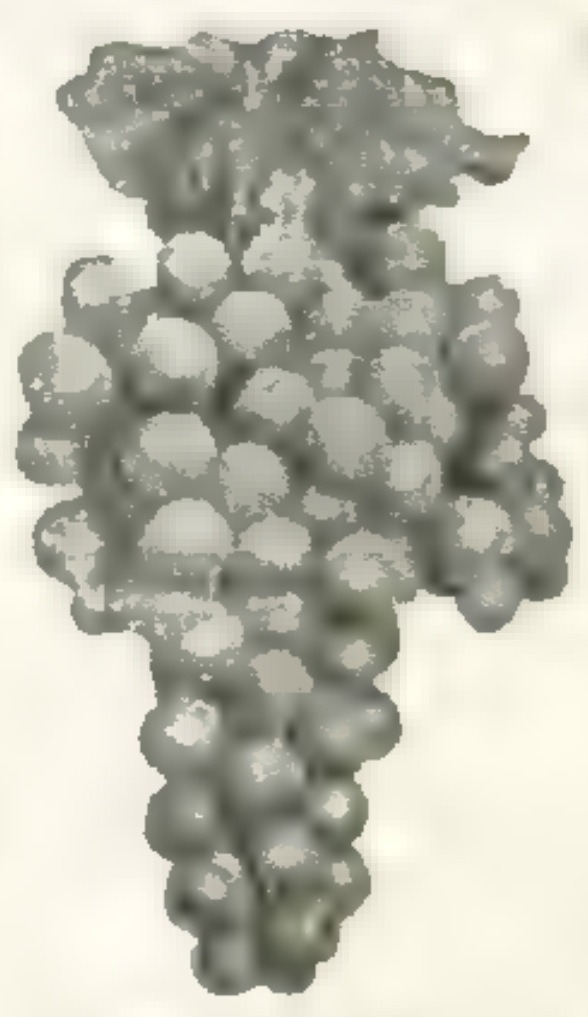

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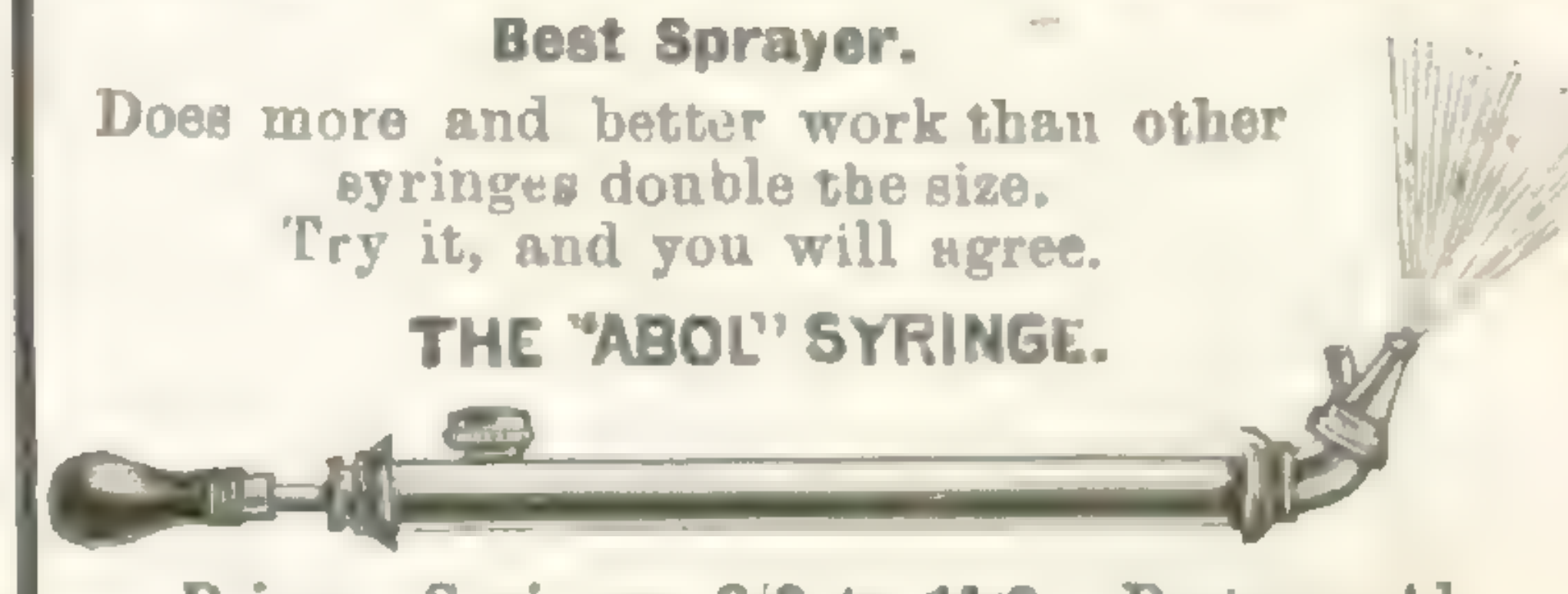

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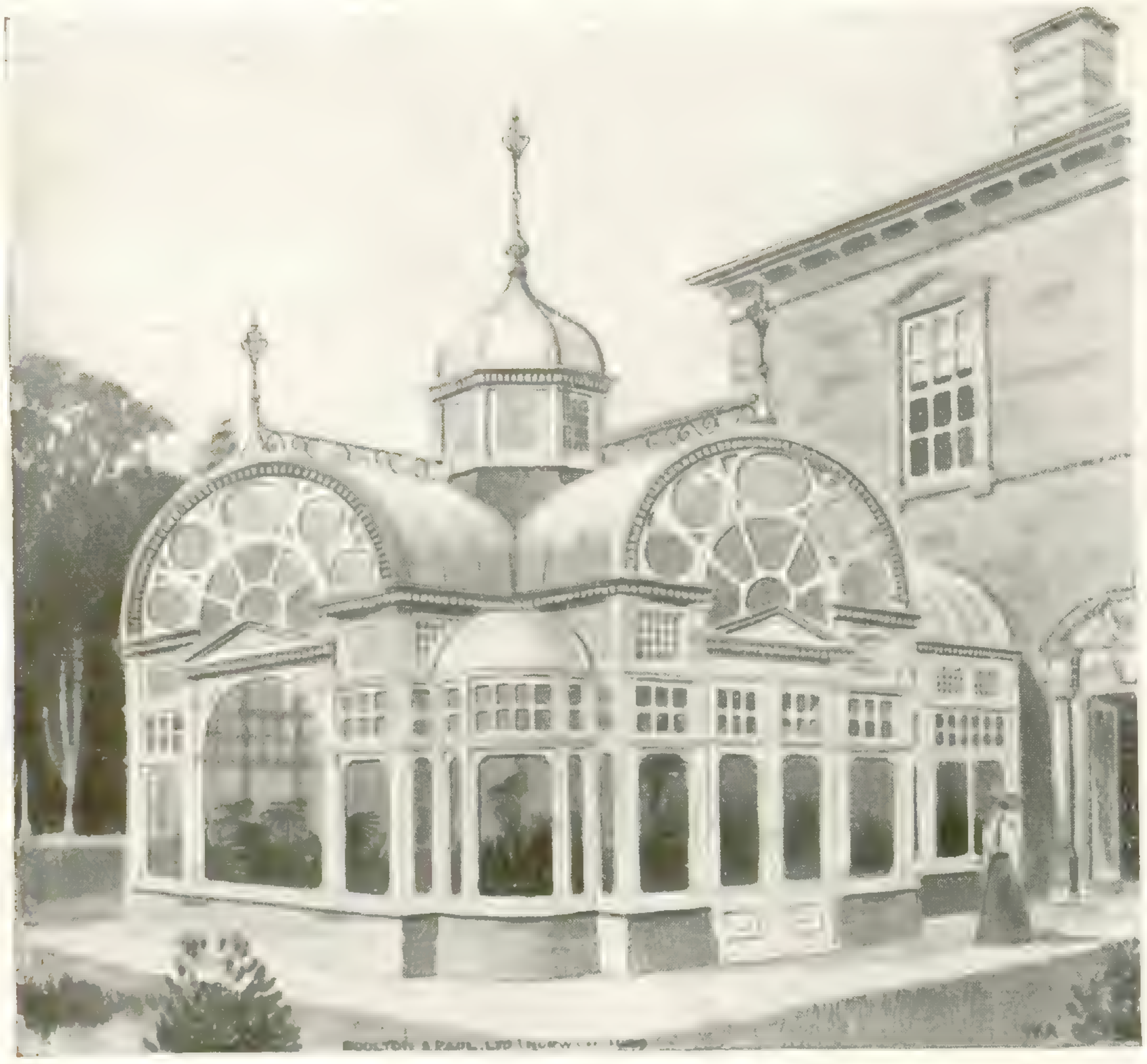

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VOL. LII.—No. 2,909. SATURDAY, JULY 31, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Proposed International Horticultural Exhibition.

To those who have had opportunities for taking an active part, as members of jury or otherwise, in the various international horticultural exhibitions that have been held on the Continent during the past quarter of a century, it has been a matter for regret that exhibitions of a similar character have not been held in this country since the memorable gathering in the year 1866. Returning home from the great international exhibitions at Ghent, Paris, Hamburgh, St. Petersburg, Turin, and other places, and impressed with the magnitude and beauty of the display, and imbued with a strong sense of appreciation of the generous hospitality they have received, British horticulturists have been filled with the desire that the time would soon come when they could reciprocate, by giving foreign horticulturists an opportunity of presenting the products of their skill in London, and showing them hospitality of a generous character. However strong may have been the desire, it has been fully recognised that for a considerable period there have been difficulties in the way of its realisation. Certainly no one could have desired that the Council of the Royal Horticultural Society should incur the responsibility of organising an international exhibition on a befitting scale until such time as the society had been provided with a suitable home, and a garden in which experimental work could be conducted on a comprehensive scale. With a lessening of the strain inseparable from the endeavour to place the society in an exceptionally strong position, financial and otherwise, the Council have shown that they are fully alive to the importance of international gatherings as a means of furthering horticultural progress, and also that they recognise the desirability of combining social functions with serious work. We had evidence of this in the Conference on Genetics, held two years since, which proved so great a success as to fill the members of the conference, who came from all parts of the world, with admiration for the great administrative ability of the Council and officers of the society, and for the generous hospitality shown them. Necessarily the conference and the social functions associated therewith were limited to scientists more or less closely interested in plant development. No such limitation would be imposed in the case of an international horticultural exhibition, as all who are engaged in horticultural pursuits, or take an interest in the garden, would be able to participate in the pleasure such a gathering is so well able to afford. We have, therefore, much pleasure in stating that the Council of the Royal Horticultural Society have given further evidence of their desire to promote international gatherings by suggesting that a horticultural exhibition of an international character be held in London two years hence. In a communication having reference to this all-important question that we have received from the Council, it is pointed out that from time to time international horticultural exhibitions have been held at various centres on the Continent, as at Paris, Berlin, Ghent, Turin, etc. The last occasion on which Great Britain took part in these international courtesies was in 1866, and it has occurred to the Council that it is time our country made an effort (say in 1911) to return some part of the hospitality which foreign countries have so often extended to this country during the forty years that have elapsed since such a gathering was held in London. It is further suggested that in connection with it a fourth conference should be held on genetics, or, in other words, on the origin, breeding, and heredity of plants. If this suggestion be acted upon, as, doubtless, it will, science and practice will happily be combined, as was the case at the memorable gathering in 1866. But, as the result of a wider knowledge of the scientific aspect of plant life, the greater breadth of view that is taken of the garden and its occupants, and the forty years persistent effort in plant improvement, the subjects discussed at the conference will differ widely from those which obtained attention at the conference in 1866, and the exhibition will consist chiefly of different classes of plants. Attention is very properly directed to the fact that the first point to be considered is the financial one. In the case of the 1866 international show at South Kensington, the balance-sheet gives an expenditure of £13,000, and, although this was more than covered by the receipts, it is considered only prudent to endeavour to raise such a sum. This the Council suggest may be done, as it was in 1866, by a combination of a general guarantee fund, and a definite subscription fund, every guarantor of twenty-five guineas receiving a ticket to the show on the opening day, and on one other day, and every subscriber of one guinea receiving a ticket admitting on the opening day. The Royal Horticultural Society will, the Council state, in due course call a meeting of horticulturists and others to consider the matter, and, if the suggestion be adopted and an influential general committee be appointed to carry it out on these lines, the Council are prepared to guarantee £5,000, on condition

MR. THOMAS STEVENSON. [illegible]

that all the Fellows of the society receive admission tickets (not necessarily on the first day); one ticket for £1 1s. Fellows, two tickets for £2 2s. Fellows, and four tickets for £4 4s. Fellows. There are many matters connected with an exhibition such as the one which has been proposed, that should in due course be discussed, but there is in our opinion a strong objection to refer to the details until it has been decided that such exhibition shall be held. For the present it will suffice to give publicity to the proposal, to commend it to the careful consideration of our readers, and to express the hope that it will receive the support of all who are interested in gardening.

Mr. Thomas Stevenson, so well known as a successful exhibitor of chrysanthemums and sweet peas, and as the clever gardener at Woburn Place, Weybridge, the residence of E. A. Mocatta, Esq., is the son of another very able gardener, Mr. Stevenson who has charge of the public gardens at Bournemouth, and whose portrait we gave a short time ago. Mr. Thomas Stevenson commenced his gardening career at Purbeck House, Swanage, passing from thence to Branksea Castle, Poole, and then to Canford Manor, when Mr. T. Crasp was head gardener. To Eshton Hall, Gargrave, Yorks, was the next move, and here, as foreman, he took up sweet pea cultivation with spirit and success. From Yorkshire Mr. Stevenson came south again, and was at the Ryecroft Nurseries for a whole season, laying the foundation of success as a chrysanthemum grower. After spending short periods as foreman at Wayfield Hall, Bracknell; Bagnell House, Bicester; and Effingham Hill, Dorking, Mr. Stevenson took up his present position, and he has been with Mr. Mocatta for about eleven years. Woburn Place is not a very large establishment, but it is beautifully kept, as Mr. Mocatta is very fond of his garden, is a generous employer, and has a great love for roses. Mr. Stevenson is an excellent plantsman, and he has raised several good sweet peas, and a fine coleus named Cordelia. As a photographer he is particularly successful both with flowers and garden scenes, while his study of the head of "Old Dickie," a local celebrity, which was included in the last exhibition of the Royal Photographic Society, has gained him fame and honour in the higher photographic circles. At Saltaire, on July 13, Mr. T. Stevenson won the National Sweet Pea Society's Provincial Cup for sweet peas, thus gaining it the second year in succession. Mr. Stevenson won the Eckford Memorial Cup in London in 1907, and again last week, winning with what was probably the finest set of flowers ever staged.

Sale of an Important Scottish Estate.—The fine residential mansion of Galloway House, Wigtownshire, together with 10,000 acres of land, has been purchased from the Earl of Galloway by Sir Malcolm McEacharn, who is at present in residence there. The mansion house, which is of comparatively modern style, dates from the middle of the 18th century, is beautifully situated in the most southern part of Scotland, in the midst of extensive grounds and park, overlooks the waters of the Solway Firth, which together with those of Wigtown Bay, form for several miles in length the south-eastern boundary of the estate. This comprises within its radius some of the most fertile land in Scotland, also two historic castles of great antiquity. One of these, Baldoon Castle, now a ruin, belonged in times long past to the once powerful family of Dunbar, and was brought into prominence in recent times by Sir Walter Scott, as it was here the plots and scenes were enacted that culminated in the production of "The Bride of Lammermoor." The lands mentioned, though forming only a part of the Galloway estate in Wigtownshire, have been in the possession of the family for several centuries. Situated in a purely agricultural district, and considerably off the route of tourists, the estate is less known than many others more favoured in this respect, yet the natural beauties of the district, and the horticultural prominence that Galloway House has enjoyed for many years past, have helped to establish for it a reputation far beyond the county in which it stands.

Veitch Portrait Fund.—In sending us the list of subscribers to the portrait of Mr. Harry J. Veitch, V.M.H., which it is proposed to hang in the Royal Horticultural Society's buildings, Mr. H. B. May and the Rev. W. Wilks inform us that the list of subscribers will be definitely closed on Saturday, August 14. It is suggested that a replica of the portrait should be presented to Mrs. Veitch, and a photogravure of it to every subscriber of £1 1s. and upwards.

Kew Bulletin.—The current issue (No. 6, 1909) of this publication is of much interest, and chief among the contributions are a report by Mr. W. J. Bean, on the effects of the winter of 1908-9 on trees and shrubs at Kew; additions to the wild fauna and flora of the Royal Gardens, and a revision by Mr. A. R. Rolfe of the genus Cycnoches. We are pleased to learn that the 144 plates of cyperaceæ, with corresponding explanatory text, which the late Mr. C. B. Clarke had printed some time previous to his death, are to be issued in book form. With the object of placing at the disposal of botanists a further instalment of the results of the late Mr. C. B. Clarke's prolonged study of this natural order, his executors have decided to issue the plates at a nominal price. They will be published by Messrs. Williams and Norgate, London (price 12s.).

The White Florentine Iris.—The probable origin of the white Florentine iris is the subject of a contribution to "Atti dei Lincei" xviii. 10, from Dr. R. Pirotta and Dr. M. Puglisi. It is stated that forms have been observed with blue spots variously arranged, and that these are not peculiar to individual plants, but may occur on different plants in different countries. It is therefore suggested that Iris florentina is a variety of I. pallida that has become permanent.

Position of the Royal Botanic Society. At a recent ordinary meeting of the Fellows, the position of the Royal Botanic Society was again discussed. Mr. Brinsley Marlay, the treasurer, who presided, said that they had received from the Duke and Duchess of Teck a cheque for £10 10s., and an extra subscription of £20. With regard to the present position of the society, the subscriptions received would enable the society to exist until August 10. This, however, had nothing to do with the future of the society. What they had to consider was what would be the position of the society on December 31 next. The debt of the society on that date would be nominally £6,709, and in order to prevent bankruptcy a sum of £2,022 must be raised, and, naturally, this debt must be met by the Fellows. The sum of £2,077 had been raised, and as this had been supplied by one-third of the Fellows, there were about 600 Fellows who had not yet subscribed. With regard to the debentures there were no means by which these could be paid off, but he believed that if the society could be reorganised the interest on the debentures could be paid. It was decided to alter the date of the annual meeting from August 10 to September 21. On the motion of Mr. A. C. Claudet, seconded by Mr. Rubinstein, a hearty vote of thanks was accorded to Mr. Brinsley Marlay for the services he had rendered to the society.

Forcing Plants with Hot Water.—With reference to the method brought forward by Prof. H. Molisch for using a warm-water bath as a means of forcing plants when in a dormant condition, "Nature" states that in response to inquiries the author has elaborated his paper for publication, with additional illustrations, as a separate pamphlet published by Mr. Gustav Fischer, Jena. The method consists in plunging the plants, preferably inverted, so as to immerse the stems but not the roots, into a water bath maintained at a temperature ranging, according to the plant, from 15 deg. C. to 30 deg. C. After soaking in the bath for about ten to fifteen hours, the plants are placed in a warm, moist chamber, and eventually transferred to the greenhouse. Forsythia, spiræas, syringas, and other plants that are usually forced give good results. Azalea mollis and Camellia japonica did not respond to treatment, and there was no practical result in the case of narcissi bulbs. The precise nature of the action has not been determined, although it is suggested that the stimulus may be compared with that produced by ether vapour.

The Potato Crop is according to the report of the Board of Agriculture very satisfactory. The growth has been vigorous and the tubers are swelling up well. The low temperature that has obtained up to the present time has prevented an outbreak of potato disease, which would unquestionably have been the case had the heavy rainfall been accompanied for any considerable period by warm close weather.

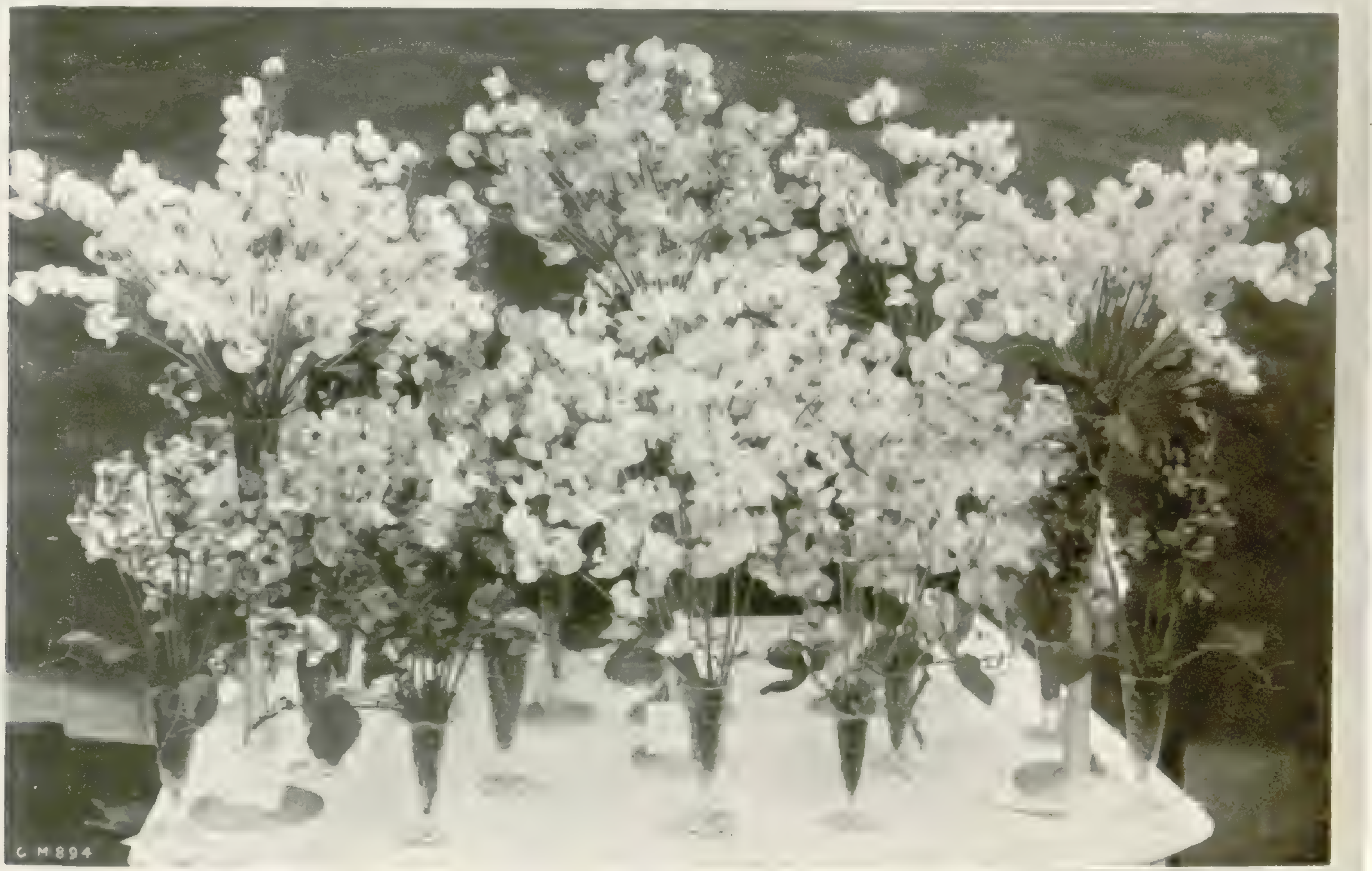
Wages in Royal Parks and Gardens.—In the House of Commons a few days since Mr. Summerbell asked Sir E. Strachey whether he was in a position to state what action, if any, it was proposed to take in regard to the petition received from the Kew Employees Union as to the shortening of the hours of labour worked by such employees. Sir E. Strachey stated in reply that the matter was under consideration, and he was not then able to make any statement relating to the subject. With reference to the appeal made by the employees at Hampton Court and in Bushey and Richmond Parks for an increase of wages to those employed seven days a week, the First Commissioner of Works stated at the same sitting that the matter was under discussion between himself and the Treasury.

A South London Flower Show.—The annual flower show in association with the Robert Browning Settlement, Walworth, was held and proved highly successful. The products of nearly two hundred gardens were exhibited in competition for the prizes and their quality was decidedly high, having regard to the adverse conditions that obtain in the district. The most successful of the exhibitors was a printer's labourer, who was awarded the Royal Horticultural Society's bronze medal for the winner of the largest number of prizes, the first prize for the best garden in Trinity Ward, and the Browning silver medal for the best garden in the whole of Newington.

NATIONAL SWEET PEA SOCIETY.

The ninth annual exhibition of this special floricultural society was held at the Royal Horticultural Hall, Vincent Square, Westminster, on Friday, July 23, and, considering the season, no more suitable date could have been fixed for the show. The display was by far the finest yet held under the society's auspices, and was a great success as regards the quantity and quality of the exhibits and the number of competitors, the latter reaching two hundred. The great hall, annexes, lecture hall, and committee room were all packed with exquisite flowers, making up, as an American lady expressed it, "an ocean of loveliness."

The arrangement of the show was good. The trade displays made a framework for the competitive exhibits. For the first time at a flower show the music gallery was decorated with flowers and plants, and the table decoration and Burpee Cup classes were set down through the centre of the hall. There was a large attendance of members and friends, and £38 10s. was taken at the doors.



MR. ROBERT BOLTON'S FIRST PRIZE TABLE OF WAVED SWEET PEAS (BURPEE CUP CLASS) AT THE NATIONAL SWEET PEA SOCIETY'S SHOW ON JULY 23.

AMATEURS' CLASSES.

In the special audit class, for fifteen bunches of sweet peas, the varieties to be selected from the audit list of 1908, there were seven competitors, and here Mr. Thomas Jones, Ruabon, won the Sutton Cup, gold medal, and first prize with magnificent blooms of Prince Olaf, King Edward VII., Etta Dyke, John Ingman, Evelyn Hemus, Lord Nelson, Frank Dolby, Sybil Eckford, Constance Oliver, Helen Lewis, Clara Curtis, Countess Spencer, Helen Pierce, Mrs. Hardcastle Sykes, and Black Knight. Mr. A. E. Usher, gardener to Sir Randolf Baker, Bart., Ranston, Blandford, Dorset, came second; and Mr. E. F. Usher, gardener to C. K. Wild, Esq., The Grange, New Eltham, third. Five competitors entered in the class for twenty-four bunches, distinct, for the prizes offered by Messrs. C. C. Morse and Co., San Francisco, and here Mr. T. Vickers, gardener to E. Rawnsley, Esq., Well Vale, Alford, Lincs, won the chief award with a very fine set of flowers, in which Helen Lewis, Evelyn Hemus, Menie Christie, Rosie Adams, Lord Nelson, and Mrs. A. Ireland were notable; Mrs. A. Tigwell, Harrow View, Greenford, came second; Mr. J. T. Tubb, Oakbank, Seal, Sevenoaks, third; and Mrs. A. J. Norris, Longshaw, Chipstead, fourth.

There is always a keen competition for the very handsome Henry Eckford Memorial Cup, and this year there were ten contestants. Twelve bunches, distinct, are invited, and the premier set—generally regarded as easily the finest in the hall for quality and colour—came from Mr. T. Stevenson, gardener to A. E. Mocatta, Esq., Woburn Place, Addlestone. His varieties were The Marquis, Countess Spencer, Elsie Herbert, Clara Curtis, Helen Lewis, Lavender George Herbert, Audrey Crier, Rosie Adams, Evelyn Hemus, Prince of Asturias, Mrs. H. Bell, and John Ingman. Mr. Thomas Jones, Ruabon, second; Mr. A. E. Usher, third; and Mr. Hopkins, gardener to F. Wellesley, Esq., Woking, fourth. For a dozen bunches, specified varieties, Mr. J. Haycock, Wagoner's Inn, Gyfelia, Wrexham, won the chief of Messrs. Sydenham's prizes with good examples of Clara Curtis, White Spencer, Frank Dolby, George Herbert, Helen Lewis, Helen Pierce, Jeannie Gordon, Lord Nelson, Mrs. H. Sykes, Mrs. W. Wright, Paradise, and Queen Alexandra; Mr. G. F. Hallett, Easton Neston Gardens, Towcester, second; Mr. E. Keith, Cambo, Morpeth, third; and Mr. J. T. Tubb, fourth. Messrs. Dobbie and Co.'s prizes for a dozen bunches of sweet peas brought out no fewer than thirteen competitors, and here again Mr. T. Stevenson led the way, showing excellent blooms of St. George, Princess Victoria, Prince Olaf, Mrs. Andrew Ireland, The Marquis, John Ingman, The King, Mrs. Collier, Black Knight Spencer, Helen Lewis, and Norah Unwin. Mr. Thomas Jones was a close second; Mr. A. E. Usher third, and Mr. E. Keith fourth.

The Horace Wright Challenge Bowl, for nine bunches of sweet peas suitable for garden decoration, induced nine competitors to enter, and the bowl was won by Mr. A. Basile, gardener to the Rev. W. MacMurdie, Woburn Park, Addlestone, with very fine blooms of Helen Pierce, Countess Spencer, Jeannie Gordon, Nora Unwin, King Edward VII., Dora Breadmore, Helen Lewis, Frank Dolby, John Ingman. Mr. Basile, who has won the bowl three successive years, now holds it entirely. Mr. G. F. Hallett, second; Mrs. F. Wallis, West Byfleet, third; and Mr. M. Y. Green, Eynsford, fourth. The Breadmore Challenge Plate for a dozen varieties, proved a great attraction; there were thirteen entrants, and Mr. Profit, gardener to E. A. P. Broad, Esq., Par Station, Cornwall, led with Paradise Red Flake, Black Knight, Prince Olaf, Etta Dyke, Paradise Carmine, Dora Breadmore, Menie Christie, Primrose Spencer, A. J. Cook, Henry Eckford, Audrey Crier, and Queen Alexandra; Mr. E. Cowdy, J.P., Loughall, Co. Armagh, Ireland, second; Mr. R. Hallam, Radcliffe-on-Trent, third; and Mr. A. F. Blades, Rookfield, Reigate, fourth. Mr. Dipnall's cup and first prize for six varieties fell to Mr. J. Haycock, who staged Mrs. Wilcox, Nora Unwin, James Grieve, George Herbert, Sunrise, and Paradise; Mr. A. E. Usher, second; Mr. A. Lambert, Bartroppe Lodge, Weybridge, third. In another class for six varieties, provided by Messrs. G. and A. Clark, there were twenty-three competitors, the awards falling in order of mention to Mr. F. Fairbairn, Stanhope Park Gardens, Greenford; Mr. E. Lambert; Mr. G. Baldwin, The Gardens, Greenford Green; and Mr. F. R. Castle, Bruncombe Gardens, Foxcombe Hill, Oxford. For one bunch each of Herbert Smith, Jet, Miss Millie Maslin, and Mother of Pearl, the awards were made in favour of Mr. E. Keith, Mr. A. E. Usher, and Mr. M. Z. Green. For one bunch of

The Queen sweet pea Mr. A. T. Paskett, gardener to E. Johnstone, Esq., Burrswood, Groombridge, led, followed by Mr. E. Keith and Mr. A. E. Usher.

OPEN CLASSES.

The classification class, for eighteen bunches of sweet peas, each to represent a distinct colour class, brought out seven competitors. Messrs. Hurst and Sons provide the prizes. Chief honours fell to Mr. Edward Keith, Cambo, who was a good first with The Marquis, Etta Dyke, George Herbert, Queen Alexandra, James Grieve, Frank Dolby, Menie Christie, Mrs. H. Sykes, Paradise, Hannah Dale, Rosie Adams, St. George, Evelyn Hemus, Jeannie Gordon, Mid Blue, Constance Oliver, Helen Pierce, and Sybil Eckford; Mr. A. E. Usher, second; Messrs. Bide and Sons, Farnham, third; and Mr. C. W. Breadmore, Winchester, fourth. Messrs. Watkins and Simpson's prizes for sixteen bunches fell, in order of mention, to Messrs. Jones and Son, Shrewsbury; Mr. A. E. Usher; and Mrs. H. Tigwell, Greenford. Messrs. Cooper, Taber, and Co.'s prizes for twenty-four bunches fell to Mr. C. W. Breadmore, Winchester; Mr. G. Humphries, Chippenham; Mr. W. Marple, Penkridge; and Messrs. G. and A. Clark, Dover. Messrs. Nutting and Son's prizes for a dozen bunches were awarded, in order of mention, to Mr. W. Hopkins, gardener to F. Wellesley, Esq., Woking; Messrs. Jones and Son, Shrewsbury; Mr. A. T. Paskett; and Mr. G. M. Edwards, The Cedars, Addlestone.

C.H. 893

A FINE VASE OF COUNTESS SPENCER SWEET PEA.

From the collection exhibited by Mr. Henry Eckford, at the National Sweet Pea Society's Show. This represents the fixed strain introduced by this famous raiser.

WAVED VARIETIES.

In the President's class for a dozen waved varieties Mr. T. Stevenson scored with Marjorie Willis, Mrs. H. Sykes, Kathleen McGowan, Spencer America, Mrs. H. Bell, Etta Dyke, Helen Lewis, Frank Dolby, Mrs. Breadmore, Paradise Ivory, Countess Spencer, and Black Knight Spencer. Mr. A. T. Paskett second. There were twenty-one competitors in the class for six bunches of waved varieties, Mr. F. Fairbairn coming first with Nora Unwin, Audrey Crier, Mrs. C. W. Breadmore, Helen Lewis, Mrs. H. Sykes, and Fred Fairbairn; Mr. Broad, second; Mr. W. H. Shaw, Horsley Hall Gardens, Gresford, third. For three bunches twenty-three competed, Mr. T. Stevenson, Mr. A. T. Paskett, and Mr. F. R. Castle winning the awards in the order as placed. Mr. W. P. Hammond, Burgess Hill, led for three bunches of Paradise; Mr. A. E. Usher had the best bunch of Lavender George Herbert, the best bunch of King Alfonso, the best bunch of Gordon Ankentell, and the best bunch of Yellow Hammer.

In the open section of this division immense interest centred in the class for a dozen varieties, the premier award being the E. W. King Cup and a gold medal. Honour fell to Mr. Profit, gardener to E. A. Broad, Esq., Par Station, Cornwall, who had splendid bunches of Mrs. H. Bell, Frank Dolby, Prince of Asturias, Helen Lewis, Elsie Herbert, Paradise Ivory, George Herbert, Mrs. A. Ireland, Mrs. H. Sykes, Nora Unwin, St. George, and The Marquis. Mr. Broad's St. George was so fine, and evidently a reselected stock, that he was at first disqualified for having a variety not yet in commerce. Mr. E. Keith was a good second; Mr. G. Humphries third, Mr. R. Hallam fourth, and Mr. W. Marple fifth.

The splendid W. Atlee Burpee Cup, for a table of Spencer varieties, was once more annexed by Mr. Robert Bolton, Warton, Carnforth, with magnificent bunches of Tom Bolton, Clara Curtis, Charles Foster, Mrs. H. Sykes, Fire King, and several seedlings, etc.; Mr. Silas Cole, gardener to Earl Spencer, Althorpe Park, Northampton, second; Messrs. J. Lamb and Sons, Bingham, Notts, third; and Mr. R. Wright, Formby, Liverpool, fourth. Messrs. E. W. King and Sons' prizes for four bunches fell to Mr. R. Wright; Mr. James Box, Lindfield; and Messrs. Jones and Sons. For twelve bunches of American varieties the W. Atlee Burpee prizes were secured by Mr. A. E. Usher, Mr. James Box, and Messrs. Bolton Brothers, Carnforth, in the order of mention. There were six competitors. Mr. W. P. Hammond led for six bunches.

SMALL GROWERS.

The chief class in the small growers' section, where competitors must not employ a gardener regularly, was for twelve bunches of twelve sprays each, and the new Horace Wright Challenge Cup and gold medal were the first prize. There were no fewer than twenty-eight competitors, and the premier position was secured by Mr. G. Stevenson, Chadworth Cottage, Esher, with good blooms of Frank Dolby, Mrs. H. Sykes, John Ingman, Constance Oliver, Prince of Asturias, Mrs. H. Bell, King Edward VII., Etta Dyke, Marjorie Willis, Helen Lewis, The Marquis, and Countess Spencer; Mr. H. B. Howe, Newstead, Bushby, Leicester, second; Rev. J. B. Shackle, Dropmore Vicarage, Maidenhead, third; and Mr. A. Moring, Grove Cottage, Peppard, Henley, fourth. For six bunches, representing distinct colours, Mr. E. Burnett, Cedar Park Road, Enfield, was first; Mr. A. J. Dixon, Culmington Road, Ealing, second; Mr. E. T. Baker, Brigstock Road, Thornton Heath, third; Mr. G. Davidson, Elm Lodge, Quadrant Road, Thornton Heath, fourth. For six bunches of waved varieties, Mr. W. G. Cramp, Fallsbrook Road, Mitcham Lane, Streatham, led, followed in order by Mr. A. H. Harvey, Treyew Villa, Truro, and Mr. G. A. Hill, Bayworth Corner, Foxcombe Hill, Oxford. In the other small growers' classes the competition was equally keen, and the chief prizewinners were Mr. F. Nettle; Mr. E. M. Allen, Formby; Mr. H. A. Gerhold, Penarth; Mr. H. B. Howe, Mr. A. Moring, Rev. J. B. Shac and Mr. L. H. Hatting, Hornchurch.

FLORAL DESIGNS.

Twenty dinner tables were decorated, and chief honours fell to Mrs. A. Robinson, Norhyrst, Park Hill, Carshalton, for a pretty design; Miss Jessie Cuthbertson, The Palmers, Marks Tey, second; Messrs. G. and A. Clark, Dover, third; and Messrs. Jones and Son, Shrewsbury, fourth. Miss Jessie Cuthbertson and Messrs. J. Lamb and Sons were placed equal first for an epergne of sweet peas, Messrs. G. and A. Clark coming third, and Messrs. Jones and Son, fourth. Miss Cuthbertson led for a vase of sweet peas, Mr. H. V. Vokes coming second, Messrs. Jones and Sons third, and Mr. C. W. Bre fourth. For buttonhole bouquets Miss

(Continued on page 603.)

JUNE IN THE ROCK GARDEN

While there are many months in the year wherein something of interest is flowering in the rock garden, there is the greatest diversity of plants in flower during June. It is the month for dianthi, and these plants have been flowering profusely. Among those which have been good may be mentioned Dianthus sanguinea, D. suavis, D. squarrosus, the compact little D. alpinus, D. Atkinsoni, brilliant in colour; D. semperflorens, D. multiflorus roseus, and D. integer. Among lychnis, L. viscosa splendens is one of the showiest.

The various primulas made a good display. Of the Veitchian introductions, P. Cockburniana stands out prominently, a unique colour in this section. In some sheltered spots it may prove hardy, and, as a test, it would be well to try a few plants first. P. Veitchi is a bolder plant, but of a colour which we already have; an effective primula in a mass is P. Sieboldi clarkiæflora. P. japonica and the variety pulverulenta have furnished some grand spikes of bloom.

Phlox carolina ovata is very effective. Ramondias have flowered profusely, and growing in the fissures between the rocks, were very attractive. A distinct sedum is S. averunensis. Crinodendron Hookeri suffered somewhat during the past winter, but it is now carrying several flowers. Tanakea radicans, with its miniature [illegible]-like spikes of bloom, and the daisy-like flowers of Celmisia spectabilis attract attention.

Two distinct alliums are A. Schuberti and A. karatavensis, and though the colour does not appeal to everyone, they are worthy of a place in a rock garden of considerable size. The Chatham Island forget-me-not is a noble-looking plant, and has given some strong spikes of flowers.

Ourisia coccinea is brilliant in colour, and attractive. O. macrophylla we have not yet flowered. The heath-like appearance of Fabiana imbricata will attract lovers of ericas, while its flowering propensities are good.

Lithospermum tinctorum and L. graminifolium are beautiful in colour, as also is Heavenly Blue, which is extremely effective. Amsonia salicifolia is a pale blue flower possessing considerable beauty. The little Lotus siliquosus, which has bright yellow flowers, presents an attractive appearance spreading over the rock. Tropæolum polyphyllum is also excellent for clothing hanging rocks; it thrives in other situations, but appears especially at home in the rock garden. Iris sibirica and I. sibirica alba have flowered freely, and proved highly attractive. Campanula phyctidocalyx is quite a distinct campanula in its flowers and branching spikes. Calceolaria polyrhiza is dwarf in growth, with quaint yellow flowers, have been very attractive. Cypripedium spectabile has furnished some good spikes, which require light shade to enable them to retain the purity of the blooms. The dwarf silenes have been good, and in masses are very effective, especially S. alpestris. Others are S. quadrifida, S. acaulis, and S. pennsylvanica. Wahlenbergia dalmatica is flowering freely, and at a distance somewhat resembles some of the harebells.

Rock roses have been masses of bloom, and are, perhaps, shown to greater advantage in the rock garden than in any other position. A useful dwarf plant for the lower bases of the garden is Smilacina bifolia.

Among yellow-flowering plants are Onosma flavum, linarias in variety, and various achilleas. Of orchis, O. maculata, and O. foliosa, have given good spikes of flowers.

T. H. Slade.

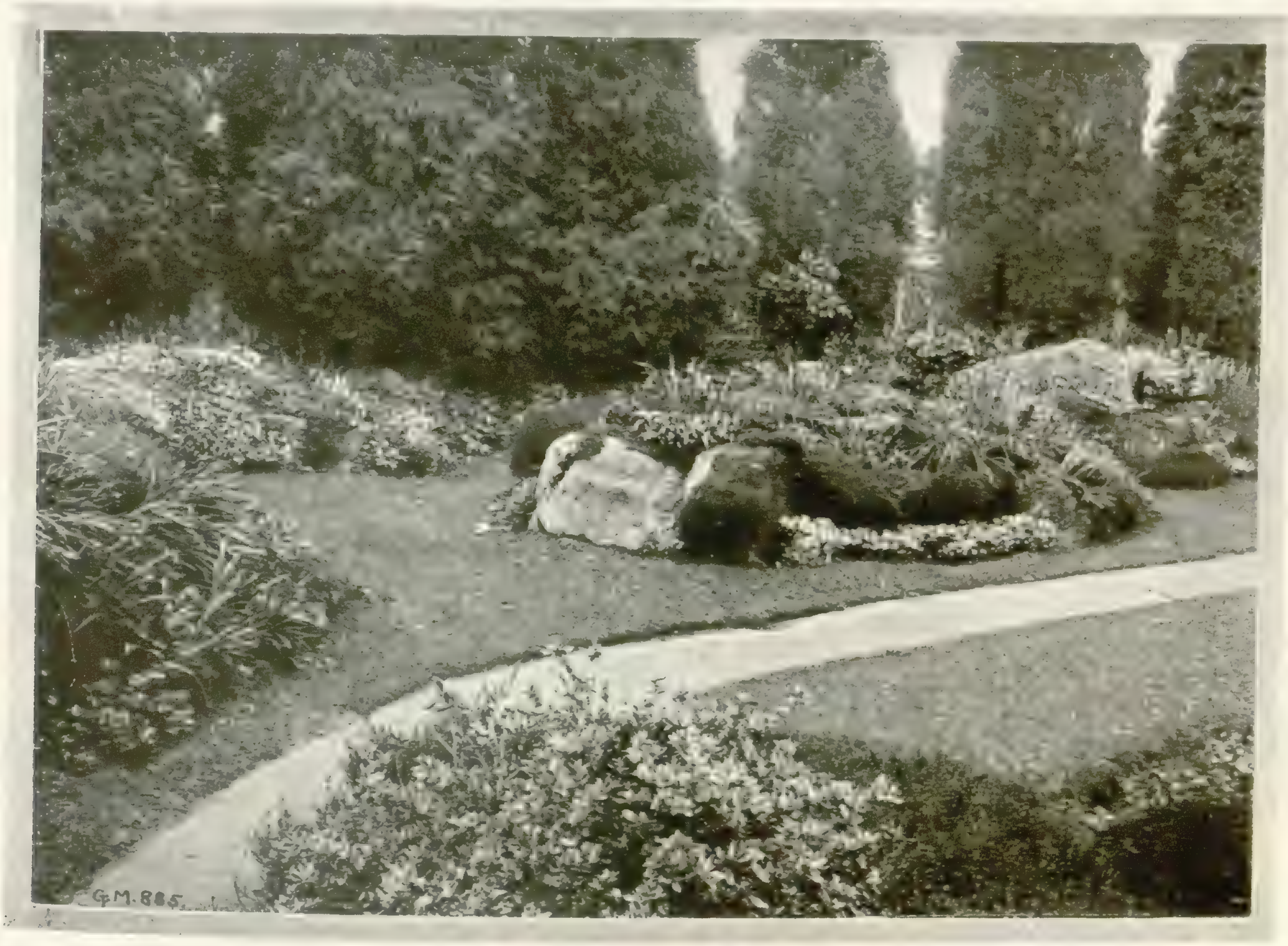
South Lodge Gardens, Horsham.

AUBRIETIAS.

Few spring flowers are more useful or more enjoyed than the aubrietias, which form splendid masses of bloom, and are most admirable for several purposes in the garden. In a mass they make splendid beds; they form brilliant edgings if kept within reasonable bounds; and they are surpassingly effective when hanging over the stones of the rock garden or draping a portion of a wall with their finely-coloured flowers. These flowers have been much improved within recent years, and the original species, deltoidea, with small purple flowers, has been left far behind by its varieties, especially by those introduced within the last ten or twelve years. Larger flowers, with greater variety of colours, have been the goal aimed at by raisers, and the fact that they have succeeded is evidenced by the many fine varieties now in commerce. These are now too numerous for treatment, but a brief account of the most popular may not come amiss at the present time.

One of the finest of all the varieties at the present day is that known as Lavender, a lovely variety with flowers of the hue indicated by the name, and with large blossoms and of pleasing effect as a bedder or on rockwork. It deservedly received an Award of Merit from the R.H.S. in 1908. A plant in a pot is here illustrated.

A favourite variety with those who like flowers of a soft shade of colour, and one not often to be found among the aubrietias, is Bridesmaid, which is a charming plant of compact habit, and having soft blush-coloured flowers. I have grown this for several years, and it is always much admired. Campbelli Improved, a new form of an old aubrietia, is a capital thing, with fine violet-purple blooms of good size. Crimson King and Fire King have both large flowers of a shade called "crimson,"



THE BEAUTIFUL ROCK GARDEN AT SWANMORE HOUSE, THE RESIDENCE OF W. H. MYERS, ESQ.,
On which aubrietias in great variety are most successfully utilised.

as being the nearest to that colour to be found among these flowers. The second is more glowing, but is of more straggling habit. Dr. Mules has some rivals in its colour now, but it is not easily surpassed with its rich, deep violet-purple flowers.

Contrasted, for example, with the citron-coloured variety of Alyssum saxatile, or with a white arabis, the effect is magnificent indeed. Prichard's A1 is a successful rival, but its flowers, although larger, are not so densely produced as are those of Dr. Mules. Mrs. E. M. Crosfield has also violet-purple flowers, and is an excellent deep-coloured variety. Moerheimi deserves to take a prominent place in all spring colour schemes, and is one of the finest aubrietias in more ways than one. Its colour is a beautiful warm rose: its habit is good, it blooms for a very long time, and its flowers are of good size.

Peter Barr is one of the best of the newer purple varieties. Rose Queen has good rosy-coloured blooms, not equal in some characters to Moerheimi, but Royal Purple is an excellent purple variety. Leichtlini is called rose by courtesy, but it is only rose at certain stages of growth, being much deeper at other periods. Souvenir de William Ingram, which has very large flowers, is not such a free bloomer as some, and the flowers are of rose-pink, passing to lilac. Wallacei grandiflora, though comparatively small, is early, and gives pretty light purple flowers. The variegated varieties of Aubrietia deltoidea deserve mention, although their flowers are of little account. They are argentea, with the leaves margined with silver, and aurea, with similar markings, but of yellow.

AUBRIETIA LAVENDER.
A beautiful variety raised by Mr. M. Prichard, producing a profusion of soft lavender coloured flowers.

A pretty aubrietia is the species called A. tauricola, which, some seasons, is herbaceous. It is much closer in its growth than the others, and has pretty little purple flowers. Its variety alba has its flowers white on opening, but they pass off lavender. It is a beautiful little plant, and brings us near the desideratum of many—a good, pure white aubrietia. There is one with white blossoms in the writer's garden which is much superior to A. antilibani, sent out some years ago as a white one, but it came to me without a name, and does not appear to be in commerce.

The aubrietias thrive best in a dryish and well-drained soil, and are kept much more compact and beautiful if they are cut back annually after flowering. Their propagation deserves consideration, inasmuch as they are not to be depended upon to come true from seeds, and a number may be required for bedding.

Old plants of some size may be layered as soon as they have flowered by putting sand and loam over a portion of the branches, taking the latter off when rooted in autumn. Cuttings may also be taken off with a heel of the old wood and struck under glass in sandy soil, and the young growths which push after the cutting back may be struck in a similar way. Some are very unsuccessful with these methods, however, and these may be recommended to put some plants in a frame, and to take off the young growths when they have become a little drawn and soft. These will strike more readily than the harder ones. To have strong plants for spring bedding the cuttings may be struck early—in April or May—and the plants bedded close together in autumn, so as to have a close cover of flower.

S. Arnott.

Apples and Pears.—Thinning the fruits of these, if not completed, should be attended to as soon as possible, or much waste of energy will result. Remove in the first instance all deformed and small fruits, and reduce the others in proportion to the capabilities of the tree. Trees planted last season should not be allowed to carry any fruit this year, and only a few should be left on those which are one year older. A little assistance during the next two months, by the application of a few soakings of liquid manure well diluted will prove beneficial to all trees which are carrying full crops, but trees that have only light crops, or those which are making an abundance of young wood, should not receive any.—Geo. Woodgate, Rolleston Hall Gardens.

THE TALLER CAMPANULAS.

The taller species of campanulas and their varieties are among the most generally useful of plants for garden decoration; they provide splendid masses of colour in the border during June, July, and August, and they are generally appreciated for their beauty as cut flowers, while not a few are among the handsomest of flowering plants when cultivated in pots indoors.

The colours in these campanulas is, on the whole, restricted—lavender, blue, purple, and violet are to be found with singular frequency, while in some species the full cadence from violet to white can be distinctly traced through half a dozen forms or more, each shade paler or deeper than that occurring next in the series. Yellow is rarely represented, the nearest approach being the sulphur-coloured flowers of Campanula thrysoidea. In the aggregate, the beauty of these campanulas is intimately associated with the form which the flowers assume, for, though the fundamental shape and that which predominates bears striking resemblance to a bell—hence Bellflower—yet endless modifications occur, so that much of their charm in garden decoration is ultimately bound up with this of external form.

With the exception of those florists' monstrosities, as exhibited in the Cup-and-Saucer Canterbury Bell, the largest-flowered campanulas (individually) I am acquainted with are the improved forms of Campanula persicifolia. The type is now a poor thing beside "Backhouse's" white form or the blue maxima; to these must be added Moerheimi, a semi-double white, and Smith's (of Newry) two fine semi-double forms; Daisy Hill, lavender; and Newry Giant, white. All the forms of C. persicifolia make first-rate pot plants, if potted up in spring, and their flowering season is doubled if they are placed in shaded positions indoors as soon as the flowers colour, a remark applicable to other species also.

Inferior to the preceding as a border plant, but excelling it as a flowering subject in pots, the forms of C. pyramidalis are familiar to all; the white displays its absolute purity to greatest perfection under glass. The type plant is still the most graceful, but there is a dwarf form known as the Sion House variety, which in some respects is more useful; it is known by its dwarf habit, close set pyramidal spikes, and much larger flowers.

Campanula latifolia is a true border flower, and in the open garden it attains a height of 4ft., and produces nodding blue flowers in July; to this plant C. Burghalti and C. Van Houttei are believed to owe their origin; both are dwarf forms, rarely exceeding 2ft. in height, in each a similarity of form is seen in the flower, the tube being greatly extended, in the former the colour is purple-blue and satiny, while in the latter the blue has a quite rosy tint. C. lactiflora is a vigorous species and generally exceeds 4ft. when established. The early growth is strongly suggestive of mint, the stems are slender and eventually branch into clouds of small starry flowers, which vary in colour from almost pure white to blue.

Campanula alliariæfolia is an interesting species from the Caucasus, attaining a height of 3ft., the nodding white flowers are carried upon slender stems, and are suggestive of fuchsias

C. glomerata produces blue stellate flowers in clustered heads, carried on 2ft. stems; in the form named dahurica the flower heads are rich violet blue; distinct and good.

C. punctata (nobilis) has broad cordate leaves, and large drooping white flowers spotted with red. It is a Chinese species flowering in June and July, and, under favourable conditions, reaches a height of 2ft.

C. mirabilis produces leaves in the form of a rosette from which the pyramid branching spike is produced, carrying pale blue flowers. It is a fine form, but none too general in gardens at present. The flowers are lilac-blue, and produced in August. Though generally dwarf in stature, it will, under favourable conditions, attain a height of 18in.

C. thyrsoidea is a biennial species, producing close-set, erect spikes, crowned with sessile flowers for more than half its length. Well-grown specimens reach a height of 2ft. In this plant one misses the familiar beauty of the campanula. Still, we cannot but admit them to be at least curious and interesting.

Only recently I made the acquaintance of C. Fergusoni outside this garden; it is a hybrid between the dwarf C. carpathica and C. pyramidalis alba, and exhibits the character of the parents tolerably well. I have the same plant growing upon the rock garden here, where it must have originated as a spontaneous seedling.

The cultural requirements of campanulas are of the simplest, those having tufted growth, such as C. persicifolia, benefit by being divided and replanted at least every second year, the soil being enriched previous to planting. Those of a biennial character are best raised from seed every year, a remark which applies equally to the forms of C. pyramidalis. Species like C. lactifolia retain their vigour unimpaired to a great age, calling for no particular treatment except a yearly dressing previous to digging over the ground. With few exceptions campanulas are readily raised from seed, and as seedlings invariably give the best results, this system should always be followed when at all practicable.

THOMAS SMITH.

Walmsgate Gardens.

AN ORNAMENTAL CHINESE PRIVET.

Ligustrum sinense forms a good subject for the back of a shrubbery, an isolated lawn specimen, or a bold group in the wilder parts of the garden, for it is a vigorous growing shrub, which blossoms freely and possesses the additional advantage of bearing ornamental fruit at a later period. Many of the privets are too stiff in habit to be called really ornamental plants, but the one under notice is exempt from that criticism for the habit cannot be objected to at all. Under certain conditions, it assumes the proportions of a small tree, with a trunk of nine inches or a foot in diameter, but more frequently it adopts the habit of a large-headed bush, 16 to 20ft. in height. The leaves are oval, but smaller and thinner in texture than those of the oval-leaved privet. The flowers are borne profusely in elegant panicles, 3 to 4in. long, and are quite white. The flowering time is July. About September, the bushes are again conspicuous by reason of the tiny black fruits which quite cover the branches. As is the case with the majority of privets this shrub can be grown without trouble even in poor soil. It, however, like most other plants, assumes the largest dimensions when given a generous diet. It has been known by a variety of synonyms, of which L. chinense is the commonest. Varieties with variegated leaves and dwarf habit are known, but they are inferior to the type.

D.

NOTES FROM KEW.

A bed of the Swamp Honeysuckle of the United States (Azalea viscosa), near the fern house, at Kew, has afforded a very pleasing July feature, as at that time nearly all the hardy azaleas were over. The flowers are, for the most part, white or whitish, while they are of a peculiarly clammy nature, and so fragrant that their presence is manifest for some distance. It is native of a considerable district in North America, and was introduced in 1734. Early in summer, when so many others are in bloom, this species would not attract much attention, but, owing to its late-flowering qualities, it is very noticeable and of considerable value.

Weigela Eva Rathke.

Very near to the azalea above referred to is a bed of this weigela, which is certainly entitled to a place among the best of the many forms now in cultivation. It is of less vigorous growth than several others, while the flowers are of a bright crimson colour. The most marked feature of this particular variety is its continuous flowering qualities, as it will bloom more or less from spring till autumn. Recently it was quite a mass of flower.

Fremontia californica.

In a sheltered angle outside of the Temperate House this handsome Californian shrub or tree has been flowering very freely. The position there evidently suits it, for it is rarely seen so full of flower. The salver-shaped golden-yellow blossoms are about three inches in diameter. Extensive as is the Sterculia family (to which this belongs) in the warmer portions of the globe, this is about the only hardy member that we have in our gardens. This fremontia was first discovered during Colonel Fremont's expedition to the Rocky Mountains in 1846. A specimen flowered at Chiswick in 1854, and for some years it was regarded as unique. For the general introduction of this ornamental subject we are, I believe, indebted to Messrs. Veitch, whose collector, William Lobb, sent home a quantity of seeds from California

Syringa japonica.

By botanists the different species of syringa in our gardens are divided into two groups, firstly, the true lilacs, represented by Syringa vulgaris, and, secondly, the Ligustrina group, of which Syringa japonica, is an example. The members of this last are distinguished from the true lilacs by flowering later, and by having large panicles of smaller, privet-like flowers. All of them are white in colour. The best of this section is S. japonica, of which a couple of tree-like specimens formed a very notable July feature near the Temperate House. They were simply a mass of white, being covered with their large, branching panicles of blossoms. The fragrance is less pronounced than in the case of the common lilac. At a little distance the name of the group, Ligustrina, is very apparent, as the inflorescence much resembles that of some of the privets, such as Ligustrum lucidum or L. japonicum At all events, Syringa japonica forms a very ornamental small tree for a lawn of limited extent.

Hedysarum multijugum.

A bed of this Mongolian plant flowered freely in the collection of the shrubby Leguminosæ. It is now a well-known subject, having come into general cultivation about a dozen years ago. It forms a loose, spreading shrub, a yard or a little more in height, clothed with pinnate leaves of a greyish hue. The bright purple flowers are pea-shaped, and freely borne in upright racemes. Like many leguminous plants, it will hold its own even in sandy soils.

Æsculus indica.

It is a great pity that the Himalayan horse chestnut is almost, if not quite, impossible to obtain from nurseries. Its all-important feature is the fact that it flowers in July when the common kind has been long past. In general appearance the Himalayan horse chestnut may be likened to the common species, but the leaves are larger, thinner in texture, and more glossy. There is also the fact of its late flowering, while the spikes of blossoms are somewhat longer and narrower than those of the ordinary horse chestnut. Though represented by good flowering examples at Kew, I have searched several nurserymen's catalogues without finding it mentioned. In the Western Himalayas, where it is found at an elevation of 8,000 to 10,000 feet, it is said to form a large tree.

K.

MAKING NEW STRAWBERRY PLANTATIONS.

Strong early runners raised from plants that have not been allowed to fruit, and rooted in small pots, are undoubtedly the best for making new beds, as they will furnish a good crop of choice fruit during the next season. These fruits are much more satisfactory, whether for dessert or kitchen use, when they have been well grown. An open situation should be chosen, and the quarter should have been well cultivated, and the soil in good condition. A piece of ground from which a crop of early potatoes has been taken will in a general way be found suitable. If the soil had been well broken up and liberally manured previous to planting the potatoes, all that will be necessary at this time will be to apply a good dressing of lime, on soils which may be deficient in this constituent, soot, and some wood ashes; also give a dressing of some well-decomposed manure, that from an old hotbed being in every way suitable. The various materials should be thoroughly incorporated with the soil by digging the quarter one spit deep. If the ground is of a light nature it should be made firm by treading when the surface is dry.

As soon as the runners are well rooted remove them from the beds, and stand them on a cool surface in a partially shaded position for a week or ten days. Our mode of planting here is to bed the runners out two feet apart each way. Do not disturb the ball of soil when planting; press the soil firm, and keep the upper side of the ball slightly below, if anything, the level of the surrounding soil. Water each runner thoroughly, and do not let them suffer from drought until they are well established, when they will look after themselves. A light mulch of decomposed manure will be found beneficial in checking the evaporation of moisture. A large number of varieties is not usually necessary, but the requirements of the establishment must be duly considered, the chief aim should be to lengthen the supply of these most useful and delicious fruits as far as possible. We depend chiefly on Royal Sovereign, The Leader, Mentmore, Latest of All, Givon's Prolific, and Laxton's Latest for our main crop, and in smaller quantities, The Bedford, Reward, Progress, Bedfordshire Champion, and the Laxton. Each of the varieties grow and fruit well on our cold, stiff land.

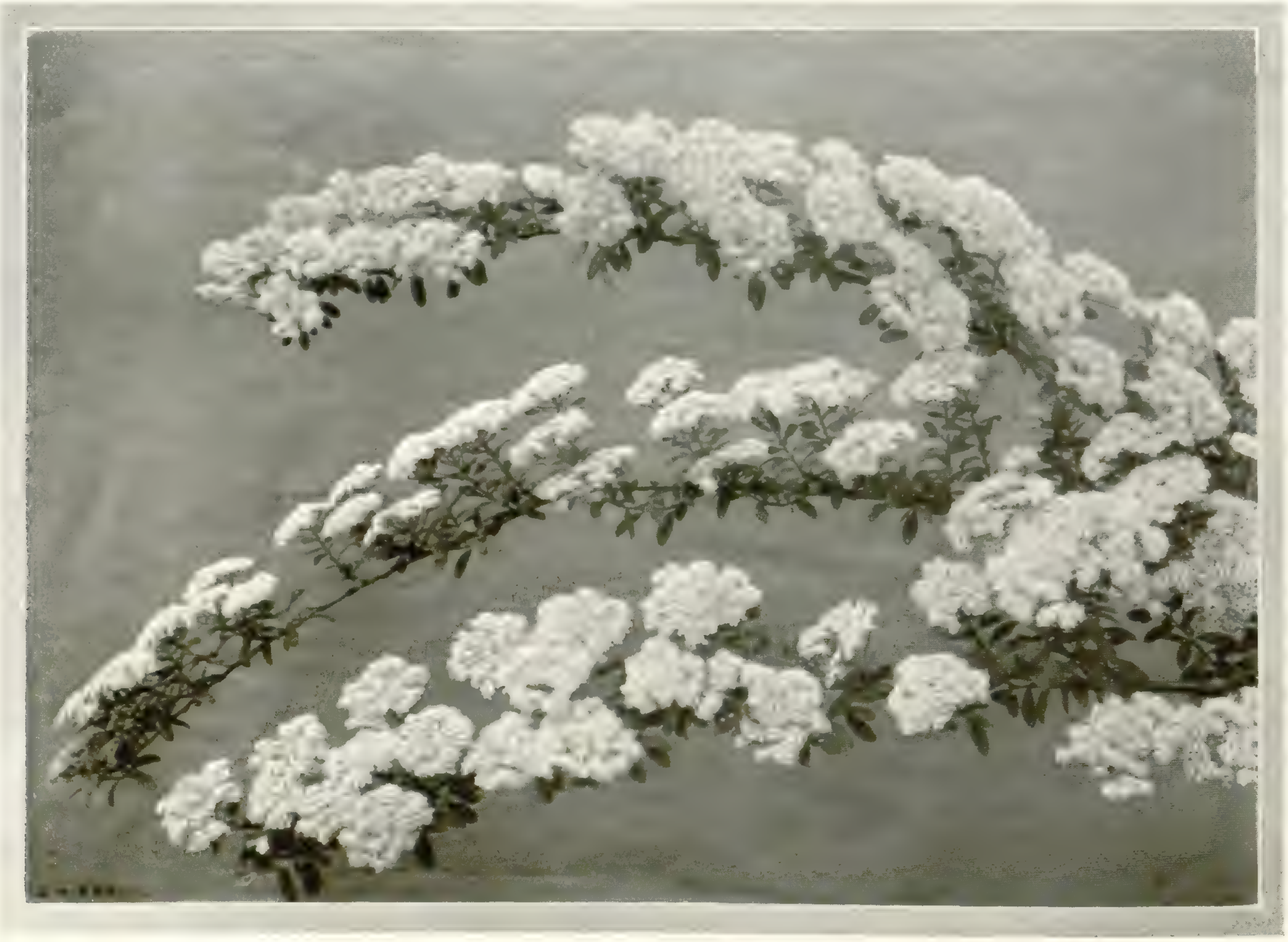
GEO. WOODGATE.

Rolleston Hall Gardens.

PARROTIA JACQUEMONTIANA.

The various members of the order Hamamelidaceæ form an exceeding interesting group of trees and shrubs, for almost everyone possesses some little peculiarity which induces one to bestow upon it something more than a passing glance. Thus we have the witch hazels, with their curiously twisted flowers, appearing in midwinter; the corylopsis, with their catkins of primrose flowers, a little later; the fothergillas, with dense, upright heads of white blossoms; and the parrotias, which appear to combine the interesting points of several other genera, although the species are but two in number. These species, P. jacquemontiana and P. persica, possess little in common, for they differ in almost every point. The flowers of the Persian species appear very early in the year, before there is a sign of a leaf bud bursting, and the flowers are quite tiny, but conspicuous by being bright red. It is also very beautiful in autumn, for the leaves turn to brilliant shades of orange and scarlet previous to falling. P. jacquemontiana, on the other hand, blossoms during May, when the leaves are half-grown; the inflorescences are quite different in character, and the leaves do not assume any brilliance of colouring in autumn. P. jacquemontiana is a native of the Himalayas, and is said to grow at an elevation of between 2,000 and 8,500 feet. It was first brought to notice by Dr. Falconer, who discovered it in Kashmir about 1836. Under cultivation it forms a small tree, with more or less oval leaves, three to four inches long, and as far across. The flowers are tiny, and borne in dense round heads, each head being surrounded by an involucre of white bracts, which form the showy part of the inflorescence. In the Himalayas and Afghanistan the wood, which is very hard, is said to be used for making walking sticks, tent pegs, etc., whilst the branches, used with clay, are requisitioned for the walls of houses. Both the parrotias thrive in ordinary garden soil, and the one under notice, which is rare, may be grafted on P. persica. Seeds, when they can be obtained, form the best means of increase.

W. D.



SPIRÆA VEITCHI.

This has long arching sprays of white flowers. A.M., R.H.S., July 20. Messrs. James Veitch and Sons, Chelsea. (See New Plants.)

NEW PLANTS, ETC.

◆

SPIRÆA VEITCHI.

This is a very fine, new, and graceful shrubby spiræa from China. It is quite hardy, and produces arching growths, often six feet long, and bearing all along their upper surface corymbs of closely clustered white and fragrant flowers. This excellent introduction is sure to find great favour with those who appreciate shrubs which bloom in summer, at a period when flowering shrubs are comparatively few in number. A.M., R.H.S., July 20. Messrs. James Veitch and Sons, Chelsea.

ROSE JULIET.

Seldom has a rose created so great a sensation at the Royal Horticultural Hall as the new one named Juliet. It is so distinct in colour that it probably marks the beginning of an entirely new group. The blooms are of good size, and have broad petals of a lovely soft scarlet hue, each with a golden base. As the blooms grow older the brilliance fades somewhat, but nevertheless Juliet promises to become a famous garden rose, for almost everyone who saw it desired to have it. The variety is, we understand, descended from Soleil d'Or (an Austrian copper variety) and a H.P. variety, the name of which is at present withheld. It is through Soleil d'Or that Juliet gets its wonderful and distinctive colouring, as well as something of its distinct habit and leafage. A.M., R.H.S., July 20. Messrs. William Paul and Son, Waltham Cross.

DELPHINIUM NULLI SECUNDUS.

A handsome delphinium, bearing stately, columnar spikes of white flowers, each with a central mass of dark, blackish-brown stamens and anthers. A very distinct and striking variety. A.M., R.H.S., July 20. Mr. F. W. Smith, gardener to F. Furguson, Esq., Weybridge.

SWEET PEA EDNA UNWIN.

This may be best described as a glorified St. George; the flowers are of fine rich orange-red colour, and make a splendid display in the bunch. A.M., R.H.S., July 20. Mr. W: J. Unwin, Histon.

NYMPHÆA MOOREANA.

The origin of this water lily does not appear to be known. It was sent to Gunnersbury from Australia as something rather better among yellow varieties than N. Marliacea chromatella. It has deeper yellow flowers than the latter, blooms as freely, and has clear green leaves without mottlings. A.M., R.H.S., July 20. Mr. James Hudson, V.M.H., gardener to Leopold de Rothschild, Esq., Gunnersbury House, Acton.

ODONTOGLOSSUM ARDENTISSIMUM STARLIGHT.

A charming orchid, with large flowers prettily speckled and lightly marked with purple over a lilac-rose ground colour. A.M., R.H.S., July 20. Messrs. Sander and Sons, St. Albans.

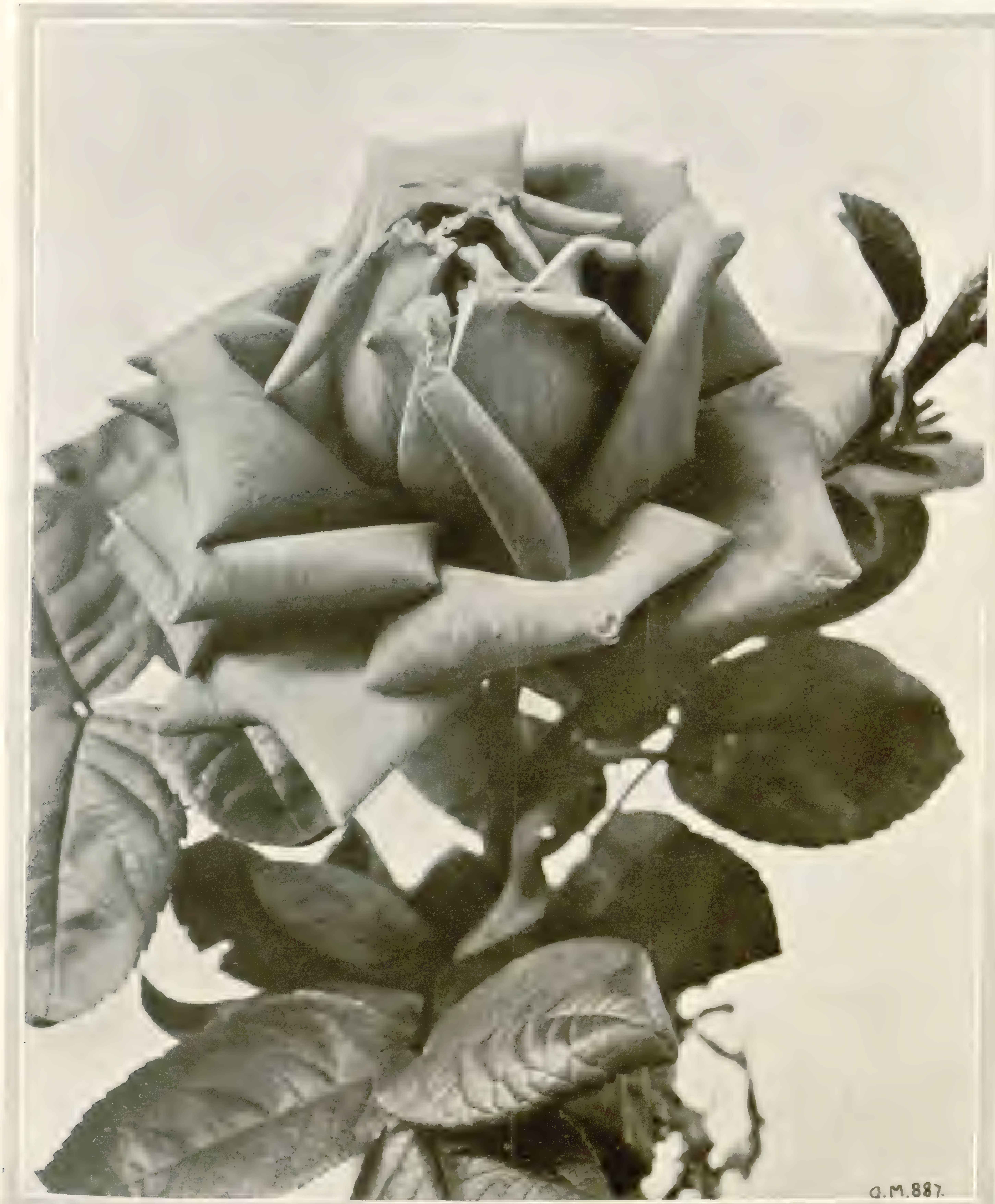
SPATHOGLOTTIS PLICATA ALBA.

Probably an unique plant, being a very beautiful albino form of the well-known old purple-flowered species. It attracted a great deal of attention from those who appreciate other orchids than those with very large blooms. A.M., R.H.S., July 20. Mr. Collier, gardener to Sir Jeremiah Colman, Bart., Gatton Park, Reigate.

THE ABUSE OF THE WATERING POT.

The word "futile" is said to be derived from the Latin word futus, a watering pot, the meaning of our English word describing from one point of view the result of putting water into a vessel simply to pour it out again. The way the watering pot is often used, especially by amateurs in small gardens in the outskirts of towns, where the water supply is brought conveniently near them, is often worse than futile, being decidedly injurious both to the plants and to the soil in which they are growing. Professional gardeners, as a rule, have too much to do to lay themselves open to the charge of wasting much water, but even some of them, for want of proper knowledge, do not use to the best advantage the time which is available for watering. I propose to show first the harm from excessive or too frequent watering, and then the way in which watering may be done more effectively, and, at the same time, with economy both of time and water.

Harm is done in various ways, but I can only point out the most important or frequent. In the case of flower-beds and borders where there is a fine surface, we all know how the water runs off after a few minutes watering, with the result that it is left, and given another watering in a day or two's time. The result is that the roots come to the surface for the moisture instead of going downwards; and then, if watering has to be left for a week or so in hot weather, the plants suffer. And not only that; it is a proved fact, which anyone can verify for himself by pulling up a plant out of wet or marshy ground, that where moisture is abundant, the plants do not build up such an extensive root system as in a drier soil. The result is that instead of the substance of the plant being substantial and solid, it is succulent and watery, and the flowers are not only of poorer quality but in smaller number, as



NEW ROSE JULIET.
A beautiful new hybrid rose, soft scarlet and yellow; of Austrian Briar and H.P. descent. A.M., R.H.S., July 20. Messrs. William Paul and Son, Waltham Cross. (See New Plants.)

the plant has not so much reserve to draw upon. Some plants that are accustomed to a dry climate, such as the zonal pelargonium and the calceolaria, notably run more to leaf than blossom in such circumstances.

The effect of the fine surface of the soil running together, so that it cakes when dry, is that air is excluded from the soil—air which is necessary for keeping the living substance of the growing root tips in a state of health, keeping the soil sweet, and enabling those processes of the soil which result in the production of valuable plant food to be carried on. Lastly, by keeping the surface in a close, or caked, condition, frequent watering may often result in the deeper portion of the soil being drier than if no watering was done at all, the compact state of the surface facilitating the rise of moisture from below to the surface, where it is fast evaporated by the great heat of the midsummer sun. It has been assumed in this case that the watering, though unduly frequent, does not go down into the subsoil. If, however, by reason of the peculiar tetxure, or other peculiarity of the soil or its position, such is the case, then the excessive watering washes the soluble plant food out of the reach of the roots, besides, by reason of the more or less excess of water, keeping out the all-important air. Excessive and improper watering, then, causes a weak and watery growth, lessens the amount of blossom, prevents the proper aeration of the soil, and may even cause the moisture in the subsoil to be less than it otherwise would be; or, in a different soil, permanently lessen the available supply of plant food.

Now as to the watering which is necessary, with due regard to economy of both water and labour. In the first place, we should do what we can to conserve the moisture that is in the soil in the spring by keeping the surface loose directly it begins to get dry, and loosening it again after every heavy rain, as by this means the channels conducting water to the surface from below by capillary attraction will be cut off. By a rigorous observance of this principle, one may often pass through a whole summer with very little watering of established plants, as was the case in 1907 and 1908 in my garden on the London clay, though things were different on some light soils. In the latter year, beautiful though most of the summer was, there came a good deal of rain early in July, after the dry June, just in time to prevent the need of watering where the soil had been properly treated, both by deep cultivation and surface working, and then, again, in late August, when the soil was just getting dry to a good depth. Many people were watering for all they were worth the latter half of June, even with heavy soils. One enthusiastic amateur told me he gave the whole garden a thorough ducking every evening!!!

So much for the negative aspect of the subject. The fact remains that some watering is necessary in most summers, and in some years a good deal. The principle of economy in watering is to see that as much as possible of the water which is applied goes well into the soil, so that it is not dried up by the sun the next day, giving such a quantity as will go down as far as the roots extend, and then it may be left for at least a fortnight, even in the hottest weather. A help to this end is the loosening of the surface soil and the application of a mulch of manure before watering, or the lightly turning in of some short, rotted manure to facilitate the entry of the water and prevent the surface soil running together. This method may be applied to all beds and borders.

If a hose is used, it is better to discard the sprinkler, and let the water run into the soil with as little washing of the surface as possible, so as to saturate the soil to a depth of a couple of feet, only doing this, of course, when it is becoming very dry, and not repeating it for at least a fortnight. Where it is desired to water big things, like shrubs, roses, and climbers against the house or other walls, it is a good plan to sink a flower-pot in the ground up to the rim, previously putting a few pieces of broken pot underneath it, and then pour the water into the pot, which can be done a pailful at a time. A piece of tile or slate should be laid over the top of the pot to prevent evaporation afterwards. **Alger Petts.**

JAPANESE OR RUGOSA ROSES.

These form undoubtedly one of, if not the hardiest class of roses we have. I have never known frost to harm these during a dormant condition, and scarcely any effect is made upon the earliest growth in spring. They are also remarkably free from insects, if we except green-fly, and even this does not infest them so much as in most other classes. Nor have I ever seen them harmed by red rust in the autumn. What has apparently looked like this disease has turned out to be the peculiar way of ripening their foliage. They are early in flowering, and continue in bloom a considerable part of the summer, and end by supplying an enormous quantity of hips that are in themselves ample justification for cultivating these roses, as they produce a very attractive autumnal display. It is the singles that produce these seed pods or hips in greatest profusion. The fruits of atropurpurea are a glowing purplish-crimson, while those of Rugosa alba are a pale primrose yellow. Several shades and sizes of fruits are produced between these.

There are few subjects better suited for game coverts than these roses, affording, as they do, excellent cover, as well as food in autumn, and abundance of shade during summer. Partridges and pheasants are very partial to these fruits, and often invade our nursery grounds in search of them.

Rugosa roses are very freely raised from seedlings, and in a couple of years make good bushes. As their use for covert planting becomes more generally recognised they will no doubt be freely used. The one drawback in this connection is the uselessness of the wood for cutting.

In the garden ample use can be found for the varieties forming the section. They can be pruned or not, at will, and we now have a good selection of colours. In Rugosa alba we have a grand pure paper-white rose, some two and a-half inches in diameter, while R. rubra (sometimes called Regeliana or Ramanas rose) affords us a deep rose with slight shadings of violet of the same size. One of the very best is atropurpurea, a very free flowering variety, with large bunches of blossoms that are blackish-crimson in the bud stage and maroon-crimson as they expand. Calocarpa has a smaller flower, but it is very sweet-scented, and produces immense clusters of small rich scarlet-coloured fruits. Fimbriata is almost white, except for a blush tint during very sunny weather, and sweetly scented. The margins of the petals are beautifully fimbriated, and Delicata and Belle Poitevine give semi-doubles of soft rose colour. Souvenir de Pierre Leperdrieux is a double form of bright vinous red, and that, unlike most of the other doubles, throws a large number of fruits. We obtain some hips from almost all roses at various seasons, but these more particularly under notice are remarkable for the size and quantity they produce.

Conrad Ferdinand Meyer belongs to this section, but, like some others to be mentioned, ought more properly to be styled a hybrid rugosa. Conrad F. Meyer is a wonderfully strong grower, and has all the other good qualities of the section. It is good enough for exhibition, being of similar form to La France, of equal size, and quite as sweetly scented. This is a clear silvery-rose, and there is now a white sport of this named Nova Zemblæ. Mrs. Georges Bruant is another white, a little more than semi-double, and an exceptionally free bloomer, but a little too pendent in habit to appear to the best advantage. Another semi-double white is Blanc Double de Coubert; this is much larger than the previous variety, but it does not continue to flower so freely throughout the season.

The first of the rugosas were introduced from Japan so long ago as 1802, and it is during the last ten or fifteen years that they have been so much improved.

A. Piper.

THE DEEP WELL WATERS OF HARPENDEN.

Harpenden, Herts, lies toward the edge of the chalk basin in the middle of which London is situated. The water supply of Harpenden is derived entirely from wells sunk in the chalk, which chalk in some places comes to the surface, and is probably never more than 25ft. beneath it. The water in the wells is, in the valley, about 60ft., and on the hills about 120-145ft., below the surface. The water level of the district exhibits a rather steep gradient, the underground flow of water being apparently from north-west to south-west. This flow of underground water consists of the mixed drainage of a large area of agricultural land.

In the uncontaminated wells at Harpenden, the proportion of chlorine in the water is practically constant. Eleven per million may be taken as the average proportion of chlorine in the uncontaminated wells of the district. From whence does this chlorine come? The chlorine present in the rain has been determined for many years at Rothamsted. The average proportion is two parts per million. When rain falls upon the unmanured soil of the Rothamsted drain gauges about one-half of the water is evaporated; we should expect, therefore, that the drainage water which passes through the soil would contain four parts of chlorine per million, and this is actually the case.

In the Rothamsted experimental wheat field, where the evaporation is increased by the growth of a crop, the drainage water from the unmanured land contains about six parts of chlorine per million. The proportion of chlorine may be still further increased in the smaller quantity of drainage water obtained from pasture land. It is difficult, however, to see how the mixed drainage of arable and pasture land, from which the well water is derived, can contain a quantity of chlorine approaching eleven parts per million, unless we assume that the chalk still contains in its deeper strata some of the common salt, which was undoubtedly among its constituents when it first emerged from the sea. The comparative poverty in chlorides of the chalk waters at Harpenden would then be due to the situation of the wells in an elevated part of the chalk district (344 to 430ft. above the sea).

The well waters near the edge of the chalk basin must consist chiefly of filtered rain water, while the water found in the wells of the lower part of the basin must consist largely of the underground drainage from the upper part of the basin, which has percolated through vast masses of chalk during its downward journey. Perhaps the strongest argument in favour of the existence of original chlorides in the chalk is furnished by the composition of the chalk waters obtained from beneath the London clay. Where the chalk has been protected by a thick stratum of impermeable clay, and thus has received no direct washing by rain, the water is found to contain about 150 parts of chlorine per million.

Turning to the amount of nitrates in the uncontaminated well waters of the Harpenden district, it is found that the average proportion of nitrogen, as nitrates, in these waters is 4.7 per million. The proportion of nitrates is not so constant as the proportion of chlorides, owing to the fact that every well receives a certain amount of local drainage. The nitric nitrogen, which the vast reservoir of water in the chalk contains, is the final outcome of the drainage of a large area of land under a variety of agricultural conditions.

It may be estimated that the average drainage of the Harpenden district will not exceed 8in. of water per annum; this would give an annual loss of about 8 pounds of nitrogen as nitric acid per acre of land. The average amount of nitrogen contained in uncontaminated spring and well waters in different parts of England is apparently very similar to that found in the good wells at Harpenden.

Harpenden. J. J. Willis.

MESSRS. E. W. KING AND CO.'S LARGE GOLD MEDAL DISPLAY AT THE NATIONAL SWEET PEA SOCIETY'S SHOW ON JULY 23.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

SEASONABLE REMARKS.—At the present season, when so many orchids are in their most active stage of growth, constant observation is necessary on the part of the grower to guard against disease and attacks by insect pests. In a season such as the one we are generally experiencing this year, where, from the lack of sunlight, the growths although vigorous in appearance, are undoubtedly of a soft and sappy nature; and it is only natural that plants in such condition are more subject to the attacks of fungoid diseases. Probably one of the worst enemies the growers of cool house orchids have experienced of late years is the fungus Glœosporium Bidgoodi, which comes as a black smut or mould on the lower side of the leaves of odontoglossums and oncidiums. I am convinced that there is only one remedy to overcome this fungoid pest, and that is to cut away the foliage off the plants and burn it. The pest is spread by the spores, which become matured on the surface of the leaves, and, while we may carefully apply chemical preparations in the hopes of preventing its spreading, I have been obliged to come to the conclusion that cutting away infected parts of the foliage as soon as the disease is observed is the only safe remedy.

CATTLEYA HOUSE.—With regard to the warmer divisions, say the cattleya house, there are few orchid growers who have not had some one or another of their most healthy and vigorous plants suddenly attacked by a bacterial disease, perhaps in the centre of the leaf, or it may be some portion of the newly-developing or developed pseudo-bulb. It appears as a miniature pin-prick perhaps at first, which rapidly increases in size until, in the course of a few days, the growth has become a pulpy mass if no check has been imposed. If allowed to go unchecked the disease will extend through the connecting rhizome to the remaining pseudo-bulbs, and perhaps destroy the whole plant. If any doubt might occur as to this being a form of bacteria, let the operator take a pin and prick the affected portion of this plant, and select another, perfectly healthy, and prick any portion of the foliage he may select, and carefully note the effects. There is no remedy for this but to cut away the whole of the affected parts, if it is desired to save the plants. Even if the leading growth and flowers for a season have to be sacrificed there are generally dormant buds on the remaining pseudo-bulbs, which will secure the future safety of the plants.

INSECT PESTS AND THEIR DESTRUCTION.—It is only a few years ago since I and many of my brother-gardeners, who were responsible for preparing some one or other of the weekly calendars of the horticultural Press, were advocating the claims of the most suitable tobacco-papers with the almost barbarous methods we had to contend with in their use. Horticultural manufacturing chemists have not only done away with the distressing experiences many of us had to suffer, but have given us remedies which, if applied at regular intervals by spraying or vapourising, as the case may be, we are enabled to keep our plants free from the attacks of insect pests. It is at the season of the year when we are subjected to the plants becoming infested from the outside garden that we have most to dread, so that spraying should be regularly done during the next few weeks. Prevention is always a better remedy than the cure.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

AMARYLLIS.—The earlier batches of these plants will be finishing their growth and should be placed in a house where they may have all the light and air possible, gradually withholding water as the foliage dies down. The later batches will still be making growth, and the foliage must be kept clean by syringing. They may also still have frequent applications of liquid manure, not withholding this till the foliage shows signs of drying off, when they may be treated as advised for the earlier plants.

BERRIED SOLANUMS.—These, whether planted out in frames or in the open ground, should be making good growth and flowering freely. Care must be taken to keep them free from greenfly, which is more troublesome this season than we have known it. Therefore, frequent syringings with some approved insecticide will be necessary. Frequent waterings with liquid manure should be given to maintain them in vigorous growth. As soon as the berries begin to set freely, and the plants are large enough, the points of all the shoots should be pinched out, and the impetus thus given to the swelling of the berries will be easily recognised.

FUCHSIAS.—Specimens that may be flowering in the conservatory or greenhouse, or even in semi-shady positions out of doors, should have the seed pods and stale flowers picked off regularly to ensure their continuing in bloom a considerable period longer, and, when possible, a top dressing of soil and manure should be given. If this attention is not delayed too long it will add an extra week or two to the flowering period. This rich top dressing is suggested as an addition to the usual applications of liquid manure.

CARNATIONS.—Most of the Malmaisons will now be layered; in fact, some of the earlier batches may be almost fit for potting up. It is important not to unduly delay this operation for any considerable period, especially if plants for early blooming are required. A good open compost should be used for the young plants, and large 60's or 54's for the stronger plants are the most suitable sized pots.

POTTING should be done firmly, taking care that the soil is pressed very firmly round the collar. After potting return them to a cold frame or greenhouse, keeping them syringed and close for a few days, but as soon as rooting commences give air liberally, as what is most wanted in the cultivation of the Malmaisons is a firm, short-jointed growth. Any of the border varieties that have been blooming in pots should be layered as early as possible, treating them as advised for the Malmaisons.

SEEDLING PRIMULAS, etc.—Cinerarias, calceolarias, primulas, humeas, etc., that have been raised from seed must be pricked off or potted as soon as large enough, taking care not to overcrowd the plants. Do not keep them too close, but encourage a good sturdy growth rather than a tender, sappy one.

ZONAL PELARGONIUMS for the winter should now be well established in their flowering pots, and ought to be stood out on boards or slates where they may have all the sun possible. When well rooted a little soot water may be given them, but avoid the use of any really stimulating manures, as if potted in good soil with bonemeal added it ought to carry them until they are fairly into bloom. The best blooms I have ever seen on zonals were on plants that from their appearance one would call half starved. Continue to take out the points of any strong shoots, or a general stopping of all shoots may be done at once, but not later than the middle of August.—Thomas Stevenson, Woburn Place Gardens.

THE FLOWER GARDEN.

BORDER CARNATIONS.—These are, in common with all other occupants of the garden this season, unusually late. Attend to the staking of the flower-spikes, or they will soon become irreparably damaged. Light dustings of soot during showery weather will greatly benefit the plants, adding vigour and colour to both foliage and flowers, besides rendering the growth distasteful to the ravages of insects.

LAYERING CARNATIONS.—This work should be accomplished at an early date, to ensure well-rooted plants by autumn time. Select the strongest growths for this purpose. Should the ground be hard carefully loosen the surface with a small hand-fork. A supply of finely-sifted soil containing a liberal quantity of silver sand, or, better still, sharp road grit, will be needed. This will form an excellent medium, and will encourage the rapid formation of roots. The layers being selected should be cut through a joint in the usual way with a sharp knife, and well pegged down as nearly equidistant as possible. Give a good watering as the work proceeds, and a sprinkling each night and morning with clear water, when the weather is bright and warm, will be very beneficial. There are numerous varieties, embracing a wide range of colour and variety, but two of the most useful for cut flowers, and still universal favourites, are Raby Castle and the Old Clove.

PINKS.—These are with some people greater favourites than carnations, and this is not surprising when the quantity of bloom produced is considered, and the delicious fragrance of their elegant flowers. Propagation of these is effected by cuttings or pipings, as they are sometimes called. An ideal place to strike these is in a handlight. The cuttings should be made in the ordinary way, with a sharp knife, and dibbled in fairly thick in a compost of finely-sifted soil of a sandy nature. Keep these shaded and close for a time, and when they show signs of rooting gradually increase the amount of air and sunlight. Perhaps of the white varieties the most popular is Mrs. Sinkin, being early to bloom, and the flowers are of large size and good substance. There are many other excellent varieties to select from, and a collection of the best will form an interesting feature in the garden.

THE PROPAGATION OF SHRUBS.—It is an excellent idea to propagate a few of the choicest and maybe less hardy subjects (which will readily strike from cuttings) yearly. By doing this, should the permanent specimens be destroyed by a severe winter, a reserve in cold frames will prevent the risk of the more tender kinds being altogether lost. The end of July and beginning of August is the best season to take the cuttings, as the young wood is then in an ideal state. They are made in the usual way, and dibbled into five-inch pots which will be found a convenient size. Give a watering, and keep them close in a frame, and shade from bright sun. Syringe on all favourable occasions, and admit air to promote a humid atmosphere, which is conducive to their growth. Amongst some of the subjects which can be treated in this way I may mention Philadelphus of sorts, helianthemums, loniceras, cistus, ivies, Olearia stellulata, and others, Aristotelia Macqui variegata, Caryopteris mastacanthus, ceanothus of sorts, Bupleurum fruticosum, calceolarias, spiræas in variety, etc. Many of the choicest varieties of berberis, rhamnus, cornus, rubus, etc., should at this season be layered. For this purpose it is best to fill a few three-inch pots with some fine soil; plunge these up to the rims. Select the bottom branches, and make an incision halfway through a joint, and peg securely down. These should not be cut away from the parent plant until it is quite certain that they have well rooted.—E. Beckett, Aldenham House Gardens.

HARDY FRUITS.

PEACHES AND NECTARINES.—These trees should be frequently examined at this season, training in the new wood, and stopping all sub-laterals to one leaf. The fruits will be swelling up now, after perfecting their stones, and they should be exposed to the light, without which they will not obtain rich colour, which is so essential in both peaches and nectarines. A good practice is to cut off with a sharp pair of scissors so much of the leaf as is found shading the fruit. Trees carrying a full crop of fruit should have some assistance in the way of manure. Alternate waterings with well-diluted drainings from the manure heap, and a sprinkling of a good artificial fruit manure over the border, and washed in with clear water, will be found very beneficial. The latter should be applied about once a week.

INSECT PESTS.—It is imperative the foliage of peach and nectarine trees be kept free from insect pests. Red spider is generally the most troublesome; forcible syringing with soft water in the afternoon, between four and five o'clock, will do much to keep this pest in check, but on the first sign of its appearance spray with the liver of sulphur emulsion on three alternate evenings. To make this emulsion, dissolve one ounce of liver of sulphur in a little warm water, and pour it into a vessel containing six gallons of rain water in which six ounces of soft soap has previously been dissolved.

RIPENED FRUITS.—As soon as the fruits show signs of colouring syringing should cease. If the fruits are required to be packed for sending away they should be picked before they are thoroughly ripe, while for home consumption they may be left on until the fruit parts freely from the stalk. Great care is necessary when handling these fruits, as decay sets in very quickly after the slightest bruise.

STRAWBERRY BEDS.—Where it is intended to destroy old beds as soon as the fruit is gathered, cut the plants off with a spade, and, when the foliage is sufficiently dried up, put the old mulching material and the plants into a heap and set fire to it, spreading the ashes over the surface of the old bed when cool. Remove all runners and trusses of bloom from those which were planted out after having been forced, and keep the surface well broken up and free from weeds by a frequent use of the Dutch hoe. Water the plants whenever necessary to keep them steadily growing, that they may have a good chance to form strong crowns and be well ripened up before winter. Beds that are to remain for another season should have a few of the old leaves trimmed off, also all runners; at the same time remove all weeds and the light, strawy portion of the old mulching material. Loosen the surface lightly between the rows with a garden fork, and, if necessary, give the beds a good soaking of well-diluted liquid manure. See that the ground is made ready for the reception of the young plants, that no delay may be necessary when they are ready for planting. The three varieties of strawberries that we find most useful for the main crop are Royal Sovereign, The Leader, and Givon's Prolific; another promising variety for lengthening the supply is Laxton's Latest.—Geo. Woodgate, Rolleston Hall Gardens.

Scirpus Tabernæmontani zebrina.—Many singular contrivances are employed by Nature in clothing the various forms of plant life with beauty. In Scirpus Tabernæmontani zebrina we have a striking instance wherein the rush-like stems are alternately banded pale green and white, each zone of colour so distinctly marked off from the other that when a quantity of these slender stems are produced together they immediately arrest the attention. The colour is developed in a marked degree when the plants are allowed a scanty root run, and when planted in full sun under these conditions it rarely exceeds four feet in height, in deep rich mud the plant will often reach a height of six feet, but the white bar in the stem is then almost entirely absent. This plant, known commonly as the Porcupine Quill Rush, is of Eastern origin, having been introduced from Japan about the year 1881. It is a thoroughly reliable aquatic, requiring all the sun possible to secure the highest colouring. It is perfectly hardy provided the rootstock is well submerged in winter.—Thomas Smith.

NATIONAL SWEET PEA SOCIETY.

(Concluded from page 594.)

bertson was again first, with Messrs. Jones and Son second, and Mrs. H. P. Cottam, Malling, Kings Langley, third.

NON-COMPETITIVE EXHIBITS.

The extensive and most excellent displays from the leading sweet pea experts occupied the whole circumference of the hall, and, as may be easily understood, constituted an imposing feature of the show. On every stand were to be seen new varieties, or excellent blooms of first-class sorts, and these instructive exhibits naturally were a great attraction to enthusiasts and lay visitors.

In the centre of the hall, and directly opposite the entrance door, Messrs. R. H. Bath, Lim., Wisbech, had a large pyramidal stand, tastefully adorned with a number of the leading varieties, set in elegant glass vases, and arranged to represent a grouping, or classification, of varieties in colour, according to the "Repertoire de Couleurs." This was worthy the prominent position it occupied, and was greatly admired. At the far side of the hall, and also in a line with the door, Messrs. J. Carter and Co., High Holborn, W.C., erected a fine arch, profusely decorated with sweet peas in most of the leading sorts. The design and artistic arrangement of the flowers were all that could be desired. Festoons of smilax hung from the curve of the arch, and were twined among the bunches of flowers. On a table under this arch were displayed the National Sweet Pea Society's fine silver cups, for which the friendly strife of the best growers was waged, and which, consequently, were objects of keen interest.

An extremely beautiful lot of Mr. Henry Eckford's sweet peas kept the name of the pioneer of sweet pea culture to the fore. Large stands of Apple Blossom Spencer, Dodwell F. Browne, and Evelyn Hemus occupied the background, with Henry Eckford, Improved Venus, Sybil Eckford, and many other favourites in the foreground. The collection also included a splendid vase of the fine stock of Countess Spencer originally sent out by Mr. Eckford. The display made by Messrs. Robert Sydenham, Lim., Birmingham, was very tastefully arranged, the "Sydenham" rustic table decorations being used to great advantage. The blooms were fine, and were chiefly of the delicate shades of colour.

Messrs. Isaac House and Son, Westbury-on-Trym, Bristol, showed a number of flaked and fancy varieties of considerable merit. The blue and white "Suffragette" was indeed a too dainty thing to offer as an emblem of those militant ladies who have political aspirations. Mr. Robert Bolton, Carnforth, made a bold display in which a wide-spanned arch played a prominent part. This was decorated with sweet peas in tubes and in baskets suspended from the arch. On either side were tall stands of Constance Oliver and Helen Lewis, with capital vases of many other varieties on the stage. Prominent on the stand occupied by Mr. Wm. Deal, Kelvedon, Essex, was a mass of the new and beautiful Colleen, salmon-rose and delicate lilac-pink. There were plenty of other good things on this stand.

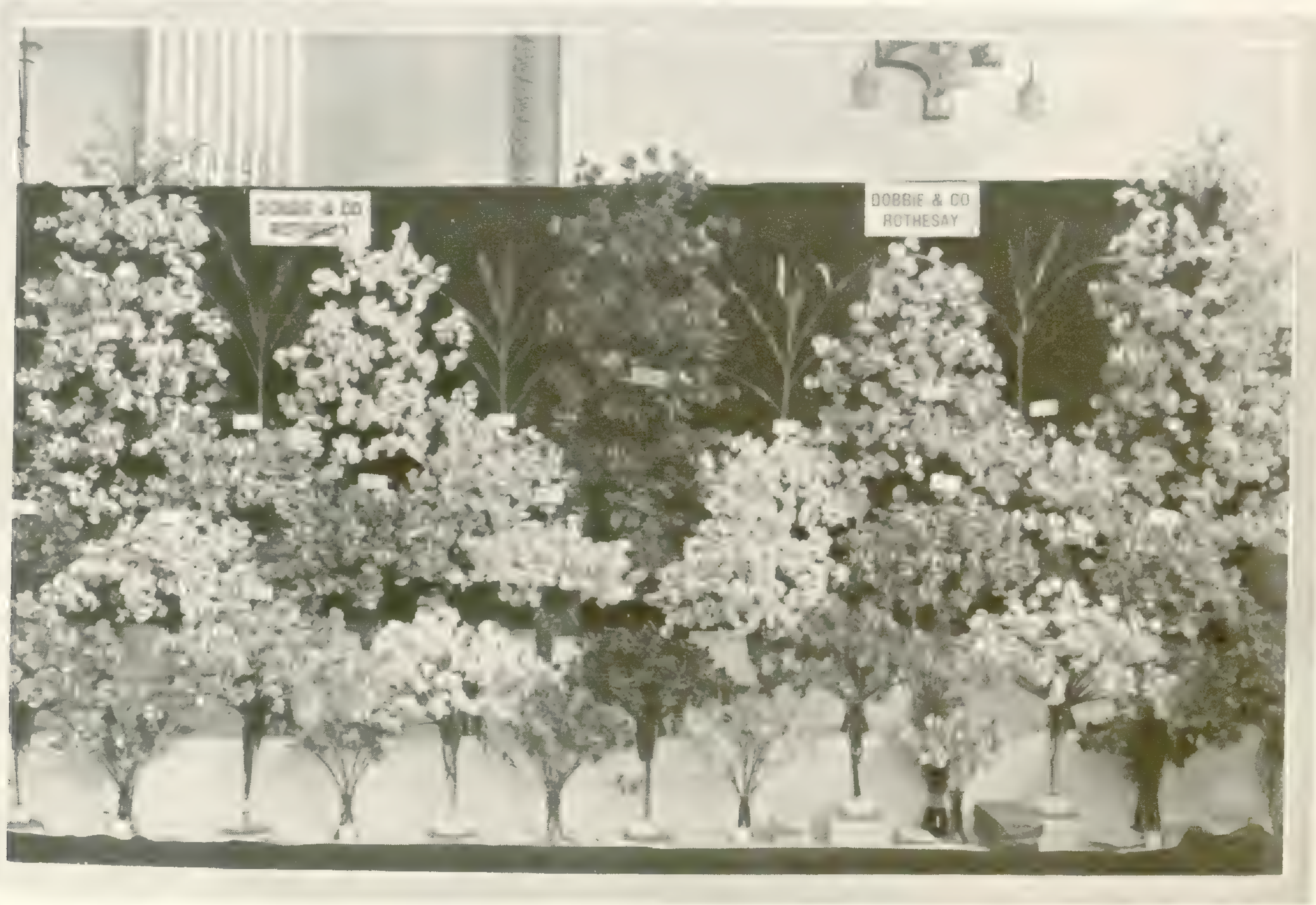
Messrs. Hobbies, Lim., Dereham, staged large bunches of the best-known varieties, good cultivation being evidenced by length of stem as well as size and substance of bloom.

Mr. C. W. Breadmore, Winchester, staged a pretty group, in which Countess of Northbrook, George Herbert, and A. N. Dickson occupied prominent positions. An attractive display was made by Messrs. Bakers, Wolverhampton, Baker's Scarlet, Mrs. Routzahn, Mrs. Charles Foster, and many others being noticeable. Messrs. J. K. King and Sons, Coggeshall,showed clean, well-developed, and nicely-arranged flowers in great variety. Messrs. Jones and Sons, Lim., Shrewsbury, put up a good set, their Anglican Blue being very attractive. Apple Blossom Spencer and John Ingman were also finely staged, the whole exhibit being well arranged. On Messrs. Jarman and Co.'s stand the variety Mrs. Townsend naturally held the place of honour, it being, as is now well known, a fine variety raised at Chard. Sweet peas grown by the aid of the Carlton Sweet Pea Fertilizer were shown by the makers of this special manure, Messrs. W. Voss and Co., Lim., Millwall, London, E. Mr. W. O. Cautley, Bury St. Edmunds, had Betty Cautley in fine style, also Earl Spencer, Mrs. A. Ireland, and other good sweet peas.

Messrs. S. Bide and Sons, Alma Nurseries, Farnham, Surrey, had small bunches of the leading varieties. Capital flowers, well staged, came from Messrs. H. Cannell and Sons, Swanley, Kent, a fine bunch of Mrs. R. W. Cannell being specially noticeable. This is a remarkably fine flower of a clear pink shade. A nicely-arranged stand on the right-hand side of the doorway was set up by Messrs. G. and A. Clark, Lim., Dover. On the immediate left of the doorway was Messrs. G. and A. Stark's stand, and here were flowers of particularly fresh appearance, and in rich colours. James Grieve seemed particularly bright as a yellow, and The Premier is a rich crimson. Messrs. Stark must have been enjoying good weather at Great Ryburgh. Messrs. Gilbert and Son, Dyke, Bourne, Lincs., had a fine lot of seedlings, several of which will be heard of again. Messrs. Kelway and Son, Langport, showed good varieties, but the arrangement was rather formal.

The rural table decorations, eminently suitable for use as receptacles for sweet peas, were shown by Mr. J. Williams, 4a, Oxford Road, Ealing. Mr. W. J. Unwin, Histon, Cambridge, showed a glorious lot of well-grown blooms, conspicuous among them being Edna Unwin, Mrs. W. J. Unwin, and Frank Unwin. Another good stand was that of Messrs. Dobbie and Co., Rothesay. Dobbie's Sunproof Crimson was very bright, and showed up well against such dainty flowers as Elsie Herbert and Mrs. C. W. Breadmore. An immense amount of interest was taken in the very fine display made by Messrs. W. Atlee Burpee and Co., Philadelphia, America. The name suffices as a guarantee of excellence, and we can truly add that the excellence of the flowers staged was such as to uphold the fame of the American sweet pea specialists. Menie Christie St. George, and King Edward positively glowed with colour, and other sorts toned down the brilliancy and added to the beauty of the whole.

A fine bank was set up at the end of the hall by Messrs. E. W. King and Co., Coggeshall. Mrs. Wm. King was grandly shown, and so was E. W. King's Blush, Constance



MESSRS. DOBBIE AND CO.'S LARGE GOLD MEDAL GROUP AT THE NATIONAL SWEET PEA SOCIETY'S SHOW ON JULY 23.

Oliver, and very many more. Miss Hemus, Holdfast Hall, Upton-on-Severn, showed Evelyn Hemus, Constance Oliver, Maggie Stark, and many other good varieties, all capitally grown. The large photograph of peas growing at Holdfast Hall was very interesting, as demonstrative of good culture by this lady specialist. Mr. William Lumley, Dawn Nursery, Havant, had a nice array of small bunches of very effective varieties. Stirling Stent was represented by a few stems bearing flowers of a flaming orange tint. This is a novelty of promise. Mr. James Box, Lindfield, Sussex, had a nice display in one of the annexes, as also had Messrs. J. Lamb and Sons, Bingham, Notts.

The music gallery, over the clock, was very tastefully decorated with trophies of sweet peas, backed by palms, by Mr. H. D. Tigwell, of Greenford, and Mr. C. H. Curtis, of Brentford.

MEDALS.

The following medal awards were made to non-competitive displays:—

Large Gold.—Messrs. Dobbie and Co., Rothesay and Marks Tey; Messrs. J. Carter and Co., Holborn; Messrs. E. W. King and Co., Coggeshall; and to Mr. H. Tigwell and Mr. C. H. Curtis, for music gallery decoration.

Gold.—Mr. W. J. Unwin, Histon; Messrs. W. Atlee Burpee and Co., Philadelphia, U.S.A.; Mr. Robert Bolton, Carnforth; Messrs. R. H. Bath, Lim., Wisbech.

Large Silver.—Mr. C. W. Breadmore, Winchester; Messrs. Bakers, Wolverhampton; Messrs. H. Cannell and Sons, Swanley; Messrs. Jones and Sons, Shrewsbury.

Silver.—Mr. Wm, Deal, Kelvedon; Mr. Henry Eckford, Wem, Salop; Messrs. Stark and Sons, Great Ryburgh.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1909. July 18 to July 24.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	Temperature of the Air. At 9 a.m. Wet Bulb.	Temperature of the Air. Day Highest.	Temperature of the Air. Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
July 18—Sunday	10 6	63	58	75	59
" 19—Monday......	14 12	66	56	72	59
" 20—Tuesday	13 54	64	54	74	47
" 21—Wednesday .	1 30	62	57	68	56
" 22—Thursday ...	6 12	63	59	68	56
" 23—Friday..	9 36	62	55	68	54
" 24—Saturday ...	10 24	59	53	63	51
Means	(total) 65 54	63	56	69	55

Date. 1909. July 18 to July 24.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	Temperature of the Soil at 9 a.m. At 2 ft. deep.	Temperature of the Soil at 9 a.m. At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
July 18—Sunday	—	62	60	57	58
" 19—Monday... .	—	63	61	57	54
" 20—Tuesday......	—	64	62	58	42
" 21—Wednesday .	—	64	62	58	50
" 22—Thursday ...	—	62	62	58	52
" 23—Friday........	0.03	62	62	59	50
" 24—Saturday ...	0.12	61	61	59	46
Means ...	(total) 0.15	62	61	58	50

Raspberries are abundant in the London markets at the present time, and the fruit is for the most part of large size. This abundance cannot, however, be a great advantage to growers, for the other day we saw excellent fruit being sold by a suburban greengrocer at three shillings per twelve 1lb. punnets.

VEITCH PORTRAIT FUND.

◆

List of Subscribers.

The following is the list of subscribers to the fund that is being raised for the purpose of having the portrait of Mr. H. J. Veitch, V.M.H., painted:

Mr. G. Abbey, jun., Mr. Herbert Adams, Sir John Aird, Mr. H. G. Alexander, Mr. C. Allen, Mr. J. C. Allgrove, Mr. C. Alston, Messrs. J. S. Anderson and Son, Mr. W. P. Atkinson, Mr. Wm. Atkinson, Mr. Elijah Ashworth.

Mr. W. Bain, Mr. W. Y. Baker, Mr. W. G. Baker, Professor Bayley Balfour, Mr. H. Ballantine, V.M.H., Mr. H. F. Barnes, Messrs. Barr and Sons, Mr. W. Barnes, Mr. F. Barwell, Mr. John Basham, Mr. W. Bates, Professor Bateson, F.R.S., Mr. F. C. Bause, Mr. E. Beckett, V.M.H., Mr. T. Bedford, Colonel Beddome, Mr. W. Bennett, Mr. W. A. Bilney, Mr. Peter Blair, Mr. E. A. Bowles, Mr. W. Boxall, Mr. S. W. Braggins, Mr. Albert Brassey, Mr. J. W. Briscoe, Mr. A. J. Brown, Mr. A. Bullock, Mr. Geo. Bunyard, V.M.H., Mr. J. Butler, Mr. W. Waters Butler, Messrs. Byvort Bros.

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Mr. G. Day, Mr. J. F. W. Deacon, Mr. E. Deadman, Mr. A. Dean, V.M.H., Mr. J. Harrison Dick, Mr. C. Scrase Dickens, Messrs. Dickson and Robinson, Messrs. Alex. Dickson and Sons, Mr. C. Dixon, Messrs. Dobbie and Co., Mr. T. A. Dorrien-Smith, Mr. J. Douglas, V.M.H., the Earl of Ducie.

Mrs. Earle, Mr. W. Earp, Mr. T. Edwards, Sir J. Edwards-Moss.

Mr. C. R. Fielder, Mr. C. Foster, Mr. Thos. Frazer, Mr. J. Gurney Fowler.

Mr. A. J. Gaskell, Mr. Louis Gentil, Mr. E. Gibbs, Mr. C. J. Gleed, Mr. W. Goldring, Mr. George Gordon, V.M.H., Mr. J. Gosden, Mr. Jas. Gray, Mr. J. Green, Mr. J. C. Grieselbrecht, Lady Theodora Guest, Mr. W. E. Gumbleton.

Mr. F. J. Hanbury, Mr. W. Hazler, Mr. E. F. Hazleton, the Rev. Professor Henslow, V.M.H., Mr. Chas. Hester, Mr. W. Heywood, Mr. W. T. Hindmarsh, Messrs. Hogg and Robertson, Lieut.-Colonel Holford, C.I.E., C.V.O., Sir Joseph Hooker, Mr. W. P. Horton, Mr. J. Howe, Mr. Jas. Hudson, V.M.H., Mr. C. C. Hurst, Mr. H. Humphrey.

Mr. W. Iceton, Mr. Inglis, Mr. E. J. Ingram.

Rev. J. Jacob, Mr. W. J. James, Mr. J. Jacques, Mr. W. J. Jeffries, Mr. E. H. Jenkins, Mr. J. Jennings, Mr. Thos. Jones.

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Mr. W. Rayson, Mr. Frank Reader, Mr. G. Reuthe, Mr. G. H. Richards, Messrs. T. Rivers and Son, Rev. F. Page Roberts, Mr. W. Robinson, Messrs. T. Rochford and Son, Mr. Edmund Rochford, Mr. Jos. Rochford, Sir Albert Rollit, Mr. Chas. Ross, V.M.H., Lord Rothschild, Mr. Alfred de Rothschild, Mr. Leopold de Rothschild, Mr. L. R. Russell.

Mr. W. Sams, Mr. F. Sander, V.M.H., Mr. R. C. Sanders, Mr. Geo. S. Saunders, Mr. J. Schneider, Baron Schröder, Mr. Chas. Scorer, Mr. J. Seden, Mr. [illegible], Mr. C. E. Shea, Mr. N. N. Sherwood, V.M.H., Mr. Eustace A. Sims, Mr. T. H. Slade, Mr. Romain de Smet, Messrs. Chas. Smith and Son, the Société Français d'Horticulture, Londres, Mr. W. Speed, V.M.H., Mr. Thos. Spencer, Mr. Geo. Stanton, Mr. W. Stevens, Messrs. Sutton and Sons, Mr. James Sweet, Mr. R. Sydenham.

Mr. Harry H. Thomas, Mr. Owen Thomas, V.M.H., Mrs. W. Thompson, Mr. W. Thompson, Mr. D. W. Thomson, Mr. D. S. Thomson, Mr. W. H. Thomson, Mr. W. P. Thomson, Mr. R. G. Thwaites, Mr. T. P. Trimmer, Mr. H. A. Tracy, Mr. Geo. Tubb, Mr. T. Turton, Mr. F. G. Twyford.

Mr. H. Morgan Veitch, Mr. Jno. Veitch, Messrs. R. Veitch and Son, Mr. Jas. Vert, Mr. Ch. Vuylsteke.

Mr. R. W. Wallace, Mr. Jas. Walker, Mr. J. Walton, the Lady Wantage, Mr. W. T. Ware, Messrs. Waterer and Sons, Mr. A. Watkins, Mr. Jas. Watson, Mr. Francis Wellesley, Messrs. K. Wezelenburg and Son, Mr. W. M. Whalley, Mr. Alfred Wheeler, Mr. R. Brooman White, Mr. E. White, Mr. W. H. White, Mr. A. L. Wigan, Mr. J. Willard, Mr. J. Wilkins, Miss Willmott, V.M.H., Mr. J. C. Williams, Mr. Percy D. Williams, Mr. J. W. Witty, Mr. Chas. Winn and family, Mr. E. H. Woodall, Mr. Geo. Woodward, Messrs. Wood and Ingram, Mr. S. T. Wright, Mr. Oswald Wrigley, Mr. G. Wythes, Mr. Whytock.

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EXHIBITIONS AND MEETINGS.

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Walsall Florists' Society and Midland Counties Sweet Pea Show.

JULY 19.

The thirtieth annual exhibition of the Walsall Florist Society was held on the above date under the most favourable auspices, so far as the weather was concerned, in the spacious and highly picturesque Arboretum (Walsall's Corporation park), and was visited by thousands of delighted spectators. The interest of the occasion was greatly enhanced by the fact that the Midland Counties Second Sweet Pea Show was held in conjunction with it, the initial show having been held at Wolverhampton last year. Five capacious marquees were provided, one of which, about 150 feet long, was devoted to the sweet pea exhibits.

OPEN CLASSES.

There were four groups of miscellaneous plants, arranged for effect, and the premier honours were annexed by Mr. W. Vause, Leamington; Mr. W. R. Manning, of Dudley, a close second; and Mr. Cartwright, Dudley, third. The specimen pot plants did not merit particular mention. Exotic ferns, however, were highly creditable, the respective winners being Mr. William Brace, Walsall; Captain A. D. Cozens (gardener, Mr. J. Smith), and Mr. W. H. Hamerton, both of Walsall. Roses were the best yet exhibited at Walsall. In the class for forty-eight blooms, distinct, the premier honours fell to Messrs. Perkins, Coventry, for really exquisite flowers; Messrs. Prior and Son, Colchester, second; and Messrs. W. H. Frettingham, Nottingham, third. For twenty-four blooms, Messrs. Prior and Son were to the fore; Messrs. Perkins and Sons, second; and Messrs. W. H. Frettingham, third.

Sweet peas were a striking feature, of fine quality, and well staged, comparing, as they did, favourably with their compeers in the Midland Counties display. In the class for six bunches, distinct varieties, Mr. Chipman, Erdington, led with fine examples of Countess Spencer, John Ingman, Mrs. Hardcastle Sykes, Helen Lewis, The King, and Dorothy Eckford; Mr. E. Shorthouse, Hammerwich, second; and Mr. W. H. South, Walsall, third. In the special class provided by Messrs. Bakers, Wolverhampton, for six distinct varieties (25 stems each), Mr. E. Shorthouse scored with Clara Curtis, Mrs. H. Sykes, Nora Unwin, Helen Lewis, Emily Hemus, and John Ingman; Mr. John Norreys, Wolverhampton, second. One of the most attractive features was made up by the four collections of pansies and violas, shown in glasses; each contestant employed a large mirror at the background, which much enhanced the effect. The premier prize was awarded to Messrs. William Pemberton and Sons, Walsall, for an ideal arrangement; Mr. Chipman, Erdington, was a close second; and Mr. White, Harden, third.

Herbaceous cut flowers were very well staged by Messrs. Chipman, Pemberton, and J. F. Simpson.

Numerous other classes for plants, cut flowers, fruit, and vegetables were well represented, but space forbids further mention, except, however, the exhibits in the special class for vegetables, where, for six dishes, distinct, Mr. A. Ashwell, Walsall, easily won with fine examples; Mr. E. Deakin, Hay Mills, second; and Mr. E. Shorthouse, third.

MIDLAND COUNTIES' PRIZES.

Compared with the number of entries at Wolverhampton last year there was a material falling off, doubtless partly owing to the lateness of the season and to the day (Monday) being an inconvenient one.

In addition to the marquee already mentioned, an extra one was devoted to trade exhibits of sweet peas, no exhibitor being allowed more than 20 feet run of tabling, and honorary awards only to be made. There were only two exhibitors, viz., Messrs. W. H. Simpson and Sons, Birmingham; and Messrs. Bakers, Wolverhampton, both showing artistically arranged and elaborate displays.

Iu the open class for twenty-four bunches, distinct, Mr. W. Marple, Penkridge, was allocated the premier prize for a splendid lot of blooms; his was the only exhibit. For twelve bunches Mr. Marple was again victorious; Mr. Davies, Tettenhall, Wolverhampton, second; and Mr. David Green, Ash Hill, third. For eighteen bunches (trade excluded), Mr. George Kertland, Wolverhampton, won with an excellent lot; Mr. John Cudwick, Tettenhall, second; Mr. H. Wakeman, Finchfield, third. For twelve bunches, Mr. A. Langston, Droitwich, led with fine examples; Mr. W. J. Jukes, second; Mr. H. Wakeman, third. For nine bunches Mr. A. W. Thorpe was first, Mr. J. Perks, Tettenhall, second; and Mr. E. F. Flower, Wolverhampton, third.

In the single bunch classes Mr. John Culwick led with Etta Dyke (white); Mr. G. Kertland with Mrs. H. Sykes (blush); Mr. A. W. Thorpe, with Queen Alexandra (scarlet); Mr. E. Shorthouse, with John Ingman (carmine); Mr. T. G. Dalton, with Helen Lewis (orange); Mr. E. Shorthouse, with Mrs. Collier (yellow); Mr. J. Perks, Tettenhall, with Frank Dolby (lavender); Mr. E. Shortwick, with Lord Nelson (blue); Mr. A. Thorpe, Lichfield, with Tom Bolton (maroon); Mr. A. Langston, with Mrs. A. Ireland (bicolor); Mr. F. W. Kendrick, with Helen Pierce (marbled); Mr. G. Kertland, with Mrs. Routzahn (fancy).

Messrs. Bakers, Wolverhampton, offered substantial prizes for twelve distinct varieties of sweet peas, not less than twenty or more than thirty stems in a vase, and here Mr. G. Kertland was first, Mr. J. E. Culwick second, and Mr. J. T. Money third. Mr. Robert Bolton, Carnforth, offered prizes for three bunches of sweet peas, and Mr. F. W. Hardwick, Tettenhall, was the only exhibitor. Messrs. Robert Sydenham, Lim., Birmingham, offered prizes for nine distinct varieties, Mr. G. Kertland coming first, and Mr. E. Dalton second. Messrs. Webb and Sons, Wordsley, also offered prizes for nine bunches, and Mr. H. Shaw, gardener to Alfred Ashworth, Esq., was accorded the first prize; he was the sole exhibitor.

Manchester Rose Show.

This important Northern fixture was held on July 21, in the gardens at Old Trafford. The Palm House was utilised for the purpose, but the accommodation for exhibits was not quite so good as in former years. The recent stormy weather and heavy rains prevented a number of leading exhibitors putting in an appearance, nevertheless there was a good display, and the quality of the blooms may be described as up to the average.

There was nothing particularly novel in roses; all the best-known show varieties were well represented. A display of Horace Vernet by Messrs. Prior and Son, Colchester, was well worthy of notice, the blooms exhibited being excellent in build and colouring. Madame Jules Gravereaux was selected as one of the best roses in the show, and it is pleasing to learn that this beautiful rose has a strong constitution, and is a very generous subject to deal with. The exhibits in light-coloured roses were fairly numerous, and there were excellent boxes of Frau Karl Druschki, which seems to have taken a strong place with all growers, also some good exhibits of Bessie Brown.

NURSERYMEN'S DIVISION.

For sixty distinct single trusses Messrs. D. Prior and Son, Colchester, were first; Messrs. G. and W. H. Burch, Peterborough, second; and the King's Acre Nurseries, Hereford, third. For thirty-six distinct single trusses Messrs. D. Prior and Son, Colchester, first; Messrs. G. and W. H. Burch, second; Mr. George Prince, Longworth, third.

In the class for twenty-four teas or noisettes, Mr. George Prince was first, Messrs. D. Prior and Son second, and the King's Acre Nurseries third. Mr. George Prince was first for twelve teas or noisettes, Messrs. D. Prior and Son second, and Messrs. G. and W. H. Burch third.

In the competition for twelve single trusses of any white or yellow rose Messrs. W. and J. Brown, Peterborough, were first; Messrs. Prior and Son, second; and the King's Acre Nurseries, third; each exhibitor in this class exhibited Frau Karl Druschki. In the class for twelve single trusses of any light-coloured rose, other than white or yellow, Mr. George Prince was first with Dean Hole; Messrs. G. and W. H. Burch second, with the same variety; and Messrs. Prior and Son third, with Mrs. John Laing. For twelve single trusses of any crimson rose, Messrs. Prior and Son first with Horace Vernet, Messrs. W. and J. Brown second with the same variety, and the King's Acre Nurseries third with Hugh Dickson.

AMATEURS' DIVISION.

In competition for the prizes for twenty-four distinct single trusses E. B. Lindsell, Esq., Bearten, Hitchin, was first; T. Park, Esq., Bedale, second; and H. V. Machin, Esq., Worksep, third. For twelve distinct single trusses R. Foley Hebbs, Esq., Worcester, first; T. Park, Esq., second; and H. V. Machin, Esq., third. For eighteen teas or noisettes, distinct, single trusses, Conway Jones, Esq., Hucclecote, Gloucester, first; T. Park, Esq., second; R. Foley Hobbs, Esq., third. In competition for the prizes for twelve teas or noisettes, distinct, single trusses, Rev. J. A. L. Fellowes, Bunwell Rectory, Attleborough, Norfolk, first; R. Foley Hobbs, Esq., second; T. Park, Esq., third.

In the class for twelve single trusses of any white or yellow rose the Rev. J. H. Pemberton, Havering-atte-Bower, Essex, first, with Madame Jules Gravereaux; R. Foley Hobbs, Esq., second, with the same variety; Conway Jones, Esq., third, with Comtesse de Nadaillac. For twelve single trusses of any light-coloured rose, other than white or yellow, R. Foley Hobbs, Esq., first, with Bessie Brown; H. V. Machin, Esq., second, with Her Majesty; and the Rev. J. H. Pemberton, third, with Florence Pemberton. In the class for twelve single trusses of any crimson rose, the Rev. J. H. Pemberton, first, with Hugh Dickson; H. V. Machin, Esq., second, with Horace Vernet; T. Park, Esq., third, with A. K. Williams.

DISTRICT-GROWN ROSES.

In the classes open to amateurs within twenty miles of Manchester there was a brisk competition for twelve distinct single trusses. A. M. Buxton, Esq., Oak Bank, Bramhall, first; T. G. Russell, Esq., Oak Cottage, Bramhall, second; E. B. Russell, Esq., Grove Lane, Cheadle Hulme, third. For six distinct single trusses, A. M. Buxton, Esq., first; J. Holt, Esq., Mobberley, Cheshire, second; E. B. Russell, Esq., third. For six distinct single trusses, teas or noisettes, J. Holt, Esq., first; C. Burgess, Esq., Lower Peover, second; and T. G. Russell, Esq., third.

OPEN CLASSES.

For twelve bunches of roses, suitable for buttonholes, not less than six varieties, or less than three trusses to a bunch (open), Mr. George Prince first, and Messrs. W. and J. Brown second. For a display of roses arranged for effect Messrs. W. and J. Brown were first, and Mr. George Prince second.

Messrs. D. Prior and Son were awarded the silver medal for the best tea rose in the show, the bloom selected being Madame Jules Gravereaux. Messrs. W. and J. Brown, Peterborough, were awarded a silver medal for the best hybrid tea rose, the bloom selected in this case being the crimson C. J. Graham. In the class for sweet peas Mr. J. L. Welch, Cloverley, Timperley, was first; Mr. C. Burgess second, and Mr. G. A. Ashworth third.

Southampton Carnation Show.

JULY 23.

The annual exhibition of the Southern Counties Carnation Society was held on the Royal Pier, and was a decided success. The competition was keen, and the blooms of good quality. Thirty-five classes are included in the prize list, the latter being thoroughly representative of all sections of carnations.

The leading class for carnations was that for twelve distinct varieties, flakes and bizarres, and in this five competed. Mr. H. R. Tayler, Oakleigh, Cheam, won the first award with desirable blooms of Fireman, Merton, Joe Edwards, Torchlight, Murillo, Tom Atterill, Crusader, Bedouin, Gordon Lewis, Admiral Curzon, and two seedlings. Mr. J. Douglas, Edenside Nurseries, Great Beckham, Surrey, was a close second with Recorder, Master Fred, and George Melville. For six distinct, Mr. C. Linzee, Brandean Lodge, Alresford, was the only competitor, staging good blooms of G. Melville, Thalia, W. Skirving, R. Houlgrave, and Sportsman.

Five entered in the class for twelve fancies, distinct, Mr. Douglas securing the premier award with a handsome set, comprising Hidalgo, Mrs. Penton, Sam Weller, Liberté, Mrs. Gardiner, Lord Steyne, and several seedlings. Mr. Hayward Mathias, Medstead, Hants, secured second with Pluto, Liberté, Hecla, and Devonian, especially fine; Mr. C. Linzee won for six with King Solomon, Sam Weller, and Lord Steyne in good order; J. A. Fort, Esq., Kingsgate Street, Winchester, second.

In the class for twelve selfs, distinct, there were five entrants, Mr. Taylor winning with delightful blooms of Caruso, Snowflight, Maud Allan, Daffodil, Cardinal, W. H. Parton, Miss Willmott, and Sultana; Mr. Hayward Mathias second. Mr. Linzee was again successful in the smaller class for six with desirable specimens; Mr. Fort second. Prizes were offered for three blooms, one variety, in distinct colours, staged in vases, well illustrating the value of the flower for decoration. Mr. Arthur R. Brown, Wychall Lane, King's Norton, Birmingham, won with Snowdrop as the best white; Mr. E. C. Goble, The Nurseries, Ryde, with Blushing Bride as a blush or pink, won similar honours. Mr. H. R. Taylor secured first for a salmon self variety, as also he did for a scarlet. Messrs. Phillips and Taylor, Lily Hill, Bracknell, won for yellow; Mr. H. R. Taylor was again successful in the terra-cotta and dark self classes.

Mr. Dutton, Iver Nurseries, Bucks, offered prizes for three varieties of American tree carnations. Mr. G. Ellwood, gardener to W. H. Myers, Esq., Swanmore Park, Bishop's Waltham, won with good specimens of Beacon, Mrs. Lawson, and Fair Maid.

PICOTEES.

For twelve white ground picotees Mr. A. R. Brown was again successful against three others with capital blooms of Queen of Spain, Hon. Mrs. Kenyon, Favourite, Mrs. Holden, Mrs. Chaundy, Mrs. H. Hosier, Excelsior, John Smith, and Myra as the best; Mr. H. R. Taylor a close second with Dora Bright, Little Phil, Fortrose, and Favourite especially good. For six Mr. Linzee won with a good set, Mr. Fort following closely.

Mr. James Douglas was first for twelve yellow grounds, in not less than six varieties, with superb blooms of Margaret Leunose, Exquisite, Solomon Gilles, Lady Freemantle, Burgomaster, Archie Brown, Santa Claus, Oberon, Cymbeline; Mr. Hayward Mathias a good second, Mrs. Heriot, Libra, and Togo extra good. Mr. Linzee won for six; Mr. J. J. Keene, Southampton, second.

Undressed, or border flowers were not largely shown, but two entered in the class for twelve distinct carnations or picotees, the object being to show their utility as border flowers. Mr. Hayward Mathias was the most successful with Sam Weller, Lord Steyne, Viola, Douce Davie, and Mrs. F. Wellesley; Mr. E. Goble second. In the class for six there were but two entrants.

Mr. H. R. Taylor, first; Mr. J. H. Linington, Southlands, Newport, I.o.W., second.

For the best decorated dinner table with carnations or picotees there were eight competitors, making an attractive display. Mrs. E. Ladhams, Alresford House, Southampton, was distinctly ahead with an effective light arrangement; Mr. F. G. Bealing, nurseryman, Bassett, Southampton, second. Mr. W. Palmer, Andover Nurseries, had the best bouquet. Mrs. Ladhams secured the coveted award in the class for an epergne or stand open to ladies only; Mrs. Bealing second.

SWEET PEAS.

For Mr. Sydenham's prize for twelve bunches, distinct, Mr. J. Hughes, gardener to A. P. Ralli, Esq., Twyford Lodge, Winchester, was well first with excellent vases of Evelyn Hemus, George Herbert, Audrey Crier, Apple Blossom Spencer, Mrs. Hardcastle Sykes, Mrs. C. Foster, and Helen Lewis; Mr. H. Mattingley, gardener to Admiral Sir J. Hopkins, Greatbridge House, Romsey, second; three competed. For Messrs. Toogood's prize for nine bunches as many as eight entered. Mr. F. Green, Inverary, The Polygon, Southampton, was first with a delightful set of blooms—King Edward VII., Countess Spencer, Evelyn Hemus, John Ingman, Etta Dyke, and Dorothy Eckford, were the best; Mr. Hughes second. For Mr. H. Eckford's prizes for nine varieties Mr. D. Grant, gardener to G. H. Kitchin, Esq., Compton End, Winchester, was first with splendidly developed flowers. Mr. F. G. Bealing had the best decorated table with sweet peas amongst seven entrants; Miss Hettie A. M. Vokes, Birch-Lawn, Sholing, second.

Liverpool Horticultural Association.

JULY 21.

A pleasing change was made by this society in the holding of an exhibition of popular flowers, including roses, sweet peas, and carnations. The show was held at the Corn Exchange, where there is an admirable hall both as regards position and light.

Unfortunately, the unfavourable weather that had previously been experienced told heavily against the exhibits, especially roses, but sufficient were staged to produce a large and beautiful display and afford abundant enjoyment to the large number of visitors.

Sweet peas were remarkably good, and in the class for eighteen varieties Mr. R. Wright, Formby, was the first prize winner, staging good flowers, well set up, the best being George Herbert, Prince of Asturias, St. George, and Marjorie Willis. Mr. Ernest Jones, gardener to G. H. T. Robertson, Esq., was a good second. For twelve varieties Mr. E. Jones, Mr. W. Davies, gardener to J. E. Phillips, Esq., Malpas, and Messrs. S. Salisbury and Son, were first, second, and third respectively. In competition for the prizes for twelve distinct varieties with waved standards, Messrs. W. Davies and E. Jones were first and second.

Mr. S. Bell, gardener to J. U. Hodgson, Esq., obtained premier honours in the class for eighteen roses, distinct, and Mr. E. Jones was second. For twelve blooms of hybrid perpetuals Mr. E. Jones was first, and for twelve hybrid teas, the prizemen were Messrs. S. Bell, E. Jones, and W. Davies.

For twelve vases hardy flowers Mr. E. Jones occupied the first place. In the classes for twelve blooms and six blooms of border carnations the first and second winners were Mr. P. Cornelius and Mr. C. Russell. For twelve Malmaisons, Mr. G. Haigh, gardener to Sir W. H. Tate, Bart., was first with a nice stand.

The class for a table of sweet peas was a good one, and Miss S. Parslow, Formby, Mr. E. Jones, and Mr. J. Williams, gardener to C. J. Procter, Esq., were the successful competitors. In the class for twelve vases of sweet peas, in which the competition was limited to amateurs, Mr. Edgar Allen obtained premier honours, and for six varieties the prize-takers were Messrs. E. Allen, G. Grant, and G. Faulkner. For six varieties with waved standards, Messrs. E. M. Allen, G. Faulkner, and G. Grant, jun., were the winners. For a dinner table decorated with sweet peas, Miss L. Parslow, Miss Newsham, and Mrs. S. Marsh were the prize-takers in the order of their names. For six roses hybrid perpetuals, first, Mr. L. Thomson, Formby; second, Mr. H. Broombill.

Non-competitive exhibits were numerous, and contributed largely to the success of the show. Awards of merit were given to Mr. H. Eckford, Wem, for a beautiful display of sweet peas; to Messrs. W. Conway and Sons, Halifax, for a fine collection of hardy cut flowers; to Mr. R. Wright, Formby, for sweet peas; to Messrs. R. P. Ker and Sons, Aigburth, for a large and beautiful collection of hardy flowers and sweet peas, etc.; to Messrs. Youngs, West Derby, for a liberal contribution of choice cut carnations; to Mr. R. Manson, Gateacre, for cut roses; to Messrs. Thomas Davies and Co., Wavertree, for cut flowers of liliums and other bulbous plants; to Mr. H. Middlehurst, Liverpool, for sweet peas; and to Mr. J. Lee, Bebington, for a collection of gooseberries.

Carlton Amateur Rose Society.

The annual meeting of this society was held on Thursday, July 15, at Gateford Hill, the residence of H. V. Machin, Esq., vice-president of the N.R.S., the weather was delightful and the numerous visitors very heartily enjoyed the privilege of inspecting the very extensive rose gardens, which are now so famous, and which have in the past brought this amateur rosarian a wealth of prizes from many leading exhibitions. The arrangements were carried out with admirable ability, and everything done to make the day thoroughly enjoyable.

Owing to the lateness of the season, many varieties of roses were only just beginning to bloom, such as the ramblers and Wichuraianas, but Lady Curzon, the lovely single damask, was charming. Papillon was lovely, and in a bed of Mrs. W. J. Grant one could easily have found half a dozen blooms worthy of the coveted silver medal. There were also fine blooms in the rows of A. K. Williams, Mrs. John Laing, Hugh Dickson, Pharisaer, Mrs. Aaron Ward, Earl Warwick, Dean Hole, and many others, and in a pretty, secluded enclosure, were to be found fine beds of Gustave Regis, Madme. P. Ducher, Comtesse du Cayla, and Polyantha and china varieties well in bloom, with a background of hedges of Crimson Rambler just opening out into flower.

A very extensive collection of sweet peas was, unfortunately, late, but will make a very brilliant display later in the season.

The classes for roses were well filled, and contained many fine specimens; and the classes for displays of roses were good, and included many of the popular kinds of the early-flowering varieties. Hardy flowers, fruit, and vegetables were all well shown.

Birmingham Botanical and Horticultural Society.

The second of the two summer exhibitions of the present year, promoted by this society for the ostensible object of popularising the cult of flowers in and around Birmingham, was held on the 21st inst., under ideal conditions as to weather. The favourable climatic conditions materially augmented the success of the show by tempting a large concourse of visitors, not only to admire the flowers, but to enjoy the beautiful grounds, and listen to the strains of the famous Birmingham Police Band stationed on the spacious sloping lawn, in front of the exhibition hall. The latter was well filled with an excellent display, which consisted chiefly of trade and other non-competitive exhibits, there being but few competitive exhibits, such as roses, sweet peas, and hardy herbaceous flowers. That there should have been a poor competition is very strange, considering the liberal prizes offered by the society. Fortunately, the energetic hon. secretary (Mr. T. Humphreys), and his committee had their efforts rewarded by the grand array of non-competitive exhibits, and the large attendance of visitors.

The great feature of the show was incontestably the magnificent and huge display of Malmaison, perpetual or tree, and border carnations from Highbury. The collection was most effectively arranged in exhibition style by Mr. John Deacon, the Right Hon. Joseph Chamberlain's gardener-in-chief, the groupings consisting of large masses of Malmaison varieties, embracing Princess of Wales, Nautilus, Draycott, H. J. Jones, and others; Lady Grimston and Old Blush arranged on the ground floor, and backed by a large assortment of the "tree" varieties, including Sam Weller, Lady Hermoine, Lady Hinton, Mandalay, Lady Roberts, Helene, Countess of Radnor, Helmsman, Fair Maid, and the scarlet-coloured King Arthur were in fine form. Several of the Malmaison blooms were distinguished by their immense size and highly developed character. A gold medal was worthily bestowed. An award of merit was accorded to a grand specimen of Lælio-cattleya callistoglossa superba, carrying seven beautiful flowers, having mauve sepals and deep maroon-purple lip, and golden throat.

Mr. C. H. Herbert, Acocks Green, staged a very fine display of herbaceous flowers, elegantly arranged. Mr. Herbert had also an effective display of his perpetual-flowering pink Progress. Mr. Arthur Brown, Kings Norton, contributed an attractive collection of cut roses of the leading varieties; and Mr. Robert Sydenham had a fine contribution of sweet peas; Mr. W. P. Willcox, Moseley, presented a collection of begonias; Mr. James Webb, gardener to W. Byng Kenrick, Esq., Edgbaston, showed a miscellaneous collection, in which were developed gloxinias, begonias, Hydrangea paniculata, caladiums, Lilium speciosum, violas, and border flowers; Messrs. J. White and Co., Worcester, sent a collection of hardy border flowers; and the Lapworth Nurseries Company contributed sweet peas.

FORTHCOMING ENGAGEMENTS.

MONDAY, August 2 (Bank Holiday). — Carshalton Flower Show.
Weybridge Cottagers' Show.
TUESDAY, August 3.—Royal Horticultural Society; Committees meet 12 o'clock. Lecture at 3 p.m. on "Water Plants," by Mr. Fred W. Moore, V.M.H.; Scientific Committee at 4 o'clock.
Leicester Floral Fête (two days).
Thornton Heath Flower Show.
WEDNESDAY, August 4.—Northampton Summer Show (two days).
SATURDAY, August 7.—French Horticultural Society of London.
MONDAY, August 9.—United Horticultural Benefit and Provident Society; Committee Meeting.
TUESDAY, August 10.—Royal Botanic Society's Anniversary Meeting.
Claycross Horticultural Society.
WEDNESDAY, August 11.—Chippenham Horticultural Society.
Taunton Deane Flower Show (two days).
East Anglian Horticultural Club Meeting.
THURSDAY, August 12.—Galashiels Horticultural Society.
Malmesbury Horticultural Society.
SATURDAY, August 14.—Kinellar Horticultural Association.
TUESDAY, August 17.—Royal Horticultural Society; Committees meet at 12 o'clock; Lecture at 3 p.m. on "Bees in Relation to Gardening," by Mr. Walter F. Reid, F.I.S.; Scientific Committee at 4 o'clock.

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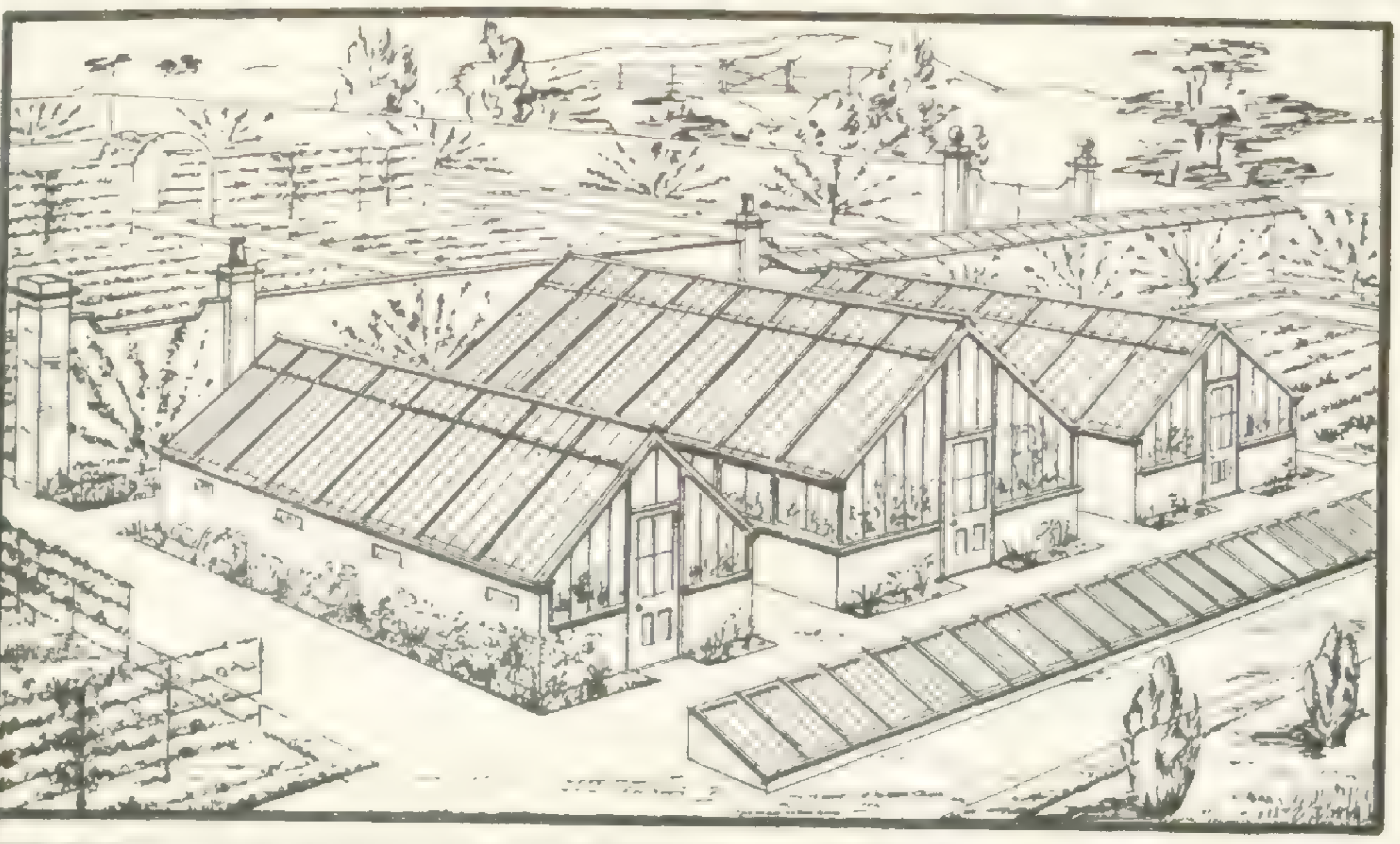

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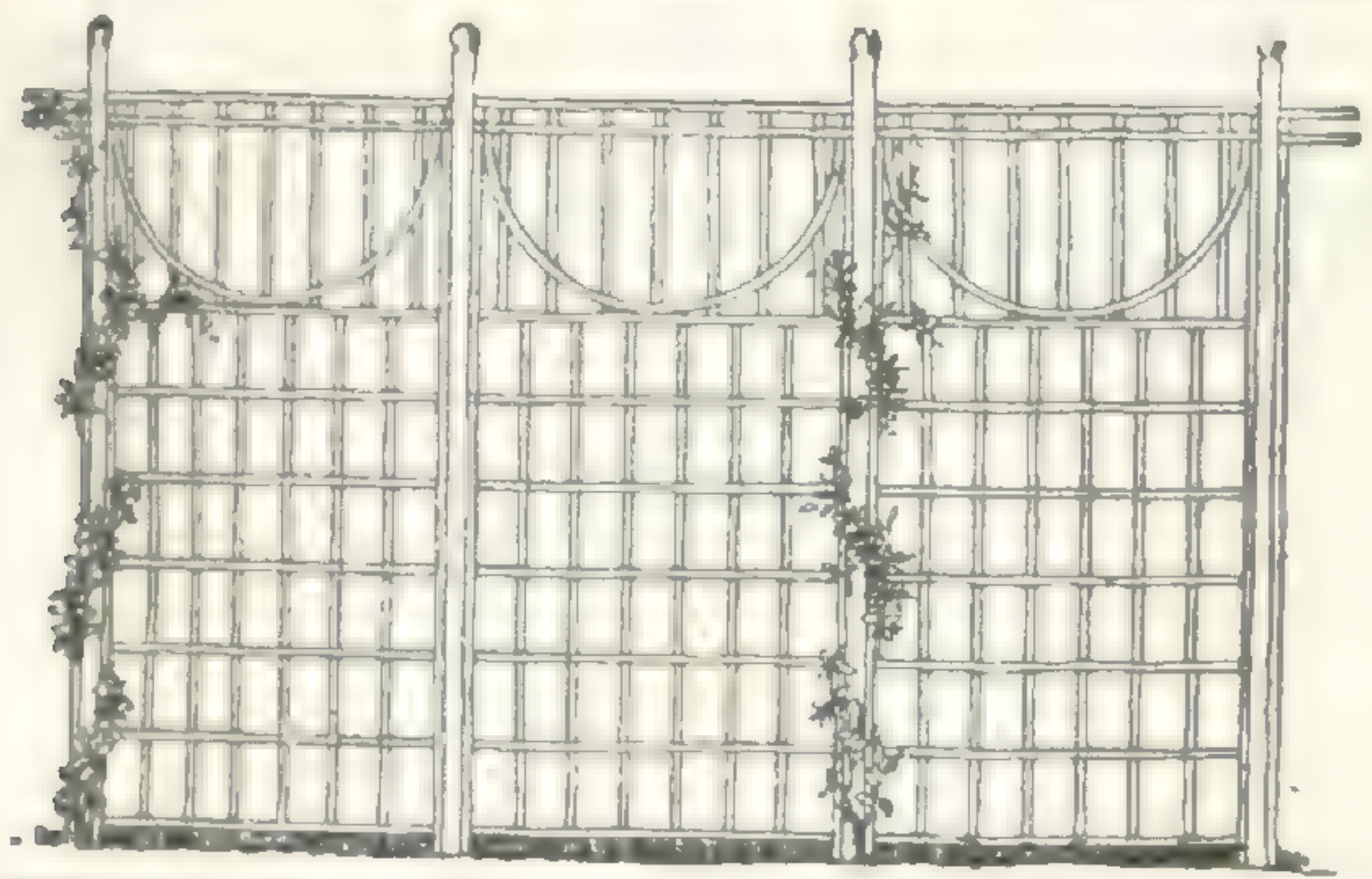

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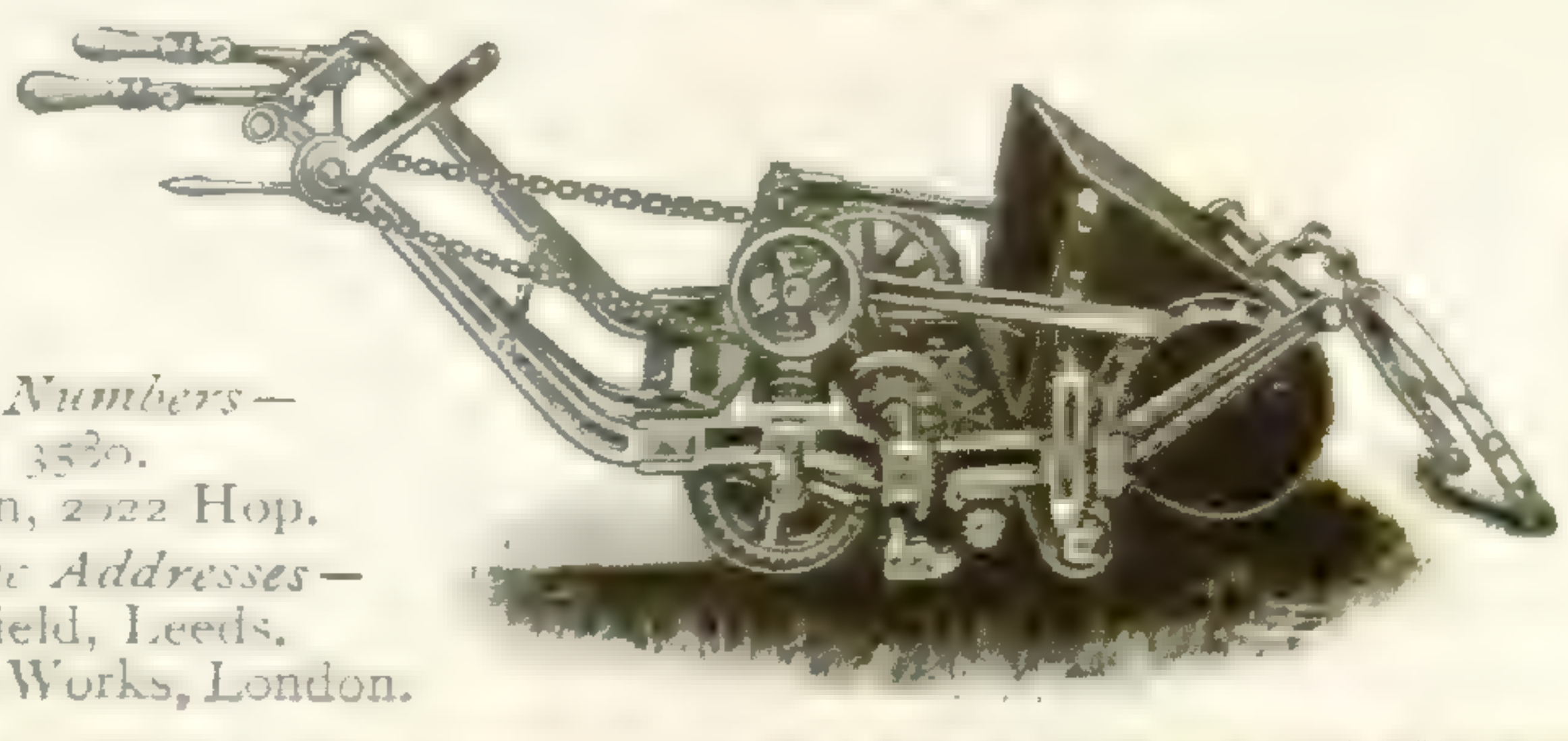

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ANSWERS TO CORRESPONDENTS.

DISQUALIFICATION.—M. E. J., Swanley: The matter is fully provided for in the regulations, and you had your remedy. Why is it that competitors will not, or do not, more carefully study the rules and regulations governing the exhibitions they compete at? The regulation reads: The decision of the judges will be final, except in cases when, after any award is made, the exhibit is not found in accordance with the requirements of the schedule. All matters of protest, disqualification, etc., must be lodged with the hon. secretary, not later than 3 p.m. on the day of the exhibition, when they will be dealt with by an Arbitration Committee, whose judgment will be decisive.

SODA AND SOAP SUDS.—A. R., Notts: These are of little value in the garden as fertilisers, and there is a very great risk of harm from their use, because it is well-nigh impossible to gauge the strength of the solution. For garden purposes the best forms of soda to use are nitrate of soda and common salt, both of which are excellent for certain crops when used with care.

DECIDUOUS CYPRESS.—E. H., Salop: We should like to have further information respecting soil and situation, because these have so much influence upon vegetation. The deciduous cypress loves ample moisture, and the larger it grows the greater are the demands it makes, consequently if the situation is at all a dry one, or is very well drained, the trouble is not far to seek. It may be necessary to top dress the rooting area with decayed manure, pond mud, or similar fertilising material, and a deep trench taken out at the extremity of the feeding roots, and filled in with a rich compost, would, if our surmise is correct, give the tree a new lease of life. However, we wait for further particulars.

R.H.S. EXAMINATION.—J. S., Durham: We strongly recommend you to work up for the next R.H.S. examination in horticulture. Your letter shows that you can write neatly and legibly, and express yourself clearly, while your education in gardening appears to have been excellent. The examination is in two parts, one on the elementary principles on which horticultural practice is based, and the second on horticultural operations and practice. For the purposes of study and observation these parts may be sub-divided, each into about twelve sections. We have not sufficient space to publish these sections just now, nor to indicate the books that would be helpful, but you may obtain all these particulars on application to the secretary, Royal Horticultural Society, Vincent Square, Westminster, London, S.W., enclosing a large addressed and stamped envelope for reply, or, if you know a Fellow of the society who has his "Book of Arrangements for 1909" intact, and will lend it you, you will find full particulars therein.

NECTARINE AND PEACH.—G. J. C., Reading: A nectarine is really a smooth-skinned peach, and though we recognise the two fruits as distinct kinds, it is sometimes possible to obtain nectarines and peaches from one and the same tree, as in your case. Further, one may raise a peach from a nectarine stone; for instance, Early Alfred peach was raised from Hunt's Tawny nectarine, Early Ascot peach from Elruge nectarine, Early Beatrice peach from River's White nectarine, Magdala peach from River's Orange nectarine, Nectarine peach from Grand Moir nectarine, Osprey peach from Pitmaston Orange nectarine, and Prince of Wales from the same source. On the other hand, Prince of Wales nectarine was raised from a seedling peach, and Lord Napier nectarine from Early Albert peach. Bud sports may appear in either case, and if carefully propagated would come true, because bud sports are comparatively rare. You cannot, however, be sure when you sow a nectarine stone of obtaining a nectarine tree, nor, if you sow a peach stone can you be sure of obtaining a peach tree. How far this holds good when every care is taken to cross-fertilise peach with peach or nectarine with nectarine we cannot say, but probably the risk of variation is then very greatly reduced. All this goes to prove that the nectarine is merely a smooth-skinned peach, botanically, although the two are very distinct horticulturally.

FERNS FOR WINTER.—W. A. H., Northwich: Under the circumstances, the best plan will be to select about half the stock, and keep the plants moderately dry for about ten days; then prepare a good compost of loam, sand, and a little peat or leaf-soil, and in it pot up the best portions of the old plants, after shaking the old soil from their roots. Small 48's will be large enough. Place in an intermediate house, and keep close and moist until new roots and growth start, shade lightly, but as growth proceeds, and the days shorten, shade as little as possible, but prevent scorching. The object must be to obtain good growth that is of firm texture for winter cutting. You must endeavour to arrange your stock in about three batches, and as yours is not of the best quality it may save time and trouble if a few good plants are purchased, or you may proceed to raise a new stock from spores. Be very careful not to overwater the newly-potted plants.

FLOWERLESS SWEET PEA.—M., Londonderry: We have this week seen some plants that have practically no tendrils, and are very shy bloomers, but have not, so far, seen a plant that refuses to flower at all. Your plant appears to have reverted altogether to the vegetative condition, and it will, as a consequence, be unable to perpetuate its kind.

CONSERVATORY WITH WEST ASPECT.—A. N. R., Huddersfield: If the piping was better distributed, and there was no objection to the presence of moisture on floor and benches, the conservatory could be used for cool orchids, such as odontoglossums, but as the house is entered directly from the drawing-room there appears to be considerable difficulty in providing suitable atmospheric conditions. Very many kinds of ferns, begonias, fuchsias, and other subjects could be cultivated successfully, provided there are no trees and buildings to greatly obstruct the light. On the whole, we think ferns, foliage begonias, fuchsias, etc., would prove most successful, supplemented by bulbs and other flowering plants brought on in the frames.

NAMES OF PLANTS.

E. S. F., Lechlade.—1, Taxodium distichum; 2, Sequoia sempervirens.

J. W., Merstham.—1, Lathyrus rotundifolius; 2, Thuia dolobrata; 3, Olearia Haasti.

K. B., Leatherhead.—1, Galega officinalis; 2, Campanula isophylla; 3, Veronica spicata; 4, Sidalcea Listeri.

H. M. G., Dunmow.—1, Rhaphiolepis ovata; 2, Begonia fuchsioides; 3, Solanum jasminoides; 4, S. Seaforthianum.

P. S. F., Penarth.—1, Spiræa aruncus; 2, Erigeron speciosum; 3, Lonicera sempervirens; 4, Odontoglossum ardentissimum.

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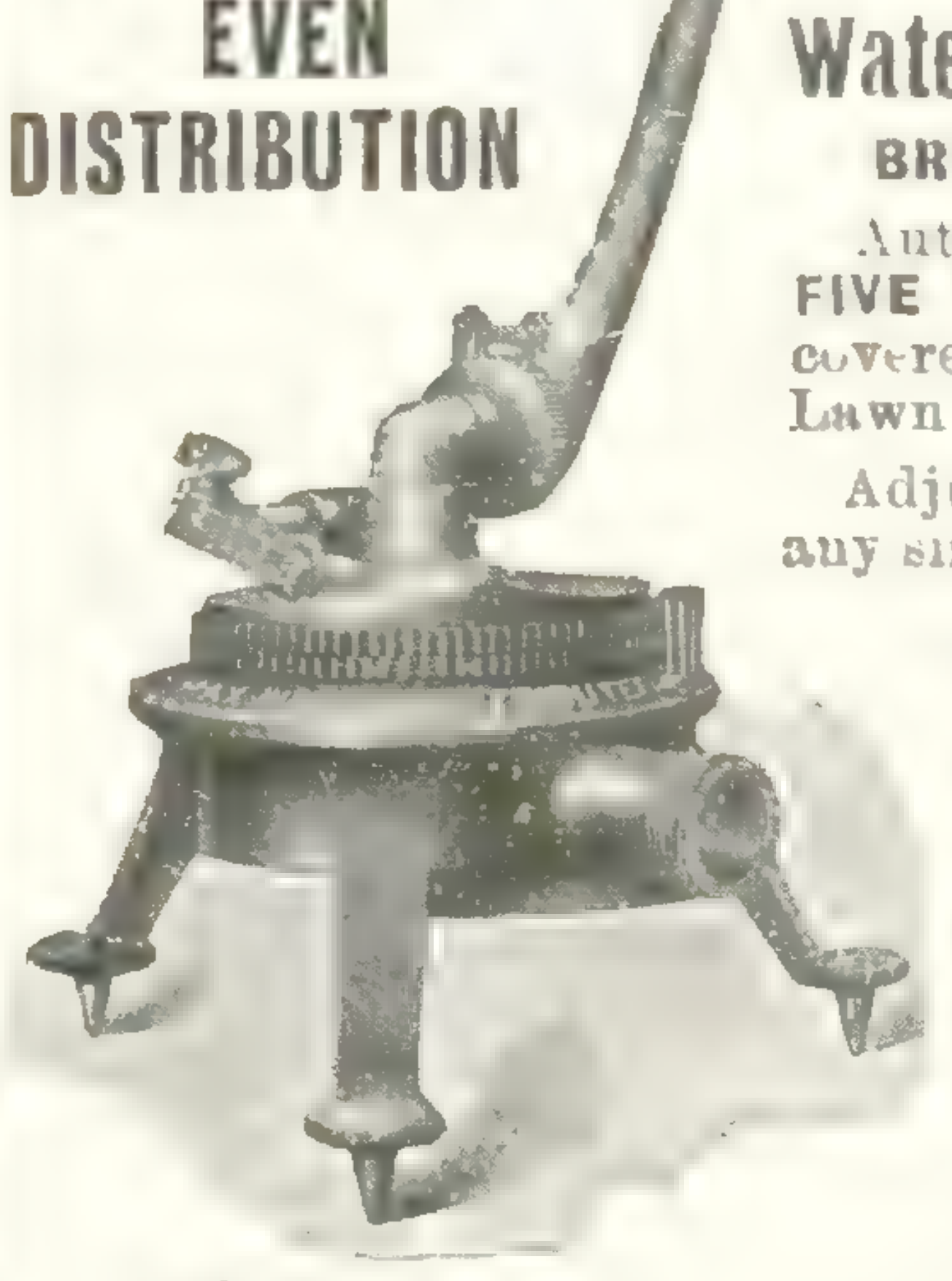

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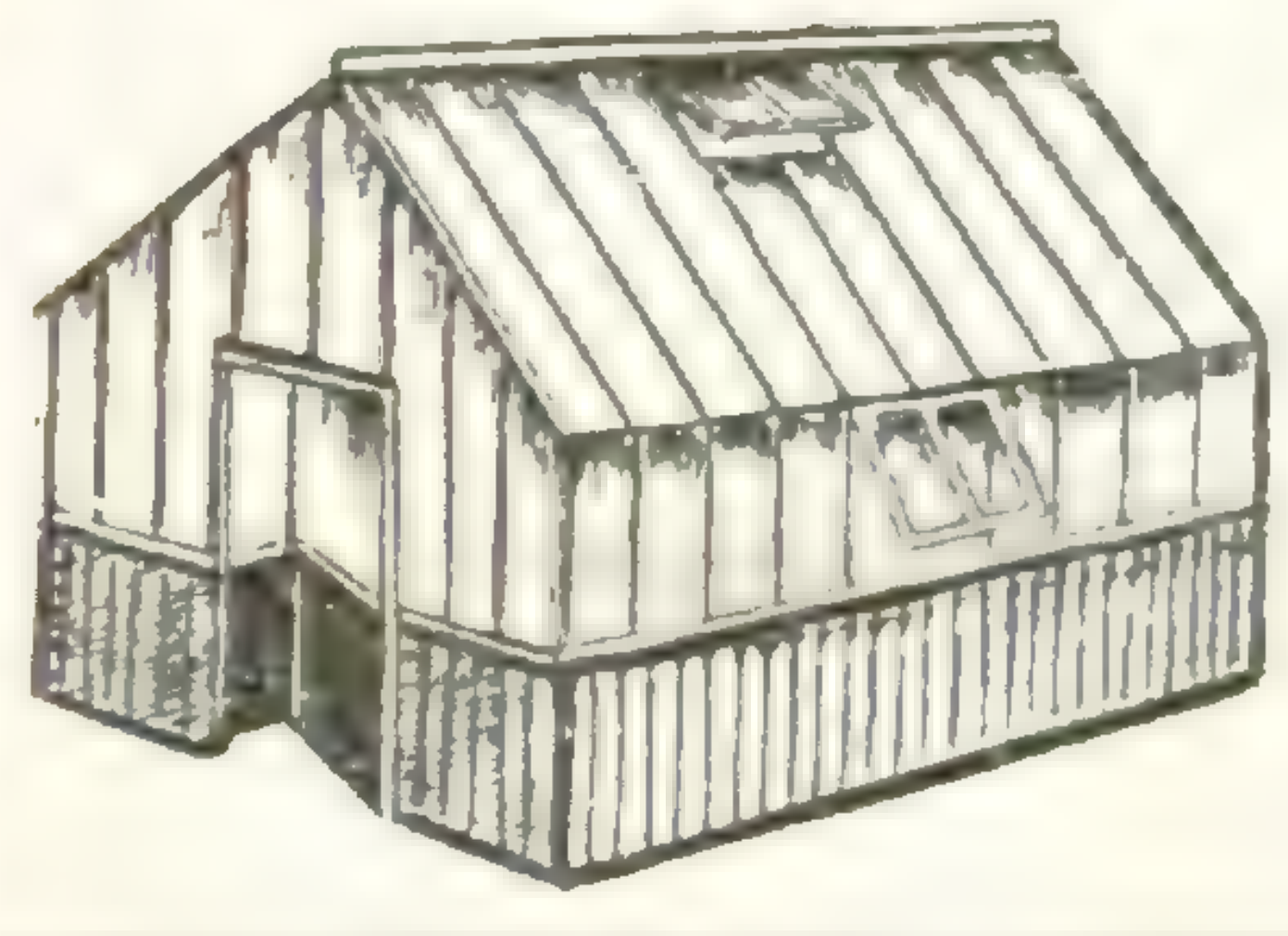

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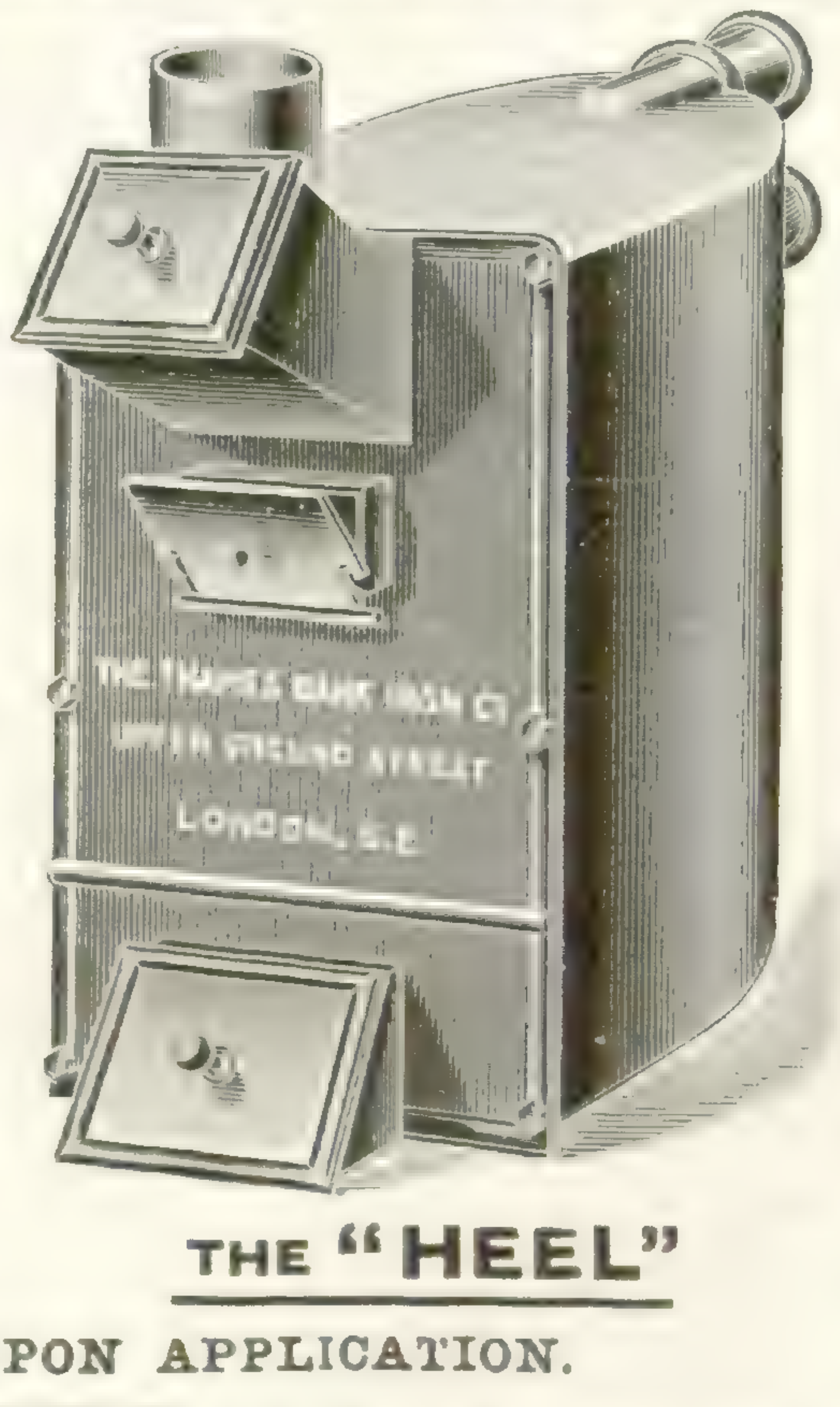

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GARDENER (Head) seeks SITUATION where three or more are kept; age 30; married, two children; six years Escrick Park, five years Campsall Hall; three years as Head at present situation. SKILBECK, Nunthorpe Hall, York.

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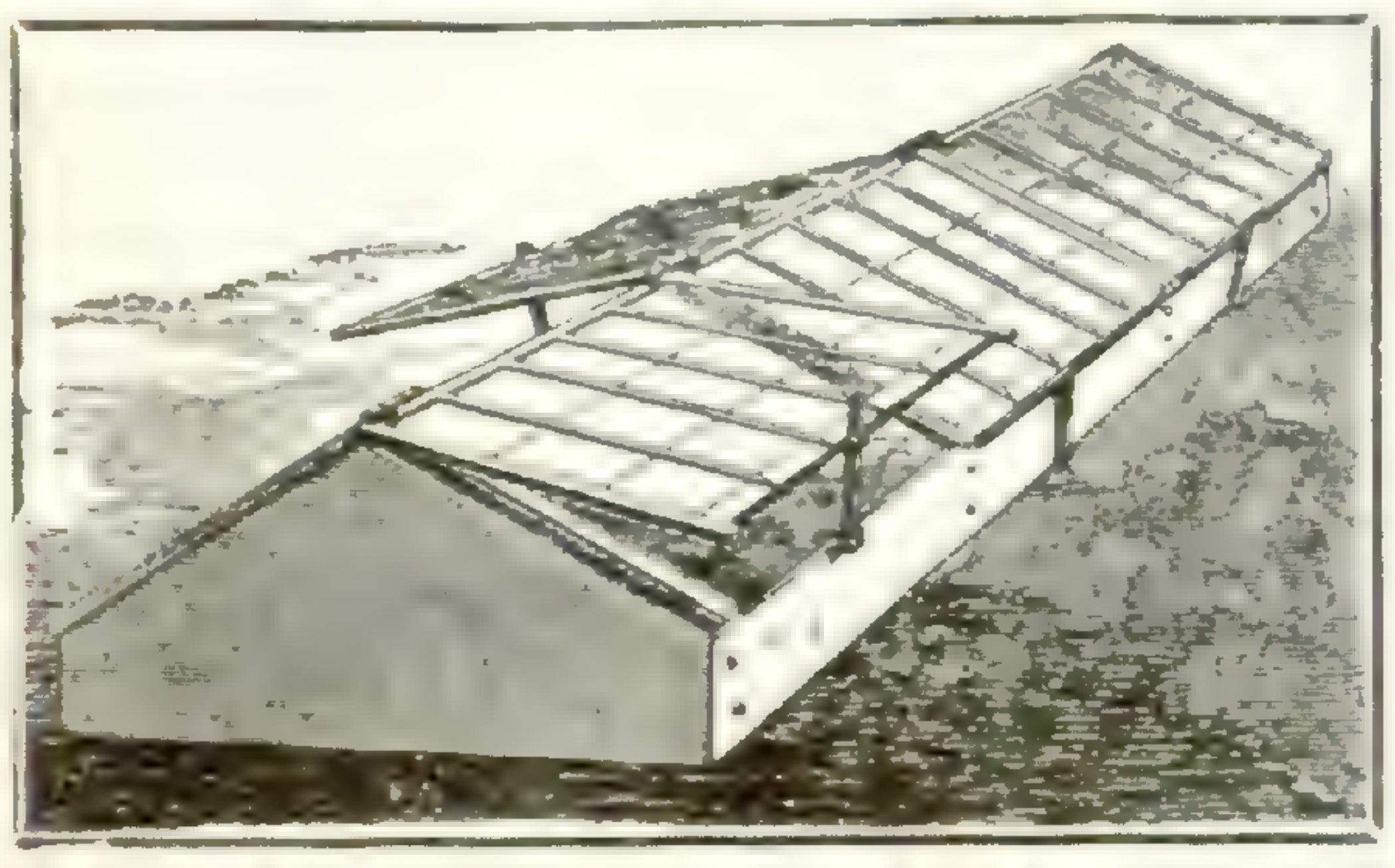

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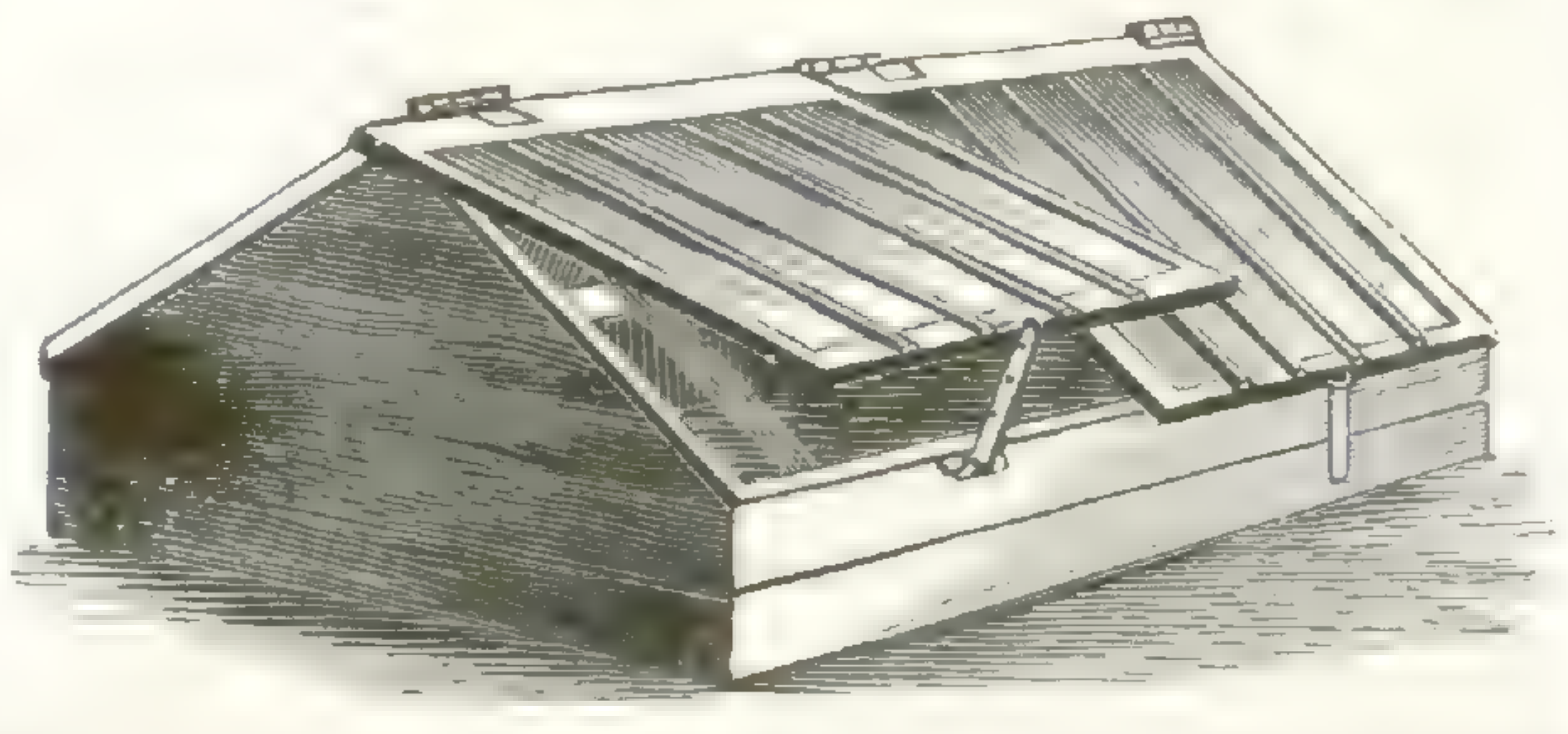

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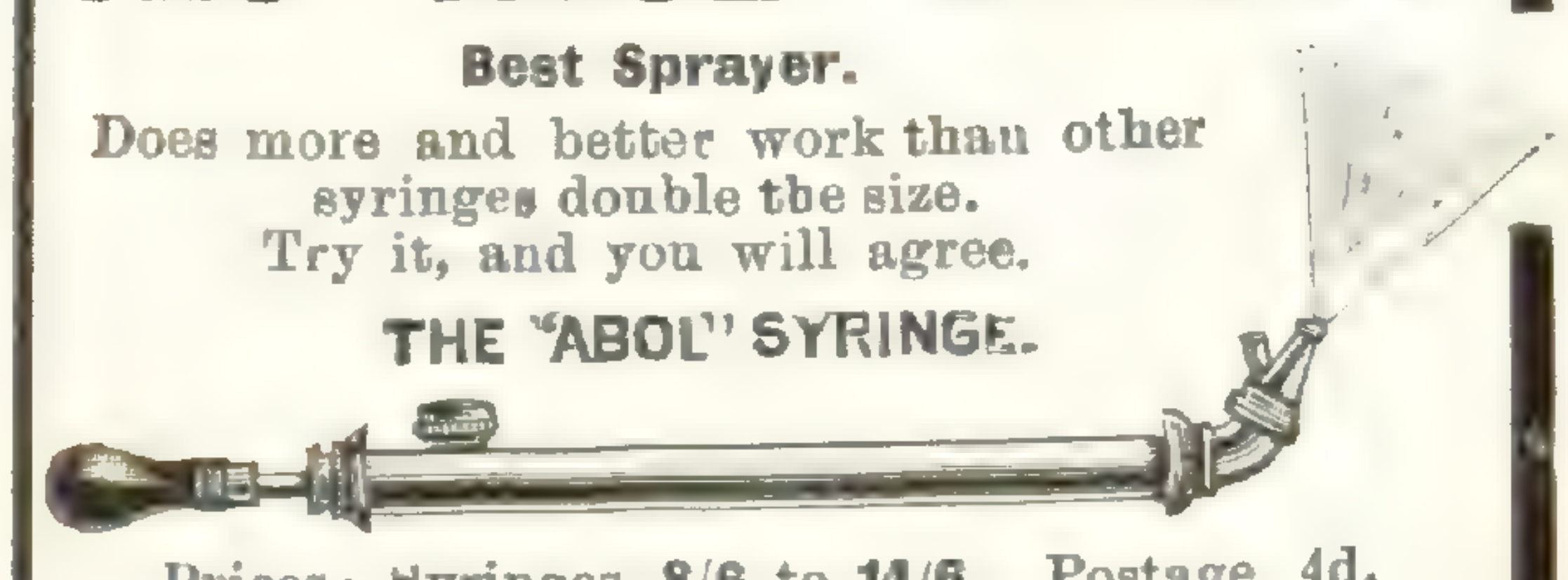

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VOL. LII.—No. 2,910. SATURDAY, AUGUST 7, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Lavish Nature.

Now that the reign of the flowers is beginning to be succeeded by the harvest of seed, the marvellous fecundity of Nature must strike every intelligent observer. Strolling round the garden, it is, perhaps, the poppies of various kinds which strike one first, so great is the number of seed-vessels produced and so numerous are the seeds contained in each. Hundreds of thousands of the tiny black seeds may represent in a single plant the provision which Nature has made for the safe succession of its kind, although we know that a single one is capable of replacing the parent plant, and thus preserving the normal balance. We shall remark, however, that in the number of their seeds the annual poppies far and away surpass the perennials, whose established root-stocks provide a sufficient guarantee of permanence, while the ephemeral annuals have only their seed with which to bridge over the winter and re-establish themselves anew the following year. All through Nature we find the handicap of minuteness of reproductive material counterbalanced by lavish provision as regards numbers; the spores of cryptogamic plants, such as the fungi, mosses, and ferns, may be reckoned by the million, and by the billion in some cases, and yet each one is perfectly fashioned to reproduce the individual, and in each minute body there is incorporated all the potencies of its race, so that, given the one chance in the million or billion, the succession is ensured. We need not, however, confine the consideration of Nature's lavishness to the minute. The gigantic oak we may find in the autumn to be bearing substantial acorns by the thousand and scores of thousands on its intricate canopy of far-spreading branches. Our fruit trees in seasons of abundant harvest are equally fertile. The strawberry we devour at dessert has every berry dotted over with innumerable seeds, and the pips in a crop of luscious grapes would involve a good deal of counting. Returning, however, to the world of the minute, since it is here that numbers defy computation to the utmost, we may take the ferns as a particular example, since not only do they produce their spores by the million or hundreds of millions individually, and every season in the case of large species, but every one of these spores before it produces a fern develops an enormous number of fertilising organisms or antherozoids, probably several thousand per spore. In each of these again we have the racial potencies embodied, and as only one is really needed to produce the subsequent fern, and the number of ferns may be taken to remain more or less the same from season to season, while practically all are perennial and long lived, we are forced to the conclusion that we must multiply the number of spores produced by the number of antherozoids, and this again by the average duration of fern life, forming a formidable total indeed, in order to arrive at the proportion of chances which one antherozoid has of fulfilling its mission and producing an adult fern. Lavishness, indeed, seems but a weak word in such a connection. In some coal measures, the result, as we know, of the concretion of remains of ancient forests of ferns and their allies, we may find solid coal composed of spores or spore pods, which have sufficiently retained their individuality to be recognised. Myriads are here concerned, and yet even these must be multiplied by the number of fertilising organisms each would have produced had it had the chance, in order to arrive at the full number of lost chances involved. On a smaller scale, but yet on a striking one, we may see the same lavishness in our gardens when we examine the pollen which is an essential to seed production. For every fertilised seed an enormous number of unsuccessful pollen grains must be taken into account even where a certain amount of economy is secured by insect mediation. What, however, must be the proportion in the case of wind fertilisation, when, as in the case of some fir forests, a sudden breeze may fill the air with a dense mist of scattered pollen, so abundant that it has been seen washed up in heaps on the shores of adjacent lakes bordered by the forests concerned. Verily, it would take a clever calculator to estimate the chance here of an individual pollen grain reaching a stigma and fulfilling its function of fertilisation.

G.H. del

MR. JAMES DAY.

Mr. James Day, of Galloway House Gardens, Garliestown, Wigtownshire, is well known to our readers through his contributions to these pages. He has held the position of head gardener at Galloway House for nearly thirty years under two Earls of Galloway, and now under the new owner, Sir Malcolm McEacharn, he continues that position, and will also have charge of the woods and policies on the estate. Mr. Day's experience as a gardener has been varied, and he has served at Waltham Abbey, Essex; Bromley Hill, Kent; Crichel House, Dorset; and Hatfield House, Herts, and at the latter garden he was decorator and plantsman under the late Mr. George Norman. Mr. Day is well known as a most successful grape grower and cultivator of hardy fruits. Muscat grapes, both white and black, he has been especially successful with, and has won a very large number of prizes with them, while for eight years in succession he has won the first prize at the Royal Caledonian Horticultural Society's autumn exhibition for twelve dishes of hardy fruits grown in Scotland. Galloway House is in a favoured position climatically, and in the gardens many choice subjects that are not easily managed in the drier southern and inland counties of Great Britain do wonderfully well. All who know Mr. Day will join with us in hoping he will long be spared to carry out his duties at Galloway House for his new employer.

Interesting Sweet Pea Matters.—At the recent meeting of the R.H.S. Scientific Committee, Mr. C. E. Shea showed specimens of sweet peas with the stripe disease, the cause of which is unknown; Mr. Shea thought that possibly the disease was constitutional, or carried in the seed. Mr. Chittenden exhibited a sweet pea flower with three standards; the only flower so formed on the plant. Mr. E. A. Bowles drew attention to Mr. Unwin's exhibit of sweet peas, in which all the tendrils were replaced by leaflets, a condition said to be fixed.

Plants for Public Parks.—At the recent meeting of the American Association of Park Superintendents, the question was debated, "Is it more advisable for a park in a small city to own its own greenhouses than to purchase its tender plants from local florists?" A considerable diversity of opinion was expressed in the course of the discussion, which had to be adjourned to a second sitting. One speaker deprecated so much attention being given to tender bedders, and quickened the interest in the debate when he said, "I am of the opinion that instead of superintendents giving so much thought to the temperature and the soil that plants require in the greenhouse, it is better for them to hunt up hardier and choicer selections of trees and shrubs. Instead of studying the temperature and other things of different plants in a small park, he had better put in more time in the analyzation of the earth that his trees outside require, and I believe it will pay him better. Instead of giving so much attention to the greenhouse or hotbed, let him learn his trees. The first thing is the vegetable kingdom as it lies hardy outdoors, winter and summer."

Viola Trials at Rothesay.—On July 31 a party of about thirty members of the Scottish Pansy and Viola Association visited Messrs. Dobbie and Co.'s nurseries at Rothesay, to inspect the trials of about eighty varieties of bedding violas, and in our next issue we hope to publish the decisions arrived at by this body as to the best varieties in the respective colour classes. The party was a very representative one, and, after inspecting the trials and making the round of the nurseries, the members were hospitably entertained by the Messrs. Dobbie.

Economy of Matter.—In his address to the combined sections of the International Congress of Applied Chemistry, Professor Otto Witt made an interesting reference to the remarkable economy of matter in animal and plant life. He, said: "If we study the life of plants and animals we are struck by the marvellous economy reigning everywhere. There are few physiological processes which can be called wasteful. Every bye-product of the more important chemical reactions that take place in the organisms of plants and animals is utilised and made to serve some purpose. In plants, for instance, the refuse of the chemical work of the protoplasm seems to be deposited as encrusting material in the enclosing cellulose. The encrusted cell is then made to serve as a mechanical support for the body of the plant, whilst new and more vigorous cells are formed to fulfil the functions of life. Some of the bye-products of the chemical work of the plant are transformed into dye-stuffs, others into perfumes, both with the object of attracting the insects which are necessary for fertilisation. Everywhere in animated nature we see the principle of storing up food, either to serve in cases of need or to provide for a future generation. Even in those cases where Nature seems to be wasteful, as, for instance, in producing germs and seeds in far greater numbers than seem to be required for the continuation of the species, the seeming superabundance is merely a wise calculation of the probabilities for the development of the germs. More marvellous, perhaps, than any of these examples is the economical use of the energy required for sustaining the functions of life. So far as I am aware, there is not a single engine of human invention which can utilise the energy supplied to it in so perfect a way as, for instance, a horse utilises the calorics contained in its food for the production of mechanical power; and though the mechanical equivalent of light as a form of energy is, so far as I am aware, yet an unknown constant, we may safely say that the perfection with which living plants utilise the energy of sunlight for carrying out the endothermic reactions upon which their nutrition and growth depends is far superior to the methods which we have so far discovered for similar purposes."

Veitch Portrait Fund.—Subscriptions to this fund have also been received from the following: Mr. John Heal, V.M.H., Mr. T. A. Barnett, Mr. C. N. Davey, Mr. W. A. Hassell, Mr. Harry Short, Mr. W. Davis, Mr. W. Cowell, Mr. A. H. Kent, Mr. G. Tivey, Mr. A. Dawkins, Mr. C. Archer, Mr. G. Harrow, Mr. C. Weeks, Mr. F. Griffiths, Mr. D. Kirby, Mr. E. Gilman, and Messrs. Pope and Co. The fund closes finally on Saturday next, August 14.

Care of Fruit Trees.—The importance of proper attention being paid to orchard trees is clearly shown in a bulletin recently issued by the Michigan State Agricultural College. It is stated that upon many farms in Michigan there are old orchards that have been so long neglected that the trees have produced but little fruit, and that of so poor a quality as to have no commercial value. An exhaustive account is given of the means by which three such orchards have been brought into a fertile state and made to yield an average net profit of over £25 per annum for a period of five years. Pruning, spraying, and soil cultivation were the means by which the improvement in the condition of the trees was effected. There is, of course, nothing new in the method adopted, for it is similar to that which we have long advocated in the case of orchards in this country that have been allowed to become unprofitable through neglect.

Wild Bird Protection in Norfolk.—An order has been made by the Home Secretary (upon application by the Norfolk County Council) to be known as "The Wild Bird Protection (County of Norfolk) Order, 1909," prohibiting the killing or taking of wild birds throughout Norfolk between March 1 and September 1, so far as regards all birds mentioned in the schedule of the Wild Birds Protection Act of 1880, except woodcock, the close time for which is extended so as to be between February 1 and August 13, and snipe, teal, and all species of wild duck, the close time for which is to remain as fixed by the Act of 1880. The Order also provides that the Act shall apply within Norfolk to the following wild birds, as if those species were included in the schedule to the Act: Great bustard, crossbill, sand martin, bearded tit (reedling or reed pheasant). Between August 31 and March 2 following, the killing or taking of the bittern, little bittern, great bustard, goldfinch, kingfisher, owl (all species), and bearded tit, is prohibited throughout the county. All birds are protected on Sundays in certain areas

Soil Survey in America.—The U.S.A. Department of Agriculture is, by means of its Soil Survey Bureau, doing most excellent work in surveying and charting the soils of the country. The Department has already surveyed and mapped 200,000 square miles of territory, showing the qualities of the soils and consequently the crops to which they are best adapted under the climatic conditions existing in the several localities where the survey and mapping have been completed. The work is to be continued till the whole country has thus been covered. 40,000 square miles in Texas are under investigation at the present time. No work can be more valuable to the agricultural and horticultural people. It supplies them with information that is reliable, and it will aid them in selections of what they should plant in their respective localities. Having this scientific information to start with the prudent and intelligent cultivator will be able from time to time to resupply with good judgment the elements taken from the land in the growing of crops.

Bank Holiday was not an ideal holiday, owing to the presence of a cool wind. In some districts there were showers, and in a few places there was sunshine, but, on the whole, the day was dull and gusty, with not enough rain to cause discomfort. Kew, Hampton Court, Windsor, Virginia Water, Epping Forest, and Hampstead Heath were all extensively patronised, and almost everywhere there was evidence of the great hold that an outdoor holiday and amusements have upon the public.

Birmingham Botanical Society.—At the annual meeting, held on July 30, over which Mr. Neville Chamberlain presided, it was stated that the financial year commenced with a deficit of £63 10s. 9d., and finished with a total deficit of £126 12s. 6d. Under the head of income the largest item was derived from annual subscriptions, which this year represented a fall of £62, and compared with the past ten years this source of income had gradually declined from £1,100 to £900. It was clear, the committee stated, that to restore the finances of the society to a healthy condition the income derived from subscriptions must be increased. Looking round for new sources of income the committee had considered and now proposed two schemes, i.e., the erection of a new tea-room and the enlargement of the floor of the exhibition hall.

Cœlogyne venusta, a species from Yunnan, that first flowered at Glasnevin in 1904, is the subject of a double-page illustration in the recent issue of the "Botanical Magazine." Other plants illustrated in this issue are Aloe rubrolenta, a showy species from the Kalahari desert; Rubus canadensis, the "Thornless Blackberry," of North-East America; Pyrus Ringo, a beautiful little tree with reddish flowers, followed by a profusion of yellow fruits, each an inch wide by an inch and a-quarter long; and Mahonia arguta, a half-hardy species, with racemes of greenish-yellow flowers.

LEICESTER FLORAL FÊTE.

The annual flower show at Leicester, which has long occupied a foremost position among the great horticultural gatherings in the provinces, was held on Tuesday and Wednesday, August 3 and 4, and proved a magnificent success. There were enormous displays of flowers, fruits, and vegetables, a huge marquee devoted to groups arranged for effect, and an admirable demonstration of the art of floral decoration. The show was, as usual, held in the Abbey Park, and the arrangements testified to the ability of the Parks and Gardens Committee (of which Mr. Hawkes is the chairman), Mr. J. Burton, the superintendent of the parks; and of Mr. J. Stayens, the hon. secretary of the show.

GROUPS AND PLANTS.

Groups of plants arranged for effect constituted a glorious feature of this great gathering, and proved immensely attractive. Each group occupied a space of 160 feet superficial measure, and the first prize of £20 was worthily won by Messrs. J. Cypher and Sons, of Cheltenham, who were, as usual, in splendid form. The arrangement, while by no means a replica of previous groups shown by this firm, was carried out on somewhat similar lines to those of the best of their recent efforts. In the centre of the space was a bold mound of flowering and ornamental-leaved plants, and this was surmounted by a large and handsome palm with feathery leaves. At each corner of the group was a rather tall croton with single stem, and furnished with richly-coloured leafage from the apex to the rim of the pot. Between these, on the margin of the space, were elegant pinnate-leaved palms three or four feet high, and the intervening space was tastefully filled with comparatively dwarf-flowering and fine-foliaged plants, and among the former choice orchids greatly predominated. Mr. W. Vause, Leamington, was placed with an arrangement so rich and tasteful as to merit much praise; and Mr. H. Rogers, Leicester, and Mr. W. H. Manning, Dudley, who were third and fourth respectively, arranged groups that reflected much credit upon them.

Specimen plants were of average merit, but as they consisted, for the most part, of subjects that are well known there is no occasion to speak of them in detail. Ferns in collections of six were especially good, and Mr. Manning, Dudley, obtained premier honours with splendidly developed specimens of Davallia fijiensis plumosum and other fine forms. Mr. F. Oliver, Stoneygate, Leicester (gardener, Mr. Weston), was second with large, well-proportioned specimens.

ROSES.

Roses were shown in large numbers, and in magnificent condition, and formed the finest display of these flowers that has yet been produced at the Leicester exhibitions. The cool and wet weather which has so greatly favoured the development of blooms of exhibition standard had left its mark upon many of the light flowers, but, as a whole, the flowers were remarkably clean, as well as bright in colour, and characterised by freshness. There were five entries in the trade class for thirty-six blooms, distinct, and the premier position was occupied by Messrs. R. Harkness and Co., Hitchin, with superbly developed blooms, among which those of J. B. Clark, Alice Lindsell, Marie Baumann, Comte Raimbaud (premier bloom in the open class), Prince Arthur, Earl of Warwick, A. K. Williams, Ben Cant, Caroline Testout, and Mrs. T. Roosevelt were conspicuous. Messrs. Alex. Dickson and Sons, Newtownards, were a close second, with blooms hardly so large as those in the first-prize collection, but perfect in finish. Messrs. Perkins and Sons, Coventry, third. Very strong also was the competition in the class for twenty-four blooms, distinct, and at the head of the several competitors were Messrs. Alex. Dickson and Sons, who had a collection remarkable for the uniformly high quality of the blooms. Exceptionally meritorious were the examples of Madame Eugène Verdier, Frau Karl Druschki, Hugh Dickson, The Lyon, and Charles J. Grahame. The remaining prizes were awarded to Messrs. Perkins and Sons, and Messrs. Harkness and Co., who were second and third respectively.

Teas and noisettes, as shown in the open class for twelve blooms, were rather weak. The finest of the several stands was that staged by Messrs. A. Dickson and Sons, who had excellent blooms of Molly Sharman Crawford and Mrs. E. Mawley; Messrs. R. Harkness and Co. and Mr. J. Park, Bedale, were second and third respectively. On the other hand, the blooms staged in the class for twelve of any one variety, were of a high order of merit, and the eight boxes produced an effective display. Messrs. R. Harkness and Co. were first with blooms large in size and rich in colour of Hugh Dickson; Mr. W. H. Frettingham, Beeston, and Messrs. Alex. Dickson and Sons were closely matched, and in the result the first-named was placed second with fine examples of the brilliantly coloured Horace Vernet, and the Newtownards firm third with the pure white Frau Karl Druschki. In competition for the prizes for twelve blooms of any one tea-scented variety Messrs. A. Dickson and Sons obtained premier position with superbly-developed blooms of the sulphur-tinted white Mrs. Foley Hobbs, a new variety raised by the firm, and a valuable addition to its class. Mr. W. H. Frettingham was a capital second with excellent blooms of Madame Jules Gravereaux.

Amateur rosarians mustered in strong force and presented a remarkably fine lot of blooms. Six entered in the principal class, which was that for twenty-four blooms, and the premier award was made in favour of Mr. E. B. Lindsell, Bearton, Hitchin, who staged blooms in every way worthy of his high reputation. The blooms of Horace Vernet, Mildred Grant, Helen Keller, Madame Jules Gravereaux, Hugh Dickson, Charles Lefebvre, Mrs. J. Laing, and A. K. Williams were made note of as being of special merit, and the last-named was selected as the premier rose in the amateurs' classes. Mr. F. Dennison, Leamington, was a close second with finely developed blooms; and Mr. T. Park, Bedale, was a third with good blooms, some of which were overdressed.

Equally keen was the competition for eighteen blooms, distinct varieties, open to amateurs only, and Mr. E. B. Lindsell was again successful in taking premier honours. Very fine were the blooms of Mrs. J. Laing, Charles Lefebvre, Mildred Grant, White Maman Cochet, Bessie Brown, Mrs. E. Mawley, and A. K. Williams; Mr. Foley Hobbs, Worcester, followed closely for second place with medium-sized blooms; and the Rev. J. H. Pemberton, Havering-atte-Bower, Romford, was third with blooms of high quality. There was a long run of boxes in the class for twelve blooms, and the prizes were awarded to Mr. E. B. Lindsell, Mr. F. Dennison, and Mr. Foley Hobbs in the order of their names. For six teas or noisettes Mr. Park, Mr. Upton, Leicester, and Mr. F. Dennison were first, second, and third respectively. The best six blooms of any one variety were shown by Mr. Whittle, Belgrave, Leicester, the variety being Bessie Brown; Mr. Lindsell coming second with Alfred Colomb. There was a spirited contest for the prizes for four varieties, three blooms of each, and the most successful of the several exhibitors was Mr. E. B. Lindsell. The local growers of roses contributed liberally of their products, and especially so to the class for eighteen blooms. Here Mr. Speight, Market Harborough, was first with a fine set of blooms; Mr. Whittle second, and Mr. Upton third. For twelve Mr. Upton, Mr. Speight, and Mr. Whittle were the successful competitors.

CARNATIONS AND SWEET PEAS.

The several classes for carnations and picotees were especially well filled, and for twelve bizarre and flake carnations Mr. A. R. Brown, Kings Norton, was first with splendidly developed blooms of the most popular varieties; Mr. W. Sydenham, Melbourne, was a very close second with fine blooms; and Messrs. W. Pemberton and Son, Walsall, were third with meritorious blooms. Very fine were the contributions to the class for twelve self carnations, and the premier set was that shown by Mr. A. R. Brown, Kings-

MESSRS. E. WEBB AND SONS' GOLD MEDAL EXHIBIT OF VEGETABLES, MELONS, AND SWEET PEAS AT LEICESTER.

Norton, Birmingham, the bloom of Her Grace, a beautiful blush-coloured variety, and John Douglas, a superb pink flower, being the most conspicuous; Mr. W. Sydenham, Melbourne, was a capital second; and Messrs. W. Pemberton and Son were third. The white ground picotees were of exceptional merit in the class for twelve. Mr. A. R. Brown obtained premier honours with a fine set of blooms, the ground remarkable for its purity, and the marginal colour for its brightness. Yellow ground picotees and carnations produced a glorious display of colour, and it would be difficult to speak too highly of the splendidly developed blooms staged by Mr. A. R. Brown and Mr. W. Sydenham, who were first and second.

MR. F. BOUSKILL'S GOLD MEDAL COLLECTION OF HARDY FLOWERS AT LEICESTER.

Show and border carnations were presented in considerable numbers in the classes for six blooms. For flakes and bizarres Mr. F. Herbert, Mr. R. Makepeace, and Mr. J. Gumley were the prizetakers. The most successful of the competitors in the classes for white ground picotees were Mr. F. G. Duffey, Mr. J. Rudkin, and Mr. Makepeace. In the corresponding class for yellow ground picotees Mr. J. Rudkin was first with superb blooms, and Mr. F. Herbert and Mr. Makepeace were second and third. Mr. J. T. Ward was successful in taking the premier award for self carnations; Mr. Makepeace was second, and Mr. J. Rudkin third.

Sweet peas were so largely shown in the two classes in which Messrs. Robert Sydenham, Lim., provided the prizes, as to occupy the whole of the centre of one of the largest marquees, and to produce a display of unsurpassed loveliness. There were thirteen collections in the class for twelve vases, distinct varieties, and at the head of this large band of competitors was Mr. Hallam, Radcliffe-on-Trent; Mr. Hallet, Towcester; Mr. Weston; and Mr. H. B. Howe, were second, third, and fourth. There were nineteen entries in the class for six varieties, and Mr. Barsby won the premier prize, and Mr. Tyler, Mr. A. Collins, and Mr. O. Morris were second, third, and fourth.

HARDY FLOWERS.

Mr. F. Bouskill, Market Bosworth (gardener, Mr. G. Hollis), was a splendid first for twelve kinds of hardy flowers, with great sheaves of the scarlet Pentstemon barbatus, the white Madonna lily, Alstrœmeria aurantiaca, Cimicifuga racemosa, Veronica spicata alba, and Lychnis chalcedonica; Messrs. Warner, Wright, and Son, Leicester Abbey, were a good second with well-arranged vases of well-known plants; and Mr. C. P. Oliver, Stoneygate (gardener, Mr. Weston), was third with an excellent set.

For six kinds, Mr. C. H. Mayer, Leicester, was first with good vases of coreopsis, marguerites, gaillardias, and other well-known subjects; Mr. J. H. Hill, Syston, was a close second with a set in which alstrœmerias, aconitums, and phloxes were conspicuous; Mr. Widdowson was third.

Mr. F. Bouskill, Market Bosworth, exhibited, not for competition, a magnificent collection of hardy flowers, which formed a bank of flowers between fifty and sixty feet in length, and ten or more feet in height. The arrangement was, perhaps, a trifle too formal for the production of a picturesque display, but the great sheaves of splendidly-developed flowers produced a striking effect, and powerfully impressed the visitor.

MESSRS. WARNER, WRIGHT, AND SON'S GOLD MEDAL GROUP OF PLANTS AT LEICESTER.

FRUITS AND VEGETABLES.

Both fruits and vegetables were shown in much larger quantities, and of finer quality than we have previously seen them at the Leicester exhibitions. Especially attractive was the large array of dessert tables. Here the fruit and decorations were judged separately, and two sets of prizes awarded. In the class for nine dishes of fruit Mr. J. Drake, Orford House, Market Rasen (gardener, Mr. W. Parker), was first with fruit and third for decorations. The fruit comprised magnificent clusters of Black Hamburgh and Muscat of Alexandria grapes, splendidly coloured Gross Mignonne and Royal George peaches, Pine Apple nectarines, and good Brown Turkey figs. Mr. J. H. Goodacre, Elvaston Castle Gardens, Derby, was second for both fruit and decorations, and Mr. Ireland, Newstead Abbey, Notts, was first for decorations and third for fruit. The competition was of the keenest in the class for a dessert table with six dishes of fruit, and Mr. Drake obtained premier honours both for fruit and for decorations.

The contributions to the three classes for collections produced a magnificent display. Mr. J. Hudson, Leicester, was, as usual, in splendid form, as proved by the fact that he was first in the ordinary class for twelve kinds, first in Messrs. Sutton and Sons' class for six kinds, first in Messrs. Webb and Sons' class for the same number, and first in Messrs. Harrison and Son's class for nine kinds. Messrs. E. Jackson, Hurley, and Owen were also successful exhibitors in these important classes.

MISCELLANEOUS COLLECTIONS.

Miscellaneous collections were so numerous and good as to contribute materially to the interest and attractions of the exhibition. The following awards were made:

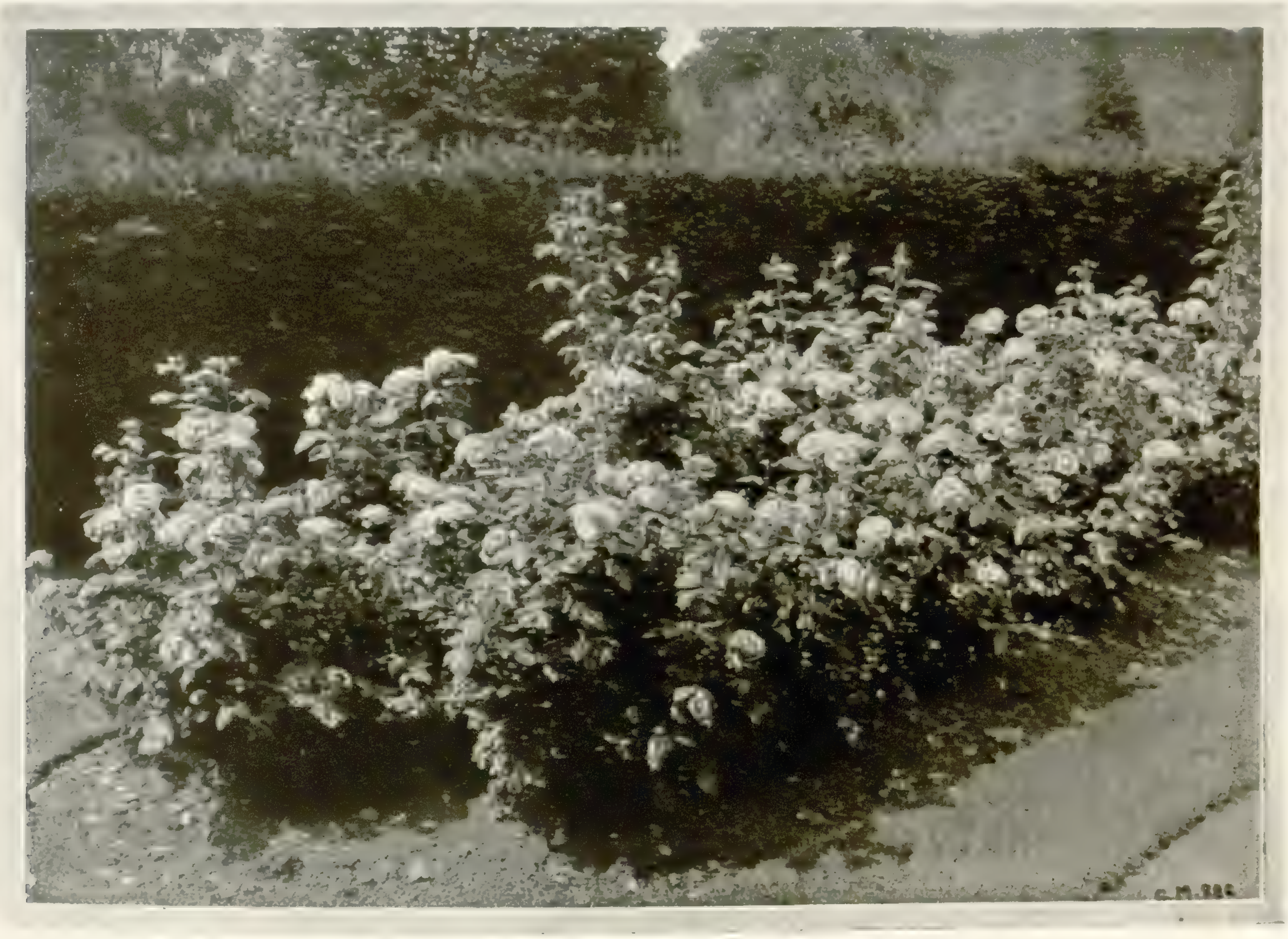
Gold Medals.—To Messrs. E. Webb and Sons, for a remarkably fine arrangement of melons, vegetables, sweet peas, and other flowers. The sweet peas comprised the greater portion of the finest varieties in cultivation, and the vegetables included a goodly number of the fine types with which the name of the firm is closely associated. The melons included such meritorious varieties as Beauty of Wordsley, Royal Sovereign, Epicure, and Webb's Masterpiece. To Mr. F. Bouskill, for his magnificent collection of hardy flowers. To Messrs. Warner, Wright, and Co., for a large and effective arrangement of plants, in which finely-developed begonias were conspicuous; and to Mr. W. Bentley for a beautiful collection of roses.

Silver Medals.—To Mr. J. Barrow, Rose Gardens, Oadby, for a collection of roses; to Mr. W. Wright, jun., Church Lane Gardens, Leicester, for hardy flowers; to Mr. G. Underwood, Saffron Hill Nurseries, Leicester, for sweet peas and violas; to Messrs. Harrison and Son, for a fine collection of vegetables and cut flowers; to Mr. Ellison, West Bromwich, for a collection of ferns; to Mr. C. Holden, Messrs. J. Lamb and Sons, Bingham, Notts; and Messrs. Merriman and Futton, Leicester, for sweet peas; and to Mr. H. Rogers for plants.

ROSES FOR MASSING.

In some gardens masses of roses in distinct colours for effect are required. For this purpose they should be free flowering and of dwarf growth, and also they should be of uniform height. Varieties that grow irregularly, that is, some plants in one bed of the same variety, owing to their great vigour, often produce robust shoots, hiding, to some extent, the masses of blossom below. Such varieties are not the best for a garden display. Indeed, some owners of gardens have a strong objection to such varieties, and discard them for those of uniform height.

The following admirably meet the requirements of those who grow dwarf roses for garden effect, namely:



HYBRID PERPETUAL ROSE MRS. JOHN LAING.

One of the best of the Hybrid Perpetual roses for beds and masses, being neat in growth and profuse in flowering; the colour rich cherry rose.

Viscountess Folkestone, creamy-pink, centre deep salmon-pink, is charming in its colour combination, and produces huge clusters, sometimes containing as many as ten blooms in each. Caroline Testout is quite one of the best pink roses for massing, growing quite evenly, and flowering abundantly; bright satin rose with a richer centre. It is quite without an equal in its colour. Killarney is remarkably effective, producing a profusion of its pale pink flowers; these are large, with shell-like petals, and the buds are long and pointed. The plants are furnished with robust foliage, and with its other attributes the variety is a gem for massing. Madame Abel Chatenay has flowers carmine rose, shaded with salmon, and it is not only a gem for massing, especially when planted thickly, but it provides an abundance of blooms for indoor decorations with long, stiff stems. Betty is ruddy gold, with a coppery-rose shading, and is very distinct and beautiful. Dr. J. Campbell Hall, coral-rose, is very free and attractive.

Richmond is a glorious rose in a mass, the large shapely flowers have long stems, and are most useful for decorative purposes in a cut state; the colour is red-scarlet. This rose is also valuable for its propensity to flower well into the autumn. Lady Battersea, cherry-crimson, is an almost perpetual flowering variety, and of much value. Lady Ashtown, rose, with a silvery-pink shade. La France cannot be omitted from any list of roses for massing, its silver rose-pink, shapely, and richly-perfumed blooms being so highly appreciated.

The foregoing roses belong to the hybrid tea section, and attention may now be directed to the following hybrid perpetuals: Frau Karl Druschki is far and away the finest white rose we have for massing; the foliage is ample, and makes a good setting for the pure white blooms above. A dwarf standard of this fine rose planted in the centre of a circular bed, materially enhances the appearance of the mass by relieving the flatness, and providing additional flowers. Tom Wood has cherry-red blooms, perfectly formed, and flowers abundantly, the trusses being large, as many as six shapely blossoms being frequently produced in each; the foliage, too, is deep green and healthy. Mrs. John Laing has much to recommend it; the growth is remarkably uniform, and the flowers produced freely, as so well shown in the accompanying illustration. The blooms are rather large, and the colour rich rose-pink. Mrs. R. Sharman Crawford, rosy-pink, the outer petals paler; free and good in every way. Ulrich Brunner, cherry-crimson, very profuse, and highly fragrant. Captain Hayward, scarlet-crimson, is one of the finest varieties in this section for massing, flowering in huge clusters, dwarf in growth, and very neat. Baroness Rothschild, pale rose, of well-known robust growth, and free flowering, producing huge blooms. Dupuy Jamain, bright cerise, free and open in growth, good perfume. General Jacqueminot, bright crimson, very fragrant, and good in every way. Hugh Watson, crimson, shaded carmine, with large smooth petals, of even growth. Suzanne Marie Rodocanachi, rich pink, those who are in quest of a really first-class pink variety would do well to give this a trial. In every way it is a good rose.

E. Molyneux.

VERBASCUM NOTES.

The question of the utilisation of verbascums for garden decoration is of considerable range and interest. At present these most useful plants seem to be under a cloud, as far as popular favour is concerned, though the reason for this would be hard to find. The decorative value of the tall verbascums is fully apparent to all observers, for, with their bold appearance, their stature, and their wealth of blossom, they are certainly entitled to a place in many gardens where at present they are conspicuous only by their absence. As regards their inclusion in the herbaceous borders, one notes the grand effect produced by isolated groupings, or of bold single specimens.

Some of the biennial species are wonderfully attractive, and even if they are extremely prodigal in their distribution of seed (necessitating the use of the hoe among the offspring), yet it would be folly to exclude their simple grandeur from the garden for this one reason. V. Olympicum, for instance, is a typical subject for illustrating the intense value of the family. Given plenty of space to develop, and a fairly open situation, the broad leafage and the tall spikes of golden blossom (each central flower stem being surrounded by the candelabra-like setting of minor flower stems), which show to the keenest advantage, and will contrast effectively with tall perennials of other colours. A grouping of the sterling perennial species, and Chaixi, with some good hybrid delphiniums, has emphasised itself as decidedly pleasing. The spikes of bright yellow blossoms (rendered more showy by the purple filaments) seem to light up the range of blues, which one gets among the delphiniums, and the mingled display is certainly noteworthy. A plant not often seen in gardens is V. Chaixi alba, the white-flowered variety of the preceding. It is worthy of inclusion in a collection of perennials, and may be regarded as the best of the white-flowered mulleins.

Other white verbascums include V. Blattaria alba, the white form of the northern mullein, a tallish, slender-stemmed plant of useful habit; V. Lychnitis, a sterling native, with creamy-white blossoms, borne upon tall, branched stems; V. nigrum album, the pretty white variety of the dark mullein, another native plant of perennial duration; and the pleasing white form of V. phœniceum, which is just as useful as the specific form, and provides a very distinct feature in the garden.

Of V. phœniceum one might speak in favourable terms, seeing that its light, graceful habit, and its interesting range of varieties make it well deserving of popularity. I would advocate its use in covering dry banks, and for beautifying rock ledges and old walls. It is persistent in blossom, and its purple, rose, blush, lilac, and white forms show to good effect. V. phœniceum has also assisted in the origin of several good hybrid varieties, and among those usually accredited with the influence of that species are V. cupreum, an exquisite coppery-purple, of delightful habit, Daisy Hill, a dainty bronzy-orange, with slender, continuous spikes of blossom; and Lewanika, a bronze-purple form, with a light, graceful habit, which usually attains a height of two feet.

Those massive giants, such as V. pulverulentum, a somewhat rare native, with well-branched, pyramidal spikes of blossom; V. longifolium, with its tall, single spikes, and large foliage; V. Thapsus, the dense-flowered, effective native, with its columns of gold; and V. pannosum, a woolly-foliaged variety of V. longifolium, which is perhaps one of the best known in gardens, all call for extended use for wild garden planting. Like the foxgloves, they carry a charm which renders them of equal interest and beauty with the rarest of exotics. In their place they are superb, and the massed glories of the towering spikes of the verbascums, rising from a dry bank, or gleaming through the lightly-planted woodside borders, gives one a picture of the real value of what are usually termed "common things."

It is not my desire to enumerate the whole string of useful verbascums, but rather to attract the reader's attention to the value of this somewhat neglected group of plants. Few plants are more easily grown, or are as simple in their requirements as these mulleins, and for the popular present-day cult of the wild garden they are indeed worthy of note. It would be well to include many of the species and varieties named, and one should also bear in mind the pretty bluish-purple V. Wiedemannianum, and the golden Syrian V. simplex, as typifying the utility of Asiatic forms, which can be used in conjunction with native and other verbascums.

P. S. HAYWARD.

THE ALIMENTARY IMPORTANCE OF MAGNESIA IN THE LIFE OF PLANTS.

When any plant whatsoever is analysed, the presence of magnesia in the ashes is invariably found. When an experimental culture of a plant is made in a sterile soil medium, if a magnesia salt is not added to the artificial plant food with which the plant is watered, the growth will at first be found to be poor, and soon the death of the plant will ensue. Magnesia is, then, one of the most indispensable foods in the life of plants. This element is found in the greatest abundance in the young organs, shoots, and just opening leaves, as also in the reserve organs, such as bulbs and seeds.

In the majority of plants the young tissues exhibit a remarkable constancy in the chemical composition; three grammes of the ashes of these organs always containing just about one gramme of phosphoric acid, one gramme of potash, 0.355 of magnesia, 0.25 of lime, 0.10 of sulphuric acid, and so on—thus magnesia is one of the indispensable elements in the young organs of plants.

The ashes of plants usually contain a greater proportion of lime than magnesia, but in contradistinction to this, lime is mostly found in the older portions of the plants, viz., the hard wood, the leaves, etc. Thus lime is somewhat an element of decay —a passive element. In fact, lime does not seem to be generally necessary to the vital functions of plants. Certainly it appears to be very useful to the higher forms of plant life, but it has been shown by experiment that all the fungi and the algæ which cannot live without magnesia, can prosper perfectly without lime. (Pfeffer.)

The alimentary rôle played by lime is then less important than has been believed. For it would seem that the rôle played by magnesia—an element of which the study up to now has been too much neglected, is far more important. In most plants the mean proportion of magnesia and the mean proportion of phosphoric acid in the same kind of plant is generally constant, no matter what the soil in which that plant is cultivated. Whereas, in the case of lime and potash, the amount usually varies according to the soil wherein the plant has been cultivated.

Magnesia always enters into plants in the form of complex organic compounds, which are absolutely necessary to assure their life by the development of protoplasm in the young cells, whereas the combinations of lime, particularly the oxalates of lime, as well as the oxalates of potash, may rather be considered as the products of excretion or even as the fixing of harmful matter. It was interesting to take note of the needs of the principal horticultural plants for magnesia and to compare those figures with those of their requirements for phosphoric acid—one of the elements justly considered as amongst the most important from the point of view of vegetable alimentation. According to my analyses, I have been able to determine the following results:

	Magnesia. per cent. of ashes.		Phos. acid per cent. of ashes.
Anthemis	7	...	1.1
St. Valery carrot	9.7	...	1.3
Autumn chrysanthemum ...	18	...	2.7
Persian cyclamen	3.30	...	0.2
Dracæna Bruanti	3.90	...	0.46
Erica scoparia	3.90	...	0.46
Gladiolus gandavensis ...	12.1	...	28.1
Hortensia Otaka	13.20	...	2.7
Kentia Belmoreana	0.6	...	0.5
Brown Cos lettuce	20.9	...	5.7
Peppermint	20.1	...	41.8
Nægelia	3.4	...	1.6
Odontoglossum	11.2	...	2.9
Zonal pelargoniums	9	...	13
Peach Amsden	3.2	...	1.6
Rose Ulrich Brunner	18.2	. .	1.6

According to Lawes and Gilbert, Rothhamstead.

Wheat, grain	11.1	...	51.8
Wheat straw	1.5	..	3.8
Meadow hay	6.3	.	5.6
White clover hay	5.8	...	7.8
Lupin seeds	4.5	...	4.3

From these figures one sees at first sight the enormous alimentary importance played by magnesia.

I ought to say that the horticultural plants, other than those already quoted, which seem to contain most magnesia are the amaranths, gaillardias, carnations, godetias; those amongst the vegetables being the beet, Brussels sprouts, peas, and tomatoes.

It seems very probable that the restoration of magnesia to garden soils will be at least as important as the restoration of phosphoric acid, and even more important than that of potash and of lime.

Yet former agricultural works, amongst others those of De Gasparin, say that magnesia is distributed in a uniform and sufficient quantity in all arable soils, and that the addition of magnesia manure to a soil seems unnecessary. This assertion may be questioned, for, after my researches on this point, it appears that magnesia is not always in superabundance in the soils devoted to gardening.

It is besides, quite as interesting to remark that the salts of magnesia are very soluble, and can thus be easily drained away by the rains. Thus, in 22 analyses of garden soils made very recently, I have found 11 soils which only contained non-measurable traces of magnesia.

I may mention that among these soils are the nurseries of Monsieur Camille Defresne, of Vitry-sur-Seine, a very calcareous soil, which is without magnesia; that of Monsieur Margottin, of Pierrefitte, a soil very rich in everything except magnesia; that of Monsieur Gravereaux, Roseraie de l'Hay, the calcareous soil generally rich, but with only traces of magnesia; a sandy soil of Monsieur Cheynes at Alfortville does not contain any magnesia; a soil from Monsieur Stanis de Jarnac (Charente), very rich in all elements—is very calcareous—but does not contain magnesia. Another soil from Monsieur E. Happeaux, of Menigoute (2-Sevres), is very sandy, but contains no magnesia; a soil from Monsieur Belliard at Feteval (Loir and Cher), a very sandy soil, only containing traces of magnesia. The soil from Monsieur Wolfrom, of Sceaux, calcareous, only containing traces of magnesia.

One can only conclude that in most of these cases that to bring magnesia to these soils would be advantageous.

Very recent experiments have confirmed my way of looking at this subject. My attention had been drawn to the large quantity of magnesia contained in the ashes of roses, and I have been able to establish, in addition, that in certain soils of the Roseraie de l'Hay, where the growth of the roses was getting weaker, that the soil only contained traces of magnesia.

Having reached these conclusions, Messieurs Cochet-Cochet, of Coubert, and Monsieur Léon Chenault, of Orleans, the well-known rose growers, have been good enough to make experiments on roses, and, following my instructions, Messieurs Cochet-Cochet have used nitrates of magnesia in solution, and Monsieur Léon Chenault the sulphate of magnesia in a strong dose, varying from 100-200 grammes per square metre. In both cases, the result on the growth of roses has been excellent, and I have also been much struck with the beauty and the vigour of the roses cultivated by Monsieur Adnet, the sympathetic cultivator of Cap d'Antibes.

In consequence of my visit, Monsieur Adnet has been kind enough to send me several of his soils to analyse. I found out that it was precisely those soils in which roses grow the best which were richest in magnesia—another fact which supports my theory. In those soils which come from the disintegration of dolomites, magnesian rocks, the use of sulphate or phosphate of magnesia has given no result, which was to have been expected.

I believe I have now drawn the attention of horticulturists to the alimentary importance of this element, too little studied, magnesia, particularly where it concerns the improvement of soils. On soils where roses have been long cultivated, and the rose growers have a declining growth, they ought certainly to employ a complete plant food, with sufficient nitrates and more alkaline, ought to add to this mixture from 60-100 grammes per square metre of sulphate of magnesia. According to Monsieur Chénault, this can be done without any danger.

I shall be happy if this announcement is of a nature to attract the attention of rose growers, and to cause experiments to be employed which will certainly throw fresh consideration on this question, one of the most modern and one of the most interesting in vegetable physiology.

Versailles. **Georges Truffaut.**

BEAUTIFUL WATER GARDENS.

Probably the most lovely effects in water gardens are those in which some mystery exists, where the vision cannot range over every portion at once, and so the mind confidently believes in greater loveliness not yet revealed. Consequently, to surround a pool with a flat bog garden is a great mistake. By throwing up a few banks, not far from the water, and not so as to surround it, the required mystery is partly achieved, for behind these banks may exist other beauties; better still is it if some groups of shrubs, or trees, exist to intercept the view, and some of these at least can almost touch the water, giving it greater apparent depth, and creating at times those reflections and deep shadows without which lakes, ponds, and river pools lose half their charm.

Giant reeds and polygonums are suitable for groups at the water's verge, or for clothing islands upon large lakes, but it is the smallest type of water gardens, artificial ponds of modest dimensions, that are most difficult to surround with mystery. I have lately seen the needs of the case met in a simple and most effective manner, however. At the end of the pool the ground had been thrown up in a bank about a yard high, and the side that was against the water was made of rockery of natural gray stone, mossy, lichened stones, after the bank had been made thus firm, the upper and side stones having been concreted together in part, some of the innermost portion was scooped away, forming a hollow something like a cave. The water basin was then extended so as to stretch well under this, and the water allowed to flow in.

The rockery nooks of the arch were next planted lavishly with hartstongue and [illegible] ferns, also the delicate little trailing Linaria cymbalaria, with a few variegated vincas, and the rapid growth of these had completed a picture of rare excellence. No eye could discern where the water stopped; it seemed to be flowing beneath a bridge of rockery, and one quite expected to see it emerge upon the other side; while every dainty fern frond was repeated in the darkened pool below. If this result is compared in fancy with that of the usual plain round pond of small size, where a few iris and reeds alone surround the water, and a patch of forget-me-not is the sole attempt to reproduce a natural effect, I think the merit of the arched pool will appeal to all.

Rustic bridges of elaborate type are out of place except in large gardens, yet a simple bridge crossing a small stream, or even spanning a pond, often adds greatly to the scene. The mere plank, with handrail at one side, is invariably picturesque; the three or four plank bridge, with one or two handrails, is suited to the pond. It should be remembered that the shadow of a bridge is a beauty, intensifying the colour, and diversifying the tints of water; in the same way every tall plant, shrub, bank, or tree, alters the hue of the stream or pool.

A very pretty feature to introduce beside water is the tree stump well climbed by ivy; it should not be used hollowed out, as an urn for gay flowers, but a primrose root or two nestling within it will be permissible. Many gardeners known the decorative value of hop poles climbed by ivy or ampelopsis near water; others regard them as too visibly artificial. Yet, if we do not use these, we must go without the elegant pillar of foliage that is so lovely when reflected below, or else employ some dead young tree removed from wood or meadow, and, though this is undeniably natural, it gives a sad suggestion to the scene.

As a rule the boggy earth that meets water is extremely ugly, so we should take care to clothe the ground in every possible way. Plants such as the vincas and hypericums, that will thrive while dabbling their trailing branches in the pool, are exceedingly valuable; then there are hosts of lesser plants that love moisture—the buttercup, sweet woodruff, and white and yellow oxalis, for instance.

Instead of having groups all of one species of iris we should carefully mingle varieties, and so obtain perfect colour harmonies; the ordinary purple German iris and the common yellow flag are familiar examples, that look better when grouped with each other instead of separately, the taller foliage being a fair background to the violet blossoms, and the flowering period of that particular clump being extended. Upon banks so many flowers and ferns will thrive that cannot live in water-level ground, that this is an argument in favour of creating them; the more they can be brought to lean over the water the lovelier will be the shadows and reflections. Wild strawberries and creeping jenny can be recommended for carpeting them, and a few summit groups of purple, yellow, and white foxgloves will greatly add to the landscape; primroses and violets should be exceedingly numerous, with a sufficiency of bluebells, not too many, as the blue colour is somewhat heavy, while the white and pink varieties look so strange that they are better kept to grace obviously cultivated borders.

The common bracken fern I would always have near water, massed by large sheets, and just represented by small ones. Can any colour be more cheering than the gold and crimson of its autumn garb, or any green more bewitching than its early foliage? When garden flowers are grown by lakes, pools, streams, etc., the ordinary kind of Chrysanthemum maximum is an admirable subject, because it is, after all, but a daisy, resembling those of the fields; nodding poppies upon the banks, and royal blue cornflowers, with tall grasses not far away, are equally artistic. A beautiful effect can be gained by having some giant white convolvuluses, either growing on irregular wooden arches spanning the water, or climbing tree trunks or allowed to ramble over hawthorn or other bushes.

Briar roses, the Wichuraianas and ramblers too, are used largely in water gardens now, to form hedges, overhang banks, and canopy seat nooks; the more unrestrained their growth the finer will their appearance be. M. H.

ALPINE PRIMULAS.

These delightful plants rank among the most desirable subjects for rockery planting, and are characterised by elegance and diversity of habit and colouring. Judiciously placed in compact groups they cannot fail to attract very considerable attention, while as pot plants grown in a cold frame they yield a wonderful display of decorative material in the early spring months. It frequently happens that amateurs lose their plants in winter, resulting from being placed in low-lying positions, and consequently subjected to excessive moisture both at the roots and overhead.

These primulas revel in a loamy soil and short manure, and require abundance of moisture during their season of active growth, but in common with many another subject from mountainous districts, resent wet conditions in the dull and dormant season. Bearing this in mind, the groups should be so arranged that overhanging boulders will effectually carry off heavy rains and provide the proper shelter.

I would strongly advise that they be planted in groups of from three to half a dozen, these being much more effective than single specimens. They will, of course, be planted out from small pots, and this may be done in the autumn or in March. Slugs are very fond of the succulent morsels they afford, and not only devour the young foliage and flower spikes, but play havoc with the crowns, feeding upon them in winter if allowed to take up their quarters in their vicinity. Hence the necessity of dusting soot around them occasionally, and of trapping the slugs with cabbage leaves, carrots, turnips, etc.

The following possess much beauty: Primula ciliata, a well-known and popular species; it bears bluish-purple flowers, and grows with great freedom. Extremely beautiful is P. frondosa, whose silvery foliage and large trusses of bright, rosy lilac flowers at once attract attention. Scarcely less desirable is P. marginata, with similar foliage and bluish flowers. From the Tyrol we obtain P. tyrolensis, which has rose-coloured flowers also. P. Forsteri and P. glutinosa, have pink and blue flowers respectively. Well worthy of notice is P. farinosa, which is found growing in a wild state in many parts of the British Isles. P. calycina, a native of the Alps, has purple flowers, while P. Facchini supplies us with a pink shade, the individual flowers being very fine, and altogether out of proportion to the minute foliage. By all means include P. nivalis, of spotless purity; it is worthy of being proclaimed Queen of the section. It is a native of the Caucasus.

Walter H. Aggett.

BULBS.—A practical treatise on the cultivation of hardy, hothouse and greenhouse bulbous and tuberous rooted plants is "Bulbs and their Cultivation," by T. W. Sanders, price 2s. 6d. net, or by post 2s. 10d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

THE MUSEUM GARDENS, YORK.

Remembering the great historical pageant which was presented in York recently, readers of the Gardeners' Magazine will probably be pleased to have a short account of the Museum Gardens, the arena of that pageant.

VIEW IN THE MUSEUM GARDENS, YORK. [Photo: W. Watson.
A portion of the ruins of St. Mary's Abbey is shown in the background.

On the left bank of the Ouse, and on the left hand when you have passed from the railway station over Lendal bridge, are the gardens of the Yorkshire Philosophical Society, generally known as the Museum Gardens. "This society was founded in 1822, and in 1829 (we quote from the official handbook) acquired about four acres of the present site, formerly known as the Manor Shore, which consisted of pastoral land, and on which stood farm buildings. The building of a museum was at once begun, and excavations were undertaken to ascertain the extent and nature of the buildings which formed the Abbey of St. Mary. The grounds belonging to the abbey covered about 15 acres, and of these the Manor Shore formed a part. Extensions have been made at various times to the society's grounds, which now cover over 10 acres." It should be noted that York was the birth-place of the British Association for the Advancement of Science, and that besides its first meeting in 1831, the association has twice since assembled in York, viz., in 1881 and 1906.

The gardens are full of interest, not only to the historian and antiquarian, but to all intelligent visitors. We may briefly mention some of their most conspicuous features. St. Leonard's Hospital, built by Athelstane in 937, and rebuilt and enlarged by Stephen; the Roman Wall; the Multangular Tower, one of the most famous relics of genuine Roman masonry; the Choir and Nave of St. Mary's Abbey ("the remains are those of the third church, the building of which was begun between 1259 and 1299"); the Hospitium, as its name indicates, is believed to have been the guest-house of the abbey, but in course of time its appearance, no doubt, has greatly changed.

The museum itself, built in 1829, has been called "the finest classical building in the North of England." In it are to be found important natural history, geological, and other collections. The antiquities contained in the Museum and Hospitium are of priceless value. As York (Eboracum) was a great Roman city, at which a Roman legion was permanently stationed to keep the Brigantes in order, and was afterwards the temporary residence of quite a number of Roman Emperors, it will easily be understood that the collection of Roman antiquities is worthy of the most careful study. The pageant devoted an episode to the Roman story of York under the title of "Altera Roma," or the second Rome.

On entering the grounds from Museum Street, you have on your right the ruins of St. Leonard's Hospital, with a green lawn in front of them, and a background of trees, which form so perfect a screen that scarce a glimpse of houses is to be seen. (On your left are rhododendron beds with ferns, and another lawn backed by shrubberies and large ash and elm trees inhabited by a colony of rooks). As you go on to the museum itself, you pass a large shrubbery in which a great pyrus is conspicuous. In spring this shrubbery has a many-coloured carpet of crocuses, with here and there a few early daffodils—a delightful sight. (On the opposite side of the path is a graceful specimen of Fraxinus lentiscifolia). Further on, the famous Multangular Tower comes into view.

The ground in front of the museum slopes gently to the river Ouse, and has on the right, as we look towards the river, many fine trees—limes, red-flowered chestnuts, copper beeches, and thickets of rhododendrons and other shrubs, amongst which an occasional tall philadelphus shows its white blossoms. On the left is the observatory, with its screen of shrubs and tall elms and sycamores, and a large border containing such flowers as campanulas, delphiniums, Hemerocallis aurantiaca major, Lilium pardalinum, Iris sibirica and I. graminea (there is a fairly large collection of Iris germanica in other parts of the garden), inulas, gaillardias, violas, and many other plants. Before we descend to the river side (the river-path is only separated from us by a tall and handsome iron palisading) we may notice a great bed of rhododendrons, which serves as a home for colonies of montbretias, heaths, and mimulus. On our right, close to the river, is the Hospitium, and behind it a small botanic garden.

But probably the majority of visitors to the gardens are most delighted with the ruins of St. Mary's Abbey, the north wall of the nave of which (shown in our illustration) served as the background of the arena on which the York Pageant was presented. It would be difficult, very difficult, to find in England a setting more suited in every way for the series of splendid spectacles, from the triumphal entrance of Constantine, clad in white and gold, and borne with the Empress Helena in a gorgeous chariot, to the appearance of Henrietta Maria and Charles I., and a realistic combat between the soldiers of the Parliament and Newcastle's famous Whitecoats. As the spectator faced the arena, he had on his right the museum, and beyond that building shrubs with a broad border of flowers, and beyond them aspen and elm trees; in the actual arena are two fine white hawthorns, a tall elm, and a graceful silver birch. These partially veil the wall of the great Abbey Church before spoken of, behind which there is a row of limes. The western doorway of the church served as one of the entrances of the pageanters, and behind that the tower of St. Olave's Church is just visible.

On the left of the spectator is quite a grove of fine lime trees in all the beauty of their summer foliage, and fragrant with innumerable blossoms.

It must not be supposed that we have attempted to do more than point out some of the prominent features of the gardens. Of the formal flower-beds we have no space to speak, and we can only mention in the briefest way the many fine chestnuts, the weeping wych-elms, the bowling green shaded with flourishing young lime trees, and the abbey gateway. The pigeons and peacocks add much to the illusive charm of gardens such as these, situated almost in the heart of a great city, and they were quite at home at the pageant.

Our illustration, for which we are indebted to the well-known skill and courtesy of Mr. William Watson, speaks for itself. As our readers look at it they will easily understand that with the sunbeams slanting through the leaves, the swallows flying overhead, the many coloured groups of ladies, gay as the brightest flowers and surrounded by regal pomp and martial splendour, with applauding crowds in mediæval dress picturesquely grouped behind them, it has been easy for those who have been fortunate enough to attend rehearsals to imagine themselves in the midst of the "Merrie England" of days long past.

G. Yeld, M.A.

HARDY CYPRIPEDIUMS AND FERNS AT OAKWOOD, WYLAM-ON-TYNE. (See next page.)

THE SUMMER PRUNING OF HARDY FRUIT TREES.

The necessity for carrying summer pruning into effect is everywhere more or less in evidence at the present time, and probably in the whole range of garden operations there is not one that gives rise, among cultivators, to such diversity of opinion as to the best time and methods of procedure.

The cause of this undoubtedly arises from the fact that a system of operations that answer well in one district may prove the reverse in another, owing chiefly to differences of situation, soil, temperature, and weather. The variation of the seasons alone, early or late, as the case may be, often makes a difference of a fortnight or more in the proper time for commencing the work; to which may also be added the vagaries of growth exhibited by the different varieties of a species, necessitating careful forethought and discrimination in order to fix upon the time when the operation may be carried out with greatest benefit to the health and fruitfulness of the trees.

Summer pruning in the first place must by many be looked upon as a necessary evil, as the pruning away of much vigorous growth represents so much wasted energy which, could it be disposed of in some more profitable direction, would certainly be to the benefit of the trees. Growing as these are under restricted conditions, as horizontal, fan, and cordon systems of training, to mention but a few, due thinning out and regulation of the shoots at some time during the growing season is imperative to the maintenance of health and fruitfulness, and in a minor degree the appearance of the trees themselves. In the case of certain fruits, as apples, pears, and plums, planted in the open, and allowed space sufficient to ultimately form large, spreading heads, summer pruning may almost be dispensed with, excepting so far as it pertains to the timely removal of weak or cross growing branches; the leading shoots of such being allowed to extend rapidly tends towards the earlier formation of the trees, and consequent fruitfulness. Trees growing against walls can produce shoots and spurs on one side of the stems or branches only, and as the apportioned space for each tree becomes filled and no further extension can be permitted, redundant lateral growth becomes more and more in evidence, so that to admit the necessary light and air, and afford space for the full and proper development of the fruit buds, a certain amount of summer thinning or pruning is necessary.

Root-pruning

in relation to branch-pruning has a more important bearing than might at first seem possible. Slight consideration, however, must reveal the fact that a fruit tree necessarily much restricted in the matter of top growth, must also have the roots kept within reasonable limits to ensure fruitfulness. This opens up another and still more comprehensive question, that can be but briefly referred to at present, i.e., how best to obtain and preserve for a long series of years that easy balance between root and branch which, while supplying ample nutriment to both foliage and fruit, yet reduces superfluous growth to a minimum, and accordingly the necessity for much pruning in any form.

In former times it may be presumed that the seedling, or, as generally called, free stock, upon which to graft apples and pears, was alone used, and less restriction of top-growth was practised than is customary at present. Aged examples of such trees may often be met with, and, although there are exceptions, the majority present an aspect devoid of beauty, or are useless from a fruit-bearing point of view.

The increased popularity of the paradise and quince stocks, which is largely owing to their moderate vigour and precocious fertility, has brought about a somewhat changed course of summer pruning to that formerly prevailing. As an instance of this, consideration may be given to a cordon-trained tree, grafted on either of the stocks named, which may have one or several branches rising from a single stem. For a few years after planting, close, but very interesting attention must be paid to the leader, first to keep this in a direct line to a given point, whether the direction be upright or slightly slanting; and secondly, by judicious stopping of this, at intervals, to so encourage side shoots or spurs to form that the tree eventually presents a regular succession of these from bottom to top. This attained, the more serious work of

Summer Pruning

commences, and with each recurring season timely stopping of all shoots, that by their free growth show a disposition to assume an undue lead, so that the flow of sap may be as evenly distributed as possible, to the great advantage of those shoots that have, from some not very clearly defined cause, been left behind in the race.

As already hinted, trees grafted upon dwarfing stocks require attention from the time the shoots are six inches in length, which may be towards the end of the month of May, by having the points removed from those disposed to take a lead, and this treatment must be continued at intervals throughout the early summer months, until in August, early or later, according to the season, all shoots previously stopped may be further reduced, leaving, however, not less than four perfect leaves at the base. Large trained trees against walls, as the fan or horizontal forms, especially if grafted upon free stocks, are best operated upon in the early part of August; but in this much depends upon the locality and the season, be this early or late, moist or excessively dry. To prune too early or too closely is risky, as the basal buds, which it is desired to benefit, may be made to break into growth, thus defeating the object aimed at. Where a fairly representative collection of large and stone fruits—apples, pears, plums, and cherries—are cultivated, it is readily observed that there is a wide difference in the habit of growth among the different varieties, some being much more profuse than others in shoot production, and with these a careful thinning of the surplus shoots would greatly benefit those left, and by thus admitting light and air to every part would ensure better maturation of the buds than could possibly be the case where overcrowding exists.

Disbudding

as an aid to summer pruning could hardly fail to be beneficial, and many of the thickly placed, small, or otherwise useless shoots might be rubbed from the branches as soon as discernible, and the trees, thus early relieved of worthless matter, would be better able to concentrate their energies on fruitfulness. In some respects it is unfortunate that this work with fruit trees requires to be carried out at the busiest season of the year, which in very many instances causes it to be deferred until too late to be of much value, or else the work is hurried over, and all trees treated alike. Could sufficient time be spared for this work in summer, it would lessen very considerably the necessity for much winter pruning, greatly to the advantage of the trees in health, vigour, and fruitfulness, as well as to the comfort of the workmen, by reducing very considerably this somewhat tedious task at an uncongenial season.

JAMES DAY.

Galloway House Gardens.

A NEW TOMATO DISEASE.

A leaflet has been issued by the Board of Agriculture dealing with the new disease of the tomato caused by the fungus known as Septoria Lycopersici var. europæa, Briosi et Cavara.

It appears that in 1907 and 1908 tomatoes were found to be attacked by a disease which had not previously been known to exist in this country, but which was first reported from South America, the native country of the tomato. As far back as 1884 it was described by Spegazzini, as attacking tomatoes grown in Argentina. Since then it has appeared in Australia; and shortly after the introduction of tomatoes into Europe it was recorded in Italy, France, Germany, and other continental countries. From its sudden appearance in this country there can be little doubt that the fungus has been introduced from abroad with imported tomatoes. The damage which the fungus is capable of doing is very serious. A crop of outdoor tomatoes in Gloucestershire was entirely destroyed by it in 1907 and it reappeared in 1908. Growers are cautioned to be on the lookout for this pest, which, if neglected, may become one of the most serious sources of injury to the crop.

The fungus which causes the disease is closely related to the "leaf spot" disease on strawberries, apples, pears, and chrysanthemums, but is quite distinct from any of these diseases, and it has been proved that spores of the fungi causing "leaf spot" on the plants named above are incapable of producing this particular disease on tomatoes. In the same way, experiments made with the object of infecting potatoes and other plants with spores from this tomato fungus have not resulted in any injury.

Symptoms of Attack.

The tomato plants attacked show small blackish-green spots on the leaves. These are irregular in shape at first, but soon become concentric and finally confluent, and the leaves, which are rapidly killed, roll up and hang loosely from the stem. The fungus also attacks the stem, the calyx, and finally the fruit itself. When no remedial measures are taken the whole plant may be destroyed within seven days from the first sign of the disease.

Description and Life History.

The spores of the fungus germinate out of doors during June and July, but at an earlier date under glass; the mycelium pierces the surface of the leaves and rapidly branches in the interior. The injured portions quickly discolour, and small spots appear externally. The dead tissues, especially in tomatoes grown indoors, dry up and exhibit spots of a somewhat dark brown colour, which appear hard and parchment-like. In tomato plants cultivated in the open air the spots are softer and black. When the dead portions of a leaf are examined by means of a pocket lens, one can easily detect numerous minute black bodies not larger than the point of a needle all over the surface of the leaf. At the same time one can distinguish a light brown-coloured substance rising from the apex of each small body like a curled, twisted thread. The manner in which this substance rises from the bodies may serve as a character to distinguish this disease from others.

The minute black bodies are the fruiting portion of the fungus, and the light brown mass consists of spores. The spores are exceedingly small, measuring about 1-454th of an inch in length and 1-12,500th of an inch in breadth; they are divided into several segments, numbering from three to eleven. When the leaves dry up the spores fall to the ground, and are carried about by the air, or adhere to the glass, woodwork, poles, etc., of glass-houses, where they pass the winter. They germinate on tomato plants in the following year on finding suitable conditions for their development.

Prevention and Remedy.

Experiment has shown that in order to combat this disease great care must be exercised. The precautionary measures recommended below should be adopted.

(1) Plants once attacked can only be saved by spraying immediately the first signs of disease are noticed. The plants should be sprayed with a 3 per cent. solution of Bordeaux mixture early in the morning every second day for two weeks. The spray should be in the form of a fine vapour falling upon the plants like a natural dew. The method of preparing Bordeaux mixture is described in Leaflet No. 23 (Potato Disease). The ingredients for a 3 per cent. solution would be 3lb. copper sulphate and 2lb. freshly burnt quicklime to 10 gallons of water.

(2) Badly attacked plants should be cut back, or, better still, uprooted and burned.

(3) Any wires and props used in the houses or in the open air should be slowly drawn through fire, in order to kill the spores adhering to them.

(4) The top soil should be removed and mixed with fresh lime in the proportion of one barrowful of lime to five of soil. It can be replaced after the lime has slaked.

(5) When planting young tomato plants, pulverised lime should be scattered on the ground round the stems.

(6) Tomato seed from infected areas should not be used.

HARDY CYPRIPEDIUMS AT OAKWOOD.

At Oakwood, Wylam-on-Tyne, the residence of Mrs. Norman Cookson, orchids are a fine feature, as our readers know full well; but these pages have also shown that ornamental trees and shrubs, and hardy flowers, find favour in this famous Northumberland garden, and are extensively and well grown. In a sheltered portion of the garden there is a small pool of choice water lilies, and around this pool is low rockwork furnished with alpines, and beyond this are some boggy portions where moisture-loving plants thrive, and here the hardy cypripediums provide a pretty picture in their season. One of the best of these, and one that has succeeded here for many years, is the fine Cypripedium spectabile, and our illustration shows this and other charming plants in bloom near the lily pool.

Importation of Horticultural Produce into Italy.—With reference to the importation of horticultural products into Italy, a recently issued Foreign Office Report (No. 673) observes: Owing to the restrictions imposed by the Phylloxera Convention, no plants or seeds can be sent direct from the United Kingdom to Italy, and consequently the trade in roses, seeds, and bulbs is all done by France and the Netherlands. The law is evaded to a certain extent by shipping these goods to agents in France for re-shipment, but this is a clumsy plan, and wastes time, which, in treating of such perishable goods, is the essence of the contract. An inspection of many acres of beetroot would at once persuade any British agriculturist that, even making allowance for the dryness of the Italian climate, much might be done by the introduction of better seed and by the use of artificial manure. Seed potatoes might also be introduced, but it must be remembered that the seed must be imported every year, as it has been found by experiment that after the first year, if the crop is raised from potatoes which have been reared in Italy from British seed, the result is disappointing, the potatoes being no better than those grown from the ordinary Italian seed.

WINTER VEGETABLES.

It is necessary for gardeners to look a long way ahead when arranging for the various crops required during the winter and early spring, for it is during that period the skill of the cultivator is taxed to keep up a constant and varied supply. It is only by a careful study of the requirements of the establishment that he is able to provide the requisite quantities of each and every kind. As a rule, more gardeners come to grief over the supplies of vegetables than anything else. A gardener has at the present time not only to consider the supplies for winter, but in many instances for next spring and early summer also. Of the latter period we have but little to say at the present time, though it may be advisable to remind readers that it would be well to make preparations for sowing cabbage, onions, parsley, lettuce, and such like, in case they might forget that the present season is a backward one, and it is possible that things will not grow as rapidly as they have done in some seasons. At the present time there are crops still occupying the ground that would have been cleared off had the season been a forward one.

Broccoli.

Broccoli was a failure in many places last spring, but this is not always so, and as this is a most useful spring vegetable, a good breadth of the late kinds should be planted as soon as possible, to admit of sturdy growth while the days are of sufficient length. Where the soil is good this usually grows very rampant in the autumn, and the plants ought therefore to be allowed a sufficient space to enable the foliage to become thoroughly developed, without which it is impossible to produce fine heads. With us it is the practice to sow the late broccolis the first week in May, and as soon as the plants are large enough to handle, prick them out nine inches apart each way, when, by the time the ground can be cleared ready for them, they are fine sturdy stuff, which, lifted carefully with a fork, and transplanted, soon become established. It is not always convenient to put them in their permanent quarters just as they are ready in the seed bed, but by pricking them out they become sturdy stuff, and take no harm if not transplanted for a few days, and no time is thus lost. For latest use we have grown several varieties, but have found one named Universal to suit us better than any other, though Omega is a very good one.

The present season so far has been very favourable for the growth of green crops, the soil not having become too hot and parched as in some seasons; but where space is limited, and broccolis have to follow some other early crop, such as peas, there is some delay in planting; but if they are put out now and receive due attention, they will soon become established; and, should the weather be favourable, they will become fully developed by October.

Brussels Sprouts and Kales.

Of Brussels sprouts there are several distinct varieties, some producing sprouts nearly as large as small savoys; but we prefer those of smaller dimensions, as being less liable to injury through frost. Large sprouts look well on the exhibition table, but they are very disappointing when cooked. We prefer a hard, close sprout, about the size of a walnut. Of all our winter vegetables, when well grown, there is none more useful than Brussels sprouts, and none that gives a greater bulk of useful food from the same space of ground. The plants, however, ought to be planted early, and allowed ample room to develop, for when grown closely together the leafstalks are too far apart for the stems to produce a heavy crop. Where space is limited, and a large number is grown, it is a good plan to plant in rows three feet apart, allowing from fifteen to eighteen inches between the plants, and by the time the foliage touches each other in the rows, space may be cleared for the alternate plus plants; and if these are carefully lifted in showery weather and transplanted in rows three feet apart, they will give a succession of sprouts to the first batch. Brussels sprouts are usually sufficiently hardy to withstand the severity of our winters, especially if some of the hardier varieties are grown, and allowed sufficient space to become well developed.

Of kales there are several kinds, but some of them are not very enticing or appetising when cooked. The dwarf green curled and the asparagus kales are the best. There is a variety of the latter known by the name of Favourite, which is of a most delicate flavour and fine colour when cooked. It is, however, not so hardy as some kinds, and requires to be grown on rather poor ground to withstand a severe frost. If liberally treated in the spring, it is astonishing what a quantity of nice tender useful greens may be gathered from a limited space. This variety seems more subject to the attack of the white fly than any other that I have grown, but if watered a few times with quassia water this will be kept in check.

Savoys.

Savoys are always a favourite winter vegetable, but many gardeners make a mistake in sowing the seed too early, and in growing the plants too large. We do not want savoys the same size as cow cabbages, weighing half a hundredweight each, but small, crisp, curly hearts. We sow the seed about the first week in June, and as soon as the plants are large enough to handle they are pricked out about six inches apart; here they remain until the early potatoes are cleared off, when they are planted out. Savoys are seldom called for until other vegetables, such as peas and cauliflowers, are becoming short, therefore there is no advantage in growing them to waste. The small-growing varieties are the most useful, such as Perfection, New Year, and the like. There is a variety of Drumhead known by the name of Miniature, which is very useful, and a few rows of this should be grown in every garden.

Maintaining Supplies.

To have a good supply of green vegetables through the winter should be the aim of all gardeners, and it is incumbent on them to study the requirements of the establishments. There is usually no difficulty in keeping up supplies through the summer and autumn, but it is when severe weather sets in and arrests all growth outside that the difficulty occurs, and unless gardeners have made due preparations beforehand, it is then too late, and trouble begins; first with the cook, and then with the employer. Cultivators are too apt to think that, because they can grow plants or flowers, there is nothing further needed. This may be so in small places near towns, where one can run to the greengrocer for everything required; but in the country the case is far different. It is not easy at all times to provide everything asked for, but it should be the aim of the gardener to do the very best he can with the means at his command. H. C. Prinsep.

Buxted Park Gardens.

WORK FOR THE WEEK.

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STOVE PLANTS.

VENTILATION AND SHADING.—Close attention to ventilation and shading will now be necessary after the long cloudy, sunless weather experienced, as in a few minutes plants may be ruined for the season by the scorching of the leaves. The safest plan by far is to always leave a fair amount of ventilation at the top of the houses to allow of the moisture escaping. Keep all plants clean, as growth is injured and not readily replaced when once damaged. Many strong plants repotted early in the year will be assisted with some approved fertiliser, large crotons and palms being much benefited by weak liquid manure, and in warm weather they will require an abundance of root watering. Tree ferns also require copious supplies of water daily at the roots and on the trunks, which should not at any time be allowed to become quite dry.

ALOCASIAS, MARANTAS, etc., will require plenty of water, and the leaves occasionally sponged. Should red spider be troublesome, syringe the underside of the leaves with clear rain water. Caladiums will also retain their beauty much longer if treated in a similar manner, and supplied with liquid manure.

ALLAMANDAS, BOUGAINVILLEAS, and other plants of a similar character may have liquid manure in some form, and borders full of roots may be mulched with manure. Plants of Cissus discolor that are required to make large specimens should be shifted into larger pots.

JASMINUM GRACILLIMUM should be encouraged to make free growth, and it will be an advantage to stop the leading shoots to induce them to make side growth to break.

PLUMBAGO ROSEA if thoroughly established in the flowering pots, will require to be removed to cooler quarters, say a cold frame in some sunny spot. On no account allow the plants to become dry at the roots, or the bottom leaves will turn yellow and drop.

GARDENIAS.—Plants that were cut back in the spring with a view of securing a good supply of flowers at a later period will have made good growth by the present time. Give the plants more ventilation for a short period to ripen the wood and set their flower buds. Remove all the young shoots that are produced alongside the flower buds, as these if allowed to remain divert the energies of the plants from the flower buds, and in many instances cause them to fall. Young plants in need of repotting may be given a shift now; they will become well established before winter. If the potting be carried out without unduly checking the plants, they will quickly root into the new soil. Gardenias enjoy full exposure to the sun, and while making their growth should be given a high temperature and abundant atmospheric moisture; a suitable compost, consisting of about three parts of good fibrous loam, one part leaf-soil, together with some coarse silver sand, and a little well-decayed manure. Every effort should be made to keep the plants free from mealy bug and scale. Paraffin and water may be used as an insecticide with safety on gardenias, adding a wineglassful of the oil to three gallons of water. Lay the plants on their sides out of doors and keep the mixture well agitated with the syringe during the operation. This may be repeated frequently, but should be discontinued when the flowers begin to show.—W. Fyfe, Lockinge Park Gardens.

THE ORCHID HOUSES.

CATTLEYA HOUSE.—Cattleya Warscewiczsi (gigas) is one of the most useful of the late summer and autumn-flowering cattleyas, and is one of the most easily grown of the genus. The plants that have just passed out of flower will now be producing new roots from the base of the recently developed pseudo-bulb. Any repotting requirements necessary should be attended to without delay. We find the plants bloom most freely when grown in a position suspended near the roof-glass, and it is more convenient where the houses are low in structure that the plants should be grown either in baskets or shallow pans, thus affording more head room than would be the case where pots are used. In repotting provide ample clean drainage, and the potting compost should be of a coarse and lasting nature, as it is undesirable to repot more frequently than is absolutely necessary. The plants should remain in the same receptacles for two or three seasons. Keep them shaded, and a humid warm atmosphere about them until the new roots are pushing freely into the fresh potting compost. The greatest difficulty in the successful cultivation of C. Warscewiczi is the secondary growths. There is no cattleya so liable to restart into growth as this species, especially in the case of plants that flower early in the season, and in cases where plants have failed to produce flowers. Where secondary growth commences early in the season the plants are not so difficult to deal with, as by placing them in a warm position, and giving them every encouragement, they are induced to complete their growth before the winter sets in, but where the plants produce a second growth after the middle of August, even under the most favourable conditions, there are difficulties to be anticipated. It is best to avoid these difficulties as far as possible. We find it a good plan to remove the plants to a cooler temperature almost immediately the flowers have been removed or growth completed, unless the plants require repotting; disturbing them for repotting purposes will usually be found to give a sufficient check to prevent their restarting. In the cooler portion plenty of light and free ventilation should be afforded whenever the outside conditions permit.

AUTUMN-FLOWERING CATTLEYAS.—Many of the autumn and winter-flowering species and hybrids of cattleyas and allied genera are now in their most active state of growth, and although we have little to complain of in respect to robustness of growth, there can be no question as to the lack of summer sunshine having rendered the growth soft and sappy. It is certainly far short of the desired hardened and ripened appearance which is required to enable them to produce their flowers satisfactorily, either in substance or the best coloured tints obtainable. As I have no doubt the same experience will be general throughout the country, the necessary steps will have to be taken to counteract these detrimental conditions during the next few weeks before the plants expand their flowers. The conditions for the proper maturing of the pseudo-bulbs is light. The plants should therefore be afforded all the bright light possible, with due regard, of course, to the prevention of their becoming scorched or discoloured in the older foliage. The roof shading should not be put on until there is a danger of scorching, and it should be removed again in the afternoon as soon as it may be done with safety. The roof ventilators may also be brought into use, but as soon as the blinds are dropped it is desirable to reduce the air sufficient to avoid checks by a sudden lowering of temperature inside the houses.—H. J. Chapman, Oakwood Gardens.

THE KITCHEN GARDEN.

ENDIVE.—A large sowing should now be made of this invaluable plant for winter salad purposes. Being of a robust nature it is not very particular as to soil, and will invariably thrive on any land that has been fairly well cultivated. One of the main points to consider when selecting and preparing the site to sow and plant is, that the endive will not stand our winter climate with impunity, and that the crop will require some protection. The more sheltered the position the longer the plants will grow on during the late autumn and early winter months. The broad-leaved Batavian variety is less subject to damping off during the winter than the crimpled varieties, consequently the larger portion of the sowing should consist of the former. Sow in drills about one foot apart.

LETTUCE.—In many establishments a supply of winter lettuce is one of the most important tasks the gardener has to deal with, and a failure means a serious inconvenience. It being impossible to forecast the kind of autumn weather we are to experience, my advice is to sow in different sites, making several sowings throughout this month, including a substantial one on a narrow, high-standing south border. There are many good and valuable varieties now to select from which turn in and heart quickly, as well as being fairly hardy. I am advised by a friend to try two varieties grown largely by French growers, but until I am convinced that something will suit my purpose better for winter use I pin my faith to the following varieties: All the Year Round, Standwell, and Stanstead Park, the last-named being the hardier of the three.

SPINACH.—What is considered the winter and latest crop of this vegetable should be sown without delay. It is essential that the ground should be well tilled and sweetened by being laid bare to exposure for a time previous to sowing, and the quarter should not have just previously carried a crop of the cabbage family. Sow the seeds in drills from fifteen to eighteen inches apart to give ample room for the plants to develop. The prickly varieties are generally considered the most satisfactory for winter sowings. I have on many occasions seen the broad, round-leaved kind do very well and stand the winter without much harm. This crop being often difficult to judge perfectly to suit the season, it is best to make two or more sowings, with short intervals between.

ONIONS.—Small onions are often used during the winter for salading and other purposes, and where they are required sow the seed now, to allow the plants to be of suitable size by October. The sowing to furnish plants for planting out next spring of the Tripoli varieties should also be got in. Do not sow the seed too thickly if placed in rows. Broad-casting the seed evenly and thinly over the bed is much the best, as the plants stand the winter better.

COLEWORTS.—These, if sown as advised, will be of a size suitable for planting out to the permanent bed, and will be found of great value for cutting purposes up to Christmas. Small compact heads in quantity is the result of this crop, and it is not necessary to plant very wide apart; one foot each way is ample.

WINTER CUCUMBERS.—Provision will have to be made for the supply of winter cucumbers by sowing seeds during the next week or two; place each seed singly in a sixty-sized pot filled with porous loam, and pot on the young plants as required until ready for planting.—Charles Flack, Cholmondeley Castle Gardens.

FRUITS UNDER CLASS.

STRAWBERRIES FOR FORCING.—As soon as the plants that are layered in 60's have become well rooted they should be severed from the parent and placed in six-inch pots. They require good soil, firm potting, and clean pots. The soil should be the best loam; the top spit from old pasture land that has been well fed is the best. It should be cut about three inches thick, and stacked nine months before use. To this should be added some good horse manure, a little bonemeal, and a good sprinkling of soot. The runners should be turned out of the small pots carefully, and placed in the centre of the fruiting pot, which should be crocked effectually. Ram the soil tightly, finish off the top of the soil evenly, and allow three-quarters of an inch for water. After potting stand the pots on a firm base of ashes; they may be stood close together at the start, but as soon as the plants begin to grow more room must be given. In dry and windy weather it will be wise to syringe the foliage every day in order to keep it clean and free from red spider. Watering must be done very carefully until fresh roots have been made. Royal Sovereign, Leader, and President are about as useful a set as one can have for forcing.

PEACH HOUSE.—As the trees become freed from their crops take out any unnecessary wood or growths, and expose to fresh air and sunshine as much as possible, and, where possible, take off the lights. At the same time give the roots and foliage plenty of moisture, and a little weak liquid manure will help to plump up the buds, for it is now the foundation is made for another crop, and the trees ought never to be neglected. Give abundance of air to late varieties, and late crops, especially such varieties as Sea Eagle and Princess of Wales, and water freely with liquid manure. If the mulching is getting used up apply a little more, as this will check evaporation. Late nectarines, such as Victoria and Pine Apple, and Princess of Wales, will need a considerable amount of nourishment. Assist the colouring process by pulling the leaves a little on one side, and use small strips of wood to prop the fruits up to the light; all these aid development, and ensure best results.

ORANGES.—Where these are grown in pots they are now swelling their fruits rapidly, and should be syringed twice daily, and have plenty of suitable liquid manure. These fruits respond readily to high feeding, and good fruits obtained quite early in the autumn and winter are, apart from their usefulness, of quite an ornamental character.

PLUMS AND PEARS.—When these are largely grown in pots the results are most gratifying, as the fruits assume a delightful bloom and a first-class size, and several varieties that do not succeed outside generally will do quite well with inside treatment. See that the roots are copiously supplied with water, and in syringing use water that is quite clean or the fruits will be spotted. It is best not to syringe at all after the fruit has commenced its last swelling, especially the black or blue varieties of plums. The gages should be allowed to become quite ripe before being used for dessert, as their best flavour is not developed till that stage is reached; McLaughlin, Early Transparent, Golden Transparent, Late Transparent, Reine Claude de Bavay, Jefferson's, and Kirke's are samples of such fruits. Pears attaining large size should have the fruits tied up with matting to reduce the strain on branches. Should wasps appear wasp-proof netting ought to be used at once around all ventilators, but, fortunately, there appears but few of these pests this season.

PAINTING AND CLEANING. — Any houses that are clear should now be painted, if this is necessary. It is a good system to get the houses empty, and have them cleaned and painted as often as necessary, and there is no better time than late August and September for this, and for any alterations of heating apparatus.—W. A. Cook, Leonardslee Gardens.

ITEA VIRGINICA.

Itea is a small genus allied to escallonia and ribes. Two species only are in cultivation, one being a native of the Eastern United States, and the other a native of China. The American plant, I. virginica, has long been known in gardens, the date of its introduction going back a century-and-a-half. Old, however, as it is, it cannot be said to be a common or well-known shrub, for it is not often met with in gardens. It is a deciduous plant, growing three or four feet high with simple lanceolate leaves, and racemes about three inches long of fragrant white flowers which appear during summer. It thrives in light soil, and is improved by having the old wood cut out each spring, leaving strong shoots of the previous year's growth for flowering. W. D.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

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Royal Horticultural Society.

The meeting held on August 3 was, comparatively speaking, a small one, and visitors very few. In fact it was a clear demonstration to the Council that neither exhibitors nor Fellows appreciate a show the day after a Bank Holiday.

FLORAL COMMITTEE.

A large and varied display of flowering and other shrubs came from Messrs. J. Cheal and Sons, Crawley, with a few decorative roses. Fine bunches of each kind were arranged in vases. A few of the most striking were Tamarix odessana, Weigela Eva Rathke, Hydrangea arborea alba grandiflora, and Genista tinctoria, while the roses, arranged in bamboo stands, included good examples of Crimson Rambler, Blush Rambler, Dorothy Perkins, Hiawatha, Minnehaha, and Lady Godiva.

Mr. Wilkinson, gardener to Sir D. Gooch, Bart., Hylands Park, Chelmsford, staged a table of Malmaison carnations arranged among ferns. The flowers were fine, and included the following varieties in quantity: H. J. Jones, Calypso, Princess of Wales, Lady Audley Nield, Duchess of Westminster, Lancelot, and Aurora; the exhibit was flanked on either side with a few groups of the perpetual varieties.

Messrs. Kelway and Son, Langport, occupied an entire table with an exhibit of gladioli. The spikes were in fine condition, and were nicely displayed. A few of the most prominent were Marquis of Bath, W. Newcombe, Countess of Limerick, Donatus, Princess Victoria, and Duchess of Norfolk.

A large and brilliant display of hardy flowers was made by Messrs. G. Bunyard and Co., Lim., Maidstone. The flowers were [illegible] arranged in large masses. The spiræas were quite a feature, and extensively staged, while Platycodon Mariesi and its white form were striking, as were also the collection of phloxes, in which were noted Iris, Starlight, Fiancee, White Perfection, Countess of Shrewsbury, and Adonis. Gladioli, Senecio clivorum, pentstemons, and statices were also predominant.

Carnations were a feature of the show; the group from Mr. James Douglas, Great Bookham, contained many fine varieties, which were lightly arranged with their own foliage. The best were Robert Bruce, Splendour, Lady Roscoe, Mrs. G. Marshall, Harlequin, Nomad, Brigadier, Delicia, Daffodil, and Miss Ellis.

Messrs. G. and A. Clark, Lim., Dover, had a fine table of border carnations which had not been disbudded in any way, and gave one an idea of their natural appearance on the plants. A few of the best were Mrs. J. Arkcoll, Fire King, Lady Northcliffe, Mrs. Thomas Moreton, Grenadier, Roy Morris, Bay, and Mrs. Hayward.

Hardy flowers from Mr. G. Reuthe, Hardy Plant Nursery, Keston, were very good, the alstrœmerias, coreopsis, gaillardias, and spiræas being in good form, while a few alpine plants formed a good edging to the exhibit.

Messrs. H. B. May and Sons, Upper Edmonton, had a large miscellaneous exhibit, which included well-grown campanulas in variety, abutilons, and lapagerias, both alba and rosea. The ixoras included well-flowered plants of I. aurantiaca, I. Fraseri, I. Westi, and I. Williamsi. These, with a variety of ferns, palms, and other decorative plants, made a pleasing display.

A group of spiræas from Mr. Charles Turner, Slough, attracted much attention, for they were in such variety and fine condition. A few of the finest were S. Bumalda, S. Fontenaysi alba, S. Froebelli, S. Nobleana, S. sobrifolia, S. callosa, and S. c. alba.

Messrs. H. Cannell and Sons, Swanley, were represented by bunches of the American Pillar rose, which was in fine condition.

Messrs. Blackmore and Langdon, Twerton Hill Nursery, Bath, staged a nice collection of border carnations, which were large and bright, some of the best being Mrs. Nicholson, Twerton Clove, Richness, Mandarin, Merlin, Fiery Furnace, and Mrs. W. H. Taylor. A group of carnations in pots came from Mr. C. Turner, Slough. The plants were in fine condition, and the flowers well grown; especially good were Ethel, Sunbeam, Bendigo, Lady Desborough, Ladybird, Amphion, R. D. Rowbery, and John Pope.

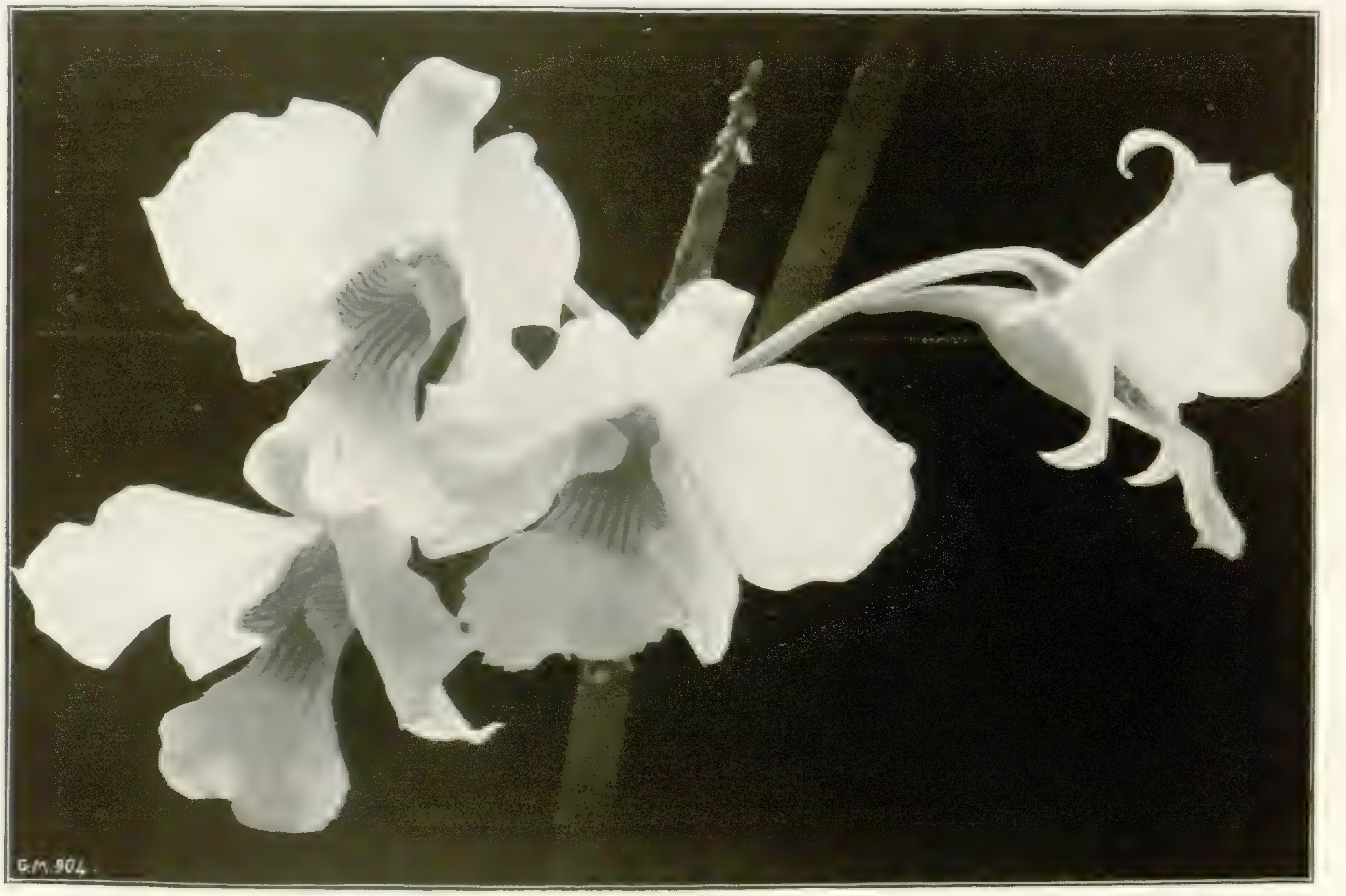
Messrs. James Veitch and Sons, Lim., Chelsea, staged an enormous collection of seedling gloxinias, arranged in groups of colour. The strain is undoubtedly a very fine one, and included all the colours known in this flower; the spotted varieties, too, were equally striking.

From Mr. Charles Blick, Hayes, Kent, came a large collection of carnations, tastefully arranged in vases with their own foliage. Needless to add, they were all quite up to Mr. Blick's fine form. Some of the most striking were George Moreland, Silver Fox, Peter Pan, The Skipper, Mohawk, Agnes, Her Majesty, and Linkman.

Mr. Amos Perry, Hardy Plant Farm, Enfield, arranged a fine group of spiræas on the floor of the hall, large quantities of each kind being utilised in every case. The most prominent were S. venusta magnifica, S. gigantea elegans, S. v. carnea, S. palmata alba, S. gigantea delicata, S. v. Fairy, and a few astilbes in variety, the whole forming a most striking exhibit.

Mr. James Hudson, gardener to Leopold de Rothschild, Esq., Gunnersbury, arranged a group of aquatic and waterside plants, which amply illustrated the lecture on the subject given during the afternoon by Mr. F. W. Moore. Tall reeds and grasses occupied the background, while the water plants were represented by a fine collection of nympheas, the majority of which opened during the day, and included large pans of Nymphæa Froebelli, N. Gloriosa, N. W. Falconer, N. James Brydon, N. colossea, N. ignea, N. stellata Berlin variety, N. Hudsoniana, and N. stellata.

A glorious bank of roses came from Messrs. R. Harkness and Co., Hitchin. At the back there were bamboo stands filled with such varieties as Edward Meyer, Hugh Dickson, in grand form, Dean Hole, Lady Faire, Madame Ravary, Frau Karl Druschki, and Mrs. T. Roosevelt, while in the boxes and vases were capital examples of Duke of Edin-



DENDROBIUM SANDERÆ.

F.C.C., R.H.S., August 3; Messrs. Sander and Sons, St. Albans. Flowers, pale blush-pink with yellow marks in the throat.

burgh, Madame Jules Gravereaux, Dean Hole, Caroline Testout, Mrs. J. Laing, Mildred Grant, Bessie Brown, and a number of decorative varieties.

ORCHID COMMITTEE.

Mr. McBean, Cooksbridge, sent a few odontoglossums, which were very fine, some of the spikes carrying very large solid flowers, while the plants were in the rudest of health. From Messrs. Sander and Son, St. Albans, came a small choice group, in which were noted Vanda cœrulea var. Rex, beautiful in colour and form, Odontioda Devoniana, Lycaste formosa, Lælio-cattleya Pluto, L.-c. Antigone, and the fine new blush-coloured Dendrobium Sanderæ (F.C.C.).

Mr. J. Collier, gardener to Sir J. Coleman, Bart., Gatton Park, Reigate, staged a group of very interesting orchids, such as Masdevallia infracta purpurea, Pachystoma Thomsoni, Sobralia xantholeuca—Veitchi, a beautifully-flowered plant, and Odontioda Bradshawiæ.

Mr. M. Mertens, Mont St. Amand, Ghent, staged a few hybrid odontoglossums, which included some fine spotted forms. From Messrs. Stuart Low and Co. came a small but choice collection, in which were noted Dendrobium sanguinolentum, Oncidium abortivum, O. Krameri, a fine form, Epidendrum trachychilum, and a large variety of quaint forms, chiefly of botanical interest. Mr. J. W. Black, gardener to R. G. Thwaites, Esq., Chessington, Streatham, sent specimens of Odontioda Thwaitesi, a cross between Cochlioda vulcanica and Odontoglossum Harryana. Messrs. Charlesworth and Co., Haywards Heath, staged a small collection of choice plants; Oncidium trulliferum, Catasetum Bungerothi, Chysis lævis, and the quaint Octomeria diaphana being chiefly conspicuous.

Mr. F. J. Hanbury, Brockhurst, East Grinstead, exhibited Cattleya Macænas Brockhurst var., Cattleya Maronaurea, a cross between C. Maroni and C. aurea, also Brassocattleya Joan, a cross between B. Perrini and C. gigas.

FRUIT AND VEGETABLE COMMITTEE.

Messrs. James Veitch and Sons, Lim., Chelsea, occupied an entire table with a grand exhibit of gooseberries. Trained cordons, literally loaded with fruit, formed the background, while the table was loaded with baskets of luscious berries. The finest examples in the red varieties were Beauty, Dan's Mistake, Clayton, Keen's Seedling, London, Lord Derby, Lion's Provider, Lancashire Lad, and Speedwell. In the yellow varieties the most prominent were Langley Beauty, Golden Gem, High Sheriff, Pretty Boy, Railway, Pilot, Tiger, Prince Arthur, and Broom Girl. The best green varieties were Pet, Clifton, Overall, Matchless, Gretna Green, and Green London. The white varieties included fine examples of Langley Gage, White Champagne, Surprise, Transparent, Antagonist, and Careless. A truly fine collection of over one hundred varieties. It will be seen that the collection not only contained the Lancashire varieties, but also the majority of the commercial kinds.

A collection of lettuces came from the Wisley Gardens, and attracted much attention. The best were Stuttgart, Danerhopf, Heartwell, and Giant in the cabbage section, while the most noteworthy in the Cos varieties were Paris Early, Emerald Queen, Covent Garden, Summer White, and Baldwin. Messrs. J. K. King and Sons, Coggeshall, sent a fine collection of culinary peas, which were just in their best condition. A few of the most distinct were Lord Kitchener, Caractacus, Witham Wonder, Alderman, Essex Star, Moneymaker, and Dreadnought.

Mr. James Harris, Blackpill Nurseries, W. Swansea, had a small exhibit of Lady Llewelyn potato, a very fine kidney.

From Messrs. S. Spooner and Sons came a small collection of fruit, which included baskets of well-coloured apples Red Astrachan, Mr. Gladstone, and Red Margaret, also a box of good Morello cherries.

The competition for eighteen dishes of gooseberries, distinct, did not attract much attention from the growers, for the only exhibitors were Messrs. James Salisbury and Sons, The Shaw, Melbourne, Derby, who staged splendid examples of the following varieties: Lord Leigh, Shiner, Mount Pleasant, Surprise, High Sheriff, Norden Hero, Dan's Mistake, Thatcher, Princess Royal, Lord Derby, Lady Houghton, Transparent, Pretender, London, Stockwell, Favonius, Falstaff, and Fascination.

In the smaller class for six dishes, distinct, we had again one exhibitor, Mr. M. Webster, gardener to E. J. Preston, Esq., Kelsey Park, Beckenham, who staged some fine berries in the following sorts: Bobby, Fearless, Lancashire Lad, High Sheriff, Dan's Mistake, and Whinham's Industry.

MEDALS.

Gold Medal.—To Messrs. James Veitch and Sons, Lim., Chelsea, for gooseberries.

Silver-Gilt Flora.—To Messrs. Kelway and Sons, for gladioli.

Silver-Gilt Banksian.—To Mr. Chas. Blick, Hayes, for carnations; to Messrs. G. Bunyard and Co., Maidstone, for hardy flowers; to Messrs. H. B. May and Sons, Upper Edmonton, for flowering plants and ferns; to Mr. C. Turner, Slough, for carnations and spiræas.

Silver Flora Medal.—To Mr. James Hudson, Gunnersbury House, for water plants; to Mr. Amos Perry, Enfield, for spiræas; to Messrs. Sander and Sons, St. Albans, for orchids.

Silver Banksian Medal.—To Messrs. Stuart Low and Co., Bush Hill Park, for orchids; to Messrs. J. Cheal and Sons, Crawley, for roses and shrubs; to Mr. James Douglas, Great Bookham, for carnations; to Messrs. Harkness and Co., Hitchin, for roses; to Mr. G. Reuthe, Keston, for hardy plants.

AWARDS.

First-Class Certificate. — To Dendrobium Sanderæ, from Messrs. Sander and Sons, St. Albans.

Award of Merit.—To melon Barnet Hill Favourite, from Mr. A. Mitchelson, Wonersh, Guildford; to Galega Hartlandi, from The Royal Horticultural Gardens, Wisley; to Spiræa venusta magnifica, from Mr. A. Perry, Enfield; to Carnation Fiery Furnace, from Messrs. Blackmore and Langdon, Bath; to Tunica saxifraga alba plena, from Messrs. Bakers, Codsall; to Carnation Jupiter, from Mr. Charles Blick, Hayes; to Carnation Elizabeth Shiffner, from Mr. J. Douglas; to Carnation King of Spain, from Mr. J. Douglas, Great Bookham; to Nymphæa Earl of Warwick, from Mr. A. Lister, Dunmow; to Gloxinias, Veitch's Strain, from Messrs. James Veitch and Sons, Chelsea; to Cattleya Warscewiczi var. C. Waters Butler, from Mr. Waters Butler, Birmingham.

Handsworth Horticultural Society.

JULY 23 and 24.

The twenty-fifth annual exhibition was held in the public park, and proved a great success, but the boisterous weather raised fears for the safety of the marquees and the exhibits. Fortunately, however, the only damage was the splitting of the roof of the tent containing Messrs. Cypher and Sons' fine specimen stove and greenhouse plants, and the mishap was quickly repaired with a large canvas. The exhibition was opened by Sir Henry Wiggin, Bart., and Lady Wiggin.

There were four contestants in the class for a group of plants arranged for effect, and Messrs. J. Cypher and Sons won the silver challenge cup outright (third time in succession), including the first prize of £20. The tout ensemble of the ornamental foliage plants, orchids, tall lilies in variety, and other charming plants was one of the best created by the Cheltenham firm. Mr. J. V. Macdonald, gardener to the Lord Mayor of Birmingham (Sir George H. Kenrick), Whetstone, Edgbaston, was a very close second, his beautiful and elegant Fuchsia triphylla, with its coral-red inflorescence, giving the group an uncommonly striking effect. The third prize fell to Mr. W. Vause, Leamington; and the fourth to Mr. W. R. Manning, Dudley. In the class for twelve stove and greenhouse plants, not less than six in bloom, Messrs. J. Cypher and Sons were easily to the fore with a fine Statice Gilberti and a superb Ixora Shawi, a fine bright orange-scarlet variety; grand plants of Statice intermedia, Rondeletia speciosa, Bougainvilleas Sanderiana and glabra, Clerodendron Balfouri, Chironia ixifera, Allamandas Hendersoni and nobilis, Ixora Pilgrimi, and a tall Kentia Fosteriana. Mr. Vause came second.

Roses, though not numerous, were notable for their high quality. In the class for twenty-four varieties, distinct, Messrs. Perkins and Sons, Coventry, led with a very uniform lot, the best flowers being Chedane Guinoisseau, Lyon Rose, Earl of Warwick, Queen of Spain, Joseph Hill, and Charles J. Grahame; Mr. F. Dennison, Leamington, second; and Messrs. R. Harkness and Co., Hitchin, third.

For twelve varieties, distinct, Mr. A. Allan, Handsworth, secured first honours with an excellent set; Messrs. Perkins, second; and Mr. W. T. Mattock, Oxford, third. For twelve tea roses, Mr. George Prince, Mr. W. T. Mattock, and Messrs. J. Townsend and Sons were the respective winners, and for twelve bunches of garden roses the same winners were placed in the order named.

Ladies' table decorations were an attractive feature, the principal winners being Miss A. Clarke, Sparkbrook; Mrs. S. Rose, Bearwood; and Miss E. A. Boston, Hamstead Hall, Handsworth. For an epergne of flowers Miss E. Lymonds, Mrs. S. Rose, and Miss M. L. Deakin, Hay Hall, were the respective winners. For a hand bouquet Mrs. T. Burn and Mrs. S. Rose were placed as named.

Sweet peas were excellently represented, and for these special prizes were offered. Messrs. R. Sydenham, Lim., provided substantial prizes for twelve distinct varieties. Mr. Charles Holder, New Oscott, won the premier prize with a very fine lot; Mr. T. Parry, Warwick, second; and Mr. Thomas Perks, gardener to J. Boston, Esq., Hamstead Hall, third. In competition for Messrs. W. H. Simpson and Son's prizes for nine varieties Mr. Charles Holder, New Oscott, was to the fore with fine examples; Mrs. H. Walksman, Wolverhampton, second; and Mr. H. Davis, Stourbridge, third. For Messrs. Webb and Sons' prizes Mr. Charles Holder, Mr. H. Davis, and Dr. Quirks, Engwood Hall, were the respective winners.

Fruit in the first division was sparsely shown, because no prizes were offered except for grapes. There were two exhibitors; Mr. T. H. Goodacre, Elvaston Castle Gardens, with very good Muscats of Alexandria and Gros Maroc (three bunches of each variety), was placed first; and Mr. T. Bannerman, gardener to Lord Bagot, Blithfield Hall, Rugeley, was second with well-finished berries and large bunches of Black Hambro', Muscat of Alexandria, and Alicante.

Vegetables afforded a promient feature throughout all the classes, and there were strong competitions for Messrs. Sutton's, Webb's, Simpson's, Yates', and Dennett's prizes.

The honorary exhibits naturally formed a very striking feature of the show, and a silver cup was awarded to Mr. G. Prince, Oxford, for a fine display of roses. Gold medals fell to Mr. J. Mattock, Oxford, for roses; to Messrs. W. H. Simpson and Sons, Birmingham, for sweet peas; and to Messrs. Hewitt and Co., Birmingham, for a tastefully arranged collection of border flowers. Silver-gilt medals to Messrs. Harkness and Co., Bedale; Mr. J. Simpson, Harborne, for shrubs; and Mr. E. Perrins, Handsworth. Silver medals to Miss S. S. Thompson, Handsworth, for a very choice and large collection of cacti; to Mr. T. B. Grove, Windley Nurseries, Erdington, for hardy flowers; and Mr. A. N. Brinsford for floral effects. Bronze medals to Mr. W. Chipman, Mr. A. Fenwick, and Mr. H. Masters. Mr. A. L. Pattison, Shrewsbury, was awarded a silver medal for violas, and Messrs. Bakers, Wolverhampton, a silver cup for a charming water garden.

Northampton Municipal Flower Show.

AUGUST 4 and 5.

For a long series of years Northampton enjoyed considerable fame for the great excellence of its annual exhibitions of the products of the garden, which were usually held in association with the August Bank Holiday. The numerous huge marquees were invariably filled to repletion with specimen plants from the stove and greenhouse, hardy flowers, roses, fruits, and vegetables, all of which were of the highest quality. To obtain honours at Northampton was regarded by those acquainted with the show as a proof of the exceptional skill of the exhibitors. Then for some reason, possibly a depletion of the funds by a succession of exhibitions held under unfavourable weather conditions, the society declined in vigour, and in the end the annual shows were discontinued, much to the regret of those who know how excellent was the work that had been accomplished. After an interval of ten or twelve years an endeavour has been made to revive the shows, but under conditions different from those which previously obtained. The old shows were held by a society that derived a large part of its income from annual subscribers, but the exhibition which has been held during the past week was carried out by a committee consisting of the members of the Town Council, with the Mayor of Northampton as the chairman. This body is assisted by an advisory committee, consisting chiefly of the leading gardeners in the district. A comprehensive schedule was provided, and in some of the classes the prizes were sufficiently liberal to ensure a brisk competition. Possibly a reduction in the number of classes with some increase in the prize-money would another year be a decided advantage. This is a point for the committee to consider, and, instead of discussing it further, we shall at once proceed to briefly refer to the leading features. The exhibition, although hardly up to our expectations, was of considerable extent, and contained much that represented cultural skill of a high order.

MESSRS. SUTTON AND SONS' LARGE AND TASTEFULLY ARRANGED DISPLAY OF VEGETABLES, MELONS, AND FLOWERS AT NORTHAMPTON.

GROUPS.

Groups arranged for effect had two classes provided for them, and, as the competition was remarkably keen in both, they formed the great feature of the competitive side of the show. In the larger of the two classes Mr. J. V. Macdonald, gardener to Sir George Kenrick, Whetston, Edgbaston, Birmingham, was first with a group equally remarkable for the high quality of the plants, and the taste evinced in their arrangement. Departing from the style usually adopted in exhibition groups, Mr. Macdonald had a bold mound in the centre, and a distinct bank at either end, the intervening space being filled in with quite dwarf plants. The central mound was surmounted by an elegant wide-spreading palm, and in clothing the sides the brightly-coloured Fuchsia triphylla was used with good effect. The two end banks were strong in crotons, which were finely proportioned and splendidly coloured. Mr. W. Vause, Leamington, was second with a bold arrangement, and Mr. Searle, gardener to the Marquis of Northampton, Castle Ashby, Northampton, was third with an effective arrangement, in which the blue and white forms of Campanula pyramidalis were used with much taste. In the second of the two group classes Mr. J. V. Macdonald was again first, and his arrangement was certainly not less beautiful than the one by which he obtained the premier position in the first of the two classes. Messrs. Thomas Perkins and Sons, Northampton, staged a large and remarkably beautiful group, not for competition.

HARDY CUT FLOWERS.

Hardy border flowers were well shown, and in the class for twelve kinds the competition was very strong. Mr. A. H. Searle occupied the premier position with large vases of finely-grown specimens; Messrs. Thomas Pecking and Son, 34, The Drapery, Northampton, staged for the second place smaller bunches, but the quality of the flowers was high; Mr. E. Palmer, Kettering, who occupied the third place, also had a good set of flowers. There was a small but attractive display of roses. Mr. H. Drew, Longworth, Faringdon, Berks, obtained premier honours for twenty-four varieties with a fine set of blooms, Avoca, J. B. Clark, and Dean Hole being particularly noteworthy: Messrs. W. and J. Brown, Peterborough, and Mr. W. T. Mattock, Headington, were second and third respectively. The blooms were uniformly high in quality in the class for twelve, and the awards were made in favour of Mr. H. Drew, Mr. E. Hicks, Wallingford, and Mr. W. T. Mattock. Tea-scented and noisette roses were shown in twelves, and the winning exhibits were from Mr. H. Drew, Mr. W. T. Mattock, and Messrs. W. and J. Brown, the prizes being awarded in the order of their names.

Sweet peas were fairly well represented, both as regards numbers and the quality of the flowers, but they fell somewhat short of expectations. In competition for the prizes for twenty-four vases, distinct, not more than eighteen spikes in each, Mr. S. Cole, gardener to Earl Spencer, Althorp Park, Northampton, was far in advance of the other competitors, and easily obtained premier honours. Especially noteworthy were the blooms of Miss Delia Spencer, Althorp White, Mrs. Hardcastle Sykes, Gladys Cole, Countess Spencer, Earl Spencer, Mabel Cole, J. C. Waud, and Lady Sarah Spencer; Mr. Cole had in his collection several promising seedlings. Mr. F. G. Bull occupied the second place, and Mr. A. H. Searle was third.

Carnations were admirably shown in the class for twelve vases, and the premier award was made to Mr. A. H. Searle, who staged splendidly developed blooms of the finest of the Malmaison and perpetual varieties.

There were numerous entries in the class provided for decorated dinner tables, but the arrangements did not display much originality or great taste. In one of the classes Mr. J. Goodman, Northampton, was first with an arrangement of sweet peas, and in the other Mr. W. T. Mattock obtained the premier position with a table on which buttonhole roses were used.

FRUIT AND VEGETABLES.

Fruit was hardly so plentiful as might have been expected, but the quality was surprisingly high throughout. Mr. A. H. Searle scored in the class for nine varieties with magnificent clusters of Madresfield Court and Muscat of Alexandria grapes, fine Lord Napier nectarines, and Royal George peaches, and good figs, apricots, cherries, and a well-ripened melon; Mr. S. Cole was second with a good collection. For six dishes the last-named exhibitor occupied the first place with produce of high quality, and Mr. A. H. Searle followed for second place. Mr. A. Child, gardener to A. H. Attenborough, Esq., Catesby House, Northampton, and Mr. A. H. Searle were first and second for two bunches of black grapes with well-coloured clusters of Black Hamburgh, and in the cor-

MESSRS. JAMES VEITCH AND SONS' GREAT DISPLAY OF FINELY-GROWN VEGETABLES AT NORTHAMPTON.

responding class for white grapes these exhibitors occupied the same relative positions with Buckland Sweetwater and Muscat of Alexandria. Peaches and nectarines were exceptionally good. Mr. Searle and Mr. Cole were first for six peaches with Royal George, and for nectarines Mr. Searle was first and Mr. Tipler, Hartwell House, Aylesbury, second.

Several classes were provided for collections of vegetables, and in that in which the society provided the prizes Mr. A. H. Searle had a capital collection, comprising potatoes, beet, onions, tomatoes, cauliflowers, carrots, peas, and scarlet runner beans in a high state of development. Mr. F. G. Bull, gardener to James Mansfield, Esq., Weston Favel House, Northampton, was a close second; and Mr. Silas Cole, gardener to Earl Spencer, Althorp Park, Northampton, was third, with produce of high quality. There were two competitors for the prizes offered by Messrs. Yarde and Co., and the first award was made in favour of Mr. A. H. Searle, and the second was made to Mr. S. Cole. Both exhibitors staged excellent produce. Mr. A. H. Searle was first also in Messrs. Sutton and Sons' class for six kinds, and Mr. F. G. Bull followed for second place. There were four collections of fruit and vegetables and flowers, grown by market gardeners and members of working men's clubs and village horticultural societies, and as they were all well staged they formed a noteworthy feature. The Kingsley Park Club obtained premier award with a remarkably fine display; the St. Giles' Street Club were second; and the Twentieth Century Club followed for third place, the last-named having too many flowers to show the vegetables to advantage.

NON-COMPETITIVE COLLECTIONS.

The collections not for competition were numerous and good, and contributed materially to the attractions of the exhibition.

From Messrs. Sutton and Sons, Reading, came a delightful arrangement, in which melons, vegetables, salading, and annual flowers were presented to public notice in their most attractive guise. The taste with which the Reading firm presents the products of the garden to public notice is well known, but on this occasion they surpassed themselves, and their collection constituted one of the most important and attractive features of the exhibition. Sweet peas, annual chrysanthemums, scabious, antirrhinums, lupins, gaillardias, and coreopsis were prominent among the flowers, the melons included finely-ripened fruits of the best of the many excellent varieties introduced by the firm, and the vegetables included a considerable number of the peas, tomatoes, cauliflowers, cucumbers, and runner and other beans that have been introduced by the firm.

Messrs. J. Veitch and Sons, Chelsea, exhibited a magnificent collection of vegetables, comprising upwards of sixty dishes of distinct varieties in the best possible condition. Prominent among the several varieties were Comet, Perfection, and Ham Green tomatoes, Sharpe's Express, Crimson Beauty, Royal Kidney, Windsor Castle, and Eightyfold potatoes, James' Scarlet, Intermediate, Early Nantes, and Matchless Scarlet carrots, Cheltenham Green Top and Improved Black beets, Giant Rocca, and White Italian onions, Early London, Early Giant, and Pearl cauliflowers, Custard, Long Green, and Bush vegetable marrows, Early Green and Purple Kohl Rabi, Prodigy pea, Superb White and Early Rose celery. The collection was not less remarkable for the taste with which it was staged than for the splendid quality of the produce, and it attracted much attention from the general body of visitors, as well as from the many cultivators present.

Messrs. John Perkins and Son, Market Square, Northampton, filled the centre of one of the large tents with cut flowers and plants. The former comprised border carnations, tastefully set up in vases with long stems; sweet peas, and roses. Messrs. Yarde and Co., Northampton, exhibited a large and attractive collection of sweet peas and hardy flowers.

Bishop's Waltham.

JULY 28.

The thirty-fifth annual show was held in Swanmore Park, by the kind permission of W. H. Myers, Esq., and, as on all occasions when the show is held here, the beautiful gardens and grounds were open to the public. The entries were more numerous than last year, but in the cottagers' section there was a distinct falling off, as compared with twenty years ago. The schedule contains thirty-seven classes for cottagers only, and cottagers may compete in the forty open classes also.

The feature of the show was the table decoration classes; £10 is offered in an open class, in three prizes. Eleven competed, making a handsome display, and the first prize was awarded to Mrs. Arthur Bide, Alma Nurseries, Farnham, for a delightful arrangement of Madame Abel Chatenay roses, with rose foliage, in a silver bowl centrepiece and small silver vases. Mr. R. H. Jeffery, Nursling, Southampton, was second with Gloriosa superba, lily of the valley, Francoa ramosa, and suitable greenery; Miss Hattie, Birch Lawn, Sholeing, third, with a charming arrangement of Iceland poppies. A class was provided for a table decorated with wild flowers, and this brought seven contestants. Miss Molyneux, Swanmore Farm, Bishop's Waltham, was distinctly ahead with scarlet poppies, wild camomile, docks, bramble leaves, hornbeam, and grasses; Miss E. G. MacLean, Jervis Lodge, Swanmore, second, also with poppies; Miss M. Luttrell, Curdridge, Botley, third, with scabious. Still another class was provided for lady members of the society, in which there were six competitors, and here Miss M. Luttrell won with pale blue delphiniums most charmingly arranged; Mrs. Humpage, Dell Cottage, Swanmore, second; and Miss Medlicott, Shedfield, third. Several vase classes were provided in the ladies' section, and Mrs. Humpage was first with delphiniums beautifully blended; in the open class Mr. Ellwood won with bougainvillea and Francoa ramosa, an effective combination.

Cut flowers were numerously shown, and for eighteen varieties, grown out of doors, Mr. C. English, gardener to H. A. Franklyn, Esq., New Place, Shedfield, was first with a thoroughly representative display. Mr. H. Childs, gardener to Mrs. Macrae, Meonstoke House, Bishop's Waltham, was second. For the prizes provided by Mr. B. Ladhams, Shirley Nurseries, Southampton, there was a keen competition; they were for twelve varieties, and Mr. Ellwood was distinctly ahead with huge sheaves of phlox, delphiniums, etc. Mr. Barnes, gardener to T. C. Wilson, Esq., The Thickets, Bishop's Waltham, second. For six bunches of annuals Mr. B. Peppler, Vernon Hill, Bishop's Waltham, was first with a fresh exhibit of desirable kinds. For six bunches of carnations, distinct, Mr. Reed, gardener to Miss M. B. Jones, The Grove, Exton, was first with an effective exhibit. Mr. Childs won for six cactus dahlias with really fine blooms.

For six bunches of roses (prizes provided by Messrs. Rogers and Son, Southampton), and for six ramblers, Mr. Ellwood, gardener to W. H. Myers, Esq., Swanmore Park, was first with good exhibits. For twelve bunches of sweet peas, distinct, E. C. Perin, Esq., M.D., Droxford, was first with a capital set of popular varieties; Mr. W. Cooper, gardener to Miss Gladstone, Hampton Hill, Swanmore, a good second. For twelve bunches (Eckford's prizes) Mr. Cooper led with a charming exhibit, and he was also first for Messrs. J. Carter and Co.'s prizes. Mr. Childs and Mr. Peppler followed in the order given. The last-named won the premier award in Mr. C. W. Breadmore's class for six bunches, followed by Mr. J. Keath, gardener to Sir Nowell Salmon, V.C., Curdridge Grange; Mr. B. Peppler third.

Fruit was well shown, and Mr. Ellwood won for six dishes, distinct, with handsome grapes, melon, peaches, nectarines, and cherries. For black grapes Mr. Ellwood was first with Black Hamburgh in prime condition.

For four kinds of fruits, grapes excluded, Mr. Childs won, and for four hardy kinds Mr. Barnes was first with a capital collection in which peaches were a prominent dish.

Vegetables were, as they always are here, good. In Messrs. Toogood's class for eight kinds, and in Messrs. Sutton's and Webb's class for six dishes, Mr. Ellwood was easily first. Mr. Barnes was second in the two former classes, and Mr. Childs second in Messrs. Webb's class. Mr. Cooper won Messrs. J. Carter and Co.'s prize for six dishes. Mr. Sherwood, gardener to T. H. Gillson, Esq., Swanmore Cottage, won for a collection of potatoes, six varieties, and for twelve tomatoes.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE.

At the recent meeting of this body there were present Mr. E. A. Bowles, M.A., F.L.S., F.E.S. (in the chair); Sir J. T. D. Llewelyn, Messrs. W. E. Ledger, J. T. Bennett-Poë, J. Fraser, C. E. Shea, and F. J. Chittenden (hon. secretary).

WATER LILIES DYING.—Mr. G. S. Saunders reported that he had examined the water lily rhizome sent to the last meeting, and had failed to find any organism present which would account for the death of the plants. He considered the water in which they were growing very foul. Some further material was referred to Mr. Saunders.

GALLS ON RHODODENDRON.—Galls similar to those frequently seen on R. ferrugineum, caused by the fungus Exobasidium rhododendri, were exhibited on behalf of Mr. Veitch, on Rhododendron Wilsonianum. The occurrence of these galls in succeeding years may be materially lessened by their removal before they acquire the white bloom which marks the time of spore formation.

LATE-FLOWERING RHODODENDRON.—Sir J. T. D. Llewelyn made some remarks upon a rhododendron now flowering at Wisley, which he considered to be a hybrid of R. Aucklandi or R. Fortunei. The bush always flowers at this season, and bears bunches of white flowers on long viscous peduncles subtended by deciduous bracts.

AGAPANTHUS UMBELLATUS BRANCHED. — Mr. Worthington Smith, F.L.S., sent one of two samples of a branched scape in agapanthus. Originally there were two branches, but the upper branch was accidentally knocked off; the remains of this are, however, quite distinct. In the umbel will be seen two buds on one pedicel. The growth is caused by the fasciation of scapes, one major and two minor. Whether this character will remain permanent or not is uncertain, as this is the first season of branching.

MALFORMATION IN HONEYSUCKLE.—Mr. J. Fraser showed specimens of Lonicera Periclymenum, Linn., as follows: Specimen A showed (1) cloranthy of the corolla; (2) cloranthy of the stamens; (3) anthers shortened, fleshy, basifixed instead of versatile, and do not open, filaments hirsute instead of being glabrous; (4) chloranthy of the pistil. Specimen B showed (1) chloranthy of the corolla; (2) petalody of three stamens, phyllody of the other two stamens, 2—3 lobed and glandular on both surfaces, like the back of the normal corolla; (3) phyllody of the pistil, the style and three carpels being separated nearly to the base. Specimen C showed a double honeysuckle, (1) chloranthy and shortening of the corolla; (2) petalody of the five stamens; (3) petalody of the pistil and duplication of the three carpels, the style of the three carpels being separated nearly to the base and then duplicated, hose-in-hose fashion; thus there are eleven supernumerary petals. In each case the malformation occurred on plants attacked by aphides.

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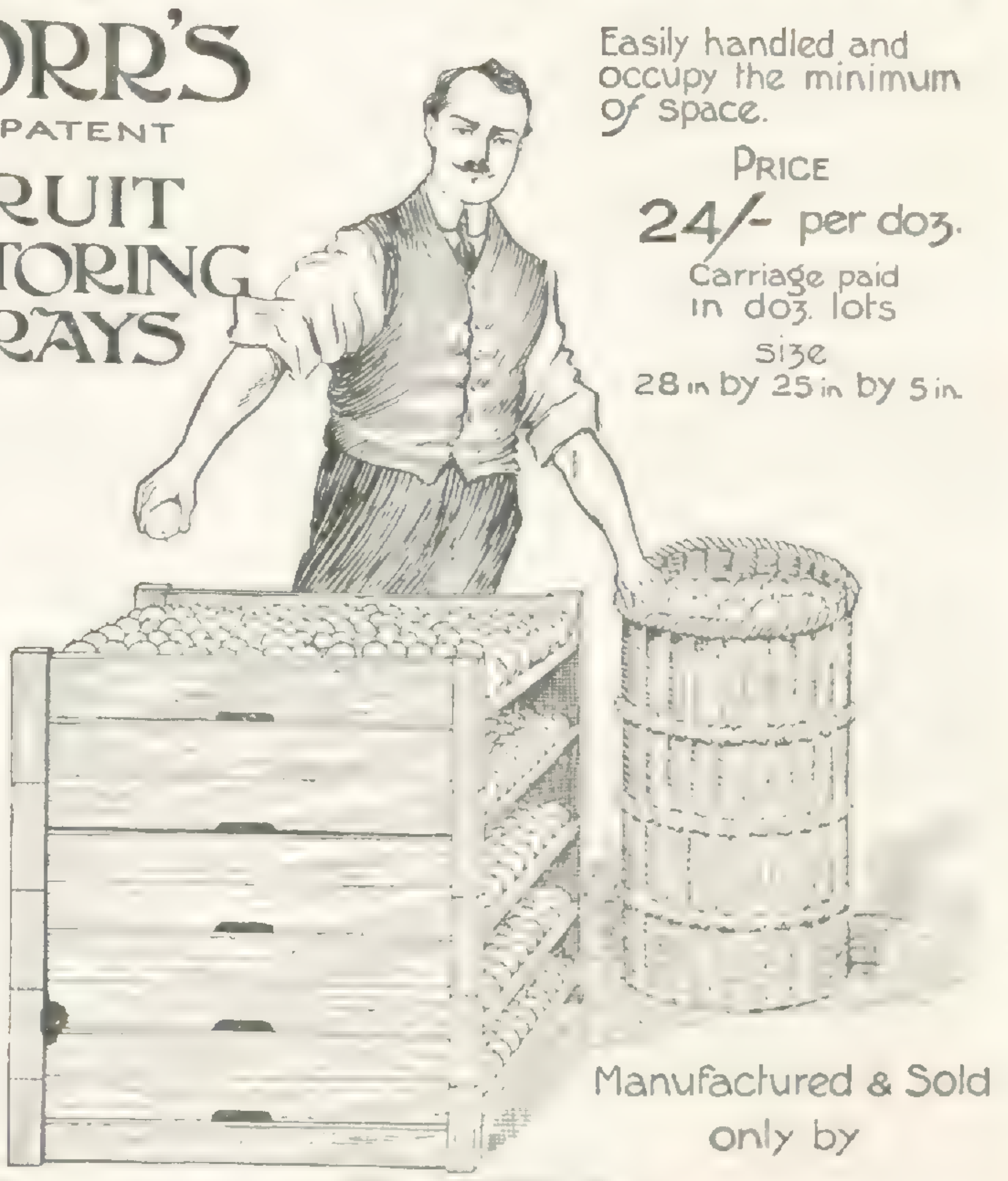

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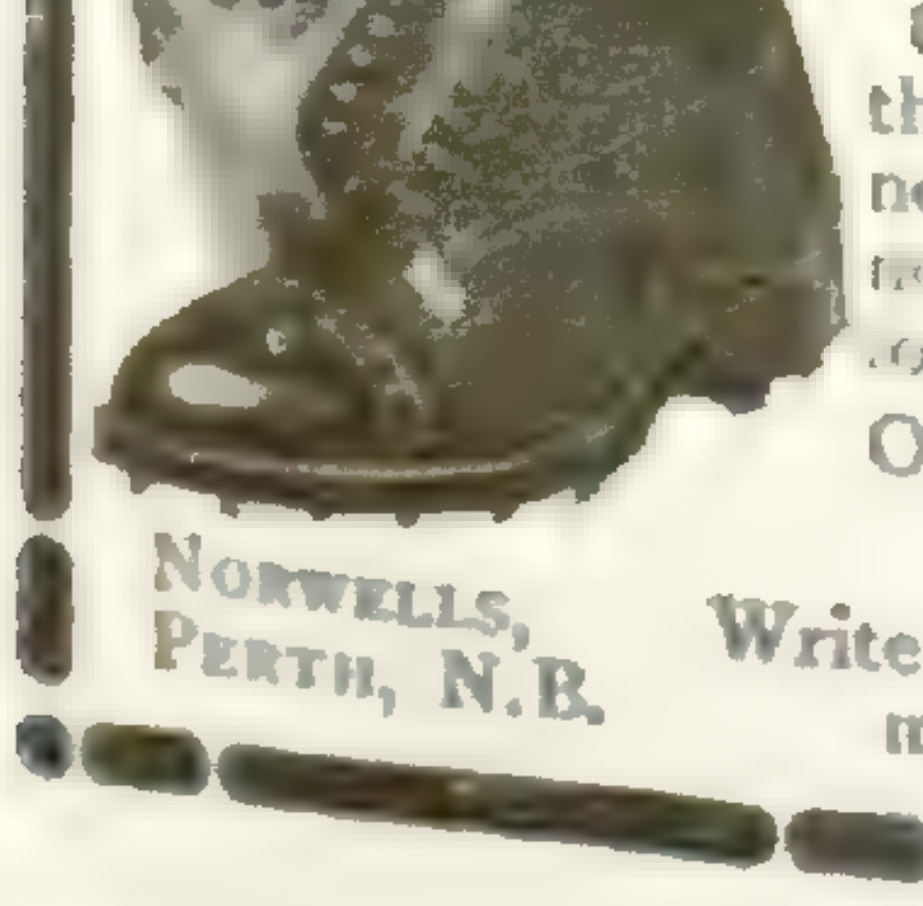

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Northumberland, Durham, and Newcastle.

The summer show of this society was held in the Recreation Grounds, Newcastle-on-Tyne, on July 28, 29, and 30, and was considered one of the finest that the society has ever held. The weather was favourable, and there was a large attendance.

In the large group class arranged for effect on a space 25ft. by 12ft., there were seven competitors, and these must have afforded the judges some little difficulty in arriving at their decision. Mr. J. S. Sharp, Valley Nursery, Huddersfield, was placed first; Mr. H. H. Hillier, second; and Messrs. Carnagie and Co., Newcastle-on-Tyne, third. For six plants in bloom the pitmen showed their usual large specimens of stove and greenhouse plants in perfection; Mr. J. Ellison, Cramlington, was first; Mr. R. Arthur, West Wylam, second; and Mr. J. Hunter, Hexham, third. For four specimen plants in bloom Mr. Ellison was again first, and Mr. Arthur second.

For a collection of sweet peas, twenty-four bunches, Mr. E. Keith, gardener to Sir G. O. Trevelyan, Cambo, Morpeth, led with a most praiseworthy exhibit, as not only were the flowers exceptionally fine and well staged, but most of the newer varieties were included; Mr. F. J. Bell, Whitley Bay, second; and Mr. W. S. Heslington, Little Thorp, Ripon, third. For forty-eight roses Messrs. R. Harkness and Co., Hitchin, were first; Mr. Hugh Dickson, Belfast, second; and Messrs. Gibson and Co., Bedale, third. For twenty-four roses Mr. Hugh Dickson was first, Messrs. R. Harkness and Co. second, and Messrs. Gibson and Co. third. For thirty-six roses, three blooms of each, Messrs. R. Harkness and Co., were first, and Mr. Hugh Dickson second. Messrs. Harkness and Co. and Mr. H. Dickson scored in most of the other rose classes.

Eighteen bunches of herbaceous and border flowers were well shown by Messrs. G. Gibson and Co., who were followed by Messrs. R. Harkness and Co., and Mr. G. Findlay. For the best collection of carnations, arranged for effect on a space 15ft. by 5ft., Mr. W. Lawrenson, Gallowgate, Newcastle, led; Mr. A. F. Dutton, Iver, Bucks, second; and Mr. W. Smith, gardener to the Earl of Durham, Lambton Castle, third, with a fine group of Malmaisons. In most of the decorative classes Mr. E. Edmondson was first, but the competition was very poor.

In the fruit classes, for eight dishes of fruit, black and white grapes allowed as separate kinds, Mr. J. C. McPherson, gardener to Lord Londesborough, Market Weighton, was first; Mr. W. Nicholls, gardener to Lady Beaumont, Charlton Towers, Yorks, second. For four dishes of fruit Mr. J. C. McPherson led, with Mr. W. Nicholls second. For four bunches of grapes Mr. J. C. McPherson was followed by Mr. J. R. Gardiner, gardener to Lady Cowell, Clifton Castle, Bedale. For white Muscat grapes Mr. J. C. McPherson scored, with Mr. W. Nicholls second, and Mr. G. Shotton, gardener to Mrs. H. F. Swan, Prudhoe Hall, third. The best two bunches of white grapes came from Mr. J. C. McPherson, and Black Hamburghs were best shown by Mr. G. Shotton. Mr. A. Woods, Beamish Park, scored for peaches, and Mr. W. Nicholls for nectarines.

CURE FOR MILDEW.

One ounce of Cyllin Soft Soap to a gallon of water is the surest remedy for mildew, green fly, and all forms of insect blight in the garden or greenhouse.

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Particulars from Manufacturers, JEYES' SANITARY COMPOUNDS CO., 64, Cannon Street, London, E.C.

Vegetables were good, and for a collection of nine kinds Mr. W. Nicholls led, Mr. E. Keith second, and Mr. T. H. Bolton, Powderham Castle, Devon, third. For the best collection of six kinds Mr. T. H. Bolton led, with Mr. E. Keith second. In another class Mr. E. Keith was first.

The following awards were made to trade exhibits: Gold medals to Messrs. Dicksons, Chester, for hardy flowers; Messrs. Sutton and Sons, Reading, for vegetables, fruit, and hardy flowers; Messrs. Forbes, Lim., Hawick, for pentstemons, phloxes, and carnations; and to Messrs. Dobbie and Co., Rothesay, for sweet peas, etc. Silver medals were awarded to Messrs. Clibrans, Mr. W. Lawrenson, Messrs. Stuart and Mein, Messrs. Storrie and Storrie, Glencarse (for fruit trees in pots), Messrs. Ord Brothers, North Shields; and to Mr. J. Douglas, Great Bookham, for new carnations.

Bournemouth Gardeners' Association.

The members of the Bournemouth and the Highcliffe Gardeners' Mutual Improvement Association drove in char-a-bancs on Tuesday, July 20, to Cuffnells Park, the charming new forest residence of R. G. Hargreaves, Esq., J.P., for their annual outing. Cuffnells Park is a very beautiful residence, situated in the midst of lovely forest surroundings. The mansion is built on high ground, and very charming views can be enjoyed from the terrace over undulating country. King George III., when on his way to Weymouth, stayed at Cuffnells House with the then owner, Mr. Rose. While there the conservatory was destroyed by fire, and His Majesty made Mr. Rose a present of the noble structure which now forms a part of the mansion.

Mr. Hargreaves is an enthusiastic plant lover, and is especially devoted to his trees and shrubs, which are, certainly, a very important feature of the pleasure grounds. A very fine tulip tree has attained a height of 102ft.; Pinus insignis and Wellingtonia gigantea, 110ft. A wonderful rhododendron, about one hundred years old, was originally brought from Highcliffe Castle, near Christchurch, Lord Bute's residence at that time. It is now a very large specimen. There are many self-sown seedlings of evergreen and deciduous trees, of which Mr. Hargreaves is taking care. The deciduous cyprus and the liquidambar do remarkably well here. A fine specimen of the Maltese rose fifty years old, grows against the front wall of the mansion. Edwardsia grandiflora, Rosa rubrifolia, the burning bush, Eucalyptus coccifera, and many kinds of rare trees seem to find a congenial home at Cuffnells Park. Near the mansion there is a lovely water lily pond, with an island near the centre, and a rosery backed by a semi-circular hedge of escallonia. Stone slabs form the paths between the rose beds and broad grass verges. After duly inspecting the pleasure grounds the party visited the kitchen and fruit gardens and the glass department. Mr. Hargreaves gave the members a hearty welcome, and was kind enough to personally conduct them round the pleasure grounds, taking much pains to describe the chief features. A very hearty vote of thanks was accorded both Mr. Hargreaves and Mr. Witt, his able and courteous gardener. The last-named was also the recipient of a silver-mounted walking-stick from the visitors in memory of the occasion of their visit. The day was beautifully fine.

LONDON POTATO MARKETS.

Old potatoes are practically over, and the market is well supplied by home-grown new ones.

		s.	d.	s.	d.
English, new	per bush.	2	0	3	0
Jersey, new	per cwt.	5	0	6	0
French, new	per cwt	5	0	5	9
Canary, new	per cwt.	4	9	7	0

ANSWERS TO CORRESPONDENTS.

PEACH TREES UNDER GLASS.—W. W. R., Andover.—It is the greatest possible mistake to allow peach trees to become neglected as soon as they have finished off a crop of fruits. If the soil is in any degree dry give the borders a good soaking, following this with a dose of liquid manure before the soil dries again. Having taken care of the roots proceed to clean the foliage by the use of weak insecticides, or, if these are not necessary, use the syringe or garden engine freely so as to keep the leaves clean and green for as long as possible. Admit abundance of air, and, if the roof is composed of movable lights these should be removed so as to expose the trees to light and air.

HARVESTING SHALLOTS.—A., Colchester: Lift the crop at once, and lay the bulbs on old mats in the sunshine, or, if the stage of a pit or greenhouse is available, lay the bulbs on this, where they will receive all the light and air possible.

MALMAISON CARNATIONS.—F. E. S., Scrooby: The plants you propose to grow on for another season should be potted at once. Take care that the ball of soil and roots is moderately moist at potting time. Use the very best loam, that has been stacked some time, and add sufficient sand to prevent it becoming sticky. A little soot may also be added with advantage, but it is better to apply this between the layers of loam when the latter is stacked. Pot firmly, water very carefully until new roots are formed, and keep the stock in a well-ventilated house. It will be a rather risky proceeding to stand newly-potted stock in the open this season, because of the continuous wet weather.

MUSHROOM SPAWN.—G. R. G., Towcester: A very common practice is that of breaking up a brick of spawn into eight pieces of equal size; it is rare that larger portions are used, but we have seen smaller pieces used successfully.

ROSE GALLS.—E. N., Leatherhead: The curious growths on the briar shoots sent are produced by the larvæ of Rhodites rosæ, a species of gall insects belonging to a very large family. The common name for this interesting and rather pretty production is Bedeguar Gall, and we have this year seen some very large specimens on briar shoots in Surrey, though very few on the growths of garden roses. The galls are rarely, if ever in sufficient quantity to be really dangerous to roses, and if the shoots carrying galls are cut and burned there is not likely to be any great outbreak the following season. If your troubles in rose culture are confined to the presence of a few bedeguar galls you have very little to complain of.

VARIEGATED ROSEMARY.—B. P. C., Buckleigh: Both the silver and the golden variegated rosemary are less hardy than the green-leaved form, and it is therefore advisable to plant them in specially sheltered positions, or give them the protection of a wall. Propagation may be effected by layering a few of the lower branches at once.

GOOSEBERRY MILDEW.—E. T. F., Hemel Hempstead: In the pamphlet issued some time ago by the Board of Agriculture it is laid down that all nurserymen and market gardeners who purchase gooseberry bushes or Ribes aureum (the stock upon which the standard gooseberry bush is worked), whether from abroad or from Ireland, or even from other growers in Great Britain, should observe the following precautions: (1) Only to purchase from those growers or dealers who are prepared to offer a guarantee that the plants they are selling are of their own growing, and that no case of American gooseberry mildew has ever appeared in their gardens or in the immediate neighbourhood, and that the said plants have not been near any gooseberry plants recently brought on to the seller's premises. (2) To plant such gooseberry bushes or stocks as they may buy or acquire from other premises than their own in a special part of their nursery or garden at some distance from other gooseberry bushes. (3) To destroy all plants found to be affected with the mildew, and to spray with Bordeaux mixture all others suspected of being infested, with the object of destroying any external mycelium or adhering spores that may be present. This should be carried out during the period when the disease is dormant. (4) To keep a careful watch on all gooseberry plants for any signs of mildew, and to report any appearance suggestive of the disease to the Secretary of the Board of Agriculture and Fisheries, 4, Whitehall Place, London, S.W., immediately it is detected. (5) To assist the Board in discovering any unreported cases of the disease.

LATE CARROTS.—S. J., Weston: If a sowing of a good short horn variety is made at once on a warm border, broadcast, you will be able to pull young tender carrots all through the winter. During very severe weather a little straw or bracken should be shaken over the bed, but no other protection is needed.

FLY ON CURRANTS.—A. R. P., Bolsover: Spray the bushes with a soapy solution of quassia or nicotine, first cutting away the points of any shoots that are badly infested and have been crippled by the fly. Spray twice, allowing an interval of four or five days, and follow, a few days after the last spraying, with a vigorous hosing or syringing with clear water.

NAMES OF PLANTS.

S. N. C., Cardiff.—1, Colutea arborea; 2, Kalmia latifolia; 3, Rubus deliciosus.

S. E. M., Teignmouth.—1, Edwardsia microphylla; 2, Fremontia californica.

P. B. J., Lewes.—1, Acalypha Macafeeana; 2, A. hispida; 3, Gloriosa superba; 4, Swainsonia galegifolia.

W. K. W., Chesterfield.—1, Odontoglossum blandum; 2, Clerodendron fallax; 3, Astrantia major; 4, Trachelium cœruleum.

W. B., Wycombe.—1, Gladiolus byzantinus; 2, Astrantia major; 3, a garden variety of Geum coccineum; 4, an erigeron, species not recognised.

E. I., Ross.—1, Curculigo recurvata; 2, Dianthus Heddewigi; 3, Plumbago capensis alba; 4, Streptosolon Jamesoni; 5, Saintpaulia ionantha.

S. N., Ryde.—1, Hypericum Moserianum; 2, Spiræa ariæfolia; 3, Viburnum lantana; 4, Linaria vulgaris; 5, Gypsophila paniculata; 6, Gunnera scabra.

T. C., Greenwich.—1, Lychnis Flos-Jovis; 2, not recognised; 3, Platycerium alcicorne; 4, a lælia or cattleya; 5, a cypripedium—send 4 and 5 when in bloom; 6, Selaginella Kraussiana.

FORTHCOMING ENGAGEMENTS.

MONDAY, August 9.—United Horticultural Benefit and Provident Society; Committee Meeting.
TUESDAY, August 10.—Royal Botanic Society's Anniversary Meeting.
Claycross Horticultural Society.
WEDNESDAY, August 11.—Chippenham Horticultural Society.
Taunton Deane Flower Show (two days).
East Anglian Horticultural Club Meeting.
THURSDAY, August 12.—Galashiels Horticultural Society.
Malmesbury Horticultural Society.
SATURDAY, August 14.—Kinellar Horticultural Association.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1909. JULY 25 TO JULY 31.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
July 25—Sunday	3 36	61	56	62	53
,, 26—Monday......	11 42	59	53	65	51
,, 27—Tuesday	0 12	59	56	62	49
,, 28—Wednesday .	9 48	59	55	68	56
,, 29—Thursday ...	3 30	61	57	68	54
,, 30—Friday..	2 54	61	59	67	58
,, 31—Saturday ...	9 0	66	62	74	57
Means	(total) 5 49	61	57	66	54

DATE. 1909. JULY 25 TO JULY 31.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
July 25—Sunday	0·04	60	61	59	47
,, 26—Monday... .	—	59	60	59	46
,, 27—Tuesday......	0·80	59	60	59	42
,, 28—Wednesday .	—	59	60	58	55
,, 29—Thursday ...	0.04	60	60	58	50
,, 30—Friday........	0.02	60	60	58	54
,, 31—Saturday ...	—	61	60	58	53
Means ...	(total) 0.90	60	60	58	49

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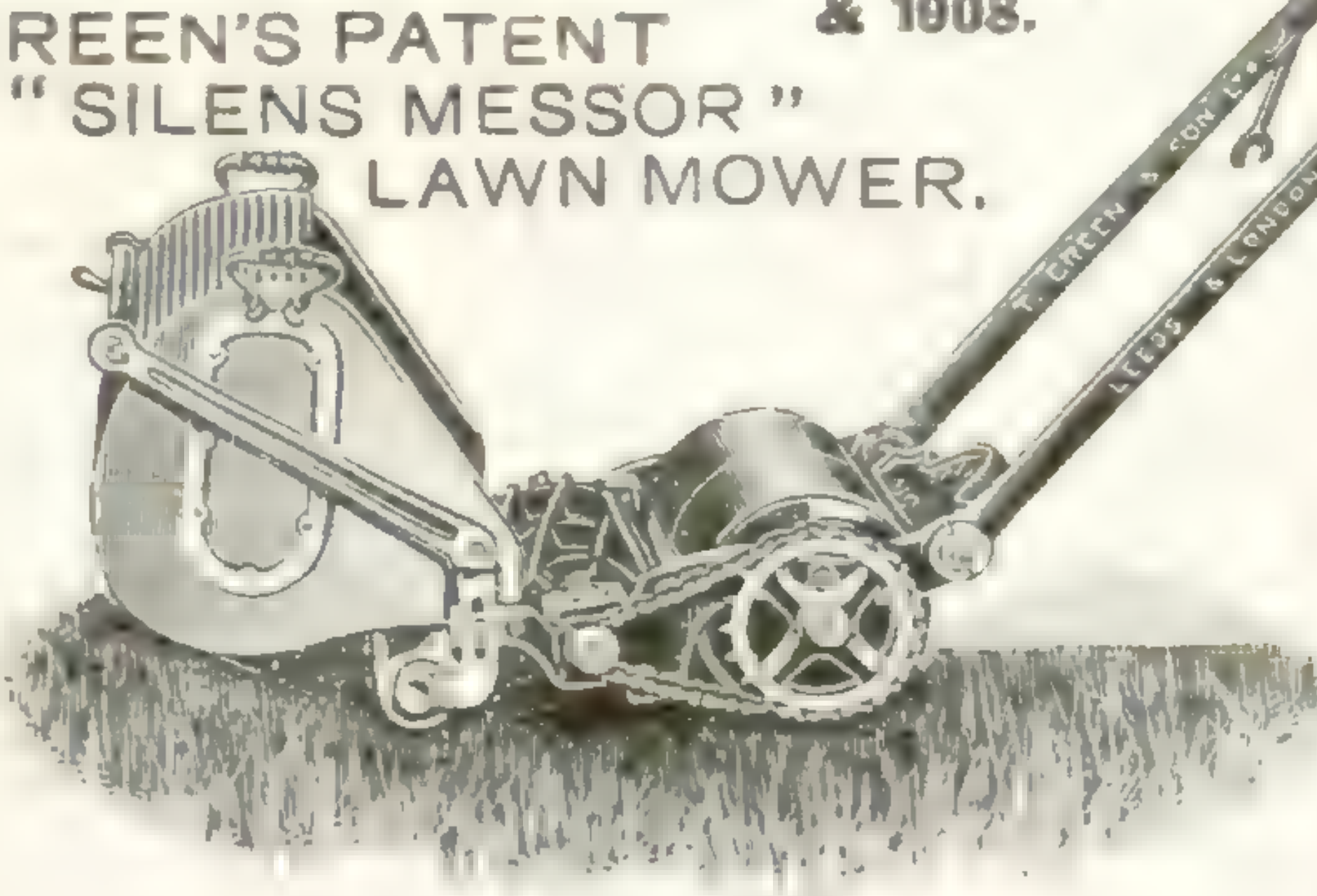

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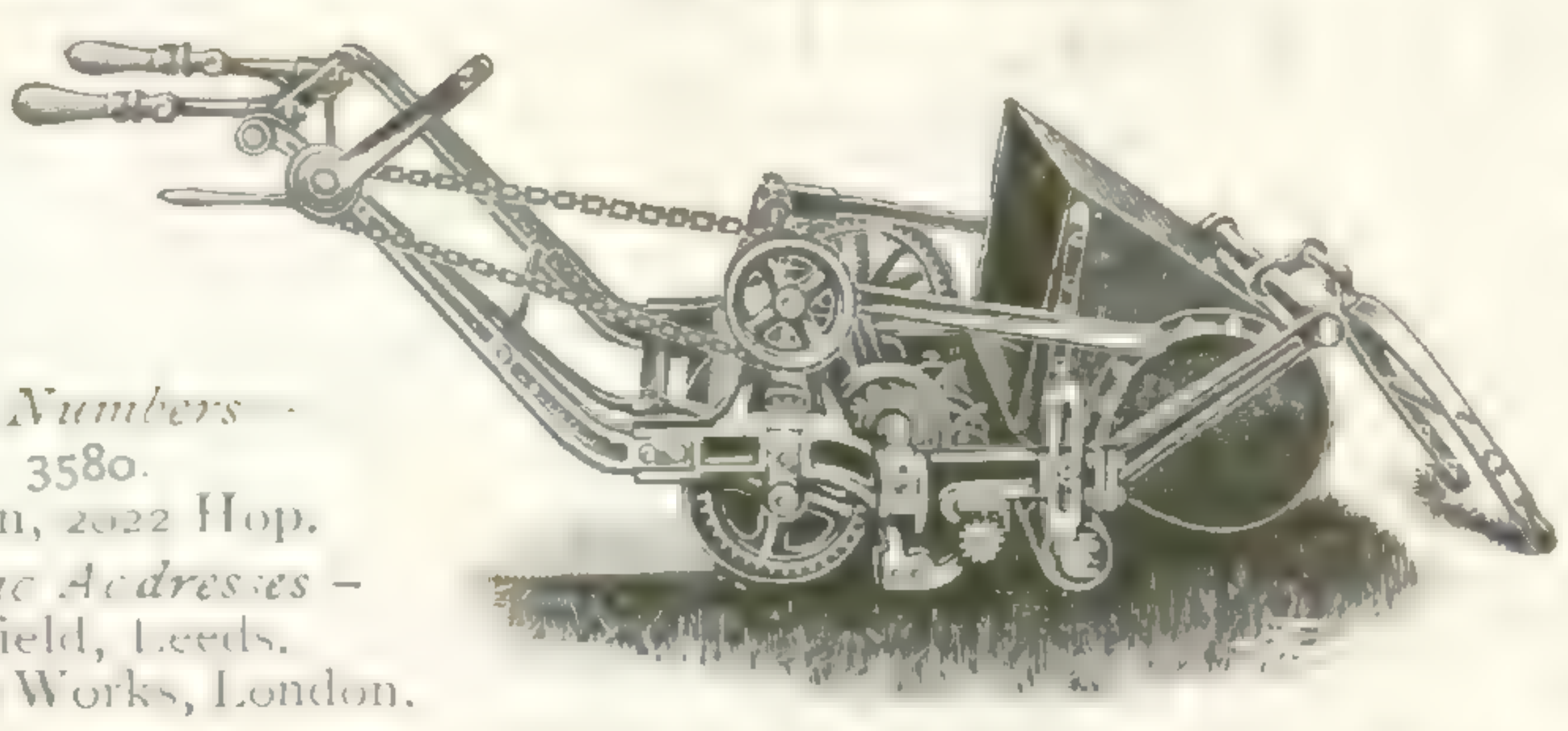

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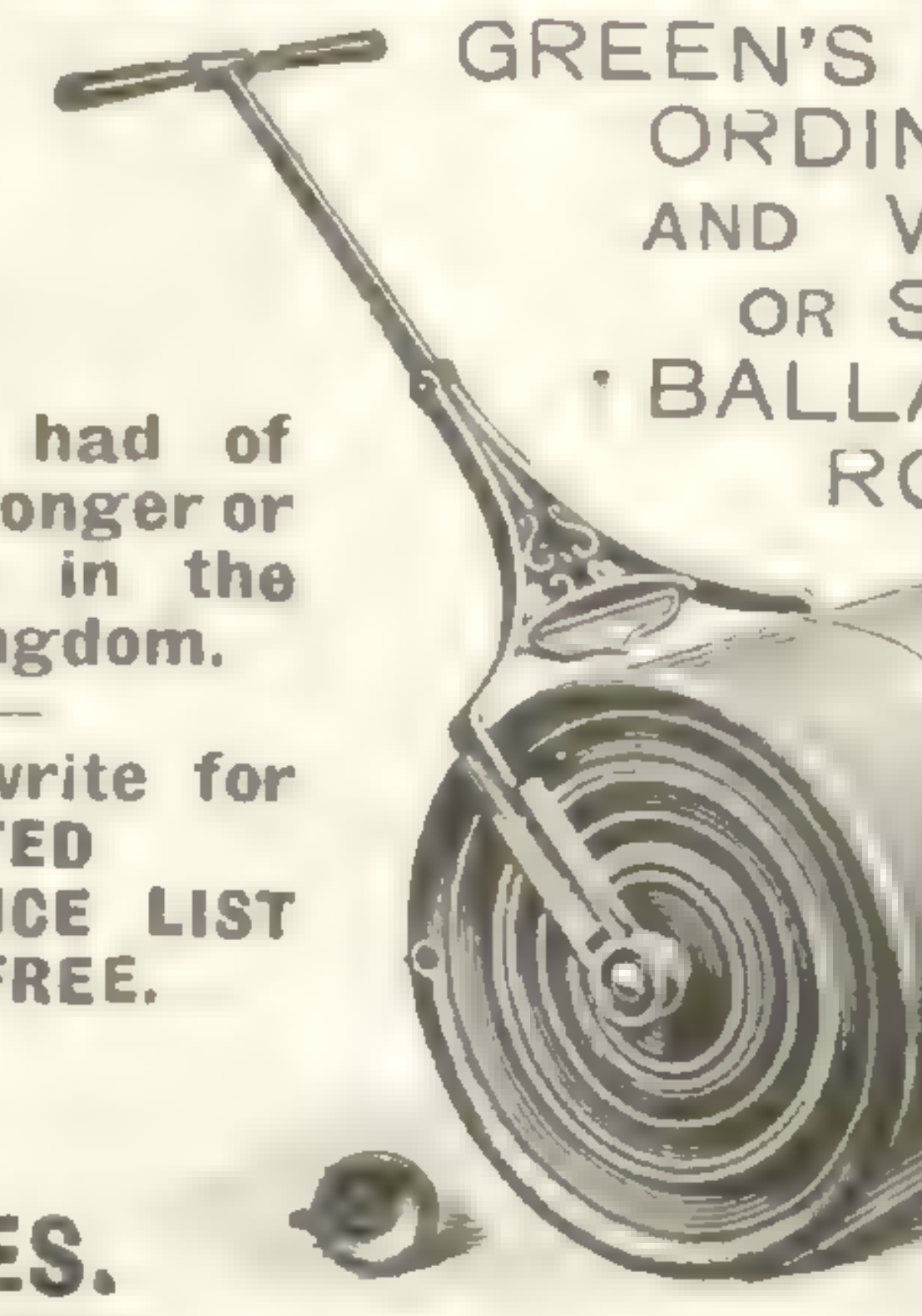

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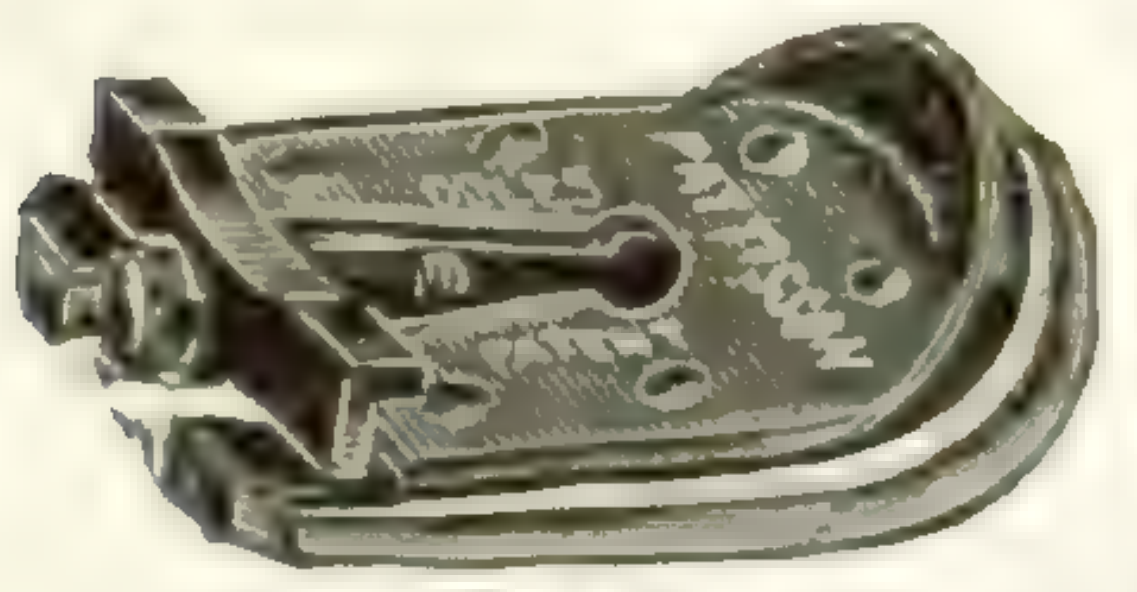

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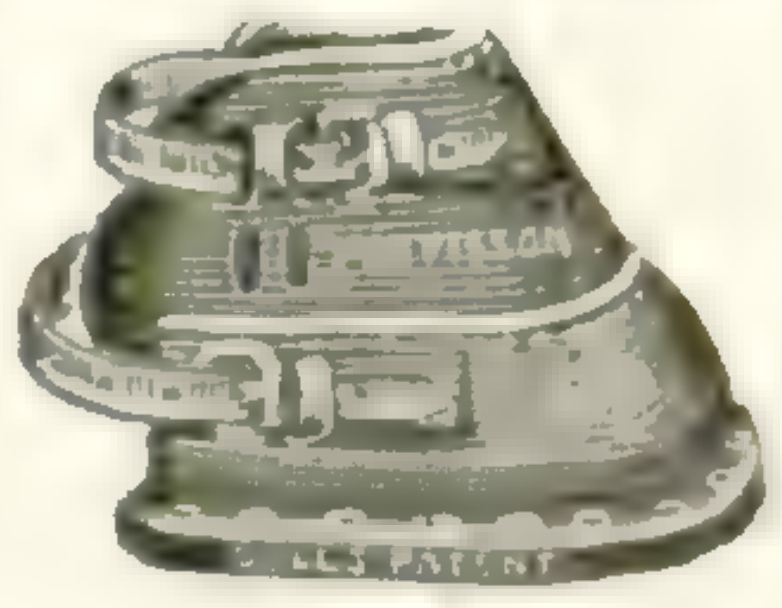

Fig. 2.

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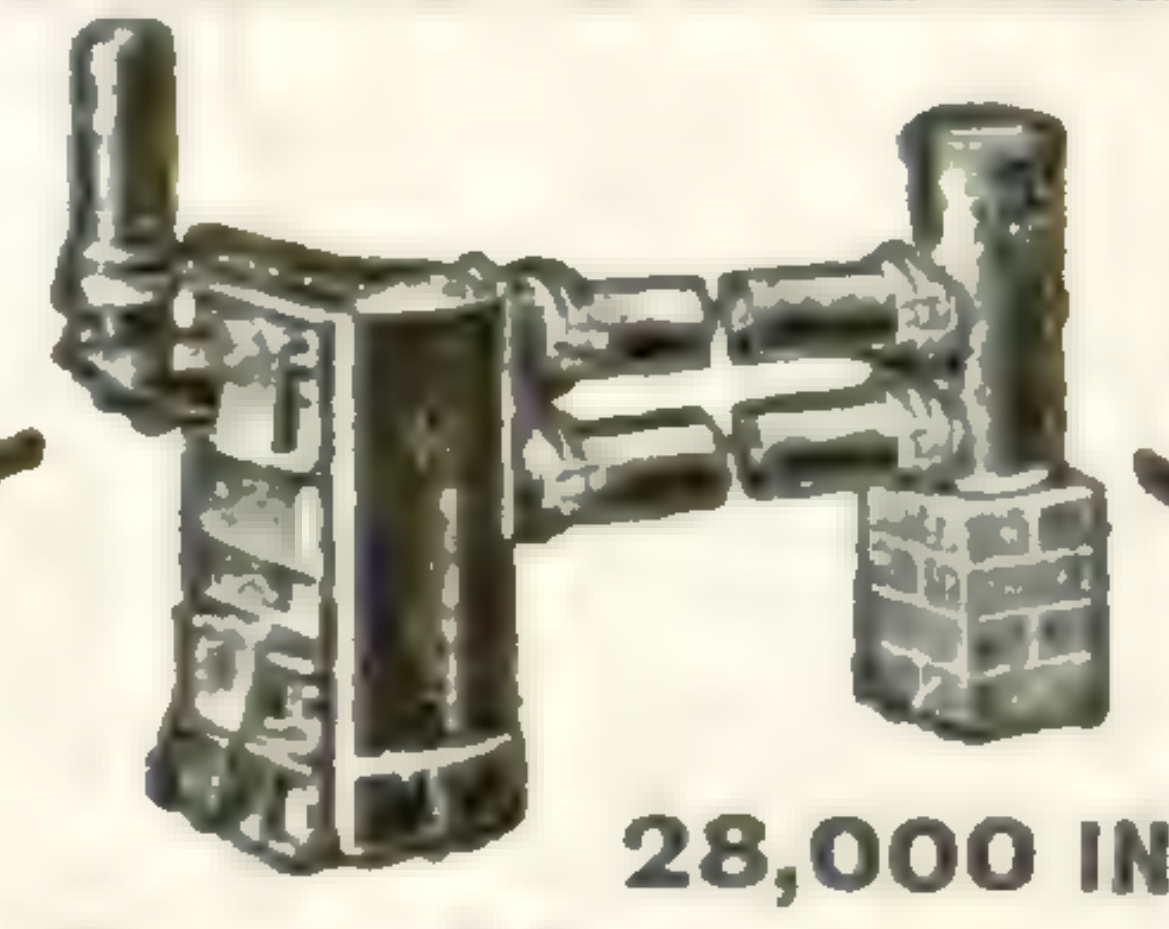

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The Gardeners' Magazine, August 14, 1909.

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MR. J. W. LITTLE will be pleased to recommend J. STEPTOE as SECOND (Inside and Out); thoroughly experienced in all branches; excellent references; abstainer; age 22. The Lodge, Hill House, Mitcham, Surrey.

GARDENER (French), steady, not afraid of work, seeks Situation in Private or Market Gardening; well up in French system Gardening, Fruit, etc.; age 30; single; excellent references; disengaged any time. M. E. FLIGITTER, Rock House, Penally, R.S.O.

GARDENER seeks SITUATION, age 26, single; fully experienced in Kitchen Gardening, Flowers, and Pleasure Grounds; good reference. Apply L. LOWNDS, Mayfield, Ashbourne, Derbyshire.

COL. T. WOOD can recommend his GARDENER as thoroughly capable, industrious, and steady, good Single-handed or Kitchen Gardener, Pleasure Grounds, etc.; married. GARDENER, Ramley, Lymington.

JOURNEYMAN (Inside), under Foreman in the Houses; age 20; good references; five years' (nearly) experience, Inside; 1¾ years Blithfield Hall, Rugeley. GRATION, Spellow Hill, Knaresboro'.

JOURNEYMAN (Inside), age 22; willing to learn Outside; leaving for improvement; 7 years' good reference at present place. H. HART, 10, East Street, Faversham, Kent.

MR. F. GREEN, Enville Gardens, Stourbridge, can thoroughly recommend W. SMALLMEN as JOURNEYMAN; age 24; good refs., large places. SMALLMAN, 109, Lower Thrift Street, Northampton.

MR. F. W. KEMP, Eastcourt House Gardens, Malmesbury, Wilts, can thoroughly recommend F. BUTLER as JOURNEYMAN, Inside and Out; age 23; 3 years here; abstainer; Bothy preferred. Apply as above.

GENTLEMAN wishes to recommend YOUNG MAN as UNDER GARDENER; 7 years' experience Inside and Out; age 22; good references. N., Red House Gardens, Heatherside, Camberley, Surrey.

AS IMPROVER, age 20, experience of Fruit Growing, Inside and Out, and Market Gardening; excellent references. J. R. A., 12, Pownall Gardens, Hounslow.

CARPENTER and JOINER, single, seeks SITUATION on Estate, or as House Carpenter; abstainer; excellent references; own tools. FEARN, Moseley Terrace, Rolleston, Burton-on-Trent.

GENERAL STOCKMAN on Gentleman's Estate; thoroughly experienced; good reference; age 30; steady. MERRY, New House Farm, Tedburn St. Mary, South Devon.

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GARDENER or GROOM-GARDENER seeks SITUATION; single; age 25; willing; experienced; good references. Apply BETHEL, Middlewich, Cheshire.

L. H. WACE can very highly recommend H. M. JONES for SITUATION on Market Garden or Private Gardens; well up in Fruit and Vegetables, Inside and Out, Poultry, Fruit Bottling and Preserving; abstainer; thoroughly reliable any place trust, or as IMPROVER.—Address L. H. WACE, Kingsland Lodge, Beaminster.

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T. MAYHEW, for the past 13 years STOKER and HANDY MAN to H. B. May and Sons, Millfield Nurseries, Upper Edmonton, seeks similar position. 125, Huxley Road, Edmonton.

WANTED, SITUATION as an IMPROVER, age 17½; strong and willing; has been in present situation four years; total abstainer. Bothy preferred. A. HYLAND, Woodlands, Ticehurst, Sussex.

YOUNG MAN, age 26, seeks SITUATION in Nursery; used to Chrysanthemums, Bedding stuff, and Bulb Forcing. Apply W. EISELE, 3, Oxford Road, Lower Edmonton, N.

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148 & 149, Aldersgate Street, London, E.C.

For AUGUST 21, 1909.

Please Repeat my Advertisement.

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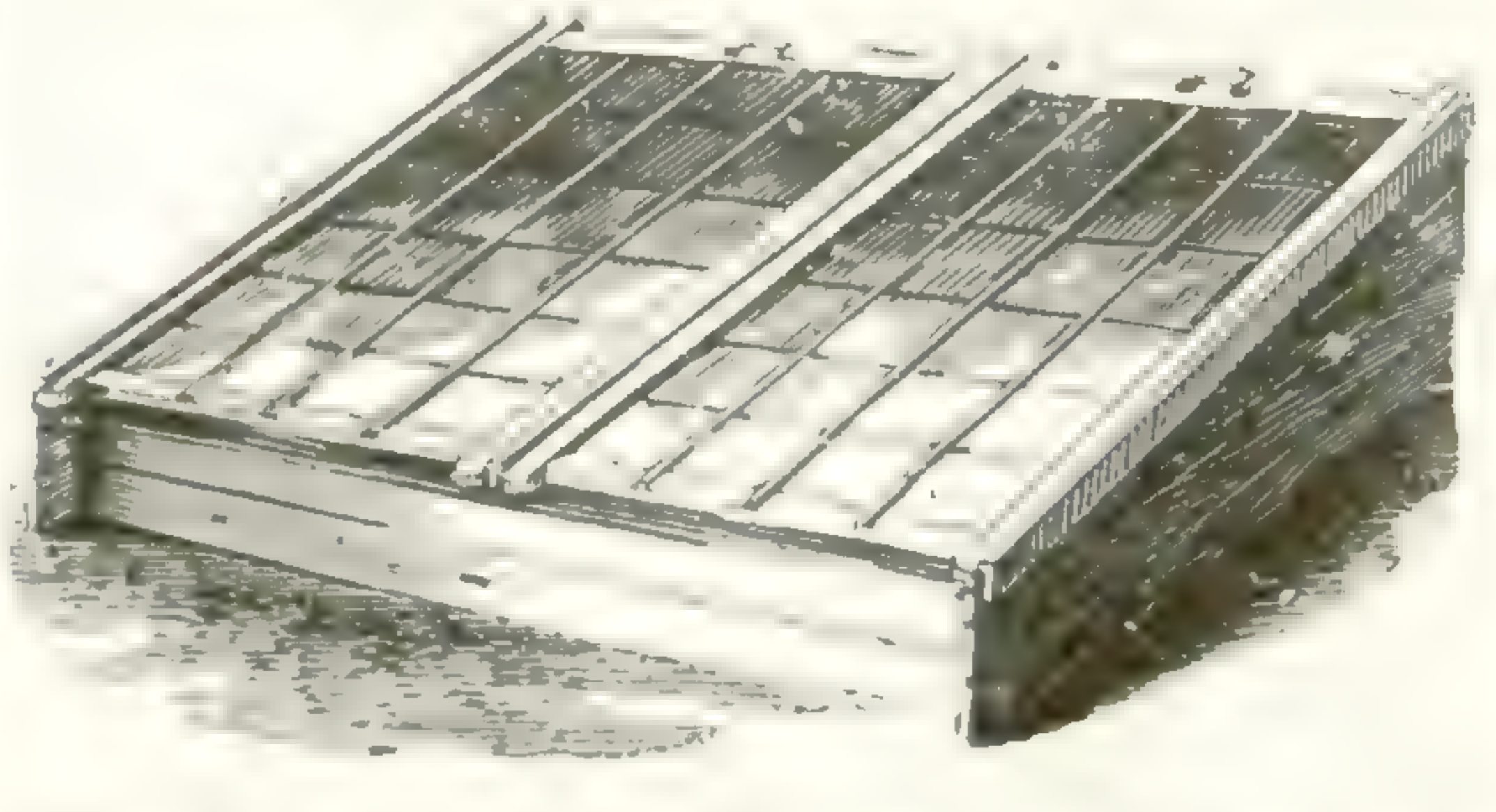

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Town Clerk.

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SPECIAL CONCENTRATED STRENGTH (1 to 80), 3 gall. drums, **14/6**; 6 gall. drums, **£1 8s.**; 12 galls. (in two 6 gall. drums), **£2 7s. 6d.**; 24 galls. (in four 6 gall. drums), **£4 10s.**

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In 5 gall. drums, charged half-cost, 9d. each, not returnable.

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STUART LOW & CO.,

Bush Hill Park, MIDDLESEX.

VOL. LII.—No. 2,911. SATURDAY, AUGUST 14, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Cross-fertilisation.

One of the most curious facts presented to the consideration of the plant student is, that while Nature has contrived innumerable modes of circumventing self-fertilisation, and promoting cross-fertilisation of flowers, a fairly definite line is drawn by her against indiscriminate cross-fertilisation between distinct species, so that, as a rule, this only occurs, or, at any rate, only leads to fruition, within specific limits. The process of fertilisation is, however, such an extremely delicate one, and so dependent upon what we may term fine adjustments of the two elements essential to it, that it is not difficult to grasp how the modifications of form which have resulted in the differentiation of species may easily involve insuperable obstacles in the process. Furthermore there are undoubtedly sympathetic and antipathetic relations between pollen grain and stigma which involve selection and stimulation of the pollen grains proper to the operation, and the rejection of alien ones. There is also no doubt in this connection that the substance of the pollen grain, which consists of a fertilising cell associated with a certain amount of nutrition to aid the formation of the tube destined to convey the contents of this cell to the embryo seed, is very nicely correlated with the distance it has to travel, i.e., the length of the stigma it has to traverse, and that of the tube it has to form. It is a known fact, for instance, that the primulas, which bear long and short-styled flowers on different plants, have smaller pollen grains associated with the long-styled flowers than are found in the short-styled ones, so that a long-style pollen grain can hardly fertilise a long style ovary, since it can only form a short tube adapted to a short-styled flower. The converse argument cannot, of course, apply, but probably the excess of nutriment involves a misfit, so to speak, and, in any case, the dimorphic arrangement is not an insuperable bar to self-fertilisation, to some extent, though it certainly reduces the probabilities. These various methods of aiding cross-fertilisation appear to be part of a scheme, if we may use such a term, for maintaining that vigour of a race which constant inbreeding is known to impair, but it has also had the effect of bringing into action the insect world as general cross-fertilisers, whom a floral system on purely self-fertilisation lines, would have excluded. Hence, as a secondary result, we now enjoy the fruits of the interaction between insect discrimination and floral response, which has undoubtedly led up to a wondrously beautiful and diverse flora, instead of, presumably, a much simpler and less attractive one, such as we see in those flowers which are either self-fertilised or fertilised by wind-blown pollen or other mechanical agencies. Leaving cultivated flowers aside, of the evolution of which we know something, we cannot fail to recognise the fact that there are innumerably perfectly wild types which fully equal the finest blossoms the selective florist can produce, and which are frequently endowed with a simplicity and grace which are often largely lost in the so-called improvements. Our finest lilies, for instance, belong to this category, and yet they have attained their immense size, and often rich coloration, by purely natural selection. Their evolution through the æons of time, which this must have occupied, we have no means of tracing; flowers do not lend themselves to fossilisation; in themselves ephemeral and unsubstantial, when they perish nothing is left of them capable of perpetuation in the strata of their period. All, therefore, that we know is that they must have been derived from simple types, and that their present splendour is the outcome of the greater and greater daintiness, so to speak, of the bees, moths, and butterflies, which have acted as discriminating intermediaries, and, while themselves being evolved on higher and higher lines, have unwittingly conduced to improve their associated flowers in like ratio. Here, as ever throughout organic creation, we see how marvellously that struggle for existence which involves so many hardships and extinctions of the weaker and inferior, proves itself to be a divinely beneficial factor in the evolution of races from lower to higher grades on underlying principles, which, apparently insignificant, are yet of the most vital importance. The seemingly simple fact that a flower's own pollen is less fitted for its fertilisation than that of another is the foundation of the great mass of our floral wealth.

MR. J. CHARLESWORTH,
A Famous Orchid Hybridist.

Mr. J. Charlesworth, whose portrait we present this week, is the head of a firm that has figured largely in orchid raising and cultivation during the last score of years. Born at Bradford, and brought up in the wool trade, Mr. J. Charlesworth made his mark in the business, but never really liked it. Persuaded to take up horticulture as a hobby he decided to attempt orchid culture, and from cultivating a small collection skilfully he passed on to raise hybrids, and soon the hobby developed into a business, and he left the wool trade and devoted his energies to the new venture. The results that have followed are well known to our readers. The establishment at Heaton, Bradford, had to be enlarged, and a fresh one added, and then, quite recently, as our pages have shown, the whole business was transferred from Yorkshire to Haywards Heath, Sussex. It would occupy more space than we can spare to tell of Mr. Charlesworth's successes as importer and cultivator, and even these are surpassed by his successes as a raiser. He is a keen observer, and a clever hybridist, his bigeneric hybrids alone making a notable addition to orchid collections, while his autumn and winter-flowering lælias, lælio-cattleyas, etc., have altered the appearance of our orchid houses during the dull months of the year. Mr. Charlesworth is a prominent member of the Royal Horticultural Society's Orchid Committee, where his very special knowledge of hybrids and their parentage is of great value.

Cattleya Mendeli His Majesty.—Our readers will remember that we illustrated the superb variety of Cattleya Mendeli named after His Majesty the King last year, and they will be interested to learn that the owner of this unique specimen, Mr. Francis Wellesley, J.P., Westfield, Woking, has succeeded in dividing it, and that Her Majesty the Queen has been graciously pleased to accept from him the new portion. This has been sent to Frogmore, and is now under Mr. Mackellar's care.

Foreign Vegetables.—The chief vegetables received into this country from abroad are potatoes, onions, and tomatoes. During July we imported 589,876 bushels of onions, valued at £104,532, as compared with 593,431 bushels that only cost £64,182 in July, 1908. Potatoes amounted to 620 cwts. from Germany, 613,400 cwts. from France, 291,413 cwts. from the Channel Islands, and 76,452 cwts. from other countries, the total being 981,885 cwts., costing £231,338, against 891,173 cwts., costing £205,126 in the corresponding month of last year. Tomatoes show an increase of 22,981 cwts., and £6,523. Unenumerated vegetables were valued at £19,754, a material decrease.

The Horticultural Trades Association of Great Britain and Ireland is holding its annual meeting and excursions during the present week, and Belfast is the headquarters for the time being. An excellent programme has been arranged, and it includes visits to the nurseries of Mr. Hugh Dickson, Belmont and Ballyhanwood; Messrs. Alex. Dickson and Sons, Newtownards; Messrs. S. MacGredy and Sons, Portadown; and Mr. T. Smith, Newry. A visit to the Marquis of Annesley's splendid gardens and arboretum at Castlewellan is also included in the programme. Mr. John Harrison, of Leicester, is the president of the association for 1909.

Horticultural Progress in Canada.—The recent exhibition at Peterhead was opened by Senator W. Gibson, of Canada, a native of Peterhead, now on a visit to his old home. After dealing with the conditions which prevailed horticulturally in Peterhead when he was a boy, Mr. Gibson proceeded to describe the conditions which prevail in Canada for the encouragment of horticulture and agriculture. Everything was done, he said, by the Government to promote these industries. They had experimental farms free to all, where farmers could go at any time and obtain information with regard to the kinds and varieties of plants suitable for their different kinds of soil and climate. They had colleges where young ladies were taught domestic science, and where the young men were taught agriculture on scientific principles, and where, if they were willing to work, the students were allowed a certain sum per day, so that they could make enough to pay for their education, and then go back to farming at the end of their college course. He wished that such practice prevailed in this country. Flower culture was becoming almost a necessity in the large cities of Canada, for the reason that the large cities demanded flowers on all occasions. In Brompton, Canada, for instance, they had one nursery with seven acres of glass for the purpose of growing flowers to be sent to the city of Toronto every day. In Canada the table decorations at social functions were described in the daily papers even before the ladies' dresses.

The "Journal" of the British Gardeners' Association.—Following a recommendation from the treasurer of the B.G.A., the Council have agreed to combine in one person, i.e., Mr. J. Weathers, the offices of secretary and editor of the "Journal." It is anticipated that the combination of these offices will facilitate business, prevent overlapping, and prove more economical than the old method.

Imported Fruits. — During the month of July the imports of fresh fruits cost us £882,523, against £838,024 in the corresponding month of last year. The amount expended on imported fruit during the seven months just past was £5,532,255, or £105,867 more than in the same period of 1908. The chief items for the month, and their values are as follows: Apples, 95,262 cwts., £46,961; apricots and peaches, 37,785 cwts., £54,820; bananas, 716,749 bunches, £198,150; cherries, 33,090 cwts., £37,946; currants, 105,783 cwts., £121,587; gooseberries, 9,420 cwts., £3,982; grapes, 4,613 cwts., £7,666; lemons, 107,317 cwts., £49,080; nuts, 42,990 cwts., £64,149; oranges, 77,160 cwts., £40,595; pears, 32,608 cwts., £38,967; plums, 115,949 cwts., £146,144; strawberries, 415 cwts., £180; unenumerated, 101,818 cwts., £72,294. It is interesting to notice that our imports of apples for the month of July are more than double those of last year, both in quantity and value; peaches and apricots show an advance of about 14,000 cwts., and bananas to the extent of 50,000 bunches. Currants cost us £21,804 more than in July, 1908, but plums, though more extensively imported, cost us rather less this year than last. The greatest declines for the month have been in grapes, about £3,000 less; cherries, about £3,000 less; strawberries, £3,100 less; and gooseberries, £9,357 less than in July, 1908. Our own heavy crops of strawberries, gooseberries, and cherries account for the decline, but it is difficult to understand the great increase in the imports of currants and apples.

Royal Botanic Society.—The annual meeting of this society has been postponed from August 10 to September 21. It will be held in the society's gardens, Regent's Park.

The Edelweiss as a London Flower.—Referring to the deaths of tourists in the Alps caused by foolish attempts to gather edelweiss from some difficult position, Sir Frank Crisp, who has a splendid alpine garden at Friar Park, Henley, writes to point out that the edelweiss is not an Alpine prodigy, but that it will grow on the roof of the Bank of England and in an ordinary London back garden. Whatever may be said of the fertility —financial and otherwise—of the area which the Bank's roof covers, the roof itself is as infertile a place as could well be selected, whilst a London back garden has always been the ideal of abomination as regards the growth of floral rarities. Assuming that anything can be said in favour of the wisdom and foresight of risking one's life to gather a unique and remarkable flower, nothing can surely be said in support of taking such a risk for a flower that will readily grow in the waste places of civilisation.

American Rubber Trees.—The economic value of rubber-producing trees is now so great that any information regarding them is of the utmost importance to planters and others. These who are dealing commercially with rubber trees cannot afford to disregard the botanical aspect of the species used, as a knowledge of the essential characters will enable one to distinguish between the economically valuable and the merely interesting kinds. A work dealing with the botanical side of the question, but including only the American rubber trees, has been now provided by Mr. William Botting Hemsley, F.R.S. This is issued as part of Hooker's Icones Plantarum for 1909, and includes the illustrations from 2,876 to 2,900. Manihot dichotoma and a large number of species of Sapium are figured and minutely described by Mr. Hemsley, and the illustrations are by Miss M. Smith.

Flower Imports. — For foreign flowers we paid £5,320 last month (July), as compared with £3,467 in July, 1908, and £4,509 in July, 1907. The total paid during the seven months just ended is £204,320, as against £181,087 in 1908, and £181,749 in 1907, taking a similar period.

"Journal" of the Chelmsford Laboratories.—Excellent work has been and is being done at the Essex County Laboratories, Chelmsford, and the results are from time to time made known to the public. Horticultural and agricultural education is a great feature of the work, and very many students in these and other branches of industry and science have passed through the establishment. An "Old Students' Club" is in course of formation. Another feature, and an interesting one, is the production of a "Journal," and an advance copy of Parts 1 and 2 has just reached us. It contains the results of various agricultural and horticultural experiments, an article on "Nature Study Training," by Professor F. Caves, and notes on insect pests, seeds, etc. The editor hopes by means of this "Journal" to bring Chelmsford authorities into closer touch with those to whom at present the work done in the laboratories is a sealed book.

The Hampton Court Vine is this year carrying about three hundred excellent bunches of grapes, and these, by the size and colour of their berries, show the influence of the careful treatment bestowed upon this famous Black Hamburgh by Mr. Mackellar.

Road-side Fruit Trees. — Mr. W. R. Boelter, of Great Titchfield Street, W., writes: Anyone who has travelled along the country roads in Germany cannot have failed to observe that they are planted on both sides with fruit trees. To see them in early summer when they are vast avenues of apple, pear, and cherry trees in full bloom, or in the late summer and autumn, when the branches are laden with fruit, is a sight not easily equalled or forgotten. From a report before me, issued by the Minister of Agriculture of Saxony, I notice that, after providing employment for a large number of "tree-wardens" and occasional work for a larger number of persons engaged in picking and marketing the fruit, after providing all who chose to have them with free meals of fruit throughout the autumn, and after beautifying a countryside corresponding in parts to our own Black Country, this department made during 1908 a profit of £12,000. I am prompted to suggest that a similar system of roadside fruit-tree planting be instituted here, and by way of making its realisation practicable in the near future, I would further suggest that we take also a leaf out of the book of the Colonies and establish a People's Arbour Day. An additional holiday seems greatly needed to break the long spell of work from now until Christmas. Such a day would most naturally fall in the first part of October—the most suitable time for fruit-tree planting. If an influential society were formed—I suggest Lord Avebury as its natural president—to lead the agitation, to make the necessary arrangements with the public bodies controlling the roads, and collect funds and trees, there is little doubt that in a few years it would literally "change the face of the country," and provide an enormous amount of productive employment for capable and willing hands. To give details of the organisation as it presents itself to my mind would take up too much of your valuable space, but I venture to submit that since there are the roads, and the un- and under-employed, and thousands of public-spirited people desirous of helping the unemployed as long as their donations are not spent in paying one squad of workless to dig a hole for another squad to fill up again, and similar "solutions of the unemployed-problem," the task of organising this scheme of roadside fruit-tree planting as a rational investment of money and surplus labour does not seem to present extraordinary difficulties.

"**Bees in Relation to Gardening**" is the subject of the lecture to be delivered before the Royal Horticultural Society at 3 p.m., on Tuesday, August 17, and the lecturer is Mr. Walter F. Reid, F.I.S., F.C.S.

FIXITY OF WAVED SWEET PEAS.

In January last Mr. Robert Sydenham expressed the opinion that the Countess Spencer type of sweet peas would not come true, and he challenged any grower to any amount from £10 to £50, to send to Reading for trial twenty seeds each of ten varieties of Spencer sweet peas, and if any variety had three rogues (that would be more than 10 per cent., sender should lose. If there was not a single variety that had more than two rogues Mr. Sydenham would lose, and pay the £10 to a gardening charity or charities, as well as all expenses.

Being large growers, and convinced that there were stocks of Spencer varieties in this country that would come 90 per cent. true, Messrs. E. W. King and Co., of Coggeshall, accepted the challenge, and sent the necessary seeds. Having twelve varieties of Spencers which had never left this country, some of which they had grown for several years (including Mrs. William King, which was sent out two years ago with a guarantee of 90 per cent. fixity), they felt confident of the result.

The judges appointed were Messrs. C. Foster and H. H. Thomas, who inspected the trials last Thursday, and gave the result in favour of Messrs. E. W. King and Co., not one variety having two rogues. Six varieties, viz., Mrs. William King, White Spencer (E. W. King and Co.'s), Paradise Ivory, Princess Victoria, Malcolm's Waved Cream, and [illegible] Spencer (E. W. King and Co.'s) came true; Evelyn Hemus, Countess Spencer, Marjorie Willis, and Mrs. Henry Bell had one rogue each.

This test would seem to prove that Spencer varieties can be fixed if sufficient care is taken with them. Mr. Sydenham is to be congratulated upon his spirited offer, and Messrs. E. W. King and Co. upon their successful fulfilment of the conditions of the challenge.

C. H. C.

SWEET PEA NOTES.

The importance of comparative trials as regards the utility of certain plants for garden decoration is daily forcing itself with greater emphasis upon those engaged in commercial gardening, and in private establishments the results obtained have often to be further reduced to local requirements. This is particularly evident among sweet peas when, through a superabundance of material one encounters enormous difficulties in making a final selection. In this respect King Edward Spencer is superior to the older so-called scarlets, the standard is beautifully waved and crinkled, the wings of great breadth, and it produces stout fifteen-inch stems, always carrying three or four flowers, while the colouring of the keel and wings is similar to King Edward VII.; the standard is almost identical in colour with Queen Alexandra.

Mrs. A. Malcolm is a rich cream flower, having erect stands; it promises to become a better garden flower than James Grieve.

Anna Lumley is a perfect Spencer flower and of the same colour as the well-known Black Knight.

Mrs. Bieberstedt is described as a deep lavender, but the flower has a wonderful sheen of lilac, which easily marks it as distinct from Lady G. Hamilton or Frank Dolby; the colour is most regular over every part of the flower; the standards are perfectly erect, the stems are usually over 15in., and the flowers generally four to a stem.

Flowers with picotee edge are of doubtful character in garden decoration, but Evelyn Hemus is a striking exception, the colour is cream, with the margins feathered pale flesh; the flowers are of true Spencer form, and strong stems usually carry four flowers. All the above varieties, in so far as I have grown them, are thoroughly fixed.

Audrey Crier produces enormous rosy-pink flowers, and is perfectly waved. It throws what appears to be an extra fine form of Helen Lewis. This variety, in conjunction with St. George and Henry Eckford, are the most brilliantly coloured of all sweet peas under artificial light.

Last year I gathered seed pods from Nora Unwin, which on shelling revealed black and white seeds. These were kept separate, and this season the white seeds are all Nora Unwin (true), while the plants from the black seeds are all Gladys Unwin.

Thomas Smith.

"STREAK" IN SWEET PEAS.

Mr. G. Garner's notes on "streak" in sweet peas have been of much interest to me, and, unfortunately, I can fully bear out the statements he makes regarding this disease. My first acquaintance with "streak" was in 1905, when it appeared in the variety Black Knight, and spread through the whole row of some ten varieties in about a fortnight. The other rows in the same garden did not show the disease; the soil there was a light loam, with a subsoil of gravel and sand fifteen inches down. With the exception of a few isolated plants last year, towards the end of August, which I pulled up and burnt immediately, I have had no trouble with the disease since, till this year. This year I limited the number of varieties grown to seventeen of what I considered the best, and the disease has appeared in every one of them. It started some three weeks ago in Evelyn Hemus. I at once pulled up some of the worst, and cut back one or two others to what seemed healthy growth, but it has gone right through this variety, which is entirely spoilt, and several others are almost as bad. The soil here is a fairly stiff loam, on pure yellow clay some eighteen inches down. Mr. G. Massee, reporting on a case of "streak," the answer to which appears in this year's "Sweet Pea Annual," is of the opinion the disease is of a physiological nature, a common feature of the disease being the absence of nodules on the roots. This he considers is due to the nitrogen-fixing bacteria being rendered inert, or doing work detrimental to the pea plant, owing to the excess of nitrogenous manure used. I have noticed the absence of nodules on the roots of the diseased plants myself, but this year I planted two varieties, St. George and Henry Eckford, by themselves, where they are partially shaded by some large oak trees; as far as I can remember neither sweet peas nor the culinary sorts have been grown on this piece of ground for the past sixteen years, and the ground is poor and hungry owing to the roots of the oak trees, and yet the disease has appeared here, as well as in the better-cultivated parts of the garden. With Mr. Garner, I hope the National Sweet Pea Society, which, I know, fully recognises the danger of the disease, will deal with the matter immediately, while the disease is still in its infancy, otherwise I feel sure it will soon become a serious scourge, as it spreads so rapidly. The disease seems to me to be in the soil; would it be possible to have the soil in which some of the worst of the diseased plants are, thoroughly analysed and examined by several of the trained experts in this department, as many, like myself, will be compelled to grow their sweet peas in close proximity to if not on the same ground, as occupied by them this year, and if the disease, whether of a fungoid nature or not, is in the soil, the proper time to deal with it will be before, or when preparing the plots for next season, and as many growers prefer to do this work as early as possible, there is no time to be lost.

H. G. Collyer.

The Gardens, 16, South Eden Park,
Beckenham.

AN AMATEUR'S COMPLAINT.

As an amateur I have read Mr. Curtis's "Sweet Pea Jottings" with interest, and have pondered over them a while. May I ask your indulgence for the few lines which follow? The trade have the fortunes of the flower in their hands, and they may make or mar it—they certainly will not make it by sending out doubtful varieties which appeal to one's artistic sense as seen upon the show bench, but which, when grown in the garden, produce so many "rogues" that the unfortunate amateur is tempted to discard the flower as a part of any colour scheme he may devise, and to banish it to the reserve garden.

One feels inclined to ask the growers not to bother themselves about raising any new varieties, but to be content with the true and old friends we know so well; yet to do so would be absurd, for they are not engaged in horticulture "for fun," and *les affaires sont les affaires*, after all is said. But there is solace in the knowledge that the N.S.P.S. may be trusted to safeguard our interests, and to check the distribution of unreliable varieties which nobody wants and which only bring vexation of spirit to the enthusiastic amateur, to whom our good friends "the trade" look for their bread and butter. *Verbum sat sapienti.*

Amateur.

HOW TO GROW SWEET PEAS.—"Sweet Peas and their Cultivation," by C. H. Curtis (Secretary of the National Sweet Pea Society), is a complete guide to the successful culture of sweet peas for home or exhibition. Price 1s. net, by post 1s. 2d., or bound in cloth 1s. 6d., by post 1s. 8d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

THE LING.

Closely allied to the heather, the Ling, Calluna vulgaris, is frequently found growing in company with Erica cinerea on hillsides and moorlands throughout the country, brightening up the landscape with brilliant masses of colour. Common, however, as it is in a state of nature, it is not to be despised as a garden plant, and many a bright patch and pleasant feature is added to the garden by the ling or a selection of its varieties. For the wilder parts of the garden it is well suited for planting in extensive masses either on level or undulating ground, and an added interest may be given to such groups by including dot plants of certain rare trees, which well repay by increased growth the little protection thus gained. Although the ling grows vigorously on peaty land, it is not an essential to its success that peat should be given, for if the soil is moderately free from lime it will flourish. Neither is any special preparation required for this plant, for, in the event of a large area of ground having to be planted, it is only necessary to dig the soil over deep enough to bury weeds and grass, so that they will not have an opportunity of growing again. In planting an area the chief weed to guard against is couch grass, for if this is allowed to grow amongst young plants it seriously interferes with their development and spoils the appearance of the mass.

With a subject so widely distributed as the ling, it is not remarkable that a great variation should occur amongst the plants both in habit and colour of flowers. In some districts it grows to a height of 3ft., whilst in other places it rarely exceeds 6in. in height. Some varieties are known which form dense tufts 2in. or 3in. high, whilst a few years ago a tiny form was noted in the Scilly Islands, which had the appearance of moss and rose scarcely half an inch above the ground.

In colour of flowers there is a great variation, for, whilst the type produces reddish-purple blossoms there are varieties with white and many intermediate shades. Foliage exhibits a certain amount of variation, for in one form it has a silvery appearance, whilst in at least two varieties it is of a rich gold hue. In addition to its ornamental properties, the ling is used to a moderate extent for other purposes. In some districts it is cut, dried, and used for thatching summer-houses, fruit rooms, sheds, etc., whilst it is also in demand for broom-making.

Propagation may be effected by means of cuttings or layers in the case of the varieties, or by seeds for the type. The cleanest plants are those grown from cuttings, which should be made and inserted in sandy peat in a close frame or under a bell-glass in August or September. When forming a plantation, masses of single colours may be planted or a mixture of red and white. Very effective masses of mixed colours were noted two or three years ago in the nursery of Messrs. Smith, of Darley Dale, where many thousands of these plants are grown. The sentimental associations attached to the white varieties have created quite a trade in cut bloom, and large quantities are disposed of annually.

Amongst the many varieties the following may be depended on to give a good account of themselves. Red-flowered: Alporti, a tall grower of upright habit with rich-coloured flowers is one of the best. Flore pleno is remarkable for its floriferous character and double flowers. Rosea has paler coloured flowers than the type, and rubra deep red flowers. White-flowered: Alba, alba pilosa, alba Serlei, alba rigida, and alba tenella are all good. Coloured-foliaged: Argentea, with silvery leaves, and aurea and asprea with golden and coppery leaves respectively, are the best. Dwarf moss-like varieties: This group is remarkable more for its dense cushion-like masses of greenery than for its flowers. Foxi, hypnoides, and minima are the most distinct.

W. D.

FLOWERING SHRUBS.

The passing season has been a notable one for the wealth of blossom on flowering shrubs, and such a season brings into prominence the variety of shrubs which the present day planter has to select from. This profusion of blossom may be due to several causes, but from reports which have reached me this season it appears to have been very general. Season, locality, soil, and condition of the wood are all important factors in the production of bloom among hard-wooded flowering plants, and the summer of 1908 has doubtless contributed largely to the present season's floriferousness.

Two shrubs which have been very beautiful are Styrax Obassia and S. japonica, the last-named exceptionally so. Exochordas have been a mass of white. Cornus in variety have been very fine, also the viburnums, especially V. macrocephalum. Veronicas have flowered freely, one of the best being V. salicifolia, and the later flowering V. Autumn Glory promises abundance of its dark blue spikes of flowers. Abelia triflora was very attractive, and Corylopsis pauciflora should find a place in every collection. Myricaria dahurica is another distinct and shrubby plant that flowers somewhat later in the season, as also does Amorpha canescens.

Magnolias have been beautiful; M. stellata should be protected from rough winds and late frosts, and for this reason some sheltered position should be given it. M. Lennei produced some fine blooms, and all the others flowered well, excepting M. Campbelli, and this probably will produce its blooms when the plants obtain greater height and age. The small-flowered Philadelphus microphyllus was a mass of white, and is a moderate-sized shrub suitable for the front of shrubberies.

Stuartia pseudo-camellia flowered freely, but wet and wind soon damages the blooms. Some of the escallonias suffered during the winter, but the majority flowered well, the two best being E. Phillippiana and E. Langleyensis, the last-named being very fine. Daphniphyllum glaucescens is a very distinct evergreen shrub, and though its flowers are not so showy as some of the deciduous section, it makes a distinct shrub as a single specimen on the lawn. The shrubby spiræas are flowering freely, Spiræa Aitchisoni much resembles S. Lindleyana, but has more finely cut leaves. S. callosa and S. callosa superba are masses of flower, and S. Billardieri alba is somewhat taller than the last-named. The other group of the spiræas has flowered well. Xanthoceras sorbifolius is another distinct flowering shrub that has done well. Of olearias, O. Haasti, and O. nummularia have been good. A change of colour is afforded by Buddleia magnifica, B. variabilis, and B. variabilis Veitchi. Among the brooms we have yellow, white, and the mixture of brown and gold in Andreanus. These, with the lilacs, all help to form a floral picture, whether grouped in separate colours, or planted to form a pleasing combination. There is a wealth of colour to suit the most fastidious, if taste and judgment are displayed in the selecting and planting.

T. H. Slade.

BEST BEDDING VIOLAS.

On the invitation of Messrs. Dobbie and Co., a party of some 27 members of the Scottish Pansy and Viola Association visited their nurseries at Rothesay on Saturday, July 31, for the purpose of inspecting a trial of 80 varieties of bedding violas. The trial consisted of practically the same varieties as were tested last year at Messrs. Dobbie and Co.'s seed grounds in Essex, and the object was to ascertain whether the Scottish experts might come to any conclusions different from the Southern enthusiasts.

Instead of being planted in autumn, as were last year's trials, the violas in this instance were not, owing to weather conditions, put into their quarters till the end of April. The border selected for the trial was somewhat heavy in character, and the abnormal rainfall during July was rather against some of the varieties, consequently the trial lines were not so regular as might have been expected under more favourable conditions. Each member on entering the grounds was handed a typewritten sheet with the names of the varieties on trial classified into colours, with the request that XX might be put against the best variety in each shade, and X for the next best.

They were further requested to name what, in their opinion, were the three best whites, yellows, and certain other shades, irrespective of the flowers being rayed or rayless. The results which are given below will show that, on the whole, the decisions in the English trials are pretty well borne out by the Scottish jurors:

White, rayless—1, Cygnet; 2, Mrs. H. Pearce. White, slightly rayed—1, Countess of Hopetoun; 2, White Empress. White, rayed—1, Bethea; 2, Alexandra.

Cream shades—1, Iliffe; 2, Sylvia. Primrose shades—1, Primrose Dame; 2, Maggie Clunas. Yellow, rayless—1, A. J. Rowberry; 2, Wm. Lockwood. Yellow, slightly rayed—1, Redbraes Yellow; 2, Kingcup. Yellow, rayed—1, Canary; 2, Grievei.

Blue, dark—1, Archie Grant; 2, Edina. Blue, light—1, Lady Marjory; 2, Ithuriel. Lilac and lavender—1, Favourite and Kitty Bell; 2, Florizel.

Mauve—1, Mauve Queen; 2, Lady Warwick. Mauve, dark—1, Jubilee; 2, Councillor Waters. Bronze—1, Redbraes Bronze; 2, Bronze Kintore.

Edged varieties—1, Lady Grant; 2, White Duchess. Crimson and rose—1, Wm. Niel; 2, Mrs. J. H. Rowland.

Three best whites in above classes—1, Cygnet; 2, Bethea; 3, Mrs. Pearce. Three best yellows in above classes—1, Canary; 2, Primrose Dame; 3, Grievei. Three best mauves and lilacs in above classes—1, Mauve Queen; 2, Favourite; 3, Kitty Bell. Two best bedders in other fancy types—1, Mrs. Chichester; 2, Agnes Kay.

PRIMULAS AND CINERARIAS IN COLD FRAMES.

From the middle of August until mid-September, primulas and cinerarias growing in frames, may, with beneficial results, be exposed to the night dews in calm weather. Many cultivators do thus expose the plants; others who have not, as yet, tried the plan would certainly be pleased with the beneficial effect that the dew has upon them. For many years I exposed my plants, but not so much as another cultivator whom I am acquainted with, and his plants have excited the admiration of some of the most noted growers in the country. The lights should be taken off only during very warm nights, such as obtain when we have warm weather at this season. As the summer has proved cold and sunless until now, we may have a very warm spell in the early autumn, and it is then that night dews so greatly induce healthy growth of the plants.

G. B.

SHAKESPEARE'S GARDEN.

Among the gardens of Great Britain, both public and private, the one at the rear of Shakespeare's birthplace, at Stratford-on-Avon, stands unique. It is not that its boundary walls encircle broad acres, where some master of garden architecture has achieved the triumph of his skill; we find not here the glorious beds and borders of choice highly-cultivated plants, which are the attraction in the gardens of nobility. The charm and absorbing interest of this place is that within its ivy-clad walls we find the old-world flowers, herbs, and trees which the immortal Bard knew and loved, and which are mentioned in his writings.

Even from the point of view of the gardener who is interested in the plant-lore of a bygone age, this collection of homely flowers and herbs, for the most part native, which "show false art what beauty was of yore," is worth a visit of inspection. The lover of Shakespeare, as he walks around, experiences soul-stirring emotions which cannot be described in words. He is for a season separated from the outer-world, and the spirit of that mighty genius whom all the world reveres seems to pervade the place. Gazing around at the modest flowers, many of which are at home on the hedge-banks of the neighbourhood, he is awakened to a new sense of the beauty that is in the harebell, or the sweetbriar, as the utterance of Arviragus comes to mind:

"With fairest flowers
While summer lasts and I live here, Fidele,
I'll sweeten thy sad grave: thou shalt not lack
The flower that's like thy face, pale, primrose; nor
The azured harebell, like thy veins, no, nor
The leaf of eglantine, whom not to slander,
Out-sweetened not thy breath."

Eglantine is one of the old-world names much used by Shakespeare, and is generally conceded to refer to sweetbriar, the fragrance of which floats over this garden. Here are the roses of red and white, which, "by any other name would smell as sweet," and the old York and Lancaster, flowering freely recalls the lines:

"The roses, fearfully in thorns did stand,
One blushing shame, another white despair;
A third, nor red, nor white, had stol'n of both."

At the time of a recent visit the season had passed, for the

"Daffodils
That come before the swallow dares, and take
The winds of March with beauty; violets dim,
But sweeter than the lids of Juno's eyes,
Or Cytherea's breath: pale primroses,
That die unmarried, ere they can behold
Bright Phœbus in his strength,"

but "lilies of all kinds" were still in bloom. Our readers, accustomed to the modern introductions from Japan, must not take this phrase too literally. The lilies here are such as we find in the gardens about thatched cottages. Remember, too, that the common name of lily was used for many plants which are botanically far removed from the genus lilium, hence the presence of alstroemeria, funkia, hemerocallis, etc.

Passing under the shadow of the oak, one comes upon a corner set apart for herbs, and as thyme, sage, marjoram, and lavender, balm, and hyssop meet the eye, thoughts wander to various references to these in the works of Shakespeare. A cherry tree, bearing a fair crop of fruit recalls the beautiful words of Helena to Hermia:

"So we grew together,
Like to a double cherry, seeming parted,
But yet an union in partition;
Two lovely berries, moulded on one stem;
So, with two seeming bodies, but one heart."

Fruits are well represented in this wonderful garden. There are the

"Apricocks and dewberries,
With purple grapes, green figs, and mulberries,"

mentioned in "A Midsummer Night's Dream," also the medlar, pear, quince, and, in fact, almost all our hardy fruits. Mention of apricocks—the ancient form of spelling—reminds one of the gardener in "King Richard II.," where he bids his assistant

"Go bind thou up yon dangling apricocks,
Which, like unruly children, make their sire
Stoop with oppression of their prodigal weight;
Give some support to the bending twigs."

Shakespeare must have been himself fond of gardening, or of watching the gardener at his work. Note how he makes this same gardener say:

"I will go root away
The noisome weeds, which without profit suck
The soil's fertility from wholesome flowers."

There are, what would elsewhere be called "noisome weeds" in Shakespeare's garden to-day, but they are there by privilege, and, by virtue of being mentioned by the poet, are beloved. One looks upon the

"Rank fumiter and furrow weeds,
With burlocks, hemlock, nettles, cuckoo-flowers,
Darnel, and all the idle weeds that grow
In our sustaining corn,"

and truly, here, they seem as much in order as do the

"Carnations, and streak'd gillyflowers."

Harking back to the gardener, one swells with pride at remembrance of Shakespeare's statement that

"There is no ancient gentlemen but gardeners;
. . . they hold up Adam's profession."

This high testimony of the poet's to the worth and standing of the gardener, should form inducement to all followers of the craft to go and do reverence at his shrine; and when such pilgrimage embraces so much of pleasure and instruction, one feels that exhortation should be unnecessary. Stratford is easy of access. The journey from London by the Great Central route occupies but little over two hours, and the same company caters well for dwellers in provincial towns, both in the matter of direct routes and cheap fares.

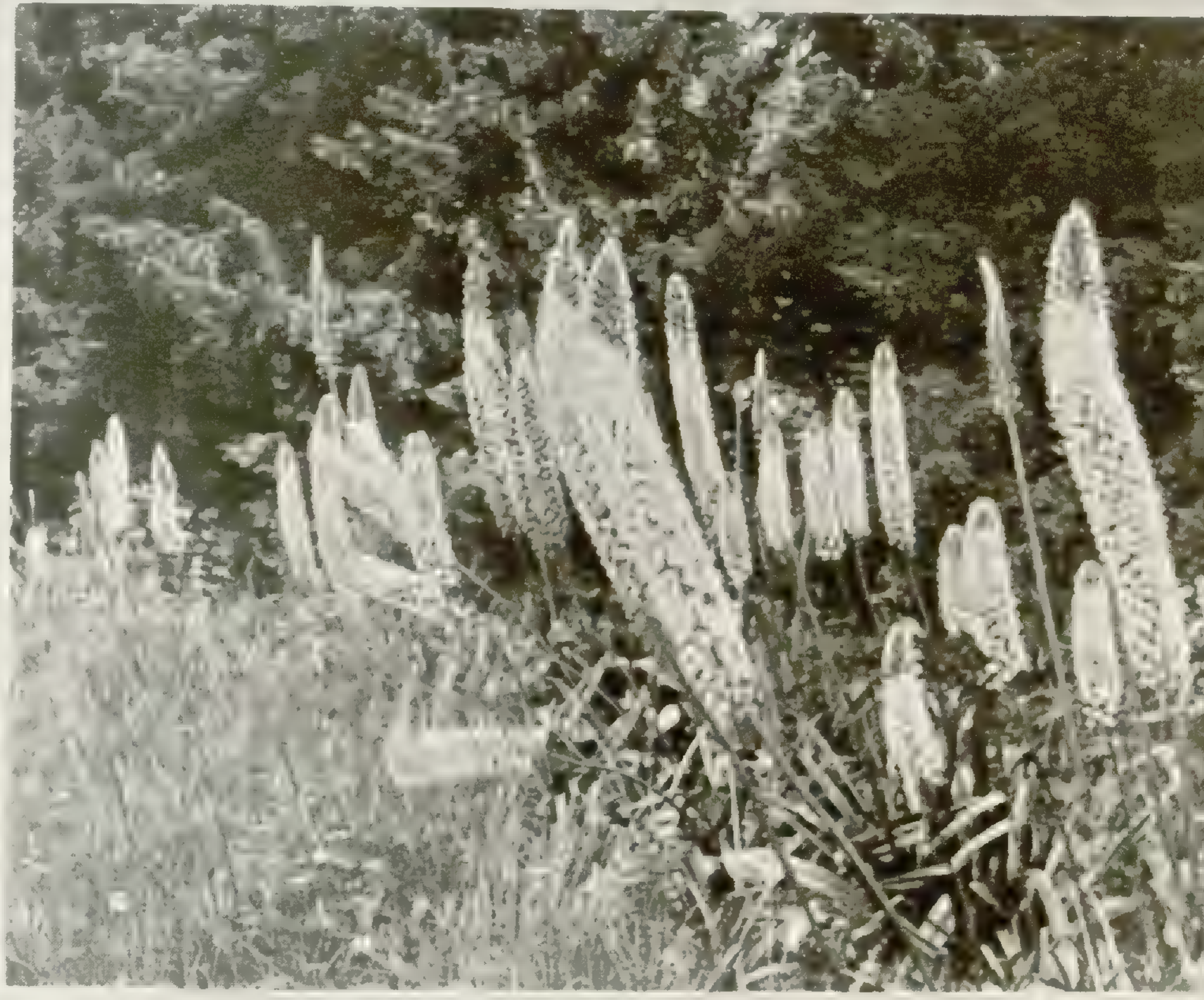
I have but briefly indicated the pleasures to be enjoyed by a visit to a garden which brings one into closer touch with the flora of our land, and into communion with "England's greatest man," as Marie Corelli rightly describes him. Within the compass of a day the pilgrim may also visit the birthplace itself, the school, the grave of Shakespeare, and Anne Hathaway's cottage, and in every corner of the picturesque old town will come face to face with some building or object associated with the poet and his life. A day thus spent is well spent indeed. The memory of it will linger long and pleasantly.

A. J. M.

EREMURI.

Why is it so few cultivate these stately plants? One reason given is that they will not grow; another is that they cost too much. I cannot understand the first reason, because I have grown them for years, in all sorts of soils and positions, and this year, when many other plants have suffered from one cause or another—there have been so many enemies about seeking what they may devour my large number of plants have been a picture. This is a good time to transplant them (moving is good) lifting them with a little care, so as not to snap too many of the brittle roots. When planting, I put some manure below, covering this over, of course, with soil, and adding a little bone-meal. The crown should be three or four inches below the surface.

Of late years I have given no protection of any kind even in the spring, nor in the killing frosts of December, when we had 31 degs., and the sharp frosts later, and the cold spring nights did no harm at all.



EREMURUS ELWESI AT STRATFIELDSAYE RECTORY.

At present I only grow E. robustus, and E. Elwesi, the one in the picture, very much like the former, but shorter and earlier, and E. himalaicus and E. Bungei, all of which are easily raised from seed. But I am looking forward to the possession of one of Wallace's new hybrids. It is curious how some plants will have little families at the roots, especially when the parent plant has been damaged or failed to send up a flowering spike. Shelter from high winds, which blow the spikes and plants, out of shape, is necessary.

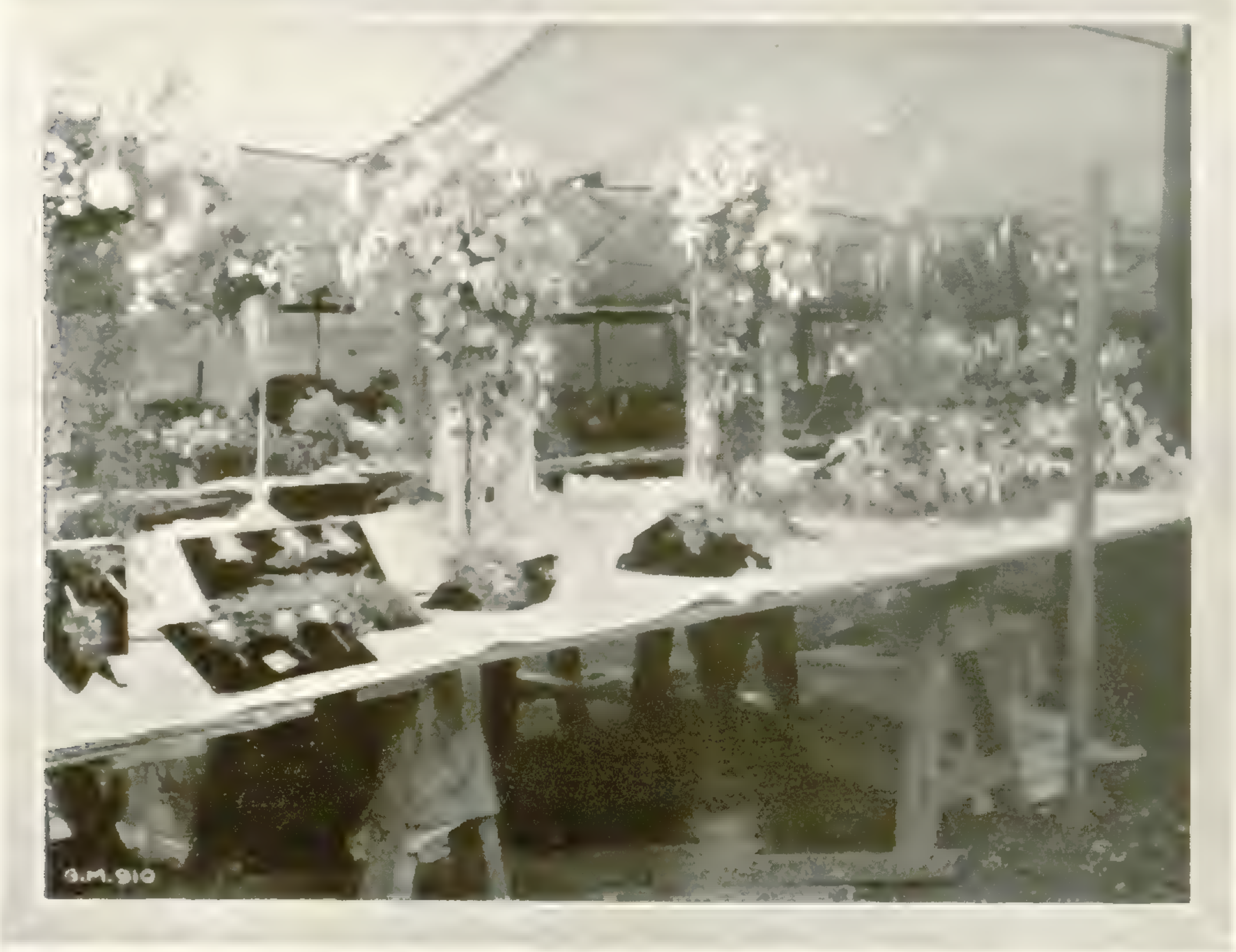
F. Page-Roberts.

Stratfieldsaye Rectory.

Strawberry Laxton's Fillbasket.—Upon strong chalky soil few strawberries yield an adequate return, the best being Royal Sovereign, which scores chiefly on account of flavour. Laxton's Fillbasket is a capital variety to follow as succession; the plant is somewhat leafy, carrying the flower trusses well above the foliage, while, plant for plant, it yields nearly double the weight of fruit borne by Royal Sovereign. The fruits of Laxton's Fillbasket are bright scarlet, flesh white, but a trifle soft, sweet, with only slight traces of acidity; they are of faultless pyramidal shape, and part with great freedom from the calyx.—T. S.

A FAMOUS VILLAGE FLOWER SHOW.

In the New Year's Number of the Gardeners' Magazine, my friend Mr. C. H. Curtis, ably described, under the title of "A Famous Gardening Village," the features that most appealed to him during a brief visit to a Tyneside pit village. I have now been invited by the Editor to furnish a few particulars about the annual flower show held in this same village of Prudhoe. I think if the spirit of enthusiasm that is so much in evidence among the working men who successfully run the Prudhoe and West Wylam Horticultural Society was shown at many of our prominent shows, we might find that the financial difficulties which not a few societies are working under would disappear.



THE MINERS' FLORAL DESIGNS AT PRUDHOE SHOW.

The society holds its 55th annual show this month, and it may not be out of place to mention that in its earlier years it was a very small affair, and I am given to understand that Mr. T. Robson, who was one of its original members has not only shown at every exhibition since its commencement, but has ever been one of the most successful of the exhibitors. This, I think, is a record that would be difficult to beat. The first tent in which the show was held under canvas was hand-made by three of the good housewives in the village, and as an industrial section has ever since been included, it is scarcely necessary to add that the enthusiasm of the men is in every way backed up by their better-halves.

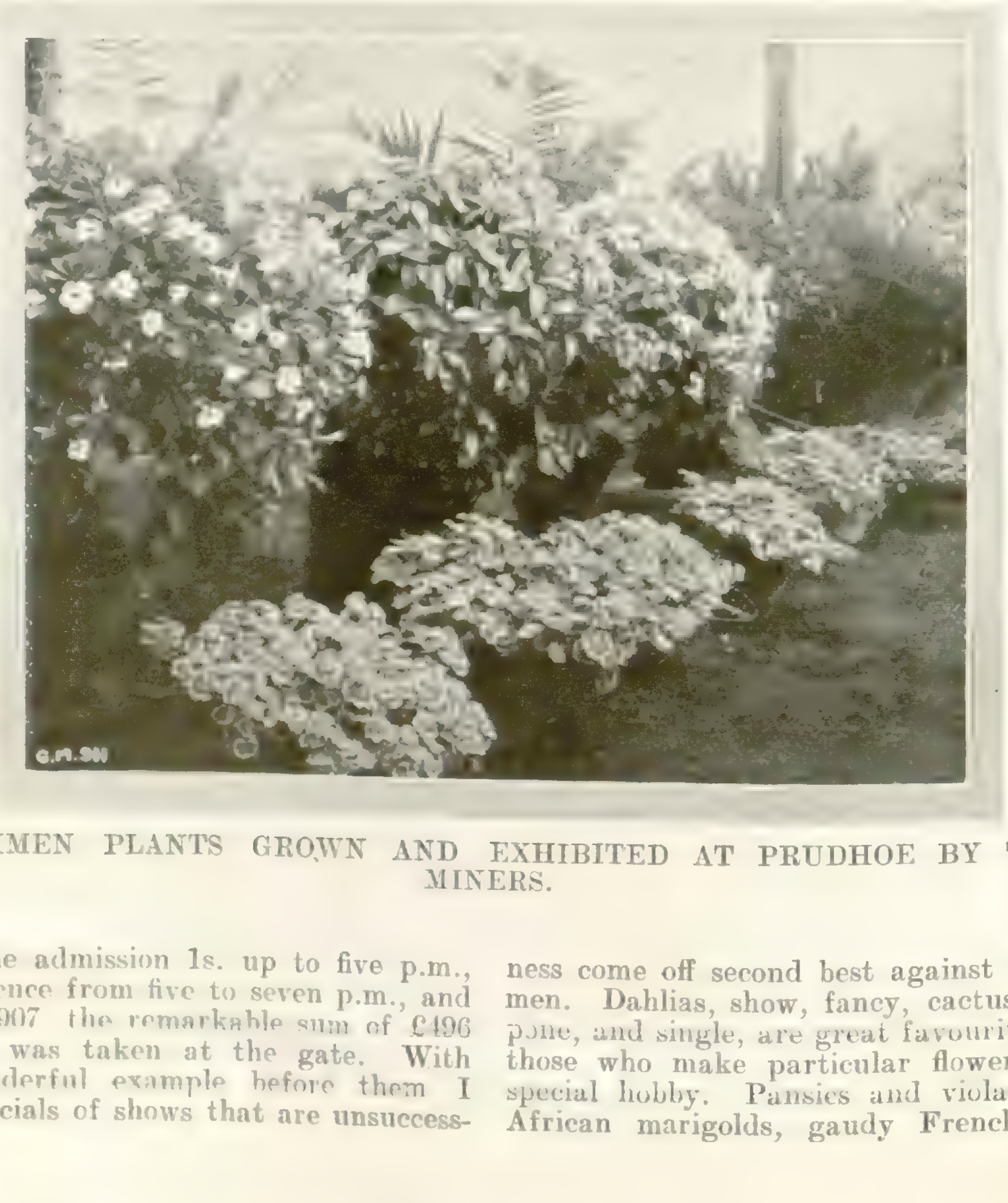
The society is managed by a chairman, vice-chairman, secretary, treasurer, and a committee of forty. There are nearly 700 subscribing members, and the lowest annual subscription is 2s. 6d. Most of the officials are selected from experienced and tried members. The chairman, Mr. W. Telford, has held that honourable position for the past 26 years, and Mr. R. Marshall, the vice-chairman, has an experience of equally long duration, his tact and genial manner being much appreciated in cases of differences between his colleagues; but as in all cases of local undertakings, the brunt of the work falls upon one or two, and in this instance, the secretary, Mr. T. Marshall, and the treasurer, Mr. R. Charlton, personally attend to every show arrangement. While the whole committee are to be congratulated on the success of the society, they will not begrudge my attributing to those named a large share of the credit of the remarkable success of the show.

The annual meeting is held in February, when a sub-committee is always deputed to arrange the schedule. this afterwards being submitted to the full committee, and the show date is then fixed for a Saturday in August. The scheduled prizes and various competitions amount to nearly £700. I should not be surprised if some readers expressed doubts as to the accuracy of my figures, and perhaps they will be even more surprised when I state that the show is only open from one o'clock to seven p.m.; the admission 1s. up to five p.m., and sixpence from five to seven p.m., and yet, in 1907 the remarkable sum of £496 11s. 6d. was taken at the gate. With this wonderful example before them I think officials of shows that are unsuccessful, in this district at least, might do worse than pay a visit to Prudhoe and get to know how success is secured.

To deal with the show itself, the exhibits consist of stove and greenhouse plants, both foliage and flowering. The quality of the exhibits, as the accompanying illustrations will convey, leaves nothing to be desired. Specimen plants of allamandas, rondeletias, stephanotis, statices, clerodendrons, ipomæas, lapagerias, palms, etc., are comparable to those produced by a Cypher. It has often appeared a marvel to me how these sons of toil can possibly have cared for and tastefully trained their plants during the intervals of their pit work. Yet not only is this done, but what is worthy of note also, the vans that take their plants from show to show during the months of July and August, are built, in many cases, by the men during the winter months.

To mention a portion of the various foliage and flowering plants at the show would fill more space than I am allowed. The vegetable classes are the principal features of the show, and if I could only get my friend "A. D." to visit this show, I think it would give him an object-lesson in excellent vegetable culture. The vegetables are usually arranged on trays or tables, as seen in the accompanying illustration; the leeks are exhibited in threes, and the judging of these is done by measurement in cubic inches. The pot leek class is one that is becoming very popular in the district, and the least extension of the limited "blanching" means disqualification.

In the open cut flower classes we find the local pit men in competition with the assistants in the florists' shops, and they often carry off the chief honours. Sweet peas naturally come in for prominent display, and in both the open and amateur or confined classes there are a great many competitors, and consequently keen interest is taken to display the flowers to the best advantage. Roses are generally well represented, and I have seen the Messrs. Harkness come off second best against the pitmen. Dahlias, show, fancy, cactus, pompone, and single, are great favourites with those who make particular flowers their special hobby. Pansies and violas, huge African marigolds, gaudy French mari-



SPECIMEN PLANTS GROWN AND EXHIBITED AT PRUDHOE BY THE MINERS.

golds, and asters are displayed on boards. Carnations and picotees are shown with that keen knowledge of the peculiar points required by experts.

The different illustrations accompanying this note will convey some idea of what is included in this successful show, and I conclude with the hope that the working pitman may long continue to show good produce and manage a successful horticultural exhibition at Prudhoe.

H. J. Chapman.

Oakwood Gardens, Wylam.

THE WONDERFUL LEEKS GROWN BY THE MINERS OF PRUDHOE AND WEST WYLAM.

JULY WEATHER.

The month of July just ended will long be remembered as a very wet and cold one. We had only 11 days during which rain did not fall. The total fall for the month was 5.59 inches. Not many crops benefited by the abnormal rainfall, but the two things that it has eminently suited have been mint and parsley. There was a wonderful promise of a very full strawberry crop, but the bulk of the fruits rotted in a half-ripe condition, and, consequently, the promise was not fulfilled.

Peas have filled very slowly. French beans look starved, vegetable marrows are very much retarded, and runner beans are podding very slowly.

Peaches and nectarines inside lack colour as there was very little bright sunshine during the month. General outside work has been retarded, and golden opportunities have occurred for outside men to do all the odd jobs necessary in the sheds and outbuildings. We may now hope for a warm dry August as a recompense, to a certain extent, for the inclement July.

It has been a very unfortunate time for the jobbing gardener, as most days have been too wet for his work. It seems very unfortunate that just in the height of the summer season there should be so many days unsuitable for outside gardening, and it also makes the fact clear that a situation where work of some sort is always found, whatever the state of the weather, is more desirable than being at the mercy of the weather and unable to work for perhaps many days in some weeks.

Cheshire.

W. M.

AMONG THE ROSES.

In spite of the indifferent weather experienced, our roses are still (early August) very showy. Scarcely a full week of rose weather has been enjoyed as yet, and doubtless much of our pleasure in the rose garden is due to the great increase of what I may perhaps call "every-season" varieties. For example, we do not find such as Mdme. Abel Chatenay, Mdme. Ravary, Le Progres, Fisher Holmes, Victor Hugo, and Frau Karl Druschki fail us. These are among the first to bloom, and continue with scarcely a break during the whole season.

I notice mildew and red rust are putting in an appearance, and several of our seedling briar stocks have died off at the spot where orange fungus attacked them early in the season. This disease appears to have killed by eating away the bark all around the stem, and is more intractable than usual this season.

Budding is now in full swing, and the stocks run well, the frequent showers being a great help in this respect. I would like to have this operation finished during the present month, so that the buds can get well set.

Year by year one notices a few roses that come extra well during that particular season, and a few may be mentioned here. Mdme. Melanie Soupert is one that is very conspicuous, and the deep scarlet maroon of Avoca is strikingly showy. This last is a grand doer, and some maiden plants have carried good flowers. The form and size, together with rich colouring, demand attention at once, Molly Sharman Crawford is also very prominent, and some small plants of The Lyon rose have been a feature for some weeks. Mrs. A. Goodwin has been exceptionally bright, while a little-known rose, Theresa Bevan, has been most pleasing; orange, salmon, carmine, and apricot are all in this flower, which, if not large, is a good decorative rose, and grows very freely. Another rose that has been very bright and glowing is George C. Waud. This is quite a distinct colour, orange-vermilion, that retains its brightness until the last. Among the largest of the hybrid teas we must name Mme. Segond Weber, a grand rosy-salmon without a fault in its shape. Mme. Pauline Bertnay is very pretty in its combination of orange-yellow, nasturtium red, and a rosy flush; not large, but full and very free. But there are such a lot of really good new roses that space will not admit of half being mentioned; the few I have named are likely to stand for years.

Some of the darker hybrid perpetuals have been very glowing during this cool summer, and a few old favourites, such as Dr. Andry, Comtesse de Ludre, Annie Wood, and Duc de Montpensier have been prominent. So far we have escaped thrip—a trying pest during late summer, more especially upon some of the lighter-coloured flowers.

Roses under glass need as much open-air treatment as can be afforded now, and most pot plants will be better if outside, due care being given, especially at first, to avoid too rapid drying of their roots. Look out for scale as the plants ripen their wood, and clear this pest off before any more young growth appears.

Uckfield. A. Piper.

COLLECTIONS OF TWELVE KINDS OF VEGETABLES SHOWN BY THE MINERS AT PRUDHOE.

NEW PLANTS, ETC.

DENDROBIUM SANDERÆ.

A very fine new species something after the style of D. Dearei. It has long growths and bears its flowers in short racemes. The flowers are, individually, of large size, and very beautiful. The sepals and petals are white, not pale blush as described in our previous issue, while the large three-lobed lip has purple and rosy-purple markings, with yellowish green in the throat. The species comes from the Phillipines, and promises to be a distinct and useful introduction. (See p. 621.) F.C.C., R.H.S., August 3. Messrs. Sander and Sons, St. Albans.

SPIRÆA VENUSTA MAGNIFICA.
A.M., R.H.S., August 3. Mr. Amos Perry, Enfield. Flowers bright rose pink.

CATTLEYA GIGAS W. WATERS BUTLER.

A handsome and brilliantly coloured variety that is best described as a particularly fine form of C. g. Sanderiana. The sepals and petals are rich mauve, and the lip is bright crimson purple, with yellow blotches on the side lobes. A.M., R.H.S., August 3. Mr. W. Waters Butler, Southfield, Edgbaston, Birmingham.

GLOXINIA VEITCH'S STRAIN.

A splendid strain of these fine and useful flowers, the form of the blooms, their stout, erect stems, and the colouring and markings all combining to make up a particularly high standard of excellence. A.M., R.H.S., August 3. Messrs. James Veitch and Sons, Chelsea.

TUNICA SAXIFRAGA ALBA PLENA.

This double-flowered variety of a useful border plant is sure of a welcome. A.M., R.H.S., August 3. Messrs. Bakers, Wolverhampton.

NYMPHÆA COUNTESS OF WARWICK.

A splendid tropical water lily that possesses a good deal of the character of N. zanzibarensis, but the petals are not so pointed. The blooms are eight or nine inches across, with a pinkish ground-colour heavily overlaid with purple towards the centre. A.M., R.H.S., August 5. Mr. H. Lister, gardener to the Countess of Warwick, Easton Lodge, Dunmow.

MELON BARNET HILL FAVOURITE.

A finely netted yellow-skinned variety with highly flavoured white flesh. It has been tried at Wisley, and as a result of the test was awarded an A.M. on August 3. Mr. A. Mitchelson, Wonersh, Guildford.

GALEGA HARTLANDI.

This hardy perennial is now found in all the best collections of herbaceous plants. It has large flowers and spikes and a sturdy habit, and differs from G. officinalis chiefly in the rich purplish colouring of the flowers. A.M., R.H.S., August 3. From the R.H.S. Gardens, Wisley.

SPIRÆA VENUSTA MAGNIFICA.

This is a distinct advance upon the type, having larger flowers and more ample plumes of a bright rose-pink hue. The plant is of strong growth, and the leaves are deep green. A decided acquisition. A.M., R.H.S., August 3. Mr. Amos Perry, Enfield.

CARNATIONS.

Elizabeth Schiffner.—A very finely formed apricot-yellow self variety; smooth petalled, and of good size. A.M., R.H.S., August 3. Mr. James Douglas, Great Bookham.

King of Spain.—A grand border carnation of very large size; it is a fancy variety, red, with deep maroon margins. A.M., R.H.S., August 3. Mr. James Douglas, Great Bookham.

Jupiter.—A beautiful yellow-ground flower of large size, the yellow being overspread with a lovely pink suffusion. A.M., R.H.S., August 3. Mr. Chas. Blick, Hayes, Kent.

Fiery Furnace.—A brilliant fancy variety, of full size, and coloured with crimson, scarlet, and orange. A.M., R.H.S., August 3. Messrs. Blackmore and Langdon, Twerton-on-Avon.

THE GARDENER'S HOUSE.

It is a sign of the times that the residence of the head gardener on an estate is becoming more commonly known as his "house" rather than as his "cottage." The "cottage" was often a poor shelter, unsanitary, and in no sense a proper dwelling-place for the family of a skilled servant. Fortunately, these wretched places, like the awful bothies, are rapidly passing away, and in many gardens the gardener's house is a thing of beauty as well as a comfortable and admirably designed dwelling. Mr. Harry J. Veitch, V.M.H., who has done so much for British gardeners and gardening, has, as our readers are well aware, a charming garden and home near Slough, named East Burnham Park. Of the beauties of the gardens we have already written, but much might be said of the admirable arrangement of the farm buildings, the stables, the model dairy, the aviaries, and the gardener's house. These are all well built, designed primarily for the comfort and convenience of their occupants, and yet care has been taken to combine beauty with the highest utility. The gardener's house at East Burnham is not far from the employer's; it is not hidden away as though ashamed of itself or as though folks were ashamed to see it, and yet it is so placed that its occupants have their own privacy respected, while the building itself makes a charming feature of the garden scenery. To any of our readers who may be contemplating the erection of a gardener's house, we commend this example.

MANURING FRUIT TREES.

Owing to inclement weather, accompanied by low temperature, fruit trees are very backward in swelling out their crops, so that from this time forward every assistance should be offered to such as are carrying crops, particularly those planted against walls. Liquid manure obtained from the drainings of the cow yard is a most useful stimulant, if alternated with a watering of a phosphatic manure in liquid form, as this latter materially influences the quality and finish of the fruits. Many growers fail to discriminate in manuring fruit trees, often applying nitrogenous manures when least wanted, whereas manures of this nature are only profitably employed for trees carrying full crops or to recuperate their strength consequent upon exhaustion or weakness from neglect. Lime is another ingredient whose action in the soil is not always fully appreciated, although it is generally recognised as essential for all stone fruits, yet its fundamental work is that of neutralising and converting the acidity of chemical substances into forms capable of being taken up by the roots of plants. Consequently it forms the backbone of all intensive cultivation that aims at the production of choice fruit and succulent vegetables. Thomas Smith.

GARDEN REFUSE.

There can be little doubt that, as stable manure becomes more valuable, owing to the falling-off in the supply, we shall be led to make a better use of the refuse of the garden than many of us do at present. From the point of view of economy—and most of us want money spent on the garden to go as far as possible—there is everything to be said in favour of making the best use of all sorts of organic matter without waiting till it becomes a necessity to do so. There are few gardens which can be cultivated with the best possible results for an indefinite number of years without the addition of some bulky manure to replenish the store of humus in the soil—a store which is always wasting away through fermentative processes in the soil, as can be seen by the sinking of soil which is left undisturbed for a number of years and given no top-dressings of organic material.

The fermentable refuse from the garden during the year—leaves, clearings from the beds and borders, the haulm of peas and beans, etc., amounts to a very large heap, which, though not nearly equal to the value of a heap of stable manure of the same size, by reason of its less ammoniacal content, will yet, if applied to the soil, be very valuable as a store of humus for some years. It will not only gradually give up its plant food, but, by its fermentation, will warm the soil, and at the same time keep a heavy one open and retain moisture in one which is light, while the acids formed in the fermenting processes will dissolve the insoluble compounds in the soil, and so render them available for the use of plant life. Garden refuse is naturally divided into two kinds—that which will decay more or less rapidly, and that which will not so decay.

To deal with the latter first, it consists mainly of the prunings of trees, pea and bean sticks, and the stems of the larger perennials, to which may be added the bones from the kitchen. All these may be kept for the garden fire, not forgetting to burn all the stalks and roots of the cabbage tribe, especially if they show any sign of being attacked by club-root or finger-and-toe, as this will persist in the soil for a long time while awaiting a suitable host. If the bones are put on the fire when a good heap of red-hot embers has accumulated they will soon be reduced to ashes, or calcined, that is, deprived of all animal matter. In this state, if used as a top-dressing for fruit trees and left on the surface, they will soon become disintegrated and afford a valuable supply of phosphate and lime. The ashes from the fire are valuable for many things, but there is no better use to which they can be put than for working amongst the roots of fruit trees when planting, for being in such a finely divided state they fill up the interstices between the roots, and so promote the formation of a greater number of new rootlets, which start in this material more quickly than in ordinary soil. The best way to store it for this purpose is to damp it when the fire is well out, and then sift it, after which it can be stored away in boxes in a rain-proof place ready for use.

As a general rule it is wasteful to burn that which can readily be converted into humus, and such material should be treated differently, not because the ashes from its burning are less valuable, but because in the process we lose all the nitrogen, in addition to the beneficial effect of the decaying matter upon the soil. It may be used in various ways, according to the season. In the summer, for instance, the cuttings from the lawn and the weedings are valuable for mulching fruit trees, while the more untidy looking material, such as the haulm of potatoes, peas, etc., may be put between the raspberry canes, and in other places where it will do good in lessening evaporation from the surface, besides ultimately feeding the crop. Later in the summer it may be allowed to accumulate for a week or two till the trenching of some part of the vegetable quarters begins, when all sorts of stuff may be buried two spits deep, and not much of it will be found the next time that piece of ground is trenched, especially if some lime or basic slag is dusted over it before it is covered up. When trenching or bastard trenching ground for the first time, there is no finer use to which garden refuse can be put than to bury it in, or lay it on the top of, the subsoil which is now loosened for the first time, for as the refuse decays it settles down amongst the lumps of ungenial soil, much to the benefit of the latter. Practically all the mass of the softer stuff which is cleared away in the autumn may be used in this way, except such as is wanted to form a heap of leaf or vegetable mould for potting, etc.

A word must be said in conclusion about the possible utilisation of the refuse from the kitchen, as most of this is more or less garden refuse. Where people live in country districts it has to be disposed of in some way or other on the place, and the less offensively it is done the better, especially if it can be turned to some good account at the same time. In towns possibly it is best for the community that it is all carted away, wasteful though this is, but the thrifty gardener will generally manage to make use of a good deal even there. The disposal of it in the garden from late autumn to early spring presents no difficulty, as it can either be put in the open trench where digging is going on, or a hole can be made in a fairly accessible place and the refuse put into it, the latter being occasionally dusted with lime and covered over with earth to prevent any offensive-

THE GARDENER'S HOUSE AT EAST BURNHAM PARK.

ness. The following autumn it can be dug out, when it will have become a valuable compost. In the summer the use of refuse in the garden needs care and discrimination, and the practicability or otherwise of using it in this way depends upon one's having an out-of-the-way place where it can be buried in the same way as in the winter, only it should be attended to more frequently as it becomes offensive so quickly. ALGER PETTS.

MORELLO CHERRIES—EARLY NAILING.

There is a custom in many gardens to follow up the course of summer pruning by the nailing in of the Morello cherry shoots retained for successive fruiting. It is, too, a very common practice to reserve, and nail in, far too many summer growths on these cherries. One is almost made to wonder why so much fertility is found in cherries when crowding is so zealously practised. In most other trees a paucity of crop follows crowding, and unless there is a free admission of sun and air there is not that solidity of growth which is so essential in fruit trees. When it is remembered, too, that the position usually allotted to the Morello cherry is the comparatively sunless north wall, there is still more reason for surprise that these trees are such willing and regular workers.

If the thinning of the shoots is undertaken early, and training done simultaneously, the fruit is more accessible when ripe, and insecticides can be more readily and economically used. There are several reasons that justify early completion of the work. The one course only of pruning and training each year affords at least the justification of economy. Birds are exceedingly partial to cherries, and much effort is made by them to reach the fruits. When nets have to be placed in position a good open space must be allowed between them and the attractive fruit. Thrushes and blackbirds are experts in pilfering even netted cherries, and unless leaning poles, forked struts, or strands of wire are so disposed as to keep the nets a clear foot from the trees, there is sure to be loss.

Observation extending over a series of years does not, however, reveal much in favour of early training when the extent of crop is taken into account. It is so often remarked, even by the most casual of observers, how beautiful are the densely clustered branches in the flowering period, and this, not in occasional seasons, but in regular order, and unless frost damages the expanding buds there is usually a heavy set of fruit. We have often heard it remarked how hard-worked is the Morello cherry, which is quite true, for no other tree in the garden gives such regular and bounteous crops. Desirable, therefore, as is the early thinning of trees, there is not the same comparative value when it is applied to the Morello cherry.

W. STRUGNELL.

Rood Ashton Gardens.

ANEMONE PULSATILLA.

This is one of the prettiest of our native spring flowers, and it is at its best about the season of Easter (from whence its common name, "Pasque flower," is derived). It grows wild on open limestone pastures, and in certain parts of Cambridgeshire, on the higher ground, it is fairly plentiful. The slightly drooping flowers are of a violet-purple colour, with yellow stamens, the whole plant measuring about six or eight inches high, and clothed with silky hairs.

The flower stalks lengthen as the fruits ripen, and they are extremely pretty, the awns being long and feathery like those of a clematis. It is a good garden plant, thriving on the rockery in a sunny position, or on the border in well-drained soil. There are two or three varieties, one being pale purple and another white. I send a photograph of the white variety in flower, and the same plant at a later date showing the fruits. This is growing in a bed devoted to anemones in the Cambridge Botanic Garden, and is always attractive in April and May. E. J. ALLARD.

ANEMONE PULSATILLA ALBA IN FLOWER AT THE CAMBRIDGE BOTANIC GARDENS.

PROFITABLE FRUIT GROWING for Cottagers and Small Holders of Land.—By John Wright, V.M.H. A Gold Medal Essay, written for the Worshipful Company of Fruiterers. Fully illustrated. Price 1s., by post 1s. 3d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

PEAS AND STRAWBERRIES AT BEDFORD.

Peas.

For many years Messrs. Laxton Brothers, of Bedford, have done excellent work in the improvement of strawberries and vegetables, and the late Mr. T. Laxton many years ago made a special study of the pea family, and effected considerable improvements in the varieties. One of the best of the dwarf varieties he raised was William I., which was a small round pea of exceptional quality. Since then the Messrs. Laxton have introduced Gradus, a larger podded, wrinkled marrow only a few days later than the small white peas of uncertain flavour, which have been totally eclipsed by Gradus, Thomas Laxton, and the new Laxtonian. In the last-named there is a marked advance, and it was obtained as the result of cross-fertilisation devised with a view to obtain earliness combined with fine flavour, and, it may be added, dwarfness also. The Laxtonian is only eighteen inches high, and the pods average nine to ten peas in a pod, with true marrow flavour. The growth is strong and vigorous, and the variety is greatly superior to the small older early varieties. Mention should also be made of the fact that this excellent variety was obtained by the intercrossing of Gradus and the dwarfer William Hurst. The last-named, when introduced by the firm, was regarded as a great advance, as it assuredly was, over the then existing varieties. Noteworthy also at Bedford is a new maincrop pea which has been named Laxton's Maincrop. This has been obtained from a cross between the well-known Alderman, one of their excellent introductions, and still one of the best varieties grown, and the remarkably fine pea Sutton's Prizewinner. This new introduction has pods of the size of those of Alderman, and the good quality of Prizewinner. Other late crosses not yet fully grown possess much that is of interest, and they promise well.

In the vegetable department are some other notable specialities, such as The Czar, and Girtford Giant runner beans; a large breadth of Chou de Bedford, a brassica raised from a cross between the Chou de Burghley, one of the late Mr. Gilbert's introductions, and Couve Tronchuda, or Portuguese cabbage. It is a very hardy winter vegetable, and, therefore, most useful. Tomatoes have received much attention here; the Messrs. Laxton have studied hardiness, and for outdoor culture such varieties as Laxton's Open Air, Early Prolific, and Fillbasket are of much value.

Strawberries.

Many may consider these fruits should have had first place, and though more popular than vegetables, the last-named, from a vegetable enthusiast's point of view, are equally important. This year two new strawberries have been introduced, and these are named Utility and Rival, and they are both late kinds. The first-named is a fine fruit as regards shape, colour, and quality. The well-known Waterloo was one of the parents, and it has its good qualities, and will thrive where Waterloo fails. The last-named is not reliable in all soils, but even the small late fruits of the new variety finish well. Rival claims the popular Royal Sovereign as one parent and Givon's Late Prolific as the other, and, as in the case of Royal Sovereign, it is very vigorous, though much later; it is a great cropper, and the fruit is handsome, has firm flesh, and is richly flavoured.

Since the Royal Sovereign was introduced there has been a demand for large fruits, and, believing that this may be overdone, Messrs. Laxton have, in their more recent work in strawberry improvement, given flavour a prominent position. This is important, as mere size is nothing if flavour is deficient, and though we are by no means averse to size, we regard it as essential that the quality should be high. The fruits of this year's introductions, although not large.

are large enough for all purposes, and the flavour is remarkable for its richness.

There are distinct varieties which are exceptional in quality, namely Pine Apple, Epicure, and Connoisseur. Those who saw the splendid fruits of the earlier Laxton introductions, such as The Laxton (a superb sample), Reward, Fillbasket, Leader, Cropper, and Bedford Champion, staged by Mr. Camber at the Holland Park Show, would agree with us that we have no lack of these varieties, and may with advantage give special attention to flavour. The three named above are not large. Pine Apple, as its name implies, is of a distinct pine flavour, and a midseason variety. Epicure is similar as regards size, and is the result of crossing British Queen with Fillbasket, the latter being a great cropper, and excellent. This variety will, we learn, grow vigorously where the British Queen fails. In the strong red Bedford loam at the Goldington Nurseries, an ideal soil for fruits, this variety is a close grower, and sets very heavy crops, and this also applies to Connoisseur. The latter is a very choice fruit, one of the parents being Scarlet Queen, and it is luscious in flavour, and a remarkably free cropper. The fruits have the bright vermilion colour of Scarlet Queen, and should be popular for exhibition.

To the earlier introductions it is not necessary to do more than make the briefest reference. A distinct variety, named Profit, must be mentioned as deserving attention, for it is a good all round variety, with large fruits of the flavour of Countess, and the vigour of Sir J. Paxton. The popularity of the older kinds, such as Reward, Cropper, Progress, Bedford Champion, and Laxton's Latest, is indicated by the large area devoted to them. Many thousands of runners are layered for August planting, the runners of Royal Sovereign alone reaching 60,000 for forcing, and when the enormous space the strawberry occupies here, some thirty acres, is considered, it will be seen that much labour is entailed. There is no crowding, and the open, exposed position and the strong Bedford loam suit the plants admirably.

A new break from the old, or summer strawberry, has of late years found much favour, and this is the Perpetual type. With this the Messrs. Laxton have not been idle, and they have a very distinct new autumn fruiter called Laxton's Perpetual, raised from a cross between The Monarch, a summer fruiting variety remarkable for its large size and freedom of cropping, and the perpetual St. Joseph, a variety that has found much favour for autumn supplies. Laxton's Perpetual bears a large wedge-shaped fruit, and, by special attention to culture, ripe fruits may be had from June to November. Grown in pots in frames it is excellent for late supplies. It is a compact grower, and can be planted much closer than the summer kinds.

POMOLOGIST.

Cæsalpina sepiaria (japonica) is a very beautiful and comparatively unknown shrub in gardens, belonging to the natural order Leguminosæ. The foliage is very striking, and is composed of leaflets arranged in pairs on either side of a stout petiole, forming elegant compound leaves, which resemble some of the better-known acacias. The shoots are light brown, densely covered with short sharp prickles, as also are the petioles of the leaves. The plant is a native of Japan, and was introduced to gardens in 1888, in which year it was figured in the GARDENERS' MAGAZINE. Although none too hardy in the open, it attains a height of six feet, and when it blooms bears drooping terminal bunches of yellow, pea-shaped flowers. Cæsalpina sepiaria succeeds in a good, free, loamy soil, preferably that to which a quantity of leaf-soil has been added, its growth being slow; it is for this reason well adapted for clothing low, sunny walls, where the beauty of its foliage will be fully appreciated. The plant is deciduous, the autumn tints of the leaves being a rich golden-yellow.—THOMAS SMITH.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

CALANTHES.—Many of the calanthes will now be forming their pseudo-bulbs, and it is at this stage that the plants require most attention. Where they are grown in small pots, and the receptacles are filled with roots, care must be observed that the potting compost does not become dry, or at any rate, remain dry for any length of time. It is in this condition, too, that artificial feeding, if desirable, may be best applied. I have not the least doubt but that there are many successful cultivators of calanthes who consider artificial feeding a necessity; but although we grow our plants in small pots, I do not consider it advisable to resort to artificial feedings, because we find little or no advantage therefrom. There are differences to be made in different localities. I have had a fairly wide experience in the cultivation of calanthes, and am quite of opinion that under certain conditions feeding after the pots have become filled with roots produces most desirable results, while in others it is equally detrimental, and it is not until trial has been made and experience gained that we are able to properly determine the best method. It has frequently been said that many of the successes we have obtained are due to a process of feeding, or, in other words, we have some special chemical solutions which we apply. Whatever was done previously, I am not prepared to say; but I have had charge of the plants here for a number of years now, and no manure or feeding of any kind, except for experimental purposes, has been given.

ANEMONE PULSATILLA ALBA IN FRUIT AT THE CAMBRIDGE BOTANIC GARDENS.

RIPENING THE PSEUDO-BULBS.—As the pseudo-bulbs develop more light should be afforded. It is better to begin hardening the pseudo-bulbs before the flower scapes become far advanced, so that they may become properly ripened before the flowers commence to expand. Considerable differences will be found in the same plant. I have frequently observed that the larger pseudo-bulbs which have not become so well ripened before flowering, rarely produce such good colour in the flowers as do smaller and properly matured ones. In a sunless season, such as we have experienced since the plants started into growth, calanthes require every attention and encouragement to enable them to become properly ripened. The later flowering kinds, such as C. Regnieri, C. Williamsi, and C. Stevensi, will require to be kept growing for a few weeks yet, as their growths are usually later in maturing.

PHAIO-CALANTHES, which have a semi-deciduous habit, will now be resting freely, and these should be kept growing throughout the winter and until after the flowering season is over. The resting season should be between the flowering period and the re-commencement of growth.—H. J. CHAPMAN, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

CHRYSANTHEMUMS.—The present is a busy time among chrysanthemums, for, in addition to the weekly tying of the shoots, the plants must be examined nearly every day, and as the buds appear these must be "taken," and the young growths around the bud must not be allowed to get the upper-hand, thereby weakening the flower. Feeding must now be regularly attended to. water with farmyard liquid, or give a little artificial manure every seven or ten days. I prefer to mix the artificial manu with a little soil and sprinkling a handful over the surface of the pot, and water it in through a rose; this will feed the surface roots and prevent them getting burnt by the sun (though there has not been much fear of that this season). As soon as young roots are seen a further dressing may be given. Where the pots stand on ashes they should be lifted once a week to prevent rooting through, for if this is done regularly it will prevent a severe check when the time comes to take the plants indoors. Care must also be taken to keep earwigs down, and frequent syringings, or dustings with tobacco powder, must be given to keep the green and black fly under, as these have been most persistent all the season through.

HYDRANGEAS.—The present is a very suitable time for putting in cuttings for flowering on single stems in the spring and early summer. Good strong half-ripened shoots should be secured and put in singly in small 60's, using light loam and plenty of sand; these, if placed in a hand-light in a frame, or some semi-shady position out of doors, and kept fairly close, should soon make roots. Do not apply much water overhead or the cuttings will rot off; but an occasional damping is quite necessary to keep the foliage firm. Young plants that have been cut down some time, and are breaking strongly, should be potted up into large 32's, or 24's, using a fairly rich compost and potting very firmly; these will get well hold of the soil before autumn, and if given an open position, with plenty of air, the young shoots will ripen well, and will produce an abundance of good flowers. I find they do much better thus than when potting is delayed until the early spring.

CYCLAMENS.—Old corms will now be ready for repotting; shake away as much of the old soil as possible without damaging the roots, and provide pots a size larger than they have previously occupied, using a compost as advised for young plants in a previous calendar. After potting replace in a cold frame and give a good soaking of water, after which they will not require much moisture for a time, beyond light overhead syringings daily to encourage leaf-growth. Give plenty of air, but do not let them have too much direct sunlight.

LATE CELOSIAS AND BROWALLIAS should now be potted into their flowering pots, and these must not be too large; 48-sized pots, with careful feeding, will produce really serviceable plants.

BEGONIA GLOIRE DE LORRAINE.—If large plants of these are wanted, the more forward of them should be picked out and potted into 24's, using a rich light compost with some charcoal added, afterwards replacing them in a house where plenty of heat is maintained, giving shade and little air, when they will soon take hold of the fresh soil.

COLEUS CUTTINGS should now be put in, and they will make nicely coloured plants that will prove very useful during the autumn and early winter months. We have plenty of large-flowering plants during the autumn, but none too many of small size, so that for edging groups, etc., in the conservatory, these small well-coloured coleuses will be just the thing, and they are most easily grown.

THE LATEST BATCH OF LILIUMS should now be placed indoors, where they may have a little shade, as it will be found that they have become a little stunted and short in growth, but this shade will induce them to grow out of it.

FREESIAS, PAPER WHITE NARCISSI, AND ROMAN HYACINTHS.—These, if not already to hand, should be ordered at once, and a batch for early use be potted up. Lachenalias should be turned out of the old soil, sorted over, and the best of the bulbs potted into 48's, or put into baskets or pans. The smaller bulbs may be put in boxes, and, if looked after during the winter and spring, will produce many good flowering bulbs for the following autumn. — T. STEVENSON, Woburn Place Gardens.

THE FLOWER GARDEN.

SEASONABLE WORK. At this season of the year a tremendous amount of work needs to be done in all parts of the flower garden, in addition to the ordinary routine. The summer bedding plants will now need regulating to prevent overcrowding, and spoiling the design. Such subjects as mesembryanthemums, iresine, alternantheras, annual phloxes, verbenas, etc., must be kept regulated and pegged down, and the beds kept fresh and free from weeds. All standard plants, as lantanas, heliotropes, swainsonias, fuchsias, etc., must be kept neatly staked and tied. The rose garden must not be neglected now, and the blooms that are over should be picked off. Hoe and rake the beds and attend to any plants which are mildewed, dusting them with flowers of sulphur. Such growing plants as dahlias, asters, chrysanthemums, etc., will need tying and cleaning, and slight applications of manure in showery weather will assist their growth. Attend to the herbaceous borders, remove old flower spikes, and stake any plants that require it. Sweet peas must not be overlooked, and constant removal of seed pods will do much to induce them to continue flowering.

SUBTROPICAL BEDDING.—Where this is employed, and on light soils in favoured positions, it will now be creating a fine effect. With the advent of more seasonable weather, and the already moist condition of the ground, the plants will grow apace, and great care must be exercised to make them secure to strong stakes. No pains should be spared to make this part of the garden as effective as possible during the short time it is possible to do so.

SPRING BEDDING.—The preparation of the plants for next spring must not be delayed if sturdy plants are wished for at planting time. Wallflowers should be thinned out, or planted in beds, and myosotis should be treated in the same way, and I would here like to mention that excellent variety Sutton's Royal Blue, which deserves inclusion in every garden, great or small. Continue to divide other subjects if larger quantities are required. All beds containing polyanthuses, arabis, and hellebore must be kept weeded and cleaned.

CLIMBERS.—Give attention to climbers on walls, but do not tie these in too severely or much of their beauty will be lost. Tropæolum canariense is a splendid subject for a wall, and T. speciosum, the Flame Flower, which grows to such perfection in Scotland, is a brilliant flowering plant, where it can be persuaded to establish itself. The roots require a cool shady position, while the growth enjoys sun and light; planted amongst evergreens it seems to have an ideal position.—E. BECKETT, Aldenham Gardens.

HARDY FRUITS.

THE EARLIER APPLES AND PEARS must be protected from the ravages of blackbirds and tom-tits, the former having a great liking for brightly-coloured apples, while the latter can be very destructive to the pear crop by pecking a small hole in the fruit near the stem, and from which decay rapidly proceeds. It is practically impossible to protect with fish-netting the trees growing in the open, unless it be the very small ones. Guys are of very little use in frightening away the blackbirds, and nothing seems to be of any use here for keeping them away from the fruit, except a frequent use of the gun both early in the morning and also during the evening. These fruits, when growing against walls, may be easily protected by the use of fish netting, which should be kept clear of the trees by the use of several upright laths. The early apples and pears remain but a short time in a fit condition for use, and to make the most of these a few of the most forward should be picked daily and placed in the fruit room for a day or two, when they will be fit for dessert.

WASPS.—These, in some seasons, are very destructive to the choicer kinds of fruits, such as grapes, peaches, nectarines, apricots, and plums, therefore every opportunity should be taken to keep them in check by destroying every queen wasp that may be seen in the early summer, and every nest which can be found later on. We pay one penny for each queen wasp, and sixpence for every nest taken, and I am pleased to say we are not so much troubled with them now as we were before we adopted this course. To destroy the nests, soak a piece of cotton-wool in some cyanide of potassium, and place it just inside the mouth of the hole; as soon as it is dark, dig out the nest, and place this, with all the stupefied wasps which may be found, in an old newspaper, and burn the lot in the furnace.

STRAWBERRIES.—The young plants for new beds should now be ready, and the sooner they are transferred into their permanent position after they have filled the pots with roots, the better opportunity they will have for developing and ripening up the crowns for next season's fruiting. The strawberry is one of those fruits which must have some protection from the attack of birds, hence the necessity of making the beds in positions where they can be conveniently netted. For early fruiting the strongest plants should be put out on a warm border, and if they are only intended to remain for one season, may be planted out fifteen inches apart each way; but for the main crop we allow two feet between the plants each way. The Leader, which makes less foliage than most of the other varieties, may be planted eighteen inches in the rows, and the latter two feet apart. Plant firmly, and water the plants well in; remove all runners as they show, and keep the surface well open by frequent use of the Dutch hoe.

RASPBERRIES.—As soon as the fruit is gathered choose a dry day for removing the netting, which, if found fit, may be stored away at once. Cut down all the old fruiting canes, and loop up to the supports, as a protection against damage by rough winds, sufficient of the strongest of the young ones to take their place; afterwards cut out all surplus suckers, pull up any weeds that may be seen, and give the quarter a general clean up.

AUTUMN-FRUITING RASPBERRIES.—The young fruiting canes must be made secure to the supports; leave ample room for each cane by removing any that are not required, always selecting for removal the weakest ones. If a mulching of manure has not already been placed over the roots, let this be done at once, as this will not only conserve the moisture in the soil, but will greatly assist in perfecting the canes for the production of fruit.

BLACK CURRANTS.—There is a good opportunity after the fruit is picked to attend to the necessary pruning. This currant produces its finest fruit on the young wood of the preceding season's growth, therefore the old fruiting wood should now be cut away, so that the new growths may receive the full benefit of sun and air to ripen them up.—GEO. WOODGATE, Rolleston Hall Gardens.

Ozothamnus rosmarinifolius is an interesting and beautiful old shrub that succeeds on any moderately warm wall. It is a near relative of the daisy bushes (Olearia), and was introduced from Australia in 1827, so that it is almost a century old in gardens. The young shoots are extremely soft and wand-like, covered with long, narrow, rosemary-like leaves; the flowers are produced on the old wood, in small, dense heads, and in such quantities as to suggest the appearance of snow in summer. The plant grows freely in any soil, wintering best in that which is well drained. It is easily propagated from cuttings of ripened shoots taken in autumn.—THOMAS SMITH.

Everyone interested in a garden should obtain a copy of the ALPHABET OF GARDENING, by T. W. Sanders. Thoroughly practical information is given as to soils, manures, seed sowing, planting, potting, budding, pruning, grafting, forcing, hybridising, etc., with explanatory diagrams. Price 1s. 6d. net, by post 1s. 9d.; cloth, 2s.; by post 2s. 3d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

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PLANTS, FLOWERS, FRUIT, VEGETABLES, etc., DOGS, CATS, RABBITS, POULTRY, PIGEONS, etc.
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Entries for Dead Stock close Aug. 19, 1909.
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EXHIBITIONS AND MEETINGS.

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Midland Carnation and Picotee Show.

AUGUST 5 and 6.

Favoured by bright summer weather, there was a good attendance at Edgbaston on August 5 and 6, and the carnation show, if not quite so large as some of its predecessors, was remarkable for the uniform high quality of the flowers, which were said to outrival those of the southern shows. Sweet peas were also of the highest excellence. There was a slight falling off in the number of honorary contributions, but the usual standard of high merit was maintained by Messrs. T. Gunn and Son, and Messrs. W. H. Simpson and Sons. A word of praise is also due to the hon. secretary, Mr. T. Humphreys, for a much appreciated modification of the staging arrangements. That there is a rapidly growing favour for carnations exhibited without paper collars, but with carnation foliage and buds allowed, was evidenced by the crowd of admirers at this show.

OPEN CLASSES.

In the class for twelve selfs, dissimilar, Mr. A. R. Brown, King's Norton, was to the fore with a beautiful set of Cecilia, W. H. Paxton, Alba, Southwell, Alma, Mrs. Eric Hambro, Helen Gottwaltz, Helen, Cardinal Crystal, Mrs. Howard Green, and Cardinal Newman; Mr. H. Mathias, Medstead, Hants, was a close second; and Mr. C. F. Thurstan, Wolverhampton, was third. For six selfs, Rev. C. A. Gottwaltz, Droitwich, led with fine examples of Helen Gottwaltz, Theodora Galton, Connie Humphreys, Mrs. E. Hambro, Camonia, and Mr. Howard Evans; Mr. Harry Skeels, Walsall, second, with fine flowers, and Mr. G. D. Ford third.

A keenly contested class was that for twelve yellow-ground picotees, and here Mr. H. Mathias scored with Silva, Styx, Mayflower, Exquisite, Togo, Serena, Goblin, Leonora, Coquelin, Astrophel, Mrs. Heriott, and Ariel; Mr. A. R. Brown second; Mr. William Sydenham, Melbourne, third; and Mr. C. F. Thurstan fourth. For six blooms, Mr. H. Skeels led with a dainty set of unnamed flowers; it may here be remarked that Mr. Skeels was not alone in this important oversight, and yet there is a regulation that unnamed flowers—including seedlings—may lead to disqualification; the Rev. C. A. Gottwaltz second; and Mr. E. J. Price, Bournville, third.

A keenly contested class was that for twelve fancy carnations, Mr. A. R. Brown being victorious with a magnificent set of Lord Steyne, Highland Lass, Elaine, Erl King, Pluto, Billy Barlow, Pasquin, Westfield Seedling, Betty Sharpe, Mandarin, Clement, and Margaret Thurston; he had a close antagonist in Mr. A. W. Jones, Stetchford, who was second; Mr. W. Sydenham third; and Mr. H. Mathias fourth; there were nine entrants. For six fancies there were ten entries, Mr. G. D. Ford leading with fine examples of Lord Steyne, Erl King, Pasquin, Liberté, Sam Weller, and King Solomon; the Rev. C. A. Gottwaltz second, and Mr. H. Skeels third.

The white-ground picotees were well represented by the four entrants; Mr. C. F. Thurstan led with Mr. H. Hoskier, Amy Robsart, Excelsior, Ganymede, Fair Maiden, Thos. Williams, Carrie Goodfellow, Molly, Myra, Brunette, Elaine, and Mrs. Holden; Mr. A. R. Brown second, and Messrs. H. Mathias and C. H. Herbert third and fourth respectively. There were ten entries of six blooms, Mr. F. W. Goodfellow, Walsall, leading with beautiful flowers of Mrs. W. H. Twist, Carrie Goodfellow, Pride of Leyton, Mrs. Openshaw, Psyche, and Lavinia; Mr. G. D. Ford second, Mr. W. H. Twist third, and the Rev. C. A. Gottwaltz fourth.

For twelve flake or bizarre carnations, Mr. C. F. Thurston was to the fore with an exquisite lot of Master Fred, Gordon Lewis, Mrs. Rowan, J. D. Hextall, Mrs. Skirving, Sportsman, J. S. Hedderly, John Herbert (a seedling), Arthur, Geo. Rudd, Merton, and Admiral Curzon; Mr. C. H. Herbert second; and Mr. A. R. Brown third. For six blooms, Mr. G. D. Ford was again victor with Master Fred, Sportsman, Gordon Lewis, Admiral Curzon, W. S. Skirving, and Meteor; Mr. Wm. Derry, Edgbaston, was a close second; and Mr. H. Boyes, Walsall, third.

SINGLE BLOOMS.

These were capitally represented, but it would be only a repetition of the names of the exhibitors and their flowers to enumerate them. The amateur classes were meritorious throughout.

PREMIER PRIZES.

Dressed flowers.—Bizarre carnation, Mr. C. F. Thurston, with Master Fred; flake, Mr. Thurston, with Gordon Lewis; heavy-edge white-ground picotee, Mr. F. W. Goodfellow, with Mrs. W. H. Twist; light or wire-edge white-ground picotee, Mr. G. D. Ford, with Mrs. Gorton; heavy-edge yellow-ground picotee, Mr. C. F. Thurston, with Santa Claus; light-edge yellow-ground picotee, Mr. A. W. Jones, with Astrophel; yellow-ground fancy carnation, Mr. A. R. Brown, with Lord Steyne; self carnation, Mr. F. W. Goodfellow, with Sir Galahad.

Undressed flowers.—Self carnation, Mr. F. W. Goodfellow, with Sir Galahad; fancy carnation, Mr. A. R. Brown, with Lord Steyne; yellow-ground picotee, Mr. C. H. Herbert, with Mrs. W. Heriott.

First-class certificates were awarded to Mr. Goodfellow for Mrs. W. H. Twist; to Mr. A. W. Jones for Linkman; to Rev. C. A. Gottwaltz for Mrs. Howard Green; and to Mr. H. Mathias for Iota and Libra.

SWEET PEAS.

These were a pleasing feature and good throughout. In competition for Messrs. Robert Sydenham's prizes there was a keen contest. For twelve varieties Mr. Thos. Jones, of Ruabon, annexed the premier prize with John Ingman, Audry Crier, Queen Alexandra, Clara Curtis, Frank Dolby, Evelyn Hemus, Mrs. Hardcastle Sykes, Henry Eckford, Helen Pierce, Helen Lewis, Etta Dyke, and Black Knight; Mr. J. Haycock, Wrexham, second; and Mr. C. Holder, New Oscott, third. For six distinct varieties, Mr. John Sceaney, Harborne, led with Evelyn Hemus, Helen Lewis, Mrs. H. Sykes, F. Dolby, George Herbert, and Etta Dyke; Mr. W. H. Clement, King's Norton, second. In the class for three distinct varieties, Mr. T. Jones led with Mrs. Routzahn, Paradise, and Syeira Lee; Mr. J. Haycock, Wrexham, second; and Mr. John Sceaney third.

MEDALS.

Silver-gilt.—To Messrs. B. R. Davis, Yeovil, for a splendid display of begonia blooms; to Messrs. W. H. Simpson and Sons, Birmingham, for splendid large arrangement of sweet peas; and to Messrs. Gunn and Sons, Olton, for an elaborate design of roses.

Silver medals.—To Mr. C. H. Herbert, Acock's Green, for a bold arrangement of border flowers; and to Messrs. Young and Co., Hatherley, Cheltenham, for a large and tastefully arranged collection of perpetual carnations.

Solihull.

The fifth annual show of the Solihull and District Horticultural Society was held on August 2 and 3, in the picturesque and richly timbered park at Malvern Hall, under the most favourable auspices both as regards weather and the extent and quality of the exhibits, as well as the attendance of visitors. A word of praise is due to the staging committee for their excellent arrangements.

Messrs. Gunn and Sons' grand and imposing exhibit of rock and water gardening, flanked on either side with fine groups of perpetual carnations in pots, phloxes, and other herbaceous flowers, occupying a space of sixty feet in length, had a host of admirers, and their splendid exhibit of roses was equally attractive; each exhibit gained a gold medal.

Messrs. Hewitt and Co. were assigned a gold medal for a representative display of herbaceous flowers most artistically arranged without undue crowding, and a fine display of perpetual carnations. Messrs. H. Neale and Co. had a silver medal for a highly creditable display of herbaceous flowers, and a similar award went to Miss S. S. Thompson, Handsworth, for one of her unique collections of cacti and other succulents.

First and foremost in the competitive classes was the group of plants arranged for effect by Mr. J. V. Macdonald, gardener to Sir G. Kenrick, Lord Mayor of Birmingham; a close second being Mr. W. Vause with one of his best efforts; whilst Mr. H. S. Foster, gardener to F. E. Muntz, Esq., Umberslade, was a worthy third. Specimen plants were most creditably shown by Mr. Alfred Hughes, Packwood Grange, Mr. W. Vause, and Mr. J. Warner, who won in the order named. Begonias were very well staged by Mr. C. T. Eborall, Mr. Hugh Mitchell, and Mr. W. Wood. In the class for carnations, Mr. A. R. Brown led in a small competition. Exotic ferns were well shown, Mrs. Upton, Mr. Alfred Hughes, and Mr. H. G. Grenville being the respective prize winners. The latter was to the front for three large and finely flowered fuchsias and coleuses, while Mr. Upton led for large specimens of zonal pelargoniums and gloxinias, the latter being particularly fine. In the open local class Mr. T. Warner, gardener to Mr. Upton, Solihull, annexed the first prize for a highly creditable group of miscellaneous plants arranged for effect.

There was not a strong competition in the class for dessert fruit, the first prize being accorded to Mr. A. Hughes for six dishes, comprising fair examples of grapes, peaches, nectarines, a melon, strawberries, and gooseberries; Mrs. Upton second, and Mr. F. E. Muntz third. Outdoor fruits were fairly well staged, and tomatoes were excellently put up, the first prize lot shown by Mr. Alfred Hughes being superb.

The National Sweet Pea Society's silver medal for the best six feet run of flowers was awarded to Mr. A. Hughes. Mr. E. A. Grove secured the first prize for a collection of hardy perennials. Violas were well staged by Messrs. F. W. Hitchman and H. Anderson, Shirley. There was a keen contest for the special prizes offered by Messrs. Robert Sydenham for sweet peas, and for nine distinct varieties, in bunches, Mr. F. W. Hitchman was placed first with very fine flowers. There were several other exhibits of sweet peas, and altogether the display was a fine one.

Another attractive feature was the display of ladies' table decorations. There were seventeen exhibits in the two classes, one for any kind of flower, and the other from which sweet peas were excluded. In the former class Mrs. Ford, Acock's Green, won the coveted first position with an elegant arrangement of pink perpetual carnations; Miss Sarah Page second with a similar composition; and Mrs. H. Martin third with a charming arrangement of Plumbago capensis. In the latter class Mrs. Ford was again the victor with an arrangement of pink carnations etc.; Miss F. M. Felton second and Mrs. Zain third.

Basingstoke.

AUGUST 2.

In Golding's Park the annual show was held on the above date, and the entries were fewer than usually. The secretarial duties were well carried out by Mr. Hailstone. The Mayor of the Borough is the treasurer, and he takes a keen interest in the society.

For a group of miscellaneous plants arranged for effect in a half-circle, 10 feet by 7 feet, there were four competitors; Mr. J. Keen, gardener to H. Welch Thornton, Esq., Beaurepaire Park, Basingstoke, was first with a bright but slightly crowded arrangement of suitable plants, well grown crotons, palms, ixoras, caladiums, and Humea elegans; Mr. W. Green, gardener to S. E. Bates, Esq., Maenydown Park, was a good second. Mr. J. Keen had the best specimen flowering stove or greenhouse plant, a well-blossomed Stephanotis floribunda, and he had an exceedingly fine Cycas revoluta, with which he scored for a specimen foliage plant. Exotic ferns were remarkably well shown by Mr. Keen in the class for six specimens, and here he showed huge plants of Asplenium nidus, Dicksonia antarctica, Nephrolepis elegantissima, and Adiantum cuneatum.

Tuberous begonias were well shown in the class for eight, Mr. W. E. Perriss, gardener to the Rev. A. H. Gay, Worting, being first. Coleus are now seldom seen in good condition, but here they were exceptionally good, and for four pyramidal-trained specimens Mr. Green was the winner with richly coloured examples of popular varieties. Mr. Keen had a capital set of twelve table plants, annexing the premier award.

For two dozen roses, distinct, there were but two entrants, Mr. W. Neville, gardener to F. W. Flight, Esq., Cornstiles, Twyford, Winchester, winning easily the first prize with handsome blooms of Miss A. M. Kirker, J. Cuff, Dean Hole, A. K. Williams, Lady Ursula, G. C. Waud, Mrs. Theodore Roosvelt, G. Laing Paul, and Lyon Rose; Mr. A. Childs, gardener to the Hon. Mrs. F. Baring, Brown Candover, second. For twelve tea roses Mr. Neville again led with neat, fresh examples of E. V. Hermanos, Mrs. E. Mawley, and Maman Cochet; Mr. Childs second. Carnations, undressed, with foliage as grown, three blooms of each of twelve varieties made an interesting class, and here Mr. Neville won with typical blooms of Miss Patterson, Gautuzza, Sam Weller, Trojan, Duchess of Wellington, and Mulebar; Mr. Bowerman, gardener to Lord Curzon, Hackwood Park, Basingstoke, was second.

Cactus dahlias were well shown. For twelve, distinct, Mr. Childs was first with C. Stredwick, Phineas, Oscar, Pink Beauty, and Mrs. E. Mawley; Mr. H. Tomalin, gardener to Dr. Maples, Kingsclere, second. For twelve bunches of cut flowers, distinct, Mr. Keen had the best of four collections and showed anthuriums, stephanotis, Clerodendron fallax, ixoras, and cypripediums; Mr. Childs second.

An interesting class was that for a collection of cut flowers, grown out of doors, to fill a space of six feet run of tabling, quality and decorative effect to be the leading features. Mr. R. W. Dean, gardener to L. de L. Simons, Esq., Audley's Wood, was first with an exhibit of roses, delphiniums, and Cimicifuga simplex, etc.; Mr. C. C. Hammond, Sherbourne, St. John's, second. For twelve bunches of sweet peas, distinct, Mr. Childs won with effectively arranged spikes of popular varieties; Mr. Neville second.

Fruit was good in quality, and for a collection of six dishes, distinct, Mr. Bowerman, with Black Hamburgh and Muscat of Alexandria grapes, Violette Hative peaches, Sutton's Scarlet melon, Humboldt nectarines, and Oullin's Early apricot, scored. For two bunches of Black Hamburgh grapes, Mr. H. Tomalin staged well finished clusters, and secured the premier award; Mr. R. W. Dean second. Mr. Bowerman, in the any other black grape class had Madresfield Court in good order. Mr. W. Green had the best Muscat grapes, two bunches. In the any other white grape class, Mr. W. Green had extra large berried Foster's Seedling, and annexed the premier award. Melons were of excellent quality; Mr. Green staged Sutton's Ringleader, and won in the green-flesh class with an exquisite fruit. Mr. Bowerman, with Sutton's Scarlet, won for that colour. Mr. Bowerman had the best plums, cherries, pears, peaches, and nectarines in the single dish classes.

Vegetables made a fine show. For eight varieties, Mr. Bowerman won with Wright's Giant White celery, Magnum Bonum cauliflower, Ailsa Craig onions, Duke of Albany Peas, and Hackwood Park tomatoes; Mr. H. E. Wallis, gardener to G. D. Fullerton, Esq., Sherfield Hall, second. Mr. Bowerman also won Messrs. Suttons' prize for six dishes, and Messrs. J. Carter and Co.'s prizes for six dishes. The single dish classes were well filled with good exhibits.

The decorative section for ladies made an attractive display. For the best decorated table for six persons, Miss N. Wadmore, Cliddesdon Road, was first with pink and blue sweet peas and pink carnations, and suitable greenery, all nicely blended; Miss M. Cannon, London Street, Basingstoke, second. For the best arranged stand of wild flowers, grasses, and berries, Miss Gosling, St. Aubyn's, Basingstoke, won with a handsome exhibit. The Hon. Mrs. Baring had the best pair of stands for table decoration. Miss K. Wadmore secured the leading prize for a stand of flowers and fruit, and in an open class Mr. A. E. Wadmore won with a handsome design of an open book, fully four feet across, of white asters, edged with yellow chrysanthemums, and with a handsome spray of orchids on one side.

Trade exhibits were not numerous; Messrs. B. Ladhams and Son, Shirley Nurseries, had an attractive collection of hardy flowers in which gaillardias were a fine feature—one special variety, Charles Ladhams—rich crimson with gold edging, standing out prominently among other good varieties. Messrs. E. Hillier and Son, Winchester, had cut roses and shrubs in variety. Messrs. W. H. Rogers and Sons, Southampton, had a noteworthy display of roses.

Prescot.

AUGUST 2.

The twenty-fifth annual show was held in Knowsley Park, by kind permission of the Right Hon. the Earl of Derby. The entries were fully up to the average, and the plant classes were better than usual.

For a group of plants eleven feet in diameter Mr. W. H. Roberts, gardener to F. D. Nutall, Esq., was successful. For two palms or cycads Mr. J. McFall, gardener to Mrs. Harding won with fresh plants. For four stove or greenhouse plants Mr. J. George, gardener to J. Henshaw, Esq., staged a good Clerodendron Balfourianum and Allamanda Hendersoni. For four greenhouse plants in flower Mr. J. McFall led, having a good Plumbago capensis, etc. For one stove or greenhouse plant in flower Mr. F. Leyland won with a well-flowered Stephanotis floribunda, and for one fine foliage plant Mr. F. Leyland scored with Cycas circinalis. Mr. J. McFall had the best specimen fern, a good plant of Dicksonia antarctica. For three caladiums Mr. J. McFall was first, and for three stove or greenhouse ferns Mr. J. McFall also won. Mr. D. McKelvie, gardener to J. Stone, Esq., scored for begonias, and Mr. W. H. Roberts led for three fuchsias, three coleus, six table plants, crotons, and zonal pelargoniums.

Mr. J. George led for eighteen cut roses, distinct varieties, and also for six of one variety. For twelve roses, Mr. J. McFall led, and for six blooms Mr. T. Culshaw, gardener to Captain Young, was the chief prize winner. Mr. J. George had the best twelve kinds of hardy herbaceous flowers, scoring with an excellent lot; he also led for twelve carnations. Mr. T. Kilshaw was an easy first for eight bunches of sweet peas.

For four dishes of fruit, distinct, Mr. J. McFall led with good grapes, Mr. T. Eaton, gardener to Mrs. Parrington, coming a close second. For two bunches of Black Hamburgh grapes Mr. W. Oldham, gardener to Joseph Beecham, Esq., scored with well-berried bunches. Mr. J. McFall led for Muscat of Alexandria; and for any other black grape Mr. D. McKelvie scored; while for any other white Mr. W. Oldham led with Buckland Sweetwater.

Mr. J. George had a fine collection of eight kinds of vegetables, and especially good were Magnum Bonum potatoes, French beans, Ailsa Craig onions, and Sutton's Al tomatoes; Mr. H. McFall second.

Peterhead Horticultural Society.

AUGUST 7 and 9.

Brilliant weather favoured the annual show of this society. In past seasons the display has been held in the music-hall, but this year the council determined on a new venture, and secured the Recreation Park, and by providing several attractions besides the show itself, made the event one of the most successful in the society's history. The exhibits were shown in two marquees, and were more numerous than last year.

The pot plants were exceedingly good, begonias being especially noteworthy. Chrysanthemums, geraniums, ferns, and pelargoniums also came in for favourable comment by the judges. There were also excellent displays of mignonette. Cut flowers were wonderfully good, considering the lateness of the season, but scarcely up to last year's standard. A very fine collection of sweet peas by Messrs. J. and J. West secured a first place, and considerable attention was devoted to a collection of new sweet peas sent by Mr. Walter Findlay, of Peterhead.

The exhibits in the fruit section were rather meagre for a show like Peterhead, and many of the fruits were not yet ripe. Strawberries and black currants made a meritorious display. The backward nature of the season was also observed in the vegetable section. In the classes for professionals, leeks and onions were specially good, and in the amateur sections, leeks, shallots, and cabbages were the best exhibits.

The chief prize winners in the professional classes were: Pot plants—Mr. Alexander Watson, Wellbank; Mr. John Christie, Whitehill; Messrs. J. and J. West, Eden; Mr. Robert Shand, The Grange; and Mr. William Taylor, Eastburn. Cut flowers—Messrs. J. and J. West; Mr. John Christie; Mr. Robert Shand; Mr. R. Duguid, Cruden Bay; Mr. Alexander Watson; Mr. W. M. Findlay, Hatton; Mr. A. Davidson, Cairngall; Mr. B. Gibb; and Mr. D. Edward, Invernettie. Fruit—Messrs. J. and J. West; Mr. James Gibb, Millbank; Mr. John Christie; Mr. Robert Shand; and Mr. Alexander Watson. Vegetables—Messrs. J. and J. West; Mr. J. Christie; Mr. R. Shand; Mr. James Gibb; Mr. R. Duguid; Mr. A. Morgan, Cairntrodlie; and Mr. J. Sim, Brickwork.

Large crowds, many coming from the country districts, visited the show. The arrangements, which were made by the secretary, Mr. A. Clark Martin, and an energetic committee, were complete in every way, and these gentlemen are to be heartily congratulated on the successful outcome of their labours.

Taunton Summer Show.

The forty-second show of the above horticultural society was held on Wednesday and Thursday, August 11 and 12, in the beautiful park of which Taunton is justly proud. Favoured by glorious summer weather, which indeed Taunton Show has always been, the show was an unqualified success in every way. Rumour has had it that Taunton Show is not what it was years ago. This is true, but in a different sense from that in which we understood rumour to imply—it is better; infinitely better, and Taunton Show, 1909, deserves to be reckoned among the important events of the year. We feel that a word of praise is due to the committee, and especially to its secretary, Mr. J. S. Winsor, for the admirable way in which the business of the society is worked. As an exhibitor remarked to-day, few shows have such a secretary as Mr. Winsor. One fault we have to find, and this we mention by way of explanation to our readers, viz., the prize cards bore only the names of the exhibitors, not their addresses; and our efforts to obtain these met with no success.

PLANTS.

The schedule led off with a class for twelve stove and greenhouse plants in flower, and in their usual first-class style Messrs. J. Cypher and Sons, Cheltenham, staged the winning set. Their grand specimens of Rondeletia speciosa major, Chironia ixifera, Statice intermedia, etc., were really splendid. The second position was taken by Mr. W. Vause, Leamington. The same exhibitors preserved the same order in a class for six plants in flower. Messrs. Cyphers' winning half-dozen foliage plants were all grand specimens, and they were well followed by Mr. W. Vause's second prize set.

Prizes were offered for a group of plants arranged on an oval space 13 feet by 10 feet, and the group set up by Messrs. J. Cypher and Sons, Cheltenham, was awarded the first prize. The group was arranged in an artistic and pleasing manner, with a tall palm as a centrepiece, surrounded by liliums, Clerodendron fallax, and a few bright crotons. Nearer the margins were some good orchids and other choice subjects, the whole being finished off with small plants bedded in moss. Mr. W. Vause, Leamington, followed with a closer arrangement of somewhat smaller plants. In the amateurs' group class Mr. W. Cox, gardener to Mrs. E. M. Bernard, Taunton, secured premier award with a very neat little group, in which carnations and francoas were well set off by ornamental foliage plants. Mr. S. Kidley, gardener to Colonel Sanford, C.M.G., was second.

For eight begonias, Mr. W. Hayward, gardener to Miss Neal, secured first place, there being no other competitors. Mr. W. H. Bruford, gardener to the Hon. H. P. Gore Langdon, secured first for four specimen zonal pelargoniums, double, his plants being well trained and well flowered. He was followed by Mr. J. Stuckey, gardener to B. C. Shepherd, Esq. The class for singles brought only one competitor, Mr. W. R. Prince, gardener to the Hon. Francis Bowes-Lyon, who was awarded first prize. Messrs. J. Cypher and Sons practically swept the board in the single plant classes, and also led in the class for four orchids, with Mr. W. H. Bruford as runner up.

CUT FLOWERS.

Roses came up well, and were of good quality early in the day, but the intense heat rapidly told its tale on the more susceptible blooms. The leading class was for thirty-six blooms, and the stand exhibited by Messrs. Perkins and Sons, Coventry, was awarded premier honours. Their stand contained some excellent specimens. Mr. Henry Drew, Longworth, Farringdon, Berks, was second, and Mr. John Mattock, New Headington, Oxford, third. Messrs. Perkins and Sons again led for eighteen blooms, followed by Mr. John Mattock, and Messrs. Jarman and Co., Chard. Mr. Henry Drew led for eighteen teas, followed by Messrs. Perkins and Sons, and the West of England Rose Farm, Lim., in the order named. Mr. J. Stuckey was the only exhibitor of a dozen show dahlias, and was awarded first; while in the class for fancies he was beaten by Mr. W. Cox. For six bunches of cactus dahlias, Mr. John Thorne led, and Mr. W. Cox again came second. Cut zonals shown in a class for twenty-four trusses brought two excellent exhibits, and Mr. W. Hayward, gardener to Miss Neal, worthily received first prize, while Mr. W. R. Prince closely followed. Mr. Fred Eames, Frome, led for twelve spikes of phloxes, his trusses being of remarkable size; Mr. J. Webber was second, and Mr. H. Bellamy third. For a dozen Comet asters, Mr. J. H. Harris led with splendid blooms. Mr. Fred. Eames won for twenty-four gladioli, and was closely followed by Mr. Vincent Slade.

There were five entries for twelve bunches of sweet peas. Mr. H. Ellis, gardener to R. D. Hancock, Esq., led with good flowers, nicely arranged. Mr. E. Argall, gardener to E. C. Curtis, Esq., was a good second, and third and fourth places were secured by Mr. E. Day, gardener to C. E. Pierson, Esq., and Mr. A. E. Richards. In Mr. H. Eckford's class for twelve vases, Mr. A. Shakleton, gardener to Freeman Roper, Esq., led with a lovely lot. He was followed by Mr. H. Board, and the third prize went to Mr. C. E. Haddon. In a similar class provided by Messrs. Robert Sydenham, Lim., Mr. J. Moore, gardener to Rev. E. F. Fellow, won with ease. The arrangement of his flowers was sufficient to make the award a certainty, albeit his blooms had quality also. Mr. H. Cullurch was placed second, but here the arrangement was faulty. Mr. John Thorne was third. In the class for six vases, Mr. M. G. Gardner came first; Mr. S. Kidley second; and Mr. J. Chidgey third. In this class Mr. A. Shakleton staged fine flowers in an excellent manner, and, we thought, stood well ahead of all others, but, for some reason, his exhibit was passed over.

A tent that attracted the majority of lady visitors was the one in which the dinner-table decorations were on view. For a table decorated with fruit and flowers, but without the addition of cutlery, there were five entries, and Mr. J. T. Curtis, gardener to Sir W. Howell Davies, M.P., Bristol, scored with a beautiful table of good fruit and exquisite flowers. F. J. Cole, Esq., was second, with a rather meagre arrangement, Mr. W. Hodge's third prize table was too heavy in the centre.

In a similar class, restricted to lady amateurs, there were also five entries. Here the effort of Mrs. T. H. Woodland met with success. The arrangement of this table was very artistic, and there could scarcely be two opinions as to its supremacy over the other tables in the class. The second place was taken by the Misses Hill, who had capital fruit, but, in our opinion, used too much variety of colour. Mrs. J. M. Balfour came third. Another class that was much appreciated by the visitors was the table of floral decorations. Here Mr. J. T. Curtis led off with a lovely ideal of elegance and grace, carried out in shades of orange and yellow. Mrs. M. E. Richards followed with sweet peas, in shades of cream, pink, and mauve, cleverly blended. Mr. F. J. Cole was third.

Mr. Fred Eames, and Messrs. Rich and Co., Bath, sought honours for eighteen bunches of hardy flowers, and the awards were made in the order named. Both lots were good and attractive.

For six vases of carnations, self-coloured, the Frome Flower and Fruit Company won first place; Mr. A. F. Dutton, Iver, Bucks, second; and Mr. A. R. Brown, King's Norton, third. For fancies, Mr. A. R. Brown led, Mr. J. Webber following.

AMATEURS' SECTION.

A tent of considerable size was requisitioned to accommodate the exhibits of amateurs of the district. Most of the classes were for stipulated numbers of certain plants, and the names of Messrs. H. Bellamy, W. R. Prince, J. T. Curtis, and W. Cox occurred repeatedly as the successful candidates for premier awards. It must be said that the stove plants exhibited here by the last-named and by Mr. S. Kidley were examples of masterly culture, and were of a quality not often met with nowadays. The huge specimen ferns shown in groups of six were also remarkable, and reflected great credit on Mr. W. R. Prince, and Mr. W. Cox, the first and second prize-winners.

Two entire tents were requisitioned for the fruit and vegetable exhibits, and it was gratifying to note the interest taken in this section of the show, although the press of people and the great heat made note-taking no easy task.

The most important fruit class was for a collection of eight distinct varieties. Here Mr. G. Richardson, gardener to H. St. Maur, Esq., secured the coveted award with good black and white grapes, peaches, figs, etc. Mr. George Hall, gardener to the executors of Lady Ashbarton, was second. A big Royal Jubilee melon was particularly noticeable here. Mr. W. H. Bruford was third. In a collection of four dishes the winner was Mr. George Hall, followed by Mr. J. Stuckey. In the various classes for single dishes of various fruits, the aforementioned exhibitors somewhat equally divided honours. Vegetables led off with a collection of twelve distinct kinds, and two entries were forthcoming, Mr. George Lock and Mr. J. Stuckey coming first and second with good produce. In Messrs. J. Carter and Co.'s class for eight kinds, Mr. Thomas Harrison, gardener to J. Dyson, Esq., was first; Mr. J. Stuckey second. Mr. George Lock won Messrs. Suttons' class, followed by Mr. Stuckey and Mr. T. H. Bolton. Mr. Stuckey was leader in Messrs. E. Webb and Sons' class, and Mr. Lock in the class provided by Messrs. R. Veitch and Son. In each class Mr. Stuckey was second. Messrs. Robert Sydenham, Lim., offered prizes for eight kinds, and here Mr. George Lock was once more successful, Mr. Thomas Harrison being second, and Mr. Wm. Gould third.

NON-COMPETITIVE EXHIBITS.

These were accommodated in a very large marquee, which they filled entirely, many well-known trade exhibitors coming forward in their best style. The combined efforts of quite an army of practised hands succeeded in transforming this huge tent into a garden of loveliness, which was undoubtedly the most attractive and important section in the show. Messrs. Jarman and Co., Chard, put up an exceptionally fine display of cut flowers, arranged in a series of groups, each of which consisted of one kind of flowers. First came roses, arranged on tall stands, and smaller vases. Then the delightful Sweet Sultans, which are now so well known as introductions of this firm. Carnations, dahlias, sweet peas, and zonal pelargoniums were all well shown, and the whole front of the stage was finished off with a succession of arches, draped with flowers and foliage. A capital collection of American perpetual, and border carnations was admirably exhibited by Mr. C. F. Waters, Balcombe, Sussex. Among the border varieties were several seedlings of sterling quality, some of which will doubtless win general favour.

An effective arrangement of sweet peas came from Mr. T. W. Darlington, Warton, Carnforth. The flowers were bright and fresh-looking, in spite of their journey from the North. Messrs. Dobbie and Co., Rothesay, showed dahlias; cactus, pæony, and pompone types, being represented by up-to-date varieties. The King's Acre Nurseries, Lim., showed apples, pears, figs, grapes, and other kinds of fruit hanging plentifully on well-trained trees. Mr. W. L. Pattison, Cherry Orchard, Shrewsbury, staged bedding violas in great variety. Messrs. Young and Co., Hatherley, Cheltenham, exhibited perpetual-flowering carnations in most of the leading varieties. The flowers were set up in a bold and effective manner. Alpines were exhibited by Messrs. Heath and Son, Cheltenham. The plants were arranged on a groundwork of virgin cork. A delightful little plant was Verbena tenera Mahoneti, with pretty starry flowers of ruby red, with white markings. Messrs. Barr and Sons, King Street, Covent Garden, London, staged herbaceous flowers in capital variety. Phloxes, kniphofias, heucheras, and gladioli were prominent on the stand. A display of carnations came from Mr. A. F. Dutton, Iver, Bucks. Francis Samuelson, a fine large border variety of rich apricot shade was particularly good. Sweet peas were shown in small bunches by Messrs. Geo. Massey and Sons, Spalding.

Messrs. Sutton and Sons, Reading, put up one of their splendid exhibits of high-class vegetables, staging sixty distinct varieties. Interspersed between the vegetables were tall stands furnished with fine melons, and the whole group was tastefully decorated with vases of choice annuals and a few foliage plants. Messrs. Isaac House and Son, Westbury-on-Trym, put up some glorious delphiniums, phloxes, and pentstemons, also a display of sweet peas of their own raising. Mr. Vincent Slade, Staplegrove Nursery, Taunton, showed zonal pelargoniums. Large bunches of the newest and best varieties occupied the centre of the stand, with groups of sturdy plants in pots at either end, and tall bamboo stands artistically furnished with blooms of ivy-leaved varieties served as a background. Messrs. W. E. and T. Cousins, Taunton, exhibited fine floral designs. The King's Acre Nurseries, Lim., had a gorgeous bank of phloxes and other hardy flowers.

An excellent display of vegetables came from Messrs. Yarde and Co., Northampton. Upwards of sixty dishes were staged, all of high quality. A most effective arrangement of choice perennials was staged by Mr. H. Clarke, Greenway Nursery, Taunton. Huge trusses of phloxes, bold spikes of gladioli, and kniphofias, and a variety of other decorative subjects were used to much advantage. Roses were shown in great quantity from the West of England Rose Farm, Lim., Henlade, Taunton. Another attractive display of roses came from Mr. J. Mattock, New Headington, Oxford; Bardou Job, Leonie Lamesch, White Dorothy Perkins, and the Wichuraiana were well associated with the best of the larger and fuller-flowered varieties. Mr. Arthur Edwards, Arnold, Nottingham, showed his bronzed table decorations, and these were tastefully furnished with sweet peas. A first-rate batch of begonia flowers was set up in glasses by Messrs. B. R. Davis and Sons, Yeovil. A number of named varieties, both double and single, were put up, but a large proportion were unnamed seedlings of high quality. An exhibit of more than ordinary merit and interest was that of choice flowering plants and cut flowers staged by Messrs. R. Veitch and Sons, Exeter. Alpines, border plants, shrubs, and climbers were represented by the choicer and rarer things in each class. A fine cut-leaved rhus, named R. typhina laciniata, was beautiful, and a branch of Eucryphia pinnatifida was laden with its white and fragrant flowers.

Border carnations were staged by Messrs. Tuplin and Sons, Newton Abbot, but unfortunately the flowers were not put up in a really attractive manner. Mr. Lowis, Levesdown, Bridgwater, made a bold display of hardy flowers of the more useful and popular kinds, such as Chrysanthemum maximum varieties, gaillardias, alstroemerias, etc. The huge bank of phloxes which bore the name of Messrs. T. S. Ware, Lim., Feltham, attracted every eye. The attention, however, was ultimately divided between them and the exquisite begonias which occupied the front of the stage. Gorgeous is the only word that can describe the gladioli staged by Messrs. Kelway and Son, Langport. The spikes were, needless to say, very finely developed, and the effect of the brilliant and pleasing colours can scarcely be described. Among a few of the newest varieties we noticed Mrs. Stanley, a cream and delicate blush variety, and Mrs. Coplestone, a purple and mauve flower of good form. Mr. W. B. Smale, Torquay, showed dahlias and zonals. Phloxes were well shown by Mr. F. Eames, Floral Nurseries, Frome. The varieties were of the latest and best, and the flowers were clean and bright.

MEDAL AWARDS.

Large Gold. — To Messrs. R. Veitch and Sons, Exeter; Messrs. Isaac House and Son, Westbury-on-Trym; Messrs. T. S. Ware, Lim., Feltham; Messrs. Kelway and Son, Langport; Mr. J. Mattock, Oxford; Messrs. Sutton and Sons, Reading; Mr. C. F. Waters, Balcombe; Mr. T. W. Darlington, Warton, Carnforth; and Messrs. Jarman and Co., Chard.

Silver-gilt.—Messrs. W. E. and T. Cousins, Taunton; Mr. H. Clarke, Taunton; Messrs. Yarde and Co., Northampton; Messrs. Dobbie and Co., Rothesay.

Silver.—The West of England Rose Farm, Lim.; Mr. Vincent Slade, Taunton; Messrs. Young and Co., Hatherley, Cheltenham; Messrs. Barr and Sons, London; Mr. A. F. Dutton, Iver, Bucks; Mr. F. Adams, Taunton; Mr. W. L. Pattisson, Shrewsbury; Mr. N. Lowis, Levesdown, Bridgwater.

Bronze.—Mr. A. E. Richards, Staplehay; Messrs. W. Tuplin and Sons, Newton Abbott; Messrs. Geo. Massey and Sons, Spalding; Messrs. B. R. Davis and Sons, Yeovil.

Bournemouth Gardeners' Association.

A very successful exhibition of sweet peas by the members of this prosperous association was held on August 3, and a good discussion followed the judging of the exhibits.

For nine vases, distinct varieties, twelve sprays of each, Mr. Tompkins was first, and Messrs. W. H. Reeves, jun., and W. Reeves were second and third respectively. For six vases, distinct varieties, twelve sprays of each, Mr. Ernest Cox was first, and his John Ingman, Countess Spencer, and Etta Dyke were very fine; second honours fell to Mr. W. B. Nausley, and third to Mr. C. Pearce.

In the class for three vases, distinct, twelve sprays of each, Mr. Spong was placed first, Messrs. G. Robins and T. Sprackling being second and third respectively. Competition was very keen in the class for one vase, mixed varieties, thirty sprays, and here Mr. E. Cox was again successful, followed by Mr. W. H. Reeves and Mr. Spong.

Some very fine collections of sweet peas, not for competition, were staged and much admired. Mr. A. E. Usher, gardener to Sir Randolf Baker, Bart., Ranston, Blandford, was awarded a certificate of merit for his beautiful flowers, which showed evidence of high culture; the leaves measured nearly six inches across. Mr. Kinnard also had a lovely lot of flowers which were very highly commended, and Mr. W. Reeves was also highly commended for his collection. Mr. W. Shave, gardener to Lady de Tabley, brought a magnificent plant of Clerodendron fallax, which was greatly admired, and he was awarded a certificate of merit.

The President, Ralph Smythe, Esq., attended the meeting, and was very pleased with the exhibits. Mr. R. Chamberlain presided at the discussion which followed, and which proved very interesting and instructive. Many members gave their experiences in the cultivation of sweet peas, and these were much appreciated. A hearty vote of thanks to the Chairman brought to a close a most enjoyable meeting.

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ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

SEEDLING CARNATIONS. — A. D. S., Wanstead: The seedling carnations, though very useful and beautiful for garden decoration, and for cutting, are by no means of sufficient merit to warrant their perpetuation as named varieties. No. 1 and No. 6 are the best, but they are far behind well-known named varieties. There is yet much to be done among carnations, as there is still need for free-flowering, hardy-constitutioned, clear-coloured, and non-bursting varieties that will prove successful under ordinary border treatment. Do not be disappointed with the results obtained so far, but carefully select varieties for parents, cross-fertilise these, and carefully select the seedlings that approach nearest to the ideal you have in view, and, with these, make further crosses and selections.

EXHIBITING STOCKS. — T. M., Northwich: The mere fact of removing the roots of the plant just prior to judging does not turn a specimen into a "spike," and if in each case the competitors showed whole plants, either with or without roots, no one of them, however he showed, can secure the disqualification of those who did, or did not, include the roots, as the case may be. Botanically, the stock bears its flowers in racemes, but, horticulturally, the whole inflorescence has come to be regarded as a branched spike, consequently it has become the custom to show the whole plant as "a spike," and the roots are generally allowed to remain, as these permit a competitor to stage his exhibit well, and also, when the roots are in a jar or vase of water, enables the flowers to remain fresh much longer than they would if the roots were removed. It may be desirable to slightly amend the schedule specification for another year, and make it read, "six stocks, to be shown in water."

BONES.—E., Heytesbury: Fresh or green bones contain both organic and inorganic matter; the former is very rich in nitrogen, and the latter is composed chiefly of phosphate of lime. In green bones the presence of the organic matter, or fatty portion, greatly retards their action and usefulness as manure. Various methods are employed to separate the organic matter from bones, and though much nitrogen is lost in the process, this is compensated for by the more rapid action of the treated bones, especially when these are ground down to a wonderful degree of fineness. In a small way bones may be treated by boiling them until all the fatty matter has been extracted, then drying and grinding them. Aikman considers that the fat present in raw bones forms, along with lime, an insoluble soap which prevents the mineral matter in the bone being dissolved by the carbonic acid of the soil.

HORTICULTURAL EXAMINATIONS.—J. D. S., Mortimer: So far as we are aware there are no other public examinations in horticulture than those named. You should take up elementary botany and chemistry, and attend lectures given under the auspices of a County Council, so as to make yourself familiar with methods of teaching. Preparing lectures for the local gardeners' association, and writing for the Press will each help you to put your thoughts into words readily, and to properly arrange your ideas and the various points to be emphasised in teaching. Practice all the principal operations in gardening, so that you can demonstrate these easily and correctly—for instance, budding and grafting are, theoretically, extremely easy operations, but, except to the practised hand, they are not so easy of accomplishment as would appear from diagrams and verbal descriptions. Gardening is essentially a practical art, and everyone

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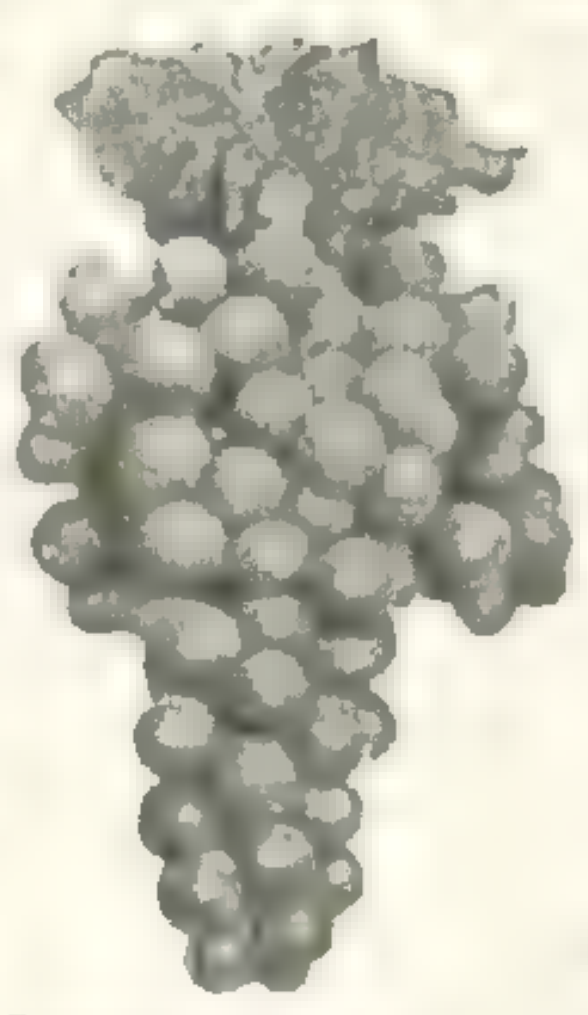

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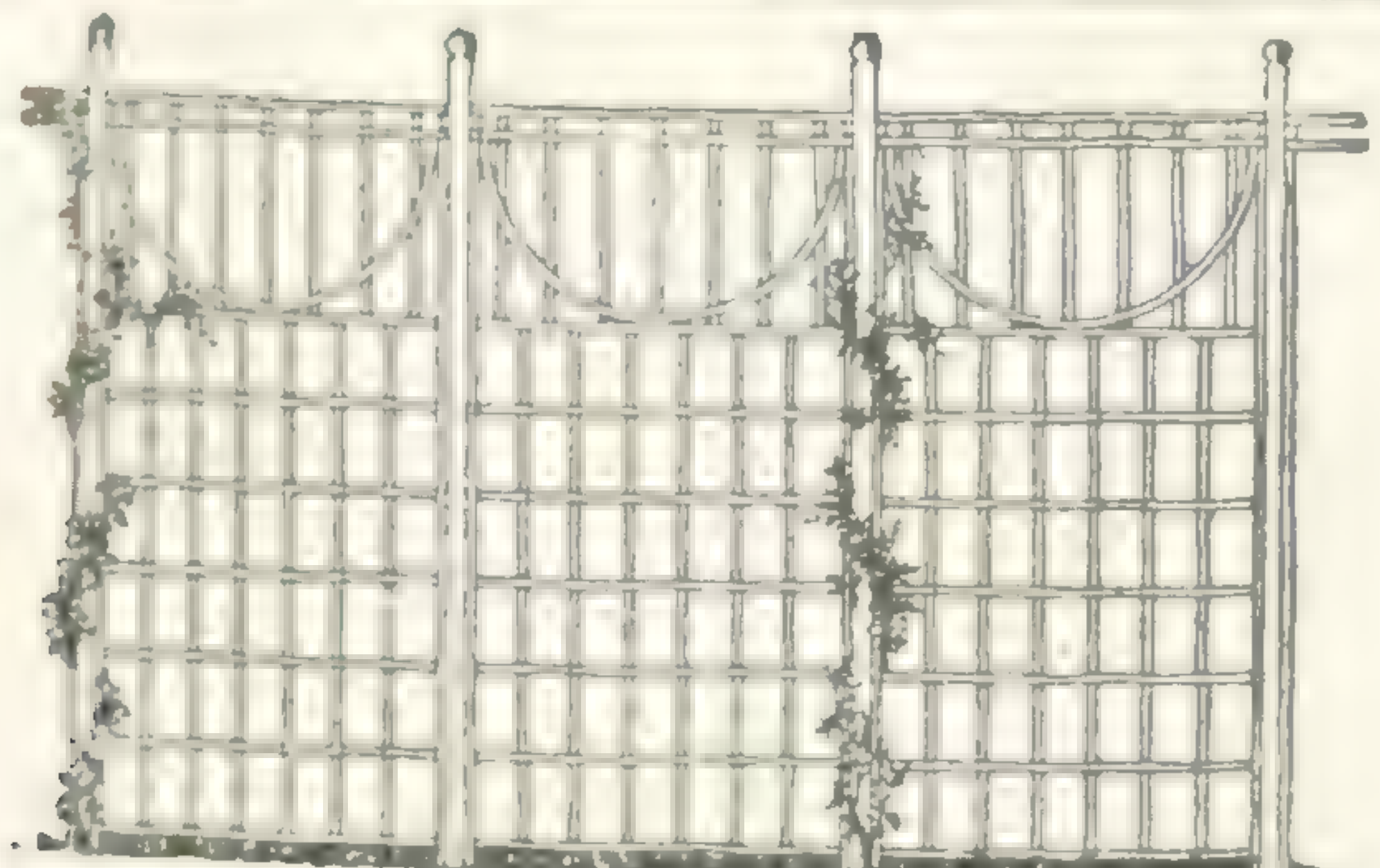

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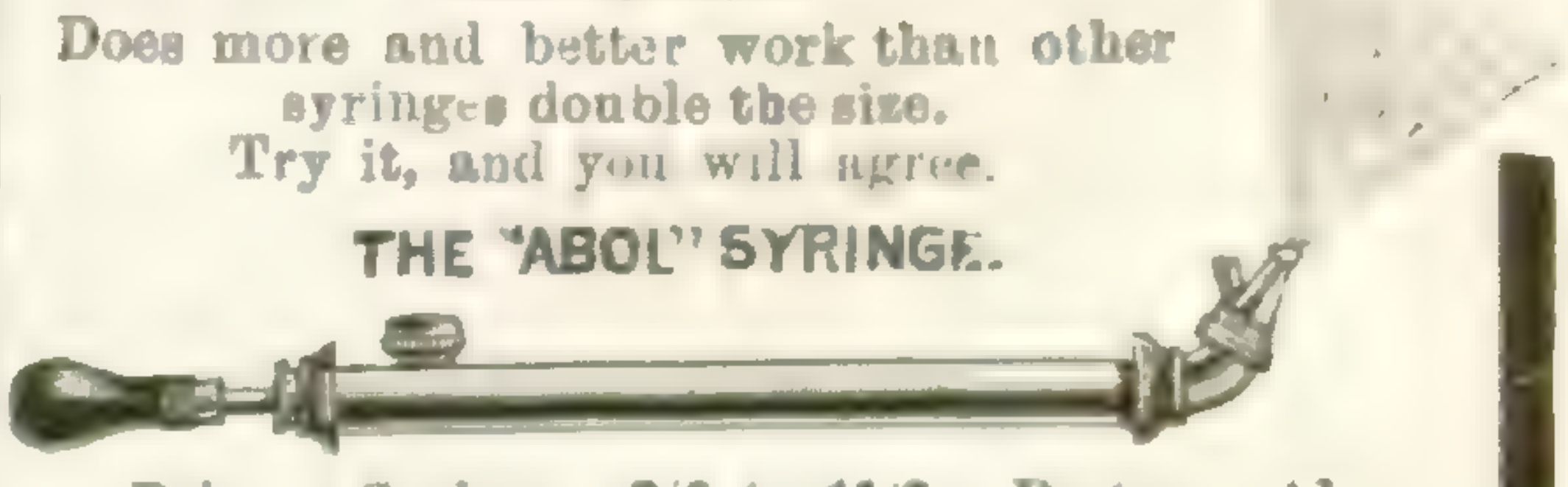
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who sets out to teach it must (to be a success) be in entire sympathy with his subject and his pupils, and be able to "do" as well as "talk." Some experience in teaching is generally required of those who would compete for a post of horticultural instructor. It is excellent training to gather together half a dozen of your juniors and give them a course of half a dozen lectures, with demonstrations, and if you can persuade some sympathetic and up-to-date head gardener to attend and point out to you your deficiencies, a splendid start would be made. Posts under County Councils, or at horticultural colleges, etc., are usually advertised in the horticultural Press, and educational magazines, and must be applied for in proper order. We like your style, and we wish you every success.

NAMES OF PLANTS.

A. G. R., Wheatley.—1, Quercus cerris; 2, probably Colutea media.

J. H., Loughborough.—1, Streptosolen Jamesoni; 2, Oncidium flexuosum.

C. S., Dover.—1, one of the plumose varieties of nephrolepis; 2, Nerium oleander; 3, Celsia arcturus.

B. G., Lynn.—1, Todea superba; 2, Collinsia bicolor; 3, Swainsonia galegifolia; 4, Tecoma radicans.

E. J. H., Oxford.—1, Spiræa venusta; 2, Olearia Haasti; 3, Phlomis fruticosa; 4, Azara microphylla.

C. L. N., Bournemouth.—1, Browallia elata; 2, Francoa ramosa; 3, Polygonum Baldschuanicum; 4, Ansellia africana.

G. H. P., Parkstone.—1, Cedrus atlantica; 2, 3, and 5, appear to be forms of Cupressus obtusa, the last-numbered being very like C. o. pendula, but the specimens are not good ones; 6, Retinispora pisifera plumosa.

OBITUARY.

◆

MR. JOHN THORPE.

On July 15, there died at Chicago a man who for long years has been a leading spirit in horticultural circles in the United States. This was Mr. John Thorpe. Mr. Thorpe was born at Keyham in Leicestershire on April 3, 1838. He was engaged in the nursery business at Bristol and at Stratford-on-Avon from 1868 to 1872, and in the latter year he went, with his wife and family, to America, and commenced business near New York. He was largely responsible for the organisation of the Society of American Florists, and was the first president of that body. He also was prominent in the formation of the American Carnation and Chrysanthemum Societies, and was secretary of the New York Horticultural Society for eight years. He was specially clever in arranging exhibitions, and in laying out and superintending public parks, and in this respect he contributed very largely to the success of the World's Fair at Chicago in 1893, as chief of the floricultural department. At the funeral service, Mr. W. N. Rudd, secretary of the Society of American Florists, well defined the character of the deceased man, when, in an appreciative address, he said: "This man was a genius. It is said that genius is akin to madness. It may be so. He created while others reaped the material benefits. He had little or no genius for money-getting or money-keeping. But he did have a genius for seeing the beautiful in nature. In that wonderful brain he could see, long before anyone else, the grand commercial carnation of to-day which is literally the bread and butter of so many of our profession. This man was a genius. His were the golden dreams coined into golden dollars by those who came after him."

TRADE NOTE.

Mr. H. N. Ellison, of West Bromwich, was awarded a silver-gilt medal at the recent Handsworth Show, but notification of the award was inadvertently omitted from our report.

MARKETS.

◆

COVENT GARDEN.

Flowers.

Hardy flowers and carnations continue plentiful, and there is a fair demand.

		s. d.		s. d.
Adiantum cuneatum	per doz. bun.	5 0	to	9 0
Asparagus	per bun.	1 0		3 0
Asters	per doz. bun.	6 0		8 0
Carnations	per doz. blms.	1 6		2 0
,,	per doz. bun.	6 0		8 0
,, Malmaisons	per doz.	8 0		10 0
Cattleyas	per doz.	10 0		14 0
Croton leaves	per bun.	1 0		1 6
Cypripediums	per doz. blms.	1 6		2 6
Eucharis	per doz.	2 6		3 6
Forget-me-nots	per doz. bun.	1 6		2 0
French fern	per doz. bun.	0 6		1 0
Gladiolus	per doz. bun.	3 0		5 0
Gypsophila	per doz. bun.	2 0		3 0
Lilium auratum	per bun.	2 0		3 0
,, speciosum	per bun.	1 6		3 0
,, longiflorum	per bun.	2 0		3 6
Lily of the Valley	per doz.	6 0		9 0
Marguerites, white	per doz. bun.	1 6		3 0
Mignonette	per doz. bun.	3 0		5 0
Odontoglossums	per doz. blms.	2 0		2 6
Pelargoniums	per doz. bun.	4 0		6 0
Roses	per doz.	1 0		3 0
Sweet Peas	per doz. bun	1 0		3 0
Stocks	per doz. bun.	2 0		3 0
Tuberoses	per doz.	0 3		0 4

Fruits.

Fruits are plentiful and new apples of excellent quality are now arriving.

		s. d.	s. d.
Apples	per bush.	2 6	6 0
Apricots	per box	0 6	0 9
Bananas	per bun.	3 0	10 0
Cherries	per ½-sieve	2 0	6 0
Currants, black	per ½-sieve	4 0	6 0
Currants red	per basket	2 0	3 0
Figs	per doz.	1 0	2 0
Gooseberries	per ½-sieve	1 0	2 0
Grapes, English	per lb	0 8	2 0
,, Guernsey	per lb.	0 8	1 9
Lemons	per case	8 0	25 0
Melons	each	1 0	2 0
,, French Cantaloupe	each	1 6	3 0
Nectarines	per doz.	2 0	12 0
Oranges, Denia	per case	12 0	22 0
,, Navels	per case	12 0	14 0
,, Valencias	per case	12 0	23 0
Peaches	per doz.	2 0	14 0
Pineapples	each	1 9	3 0
Plums	per ½-bush.	1 6	3 0
Raspberries	per doz. pun.	2 0	2 6
Strawberries	per doz. pun.	4 0	6 0

Vegetables.

Abundant and good supplies meet a ready sale.

		s. d.		s. d.
Artichokes, Globe	per doz.	2 6	to	3 0
,, Jerusalem	per bush.	1 9		2 0
Beet	per bush.	1 3		2 0
Beans	per lb.	0 4		0 6
,, Broad	per ½-sieve	2 0		2 6
Cabbage	per tally	2 6		5 0
Carrots, new	per doz. bun.	1 3		2 0
Cauliflowers	per doz	2 0		2 6
Cucumbers	per doz.	1 0		2 0
Endive	per doz.	1 3		1 6
Horseradish	per doz. bun.	8 0		12 0
Lettuce, Cos	per tally	1 0		2 0
Marrows	per doz.	1 0		2 0
Mint	per doz. bun.	1 0		2 0
Mushrooms	per doz. lb.	6 0		9 0
Onions, Valencia	per case	7 0		12 0
,, Spring	per doz. bun.	1 0		2 0
Parsley	per doz. bun.	1 0		2 0
Peas, English	per bush.	2 0		4 6
Spinach	per bush.	1 0		1 6
Tomatoes, English	per doz. lb.	2 6		3 6
,, Guernsey	per doz. lb.	2 3		3 0
Turnips	per doz. bun.	1 6		3 6

LONDON POTATO MARKETS.

There are ample supplies on offer, but the hot weather has reduced the demand.

		s. d.	s. d.
English, new	per bush.	2 0	3 0
Jersey, new	per cwt.	4 0	6 0
French, new	per cwt.	4 0	5 6
Canary, new	per cwt.	4 9	6 0

FORTHCOMING ENGAGEMENTS.

TUESDAY, August 17.—Royal Horticultural Society; Committees meet at 12 o'clock; Lecture at 3 p.m. on "Bees in Relation to Gardening," by Mr. Walter F. Reid, F.I.S., Scientific Committee at 4 o'clock.

WEDNESDAY, August 18.—Shrewsbury Floral Fête (two days).

Eastbourne Horticultural Society.

THURSDAY, August 19.—Brympton Horticultural Society.

Aberdeen Summer Show (three days).

FRIDAY, August 20.—Inverness Summer Show.

SATURDAY, August 21.—Ambergate Horticultural Society.

THURSDAY, August 26.—Dundee Horticultural Society.

Peebles Horticultural Society.

Sandy Summer Show.

SATURDAY, August 28.—Darlington Horticultural Society.

Burrelton Horticultural Society.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1909. August 1 to August 7.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	Temperature of the Air. At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Aug. 1—Sunday	1 0	61	58	68	54
,, 2—Monday	2 18	67	54	60	52
,, 3—Tuesday	7 18	55	49	64	41
,, 4—Wednesday	8 12	59	57	72	51
,, 5—Thursday	10 6	65	58	77	49
,, 6—Friday	12 12	69	61	78	49
,, 7—Saturday	11 54	70	62	79	48
Means	(total) 54 0	64	57	71	49

Date. 1909. August 1 to August 7.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
Aug. 1—Sunday	0·14	61	60	58	47
,, 2—Monday	trace	61	60	58	49
,, 3—Tuesday	—	59	60	58	37
,, 4—Wednesday	—	60	60	58	44
,, 5—Thursday	—	61	61	58	43
,, 6—Friday	—	63	61	58	44
,, 7—Saturday	—	63	62	59	44
Means	(total) 0.14	61	61	58	44

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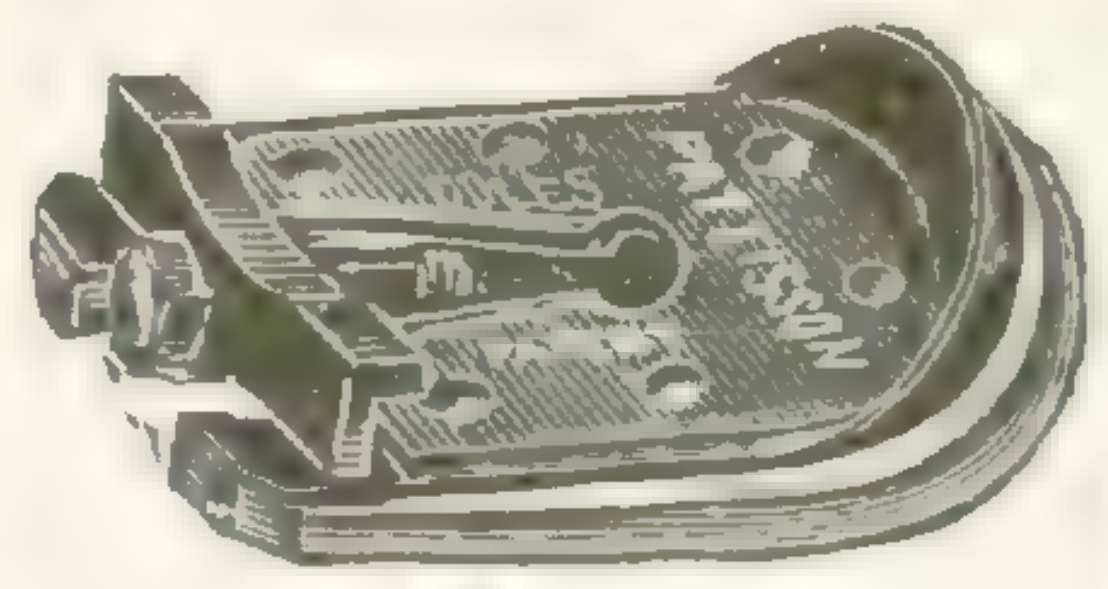

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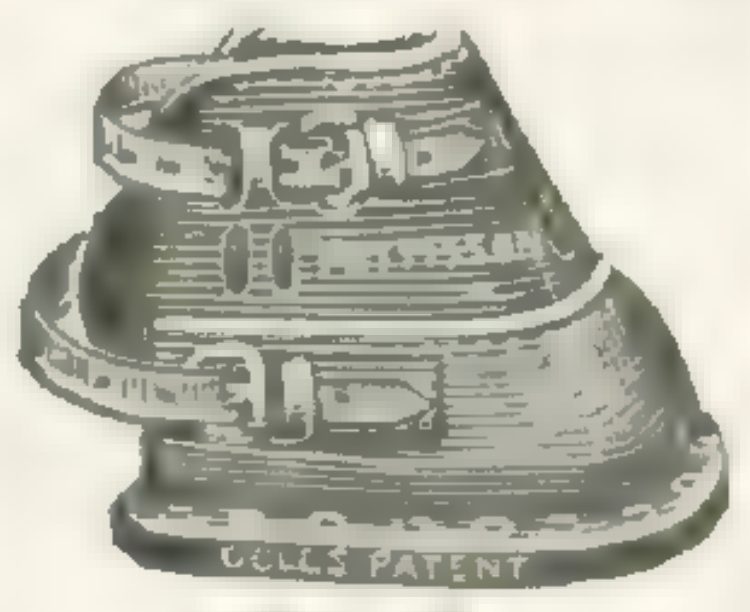

FIG. 2.

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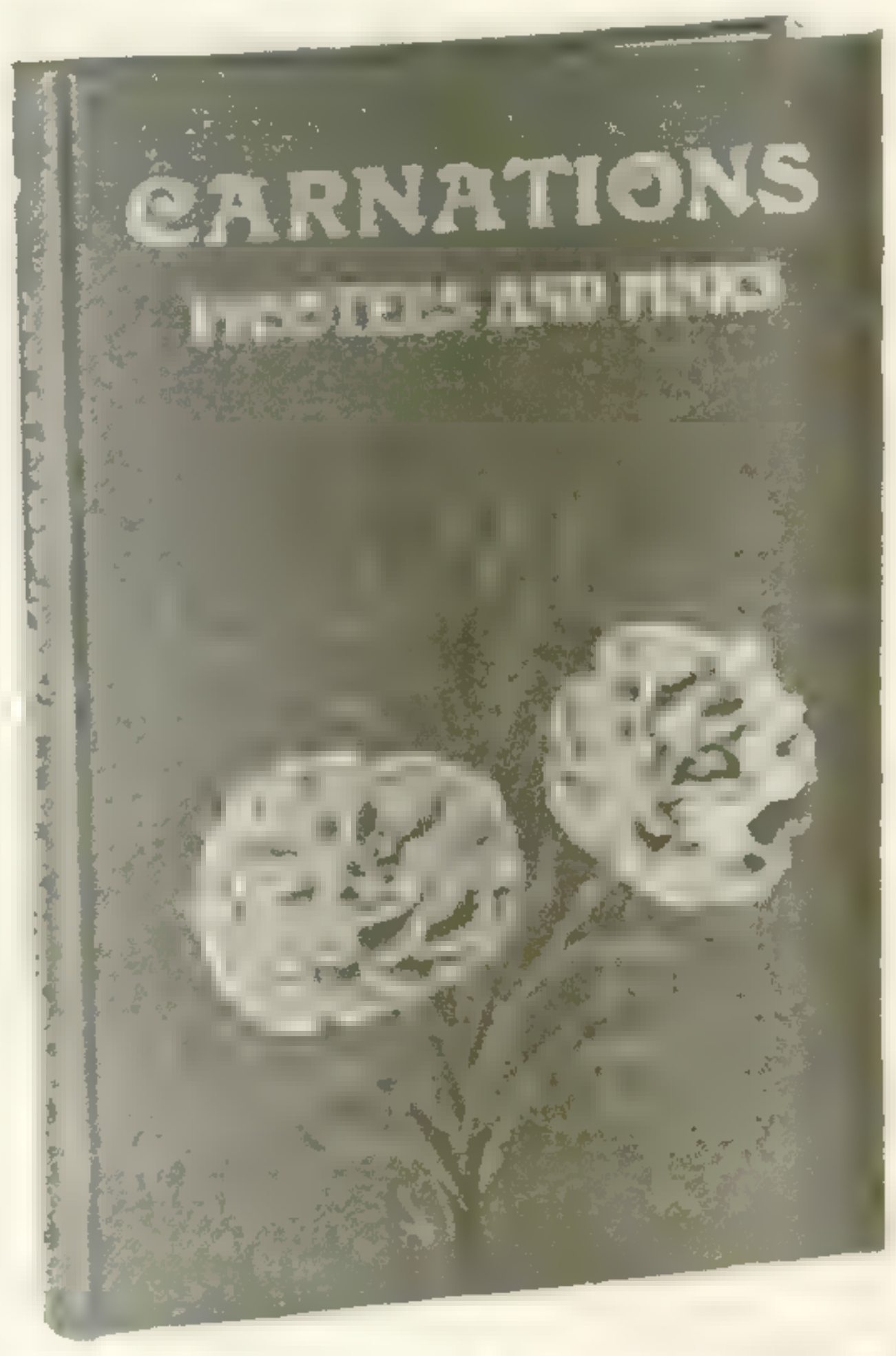

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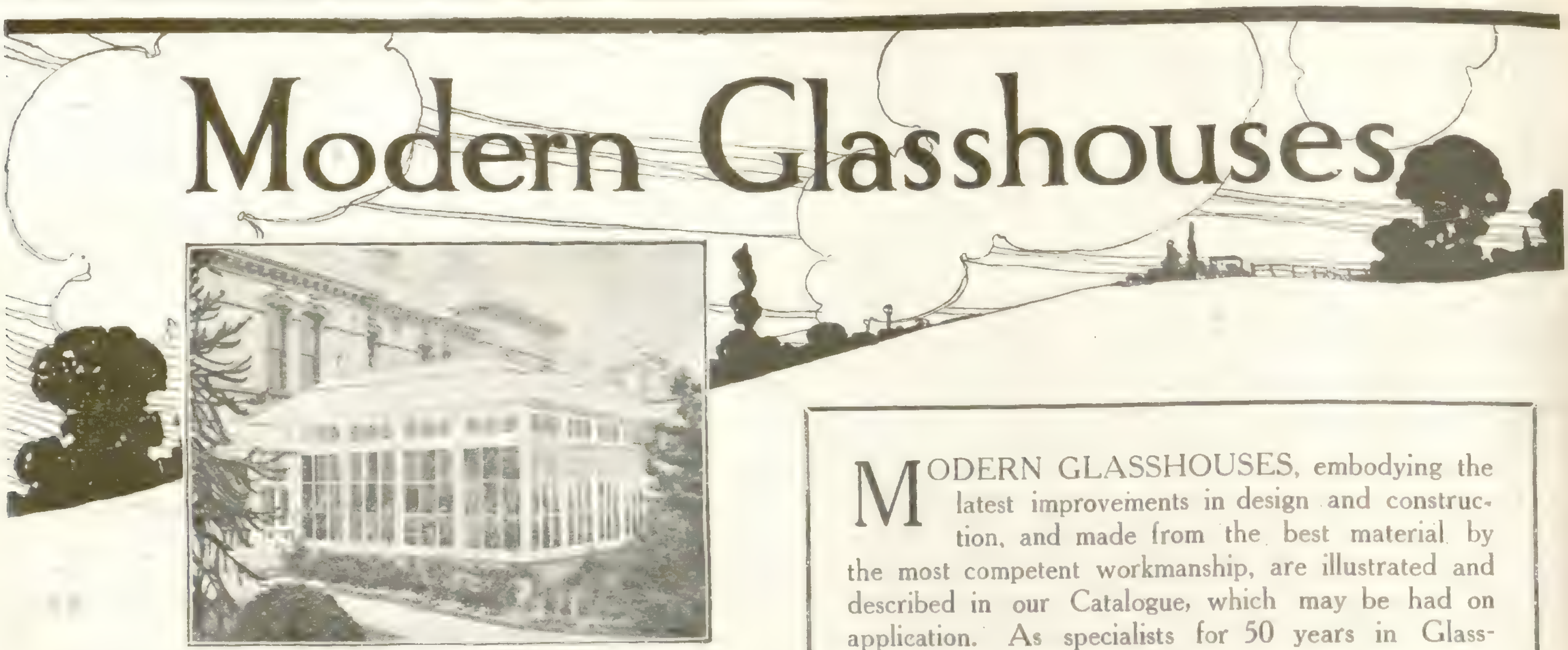

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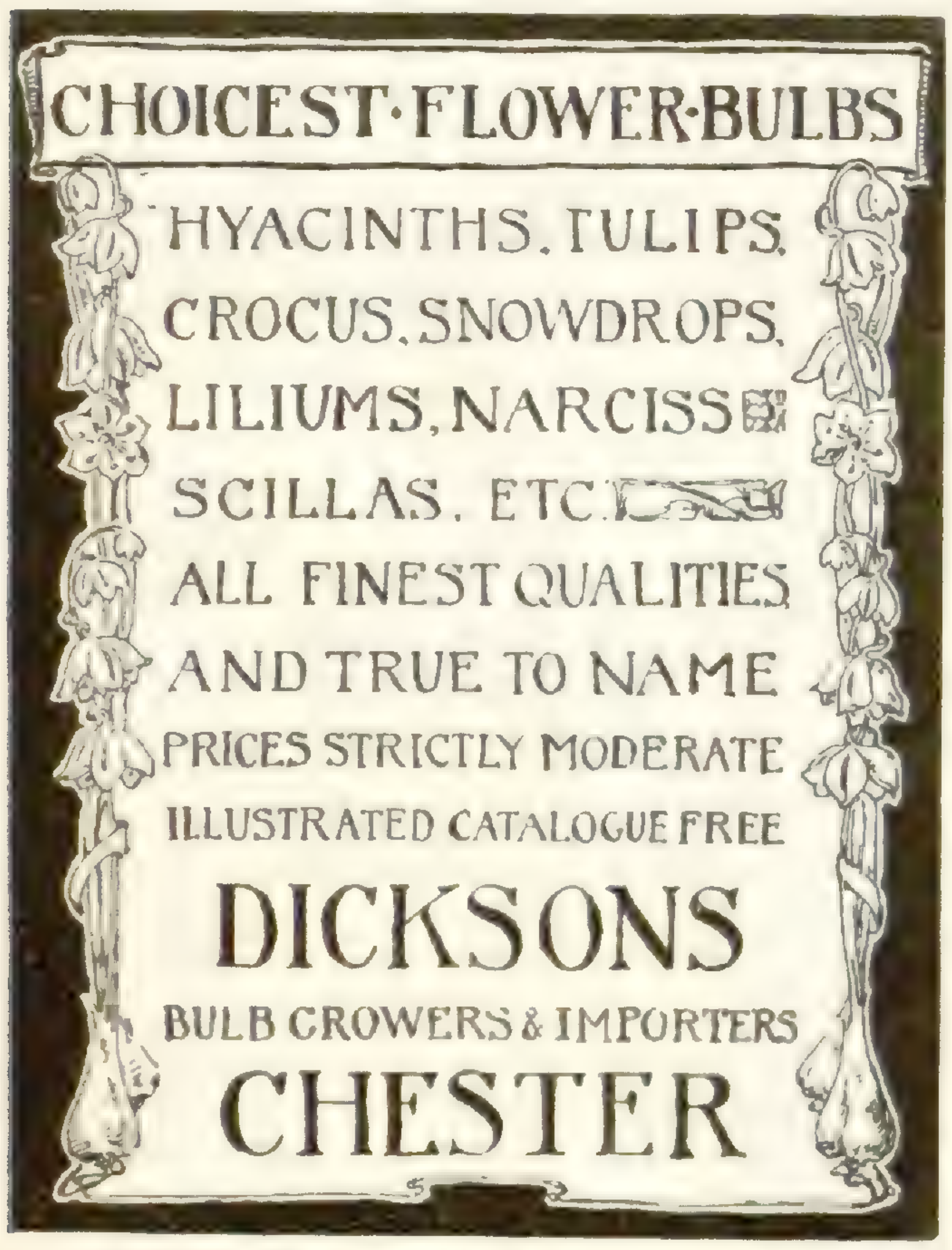

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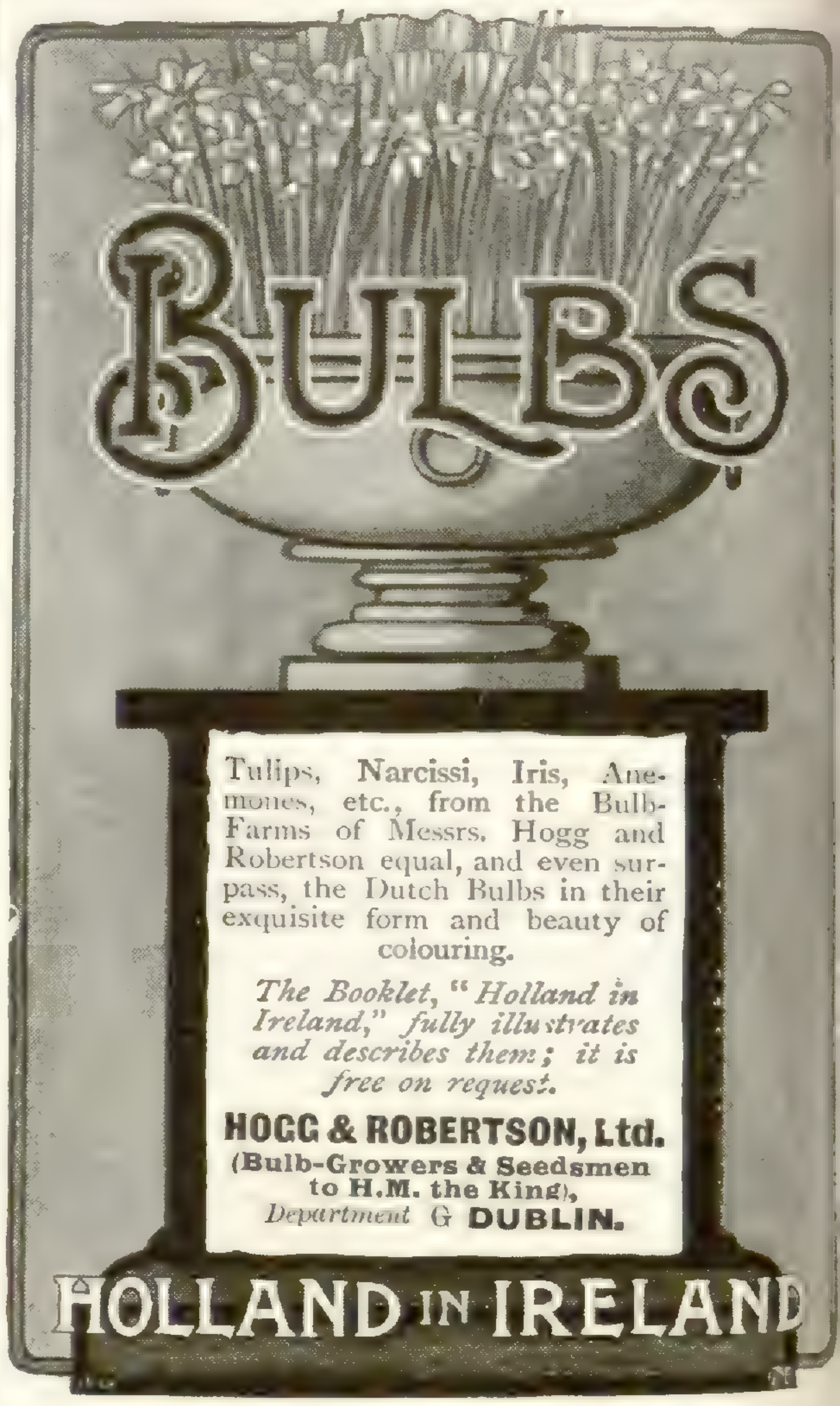

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VOL. LII.—No. 2,912. SATURDAY, AUGUST 21, 1909

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

The Origin of Life.

Although the origin of life on the earth's surface is, and must remain, a profound mystery, we are drawn to the conclusion that the primary germ must have been vegetable rather than animal, since it is the vegetable alone which can maintain existence by assimilation of non-organic matter. When and how the incipient biological tree branched out to produce the animal kingdom is, of course, part of the insoluble problem, since apart from the presumably microscopic nature of the primary organisms, they must have existed at a period far and away antecedent to such as have been preserved as fossils, and thus provide us with a glimpse into the past, by which we have learnt so much of the evolutionary process. Mere gelatinous cellular growths are not of a nature to be perpetuated in recognisable form, and hence it was not until bony skeletons, or shells, or tough woody frameworks had been developed, that there was a chance of their survival in fossil form for our guidance, and the development of these probably meant æons of time, so far are they removed from the primary forms of organic life. We may conceive some idea of the immensity of the period when we consider that as far back as the Coal age, the ferns of those days were as fully and perfectly developed as those of to-day; and, as there is practically no doubt that land vegetation originated by modification of ocean vegetation, we see that another inconceivably long period is demanded for the transformation of seaweeds into the far different ferns and gigantic mosses which we know existed when our coal formations were created. It is a curious fact to consider that even to this day the boundary line between the vegetable and animal kingdoms is by no means well defined. In the microscopic realm of life, we find organisms which are unicellular vegetables, endowed with powers of rapid locomotion, and even with volition, as is evidenced by the fertilising antherozoids of the fern tribe, which swim actively in water, and will make their way in definite directions in order to fulfil their functions. Many vegetable spores are similarly motile. There are, on the other hand, many animal organisms which are as inert as any plant, and others which can propagate themselves by buds quite on plant lines. Higher up in the scale we have the carnivorous plants, the droseras, dionæas, nepenthes, sarracenias, and their kin, who have adopted the animal characteristics of entrapping and feeding on animal food. Recurring to the assumption that life must have begun in the primæval ocean, we cannot get away from the fact that it has always been the so-called firm land which has been disturbed, by subsidence or elevation or by denudation, and that such disturbance must probably have been on a much greater scale at the time when the cooling ball was forming a crust and the waters were forming the oceans. With all respect for the non-cataclysmic theory of geologists, we must assume that the earth's crust was at first a fragile one, liable to volcanic outbursts on a far larger scale than obtains nowadays, and this would mean that the ocean practically was the only place where the incipient germ of life, having once appeared, it had a fair chance of multiplying and varying and developing those marvellous potencies which must have been within it, and which, step by step, has built up the organic world as we now know it. Later on, doubtless the land became more stable, islands and continents, although disturbed by rude shocks, did not entirely lose their individuality, and thus the ocean vegetation and animal life had a fair chance of adapting itself to land conditions by slow modification, first on amphibian lines, born in the water and passing thence to the land, or as marsh plants which gradually adapted themselves to drier conditions, and so built up the land flora generally. The possibilities of such adaptations are always before us, for innumerable life histories, plant and animal, display the links and gradations which connect most diverse forms. The germ cell of life is, in point of fact, almost infinitely plastic, and, given time and opportunity, will adapt itself to almost any environment.

MR. JOHN HEAL, V.M.H.

Mr. John Heal, V.M.H., whose portrait we give herewith, has for so long a period occupied an important position in the glass department of the nurseries of Messrs. James Veitch and Sons, at Chelsea and Feltham, as to be well known to a wide circle of horticulturists, and has accomplished so much useful work in plant improvement as to have obtained a foremost position among plant hybridists. Mr. Heal is a native of Devonshire, and, like many another Devonian, possesses in a marked degree the energy, clearness of perception, and other characteristics so essential to success in life. With reference to his association with Messrs. J. Veitch and Sons, it is of interest to mention that he has spent nearly 47 years in the services of the firm. Many years ago Mr. Heal turned his attention to the improvement of hippeastrums, and, as the result of his work among them, the Chelsea collection of these flowers became famous both at home and abroad. Mr. Heal also raised large numbers of hybrid rhododendrons requiring a warm greenhouse for their successful cultivation; he created a new race of streptocarpus, and of winter-flowering begonias, and immensely improved the phyllocacti. Notwithstanding his many successes, Mr. Heal has always remained the most modest of men, and has never failed to regard his work more as the accomplishment of the firm than of himself, or to speak of the support he has invariably received in working out the several problems in plant improvement to which he has given his attention. Mr. Heal has not only attained to a high position among hybridists, but has been successful in obtaining the esteem of all with whom he has been associated in the course of his active life. The value of Mr. Heal's work in plant improvement was recognised by the council of the Royal Horticultural Society in 1897, when the Victoria Medal of Honour in Horticulture was founded, by the inclusion of his name among the first sixty on whom the medal was conferred. He has also been awarded the Veitch Memorial Medal, in recognition of his success as a hybridist and cultivator of new plants by the Trustees of the Veitch Memorial Fund.

Greenhouses and Undeveloped Land.—In the House of Commons on Tuesday last Mr. Harold Cox asked the Chancellor of the Exchequer whether land upon which greenhouses had been built for market garden purposes would be exempt from the undeveloped land tax; and, if so, whether that exemption would be confined to the actual area covered by the roofs of the greenhouses, or whether it would include the land occupied in conjunction with the greenhouses and used for carrying on the same business. In reply Mr. Hobhouse stated that there will be no such exemption.

Visit of French Fruit Cultivators.—During the past fortnight a deputation of French fruit growers have been on a visit to this country, for the purpose of making themselves more familiar with British markets, with a view, presumably, to an augmentation of the supplies of French produce. The fruit growers, some fifty in number, were accompanied by representatives of the principal French railways, and during their stay have visited all the principal London markets, and also the markets at Hull, Newcastle, Edinburgh, Glasgow, Liverpool, and other of the more important provincial centres.

Horticultural Exhibits at Brussels.—It is now evident that the Brussels Exhibition will be of special interest to horticulturists, and even to fruit growers and market gardeners. The centenary of a very old Belgian Society, the Royal Agricultural and Botanical Society of Ghent, occurs next year, and in connection with the exhibition it is to be made the occasion of remarkable shows and celebrations. In one form or another, this great society has existed since 1622. Only its present basis was created so late as 100 years ago, when it started an annual public show in the Frascati Gardens. Its members now export from Belgium flowers to the value of £600,000 a year. It is, therefore strong enough to have arranged that there shall be permanent flower shows throughout the exhibition, from May to October, and that the grounds shall be beautified with gardens. The special centenary show will begin on April 24 and extend to May 5, and on the second day it will be visited officially by the King of the Belgians. In the course of this celebration there will be an international flower show from April 30 to May 3, in which it is hoped that British gardeners will participate. A similar show for chrysanthemums and other autumn flowers will be held from October 29 to November 2; while an international show of fruit and vegetables will take place from September 24 to 27. These are the dates desired by the meeting at the Royal Horticultural Hall that Lord Lytton and Sir Albert Rollit attended, when the exceptional facilities for showing which are offered by the Board of Trade were explained, and the scale on which the shows are to be staged may be gathered from the fact that no fewer than 250 foreign experts will serve on the juries. Intending exhibitors may obtain full particulars through the Board of Trade.

Importance of Magnesia.—With reference to the important article by Monsieur George Truffaut on magnesia as a constituent of plant food, that we were able to publish a fortnight since, it is of considerable interest that Mr. Truffaut's views should have been strongly supported by the experiments that were conducted last year at the Woburn Experimental Station. In 1908 experiments were carried out for the purpose of comparing the action of "nitroline," or calcium cyanamide, with sulphate of ammonia, and with nitrate of soda. In consequence of the striking results obtained at the Pot-culture Station in regard to the influence of magnesia, it was resolved to try its effects in the field. In the several plots utilised in carrying out the two sets of experiments, potatoes were grown, and the variety selected was Table Talk. The results obtained from the use of magnesia were very remarkable; 3 cwts. per acre of magnesia increased the crop 13 cwts., although no more nitrogen was used, and 6 cwts. per acre of magnesia gave an increase of 25 cwts., the crop being the second largest one of the whole series. Thus 3 cwts. of magnesia per acre showed itself superior to 1 cwt. of calcium cyanamide, and 6 cwts. per acre acted better than did 1¼ of nitrate of soda. It is intended to further test the influence of magnesia upon crops at Woburn.

A Darwin Exhibition has been opened at the Natural History Museum, South Kensington, and should prove of much interest to those who are acquainted with the late Charles Darwin and his work. The exhibition is being held in commemoration of the centenary of Darwin's birth, and the fiftieth anniversary of the publication of his "Origin of Species." Its chief object is to illustrate the main arguments of the "Origin of Species," and a considerable portion of the material which passed through Darwin's hands, and the various species he had in view when engaged in writing this book, are for the first time brought together for the inspection of the public. Three of Darwin's microscopes are in the exhibition, and it is of interest that his important investigations, in which the aid of the microscope was necessary, were carried out with instruments of an extremely simple character. Two pages from a letter written to Professor Asa Gray, September 5, 1857, and his own notes made nine years previous, are of interest as proofs that Darwin had committed his theories to writing before he was aware that Dr. Alfred Wallace had arrived at similar conclusions with regard to natural selection. A page of Darwin's manuscript is exhibited to show how much he was addicted to self-correction, interlineation, and, indeed, of superimposition of fresh copy. In support of the conclusions in the "Origin of Species," two putative parents of large families are included in the exhibition; one is of a fowl, which is of the Indian jungle, and represents the ancestral type of all the domestic breeds of fowl, and the other is the Chrysanthemum sinensis, which, as so well known, has undergone a really marvellous development, and its descendants have spread over the civilised world. There are also specimens illustrating the dispersion of seeds over limited areas, and of their carriage from one country to another by means of birds, winds, tides, and other agencies; and of mimicry in insects. Altogether there are some three hundred separate exhibits, all of which are of interest.

A Small Holdings Exhibition has formed one of the attractions of the Earl's Court Exhibition during the past week. The exhibition has been held in connection with the Land Culture Competition organised by the proprietors of "Lloyd's Weekly News." The exhibition included a model farm, and an extensive display of produce grown on the successful holdings, the fruit and vegetables being especially good.

The Blackberry Crop is this year a remarkably good one, and, as the result of the moist conditions that have obtained during the greater part of the summer, the bright red fruits that now glisten in the hedgerows may be expected to attain to a quite exceptional size and quality. We have been reading that the English people fail to appreciate the value of the blackberry harvest, and that the greater proportion of the fruit will be allowed to rot on the canes, but there is no occasion to be apprehensive upon this point. Every year enormous quantities of blackberries are sent to the markets, and to the fruit-preserving establishments, and one must even at the height of the season be in a very remote district to find any considerable quantity of ripe fruit.

Finsbury Circus Gardens. The Lord Mayor has received from the Streets Committee a large basket of mulberries grown in Finsbury Circus gardens. These gardens, which have an area of nearly two acres, continue to be largely used by the public, and at times the seating accommodation is taxed to its utmost.

White Root Rot.—A bad attack of this disease, which is caused by the fungus known as Rosellinia necatrix, was reported to the Board of Agriculture in the spring from a nursery in the home counties. This disease is scheduled under the Destructive Insects and Pests Order of 1908, and the trees affected were cherries, and had been in the ground two years, having been budded in the summer of 1908. The stocks were bought from France, but the disease appears to have been present in the nursery for some years, and there is no clue to its source. About eight rods of stocks were planted, and about 30 per cent. of these were attacked, but not in a systematic manner, the trees showing signs of disease being distributed throughout the plot in an apparently haphazard fashion. The affected trees were burnt, and the hoeing in of sulphur between the remaining trees and the burning of weeds were advised.

Distinguished Visitors at Coggeshall.—Early this month some distinguished agriculturists and savants from France and Belgium have visited Coggeshall, and inspected the extensive seed farms of Messrs. John K. King and Sons, at Coggeshall, Chappel, and Colne. The visitors were conducted over the farms and experimental grounds by Mr. Herbert King and Mr. J. H. Millard, and they were greatly interested and impressed with everything they saw, especially the large acreages of agricultural and vegetable seeds, and the improved varieties of pedigree cereals, while the large cultivation of sweet peas was greatly admired. The visitors were entertained during their stay at Orchard House by Mr. and Mrs. Herbert King.

SHREWSBURY FLORAL FÊTE.

AUGUST 18 and 19.

Shrewsbury Fête and the Temple Show are two very distinct features of the horticultural year, the one marking the beginning of summertime and the other suggesting that the end of the summer is near. Once more we have wended our way, with hundreds of others whose duty has taken them year after year to the interesting old town of Shrewsbury to see its famous show. Speaking broadly, there is not a great deal of difference in these shows from year to year. The limit of extent has been reached, and the ingenuity of committee and competitors has been severely taxed to provide new classes or exhibits of a distinct character.

If we state that the show just held was scarcely so good as some of those of recent years, this remark must not be taken to imply any serious falling off in quality or quantity. The great grape class was hardly up to the average of quality, and vegetables in competition were a good way below the average of recent years. Plants and groups were well up to the mark, and hardy flowers and sweet peas were good, while the dessert table class was specially fine. Vacant spaces are rarely to be seen at Shrewsbury, but there were a few of these in the local section and among florists' flowers.

VIEW OF THE CHAMPION GRAPE CLASS AT SHREWSBURY FLORAL FETE.

There is one feature of Shrewsbury Show in which we should like to see an improvement, and it is in the naming of the exhibits. Never before, so far as we can remember—and our experience of Shrewsbury shows is a fairly long one—has there been so much laxity on the part of competitors in this particular; fruits, flowers, and plants were, in not a few instances, entirely unnamed. One of the greatest uses of a show is its opportunity of bringing into public notice the best kinds and varieties of horticultural produce, but if prize exhibits are unnamed then the educational value and interest of the display are gone, and they remain only spectacularly effective. If a fine of 25 per cent. of the prize won were levied in the case of unnamed exhibits it would bring competitors to a sense of their duty to the general public.

GRAPE CHAMPIONSHIP.

There were seven competitors in the great championship class for the best dozen bunches of grapes, and the competition was excellent. The premier award of £20 was won by Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby, with a fine display; his varieties and points were as follows: Black Hamburgh (10), 9½ and 9; Muscat of Alexandria (11), 8½, 8½, 8½, and 9; Muscat Hamburgh (11), 10, 10½, and 10½; Madresfield Court (11), 10, 10½, and 10½. It will thus be seen that Mr. Goodacre only showed four varieties; his was an even set, and his total points were 114½. Mr. W. Parker, gardener to J. Drakes, Esq., Market Rasen, won the second award, and he had heavy and large-berried bunches that totalled 111 points; he had Cannon Hall in good form and heavy clusters of Gros Maroc; Mr. N. F. Barnes, gardener to the Duke of Westminster, Eaton Hall, Chester, third with 100 points; he had a very even set, and his Appley Towers and Madresfield Court being well coloured; Mr. J. Mullins, gardener to G. Farquaharson, Esq., Eastnor Castle, fourth with 91 points; and Mr. J. Wilkinson, gardener to G. A. Gibbs, Esq., J.P., Tyntesfield, Flaxbourton, Bristol, fifth, with 88½ points; Mr. G. Richardson, gardener to H. St. Maur, Esq., Newton Abbott, sixth with 86½ points. Mr. Dawes was not placed. Mr. N. F. Barnes secured the chief award for the decoration in this class, and he used pink carnations, Chironia ixifera, Francoa ramosa, and Lilium speciosum; Mr. J. H. Goodacre second with roses, odontoglossums, francoa, and liliums; and Mr. Mullins third with montbretias.

COLLECTIONS OF FRUIT.

The chief class for a collection of ripe fruit is one for twelve dishes, distinct, decorated with flowers and plants. There were four entries, and the premier award was made in favour of Mr. T. Cave, gardener to E. Bewley, Esq., Dublin—a new competitor at Shrewsbury—with a grand set that consisted of Williams' Bon Chretien and Souv. de Congres pears, Lord Napier and Pineapple nectarines, Dagmar peaches, Emperor Alexander apples, Greengage plums, Duke of Edinburgh melon, May Duke cherries, and Muscat of Alexandria, Black Hamburgh, and Madresfield Court grapes, the latter good, but the two former varieties of grapes were not specially good. Mr. J. Jones, gardener to Mrs. F. Need, Malvern, gained second place, and had grand dishes of Margaret Marillat pears and Lady Sudeley apples; Mr. G. Hall, gardener to Lady Ashburton, Romney, third; and Mr. G. Richardson, gardener to H. St. Maur, Esq., Newton Abbott, fourth. The prizes for decoration, awarded distinctly from the fruit, fell in order of mention to Mr. J. Jones, Mr. G. Hall, and Mr. T. Cave.

In the class for nine dishes of choice fruits, distinct, the premier award fell to Mr. J. Miles, gardener to Captain Heywood Lonsdale, Shavington, for a nice collection, in which not a single dish was labelled. Mr. C. Roberts, gardener to Mrs. Swann, Halston Hall, second.

GRAPE CLASSES.

Once more grapes were well shown, and, considering the season, they were well coloured. For two bunches each of white and black grapes Mr. T. Lambert, gardener to Lord Harlech, Brogyntyn, scored with Muscat of Alexandria and Madresfield Court; Mr. J. R. Tooley, gardener to H. Andrews, Esq., Winchcombe, came second with Muscat of Alexandria and Alnwick Seedling; Mr. E. F. Hazelton, gardener to the Earl of Derby, Prescott, third.

The best two bunches of Black Hamburgh grapes were very heavy, richly coloured clusters from Mr. W. A. Coates, Glan Conway; Mr. W. H. Wilson, gardener to J. Brinton, Esq., Stourport, second; and Mr. G. Richardson, gardener to H. St. Maur, Esq., Newton Abbott, third. The latter was first for a single bunch of Black Hamburgh grapes, and was followed by Mr. W. H. Wilson, and Mr. T. Bagnall, gardener to C. F. Boston, Esq., Hayton. Mr. A. Hall led for two bunches of any black Muscat grape, with Madresfield Court finely coloured; Mr. J. H. Goodacre second with Muscat Hamburgh, and Mr. W. H. Wilson third. For a pair of bunches of Madresfield Court grapes Mr. A. H. Hall led with large-berried bunches; Mr. J. H. Goodacre second; and Mr. T. Cave, gardener to E. Bewley, Esq., Dublin, third. For a pair of bunches of Alicante Mr. G. Mullins, Eastnor Castle Gardens, scored with very moderate bunches; Mr. A. H. Hall second.

Two splendid bunches of Gros Maroc won for Mr. J. Langley, gardener to the Rev. T. M. Bulkeley Owen, West Felton, the premier award in the "any other black" class; these were extraordinarily fine clusters: Mr. J. H. Goodacre second; and Mr. J. Jones, gardener to Mrs. F. Need, Malvern, third, each with Gros Maroc.

Mr. N. F. Barnes, gardener to the Duke of Westminster, Eaton Hall, led for two

THE DECORATED DESSERT TABLES AT SHREWSBURY FLORAL FETE.
Mr. Barnes' table is in the foreground, and Mr. Goodacre's just behind it.

bunches of white Muscats with neat clusters of Muscat of Alexandria; this class was not such a good one as usual; Mr. J. H. Goodacre was second, and Mr. J. R. Tooley third. For a single bunch Mr. T. Lambert led, and was followed in order by Mr. J. H. Goodacre and Mr. J. R. Tooley. For two bunches of "any other white" Mr. A. H. Hall led with fine examples of the handsome Chasselas Napoleon; Mr. A. Child, gardener to H. A. Attenborough, Esq., Daventry, second, with Buckland Sweetwater; and Mr. Dawes, gardener to Lord Trevor, Bryn Rynalt, third, with the latter variety.

In the county classes (Salop) the leading awards for grapes fell to Mr. J. Langley, Mr. G. Taylor, Mr. H. G. Pritchard, gardener to Major A. H. D. Lloyd, Leaton Knolls; Mr. J. Mills, Mr. T. Lambert, Mr. G. Davies, Mr. J. Taylor, gardener to F. Bibby, Esq., Hardwicke Grange; Mr. C. Roberts, and Mr. Ashwood, gardener to Major R. A. Newill, Admaston.

DECORATED FRUIT TABLES.

There were five competitors in the class for a decorated table of thirty dishes of ripe fruit, and as here the premier award is a twenty-five guinea cup, a gold medal, and £20, the competition was very keen. It has been usual to show a table of points, to indicate the merits of the several exhibits; but this was not done on this occasion, and an educational feature was thus lost. First prize was awarded to Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, who had some magnificent fruit, showing Gros Maroc, Muscat of Alexandria, Black Hamburgh, Madresfield Court, and Muscat Hamburgh grapes; Bellegarde, Exquisite, Barrington, Sea Eagle, and Princess of Wales peaches; Washington apples, Triomphe de Vienne pears, Pineapple nectarines, Large Early apricots, Golden Gage plum, and Bigarreau Napoleon cherries.

Mr. James Gibson, gardener to the Duke of Portland, Welbeck Abbey, Notts, gained second place with a very even set, in which the peaches, apples, pears, melons, and black grapes were grand; Mr. N. F. Barnes, gardener to the Duke of Westminster, Eaton Hall, Chester (who was the winner last year), came third with excellent peaches, pears, apples, and Appley Towers grapes; Mr. G. Mullins, Eastnor Castle Gardens, fourth; and Mr. W. Parker, gardener to J. Drakes, Esq., Market Rasen, fifth.

FRUITS.

Mr. O. Oakley, gardener to A. E. Humphreys Owen, Esq., Berriew, led for cherries; Mr. Searle, Castle Ashby, for purple plums; Mr. Jas. Gibson, Welbeck Abbey Gardens, for yellow plums (Jefferson); Mr. J. Birch, gardener to Lady Mary Herbert, Styche Hall, for gage plums; Mr. J. McFall, for a white-fleshed melon—Hero of Lockinge; Mr. Hazelton, gardener to the Earl of Derby, Prescott, for a scarlet-fleshed melon—Scarlet Seedling; Mr. S. J. Baker, gardener to Lady Duckworth King, Exeter, for a green-fleshed melon; Mr. A. Langster, Droitwich, for apricots—Large Early, very fine; Mr. G. Hall, gardener to Lady Ashburton, Romney, for nectarines, with a grand dish of Pineapple; Mr. G. Mullins, Eastnor Castle, for peaches (sixteen entries), with beautifully coloured examples of Bellegarde.

In the county class for six dishes of hardy fruits, Mr. J. Mills was first, Mr. Robinson, Ellesmere, second, and Mr. E. Gilbert, gardener to Captain F. A. M. Diker, Loppington, third.

GROUPS.

The chief prize in the leading class for a group of foliage and flowering plants, arranged for effect on a space of 250 sq. ft., was won by Messrs. Jas. Cypher and Sons, Cheltenham, who have occupied the leading position a large number of times at Shrewsbury. Their group was a very elegant one, and the crotons, Humea elegans, Francoa ramosa, Cyperus papyrus, Lilium speciosum, Oncidium flexuosum, and odontoglossums were used in a very light and pleasing manner. Orchids were utilised more freely than usual, and the lælio-cattleyas on the corner mounds were a great attraction, and in the foreground the odontoglossums, Anguloa Clowesi, cypripediums, and Nertera depressa finished off the display. Second prize fell to Mr. J. V. Macdonald, gardener to Sir G. Kenrick, Edgbaston, Birmingham, who made good use of beautiful crotons, Ixora macrothyrsa, odontoglossums, phalænopsis, and Fuchsia triphylla. Mr. W. A. Holmes, Chesterfield, took the third prize, and good crotons were his leading feature.

In the class for a group of foliage plants arranged for effect on an area of 250 sq. ft., there was a close competition, and the premier award was made in favour of Mr. J. V. Macdonald, gardener to Sir G. Kenrick, Edgbaston, who had a brilliant display of crotons, pleasingly associated with caladiums, selaginellas, palms, abutilons, alocasias, and Rex begonias—a fine arrangement. Messrs. Jas. Cypher and Sons second, their tall crotons being rather too dark; and Mr. W. A. Holmes, Chesterfield, third.

In the county class for a group of plants, Mr. C. Roberts, gardener to Mrs. Swann, Halston Hall, won first prize with a group in which dracænas and crotons figured largely, and in which there was a need of more and brighter flowers.

Some superb begonias were staged in the class for a group of these splendid plants; the competition was a close one, and Messrs. Blackmore and Langdon, Twerton-on-Avon, gained the premier award, with Messrs. T. S. Ware, Feltham, Middlesex, a close second.

PLANTS.

For fifteen stove and greenhouse plants Messrs. J. Cypher and Sons, Cheltenham, once more secured the premier award, and their collection contained superb examples of Statice intermedia, S. profusa, Allamanda nobilis, Ixora macrothyrsa, I. Williamsi, Croton Countess, and Rondeletia speciosa major. Mr. William Vause, Leamington, second, with some fine ixoras and statices; Mr. W. R. Manning, Dudley, third. These big plants were a great attraction, and were greatly admired.

Mr. T. Lambert, gardener to Lord Harlech, Brogyntyn, scored for a dozen stove and greenhouse plants with medium-sized and beautifully grown examples of Croton Warreni, C. interruptum aureum, Ixora macrothyrsa, Allamanda Williamsi, Clerodendron Thompsonæ, etc., etc., Mr. W. R. Manning, second. Messrs. Cypher and Sons led for six stove and greenhouse plants, and in this set they had grand specimens of Statice profusa, and Ixora macrothyrsa; Mr. W. Vause, Leamington, second.

A trying class is the one for thirty stove and greenhouse plants, and there are comparatively few who can enter it with any prospect of success. Messrs. J. Cypher and Sons led the way with medium-sized examples, that included Statice intermedia, Acalypha hispida, Ixora coccinea, I. Pilgrimi,

(Continued on page 657.)

SEASONABLE PROBLEMS.

I suppose a problem may be described as something which is difficult to understand, and in the pursuit of horticulture hardly a day passes without a problem of some kind or other cropping up. Here we have one suitable, I think, for discussion. It will be generally agreed that 1909 has been a good strawberry season. Well, there's no problem about that, for climatic conditions last autumn were admirable for the development of crowns and the time of blossom was a favourable one. The clerk of the weather might have been kinder when the fruit was ripe, but, in spite of him the berries were fine and plentiful, if lacking somewhat in flavour. History repeated itself as it does again and again when a fruit crop is heavy. Strawberries were cheap, in fact, prices fell so low that they did not pay for picking, and one big grower did a kindly thing, for, instead of letting tons of fruit that he could not sell to profit go to waste, he placed them at the disposal of poor children, who probably had never picked a ripe strawberry from a plant before in their lives.

Here, however, comes the problem, for it seems hardly possible to believe that in a country with the population of Great Britain more strawberries are produced even in a prolific season than can be consumed by the million, especially when we think of what an industry jam making has become in recent years. Men like Mr. Wood, of Crockenhill, Kent, do not give up strawberry picking so long as there is a sale for fruit at prices which allow a margin of profit, and a reasonable solution is that the supply was in excess of the demand. Then one thinks of the consuming millions, and methods of distribution, and wonders whether there is not something wrong here. And what about the jam makers? One would have thought that they could have taken all the fruit to spare at a price remunerative to themselves and also the growers, but it seems not, and perhaps foreign fruit and foreign pulp, cheap, but of doubtful character, have got something to do with it. At any rate, these gluts which are general whenever Nature gives us heavy crops of any kind of fruit, form one of the problems which are not easy to understand.

A Gooseberry Mildew Problem.

There has been such a prolific crop of gooseberries this season that people have not troubled much about the American mildew, which caused such a sensation when it was first discovered. Still, the American mildew, wherever it came from in the first place, or however long it has been here, is still with us, and I came across a curious case not long ago. Cuttings of gooseberries were taken two or three years ago from a certain private garden, and struck in an isolated nursery devoted entirely to conifers and forest trees, which is far removed from any place where gooseberries are grown. No traces of mildew have ever been seen on the parent bushes in the garden where the cuttings came from, and yet the young plants this season were badly affected by the disease. Now you have the problem. Where did the mildew come from and from what source did the young bushes become infected? I may add that the only plants introduced into the nursery since the gooseberry cuttings were inserted are seedling larches bought in as small specimens from time to time, and planted. Is it possible that the gooseberry mildew was introduced on the seedling larches, and from them attacked the bushes growing in the nursery? It does not seem probable, but what source the mildew came from which took possession of the gooseberries growing amongst the forest trees is a problem that I am at a loss to explain. Perhaps some reader of this journal can offer a suggestion which may be helpful in solving the difficulty.

Carrot Failures.

Here is another problem. In scores of gardens round about here the carrots present a sickly appearance, the leaves being yellow and rusty brown. When the carrots are pulled up the tips of the roots are found to be decayed, which is, of course, responsible for the sickly appearance of the growth. Nothing problematical about this, you will say, the trouble is caused by the grub of the carrot fly. Possibly, but in many cases there is the decayed root tip, but there is no grub to be found, and, assuming, in spite of this, that the carrot fly is the initial cause of the trouble, why is it that the pest is so plentiful and widespread this season. Carrots are affected in gardens where the trouble has never been known before, and in some cases beds are entirely ruined. The season, on the whole, has been favourable for the growth of the roots, then why this plague of grub?

Eelworm Troubles.

Still another problem, which affects farmers rather more than gardeners. Weeks ago the question was, What is the matter with my oats? You heard it everywhere, and the oats, instead of growing away freely became stunted and "tulip-rooted." There was nothing novel about the situation, it was a widespread case of the stem eelworm, Tylenchus devastatrix, but where did the eelworms come from, and why did this pest affect oats in fields and on farms where it had never been seen before? The matter has puzzled farmers, and still puzzles those who are now reaping mere remnants of crops and wondering whether they will have similar trouble again next season. In gardens we have had something of it, and duck-necked onions for which the same stem eelworms are responsible are by no means uncommon in beds where no such trouble has been seen before. Indeed, the eelworm trouble, in its different forms, and how to deal with it, presents one of the problems which agriculturists and horticulturists would like to solve.

G. H. H.

CRINUM LONGIFOLIUM.

Of the crinums which are considered sufficiently hardy to be cultivated out of doors this species, and its varieties and hybrids, have the first claim, although there are several others, such as C. Moorei, C. Poweli, and C. Colensoi, which may be easily managed in a sheltered position, where they will attain a degree of perfection not excelled by their fellows of the greenhouse.

C. longifolium is the earliest of the hardy species to flower, being at its best by the end of May. There are about a dozen glaucous green leaves to each crown. The flowers are produced on strong scapes about three feet high, and they are white, tinted with pink, and flushed with red on the back of the segments. It is a native of the Cape, is also known as C. capense, and is figured in the "Botanical Magazine" as Amaryllis longifolia.

CRINUM LONGIFOLIUM IN THE CAMBRIDGE BOTANIC GARDENS.
Flowers white, tinted with pink, and suffused with red.

In the autumn the foliage dies away, leaving the bare bulbs, which stand a foot out of the ground. These should be protected by filling between and around them with pine needles or other suitable material during severe weather. The photograph here reproduced was taken the last week in May, and shows one of several fine clumps of this crinum growing on the sunny side of a plant house in the Cambridge Botanic Garden.

E. J. Allard.

Small Holdings.—Sir Edward Strachey stated recently in the House of Commons that up to July 24 the area of land covered by schemes for small holdings under the Act of 1908 amounted to 46,895 acres. The total included 5,674 acres acquired under 88 compulsory orders.

SUMMER SOWINGS IN THE ROCK GARDEN.

Adorning rockeries of all sizes by outdoor sowings during summer is so easy and successful a task that it can be warmly recommended to all gardeners. The genial temperature causes seeds to germinate quickly and evenly, and the seedlings have time to become robust before winter sets in, whereas those raised in seed beds or frames have to run the risk of root disturbance when put out in their permanent places in October.

A few simple rules will facilitate matters: Firstly, the soil should be lightly forked up and watered in the rock pockets some hours before seed is scattered; secondly, the covering in should be performed by sifting some good sandy compost lightly over, not by any attempt to rake back displaced earth; thirdly, the sown patches ought to be shaded for several days. The best method for this is by lightly crumpling newspaper in between the stones, which will hold it in position; or, if there are high winds to be feared, a little raising of stones, or the addition of a few others, will weight the paper securely.

Uncommon rock plants are often difficult to raise under glass, yet spring up as lavishly as weeds in the open I find. One of the brightest of flowers is Calandrinia umbellata, a trailing perennial six inches tall; the hue is carmine, and the petals have a satin sheen intensifying the effect. Campanulas include especially suitable forms that are scarcely ever found in herbaceous borders; there is the silver-gray C. Loreyi alba, for instance, the wide blue-blossomed C. carpathica pelviformis, the native Scotch blue-bell, C. rotundifolia, and the extra fine white form of C. turbinata.

Gypsophila saxifraga I have had covering large flat stretches of soil on a rockery slope, in which position its foliage and pink blossom are both of wonderful value. Gypsophila muralis is but an annual, but the former species when once sown, is always present, and proves far more showy than G. repens. A minute plant that can be relied upon for almost any rockery position in sun or shade is Linaria cymbalaria globosa, which grows in tufts, and does not trail like the other kind of Kenilworth ivy.

Colour harmonies are never more valuable than among rocks, for the raised ground shows off such schemes better than a level border can do, making them visible right across a garden; nor should the power of quite small flowers in creating these effects be overlooked, for a stretch of Erinus alpinus carmineus, of the orange Cheiranthus Allioni, the blue Myosotis alpestris, even of lavender Viola cornuta, proves more noticeable a few yards away than would be a group of some taller plant with similar-hued blossom. The explanation of this is simple; larger perennials do not cover their foliage with bloom, so green subdues the colour as seen from a distance.

Sow Viola cornuta alba around the orange Iceland poppies which are among our best rock plants, and a beautiful group is at once formed, but, if space permits, see that there are yards of the white carpet about, with a display of the poppy, and this feature of the garden will be eagerly looked for year after year. Viola cornuta lutea I have had around that true violet blossom Campanula glomerata, the two-foot tall cluster bellflower, and the summer glory was a blessing to be long remembered. If there are pale yellow snapdragons at any part of the rockery, the purple Viola cornuta will be a fair dwarf plant to sow near; while pink Alpine poppies prove delightful nodding at the feet of white or crimson snapdragons.

A shaded bit of rock garden can be sown just as well during summer as a sunny one; violas and pansies are bound to thrive sufficiently, so are coloured primroses and polyanthuses, while some of the gayest effects are obtainable with double daisies of rose and red, or the single gold-centred, vivid scarlet-crimson Bellis sylvestris, which is an indispensable gem for all rockeries .

Where honesty rises to warm the neighbourhood of gray stones, the alpine wallflower, Cheiranthus alpinus, will blossom profusely at the same time. I have found Meconopsis cambrica, the yellow Welsh poppy, quite as willing to do without sunshine, and equally precious for its colour contrast.

Against scarlet Oriental poppies in the hottest parts of the rockery, white arabis and iberis prove best of all carpets, the combinations in my garden being improved by the presence of dozens of compact bushes of Pyrethrum aureum, which is absolutely perennial in the southern counties. Sown during summer this popular Golden Feather is gained in vast quantity, and proves perfection for the following spring beds and borders as well as rockeries.

Dwarf aquilegias are other desirable subjects for sowing; we may choose between A. pyrenaica, violet; Stuarti, blue and white; Flabellata, white; Asperula odorata, the sweet-scented Woodruff, is another favourite plant that can be obtained in profusion by this easy method, while yellow or purple masses will be supplied by Erysimum pulcherrimum and E. purpureum.

M. H.

FIBROUS-ROOTED BEGONIAS.

Generally speaking begonias can be divided into three classes: firstly, the exceedingly popular tuberous-rooted section; next, those of a semi-tuberous nature, such as the beautiful winter-flowering hybrids raised by the Messrs. Veitch; and, thirdly, a very extensive group with fibrous roots.

These latter are, for the most part, evergreen in character, and at no time do they need a period of absolute rest, such as the tuberous kinds require. Many of the fibrous-rooted begonias are very valuable for decorative purposes, one species in particular—B. semperflorens, being most popular for bedding out throughout the summer months; and the high ornamental value for indoor decoration of one of the hybrids of this section, viz., Gloire de Sceaux, is well shown by means of an illustration in the GARDENERS' MAGAZINE as recently as February 13 of this year.

Of the numerous species and hybrids one of the oldest is the above-mentioned B. semperflorens, which was first introduced to the Liverpool Botanic Garden from Brazil in 1828. For the last 50 years it has been regarded as a very pretty flowering begonia for the greenhouse, but was at one time not very generally grown. Now, however, by hybridising and by other means, it has given rise to a number of variable and beautiful forms. That strong-growing variety known as B. semperflorens gigantea was raised by M. Lemoine, of Nancy, and distributed in 1884. It was obtained by the intercrossing of B. semperflorens and B. Lynchiana, this last a Colombian species, introduced in 1877, under the name of B. Roezli. It is of tall growth, with bright red flowers, and its association with B. semperflorens proved to be a happy one, as the members of the gigantea section are much grown, notably at Kew, where a group of flowering examples may often be seen in the greenhouse.

Then, a few years since, several varieties of B. semperflorens with double flowers were put into commerce by M. Lemoine, and though they have not attained a great amount of popularity, they are very distinct and free flowering. A large number of dwarf varieties of B. semperflorens are in cultivation, and it is the members of this section that are so extensively used for bedding purposes. In some of them the foliage becomes of an intense crimson colour under the influence of the summer's sun. Some of the dwarfer kinds, too, are very pretty in the greenhouse, notably Gloire de Chatelaine, pink, and Lumineaux, deep crimson. The continuous flowering qualities of this section well merit the specific name of semperflorens.

At the meeting of the Royal Horticultural Society on March 23, an Award of Merit was given to B. Saturne, whose general appearance would suggest that it is a form of, or hybrid from, B. hydrocotylifolia. It forms a tuft of handsome dark-green lobed leaves, while the red flower stems carry large clusters of pink blossoms. A very general idea is that awards at the Royal Horticultural Society's meetings are made only to new or comparatively new plants, but this is by no means the case, as the variety Saturne is at least about 20 years old. The hybrid B. Gloire de Sceaux above alluded to was put into commerce in 1885 by M.M. Thibaut et Keteleer, and announced as a hybrid between B. socotrana, and B. subpeltata. Whether this parentage is correct has been more than once doubted, but there can be no difference of opinion as to its great beauty and value to the gardener. The deep bronzy tinted leaves are very handsome, and serve admirably as a setting to the clusters of comparatively large rose-coloured blossoms.

Among the other species to which attention may be directed is Begonia Dregei, a compact growing species from South Africa, with pure white blossoms. It is full of interest, as being one of the parents of the popular B. Gloire de Lorraine. Begonia coccinea, a vigorous growing species that pushes up stout bamboo-like shoots to a height of six to ten feet, is not effective grown in a pot, but planted out in a warm house, and so situated that it has ample sunshine, it forms a striking object. The flowers, borne in clusters throughout the greater part of the year, are of a bright coral-red colour. This species is sometimes met with under the name of Begonia corallina.

B. Haageana, when grown freely, forms a large bushy specimen six feet or thereabouts in height. The leaves are as much as a foot long, and are on the upper surface dark green with reddish veins, while on the under side they are deep red. The whole of the plant is hairy. This species has enormous flower clusters, a foot or so across, which are thickly crowded with white or whitish blossoms. Both the leaf and flower stalks, ovaries, and under sides of the petals, are clothed with long red hairs, which form a very notable feature.

B. manicata is an old and well-known species with handsome shining green leaves, and a profusion of small pink blossoms borne on erect spikes from two feet to a yard in height. It blooms as a rule in February and March, and when in this stage is very effective. There is a variety—maculata, in which the leaves are blotched with gold, after the manner of the old hardy Farfugium grande, and another—cristata, with the edges of the leaves curiously crested.

B. metallica forms a good sized bush clothed with oblique pointed leaves of a deep green shaded with a dark metallic tint. From a foliage point of view alone it is very ornamental, and the dark tinted leaves serve to throw into prominence the blush coloured flowers.

Begonia undulata, also known by the name of B. glaucophylla, and B. Comte de Lamminghe, is of a drooping or creeping habit, and is seen to considerable advantage when treated as a basket plant. Under such conditions the shoots hang down for three or four feet, and are clothed with pretty wavy glaucous-green leaves. The flowers are in the bud state red mottled with a lighter tint, and when opened are more of a salmon hue.

Of garden varieties and hybrids there is an immense number, some of the most notable, in addition to those alluded to, being:

B. Carrierii, a hybrid between B. semperflorens and B. Schmidtii. It is a small-growing plant of compact habit, and bears its pure white flowers nearly throughout the year. This is sometimes used for bedding.

B. Corbeille de Feu, is the result of crossing B. semperflorens and B. fuchsioides; it was distributed by M. Lemoine of Nancy eighteen years ago, and forms a bushy growing plant a couple of feet or so in height, with shining green leaves and a profusion of red flowers. It is often used for bedding purposes. There are now several varieties of this section, but as far as my experience of them goes B. Corbeille de Feu is quite the equal of any of them.

The charming B. Kewensis is a garden hybrid, raised at Kew, but its origin I am unable to give. It is of a graceful arching, semi-pendulous manner of growth, and bears its clusters of creamy white flowers in great profusion during the summer months. From its style of growth this is seen at its best when grown in suspended baskets.

B. luzerna is a strong growing kind, with stout stems reaching three to five feet high, and clothed with large dark shining green leaves. The deep coral-red coloured flowers are borne in very large drooping clusters. An older variety, a good deal in the same way is B. President Carnot.

B. Weltoniensis is one of the oldest of hybrid begonias, for it was given a First-class Certificate by the Royal Horticultural Society 41 years ago. It was raised by the late Colonel Clarke, who, among his other successes, obtained that pretty cream coloured variety—B. Moonlight. At one time B. Weltoniensis was popular as a market plant, and was also used for bedding. The late Mr. Herbst, soon after its introduction, grew it in large numbers for Covent Garden market. It is of a sturdy upright style of growth, with red stems and leaf stalks, and neat bright green leaves marked with greyish green. The pretty pink flowers are borne in great profusion. I can find no record of its parentage, but have an impression that the [illegible] told me the parents were B. Dregei and B. Sutherlandi. As the flowers of B. Dregei are white and those of B. Sutherlandi coppery orange, one would be [illegible] prepared to find the progeny with [illegible] flowers, only that the same thing [illegible] happened in the production of the pink flowered Rhododendron Prin[illegible], which resulted from the crossing of a white and a reddish orange kind.

The notice of fibrous-rooted begonias might be almost indefinitely extended, therefore I will but refer to the numerous [illegible] foliage kinds in the production of which B. Rex has played such an important part, and to the ubiquitous B. Gloire de Lorraine, which has been the subject of [illegible]. There are now several forms of this, and to the section must also be added M. Lemoine's new variety, B. [illegible], which was given an Award of Merit by the Royal Horticultural Society early in the year.

W. T.

IMPORTANCE OF MAGNESIA IN THE CULTURE OF ROSES.

In the issue of August 7, page 614, Mons. Georges Truffaut calls attention to the importance of the constituent magnesia in the life of plants, and more especially in the cultivation of the rose.

In October, 1898, Mr. A. Hill Gray, of Bath, suggested to the committee of the National Rose Society that it would be of interest to ascertain if possible what, if any, were the particular chemical ingredients in certain soils which enabled rose plants grown in them to produce such an exceptionally large proportion of choice exhibition blooms. At the same time Mr. Gray generously enclosed a donation of £5 towards the expense of any investigation having this object in view which might be undertaken by the society.

The question was referred to a small sub-committee, with the result that Dr. Bernard Dyer was appointed to carry out chemical analyses of various well-known rose soils. From Wolff's analysis of the ashes of the rose we find the amount of magnesia in the various parts of the plant to be as follows: Roots, 7.15 per cent.; wood, 7.62 per cent.; leaves, 9.23 per cent.; flowers, 5.94 per cent. According to these figures magnesia comes next in importance to potash in the constituents of the rose plant. Potash ranges from 13.42 per cent. in the roots to 47.41 per cent. in the flowers.

Dr. Bernard Dyer found on his examination of the special rose soils, that the Colchester Rose Nurseries gave to their soils 0.360 per cent. of magnesia, against 0.226 per cent. of potash. Messrs. Paul and Son, of Cheshunt, showed in their soil 0.260 per cent. of magnesia, and 0.277 per cent. of potash. The soil from Mr. G. Prince, of Longworth, near Oxford, gave 0.4 per cent. of magnesia, against 0.238 per cent. of potash. From Messrs. Harkness, of Hitchin, the soil gave 0.3 per cent. of magnesia, and 0.238 per cent. of potash; while Mr. E. B. Lindsell's rose garden analysed 0.44 per cent. of magnesia and 0.265 per cent. of potash.

Taking the mean analysis of these five soils, the proportion of magnesia is 0.352 per cent. and 0.249 per cent. of potash, showing that the ingredient magnesia is relatively of more importance than potash in the production of good rose blooms.

From many trials it has been found that a manurial mixture composed of four parts of sulphate of magnesia, three parts of sulphate of potash, and two parts of bone meal or superphosphate makes an excellent manure for the growth of roses, applied at the rate of 4 ozs. per square yard as soon as the young leaf begins to break in the spring; to be lightly forked into the soil.

J. J. Willis.

LASTREA MONTANA

Some little time back, in an article on this fern (Gardeners' Magazine, 19/6/09) I stated that I had failed to find it at Kew; but it is abundantly obvious from the accompanying photograph, kindly supplied by Mr. W. Watson, that this was my fault, and that, so far as the usual form of the species is concerned, I must cry "peccavi." To a small extent, however, I must justify myself, since I did not say that it was not there, but that considering its varietal capacity, it was not properly represented, and when we consider that over sixty varieties are recorded and described in the "Ferns of the Lake District" alone, I think Mr. Watson will agree with me that even a fine grown clump of the normal in a collection of varietal forms, which probably has no competitor in the world as regards numerical richness in distinct forms of most of the British species, can scarcely be considered as representative. Nevertheless, I am delighted to see that the species itself is so well to the fore, which is more than can be said of the great majority of collections, a singular fact, since, in my own suburban garden, with all the handicap of a low rainfall, it holds its own bravely from year to year in its crested and plumose condition, while under glass it forms one of the most satisfactory pot plants I possess. In any case, I apologise to Mr. Watson for my oversight, though I hardly regret it so much as perhaps I ought to do, considering that it has evoked a good photo, and nothing worse than amicable protest.

Chas. T. Druery, V.M.H., F.L.S.

A FINE COLONY OF LASTREA MONTANA AT KEW.

THE ROTTING OF STRAWBERRIES.

The season of 1909 will long live in the memory of all who have had anything to do with strawberries, not only for the dreadful weather experienced, but also for the awful manner in which the berries rotted, in all localities, and under almost all conditions. Of course, to a very great extent this latter fact was the outcome of the first-mentioned, the terrible climatic experiences during the period of growth and ripening; still there was, in very many cases, a powerful agent which, aided by the very cold rains, brought about such lamentable results as were often to be seen.

[Photo: W. J. Mitchison.

A FINE OLD CLEMATIS MONTANA AT DUNSHANE, CO. WICKLOW.

The agent I refer to is the fungus, Botrytis cineria, which, during the last year or two seems to have added strawberries to its already lengthy list of victims, and in so doing, seems to have singled out Royal Sovereign for its most virulent attack. The catholicity of its taste may be judged when it is stated that onions, potatoes, lettuce, tomatoes, chrysanthemums, and even gooseberry bushes, in addition to many weeds, have been observed to be suffering from attacks of this fungus.

During the last day or two I have seen some tomato plants in the house of a very good grower which are suffering from this dread scourge, and I shall hope to refer to this phase of its activities later. Botrytis cineria is the summer form of a disease which produces curious hard, black, oval bodies within the tissues of the plants it attacks, i.e., in the skin of the onion bulb, in the potato haulm, in the stem of the tomato or cucumber. However, it is not with the sclerotia or winter form that we are at present concerned, except to say that it seems probable that the disease lives over the winter in these sclerotia, either in the dead and decaying leaves which are generally to be found in the middle of a strawberry plant, or in the ground where they have fallen on the decay of the fruit or vegetation attacked.

With the approach of spring these sclerotia grow, producing a crop of spores which are very minute, and also very light, easily flying when disturbed by a blow or a rough wind. The position most readily attacked by these spores upon a strawberry plant seems to be the little green leaves of the calyx, and it is here that it most often makes its entrance. In a very short time, especially during damp weather, the spores germinate, and the mycelium rapidly passes from the calyx through the flesh of the berry. Soon a dense white mould appears on the surface, changing in a while to a dark brown colour, by which time probably the entire berry is affected, and the spores are again ripe, so that with a touch clouds of spores fly off in thousands to affect other berries.

It is not only the large colouring berries which are attacked, but just as often half-grown green berries, and even the latest, not as big as a pea, will be found to go brown and die off. Though not to be taken as a rule, it has been observed that this disease is often in company with one or other of the eelworms which attack strawberry roots and crowns, and, like them, flourishes most on land that is sour from want of drainage, and more particularly from a deficiency of lime in the soil. All strawberry beds where this latter is deemed to be the case should receive a good dressing of ground chalk in the autumn or early winter, or a dressing of lime in the early spring.

From what has been stated concerning the lightness of the spores, and the ease with which they are disturbed, it will be seen that much care must be adopted in keeping a good look out for the disease and also in adopting very careful methods for dealing with it.

If the first berries are picked off and burnt before the spores have time to assume the brown colouration, there may be some reasonable hope of checking the disease, but if on the other hand, through ignorance of the attack, or carelessness, many fruits are allowed to become diseased and the spores to ripen, the mere act of moving the leaves to search for the sound fruit is sufficient to disturb clouds of spores, which, lighting on the damp calyx of healthy berries, set up fresh infection.

The best thing is to keep a sharp look out for the disease, and on its first approach send someone with a pail, which has been wiped round inside with a little paraffin, to pick off all infested berries, no matter how little diseased they may appear. The person doing this work should be instructed to use as gentle methods as possible, not to bang the pail down on the ground so as to jar the berries and disturb the spores; in handling the leaves and trusses of the plants, not to shake them about; in fine, to do all possible to pass off affected berries without distributing the disease. On no account should any other receptacle than a pail be employed, or the spores may be sown broadcast more than they could possibly have been naturally.

All strawberry plants which have fruited should now have the runners which they have made since the straw was laid down taken off, as well as just a few of the older leaves. A large knife may be used to do this, or, if the beds are of considerable extent, a No. 1 Bagging Hook, without crank, will be found a useful tool. With this, however, the worker should be careful to keep the hook perfectly upright, as a stroke in a more or less horizontal direction will cut more leaves off the plants than they can afford to lose. It will be well, though, to sacrifice a few leaves, and aid in staying the disease rather than carefully preserve every leaf and harbour the infestation.

Where the attack has been very virulent the plants may be sprayed with copper sulphate, after they have been trimmed up, in the form of a Bordeaux mixture, or Strawsonite, taking care to thoroughly drive the spray among the leaf stalks where the withered leaves and rubbish collects.

It was the practice in France to burn over the strawberry fields after picking, and doubtless by this means much of the rubbish was got rid of from amongst the crowns, lessening to a great extent the risk of infection. But I am afraid in most gardens this is not practicable owing to the close proximity of fruit trees and other produce, but where possible it is well worth trying. If the operation is taken in hand now, no damage will result to the plants at all.

If the present fine spell which we are

enjoying at the time of writing continues, I shall hope to flare over about 12 acres, of course, burning the straw with which they were littered as well, which will have to be lightened up with forks before firing, as it is tightly trodden into the ground.

It may be mentioned in conclusion that Sir Joseph Paxton resisted the disease very much more than Royal Sovereign, though it is difficult to say why; possibly it is because the latter is very much the softer in flesh of the two. F. W. Hammond.

Pilgrim's Hatch.

CLEMATIS MONTANA.

So much has been written and said about Clematis montana that the opportunity of writing anything original about this lovely climber has long since passed. And yet there is always something fresh and new about the plant when it bursts so quickly into bloom and flings its long trails of white blossoms around the window frame, and over the eaves, or twines them around the pillars of the porch, the stem and branches of an old tree, or laces them in and out of the lattice work of a trellis fence. To those who have not previously grown this beautiful and quite common climber, the first flowering of a specimen set out with one's own hands is something to remember, though the floral display of each succeeding year is far greater than the initial one. Fortunately it will grow almost anywhere. It will wreath a fence in a backyard at busy Brentford; it will climb an old Scots fir in Royal Kew; it turns many a Surrey roadside cottage into a beautiful picture, and it is a favourite plant for the decoration of the balconies of seaside houses in the West and South-West of England. Probably no plant grown is so often photographed as Clematis montana, especially if one is to judge from the number of prints that reach an editor of a horticultural journal each year, and though those prints are too often beneath contempt, photographically, they show how popular this clematis is, how readily it takes to all kinds of sites and positions, and how beautiful it is in each instance. It is not everyone who may enjoy such a picture as is illustrated herewith, which represents an old Clematis montana covering part of a house at Dunshane, Co. Wicklow, but most people who have a fence or a wall to cover may have the same kind of beauty on a smaller scale if they plant Clematis montana—and planting time is not far distant. C.

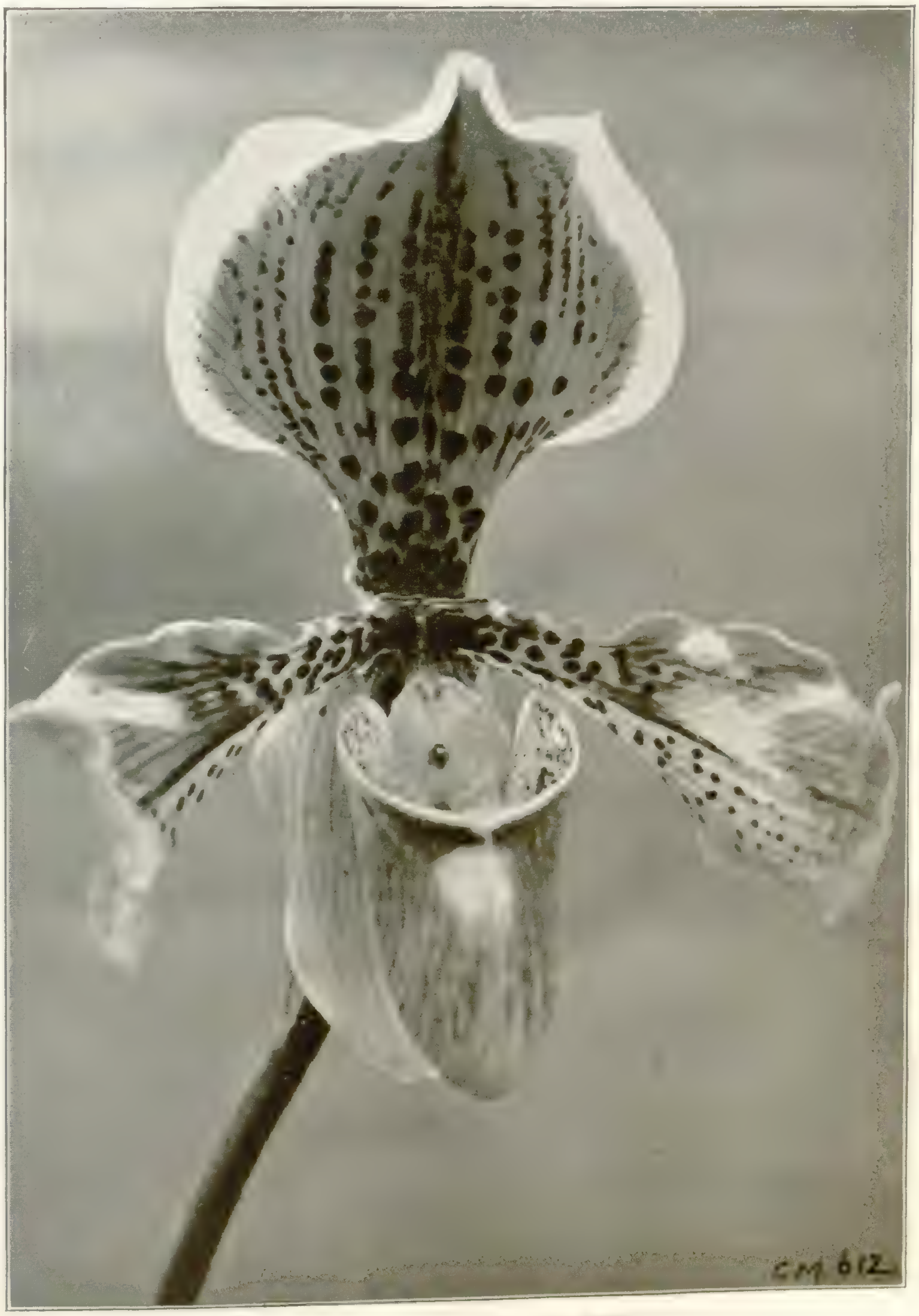
CYPRIPEDIUM THE PREMIER.

Although for some little while Mr. Francis Wellesley, J.P., of Westfield, Woking, gave up the culture of orchids, it was not long before he returned to his first love in horticulture, and now his collection is in some respects finer than the one he originally brought together. One of his many fine cypripediums is C. The Premier, a bold and handsome flower that was raised by crossing C. Mons. de Curte with C. Mrs. Mostyn. The large and shapely flowers are richly coloured, and remind one somewhat of the fine Cypripedium Beek[illegible]. The lip and petals are yellowish, beautifully shaded with bright brown and purple brown; the dorsal sepal is light green, shaded with yellow, with a white margin and apex, and with bright purple and purple-brown markings towards the base. Mr. Wellesley regards this as one of his choicest cypripediums, and he has had so many good things that he is well able to judge.

GOLD MEDAL ROSES.

While walking among our roses a few days ago it occured to me what a grand and fully representative lot of varieties there are that have gained the gold medal of the National Rose Society. Without those of the present year there are upwards of fifty, and they make a grand collection. The diversity of colour, of form, of growth, and of the purpose they are best adapted for, is remarkable. Not a thing is missing. If we want the best and most vigorous climbers then Blush Rambler, Crimson Rambler, Queen Alexandra, and White Dorothy supply the need. Mrs. Paul, J. B. Clark, Avoca, Margaret Dickson, and Purity give good pillar or semi-climbing varieties. We can select half-a-dozen or more eminently suited for pots, in Queen of Spain, Sunrise, Joseph Lowe, Mrs. W. J. Grant, Lady Roberts, and Souvenir de Pierre Notting. Good singles are represented in Irish Elegance, Irish Harmony, and Mrs. O. G. Orpen, while it would be difficult to find a dozen better suited for the exhibition box than Bessie Brown, Mildred Grant, Dean Hole, Florence Pemberton, Duchess of Portland, Her Majesty, Mrs. John Laing, Hugh Dickson, Mrs. Edward Mawley, Mrs. W. J. Grant, Muriel Grahame, and William Shean. In the so-called garden or decorative roses we have Betty, Dorothy Page Roberts, Irish Elegance, Mrs. B. R. Cant, and Mrs. Peter Blair.

If we consider colour the diversity is even more noticeable, as all shades are represented. The golden yellows of Harry Kirk and Souvenir de Pierre Notting; the whites of Marchioness of Londonderry and Margaret Dickson; the creams of Bessie Brown and Mrs. David McKee; the intense scarlets of Ben Cant, George C. Waud, Hugh Dickson, and J. B. Clark; with the purplish crimson of Avoca, and the nearest approach to purple we have in Sir Roland Hill. The lovely pinks of Mrs. John Laing and Mrs. R. G. Sharman-Crawford do not exhaust the variety. If we want some for coat flowers few beat Betty, Lady Roberts, Sunrise, and Mrs. Peter Blair. Why not have a class or classes for our "Gold Medal" roses as well as for new varieties striving for the medal? A. Piper.



CYPRIPEDIUM THE PREMIER.
A handsome Lady's Slipper with large, richly-coloured flowers.

EFFECTS OF THE WINTER ON TREES AND SHRUBS AT KEW.

In view of its importance to those who take an active interest in ornamental trees and shrubs, we herewith reprint, with due acknowledgment, the following report, by Mr. W. J. Bean, the assistant curator, on the effects of the winter of 1908-9 on trees and shrubs in the Royal Botanic Gardens, Kew, which appears in the current issue of the "Kew Bulletin":

The winter of 1908-9 was the severest that has been experienced in the British Isles since 1894-5, and the resulting damage to trees and shrubs grown out of doors has been greater than that of the intervening thirteen winters all put together. Experiments are continually being made at Kew as to the hardiness of new or untried trees and shrubs, and it is not until such a winter as the last occurs that their real powers of resisting cold are ascertained. The results, therefore, of a severe winter, although often chastening, are not without value; and it is thought that a few notes relating to the more interesting losses and survivals may be useful. As a matter of fact the list of survivors tells a more serviceable and reliable story than that of the losses. The fact that a certain plant has survived uninjured a certain degree of cold without artificial protection hall-marks it with a corresponding degree of hardiness in the particular place where it grows. But one cannot assume so positively that another plant which has died under the same conditions is correspondingly tender. So much depends on attendant circumstances. Its death may be due to a series of adverse conditions of which the winter's cold is but the culminating one.

It must be admitted, however, that the damage done to vegetation during the winter of 1908-9 was not due so much to long spells of intense cold as to violent alternations between intense cold and unseasonable warmth. The month of October, 1908, was extremely mild, often even summerlike. The thermometer rarely fell below 42 degrees Fahr., and on five occasions it rose to between 70 degrees and 80 degrees in the shade. The consequence of this was, that many shrubs, more especially young and vigorous ones, kept on growing when they should have been consolidating ("hardening off") the growth already made. From the end of October to December 27, the weather continued very mild, and frosts, ranging from 1 degree to 8 degrees, were registered on six occasions only. But on December 28 the minimum temperature was 24 degrees fahr.; on the 29th it was 23 degrees Fahr., with a heavy fall of snow; and on the 30th the thermometer fell to 10 degrees Fahr. It was, no doubt, to this sudden experience of 22 degrees of frost, following a long period of soft mild days, that much of the damage we have to record was due. On the night of the following day (December 31) it was thawing and raining. The first three weeks of the new year were very mild, but during the last week of January frosts varying from 6 to 12 degrees were registered. February opened mild—on the night of the 3rd the minimum temperature was 51 degrees Fahr.—and continued so until the third week. This had excited some plants, especially Siberian and Manchurian ones, into a premature activity, when the second spell of severe weather occurred. This lasted from the third week of February to the second week of March. On two occasions 13 degrees of frost were registered, and once 18 degrees, these being accompanied by bitter E. and N.E. winds and snowstorms.

From this brief summary it will be seen that the winter has no claim to rank among the severe ones of history. So far as the average mean temperature of the six dark months is concerned, it would probably even be found to rank with the warmer ones. The disasters to vegetation that have occurred are undoubtedly due to that characteristic of English winters (exceptionally pronounced in this instance) which is the bane of all cultivators of extensive collections of hardy exotic plants. This consists, as has already been observed, in violent fluctuations of temperature, which bring about in many plants a state of unrest absolutely opposed to the long winter sleep so many of them enjoy in their native places.

It would serve no useful purpose to go through the full list of killed and injured plants. There are some half-a-dozen great areas whence we obtain the more tender shrubs we attempt to cultivate in the open air, viz., S. Europe, Himalaya, New Zealand and Tasmania, S. America, California, and the S. United States. Among such plants are many which can only be said to exist on sufferance in our gardens, but whose interest or beauty is so great that we are willing to risk their occasional loss; for example, the ceanothuses, tree heaths, cistuses, escallonias, New Zealand veronicas, and (on walls) the myrtle, olive, and pomegranate. These can only be expected to pass through the mildest winters unharmed, and their experiences during the past winter have not differed from those of ordinary winters, except in being somewhat more unfortunate than usual. Some shrubs, too, which are indisputably hardy, such as Cytisus albus, have had their younger branches killed, owing, no doubt, to the soft, unripening weather experienced right up to Christmas. These are not mentioned, for the damage is but temporary. The following notes are only intended to record the behaviour of newer and more interesting plants.

New Chinese Plants.

One of the most interesting elements in the horticulture of the present time is the introduction of new plants from Western and Central China. Most of these, it is hoped, will prove hardy enough to take a permanent place in the outdoor garden, and although the last winter can scarcely be said to have afforded the supreme test of our English climate, the results are full of encouragement.

It is especially satisfactory to find that Davidia involucrata, for which we are indebted to the enterprise of Messrs. Veitch, has not been injured by cold, even to the extent of a single bud. So much could not be said of several British plants. Ailanthus Vilmorini, although young, and only two feet high, is unscathed. In the low damp ground behind the Palm House Rhododendendron rubiginosum was killed by the rupture of the bark near ground level, but on the higher, drier ground near King William's Temple, was unhurt, and has flowered well since. Jasminum primulinum was killed to the ground even against a wall, and appears to be of no value for outdoor cultivation. Magnolia Delavayi, destroyed in the open ground, is unhurt on an east wall. Several young plants of Poliothyrsis sinensis were killed in the nursery, but others are growing well. Poupartia Fordi has survived. The following rare Chinese trees and shrubs, growing in the open ground without any protection, were quite unaffected: Liriodendron chinensis, Euptelea polyandra, E. Francheti, E. Davidiana, Tetracentron sinense, Eucommia ulmoides, Pertia sinensis, Sycopsis sinensis, Eleutherococcus Henryi, Berberis Wilsonæ, B. dictyophylla, B. acuminata, Trachelospermum crocostomum (on a wall), Cotoneaster adpressa, C. applanata, C. moupinensis, C. humifusa (seedlings were injured), C. bullata, C. rugosa var. Henryi, Viburnum Carlesi, V. rhytidophyllum, Rosa Hugonis, Itea ilicifolia, Schizophragma integrifolia, Sinofranchetia sinensis, and Sophora viciifolia.

A great number of plants have recently been raised from seeds presented to Kew by Professor Sargent, which had been collected by Mr. E. H. Wilson during his last journey in China. Nothing definite can be put on record about them because most of them are unnamed and under numbers only. Further, they had only been planted in the open ground a few months. Most of them, however, have survived, although many have been cut back to ground level.

Coniferæ.

This family, as represented in the outdoor garden, is, of course, but little affected by the severest frosts. It is only a few of the uncommon species that need be mentioned. Libocedrus macrolepis, a new Chinese species, is killed. Podocarpus alpina, a species native of Tasmania, and P. chilina from Chile have suffered very little. Fitzroya patagonica and Libocedrus chilensis are untouched. Of the commoner sorts, Pinus insignis was the only one that showed much evidence of damage, and this was confined to its leaves, which remained on the trees but turned a curious rusty brown.

Bamboos.

These afford the worst evidence in Kew of the winter's havoc, and the appearance of the bamboo garden at the time of writing (June) makes one doubt whether a large portion of the species are really worth a place in ornamental gardens. Not a single species probably has been killed, or even permanently injured, but the top growth of many is entirely dead, and only the underground rhizomes are alive. Others, which on Christmas Day last constituted some of the freshest, and certainly most graceful masses of greenery in the gardens, are now leafless stems, with no more beauty than a bundle of pea-sticks. And the worst consequence of a season like the past one is, that, so late are bamboos in renewing their growth, it is not until after midsummer that they become presentable again. The two most satisfactory species are Arundinaria nitida and A. fastuosa, which have not suffered in the least. Many of the phyllostachys have been lost to the collection in recent years owing to their flowering and subsequent death. Of those that remain, P. flexuosa, P. nigra, and P. Quilioi have suffered less than any. A curious fact in regard to P. viridi-glaucescens is, that the only specimen which has escaped damage is growing on a dry slope. The old Arundinaria japonica (commonly known as Bambusa Metaké), which, on account of its hardiness has been planted about the grounds, is very much disfigured. Among the dwarf species, Arundinaria pygmæa, A. Kumasasa (or palmata), A. Veitchi, and Bambusa tessellata are but little affected.

(To be continued.)

YELLOW INGESTRIE APPLE.

This is generally considered to be identical with the Summer Golden Pippin of Kent growers and costermongers' barrows, but is quite a different variety from the Golden Pippin, which is a winter variety. It was raised by that pioneer of English pomologists, Thomas Andrew Knight, who fertilised a flower of the Orange Pippin with pollen from that of the Golden Pippin, and planted two pips from the same cell of the resulting apple, one of which produced the Red Ingestrie and the other the Yellow Ingestrie.

This variety is grown more generally for market than in private gardens, according to my experience. Its growth is slender and somewhat pendulous, forming a small standard, and a compact bush or pyramid on the paradise. It comes into bearing early, and is a great cropper, coming, as usually grown, about twelve or fifteen to the pound; but, on healthy young trees, where the fruit has been thinned, about six or seven to the pound. In a normal season it is at its best for dessert purposes from mid-September to early October, when it is very crisp and tender, with a profusion of highly-flavoured vinous juice, though with a brisk acidity early in its season which never quite disappears. In late October it becomes mealy.

It is a handsome apple, with its clear yellow skin, and is a great favourite with children. ALGER PETTS.

MUSHROOMS IN BEDS OF LEAVES.

Many gardeners in different parts of the country will soon be busy collecting the fallen leaves from trees. In some instances there will be more than can be used, especially where the garden soil is of a very light nature; but where it is clayey, of course, there is plenty of room for sweet leaf-soil. But in any case, where the leaves are plentitul, some may be used for making into beds on which mushrooms may be grown. Many gardeners mix leaves with the stable manure for forming the beds, and some use leaves only.

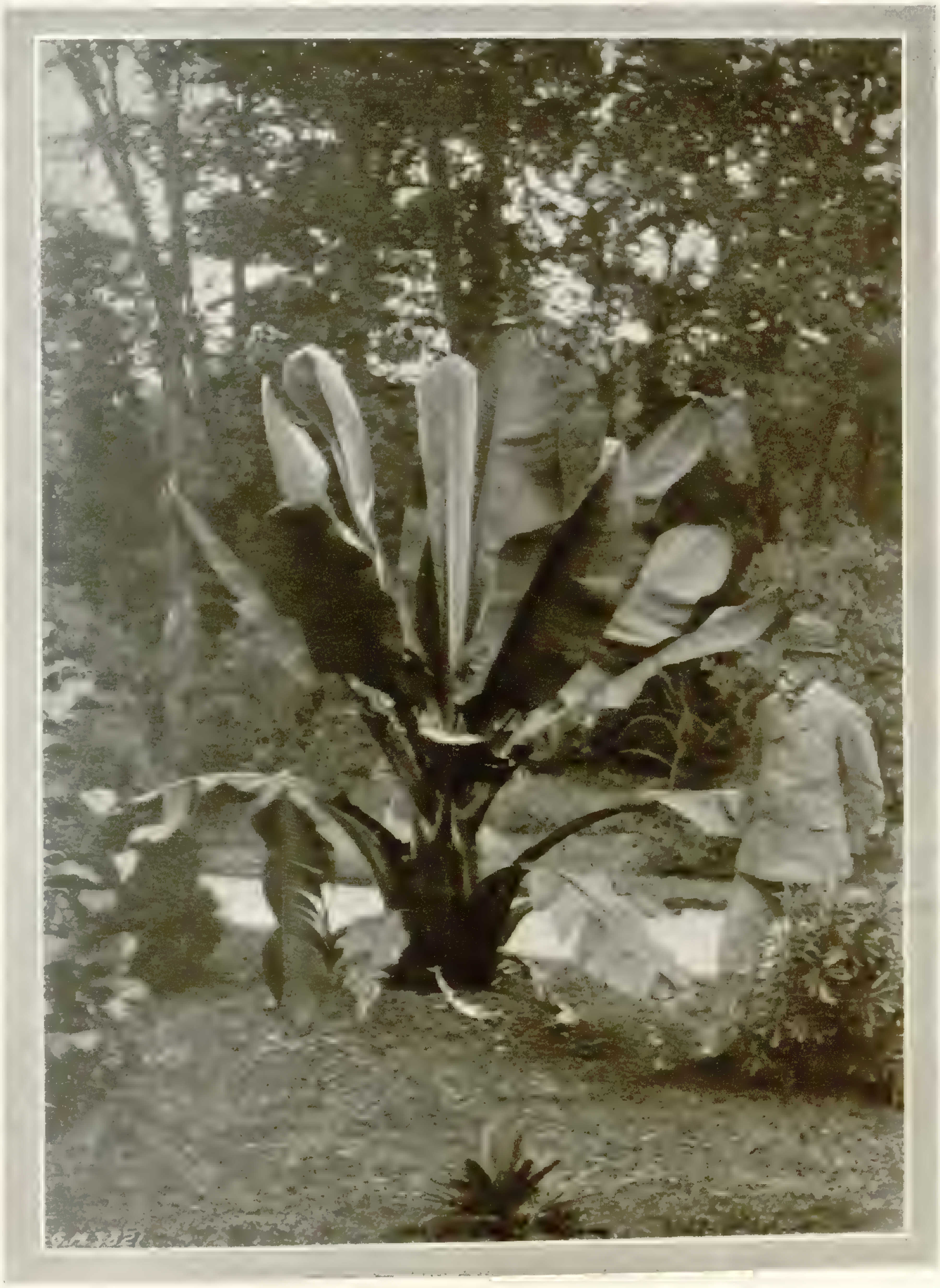
I have been very successful in the cultivation of mushrooms on leaf-beds during the winter months in the open air, and I will briefly explain my method. I never depended entirely upon leaves a year old, no matter how unbroken they were. Directly the fresh leaves commenced to fall they were gathered and spread out in a convenient place, and when sufficient were collected to form a large bed, these new leaves were judiciously mixed with some of the best of the old ones. I rarely found it necessary to damp them, as the new ones contained sufficient moisture for all. The bed was made ridge-shaped 5ft. wide at the base and 5ft. high. This height allowed for sinking. As the layers of leaves were placed in position they were trodden down and kept in place by the addition of a small quantity of good loam which was sprinkled on each layer. The heap was finally covered with a layer of freshly-sifted loam to a depth of about nine inches; the spawn being inserted in the soil in the usual way, and a thatch of straw completed the work.

In addition mats were used in very frosty weather, and other leaves, as gathered, were placed in heaps around the foot of the ridge. In this way a gentle and lasting heat was maintained in the bed for a long period. The mushrooms generally grew in large clusters, few coming singly.

G. B.

MUSA ENSETE IN CORNWALL.

The gardens of Rosehill, Falmouth, the residence of Howard Fox, Esq., have long been remarkable for the large number of comparatively tender plants that are grown to a high degree of perfection within their boundaries without the aid of glass. Here we find acacias, brugmansias, cordylines, palms, tree ferns, and other subjects that in other parts of the United Kingdom have the shelter of glass and assistance of fire heat growing luxuriantly in the open; and of these none contribute more liberally to the interest and attractions of these gardens than do the bananas. Indeed, these are so successfully cultivated that the banana walk constitutes a noteworthy feature, and three years since five specimens of the Japanese banana fruited. The tender Musa ensete often passes through the winter uninjured in the Rosehill gardens, and, as so well shown in the accompanying illustration, established specimens assume noble proportions, and present a stately appearance. This is unquestionably one of the most ornamental of all the bananas, and is of much value in a kind climate such as that of Cornwall for giving a tropical aspect to garden scenery.



MUSA ENSETE AT ROSE HILL.

HARDY FLOWERS are always popular, as they make the garden bright and attractive, and require but little attention. All the information required for their successful culture is given in EASILY GROWN HARDY PERENNIALS, by G. H. Vos. Price 5s. net, by post in box, 5s. 6d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

SODA BORDEAUX.

This fungicide is made from copper sulphate just as the ordinary Bordeaux mixture. It differs, however, in that caustic soda is used to neutralise the acid property of the bluestone instead of lime; and that the final mixture contains sodium sulphate instead of calcium sulphate (gypsum). The resulting form of the copper, copper hydrate, is exactly the same, and exerts the same fungicidal power. The following method of preparing the soda Bordeaux is recommended in Bulletin 171 of the Ontario Department of Agriculture:

The main point in connection with this mixture is that caustic soda is an extremely active alkali, and any amount of it added over and above that required to combine with all the copper will destroy foliage. Therefore, in making soda Bordeaux, it is important to add just the exact quantity of the soda required to change all the bluestone to copper hydrate. This is done by adding the soda solution slowly to the copper solution, mixing thoroughly after each addition, and testing for the neutral point with litmus paper. The moment the litmus paper takes on a faintly blue tinge is the time to stop adding. The copper is then all in the form of a sediment and any more alkali added will be left in the free state.

The following tentative formula can be given:

Caustic Soda	2 pounds.
Copper sulphate	6 pounds.
Lime	5 ounces.
Water	40 gallons.

In making, add three-quarters of the soda solution at once, mix thoroughly and then add the rest gradually, mixing and testing until the proper quantity is present. It may not require the whole amount recommended, and it may require more, depending upon the quality of the soda. When the alkaline value of a sample of soda is once ascertained, then one can proceed with much more rapidity. The small amount of lime is added to make the mixture decidedly alkaline, and, therefore, safe, and to cause the precipitate to remain blue instead of changing to dark brown or black, which it does after standing some time where an excess of soda is used.

Caustic soda can be bought retail or in drums of one hundred pounds, from or through any chemist, while Gillette's lye, which is familiar to everyone, is a convenient form of soda for use in making soda Bordeaux.

Soda Bordeaux has an advantage over the ordinary Bordeaux in that it is just as good a fungicide, and at the same time is made without the labour of slaking and preparing of lime. There are disadvantages, however:

1. Great care is necessary in the addition of the caustic soda. Any added in excess is dangerous to foliage; an excess of lime is not harmful, though not advisable.

2. Unless exactly neutral, the addition of an arsenical to soda Bordeaux to impart to it an insecticidal power, is dangerous. Any free alkali will act upon the arsenic compound and form sodium arsenite, which, being soluble, will scorch foliage.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

MASDEVALLIAS.—The robust-growing section of this genus, comprising such popular kinds as M. Veitchi, M. ignea, M. Davisi, M. coccinea (better known in gardens as M. Harryana), in its varied forms, and the numerous hybrids of the stronger growing species, will now have their growths in such a condition that they will be emitting their new roots, and thus will be ready for potting. Some growers advocate potting in the spring, and this is certainly desirable for many of the miniature kinds, such as M. Wagneri, M. Estradæ, M. simula, and M. tridactylites, where the roots are produced immediately after they have flowered. But the robust growing kinds commence throwing up their flower scapes in the spring, expand their flowers in April and May, start into growth immediately after flowering, and the new roots are formed in due course in the early autumn.

TIME TO POT.—I have always been an advocate of not disturbing cool house orchids when we are about entering upon the hot summer months. It is far better to delay the disturbance until the sun commences to lose some of its power, and at the present season, when little or no artificial heat is necessary at nights, and the days are not so excessively hot, there is the least possibility of the plants suffering any ill effects from potting. Moreover, the plants are at the stage when new roots are active, and in this condition they are enabled to become more readily established in the fresh potting compost. As the plants require a liberal supply of root moisture at all seasons of the year, the matter of ample and clean drainage in the pots should not be overlooked, as there is nothing more likely to cause disastrous results in the winter months than stagnation about the roots. Loss of foliage and spotting of the leaves may generally be traced to this cause.

THE POTTING COMPOST used should also be of a porous and lasting nature. Peat and chopped sphagnum moss, with a little silver sand and finely broken crocks intermixed, is suitable, and all that is really necessary, but a few broken oak or beech leaves we find beneficial, while osmunda fibre or polypodium fibre may be substituted for the peat, but I consider good fibrous peat preferable. When repotting, do not damage the active roots while turning the plants out of their pots and removing the old potting compost. All dead leaf sheaths and decaying material about the base of the plants should be removed. Make the compost moderately firm, and when finishing, gradually mound it to the centre of the pot. A thin layer of sphagnum moss is desirable where leaves are included in the potting-compost. Water thoroughly as soon as potting is completed, and keep the plants shaded until the roots get hold of the new compost.—H. J. Chapman, Oakwood Gardens.

FRUITS UNDER GLASS.

EARLY VINERIES.—Where all the fruit has been cut, give the vines the benefit of a complete rest. Throw open all ventilators and doors, and damp the border and foliage down at least twice daily; by these means a complete rest will be assured. Do not allow the border to become dry, or the small fibrous roots will perish; if the mulching material is spent, apply a little more to check evaporation.

MIDSEASON HOUSES. — Black Hamburghs, when well ripened, may have a little shade over the glass, and should receive the benefit of all air possible. That beautiful grape Madresfield Court should be kept rather dry in order to keep it in good condition. It has coloured well this season in spite of a dull time. Keep a sharp look out for insects, and sponge the leaves upon the least indication of red spider. That fine grape, Mrs. Pearson, is a good midseason variety, being both handsome and richly flavoured, and, moreover, it is a fine keeping variety; it requires heat and time to ripen, but Muscat treatment will grow it to perfection. The fire heat may be now turned off these houses in fine and dry weather.

MUSCAT OF ALEXANDRIA.—Where the fruits in the main houses are approaching ripeness they should be given plenty of air. If the borders are sweet and well-drained no shanking will be present; but if shanking occurs there is something wrong with the border, or the management of the house. If the borders are thoroughly drained, one cannot well give too much water; but if the drainage is imperfect, very little water might be too much, and the border become sour. With houses near the south coast and facing due south, a little shading may be quite necessary, or the skins may be burned or browned by too strong sunshine; a light shading may be put on with a sprayer. Good colour is essential to bring out the finest qualities of this popular grape, and in houses facing any other aspect than south it will be necessary perhaps to draw the foliage slightly aside to allow more sunlight to reach the bunches. It is a good plan with very old Muscats to cut down a vine occasionally and train up a young rod, as this system imparts fresh vigour and secures larger bunches.

LATE GRAPES.—Lady Downes, Alicante, Mrs. Pince, and all late varieties must be kept growing strongly in order to have them ripe by the beginning of October. They will now require copious supplies of moisture and good doses of liquid manure. Lady Downes is the most reliable late black grape. Too many varieties should not be attempted, as it is often a fatal mistake. A little air should be left on the vineries all night, and when this is done very little, if any, burning ever takes place, and grapes colour better under these conditions. The laterals should be kept pinched regularly, so that the strength of the rod is allowed to concentrate on the fruit. This is one of the best grapes to keep clean, as it is rarely that any pest attacks the foliage.

LATE MELONS.—Secure a set as soon as possible so that the fruits will be ripe by the end of September or beginning of October, as being hot weather fruits melons are not much in demand after that date.

FRAME MELONS. — Where these are ripening leave a little air on after the usual closing time, or the fruits may crack with excess of moisture. These melons are doing remarkably well this season, and are within the reach of all who possess a frame, and most varieties will do well and produce heavy crops of fruit in frames.

CUCUMBERS.—It is now time to sow a batch of these for autumn fruiting, and no better variety exists than Everyday. It is, as its name implies, an everyday variety, of convenient size, and, moreover, a good cropper and of good flavour. Seeds should be sown in small pots, and as soon as possible shift the plants into 48's, when the house should be thoroughly cleaned and made wholesome for their reception.

TOMATOES for autumn and Christmas should now be put into larger sized pots, and grown on sturdily out in the open, and should be in their fruiting pots by the middle of September. The supply of fruits from old plants and from outdoors may be kept up for a long time; but these fruits are not so rich in flavour for special purposes as those produced from young plants.—W. A. Cook, Leonardslee Gardens.

THE KITCHEN GARDEN.

CELERY.—The agreeable change in the weather, with more sunshine, will necessitate extra attention to watering and feeding this crop with liquid manure. A dressing of soot spread along the rows and watered in has a very beneficial effect, and acts very quickly. The earliest plants will require earthing up at short intervals. Choose a time when the soil is dry, taking care that the heart of each plant is kept clean from dirt. The latest crops are much better left to grow for a time yet before any attempt is made to blanch them.

LIFTING POTATOES.—Crops that are yet occupying warm situations will be sufficiently matured to be lifted and stored for use. There is no advantage in allowing them to remain in the soil after the tubers are fully grown, but a risk is run of the crop being attacked with disease if a period of warm wet weather sets in. Second earlies, such as Snowdrop, will in most cases be ready for lifting, and will keep much better out of than in the soil.

PARSLEY.—This is the most important herb of the garden, as a continuous call is made for it the year round. If a sowing was made, as advised, good plants will be ready for making plantations in favourable positions to provide the winter supply. Give ample space between each plant so that the leaves make firm growth. Drawn foliage will damp off and be useless as soon as wet and frosty weather sets in. It is also advisable to have plantations established in cold frames during the autumn. A sowing made now often proves useful in giving plants that stand the winter without injury.

MUSHROOM HOUSE.—The time has arrived when this should be put in order for use. A wet day is mostly selected for this as it gives occupation to the staff. Cleanliness is of the first importance in the cultivation of mushrooms, and every particle of rubbish, etc., should be removed, and the walls of the house thoroughly washed with lime. Collect manure and prepare it by frequent turnings, with a view to making up the first inside bed. An outside bed or two is most valuable, even at a private establishment, in yielding a useful addition to the crops inside. The mushrooms are much larger, and sought after by the cook for various flavouring purposes.

CAULIFLOWERS. — The usual practice now is to raise the earliest plants under glass in January, and grow them on in frames till safe to plant out in March or April, but I do not advise giving up the older practice of sowing during the next week or two a quantity of the variety Snowball in a protected position. Last year a sowing of this kind proved most valuable with us. Being a cold wet time, the plants grew away more satisfactorily than those reared under glass.

HERBS. — Many herbs will be now sufficiently matured to harvest. Select a dry day for cutting them, and expcse them to the sun on mats, or hang them in bunches in a dry, airy shed or in a peach house in which the trees are resting.

GENERAL REMARKS.—Thin out the winter crops, such as spinach, turnips, etc., as soon as the plants are nicely up, and run the hoe between the rows when the surface is dry. Late-planted greens will require the surface soil frequently stirred; fill up all vacancies that may happen in the quarters. The kitchen garden should now look at its best, and every effort should be made to secure neatness and a pleasing appearance. — Charles Flack, Cholmondeley Castle Gardens.

Rose Madame Abel Chatenay.—This splendid garden rose has succeeded remarkably well in an almost sandy rooting medium during the past few years. Every summer, about the middle of July, a strong basal shoot has grown up quickly from the last year's shoot, and about the middle of August the new stem branches out freely near the top, and bears a number of small buds which develop in September. I have noticed that the buds on the new shoot and below the youngest flower-bearing branches plump up well while the flowers are opening. The following year these plump buds grow and form strong branches which bear extra fine blossoms. The tree seems to gain more strength each year. So far no pruning has been done. All flower buds that are gathered of this beautiful variety fully develop after being placed in vases of water. It is a long-lived rose in water, and, as far as my experience goes, the variety La France is a short-lived one in a cut state.—G. B.

SHREWSBURY FLORAL FETE.

(Concluded from page 648.)

bougainvilleas, crotons, and palms. Mr. B. Cromwell, gardener to T. Sutton Timmis, Esq., Allerton, Liverpool, a good second with fine alocasias, crotons, ixoras, etc.

Mr. B. Cromwell had the finest half-dozen caladiums, and, as usual, he showed these well. In the county class for six stove and greenhouse plants Mr. T. Lambert annexed the first prize, and he had Clerodendron Thompsonæ, Ixora macrothyrsa, and Eucharis amazonica in fine condition; Mr. J. Farrant, Shrewsbury, a good second. The latter scored for gloxinias. Mr. Lambert had the finest half-dozen dracænas, and Mr. T. Hammonds, Castle Fields, had the best four begonias, but these were not up to the best form. Mr. Taylor, Abbey Forgate, was first in two classes for zonal pelargoniums. Mr. Farrant led for fuchsias. In the open class for begonias Messrs. Blackmore and Langdon were an easy first, with large and beautiful plants finely flowered; Mr. G. Burr, Shrewsbury, second; and Mr. A. Vaughton, Handsworth, third.

In the open class for pelargoniums Mr. Cliff, gardener to Mrs. R. Taylor, Abbey Forgate, Shrewsbury, secured first place for six plants with well-trained and freely-flowered flat specimens; the same competitor also scored for six double varieties, but here, as in the other class, the varieties were unnamed—a very great failing on the part of so good a grower. Mr. B. Cromwell led for four exotic ferns with wonderful plants of Goniophlebium subauriculatum, Nephrolepis todeaoides, Nephrolepis exaltata, and N. davallioides furcans; Mr. C. Kelland, gardener to E. Vaughton, Esq., Handsworth, second; and Mr. J. G. Burr, Oaklands, third.

SWEET PEAS.

These flowers filled the whole of one tent. Mr. G. Aitken, gardener to P. York, Esq., Errdit Park, had the best dozen varieties of sweet peas, and won with beautifully clean blooms of Clara Curtis, Helen Lewis, John Ingman, Mid Blue, Constance Oliver, etc., but the varieties were unnamed; Mr. W. Davies, gardener to Dr. Phillips, Malpas, a good second; and Mr. T. Jones, Bryn Penylan, third; twelve entries. In the class for eighteen bunches of sweet peas the chief of Mr. Eckford's prizes fell to Mr. G. Aitken, whose set contained Henry Eckford, St. George, The King, J. Ingman, Evelyn Hemus, Bobbie K., and Helen Lewis in fine form; Mr. E. Jones, gardener to G. H. F. Robertson, Esq., Gresford, Wrexham, second; Mr. J. Haycocks, Gyfelia, Wrexham, third; Mr. S. Golding, gardener to Mrs. R. Davies, Bangor, fourth; Mr. Proctor, Altrincham, fifth; and Mr. H. E. Ward, Vicars Cross, sixth. Fourteen entrants. In this class Mr. T. Jones was, owing to an unfortunate mistake, placed out of the running, but he had easily the best collection.

For a bunch each of Mrs. T. G. Baker, Baker's Scarlet, and Earl of Plymouth, the awards were made in order of merit to Mr. F. Edge, Callcott; Mr. T. Jones, Ruabon; and Mr. W. H. Banks, Kington, Hereford. First prize for six bunches of sweet peas (prizes provided by Mr. R. Bolton), Mr. T. Jones, Bryn Penylan, scored with Zephyr, Elsie Herbert, Clara Curtis, John Ingman, Asta Ohn, and Birch Knight; Dr. Phillips second, and Mr. J. Haycocks third; seventeen competitors.

Mr. Thos. Jones, Ruabon, was first in Messrs. Webbs' class for six varieties, and here he won with Helen Lewis, Frank Dolby, Mrs. H. Bell, Prince of Asturias, and Henry Eckford; Dr. Phillips second, Mr. E. Jones third, and Mr. H. J. Lowe, Shrewsbury, fourth; eleven entries.

FLORAL DESIGNS.

Many of the floral designs were charming, but the competition was hardly so keen as usual. For a bride's bouquet and two bridesmaids' bouquets, the prizes fell in order to the King's Acre Nursery Company, Hereford, for white orchids and pink carnations; Messrs. Wood and Eastham, Preston, for white orchids and blush carnations; and Mr. R. F. Felton, Hanover Square, London, for white orchids and Mdme. Abel Chatenay roses. Mr. W. J. Garner showed the best bride's bouquet, a lovely design in odontoglossums, white cattleyas, and phalænopsis. The best hand bouquet was a brilliant design in oncidiums, epidendrums, cattleyas, and odontoglossums, from Messrs. Perkins and Sons, Coventry. In the class for a hand bouquet, orchids excluded, Messrs. Wood and Eastham were first, and Messrs. Bottomley and Burton, Elland, second, each with pink carnations.

Mr. J. Nixon, gardener to O. Robinson, Esq., Alderley Edge, led for a shower bouquet of cactus dahlias, and was followed by Mr. W. J. Garner. Mr. Nixon was also first for a featherweight bouquet. Messrs. Gunn and Sons, Olton, had the best floral harp, and Miss A. Townsend the best basket of other flowers than orchids. The open class for a basket of flowers was a very good one, and here first place was filled by Mr. J. Nixon, who had a very beautiful design, made up with odontoglossums, Epidendrum vitellinum majus, cattleyas, and anthuriums; Mr. W. J. Garner, Altrincham, second, with a fine arrangement of orchids; and Messrs. Bottomley and Burton, Elland, third.

CUT FLOWERS.

There were some excellent displays of roses, but the space allowed, 6ft. by 4ft., was hardly sufficient for the best displays; Mr. G. Prince, Longworth, secured the premier award with a lovely lot of tea and hybrid tea roses, artistically displayed; and Mr. T. M. Bradley, Peterborough, was second. Roses were good throughout, and Mr. Hugh Dickson, Belfast, scored for two dozen blooms, his examples of the Lyon Rose and Mildred Grant attracting a great deal of attention; Messrs. Alex. Dickson and Sons, Newtownards, second; and Messrs. Harkness and Son, Hitchin, third. For eighteen roses Messrs. A. Dickson and Sons, Mr. Hugh Dickson, and Mr. G. Prince, Longworth, were placed in the order of mention.

Collections of cactus and decorative dahlias were well set up by Messrs. Keynes, Williams, and Co., Salisbury; Mr. W. Treseder, Cardiff; and Messrs. Campbell and Son, High Blantyre, who obtained prizes in the order named with fine decorative arrangements. Mr. J. Smellie, Busby, led both for show and cactus dahlias, on boards, and showed well in each case. In the amateur classes for both show and cactus dahlias, Mr. W. H. Peerman, Nantwich, was first. Messrs. Harkness and Son, Bedale, had the best gladioli, a fine set.

Collections of hardy perennials were fine, and attracted a great deal of attention. For a display on a space with a 10½ft. frontage Messrs. Gunn and Sons, Olton, were first with a grand lot of bunches of phloxes, gaillardias, montbretias, gladioli, liliums, etc.; Messrs. W. Artindale and Son, Sheffield, second, and Messrs. Gibson and Co., Leeming Bar, third. The best eighteen bunches of hardy flowers came from that now famous amateur grower, Mr. F. Bouskill, Market Bosworth, who had grand phloxes, etc. He was also first for a dozen bunches, staging equally well in this; Mr. T. Kent, Llandaff, second, and Mr. Banks, Kington, third.

Collections of carnations and picotees, set up boldly on a space 6ft. by 4ft., made a brave display, and the fight for prizes was a very keen one; chief honours fell to Mr. C. H. Herbert, Acocks Green, who set up his fine blooms in a most attractive manner; Messrs. M. Campbell and Son, second, and Messrs. Artindale and Son, third. In the trade excluded class for a display of carnations the awards were made in favour of Mr. C. Alcock, Mr. Robinson, and Mr. J. Wallace, Bromborough, who were placed as named. Mr. C. F. Waters, Balcombe, Sussex, led for a collection of tree carnations with a display of excellent flowers of popular varieties. For a dozen vases of fancy and self carnations and picotees Mr. C. Alcock, Blundell Sands, was a good first, and he showed grand blooms of Agnes Sorrel, Daffodil, Liberté, etc.

Mr. B. Cromwell scored for a collection of stove and greenhouse flowers, and he showed splendid bunches of lapagerias, agapanthus, ixoras, stephanotis, liliums, etc. Mr. A. Myers, Shrewsbury, led in the classes for double and single pelargoniums. Mr. F. Bouskill led for gaillardias in a very close fight, while for early chrysanthemums the prizewinners were Mr. J. Smellie, Mr. Bowness, and Mr. A. Hoggan, all of Busby, respectively.

VEGETABLES.

The vegetable section opened with a class for nine dishes, and the premier award was secured by Mr. J. Hudson, Leicester, who had Giant White celery, Early Mammoth cauliflower, Champion Prize leek, Prizewinner carrot, Ailsa Craig onion, Staurbridge Marrow pea, Emperor tomato, Exhibition runner bean, and Duke of York potato. All were excellent dishes, well staged, and of even quality. Mr. J. Gibson, gardener to the Duke of Portland, Welbeck, came a very close second, and Mr. B. Ashton, gardener to the Earl of Lathom, Ormskirk, third. In a similar class, but confined to residents in the County of Salop, Mr. W. Dawes, gardener to Lord Trevor, Brynkynalt, was awarded first for a very nice lot, in which the leeks, celery, and carrots were capital dishes; Captain Heywood Lonsdale, Shavington, was second; Mr. S. D. Brooke, Red Barn, third, and Mr. J. Chapman, Betton Strange, fourth.

Another class for nine dishes was provided for exhibitors not entering the leading class, and here Mr. W. Gaiger, gardener to H. F. Tatham, Esq., Elstree, led off with a beautiful set, the varieties being Autumn Mammoth cauliflower, Pink Perfection celery, Prizetaker leek, Ailsa Craig onion, Intermediate carrot, Prizewinner bean, Perfection tomato, Duke of Albany pea, and Windsor Castle potato. In the class for nine dishes, for which Mr. Edwin Murrell provided prizes, Mr. W. Gaiger again secured the coveted award, his dishes being finely finished, and well arranged. Mr. T. Sanderson, Whittington, was second; and Mr. R. C. Townsend, gardener to J. B. Akroyd, Esq., Gerrards, Bucks, third. In the same firm's class for six dishes, Mr. T. Sanderson came to the fore, Mr. W. Astley, Hadnall, following, and Mr. J. Howells, gardener to G. Mitchell, Esq., Bellevue, third.

There were a number of classes for separate dishes, for which the prizes were provided by Messrs. Webb and Sons, Wordsley, Stourbridge, and among the principal prizewinners in these classes were Mr. A. R. Searle, gardener to the Marquis of Northampton, Castle Ashby, who won for tomatoes, carrots, and celery, Mr. J. Weston, Shawbury, who led for peas; Mr. J. Hudson, Leicester, who was first for onions, cauliflowers, and cucumbers; and Mr. B. Ashton, who scored for leeks with perfect models of Webbs' Champion Prize. Messrs. Dickson and Robinson also provided several classes, and here Mr. B. Ashton secured first for leeks and Intermediate carrots; Mr. Searle first for Scarlet Model carrot; Mr. J. Mills, gardener to Captain Heywood Lonsdale, first for onions; Mr. W. Gaiger for Hercules pea; and Mr. S. Golding, gardener to Mrs. R. Davies, Bangor, for two bunches of Moneymaker tomato.

Other winners in single dish classes were Mr. A. J. King, Stroud; Mr. J. Taylor, Hardwick Grange; Mr. E. Jones, gardener to the Misses Howell, Berriew; Mr. J. Chapman, Belton, Strange; Mr. O. Oakley, Berriew; and Mr. McFall, Huyton. Mr. J. Wilson, Hereford, offered prizes for five Cranston's Excelsior onions, and seventeen sets were staged. Mr. S. T. Baker, Exeter, was chief prizewinner with bulbs that averaged about 18 inches in circumference, and weighed a total of nearly fourteen pounds.

NON-COMPETITIVE EXHIBITS.

The non-competitive exhibits are always a fine feature at Shrewsbury Fête, and this year they were quite as good as usual. In former years medals of various grades have been awarded according to the merit of the display, but this year awards were arranged so as to make the non-competitive exhibits competitive in a sense. It was thus: Four silver cups, six gold medals, and six silver medals were allotted, and the cups were for herbaceous flowers, sweet peas, cut flowers (excluding herbaceous and sweet peas), and the most attractive exhibit. These sixteen awards meant that about thirty-four exhibitors could obtain nothing more than a certificate of merit, and consequently there was a very great deal of dissatisfaction among those who missed the advertising value of a medal award. To make non-competitive displays compete with each other is paradoxical, and bad policy, more especially as it is practically impossible to judge between exhibits of such varied character and extent as those at Shrewsbury.

The Temple of Flora now familiar to show goers as Messrs. Webb and Sons' special design, was on this occasion set up in a conspicuous position, where the artistic arrangement of sweet peas and a few other flowers showed to full advantage. Melons and vegetables also played their part in a bold and pleasing scheme. Messrs. Dobbie and Co., Rothesay, had a beautiful display of cactus and pompon dahlias, with a selection of pæony-flowered varieties. The cactus varieties included the leading sorts: Helium, Dreadnought, and Evening Star occupying prominent positions. A few new and excellent sweet peas occupied one end of the stand. Messrs. Hobbies Lim., Dereham, occupied their usual bay in the large tent, which they filled with roses. Weeping standards of the ramblers stood above hybrid teas arranged in large bunches, the tent pole in the centre of the bay being effectively covered with the clear pink Minnehaha. Messrs. Sutton and Sons' exhibit of melons, vegetables, and flowers was, as usual, arranged in a most artistic manner. A series of flower-decked arches formed a splendid background, and mounded groups of begonias and gloxinias added a feature to the exhibit.

A table of choice ferns was exhibited by Mr. H. N. Ellison, West Bromwich. Among many useful and beautiful kinds Adiantum trapeziforme, Lastræa patens, and Platycerium alcicorne were prominent. Mr. Forbes' phloxes, pentstemons, and carnations, from Hawick, were, as ever, bold, bright, and of high quality. Pentstemons Gregor Mendel, Sir Dighton Probyn, and Peach were three good ones. An orchard under canvas is what Messrs. J. Veitch and Sons, Lim., Chelsea, had to show visitors. Figs, peaches, and nectarines were represented by fine heavily-laden pot trees, with pears, gooseberries, and plums to add variety. Messrs. Pritchard and Sons, Shrewsbury, put up a large miscellaneous collection of greenhouse plants, Verbena Miss Wilmott being fine. A bold group of hardy flowers came from Messrs. Hewitt and Co., Solihull. Liliums and gladioli stood out prominently, with phloxes and other seasonable flowers. Messrs. Gunn and Sons, Olton, Warwickshire, brought a fine display of their far-famed phloxes, among which were interspersed fine liliums, montbretias, and other border perennials. A water and bog garden was well arranged in one bay of the large group tent by Messrs. Bakers, Wolverhampton. Spiræas, sarracenias, bamboos, etc., were well grouped around pools, upon which water lilies floated. At either end of the space were banks of phloxes.

Zonal pelargoniums were well shown by Mr. Albert Myers, Shrewsbury. Ferns and gypsophila were used as a setting for the flowers, with good coleus as a background. Messrs. Dicksons, Lim., Chester, showed hardy flowers of splendid quality. Lilium auratum rubrum vittatum was the most conspicuous subject among many good things. Early-flowering chrysanthemums came from Messrs. Seagrave and Co., Gleadless, near Sheffield. Good varieties were artistically arranged. A good display of dahlias and violas came from the same firm. Phloxes, delphiniums, and other herbaceous flowers were staged by Messrs. Isaac House and son, Westbury-on-Trym. Messrs. William Conway and Sons, Lim., Halifax, also showed herbaceous plants in excellent fashion. The collection of pot fruits staged by the King's Acre Nurseries, Lim., Hereford, was both extensive and excellent. A fine horizontally trained Sea Eagle peach carried over a hundred fruits. Grapes, apples, and other fruit were well represented. A bank of phloxes from the same firm consisted of the best varieties.

Perpetual and Malmaison carnations were shown in fine style by Messrs. W. Cutbush and Son, Highgate Nurseries, London. Mr. Edwin Murrell, Shrewsbury, staged roses in variety, and a small group of clematis. An exhibit which attracted an immense amount of attention was the remarkable display of sweet peas put up by Messrs. Jones and Sons, Lim., Shrewsbury. Large broad-spanned arches were stretched over a wide area, with pillars and pyramids, all festooned and decorated with fresh-looking blossoms of the leading sorts. The table underneath was also filled with sweet peas in bunches, backed by well-grown sweet peas in pots. Messrs. Alex. Dickson and Sons, Lim., Newtownards, made a brave display of their famous "Hawlmark" roses. Exhibition varieties in boxes were backed up by fine bunches of the popular "garden" roses. Mr. W. L. Pattisson, Shrewsbury, staged bedding violas in great variety. Mr. John Smellie, Busby, N.B., put up chrysanthemums and dahlias. Mr. W. Angus, Penicuick, showed a fine batch of Disa grandiflora. Messrs. W. and J. Brown, Stamford, occupied a large space with roses and hardy flowers. Messrs. Harkness and Sons, Bedale, put up a fine bank of named gaillardias which were of bright and pleasing colours.

Mr. William Deal, Brooklands, Kelvedon, showed a small lot of new sweet peas. Messrs. Robert Sydenham, Lim., displayed sweet peas in their own particular table decoration devices; the flowers were good, and showed to advantage in these light and elegant stands. Messrs. Jarman and Co., Chard, had an imposing exhibit arranged on similar lines to that described in our report of Taunton Show last week. vegetables being well shown in addition to the flowers. Messrs. John Peed and Son, West Norwood, London, showed well-grown caladiums.

Sweet peas were quite a feature, and the specialists were out with their best. Mr. Henry Eckford, Wem, Salop, as might be expected, put up a remarkable exhibit. The cream of the up-to-date varieties were here, and the blooms were fine and well arranged. Mr. T. W. Darlington, Warton, Carnforth, had an elaborate display, using arches and baskets as a means of displaying the flowers. Mr. Robert Bolton, Warton, Carnforth, had flowers of remarkably fine quality for the time of year, and put them up in liberal quantities and artistic manner. The new Charles Foster, of a lovely shade, which almost defies description, was well shown and much admired. A blending of rose, salmon, and apricot is our attempt at definition. Messrs. Isaac House and Son had several sweet peas of their own raising on view.

The double hollyhocks of Messrs. Webb and Brand, Saffron Walden, had quite an "old world" halo around them, albeit the varieties were of modern introduction.

Messrs. Kelway and Son, Langport, delighted everyone with their gladioli. They were shown in immense quantity and wonderful variety of colour. Among so many perfect examples it were folly to particularise.

Messrs. Tom B. Dobbs and Co., Wolverhampton, arranged in the open a variety of designs in rustic garden furniture; seats, arches, rose pillars, tree tubs, etc., were furnished with suitable plants, and a few beds of flowers added to the artistic effect.

Miss S. S. Thompson, Charlton Villa, Handsworth, showed cacti and succulents. A few fine pieces of cristated and fruited phyllocacti and mamillarias were very pretty and interesting.

Messrs. Dickson and Robinson, Manchester, arranged an extensive display of vegetables, their onions being of high quality. Hardy flowers were also staged by this firm. Mr. E. Beckett, gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree, staged another of the wonderful collections of vegetables which have made his name famous. Those who frequent shows know something of the quality and interest of Mr. Beckett's exhibits, and, unfortunately, words cannot convey an adequate idea for the benefit of those who have not been privileged to see for themselves. We can only say there were somewhere near a hundred dishes, all of really beautiful samples of choice vegetables, all of magnificent quality. Messrs. Clibrans, Altrincham, deserve high praise for the manner in which they put before public notice examples of vegetables which are but little known or used in this country; aubergines, seakale beet, Chilian beet, and several gourds were especially attractive in their fine display of vegetables.

AWARDS FOR NON-COMPETITIVE EXHIBITS.

Silver Cups.—To Messrs. Jones and Son, Lim., Shrewsbury, for sweet peas; to Messrs. Hobbies Lim., Dereham, for roses; to Messrs. Isaac House and Son, Westbury-on-Trym, for hardy perennials; and to The King's Acre Nurseries, Lim., Hereford, for pot fruit trees.

Large Gold Medal.—To Messrs. J. Veitch and Sons, Lim., Chelsea, for fruit trees in pots; to Mr. R. Bolton, Carnforth, for sweet peas; to Mr. E. Beckett, V.M.H., gardener to the Hon. Vicary Gibbs, Elstree, for vegetables; to Messrs. Sutton and Sons, Reading, for fruits, flowers, and vegetables; to Messrs. Dobbie and Co., Rothesay, for dahlias; and to Messrs. Wm. Cutbush and Son, Highgate, for carnations.

Silver Medal.—To Messrs. John Peed and Son, West Norwood, S.E., for caladiums; to Messrs. Kelway and Son, Langport, for gladioli; to Messrs. Bakers, Wolverhampton, for aquatics; to Messrs. Clibrans, Altrincham, for vegetables; to Mr. Edwin Murrell, Shrewsbury, for roses; and to Messrs. E. Webb and Sons, Wordsley, for flowers, etc.

MARKETS.

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COVENT GARDEN.

Fruits.

Supplies are liberal, with a good demand.

		s.	d.	s.	d.
Apples, English	per ½-sieve	2	0	4	[illegible]
Currants, black	per ½-sieve	5	0	6	[illegible]
Currants, red	per basket	2	6	4	[illegible]
Figs	per doz.	0	9	2	[illegible]
Gooseberries	per ½-sieve	1	6	3	[illegible]
Grapes, English	per lb.	0	8	1	[illegible]
,, Guernsey	per lb.	0	8	[illegible]	[illegible]
Lemons	per case	8	0	25	[illegible]
Melons	each	1	0	[illegible]	[illegible]
,, French Cantaloupe	each	2	0	[illegible]	[illegible]
Nectarines	per doz.	2	0	[illegible]	[illegible]
Oranges, Denia	per case	12	0	22	[illegible]
,, Navels	per case	12	0	14	[illegible]
,, Valencias	per case	12	0	[illegible]	[illegible]
Peaches	per doz.	1	6	[illegible]	[illegible]
Pears, English	per ½-sieve	2	0	[illegible]	[illegible]
,, French	per crate	4	0	[illegible]	[illegible]
Pineapples	each	1	9	3	[illegible]
Plums	per ½-bush.	2	0	3	[illegible]
Raspberries	per doz. pun.	2	0	2	[illegible]

Vegetables.

These are abundant and in good demand.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	2	6	to	3	0
Beet	per bush.	1	6		2	0
Beans, Scarlet Runners	per sieve	2	6		3	6
,, Broad	per ½-sieve	1	6		2	6
Cabbage	per tally	3	0		5	0
Carrots	per doz. bun.	1	0		[illegible]	[illegible]
Cauliflowers	per doz.	1	6		[illegible]	6
Cucumbers	per doz.	1	0		[illegible]	[illegible]
Endive	per doz.	1	3		[illegible]	[illegible]
Horseradish	per doz. bun.	8	0		12	[illegible]
Lettuce, Cos	per tally	1	0		[illegible]	[illegible]
Mushrooms	per doz. lb.	6	0		[illegible]	[illegible]
Onions, Valencia	per case	7	0		12	[illegible]
,, English	per doz. bun.	1	6		[illegible]	[illegible]
Parsley	per doz. bun.	1	[illegible]		[illegible]	[illegible]
Peas, English	per bush.	1	6		[illegible]	[illegible]
Spinach	per bush.	1	0		[illegible]	[illegible]
Tomatoes, English	per doz. lb.	2	3		[illegible]	[illegible]
,, Guernsey	per doz. lb.	2	0		[illegible]	[illegible]
Turnips	per doz. bun.	1	6		4	[illegible]
Vegetable Marrows	per tally	2	0		[illegible]	[illegible]

LONDON POTATO MARKETS.

The supplies are liberal, but the demand is poor and the prices low.

		s.	d.		s.	d.
Bedfords	per cwt.	2	0	to	3	0
Blacklands	per cwt.	2	0		3	0
Essex Kidneys	per cwt.	2	0		2	6
Kents	per cwt.	2	6		3	6
Lincolns	per cwt.	2	3		3	0

DERBYSHIRE AGRICULTURAL AND HORTICULTURAL SOCIETY.

ANNUAL SHOW.
OSMASTON PARK, DERBY.
September 7th and 8th, 1909.

Groups: £25, £18, £12, £8, £5, £4.
Two Gold Medals for Trade Exhibits.
Best Collection of Roses, £5, £3, £2.

Schedules (stating section), and all particulars from
SIDNEY BURTON,
Secretary.
[illegible] Office, Derby.

SANDY (BEDFORDSHIRE) 41st ANNUAL SHOW, AUGUST 26th, 1909.
PLANTS, FLOWERS, FRUIT, VEGETABLES, etc., DOGS, CATS, RABBITS, POULTRY, PIGEONS, etc.
PRIZES VALUE £1,000, including
£8 and £7 for ten Stove and Greenhouse Plants; £10, £9, and £8 for Group of Plants.
Entries for Dead Stock close Aug. 19, 1909.
Schedules and Entry Forms of W. GREEN, Secretary, Sandy.

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EXHIBITIONS AND MEETINGS.

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Royal Horticultural Society.

AUGUST 17.

A decided improvement on the last meeting, the chief features were the hardy flowers and crotons; the competitive classes failed to arouse even a fair competition.

FLORAL COMMITTEE.

Mr. F. Brazier, Hardy Plant Nursery, Caterham, arranged a group of plants on the floor of the hall, consisting chiefly of a new carnation Mrs. F. Brazier, with some well-grown scabious, gladioli, heliums, and excellent examples of Verbena Miss Willmott. The whole exhibit was tastefully arranged with light grasses. Hardy flowers from Mr. Amos Perry, Hardy Plant Farm, Enfield, proved a source of attraction. The phloxes were bright and arranged in large masses, the most attractive being Siebold, and Graf von Lassberg; while other attractions were Astilbe Davidi, Monarda violacea superba, the everlasting pea Lathyrus [illegible]icata, Delphinium sulphureum, erigerons in variety, and aconitums, the whole being nicely displayed with taste and skill.

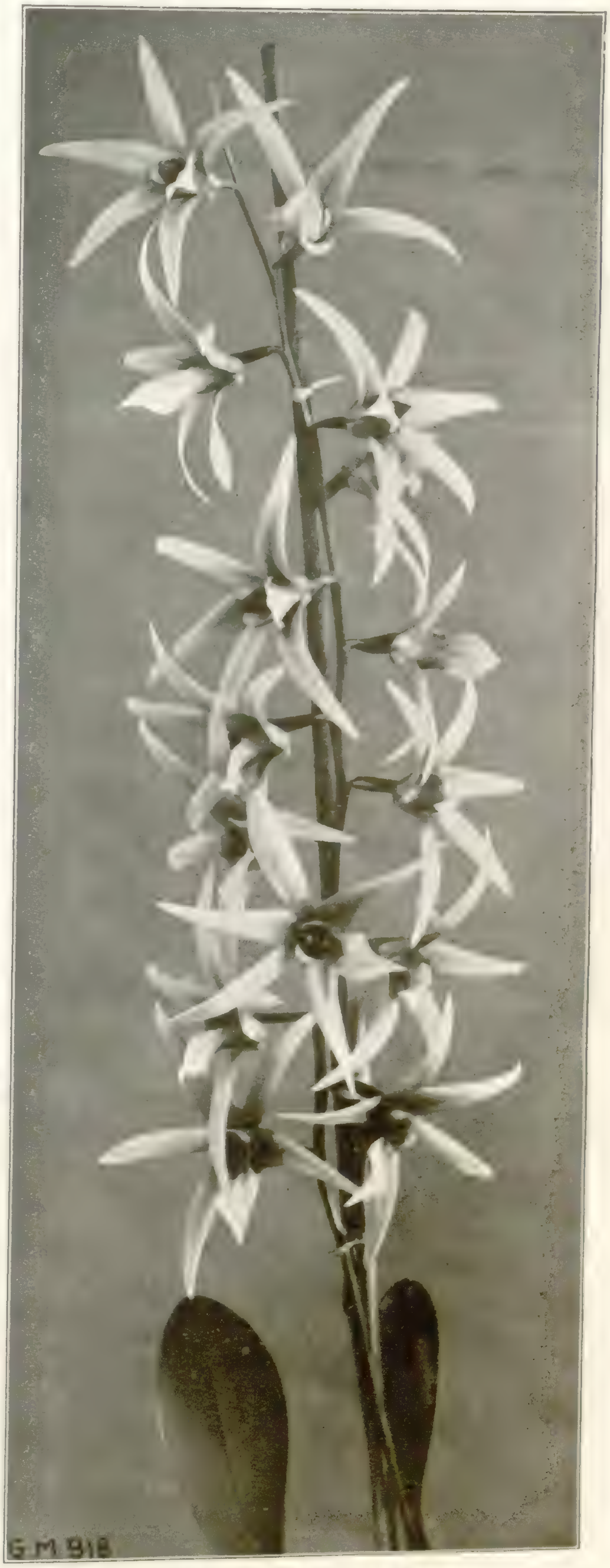
From Messrs. H. B. May and Sons, Upper Edmonton, came a large collection of crotons, chiefly of a decorative size, mostly arranged in blocks of each variety. The plants were pictures of cultural skill, a few of the best were Magnificent, Thomsoni, Hawkeri, [illegible], Emperor Alexander III., Reidi, resplendent, and Sunshine. The plants looked particularly bright in their setting of palms and ferns.

Messrs. J. Peed and Son, West Norwood, exhibited a fine table of gloxinias both in pots and cut flowers, which were all seedlings raised from seed sown in January last. The plants were very good, and they were displayed with suitable greenery.

Gladioli from Messrs. Kelway and Sons, Langport, were a feature of the show. The spikes were large and the colours being staged separately gave them a very pleasing effect. The exhibit occupied an entire table. Some of the best were Vigilant, Mrs. Wood, Mrs. Arundale Palmer, Mrs. Badcock, Peace [illegible], Mrs. J. N. Skittery, Lady White, [illegible] Edward, May Etheridge, Miss A. Reeve, Lord Alverstone, and Prince Henry of York.

Mr. M. Prichard, Christchurch, Hants, was responsible for a very fine display of hardy flowers, which were nicely displayed. A group of kniphofias included Leda, Chrysantha, Clotho, Glow, and Leichtlini amongst others; while groups of Crinum Powelli and its white form were also attractive; as were also liliums in variety, Dracocephalum speciosum, heliums in variety, with some wonderfully new colours in gladioli, such as Czarina, Livonia, Madame F. de Cayeux, Senator Volland, Madrilene, and Baron J. Hulot.

Hardy flowers from Messrs. T. S. Ware, Lim., Feltham, also proved a source of attraction, the background being formed with large masses of phlox, which included such fine varieties as Flambeau, Louis Blanc, Selection, Gros Claude, and Meteor; Chrysanthemum maximum King Edward VII.



DENDROBIUM ACCUMINATUM.
A distinct and handsome species of dwarf growth and bearing long racemes of flowers. The flowers are about two-thirds natural size and the whole of the segments are rich pink, with deep crimson base. Exhibited by Messrs. Moore, Lim., Rawdon, Leeds, at R.H.S Meeting on Tuesday last, when it had a First Class Certificate conferred upon it.

GREENHOUSE MANAGEMENT.—THE AMATEUR'S [illegible], the popular book by the Editor of "[illegible] Gardening," not only treats of the selection and cultivation of greenhouse plants and flowers, but gives full instructions how to build a greenhouse and how to heat it, as well as every detail as to the [illegible] of the plants and flowers grown in it. [illegible] of this book of [illegible] pages is 5s. net, or [illegible] from THE GARDENERS' MAGAZINE [illegible] Aldersgate Street, London.

was conspicuous in this section, as were also montbretias in variety, statices, and Agapanthus umbellatus alba.

The only display of rock and alpine plants came from Mr. Clarence Elliott, Six Hills Nursery, Stevenage, who had several interesting plants arranged in an attractive and natural style.

From Mr. G. Reuthe, Hardy Plant Nursery, Keston, came a large exhibit of hardy flowers, which included good examples of phlox, Crinum Powelli, Berberidopsis corallina, Eucryphia pinnatifida, and Desfontainea spinosa, and large numbers of rock and alpine plants in pots.

Mr. E. Potten, Nurseries, Cranbrook, Kent, made a good display of phloxes, with a large mass of Trollius europæus, Chrysanthemum maximum Mikado, and Rudbeckia purpurea, with other hardy flowers, also the new bedding zonal Double Paul Crampel, which bids fair to become as popular as the single form.

A handsome display of phloxes came from Messrs. Paul and Son, Cheshunt. Each variety was staged in quantity, demonstrating their value either in a bed or border, the most striking varieties were Mrs. W. Smith, Fiancée, Dante, Figaro, Daniel Lesseur, Etna, Longchamps, Iris, L'Aiglow, and Mary Wilkins.

Messrs. James Veitch and Sons, Lim., Chelsea, occupied two large tables with their exhibit, one with a display of greenhouse flowering plants, which included some very fine gloxinias staged in blocks of colour, while two masses of well-grown cannas were also a feature. The double Begonia Washington was in fine form, as were also plants of Amphicone Emodi and Primula obconica rubra and alba; also a nice collection of hybrid Java rhododendrons. A table of cut specimens of hardy shrubs and trees shown by this firm attracted much attention. A few of the most notable were Rubus odoratus, Genista tinctoria, Tamarix Odessana, Eucryphia pinnatifida, Astilbe Davidi, Solanum crispum, hydrangeas, spiræas, and Buddleia variabilis Veitchi.

Messrs. G. Bunyard and Co., Lim., Maidstone, arranged an extensive exhibit of hardy flowers, in which the phloxes weere conspicuous. The best were Countess of Shrewsbury, Fiancee, Iris, Jeanne d'Arc, Etna, and Sprite. Other attractive features of this fine collection were the gaillardias, statices, and agrostemmas.

ORCHID COMMITTEE.

Messrs. Stuart Low and Co., Bush Hill Park, had a choice display of orchids, in which were Cattleya Gaskelliana aurantiaca, a splendid Oncidium superbiens with Sophro-lælia Gratrixiæ, very bright in colour, some fine examples of Odontoglossum Rolphæ, and a few choice cypripediums. A charming group of well flowered examples of Disa grandiflora came from Mr. A. Taylor, gardener to Mrs. Bischoffsheim, Warren House, Stanmore; the plants were beautifully developed, many carrying six flowers on a spike, while the arrangement was light and tasteful. Messrs. Sander and Sons, St. Albans, had a most attractive exhibit, in which were fine plants of Cattleya gigas, examples of Lælio-cattleya Invincible, grand in colour, a cross between L.-c. Dominiana and L.-c. Bletchleyensis, a large specimen of Vanda cærulea var. Dreadnought, a handsome marbled blue form, Odontoglossum crispum Harryanum var. roseum, and Cypripedium Lord Derby, Stand Hall variety.

Messrs. Charlesworth and Co., Haywards Heath, sent an attractive exhibit, which included excellent examples of Cirrhopetalum pulchrum Cliftoni, Cattleya Hardyana, C. Venus, Dendrobium acuminatum, a beautiful species with rose-pink flowers, and Cattleya Germania magnifica.

From Mr. Edward V. Low, Orchid Nursery, Vale Bridge, Haywards Heath, came a few choice plants in which were prominent Lælio-cattleya Clive, a very rich form, with L.-c. Broomfieldensis, Cattleya Gaskelliana var. Phyllis, a charming variety, pale mauve with a lip delicately shaded yellow, and several cypripediums. Mr. H. G. Alexander, orchid grower to Lieut.-Col. Holford, Westonbirt, Tetbury, contributed a nice example of Lælio-cattleya Jason, a fine hybrid between L.-c. Massangeana and Cattleya Aurea. The sepals and petals are lemon-yellow, while the lip is broad and fringed, the colour deep rosy purple, and Cattleya Tacitus, a hybrid between C. bicolor and C. Germania. Mr. G. E. Day, gardener to H. S. Goodson, Esq., staged several choice orchids in excellent condition. A pan of Cattleya Gaskelliana alba, var. Goodsonæ, carrying eleven flowers, deservedly secured a cultural commendation. Lælio-cattleya Black Prince was also noteworthy. A nice example of Odontoglossum Goodsoni was also very attractive, as were also the cypripediums.

FRUIT AND VEGETABLE COMMITTEE.

This committee had little to do except confirming the awards of the sub-committee on the French bean trials at Wisley. These, however, must have been excellent, if we may judge from the splendid examples staged. Each variety was represented by two plants in full bearing and a dish of pods. The following varieties were represented: Chôlet, Evergreen, Excelsior, Golden Wax, Holborn Wonder, The Belfast, and Superlative.

Mr. W. H. Young, Mercury Nursery, Romford, sent a box of tomatoes named Young's Mercury, a cross between Hillside Comet and Carter's Sunrise. It is a heavy cropper, and the fruits of good form and colour. The competitive classes did not fill well, for there were but three entries for six dishes of potatoes. Mr. A. G. Gentle, Little Gaddesden, Berkhamsted was placed first for fine examples of Duke of York, Sir J. Llewelyn, Ringleader, The Cannon, May Queen, and Advancer. The second prize was awarded Mr. R. Stanard, gardener to the Countess Cowper, Panshanger, Hertford, who had a good display of dishes.

In the smaller class for three dishes Mr. A. Tidy, gardener to Charles Coombe, Esq., Cobham Park, Cobham, Surrey, won well with Sharpe's Victor, Webb's Express, and a good kidney seedling, while the Rev. L. C. Chalmers Hunt, Willian Rectory, Hitchin, was placed second.

Mr. R. Stanard was the successful exhibitor for three dishes of French beans, staging good examples of Negro, Victoria, and Canadian Wonder; the Rev. L. C. Chalmers Hunt following second. The latter exhibitor was the only competitor for three dishes of climbing beans, and was deservedly awarded first prize for capital examples of Best of All, Scarlet Champion, and Prizewinner.

AWARDS.

Silver Gilt Flora Medal.—To Messrs. Sander and Sons for orchids; to Messrs. H. B. May and Sons for crotons; to Messrs. James Veitch and Sons, Lim., for flowering plants and hardy cut shrubs.

Silver Flora Medal.—To Messrs. Charlesworth and Co. for orchids; to Messrs. Stuart Low and Co. for orchids; Messrs. G. Bunyard and Co., Lim., for hardy flowers; to Messrs. Kelway and Sons for gladioli; and to Messrs. Paul and Sons, Cheshunt, for phloxes.

Silver Banksian.—To Mr. H. S. Goodson for orchids, and Mr. A. Perry, Enfield, for hardy flowers.

Cultural Commendation.—To Mr H. S. Goodson for Cattleya Gaskelliana alba, var. Goodsonæ.

First-Class Certificate.—To Mr. H. S. Goodson for Odontoglossum Goodsoni; Messrs. Moore, Lim., for Dendrobium acuminatum; and to Messrs. Charlesworth and Co. for Cirrhopetalum pulchrum Cliftoni.

Award of Merit.—To Messrs. Sander and Sons for Lælio-cattleya Invincible and Vanda Cærulea var. Dreadnought; to Lieut.-Colonel Holford for Lælio-cattleya Jason; to Mr. H. S. Goodson for L.-c. Black Prince; to Mr. A. Perry, Enfield, for Astilbe rivularis gigantea; to Messrs. Kelway and Sons, Langport, for Lord Alverstone and Miss A. Reeve gladioli; to Mr. C. B. Green, Acton, for Polystichum aculeatum pulcherrimum plumosum; to Monsieur Vilmorin, Paris,for dwarf French bean Chôlet; to Messrs. J. Veitch and Sons for dwarf French bean Everyday; to Messrs. Barr and Sons for dwarf French bean Excelsior; and to Messrs. Dickson and Son, Belfast, for dwarf French bean The Belfast; and to Canna King Humbert, from Sir Trevor Lawrence, Bart., and Messrs. J. Veitch and Sons.

West Derby.

This exhibition was held on August 2 in the Rectory grounds, by kind permission of the Rev. Percy Stewart.

For a group arranged for effect, Mr. G. Osborne, gardener to Dr. Cook, held the leading place with a pleasing selection of foliage and flowering plants; the remaining awards went to Messrs. Jones and H. Ogden. For four plants, stove or greenhouse, Mr. G. Osborne was again to the fore, and also had the leading pair of palms, the two best geraniums, and two liliums. For one plant in flower, Mr. H. Spencer, gardener to A. H. Jones, Esq., won with Allamanda Hendersoni, and for the single foliage plant with Cycas revoluta. Mr. R. Cleaton had the best six table plants.

For twelve bunches of hardy and half-hardy flowers Mr. G. Osborne led, and he scored for a dozen vases of hardy herbaceous flowers, and for tea roses. For six hybrid perpetual roses Mr. J. T. Edgar won; while for twelve cactus dahlias Mr. H. Ogden won, and also scored again for twelve carnations. Mr. T. J. Edgar, gardener to the Rev. Percy Stewart, secured the silver rose bowl presented by Mr. C. A. Young (chairman) for sweet peas, with a pleasing lot; this exhibitor also secured the leading award for twelve vases, not less than nine varieties.

For nine kinds of vegetables Mr. G. Osborne had the premier set, including good tomatoes, peas, French beans, etc. For six distinct kinds Mr. R. Cleaton, gardener to W. McCubbin, Esq., won, and he scored for two dishes of peas. Mr. Ogden had the best cucumbers, and Mr. G. Osborne the best tomatoes.

The best six dishes of hardy fruits came from Mr. G. Osborne, who had good strawberries, loganberries, etc. Mr. T. J. Edgar won with Black Hamburgh grapes, and Mr. R. Cleaton for Foster's Seedling.

Harborne Gooseberry Show.

The ninety-fourth annual exhibition of the Harborne Gooseberry Society was held at the Green Man Inn, which has been the venue of the show ever since its institution in 1815, and it is the oldest gooseberry society in the Kingdom. Coincidently with this was established what are termed the Waterloo allotment gardens at Harborne, or properly the Edgbaston Estate, bordering the confines of Harborne, which were allocated by the late Lord Calthorpe in commemoration of the Battle of Waterloo. The gardens occupy an area of several acres, and each garden is provided with a substantial thorn hedge, and the entrance doors are each provided with a lock and key. The heaviest berry on record in the annals of the society was a red-coloured variety named Bobby, grown by a noted member of the society, Mr. Barton, in 1875, the berry "bumping" the scale at 34dwts. 20grains. But this was beaten by a berry of London, shown at the Stone (Staffordshire) Society, weighing 37dwt. 7grs., and which, it is presumed, was the heaviest on record in England.

The exhibits at the recent Harborne Show were remarkable for the uniformity in weight and quality of the berries, which, moreover, has not been excelled, at least during the past forty years. Growers attribute this fact to the favourable moist climatic conditions of the past season. Subjoined are a few of the principal names and weights gleaned at the recent exhibition:—

Premier berry, Mr. Emmanuel Withers with Collis Lane, 28dwt. 1gr. Single red berries: 1, Mr. E. Withers with Bobby, 27dwt. 12grs.; 2, Mr. R. Sheppy with Blucher, 25dwt. 8grs.; 3, Mr. R. Smallwood with Dr. Woolley, 24dwt. 12grs.; 4, Mr. J. Davis with Dan's Mistake, 23dwt. 4grs. Yellow berries; 1, Mr. E. Withers with Leveller, 26dwt. 12grs.; 2, Mr. R. Smallwood with Thatcher, 24dwt. 17grs.; 3, Mr. W. James with High Sheriff, 24dwt. 13grs.; 4, Mr. J. Hobday with Ringer, 22dwt. 19grs. Green berries: 1, Mr. E. Withers with Surprise, 24dwt. 7grs.; 2, Mr. M. Nicholls with Cheerful, 22dwt. 11grs.; 3, Mr. J. Davis, with Stockwell, 20dwt. 13grs.; 4, Mr. H. Giles with Shiner, 20dwt. 18grs. White berries: 1, Mr. E. Withers with Transparent, 27dwt. 3grs.; 2, Mr. M. Nicholls with Fascination, 23dwt. 22grs.; 3, Mr. W. James with Antagonist, 21dwt. 15grs.; 4, Mr. R. Sheppy with Careless, 20dwt. 20grs.

Six berries, red, any variety or varieties: 1, Mr. E. Withers with 149dwt. 12grs.; 2, Mr. R. Smallwood with 141dwt. 10grs.; 3, Mr. M. Nicholls with 134dwt. 16grs.; 4, Mr. R. Sheppy with 132dwt. 16grs.

Six berries, yellow, one variety: 1, Mr. E. Withers with Leveller, 150dwt.; 2, Mr. R. Bix with Leveller, 136dwt.; 3, Mr. R. Sheppy with Leveller, 135dwt. 12grs.; 4, Mr. R. Smallwood with Ringer, 134dwt. 10grs.

Six green berries: 1, Mr. E. Withers with Surprise, 124dwt.; 2, Mr. W. Timmins with Surprise, 125dwt. 8grs.

Junior berries: 1, Mr. E. Withers with Ringer, 40dwt. 4grs.; 2, Mr. W. Timmins with Fascinator, 39dwt. 4grs.; 3, Mr. R. Smallwood with Lord Derby, 37dwt. 20grs.; 4, Mr. J. Davis with Lord Derby, 36dwt. 19grs.

National Sweet Pea Society.

The following is the Official List of Awards made by the Floral Committee of the N.S.P.S., after two visits to our trials of 350 stocks and varieties at Reading University College Gardens:—

First Class Certificate.—To Clara Curtis (Row No. 186), from Mr. W. J. Unwin, Histon, Cambs.

Award of Merit. — To Charles Foster (Row No. 7), from Mr. Robert Bolton, Carnforth; to Edrom Beauty (Row No. 350), from Mr. A. Malcolm, Duns, Berwick; to Mrs. W. J. Unwin (Row No. 289) from Mr. W. J. Unwin, Histon; to Dazzler (Row No. 334), from Mr C. W. Breadmore, Winchester; and to Sunproof Crimson (Row No. 338), from Messrs. Dobbie and Co., Rothesay.

Highly Commended.—Mrs. Watson (Row No. 86), from Mr. Robert Bolton, Carnforth.

Commendation as a Market Variety.—To Mercia (Row No. 136), from Messrs. G. Stark and Son, Great Ryburgh; and to Colleen (Row No. 305), from Mr. Wm. Deal, Brooklands, Kelvedon.

Chas. H. Curtis, Hon. Sec.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1909. August 8 to August 14.	Sunshine.	Temperature of the Air.			
		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Aug. 8—Sunday	10 40	64	61	78	51
" 9—Monday ...	11 10	65	60	80	52
" 10—Tuesday	12 0	68	60	79	50
" 11—Wednesday .	9 5	58	57	81	53
" 12—Thursday .	12 30	70	63	86	52
" 13—Friday	10 20	72	62	79	52
" 14—Saturday ..	9 40	68	64	79	57
Means	(total) 10 46	66	61	80	52

Date. 1909. August 8 to August 14.	Rain.	Temperature of the Soil at 9 a.m.			Lowest Temperature on Grass.
		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
Aug. 8—Sunday ...	—	63	62	59	46
" 9—Monday	—	63	63	59	45
" 10—Tuesday	—	63	63	59	44
" 11—Wednesday .	—	64	63	60	50
" 12—Thursday ..	—	65	63	60	45
" 13—Friday...	—	65	64	60	45
" 14—Saturday ..	—	66	64	60	50
Means ...	(total) —	64	63	60	46

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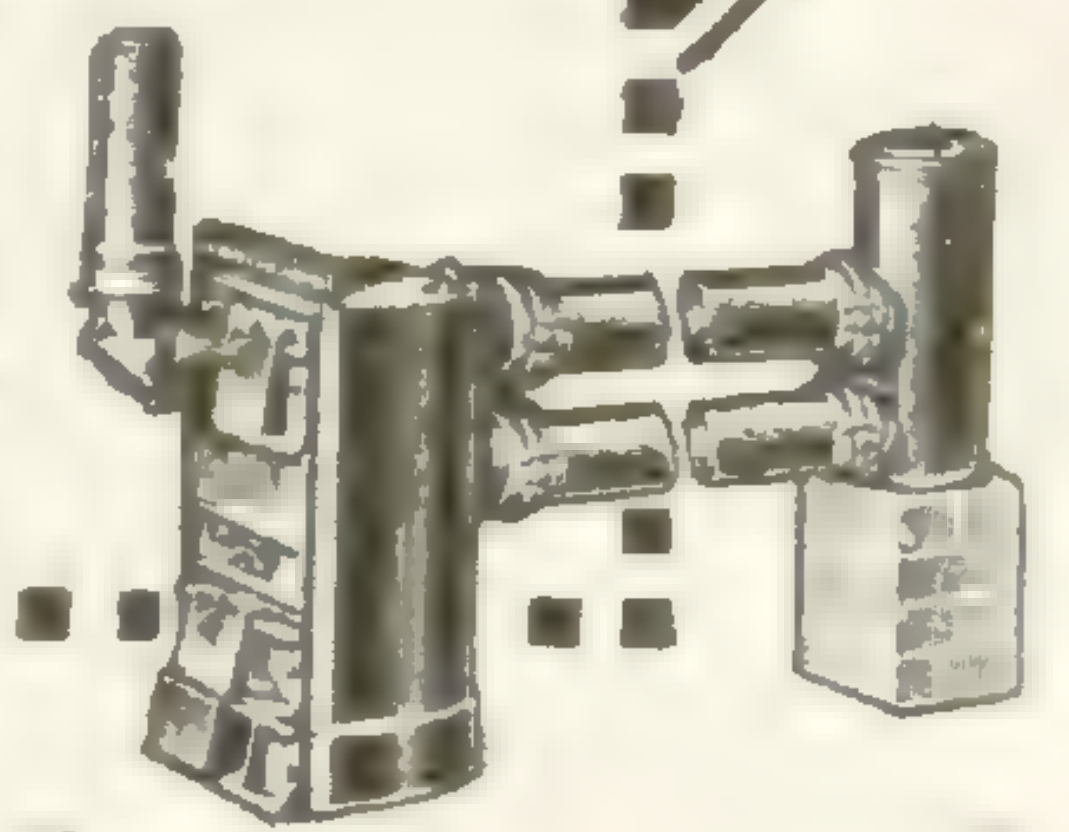

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ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

POLLEN IN PÆONIES.—E., Heytesbury: In the double pæonies pollen is very sparingly produced, but anthers in various stages of development are often found on the central petals, these later being petaloid stamens. If a double pæony is starved it comes more or less single, and the more single it becomes the more likely is it to bear pollen.

MILDEW ON ONIONS.—G. W. S., Gloucester: The best method of dealing with onion mildew is to spray the crop occasionally as a preventive with sulphide of potassium at the rate of ½oz. to a gallon of water, dusting occasionally, when damp, with powdered quicklime (two parts) and sulphur (one part), using a bellows to distribute the mixture. Where onion mildew has been very bad, do not grow a crop of onions on the ground for two years.

MOSS AND WEEDS ON LAWNS.—With reference to an answer given in our January issue respecting weeds on lawns, Mr. G. Trevethick, of Lower Hall, Wellington, New Zealand, writes—"I would like to give you my experience re moss on lawns, and it has been considerable. I have dealt with many, both croquet lawns and bowling greens, and have never failed in either moss or other weeds, except dandelion or cape weed. The method is simple, effectual, and inexpensive. In a dry day in autumn, when the weeds will readily absorb moisture, apply a liquid composed of one part sulphate of iron to four parts water, giving enough to saturate the weeds you want to kill; it will kill the weeds and will not poison the ground, but will act as a fertiliser to the grass. In a week or ten days the weeds will be dead, and the grass that is among them will be coming green and fresh. In the case of bare patches, break the face of the earth, and sprinkle a little grass seed on and cover. We do this here in autumn; perhaps it would do better with you in the spring. Never cut off a dandelion, or you will have them sprout more than ever, and as they spread close to the ground they not only kill the grass, but look very unsightly. I find the best plan is to get a claw (an old flat file split at one end and turned up a little, answers the purpose all right), and when the ground is wet you can lift them out with it, and then fill the hole with a little earth and a pinch of seed, and the job is done.

REPLANTING VINERY.—S. K. M.: In the replanting of vineries it is necessary to proceed cautiously, and bring about the change considered necessary in a gradual manner, as any material reduction in the supply of grapes is likely to give rise to considerable dissatisfaction on the part of the owner. We suggest that you extend the replanting operations over several years, and that you do not replant more than one vinery in any one of them. In each case you should plant a set of vines along the back of the house for the purpose of yielding supplies until the permanent vines fill their allotted space, and are in full bearing, when they can be cut out. The temporary vines can be planted about thirty inches apart, and cropped more heavily than would be advisable in the case of the permanent ones.

BUTTONHOLE BOUQUETS.—T. H., Atherton: We are sorry that we are unable to do exactly as you wish, for there is so much diversity in taste in the use of flowers in buttonholes that it is not possible to illustrate and describe "the latest" buttonhole bouquet. Each wearer has a preference for certain flowers in the several seasons, but there is a general agreement as to the desirability of taking advantage of the choicest flowers available. Thus the owner of a collection of orchids will turn to his orchid houses for the greater proportion of the flowers he requires for wearing in his buttonhole; the lover of roses will resort to the rose garden, or the glass structure in which the roses are grown, according to the season, and select the choicest buds of tea, hybrid tea, or noisette; and those who have a predilection for carnations will give evidence of this by frequently wearing well-developed blooms in their coats. The comparatively large bouquets of mixed flowers that were popular some years since obtain but little favour at the present time. Preference is usually given to buttonholes containing one well developed, but not over large, bloom, with it may be a bud and a fern frond or leaf of the plant from which the flowers have been gathered. Buttonhole bouquets should be formed with the choicest flowers available, the flowers should be of moderate size, consist wholly of the same kind, retain their freshness for a considerable period under adverse conditions, and have a rather small backing of elegant greenery, the fronds of Adiantum cuneatum and portions of the leaves of one of the greenhouse asparagus being perhaps the most useful.

HARDY PERENNIALS.—R. B.: As the plants that were raised from seed sown early have become somewhat crowded in the nursery beds, your best plan will be to lift them and replant in other beds, allowing them more space. If this be done at once, and care taken to lift them with as little injury to the roots as possible, and to well water them in, they will soon become established, and acquire considerable additional strength by the time they can be transferred to their permanent quarters. If you cannot well spare the time for replanting, and have a larger stock than you will require, it will be a good plan to thin the rows by removing every alternate plant. It is important to remember that one strong plant will be preferable to two or three that have been drawn up weakly as the result of overcrowding.

DAFFODILS.—H. H. W., Sussex: Daffodils may be successfully planted from early in August until the end of October, but when the bulbs are required—as in your case—for the production of blooms for exhibition, it is advisable to plant as early as practicable after the commencement of the first of the two months mentioned. There is no advantage in keeping the bulbs out of the soil after they are thoroughly matured, but when used for garden decoration they cannot, as a rule, be planted until after the beds have been cleared of their summer occupants at the end of September or early in October. In the cultivation of daffodils for exhibition the preferable course will be to select in the kitchen garden or reserve ground a position where the plants will enjoy full exposure and some amount of shelter from easterly winds. It will be an advantage if the soil was deeply trenched and liberally manured early in the winter and has since carried a crop, preferably one that has not been too exhausting. If you have at your command soil of this description give a light dressing of bone superphosphate previous to preparing it for planting, but if the soil is comparatively poor give a liberal dressing of this fertiliser. If you will tell us whether you require cheap, medium-priced, or the finest varieties we shall be pleased to make a selection for you.

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TRADE NOTES.

A beautiful selection of spiræas comes to hand from Mr. Amos Perry, of Enfield, including spikes of the lovely S. venusta magnifica figured in our previous issue, and we think this the best of the set. S. venusta delicata has large blush coloured flowers; S. v. Peggy is smaller flowered, pink, with rosy purple anthers, and very effective; S. v. Fairy, a lovely silvery pink. S. gigantea carnea is a new flesh-coloured form of this fine species; S. g. Her Majesty has plumes of pale silvery pink; and S. g. elegans is blush coloured. An exquisite set of fine subjects.

From Messrs. J. Kelway and Son, Langport, we have received some splendid spikes of very fine gladioli. In colour, form, and size of bloom and spike these are of the highest quality. The varieties are Queen Alexandra, deep salmon, flaked with pink, and with crimson markings in the white throat; Saltpetre, pink, with a buff throat and crimson blotches; Lady Inchiquin, brilliant salmon-pink; Mrs. J. Laing, scarlet, flaked with white and with a crimson blotch in the throat; Eugene Sandow, clear rich scarlet, with white throat and red blotches.

We have had our attention called to Cyllin soft soap, which is manufactured by Jeyes' Sanitary Compounds Company, 64, Cannon Street, London, E.C., as a remedy for mildew, greenfly, and other pests with which cultivators have to contend. Some of our rosarian friends have found this preparation effectual in combating mildew and aphis on roses, and speak highly of its merits. We commend it to the notice of our readers as fully deserving of a trial.

FORTHCOMING ENGAGEMENTS.

THURSDAY, August 26.—Dundee Horticultural Society.
Peebles Horticultural Society.
Sandy Summer Show.
SATURDAY, August 28.—Darlington Horticultural Society.
Burrelton Horticultural Society.
TUESDAY, August 31.—Royal Horticultural Society: Meeting of Floral, Fruit, and Orchid Committees at noon; Scientific Committee at 4 p.m.; General Meeting at 3 p.m., Lecture by Mr. James Hudson, V.M.H., on "The Gardens of Lake Como."
WEDNESDAY, September 1.—Carlisle Horticultural Society; two days.
Glasgow and West of Scotland Horticultural Society; two days.
THURSDAY, September 2.—National Dahlia Society at Crystal Palace; two days.
FRIDAY, September 3.—Chapelhall Horticultural Society.
SATURDAY, September 4.—Cambowie Horticultural Society.
French Horticultural Society of London.

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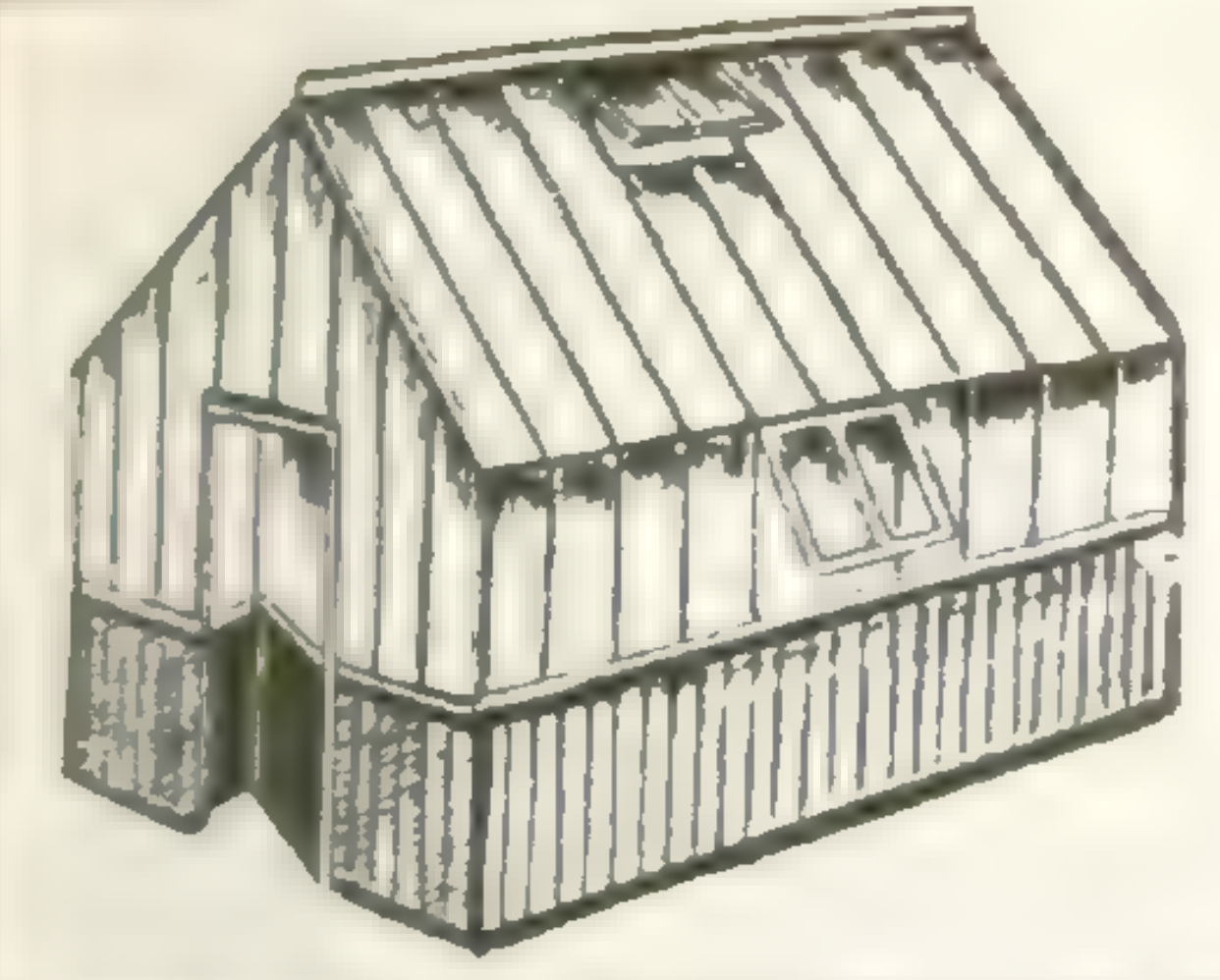

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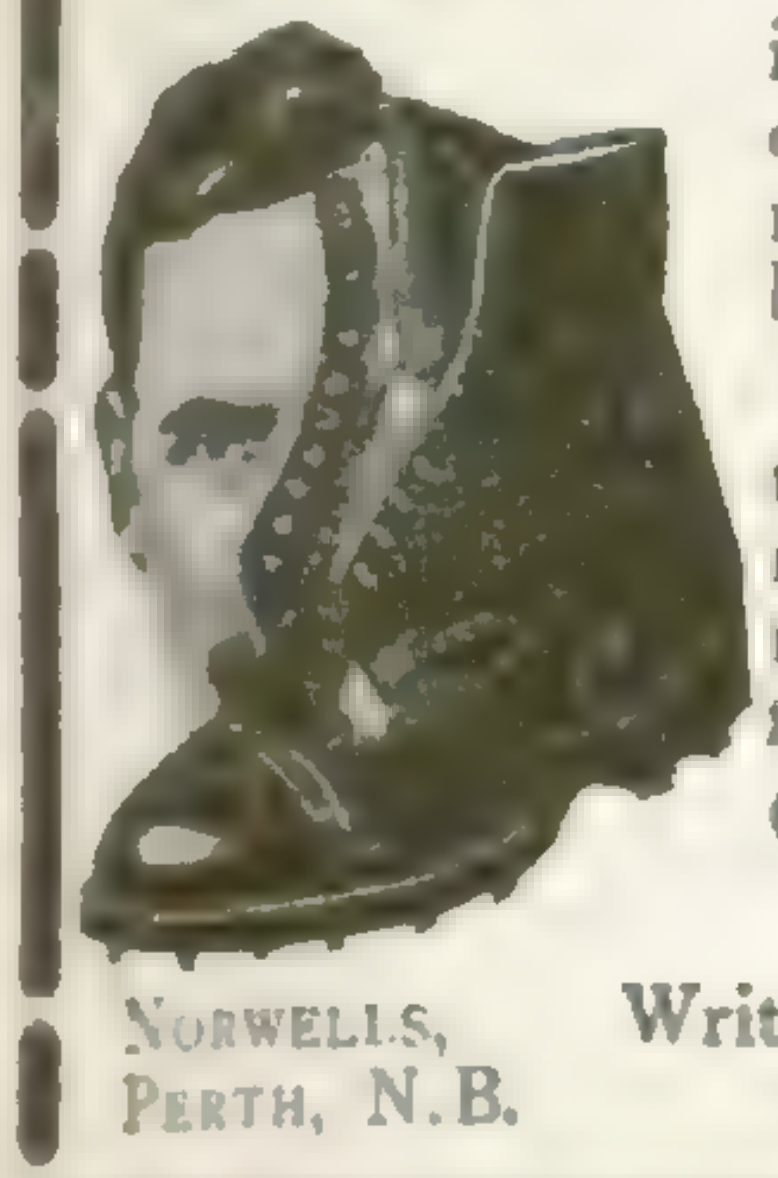

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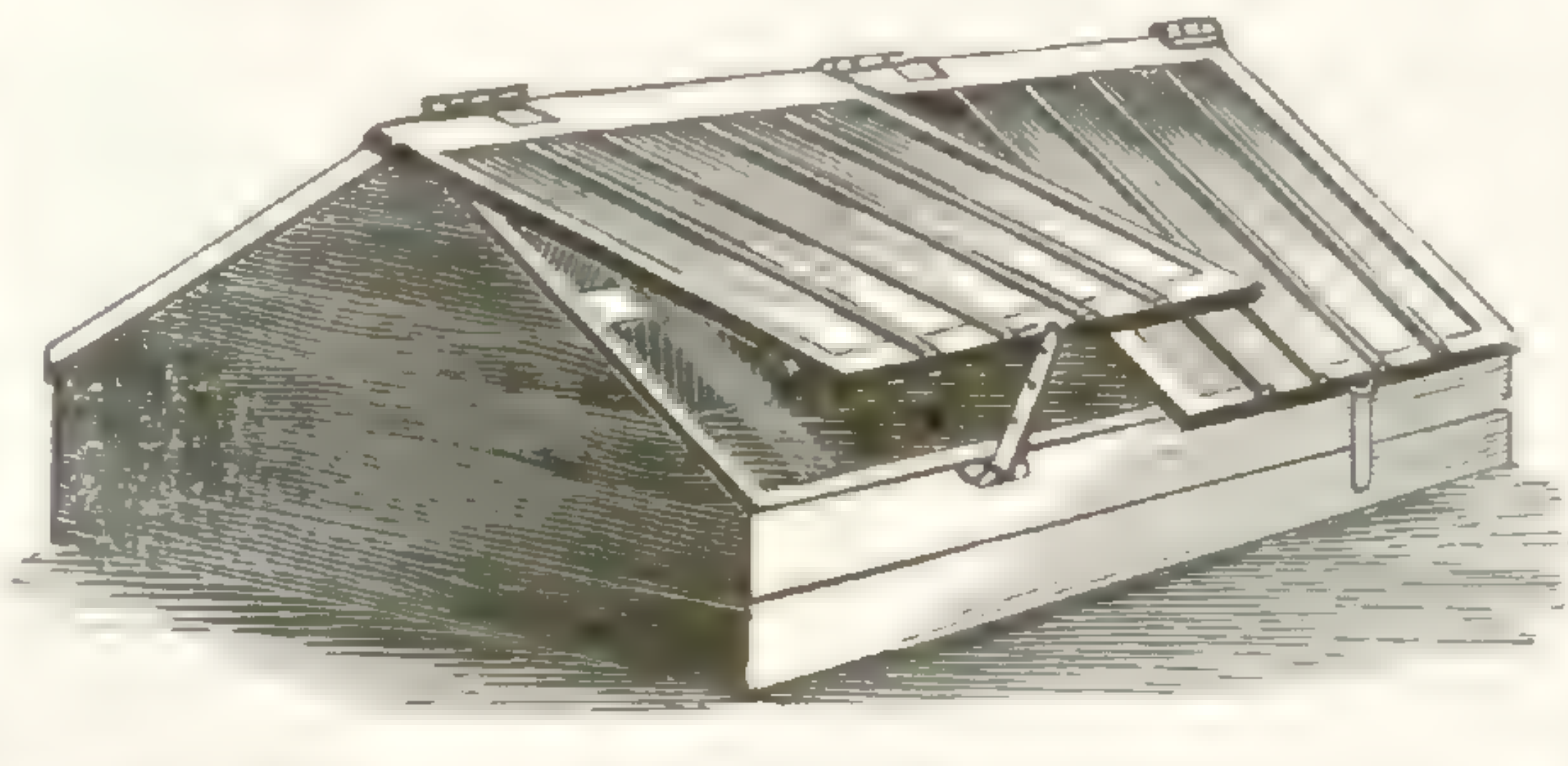

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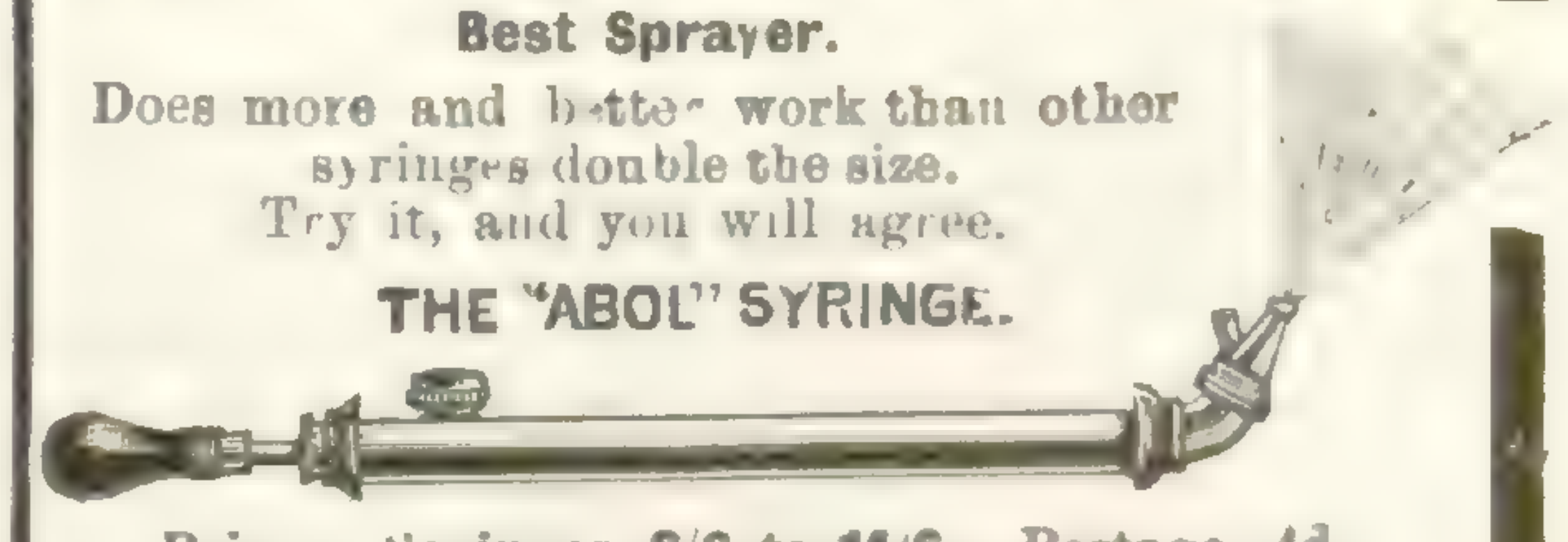

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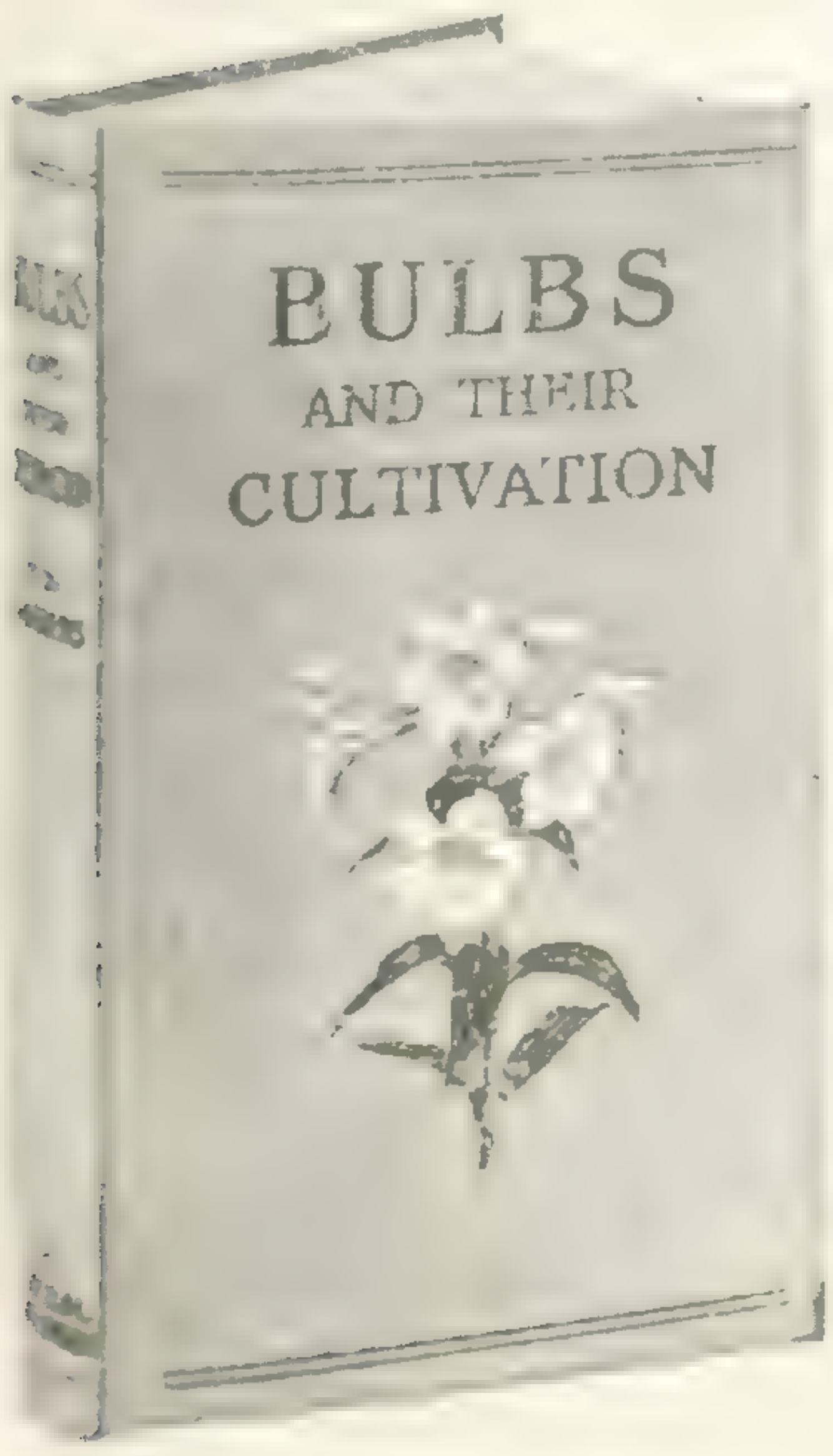

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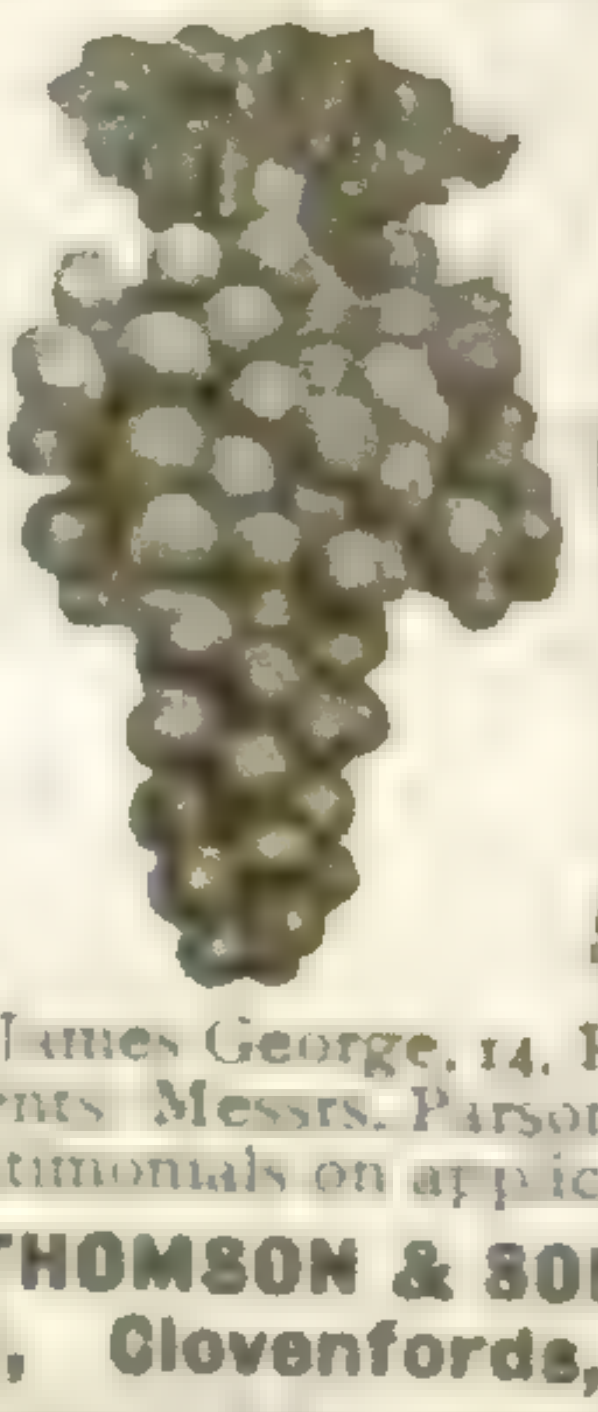

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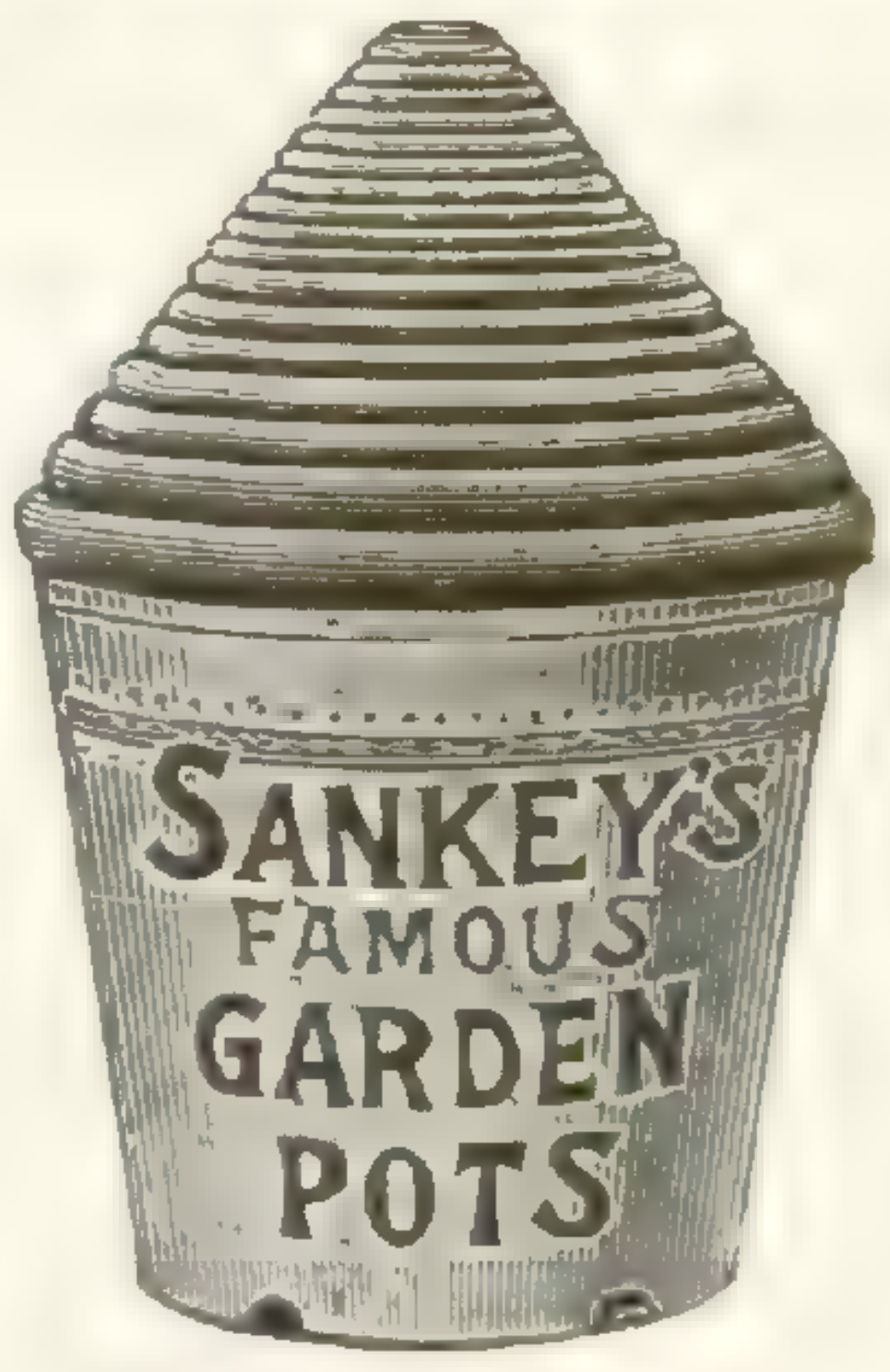

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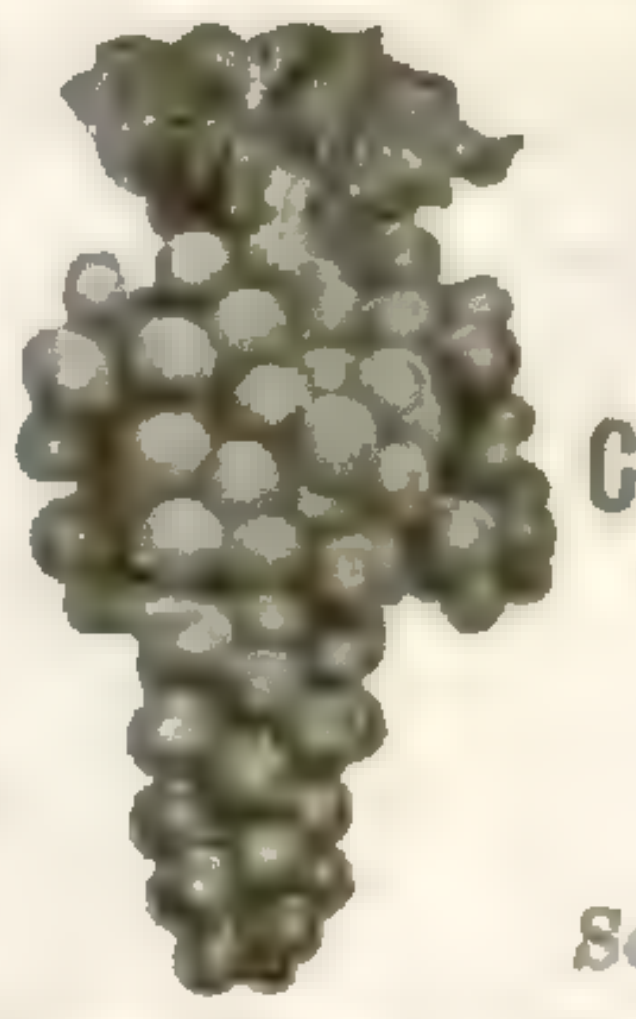

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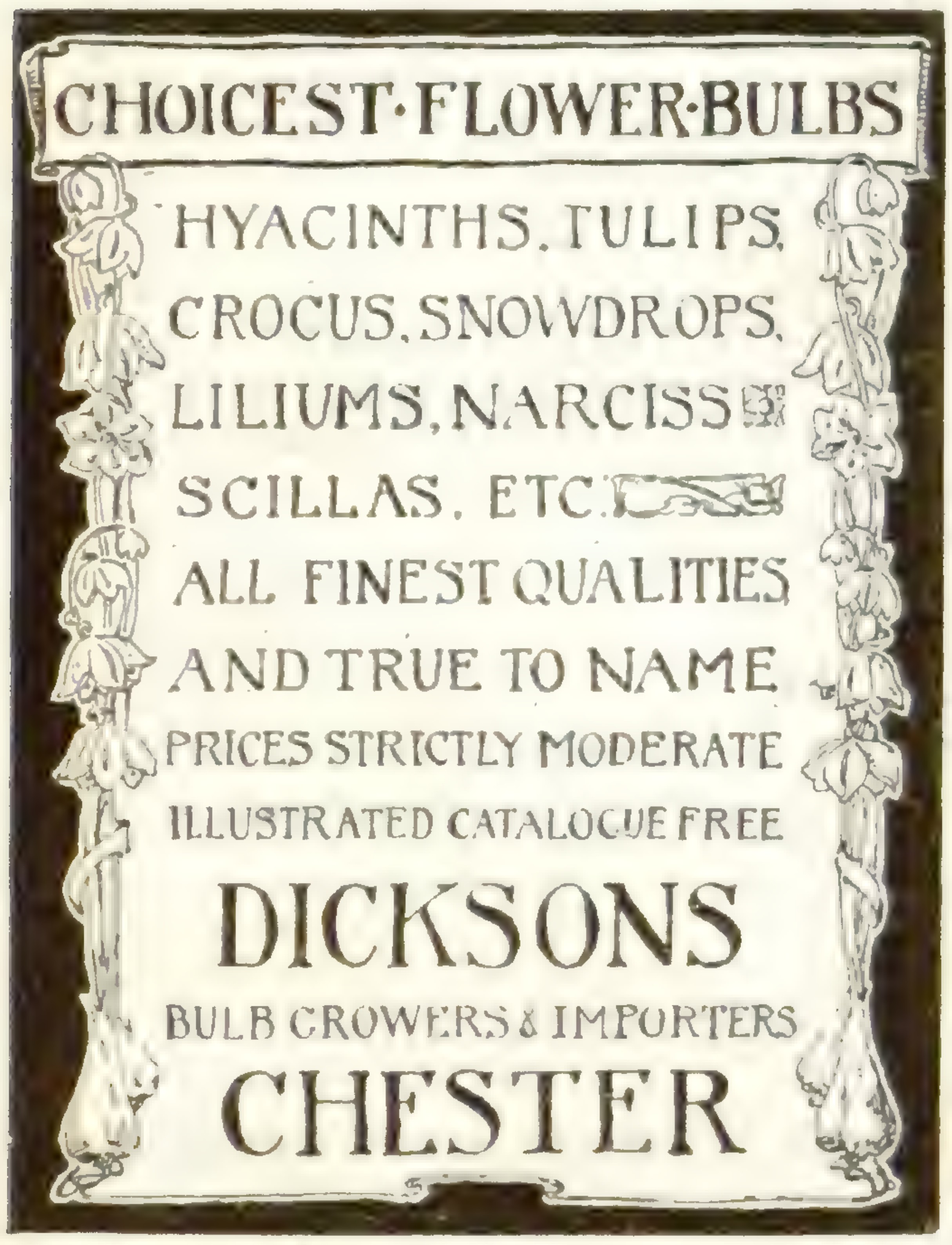
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VOL. LII.—No. 2,913. SATURDAY, AUGUST 28, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Herbaceous Borders.

To those whose knowledge of hardy perennials is limited, and who have failed to appreciate the importance of taste in the grouping of plants, the formation and keeping of herbaceous borders are the most simple matters to which those interested in gardening could well give their attention. We have been told times out of number by writers whose ability to use the pen is greater than their cultural skill, that the use of tender plants in the embellishment of the flower garden is contrary to the canons of good taste, and that with the aid of hardy plants alone the garden can be made beautiful and interesting during the greater part of the year at a very small cost, either of time, money, or skill. It has, indeed, been suggested that not only will a certain number of plants, flowering at different periods, give a continuous display of flowers from the opening days of spring until the autumn frosts impose a severe check upon vegetation, but will thrive with but little attention. There is a vein of truth running through the suggestions and assertions that have been made with regard to hardy perennials, for the mechanical part of planting is a very simple operation, and flowers may, with a suitable selection of species and varieties, be had in succession over a considerable period. In readily admitting this, it must be pointed out that in planting the herbaceous border one should consider something more than the mere transference of the plants from pots to the soil. A border, to fully justify its formation, should be so planted and arranged that for a period of two or three months it will form a glorious floral picture, and make a strong appeal to the artistic perception of those under whose notice it may come. To form a border of this description is no light task, for not until the planter has become more or less conversant with the habit of the finest of the hardy perennials, and the form and colour of their flowers, can he hope to achieve success. Moreover, kinds must be selected that will supply, not merely a succession of flowers, but will yield so freely of their floral beauty as to produce a really effective display over the longest period possible. To those who are specially interested in certain classes of plants the question of an effective display of colour will be of little consequence; they will derive abundant pleasure from a study of the individual charms of the several kinds. But in planning and furnishing herbaceous borders it is necessary to consider, not so much the specialist as the general body of flower lovers, who regard hardy plants as a means by which the garden can be beautified. During the present summer we have had opportunities for visiting large numbers of gardens, both in England and Scotland, in which herbaceous borders constitute one of the most attractive features, and we have been much impressed by the great advance in the method of procedure that is being made on all sides. We have had the pleasure of seeing many borders that are veritable triumphs in the utilisation of hardy plants, and in the art of garden adornment. Some, on the other hand, but these are comparatively few, show that the belief still exists that the proper course is to plant the border, and the whole of the borders where there is more than one, with a view to the continuous production of flowers throughout the spring and summer months. Necessarily, changes of this kind proceed slowly, and it is therefore necessary to state that where the course of procedure was based on this belief, the borders were more or less wanting in beauty. It is impossible it should be otherwise, for at no time can the display of flowers be large, and, speaking generally, the beauty of some proportion of them is marred by the contiguity of flowers that have lost their freshness, or, it may be, showing signs of decay. Especially are such borders wanting in attractiveness for a time when the several kinds are arranged in large masses, as, when a few of these have passed their period of flowering, the blanks produce a far from pleasing effect. It was surprising to learn that in some instances bold grouping had been adopted for the purpose of acting upon the suggestions made by Miss Jekyll in her book on "Colour in the Flower Garden," for the production of several distinct displays in the herbaceous border during the season of spring, summer, and autumn. We can find no such suggestion in the work, but plenty of evidence that the authoress advised something quite different. In the second paragraph of the introduction she writes with reference to the production of a good scheme for colour: "I believe that the only way in which it can be made successful is to devote certain borders to certain times of the year; each border or garden region to be bright for from one to three months." We may not be wholly in accord with Miss Jekyll's views on garden embellishment, but we are in full agreement with her upon this point, being persuaded that only by such arrangement can hardy flowers be fully utilised in the production of artistic effects. This fact is now being recognised by the more successful of the cultivators of hardy plants, and

MR. PETER C. M. VEITCH, J.P.

some of the finest effects that have come under our notice were those in gardens in which practical expression had been given to this recognition. We would direct special attention to this aspect of the herbaceous border, for it is rapidly obtaining increased prominence, and the provision of distinct displays at different periods bristles with difficulties. In the case of gardens of great seats, where the family is in residence for a portion of the summer only, those responsible for their management will plant the border, or borders, with such subjects as are at their best at the desired period. A splendid example of what may be accomplished in the production of a display that shall be at its best between the latter part of July and the beginning of September may, at the present time, be seen at Welbeck Abbey. In these famous gardens hardy garden plants are grown on a large scale, and the glorious displays that Mr. Gibson has succeeded in producing are a revelation in the grouping of hardy plants. At Hopetoun House, West Lothian, where these subjects are grown largely, and with exceptional success, by Mr. T. Hay, there are two sets of borders; the earlier set was over when we had the pleasure of visiting these gardens, but the later one was at its best, and anything more beautiful it would be impossible to conceive. In both these great gardens the practice is adopted of arranging the several subjects in small groups, so that at no time are there large blanks to mar the beauty of the borders. In gardens that are being constantly enjoyed by the owners it would not be specially difficult to provide two or three borders, and to so plant them that they will attain their maximum attractiveness at different times. The greatest difficulty will be experienced in gardens that are of such dimensions as to afford space for one border, and that of moderate size. Here the best course will be to exclude from the selection the early and late kinds, and to plant those which will produce the best effect during June and the two following months, and thus ensure a distinct and beautiful display at a season when the garden can be fully enjoyed.

Mr. P. C. M. Veitch, J.P., whose portrait we have the pleasure of giving herewith, has for a considerable number of years occupied a prominent position in commercial horticulture, and by his wide circle of friends is not less highly esteemed for his personal qualities than for his business abilities. Previous to his assuming the responsibilities inseparable from the position of the head of a great firm like that of Messrs. R. Veitch and Son, of Exeter, Mr. Veitch had the opportunity of studying commercial horticulture under widely varying conditions, and, judging from the position now occupied by his firm, it is evident that he was careful to take full advantage of his opportunities. In the course of his training Mr. Veitch spent several years in the wholesale and retail seed houses in London, and with two of the leading German seed firms. He was some ten years in the establishment of Messrs. J. Veitch and Sons, and during this period he not only passed through the several departments thereof, but he made several important journeys for the firm. For instance he travelled through Australia and New Zealand, and took advantage of the opportunity he had for visiting Fiji and the South Sea Islands. In 1877 he went to Borneo, and, accompanied by the late Mr. F. W. Burbidge, he ascended to the top of Kini-balu, with the object of collecting Nepenthes Rajah and other plants for Messrs. J. Veitch and Sons, and as now well known, achieved much success. In the year 1880 Mr. Veitch went to Exeter to assume the position he now holds, and there he took up as a speciality the choicer trees and shrubs, particularly those that are doing well in so many of the gardens in the West of England. For many years Mr. Veitch has done much excellent work for the City of Exeter, and has especially distinguished himself in connection with educational matters and the hospitals. Some years ago he was made a J.P., and his presence on the Bench in his native city is not less welcome than it is at the meetings of the Royal Horticultural Society's Fruit and Vegetable Committee, of which he has been a member for many years.

The Bulb Season.—In view of the fact that the season for planting spring flowering and other bulbs is again with us, we shall devote the issue of the GARDENERS' MAGAZINE for September 18 chiefly to the selection and cultivation of bulbous plants in the open and under glass. The contents will include articles by the leading cultivators of bulbs, and among these will be an important contribution on the propagation of hyacinths. This and a considerable proportion of the other contributions will be freely illustrated, and the issue should be equally remarkable for its attractiveness, interest, and usefulness.

Mr. E. H. Wilson's Chinese Photographs. — On Tuesday next (August 31) at the fortnightly meeting of the Royal Horticultural Society, Vincent Square, Westminster, S.W., there will be exhibited, on behalf of Professor Sargent, and the President and Fellows of Harvard University, Cambridge, Mass., U.S.A., a selection of photographs illustrating the flora, fauna, and scenery of Central and Western China. These photographs are from the large collection taken by Mr. E. H. Wilson during his last (third) journey to China. It is thought that this exhibit will be of interest and value to those keen on the recent new plant introductions from China; it is also hoped that from its varied character the selection made will appeal to a wider circle. The photographs are whole-plate size (8½ by 6½ inches), with liberal mounts for Herbarium purposes, and all are duly labelled. The work of developing and printing has been done by Mr. E. J. Wallis, Kew.

Gardeners' Royal Benevolent Institution.—By kind permission of Waldorf Astor, Esq., the beautiful gardens at Cliveden will be open to the public on Thursday, September 16, on behalf of the funds of this charity.

Successful Melon Culture.—We are at all times pleased to receive from our readers evidence of their successes in plant, fruit, or vegetable culture, and we have therefore been much gratified by the photograph we have received from Mr. W. Green, gardener to S. E. Bates, Esq., Manydown Park, Basingstoke, of the splendid crop of melons he has produced this season. The photograph shows that the crop has been remarkably heavy, and the fruits well developed. It proves also that Mr. Green is careful to keep the leaves of his melon plants in a healthy state until the last, a point of considerable importance in melon culture, because, unless they are in a condition to perform their functions until the fruits are fully matured, the latter will be indifferently flavoured. We are gratified to know that the importance of the leaves retaining a healthy green state until the crop has ripened is being more fully recognised, and that the practice of keeping the plants so dry during the ripening process that the leaves become a prey to red spider, and are rendered of little value in the economy of the plant, is dying out. Mr. Green informs us that in the house there are fourteen plants, all of which are grown as cordons. The varieties are Sutton's Ringleader, Emerald Gem, and Superlative. Ringleader has carried about 36lb. of fruit to a plant, and Mr. Green considers the variety difficult to surpass both as regards the weight of crop and the quality of the fruits. The quality of the several varieties is said to have been very high, and as a proof of this Mr. Green mentions that he obtained the premier award in the class for melons at the Basingstoke flower show, which was held on the second of this month.

Grapes at Wisley.—One of the attractions of the exhibition of the Royal Horticultural Society, on Tuesday next, will be a collection of grapes from Wisley. The crop of grapes in the society's gardens is again of exceptional excellence, and the collection that Mr. S. T. Wright will send up will certainly be not less interesting and attractive than was that shown from Wisley last year.

Bees in Relation to Fruit Culture.—In his lecture before the Royal Horticultural Society on this interesting subject, Mr. Walter F. Reid said the importance of the part played by bees in the cultivation of flowers and fruit was in a great measure overlooked. Their usefulness in the growing of fruit, indeed, was immeasurable. In proof of this, he mentioned an apple orchard which for one or two years produced most disappointing crops. With the advent of bees, however, there was a material change, a crop of no fewer than 150 bushels of fruit being yielded! Mr. Reid also said that it was a common idea that fruit generally, and pears in particular, could not be grown in London; that the smoky atmosphere of large towns was an unconquerable obstacle to the culture of orchard produce. But this was not so: the cause was negative rather than positive. By actual experience he had proved that, despite the atmosphere of smoke, if bees were introduced to the trees while the latter were in bloom a crop of fruit would be realised. In the gardens of Gunnersbury House, where the orchard house culture of fruit is carried out on an extensive scale, and with much success, Mr. J. Hudson ensures the fertilisation of the flowers by placing a hive of bees in the house during the time the trees are in bloom. The hive is moved from one house to another as becomes necessary, and by the time the bees have completed their work in the latest of the houses, the season is sufficiently advanced for the hive to be placed outside without injury to its occupants.

Harry Veitch Portrait Fund.—The list of subscribers to this fund is now closed. Additional contributions have been received from the undermentioned: Mr. George Baker, Mr. Peter Barr, Mr. J. T. Bennett Poë, V.M.H., Mr. J. Bruckhaus, Messrs. W. Bull and Sons, Mr. A. Chapman, Mr. W. H. Clarke, Messrs. Corry and Co., Mr. C. Curtis, Mr. John Davidson, Mr. W. J. Grant, Mr. G. K. Gude, Mr. R. Millagan Hogg, Mr. T. Humphreys, Mr. G. F. Johnson, Mr. R. Wilson Ker, Mr. W. A. Nanscawen, Mr. Amos Perry, Sir J. Ramsden, Bart., Mr. J. Robson, Mr. Finlay Sanderson, Mr. A. Turner, Mr. Geo. Ward, Mr. W. Hedley Warren, Mr. Anthony Waterer, and Rev. W. Wilks.

TAKING CUTTINGS.

Cuttings may be made of leaves, shoots, branches, or roots, but for the purposes of these notes we shall only deal with the cuttings of soft-wooded plants, and those which are to some extent hardy, the whole subject being large enough for a small book. The time and manner of taking cuttings, the kind of parents they are taken from, the material in which they are placed, the treatment to be given them afterwards, and many other details are so varied that we can do no more here than mention a few general principles upon which success in rearing cuttings rests. First, as to the best kinds of

Material for Cuttings.

When a piece of zonal pelargonium, for instance, is separated from the parent plant, if the cutting, as it now becomes, is put into a suitable medium, a thickening, or callus, is formed along the cut edge, and from this roots are subsequently emitted. If the shoot had remained on the plant the leaves would have continued elaborating plant food for use in the formation of new tissue in all parts of the plant, including the roots. As tissue-forming material cannot get down to the roots of a new cutting it gets as far as it can—the cut end—and there accumulates. The cutting selected, then, must have enough inherent energy not only to maintain itself while it is without roots, but also to form roots; in other words, the substance of the cutting must contain a sufficient proportion of solid matter with leaves in the full vigour of plant life. It is obvious that if a shoot is not in a condition to make fair growth while on the plant that it will not be able to grow and form roots in addition when made into a cutting, and this bars the taking of any shoot with a flower or flower bud at the tip, as the growth of such a shoot has already nearly reached its natural limit. On the other hand, plants that have been growing very rankly will not be able to maintain themselves when suddenly cut off from the liberal supply of nourishment to which they have been accustomed. Plants grown in the shade, with, perhaps, in addition an excess of moisture, will produce watery shoots with little of the solid substance necessary to the formation of roots. The ideal material, then, for making into cuttings must not be too watery or too rank in growth, but should possess the maximum of solid substance in itself consistent with the possession of leaves with their vital functions unimpaired by age. Then as to

The Preparation of the Cuttings.

From what has been said above it will be seen that if the cutting is too long, or the leaves too large, failure will result from excessive transpiration, while if the cutting is too small the formation of roots will be very slow. What is a long cutting for plants with slender laterals, like the antirrhinum, is short for thick growth like that of the zonal pelargonium. The shoots should always be cut straight across just below a joint, and this should be done with a very sharp knife, as a smooth cut heals over much more quickly than a ragged edge. Many plants lend themselves to the taking of laterals as cuttings with a heel attached, and such cuttings need little preparation beyond the removal of the lower leaves close to the stem, and possibly a trimming of the heel. In the fuchsia it is usual to remove two large leaves and perhaps two small, but in the pentstemon sometimes as many as six or eight. An interesting point was raised by the Rev. Professor George Henslow, in a paper read before the Royal Horticultural Society in June, 1908, "On the absorption of rain and dew by the green parts of plants." He referred to a German scientist, who, in accord with his theory that the frequent fading of cuttings before they have struck root is to be accounted for by the fact that the transpiration from the exposed leaves is greater than the amount of water which the cut end can supply, recommends that the cutting should be longer than usual, and that some of the leaves should be buried to assist in the absorption of water. It is claimed that cuttings of roses, pinks, and others usually not easy to strike, will make good roots in this way if the soil is porous enough to permit of the free access of air to encourage the formation of roots before the leaves have time to decay. This is a case where each may experiment for himself, but it is certainly suggestive.

The Time for Taking Cuttings

is too various to admit even of generalisation, there being no time of the year which is not the best time for some plants, as we take chrysanthemum cuttings from November to March, most things in the spring, carnations and pelargoniums in the summer, calceolarias and pentstemons in the autumn. Many plants will strike at any time of the year, though there is a best time for most, and experience is the best teacher. As a rule, however, most soft-wooded plants strike well in the spring.

Suitable Compost.

The compost in which cuttings are put is in many cases important, though some will strike freely enough in the ordinary soil of the border. Silver sand is one of the best mediums for most plants, not only for mixing with the soil, but for putting round each cutting, as, being free from animal matter, it delays putrefaction, and, by reason of its fineness, assists in the rise of water to the base of the cutting, besides filling up every interstice so that there is no likelihood of the cut end being suspended clear of contact—a fatal error. Pots should be filled half-full of clean potsherds, and rough material put over these. If the soil is dry it should be well soaked and left for some time before the cuttings are put in it. Many cuttings do best when inserted round the sides of a pot, though others do equally well in any part.

There is one point about the after treatment which is of general application, and that is that the cuttings should

Not be Allowed to Flag

more than can be helped. To compensate for the diminished power of absorbing moisture on the part of the cuttings, we usually keep them in a moist atmosphere, often, indeed, within a propagating frame inside a greenhouse. There is an immense difference in the amount of moisture which cuttings of different kinds of plants will stand, and a degree which is necessary to some will cause others to damp off rapidly, but the liability to do this is lessened in all cases by a proper airing at least once a day. This applies also when bell glasses are used, as these, when pressed tightly down on the soil, are almost air-proof. The air in these is consequently maintained in a very close state, and cuttings of many plants can be successfully raised under them. Some need bottom heat so that not only the air, but the soil in which the cuttings are put, is kept warm, thus accelerating the formation of roots. Most need shading from the direct rays of the sun, but an almost full amount of diffused sunshine is beneficial as a rule. If the weather is cool, water should be applied very sparingly, and then only enough to wet the leaves, which is usually sufficient so long as the soil is moist about the base of the cuttings.

Alger Petts.

SUMMER PRUNING OF ROSES

This is a very necessary operation during the present month, and has much to do with the prospects of next season. By care in pruning most of the extra vigorous growers now we secure better matured and more suitable growth for next year. In addition to this, the plants benefit during their autumn display. Generally it is the climbing or pillar sections that need most care in pruning, but it is well to thin out wood of others that have flowered, and so aid the later trusses for autumnal display. I find it helps the dwarf polyanthas and Chinas to remove the matured trusses and thin the wood from the centre a little. Unless this is done directly the truss is over one cannot cut them out so well, as there are almost certain to be new growths and trusses forming in quick succession. Thinning the wood in summer avoids the cutting away of so much growth next spring, and also aids in maturing what is left.

As an example we may take Crimson Rambler and Dorothy Perkins, that have now just finished blooming upon the long maiden growths of last autumn. In the ordinary course of things these shoots will continue to make small laterals that are next to useless for the following season. All through the summer and autumn these growths are exhausting the plant to no purpose, and are much better cut away now, when the longer maiden rods will have better opportunity to fill out and ripen; these being the mainstay of such varieties season after season. If the old flowered growths are allowed to remain the main rods of these gradually deteriorate, turn brown or rusty, and soon die in a lingering fashion that cannot but harm the plant.

On walls, too, a good quantity of flowered or old wood can be cut out now, thus encouraging younger growth, and allowing this to occupy the most suitable positions. It frequently happens that much wood which was apparently too sound to cut out during spring pruning developed the results of frost and age about midsummer. I would cut away all such at once after the few flowers had been realised. It is not the quantity of wood obtained so much as securing the right kind, that gives us the best results, and summer pruning or thinning has much to do with this.

A. Piper.

OLEARIA HAASTI.

From the end of July until the middle of September, in the southern counties, this shrub is a mass of white blossom. Lovers of compact-growing shrubs who do not possess the one here referred to, should make a point of either going to see specimens while in bloom, or have a few sprays sent to them by advertisers in the Gardeners' Magazine. There is then a better chance of appreciating its merits. But as the flowers soon drop when gathered, the best plan is to see them on the growing plants. For very dry soils, and those of a rather poor quality, Olearia Haasti is very suitable. Few kinds of shrubs possess as many fibrous roots, and although the olearias will grow in poor soils, they respond quickly to good treatment. For forming a dense growth near a boundary fence, as isolated plants in a mixed shrubbery, or as a low division hedge in a flower garden, Olearia Haasti is equally serviceable.

Geo. Garner.

EFFECTS OF THE WINTER ON TREES AND SHRUBS AT KEW.

(Concluded from page 654.)

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Rhododendrons.

Perhaps the most interesting result among Himalayan rhododendrons is the indifference to the recent winter's cold shown by R. barbatum. Some plants, now six feet and upwards high, presented to Kew by Sir J. T. D. Llewelyn a few years ago, and planted in the Rhododendron Dell, have come through quite unaffected, and have flowered this spring. The following N. Indian species also may now be regarded as hardy at Kew: Anthopogon, arboreum (var. Campbelliæ), campanulatum, campylocarpum, ciliatum, cinnabarinum, fulgens, glaucum, lepidotum, niveum, and Thomsoni. R. triflorum has almost perished.

Among the Japanese and Chinese species the only total loss is the recently introduced R. sublanceolatum. In a low-lying situation R. rubiginosum has succumbed, and R. yunnanense has lost its foliage. Several forms of the Indian azalea (R. indicum) have flowered exceedingly well in spite of the winter, and there seems to be a promising future in gardens for several small-leaved, hardier sorts. R. indicum var. amœnum has been grown unprotected at Kew for more than twenty years, and in 1893, Professor Sargent introduced from North Japan the variety Kæmpferi, which blossoms well every year. Since then several other unnamed forms have proved equally hardy. A set of new Chinese species was received from Messrs. Veitch last year, but, protection having been afforded them, nothing definite can be said of their cold-resisting powers. Judging, however, from the plants in the open air in the Coombe Wood Nursery, it is late spring frosts rather than winter cold that have to be dreaded. R. serpyllifolium, a small Japanese species, has suffered badly, but R. dilatatum and R. rhombicum have flowered splendidly this spring. R. Fordi is much disfigured.

South American Plants.

It is interesting to find that the two species of beech introduced from Chile by Mr. H. J. Elwes in 1902, viz., Fagus antarctica and F. obliqua, have been absolutely unaffected. Both are deciduous; but their naturally evergreen ally, F. betuloides, has lost all its foliage, and, although not killed, is apparently unadapted for the open air at Kew. Lomatia obliqua, an evergreen shrub, also introduced by Mr. Elwes in 1902, has withstood the cold very well in a recess of the wall of the Himalayan House. Rhaphithamnus cyanocarpus on a south wall is apparently killed, and Schinus Bonplandianus from Brazil is cut back to ground level. Azara microphylla is one of those shrubs whose young branches are all killed, but it is breaking freely from the older wood. Of fuchsias and escallonias there is nothing unusual to record; all the former, and several of the latter, have been cut back to the ground, even on walls, but, as in former years, will spring up again. Buddleia globosa is killed down to the old stems, but is rapidly recovering.

Californian Shrubs.

Of the tall-growing ceanothuses, C. thyrsiflorus has proved the hardiest, although the large specimens, 15 feet or so high, which have made a remarkable feature for so long near the Broad Walk, are badly hit. They will, no doubt, quite recover. None of the species on the walls, such as Veitchianus, rigidus, integerrimus, etc., have been killed, but some have suffered. Dendromecon rigidum has perished even against a south wall. Fremontia californica, in one of the recesses of the outer wall of the Temperate House, is perfectly healthy, and now in flower. Umbellularia californica, quite in the open, is untouched.

New Zealand Shrubs.

Plagianthus Lyalli, of which there was a fine bush ten feet high in the collection of shrubby Malvaceæ, was destroyed right to ground level, but against a wall it is untouched. The tenderness of this beautiful species is unfortunate; for several years past it has flowered profusely and late in the season, when few other shrubs are in blossom. P. pulchellus succumbed even against a wall. Griselinia littoralis, whilst it withstood the December frost apparently unaffected, was badly cut up by the biting winds of early March. It cannot be regarded as a dependable evergreen at Kew, in spite of all that has been said in its favour. Sophora tetraptera perished in the open, but not under the protection of a wall. The effects of the inclement winter on veronicas—which constitute the most important group of New Zealand shrubs we can grow out of doors—have not been particularly marked, nothing like so disastrous as in 1895. About ten species were killed or injured very severely, but as their susceptibility to cold is well known a set of cuttings is rooted each year, and kept under protection, in order that, if necessary, they may be renewed. An old plant of Muehlenbeckia adpressa was killed back to ground level.

Heaths.

These shrubs succeed well, as a rule, in Kew, and are much valued for producing broad masses of colour in spring and autumn. Apart from the British species, the hardiest of all have proved to be Erica stricta and E. arborea var. alpina, both of which remained fresh and green even to the smallest and youngest twigs. E. mediterranea is untouched except for the young succulent growths made late last autumn. E. australis is mostly killed to the ground; E. lusitanica and E. arborea were rendered very shabby; and E. Veitchi (a hybrid between the two latter) suffered more than either, probably because of its fast-growing habit. All the other species, native and exotic, that are mentioned in the Kew "Hand-list of Trees and Shrubs" were uninjured.

Cistuses, Etc.

We have long regarded Cistus laurifolius as the hardiest species of this genus, and last winter confirms this view. The following have also survived: C. corbariensis, florentinus, lusitanicus, recognitus, and salvifolius. C. cyprius is badly hit, but is now breaking freely from the base. These species are evidently the most desirable members of this beautiful genus to grow where no protection can be afforded. Of helianthemums, H. alyssoides, formosum, ocymoides, and vineale have survived, but H. halimifolium is nearly swept away, and H. umbellatum has almost disappeared.

An interesting—and to me unexpected—result is the passing through the winter of Magnolia Campbelli quite uninjured. Plants were killed in 1895. Two Madeiran shrubs, Genista virgata and Vaccinium padifolium (V. maderense), are grown in the open air here. The former is so hardy as to be naturalising itself about the grounds, and a plant of the latter has grown just inside the main entrance for at least 65 years. Sir Joseph Hooker believes it to be the original plant introduced by Francis Masson on his return from South Africa in 1777.

The exceedingly rare Elliottia racemosa, of which there are two plants at Kew, has not been affected in the least, although a native of Georgia. Diospyros Kaki, uninjured on a wall, succumbed in the open.

In a general way old and well-established shrubs with stout woody stems withstand a severe winter better than younger and more succulent ones. But there are curious exceptions. For instance, all our old specimens of Veronica Traversi have been crippled beyond recovery, but young two or three-year-old plants are scarcely touched. And the only plants of common rosemary remaining after the winter are plants two years old; all the older ones having perished. A similar result was noted at Kew in 1895 in regard to Daböecia polifolia, young plants surviving when old ones were destroyed.

Raphiolepis ovata, usually confined in greenhouses, is in perfect vigour in spite of the trying winter. Choisya ternata, remarkable in being a Mexican shrub, hardy near London (perhaps the only one), was rendered rather shabby in foliage, but flowered excellently in May.

Evergreens.

A curious feature of the winter has been the number of habitually evergreen trees and shrubs which lost all, or nearly all, their leaves, but were not otherwise injured. The most striking instance at Kew is furnished by the Holm Oak (Quercus Ilex). Many trees—but far from all—were quite defoliated. Osmanthus aquifolium dropped all its leaves, whilst its reputed variety ilicifolium retained them. Of the newer Chinese shrubs, Cotoneaster angustifolia and Rhododendron yunnanense, both evergreen in ordinary seasons, were this year deciduous. An old and well-known denizen of gardens, Berberis Wallichiana, became quite bare after the December frost, together with its several varieties except two. One of these, a native of China, sent to Kew by M. Maurice de Vilmorin, is a charming shrub of low, dense, rigid growth, with leaves vividly white beneath; it is quite unharmed. The other, also Chinese, but introduced by Wilson, is similar to the ordinary Himalayan type in habit; it also retained its leaves. Many deodars were almost devoid of foliage by the middle of March, and the Phillyreas (except P. decora) were scarcely recognisable in their almost leafless condition.

One rather striking accompaniment to the denudation of these evergreen trees and shrubs was the uplifting of the branches after they had been relieved of their normal weight of foliage. Many of them, which ordinarily rest on the ground, rose one or two feet from it, and the ends became incurved like the eaves of a Chinese temple, giving the trees a curiously unfamiliar pose.

ARCTOSTAPHYLOS: MANZANITA.

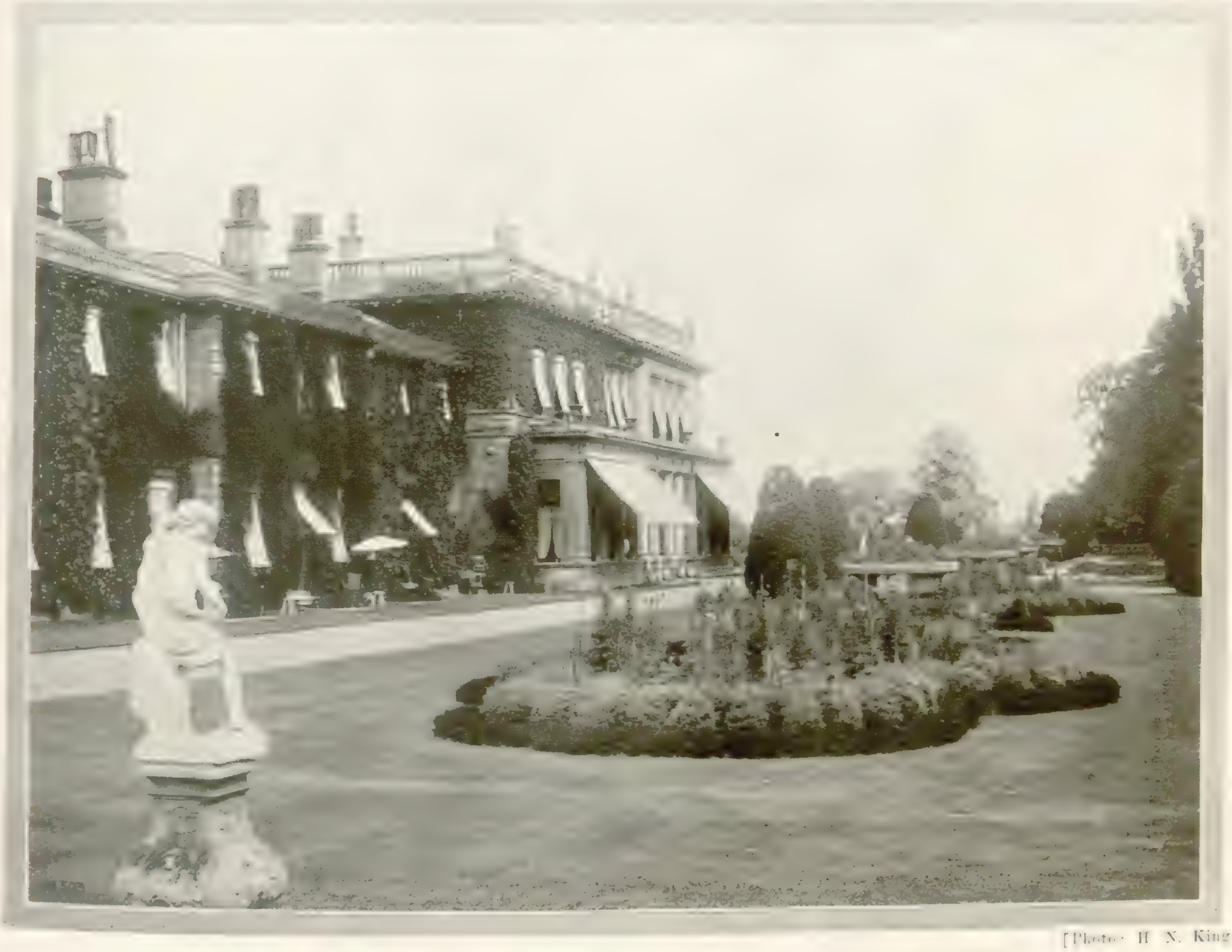
Two species of arctostaphylos are included in the British flora, these being A. alpina and A. Uva-ursi, both dwarf plants, found in mountainous districts, chiefly in the North of Scotland. The plant under notice, however, is a very different looking shrub, for it assumes the proportions of a moderate-sized bush, with a habit resembling that of a low-growing arbutus. A. Manzanita is a Californian species, and doubts have been expressed as to its hardiness; it has, however, passed unscathed through the trying winter of 1908-9 about London, so it is evidently hardy enough for many parts of the British Isles. The branches are similar in appearance to those of an arbutus, and they are clothed with curious rounded silvery leaves, which are suggestive of some species of eucalyptus. The flowers are urn-shaped, pink in colour, and borne in rather dense semi-pendant, terminal panicles, during early spring.

The inflorescences are formed in autumn, and in mild winters they have been known to open during January and February. It is an extremely rare plant, and very few good specimens exist. A nice plant, about 3½ feet in height, may be seen near the arbutus collection at Kew. This particular specimen was raised from imported seeds a few years ago, and is growing in sandy peat. It has flowered annually for the last five or six years, and good seeds have been produced. Several other Californian species are known, but this has proved to be the most ornamental so far.

W. Dallimore.

A BOLDLY ARRANGED FLOWER GARDEN.

The flower garden that contributes so much to the attractions of the south front of Hillingdon Court, the residence of Lord Hillingdon, at Uxbridge, is of interest as a successful example of grouping plants that are quiet in colouring. In other parts of the fine gardens of Hillingdon Court Mr. A. R. Allan utilises as freely as may be desired plants that claim attention by reason of their brightness of colour, but in no case is strong colouring used beyond what is necessary to produce a tasteful effect. But in the example illustrated more dependence would appear to have been placed upon form than on colour to produce a scheme that would appeal to the artistic perceptions of the noble owners, and the result has been eminently satisfactory. As will be seen from a glance at the accompanying illustration, boldness of arrangement has been aimed at, and so successfully accomplished that the breadth of turf with its statues and handsome vases has been relieved of any sense of flatness. It is satisfactory to find in visiting gardens during the summer months that pyramidal and pillar specimens of such plants as Calceolaria amplexicaulis, ivy-leaved pelargoniums, fuchsias and heliotropiums are being used in increasing numbers in flower gardens, and a much bolder and a decidedly more tasteful appearance imparted to both geometric schemes and isolated beds on the lawn. There is, of course, a possibility of this form of arrangement being overdone, but at present it is remote, and there is certainly no cause for being apprehensive upon this point at the present time, especially when we remember how great is the endeavour on all sides to make the arrangements as tasteful as possible and to avoid monotony.



[Photo: H. N. King.

FLOWER GARDEN ON SOUTH FRONT OF HILLINGDON COURT.

RASPBERRIES—RENEWED PLANTATIONS.

The interchange of visits to gardens brings under review aspects of a different character; they may be educative, pleasant, or disappointing, as they severally appeal to the individual. In the matter of raspberry culture, one often observes healthy, full-stocked, and fertile beds in gardens, the greater trouble in such cases being the rigid reduction of the excess of sucker growth. The choice of a dwarf-growing stock removes even the necessity of stakes or wire fences for their support, thus the highest degree of economy is followed by the equally abundant fruit yield.

In contrast to this order of things come paucity of crop and poor stocks of undeveloped canes which are influenced considerably by the state of the weather. Raspberries usually thrive best on heavy land, and give but little occasion for renewals of beds when applications of manure are regularly made, and they are free from perennial weeds. On light land drought seriously hinders the cane growth of raspberries, because it is well known how shallow working are the roots of these plants. Good manure mulches sometimes provide the requisite sustenance when the rainfall is deficient and the sun tropical, but probably the hose and hydrant would afford the greater support to a thirsty crop. This, however, is an equipage denied to a great majority of gardens, and so the best has to be made of other cultural aids.

There is, so far as our experience teaches us, nothing that ensures better results on light land than the periodic renewals on new sites. We have for some years adopted a course of planting a portion of our bed each year, clearing a corresponding portion of the old. A routine course of cropping is necessary if the whole of the raspberry plantation is to be kept on one site, permitting of its extension on its outside extremity. Shortened to a foot from the ground during the winter season these newly-planted rows will give a light but useful yield, usually of fine berries. It is a fatal policy to attempt the cropping of the whole length of cane. The tax on the root reserve if this course is practised is so severe that the canes exhaust themselves in the effort to produce an over-abundant crop, consequently no suckers come for future bearing. By cutting back a fairly vigorous cane to the limit of twelve inches the partial crop and successive cane progress concurrently. In soil unsuited to raspberry culture one cannot expect full-grown canes the first season following their planting, but, given seasonable weather, the two-year-old bed attains to a degree of productiveness more or less satisfying. What the reasons may be for this disparity in regard to raspberry cultivation is not quite clear, but there must obviously be some chemical deficiency in soils of light nature which make them unprofitable, compared to land of heavier texture. There are some gardens even where change of site is not sufficient, for they languish rather than thrive. Such cases call for change of kind, and, what is more important, a new introduction of plants from some distant nursery, if possible off land differing in its character. We have often had proof of the useful service given by such importations in raspberries, as well as other fruit trees. The uninitiated will procure new purchases to replenish blank spaces caused by the collapse of old stocks which is simply inviting further disappointment and loss.

The need has been often urged in orchard planting for appointing new sites, condemning those which have given accommodation for generations past to trees, for the simple reason that the soil is drained of its chemical nutriment, and is, consequently, left exhausted. The same principle applies exactly to raspberries, and we would emphasise the fact that often indifferent raspberry crops are the outcome of a need for fresh sites and new stocks. It is not a laborious undertaking to renew one's raspberry ground, if it is done on progressive lines, extending it forward a portion each year. Much will depend on the nature of the soil, governing the need for deep cultivation. It has been found absolutely needful to trench more or less deeply for this crop in some gardens, while in another the most simple methods suffice. Raspberries, like apple orchards, remain profitable almost for generations in the hands of the favoured few; conflict with circumstances decree otherwise with many, and these latter instances are those which cause those responsible to rise to the occasion, devising fresh means, and changed routine, in order to gain the same desirable ends.

W. STRUGNELL.

Rood Ashton Gardens.

FERNS FOR HANGING BASKETS.

We possess a number of ferns that are eminently adapted for hanging baskets, being of a pendulous or semi-pendulous habit of growth, and it would be well were they more freely utilised for this purpose. In some instances the fronds are of great length, and, as a matter of course, are seen to the best advantage when employed in this way, while, on the other hand, much of their beauty is lost when placed on stages in association with others of compact growth. As seen suspended above the walks of either fernery or conservatory they present a very graceful and elegant appearance, and do much to enhance the beauty of the structure.

Both stove and greenhouse species are available, and while the first-named must be allowed to make their growth in spring and early in summer in the warm and moist house, they can be utilised for conservatory decoration from July to October. Fairly deep baskets should be employed for ferns, the sides being lined with turves or moss, and an important point is to press the soil firmly around the roots. I would advise that loam of a fibrous nature enter into the compost at the rate of one-half, the remainder being made up of good sound peat, leaf-soil, sand, and powdered charcoal. It is interesting and instructive to note that loam is now a recognised ingredient in fern composts, and many growers use but little else, and find that the majority of the species luxuriate therein.

Failures that are recorded may invariably be traced to long-continued drought, and it must be remembered that ferns are very impatient of dryness in the soil. Moreover, from their position, evaporation proceeds at a rapid rate; therefore, when the plants are thoroughly established, and have formed a large quantity of roots, the baskets should be immersed every day for ten minutes during the summer months. To facilitate matters a pulley arrangement should be, when practicable, fixed to the baskets, a small and neat chain being used, and with this they can be lowered and raised with ease. It is necessary to point out that the immersion of ferns and plants generally before the soil is filled with roots must be avoided. The soil becomes saturated, and eventually turns sour, in which no plant can thrive.

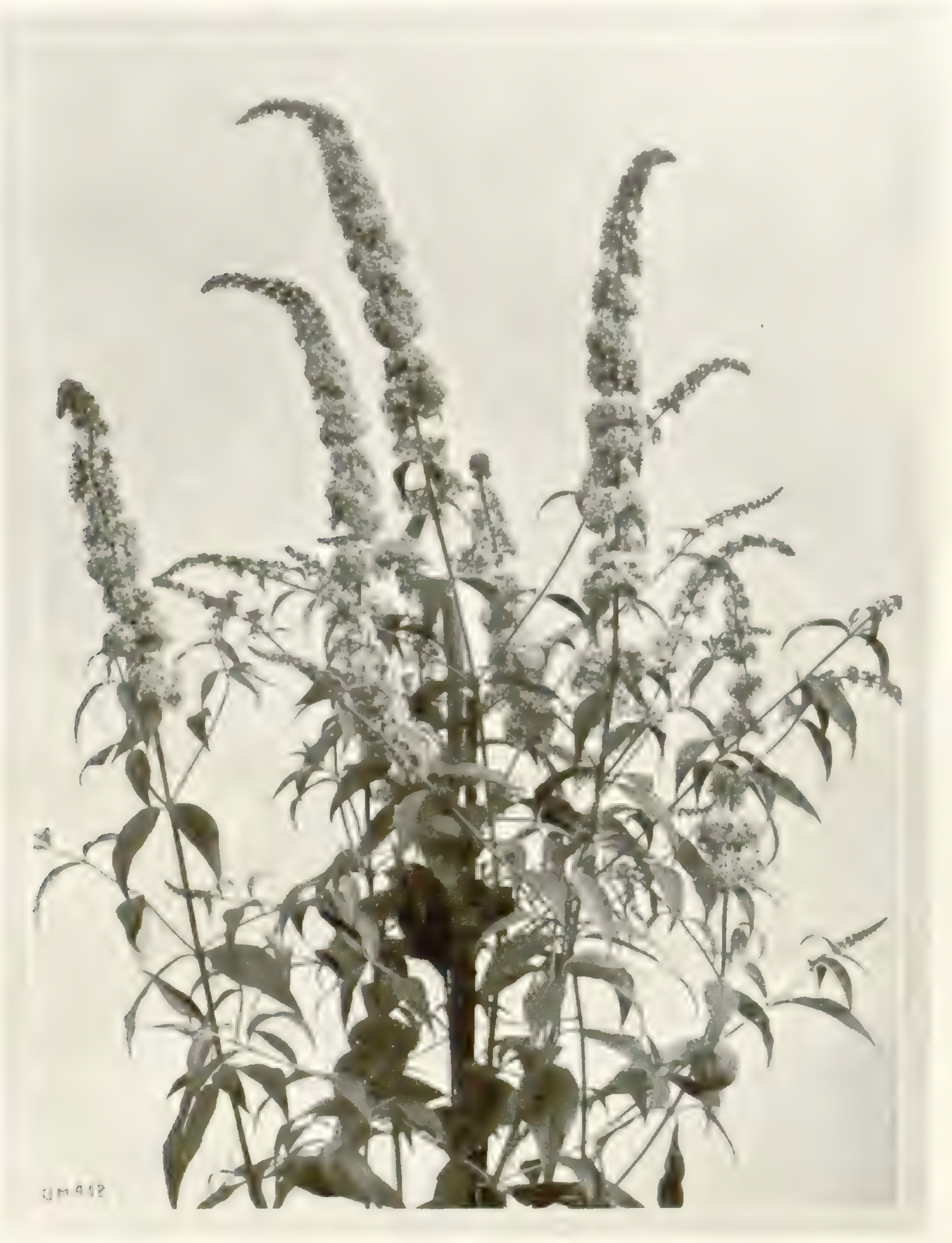
The following comprise a few first-rate warm house kinds, namely, Nephrolepis elegantissima, N. exaltata, a very fine and robust variety, N. tripinnatifida, N. davallioides furcans, Gymnogramma schizophylla gloriosa, Adiantum concinnum and A. caudatum, Davallia dissecta and D. fijiensis, Goniophlebium appendiculatum, G. subauriculatum. The undermentioned greenhouse kinds are of great merit: Pteris serrulata major cristata, P. longifolia and P. moluccana, Davallia bullata, D. Veitchianus and D. tenuifolia, Platycerium alcicorne, Adiantum cuneatum var. grandiceps, Asplenium flaccidum, A. flabellifolium, and A. macrophyllum. The woodwardias are represented by W. radicans cristata and W. orientalis, and in conclusion let good healthy plants, preferably in six-inch pots, be employed for filling baskets, so that a fine effect may be produced within a short period, in fact, beautiful specimens by the end of the season.

WALTER H. AGGETT.

BUDDLEIA VARIABILIS VAR. MAGNIFICA.

The old Buddleia variabilis of gardens was at one time considered to be a decorative plant of exceptional merit, but since Messrs. Veitch, of Chelsea, through the agency of their collector, Mr. E. H. Wilson, succeeded in introducing several improved forms, it is looked on as little better than a weed. The variety Veitchianus is a remarkable plant, producing inflorescences a couple of feet long of rosy-lilac flowers, but magnifica is even better than that, for the flowers are richer in colour, and, if anything, the inflorescences are larger. It also has the advantage of flowering a fortnight later. In August, four years ago, the Floral Committee of the R.H.S. thought so highly of it that it was unanimously awarded a first-class certificate. To obtain the most satisfactory results from this and other forms of B. variabilis, rich loamy soil should be provided, and the plants be cut hard back each spring, so that young, strong shoots are obtained each year. An annual top dressing of rich manure is also helpful. It is a mistake to keep the same plants for many years, as the best results are obtained from moderately young specimens. The illustration given herewith of the upper portion of a young plant indicates the splendid development of the inflorescence when the growth is vigorous.

D.



BUDDLEIA VARIABILIS VAR. MAGNIFICA

Grown as a pot specimen, in which form it is of much value for conservatory decoration during August. The colour of the flowers is rich rose-lilac.

PINE APPLE CULTURE.

Those who have lived a sufficient number of years will know that the pine apple is now cultivated in few British gardens, compared with our younger days. Even in the Royal Gardens at Frogmore, where pine apples were for many years especially well represented, the culture has, I believe, been discontinued. If, however, notwithstanding this, one can judge from the increasing number of enquiries for suckers, and also for advice on the management of the fruits, there appears to be some symptoms of a revival of their culture in our gardens. Imported fruits cannot by any means favourably compare in quality with the good British grown Queen, and I therefore make no apology for presenting a few brief remarks upon the chief points that should be considered in pineapple culture.

So far as houses or pits are concerned, there is no reason why these should cost more than those commonly employed for melons, cucumbers, or tomatoes, and those at The Hendre are of this description. The chief points of importance to consider are shelter from cold winds, plenty of sunlight, means of ventilation, and provision for an adequate degree of warmth in the atmosphere and beds, without having to unduly heat the hot-water pipes. The most commonly come-at-able plunging material is leaf-soil, and this will last for many years, provided a little fresh material is periodically added to it in order to keep the beds up to their desired level. The pots can be more firmly embedded, and consequently kept upright, and in a more equable degree of temperature in this material, than they can be when plunged in either fresh leaves or tan.

With reference to compost, we were lately informed that a widely known skilful gardener grew the best pineapples he ever had in refuse from beneath the potting bench. I would, however, advise those who think of adopting this method, to be certain they have the right kind of material beneath the bench. The soil we use is a light, poor, turfy loam, skimmed from the surface of stony land in the Forest of Dean. This is stacked for a few months before being used, and is then roughly torn in pieces, has its fine particles removed, and a little bone-meal or some similar fertiliser added to it; while particular care is taken that it is in a tolerably dry state.

The foundation of successful pineapple culture is laid by securing good suckers, and it is quite as important to pay careful attention to these while they are attached to the parent plants, as it is to do so at any other stage of their development. They should have firm, sturdy growth, and not be severed from their parents until they commence to push roots. Before being potted, which, in the case of Queens, should be done early in September, they should be prepared for the operation by having a few of their short bottom leaves removed, and their rough base cleanly cut away. Clean, properly drained seven-inch pots should be used for strong suckers, and the compost should be firmly rammed around them. Plunge the pots in a bed where the temperature is about 85 degrees. With careful attention to routine work the suckers will develop into sturdy, well-rooted plants by the middle of November, and from then until the end of February they should be rested by keeping them with soil tolerably dry, in a moderately dry atmospheric temperature of from 55 to 60 degrees.

Suckers treated as advised will be fit for their fruiting pots—12 inches in diameter—about the end of February, and in shifting them see that the balls of soil and roots are first well moistened. Entirely remove a few of the bottom leaves before turning them out of their pots. Use clean, properly drained pots, and ram the compost firmly. The plants should be so placed in the pots that at the completion of potting the old surface soil is covered with about two inches of fresh compost. Plunge the plants two feet apart in a bottom heat of about 85 degrees.

During the spring and summer close attention must be paid to ordinary details, such as ventilation, light, shading from powerful sunshine, atmospheric moisture, and the removal of suckers as they appear; while, above all, the watering of the plants must not be neglected. Be careful that the soil does not remain in a very wet condition, and especially is this necessary when the plants are newly potted, and before their roots have taken possession of the new soil, but as soon as this has taken place a little (enough to well stain it) Peruvian guano should be mixed in the water each time the plants are watered, and sufficient to wet the soil through will be needed about once a week or ten days. Under this treatment the plants will make satisfactory progress, and attain an ample fruiting size by the middle of October. During winter the treatment recommended for suckers for that period should be followed.

It is not advisable to commence forcing until the beginning of January. The night temperature should be increased to about 70 degrees, with a corresponding rise by day, and similar treatment to that recommended for young plants should be followed until the fruits commence to colour, when in order to improve the flavour and colour of the fruit, watering must be discontinued, the atmospheric moisture considerably reduced, and the ventilation of the house increased, the ventilators being left slightly opened during the night.

I have referred to British-grown fruit being of better flavour than are imported ones. The lack, however, of full flavour in the latter is doubtless owing to the fruits being gathered before they are perfectly ripe. A once valued assistant of ours—Mr. J. Norman Ross, son of the distinguished raiser of new apples, and now manager of an Indian tea plantation—tells me he grows in the open without any difficulty grand fruits of Smooth Cayenne, and these of excellent flavour. T. Coomber.

The Hendre Gardens.

COLLECTION OF SPLENDIDLY-GROWN PINE APPLES.
For which Mr. T. Coomber was awarded a Gold Medal at the Holland Park Show.

Tomato Champion Heavyweight.—When judging fruit and vegetables at the Cambridge Horticultural Society's Show I was much impressed by an exhibit of a dish of ripe and a huge cluster of green fruits of the above-named tomato, which were sent by Mr. John Fuller, of St. Martin's, Guernsey, formerly of Cambridge, and a keen exhibitor at our shows. The variety was raised by the exhibitor, and, judging from the fruits shown, well deserves its name, and should make a valuable variety for market. The fruits were of a nice size and very solid and of good colour.—J. H. Ridgewell, The Gardens, Histon, Cambs.

DWARF GARDEN ROSES.

In this short article I am not writing for the rose expert, but I am hoping to assist those who are not fully conversant with all the desirable varieties of roses now available for garden decoration. There are many varieties that belong to this class which are little known to the owner of a small garden, and even to those of larger pretensions, mainly owing to the fact that many of them are not seen upon the exhibition table owing to their being in some respect unsuited. Many such varieties are distinctly valuable in the garden, as they produce an immense number of desirable blossoms for cutting, and have a highly decorative effect in beds and borders.

CANNA KING HUMBERT.

An effective variety, with red-scarlet flowers and bronzy leaves, which received an Award of Merit from the Royal Horticultural Society, August 17. (See New Plants.)

Countess of Gosford was raised in 1905, and is one of the earliest hybrid teas to flower in the open, the pointed, shapely buds are supported on stiff stems, rendering them all the more valuable for cutting. The large shell-like petals are a salmon-pink rose, with a deeper shade running through each. The base of petals is suffused with saffron-yellow. Dainty has small, neatly-shaped buds, primrose-yellow, each edged and tipped carmine. Dr. Grill is quite one of the best of free-flowering roses for decoration, the blooms coppery-yellow, shaded with fawn-rose. A good buttonhole variety. G. Nabonnand, pale flesh, shaded yellow, with large shell-like petals.

General Gallieni is quite an uncommon variety, not known to some nurserymen. The small pointed buds are a bright cerise with a coppery base, and the reflex of petals bright red. Corallina flowers freely at all times, but especially so in the autumn, when roses are scarce; the flowers are deep rosy-crimson flushed coral. Peace has shell-like petals, pale lemon-yellow, changing to almost white with age. Mrs. Peter Blair, lemon-chrome, with golden-yellow centre; the long pointed buds are freely produced on stiff stalks. Marjorie, white, suffused with salmon-pink, is dwarf, and very free of flowering. Mrs. David M'Kee, creamy-yellow, is decidedly effective. Avoca is a crimson-scarlet with long pointed buds, an introduction of 1907. Betty is so worthy that one almost wishes it could be found in every garden, large or small; the blooms are coppery-rose overspread with golden-yellow, paler as it develops. The foliage, too, is quite bronzed in a young state. Dean Hole, silvery-carmine, shaded salmon, long pointed buds, is a beautiful rose. Dr. J. Campbell Hall, coral-rose suffused white. Dorothy Page Roberts, coppery-pink, suffused with apricot-yellow. Duchess of Portland, white, flushed with sulphur-yellow.

Ecarlate, as indicated by its name, has brilliant scarlet flowers, and it is very free. Frau Peter Lambert, rose, marbled pink. General MacArthur is so attractive that it should be in every garden, bright crimson, sweetly perfumed. Goldelse has a deep yellow centre, and as the blooms expand the colour is paler. This is a very sweetly perfumed rose.

Lady Ashtown is one of the most popular varieties we have, either for the garden or exhibition; its silvery-pink shapely flowers are much appreciated, its freedom of flowering, too, is quite exceptional. Le Progrès has a cup-shaped flower of a rich nankeen-yellow; very free and attractive. Lyon Rose is a remarkable variety in freedom of flowering, and the stiff, erect manner in which the blooms are borne contributes to its effectiveness; coral-red with chrome shading, very distinct and beautiful. Madame Ravary is good both as a standard, or as a dwarf bush, flowering freely; its colour, orange-yellow, is much appreciated. Mrs. Aaron Ward has blooms of a rich yellow hue, and these are borne on long stiff stems. Mrs. Harold Brocklebank is a very free-flowering variety of a soft golden-yellow, with a creamy-white centre. Pharisaer, rosy-white, shaded salmon, free, is very pleasing. Prince de Bulgarie is a soft pink, shading deeper in the centre, and fading to white later. Rev. David R. Williamson has dark velvety crimson flowers, with a deeper shade of maroon, and are of globular form. Richmond is one of the most useful garden roses we have, producing well into the autumn its shapely pure scarlet blooms on long stems.

Sarah Bernhardt is a remarkable variety in point of colour, the blooms being brilliant scarlet-crimson, with blotches of velvety crimson on each large shell-like petal; keeps fresh a long time. William Shean has pure pink flowers, with strong habit, and free.

The following varieties belong to the tea section: Betty Berkeley has long buds, bright red, with a crimson shading. Henry Kirk, deep sulphur-yellow, lighter at the edges, free, excellent for cutting. Lady Roberts is an attractive variety, rich apricot, with a coppery base, free and distinct. Meta, is of crushed strawberry colour, with a suffusion of saffron, fine for buttonholes. Lena is one of the most attractive of newer roses, a glowing apricot, the edges of the petals assuming a primrose-yellow as the flowers expand. Madame Constant Soupert is deep yellow, with an edging of peach, the long pointed buds are thus very attractive. Sunrise has attractive flowers, reddish-crimson shading to fawn and pale salmon. Queen Olga of Greece is a soft rosy-pink, most shapely in the bud. Marquis de Zayas has rose-pink flowers, and those of Madame Maurice de Luze are rich carmine.

E. Molyneux.

HERBACEOUS SENECIOS.

Senecios form a group of strong-growing, vigorous perennials belonging to the natural order Compositæ; they flower, for the most part, during late summer and autumn, and all of them are striking objects in the garden. The majority of them grow and flower freely in the ordinary border, provided the soil is rich and the position not too dry; few subjects excel them for the wild garden, and when arranged in proximity to water, where their roots can obtain abundance of moisture, their growth attains highest development. The cultivation of senecios is of the easiest possible nature. Previous to planting the ground should be dug over and well enriched with manure, while in wild gardens the soil should be loosened some distance beyond the planting line, so that the roots may more readily become established.

These vigorous perennials appear nowhere to greater advantage than when massed in considerable quantity, the value of this system having been demonstrated for some years at Kew, both in waterside planting and under conditions less favourable to their development. A great number of species and varieties of senecios are at present in cultivation; they exhibit great diversity in the forms which the leaves assume, but the range of colour in the flowers is somewhat restricted, being usually some shade of yellow or orange.

Propagation of these giant groundsels is readily effected by seed or by division of the crowns, the former, sown in nursery beds in spring, and subsequently transplanted, will bloom in their second or third year. Division is best carried out in autumn, as the roots of these plants are only dormant for a short time, and at that season they soon become established.

The following short selection embraces the best of the older species, and the most promising recent introductions:

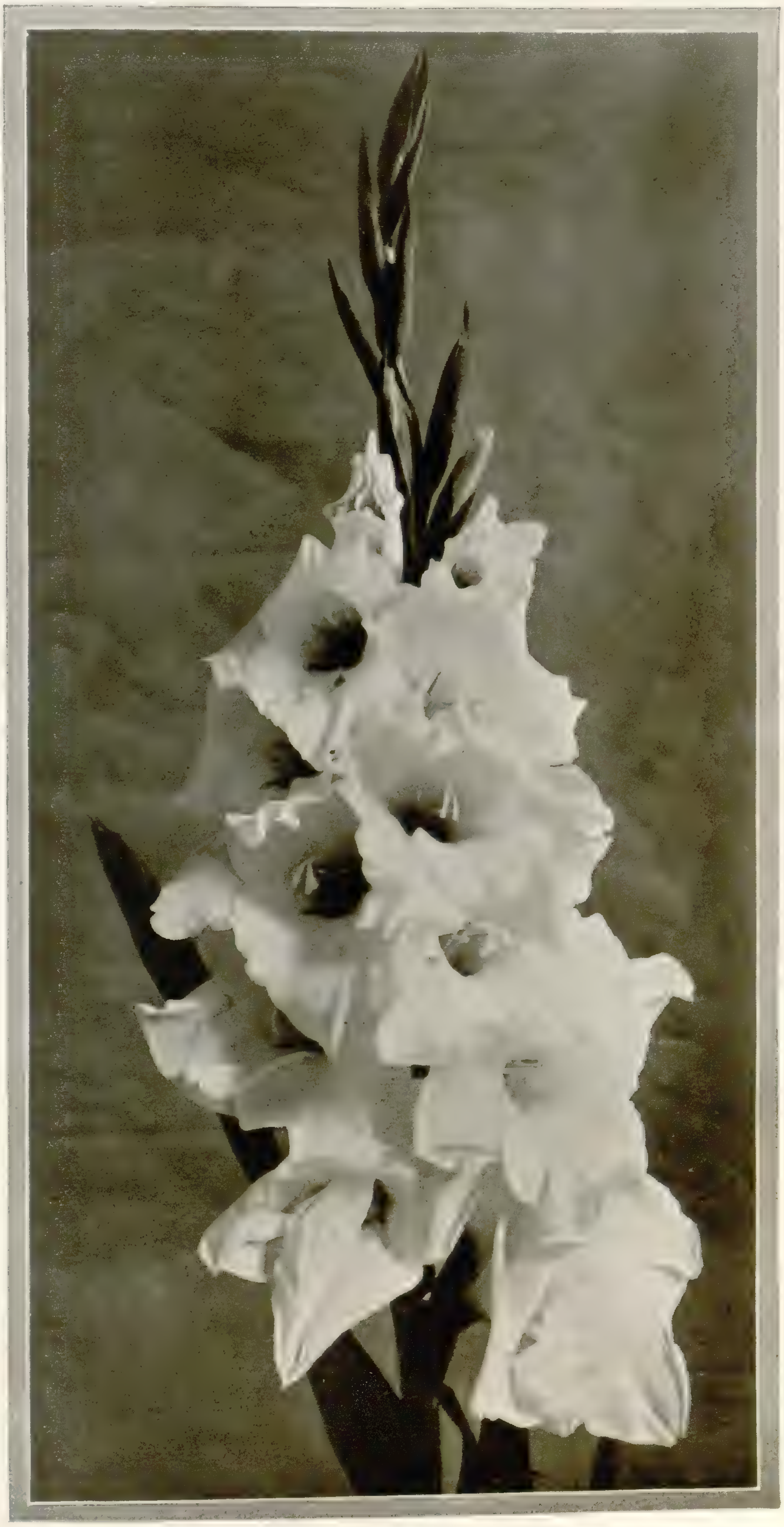
Senecio pulcher is an old species, yet quite indispensable in the autumn border. The ray florets are purple-crimson, and form a striking contrast to the yellow disc. The leaves are broadly lanceolate in form, deeply toothed, and freely covered with a downy tomentum. It grows to about three feet, and flowers from July to September.

S. japonica (Erythrochæta palmatifida) produces yellow flowers in flattish corymbs during July and August. The pinnatifid leaves are carried upon long stalks, giving the plant a handsome appearance; it grows to five feet high.

S. Ledebouri (Ligularia macrophylla) is one of the best and most distinct. The leaves are paddle shaped and glaucous coloured. The flowers are yellow, carried on loose branching panicles some five feet high. It is generally at its best during the latter part of July.

S. doronicum is an old garden plant, flowering in June, and producing golden-yellow flowers upon two-feet stems.

S. tanghutica has erect, leafy stems, bearing dense panicles of golden-yellow flowers. Under favourable conditions it attains a height of five to seven feet, flowering during August and September.



GLADIOLUS MISS ADA REEVE.

An exquisitely beautiful pure white variety, with rose marking on the lower segment, which received the R.H.S. Award of Merit, August 17. (See New Plants.)

S. clivorum is a recent introduction from China. It produces large peltate leaves upon long stalks. The flowers are individually large, and of a bright orange-yellow, borne in loose branching corymbs. It grows to a height of four feet, flowering in August and September.

S. Wilsonian is also a Chinese form. The leaves are cordate, carried upon long stalks. The flowers are close set upon erect, unbranched spikes, some four feet in height: they are strong lemon-yellow in colour, making it altogether most desirable.

S. Veitchianus produces bright yellow flowers on two-feet stems. The leaves are cordate, carried on long stalks. This species, in conjunction with the two last-named, are introductions of Messrs. J. Veitch and Sons, through their collector, Mr. Wilson, and add greatly to the value of the group.

Thomas Smith.

Walmsgate Gardens.

NEW PLANTS, ETC.

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DENDROBIUM ACUMINATUM.

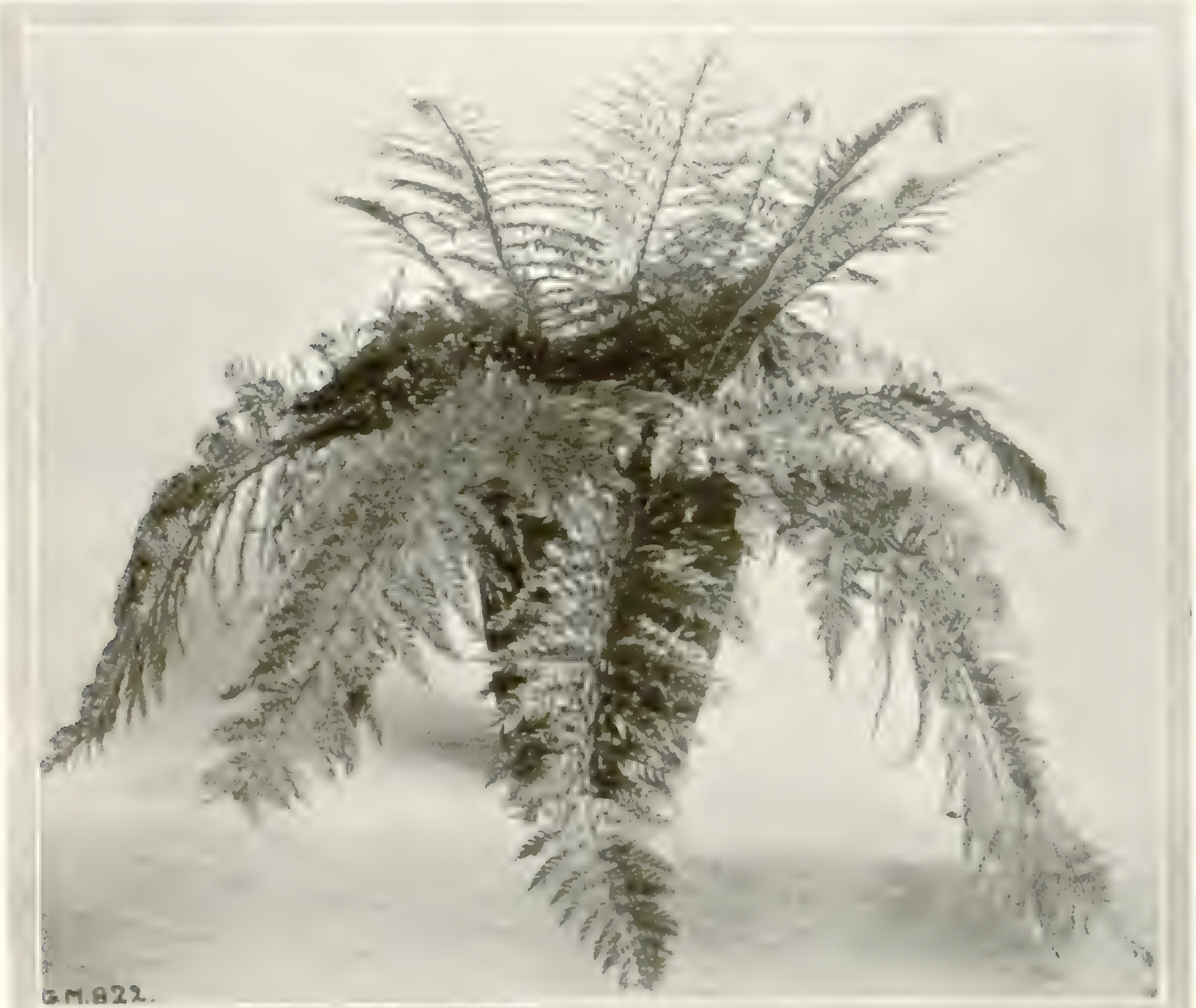
A distinct and handsome species introduced from the Philippine Islands, dwarf in growth and bearing long racemes of handsome star-shaped flowers about two inches in diameter; the petals and sepals and lip are rich pink with crimson base. F.C.C., R.H.S., August 17. Messrs. Moore, Lim., Rawdon, Leeds. An illustration of this beautiful species was given in our issue of the 21st inst.

CIRRHOPETALUM PULCHRUM CLIFTONI.

A beautiful variety of this handsome species; the flowers are borne in large umbels and freely spotted with brilliant rose on a cream-coloured ground. F.C.C., R.H.S., August 17. Messrs. Charlesworth and Co., Haywards Heath.

ODONTOGLOSSUM GOODSONI.

An exquisitely beautiful hybrid obtained from a cross between O. Uro Skinner and Charlesworth's variety of O. Pescatorei. The petals and sepals are roundish and freely spotted and blotched with purple on a white ground. F.C.C., R.H.S., August 17. Mr. H. S. Goodson, Fairlawn, Putney (gardener, Mr. G. E. Day).



POLYSTICHUM ACULEATUM PULCHERRIMUM PLUMOSUM.
An elegant fern exhibited at R.H.S. meeting, August 17, when it received an Award of Merit. (See New Plants.)

LÆLIO-CATTLEYA BLACK PRINCE.

An attractively coloured hybrid between L.-c.Bletchleyensis and C. Hardyana. The flowers are of medium size, the sepals and petals deep rose, and the lip rich vinous red. A.M., R.H.S., August 17. Mr. H. S. Goodson.

LÆLIO-CATTLEYA INVINCIBLE.

A remarkably handsome hybrid with L.-c. Dominiana and L.-c. Bletchleyensis as its parents; the flowers are large, the sepals and petals deep rose, the lip rich claret colour. A.M., R.H.S., August 17. Messrs. Sander and Sons, St. Albans.

LÆLIO-CATTLEYA JASON.

A distinct hybrid derived from L.-c. Massangeana and C. Dowiana aurea, more remarkable for its rich colour than for its form. The flowers are large, the petals and sepals rich yellow, and the lip brilliant crimson-purple. A.M., R.H.S., August 17. Lieut.-Col. G. L. Holford, C.I.E., C.V.O., Westonbirt, Tetbury (grower, Mr. H. G. Alexander).

VANDA CÆRULEA DREADNOUGHT.

A magnificent variety of this beautiful orchid, the flowers are very large, and the sepals and petals are pale blue, very distinctly netted deep blue, the lip deep blue. A.M., R.H.S., August 17. Messrs. Sander and Sons.

ASTILBE RIVULARIS GIGANTEA.

A robust form of this handsome moisture-loving plant attaining a height of about five feet, and producing a profusion of the cream-coloured flowers. A.M., R.H.S., August 17. Mr. Amos Perry, Enfield.

POLYSTICHUM ACULEATUM PULCHERRIMUM PLUMOSUM.

An exquisitely beautiful variety raised from the same set of spores as the two forms for which Mr. C. T. Druery received first-class certificates early in the year. It has the general habit of these, but the fronds are more plumose, and it is perfectly distinct from these, as from all other forms of the species. A. M., R.H.S., August 17. Mr. C. B. Green, Acton.

CANNA KING HUMBERT.

A dwarf-growing variety of much merit, both for pot culture and flower garden decoration. The leaves are rich bronze-colour, and the large, finely-formed flowers are brilliant red-scarlet, and borne in fine trusses. A.M., R.H.S., August 17. Sir Trevor Lawrence, Bart., Burford Lodge, and Messrs. J. Veitch and Sons, Chelsea.

ANEMONOPSIS MACROPHYLLA.

An interesting Japanese plant, with compound leaves and producing anemone-like purple and white flowers. B.C., R.H.S., August 17. Mr. Amos Perry.

GLADIOLI.

Miss Ada Reeve. — A beautiful variety, the flowers large, pure white, with small purple marking on the lower segment. A.M., R.H.S., August 17. Messrs. Kelway and Son, Langport.

Lord Alverstone. — An effective variety with finely formed flowers of a rich crimson hue. A.M., R.H.S., August 17. Messrs. Kelway and Son.

DWARF FRENCH BEANS.

The Belfast. — A fine variety, neat in growth and highly productive; the pods large and fleshy. A.M., R.H.S., August 17. Messrs. Dickson and Sons, Belfast.

Cholet. — A compact growing variety producing a profusion of large fleshy pods. A.M., R.H.S., August 17. Messrs. Vilmorin and Co., Paris.

Excelsior. — A distinct variety remarkable for its productiveness and the large size and handsome appearance of the pods. A.M., R.H.S., August 17. Messrs. Barr and Sons, King Street, Covent Garden.

Evergreen. — A distinct, handsome, and heavy-cropping variety; the growth is compact, and the long straight pods are thick and fleshy. A.M., R.H.S., August 17. Messrs. Sutton and Sons, Reading.

IMPATIENS HAWKERI.

A handsome species with brilliant scarlet flowers, introduced about 23 years ago from New Guinea, and now well known. This and the closely allied I. Herzogi are the most easterly members of the Balsam family in Asia, from which continent and its island about 500 species are preserved in the principal European herbaria. The partiality of the begonia mite for this balsam has so greatly hindered its cultivation that it is not often met with in gardens. Bot. Mag., t. 8247.

MICROLOLOMA TENUIFOLIUM.

A distinct species introduced from Port Elizabeth, South Africa, a few years since; it is of dwarf, slender habit and bears crimson flowers. It requires greenhouse treatment, but it has little horticultural value. Bot. Mag., t. 8248.

ARBUTUS MENZIESI.

A distinct and handsome tree which has long been in cultivation under the name of Arbutus procera; one of the finest known specimens being that in the gardens of Mr. J. R. Anderson, Basset Wood, near Southampton, which is 50ft. high. There is a well-developed tree about 20ft. high on the north side of the broad walk at Kew, where it is quite hardy. It bears large clusters of white flowers, which are followed by red fruits, and is conspicuous by reason of its cinnamon-coloured bark.

STROPHANTHUS PREUSSI.

An interesting tropical climber from the Gold Coast. The flowers are borne in clusters, the corolla yellowish white, and the points of the corolla lobes, which contract into slender tails twelve inches or more in length, are bright red. While attractive when in bloom the species is less valuable horticulturally than either S. grandiflorus or S. gratus. Bot. Mag., t. 8250.

DENDROBIUM BRONCKARTI.

A handsome species, closely allied to D. thyrsiflorum and bearing large pendulous racemes of rose-pink flowers, marked on the lip with golden-yellow. As in the case of the other species belonging to the same group, it is of comparatively easy culture, and blooms freely. It is a native of the mountains of Annam in Indo-China. Bot. Mag., t. 8252.

DEUTZIA SETCHUENENSIS.

A beautiful species, vigorous in growth and profuse in flowering, that would be a most valuable addition to hardy shrubs remarkable for the beauty of their flowers, were it not for the susceptibility of the young growth to injury from spring frosts. The flowers are white and produced in rather large racemes. Bot. Mag., t. 8255.

LARIX OCCIDENTALIS.

A distinct larch, originally collected in the Blue Mountains by Nuttall, where it attains to a height of about 250 feet. The American larch is receiving considerable attention from British foresters at the present time, as it is hoped that it may prove useful as a substitute for the European larch, whose value over a wide area in this country is greatly reduced by its susceptibility to the attacks of Peziza Willkommi. Although less rapid in growth than the European larch its progress is not slow, as indicated by the fact that there is at Kew a tree 36ft. high, with a trunk 26in. in girth near the ground, which was planted in the seedling stage in the autumn of 1881. Bot. Mag., t. 8253.

PYRUS PASHIA VAR KUMAONI.

A glabrous variety of moderate stature, and producing a profusion of flowers which are pale pink when opening and pass to pure white in process of development. The flowers are borne in compact clusters, and the tree is very attractive when in bloom. This form is a native of Kumaon, and is found between 5,000 and 8,000 feet above the sea level. Bot. Mag., t. 8256.

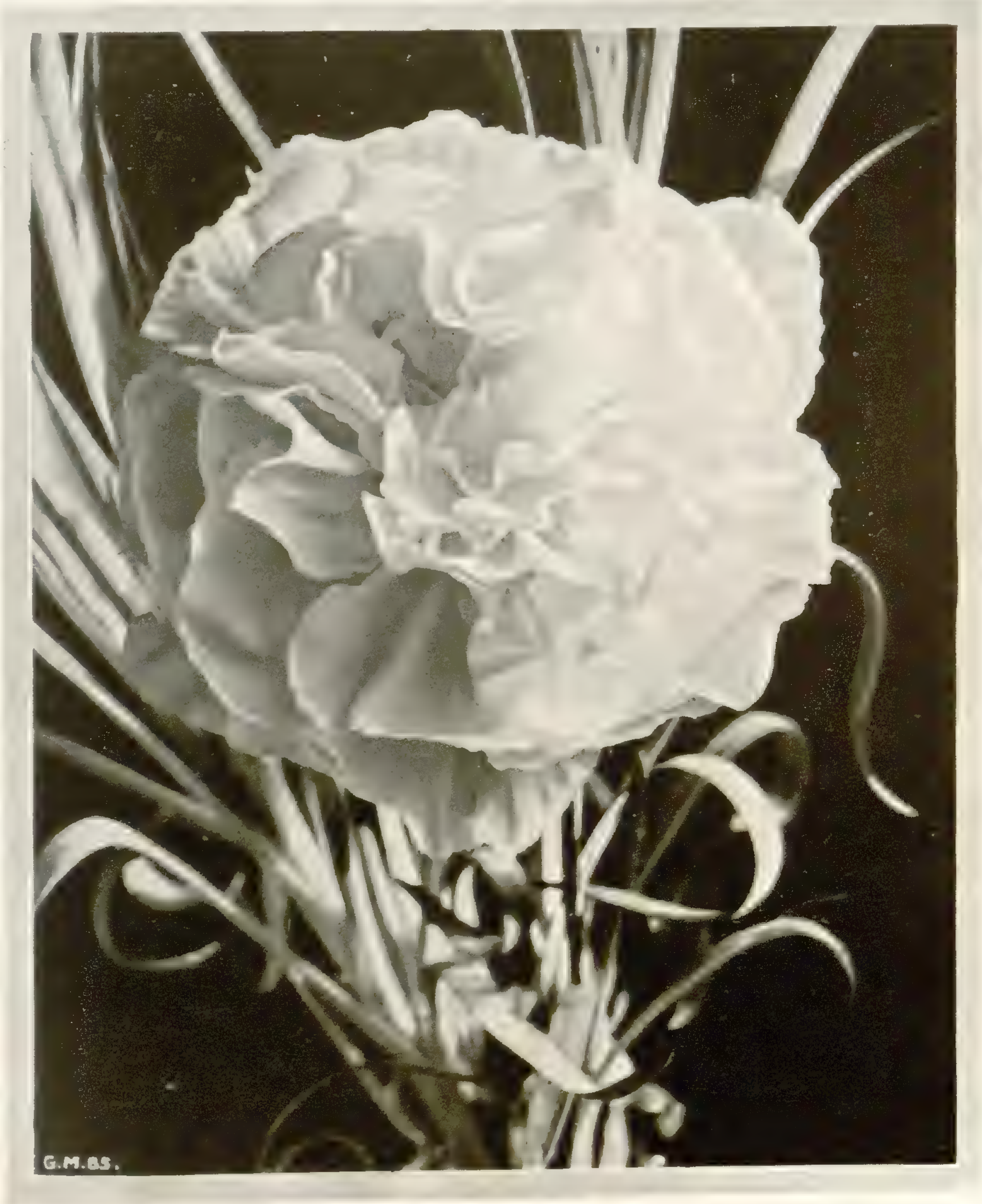
CARNATION QUEEN OF SPAIN.

We have on several occasions during the present summer had an opportunity of seeing the fine new tree carnation that has been introduced by Messrs. J. Backhouse and Son, of York, and have been so impressed by its merits, that in the interest of our readers we have considered it advisable to give an illustration of a typical bloom. The plant is vigorous in growth and remarkably free in flowering, and the blooms are of large size and fine form, the petals of great substance, and the colour is a rich shade of canary yellow. The variety has the additional recommendation of a non-splitting calyx, and this, it need hardly be said, adds immensely to its value whether grown for conservatory decoration or the supply of cut flowers. Not only do flowers with a non-bursting calyx retain their form throughout, but they last much longer, and are more useful for decorative purposes generally. Queen of Spain is so thoroughly good in all respects that it should be found in all gardens in which the tree carnations have a place.

RHODODENDRON FALCONERI.

Though by no means a large-flowered rhododendron, R. Falconeri is one of the most interesting and attractive of the Himalayan species, and everyone who delights in the rarer flowering trees and shrubs endeavours to cultivate it. Unfortunately it is only hardy in the more favoured parts of the United Kingdom, such as Cornwall, South Devon, South Wales, and Southern Ireland, hence in other districts it needs the protection of a cool house. In its native Sikkim R. Falconeri often reaches a height of 30ft., and it is stated to often have a trunk 2ft. in diameter. The large thick leaves are very attractive, especially on the under surface, which is densely clothed with bright red-brown down. The white flowers are closely set in comparatively small round heads, but a plant that is doing well flowers very freely.

R. Falconeri was introduced from Sikkim in 1850. In many parts of Cornwall fine specimens may be seen in the interesting gardens of that county. At Tremough, near Falmouth, where rhododendrons do so well under the care of Mr. Gill, there are several fine examples, which are highly attractive in their season of flowering.



NEW TREE CARNATION QUEEN OF SPAIN.
A beautiful variety, with finely-formed flowers of a rich canary-yellow colour.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

ODONTOGLOSSUMS.—The majority of the plants of O. crispum are now in an active state of growth, and many of the plants will, during the next few weeks, reach the stage of growth when the new pseudo-bulbs commence to form. It is at this period that many of the plants commence root action, and are in such a state that repotting requirements may be best attended to. In dealing with the more rare and valuable odontoglossums, the experience of those in charge of them will have led them to observe that the plants do not all root at the same stage of growth. Some root freely at the same stage as that mentioned above, while others do not commence root action until the pseudo-bulb has reached maturity. It is, therefore, essential in dealing with rare or valuable forms to know something of their peculiarities in this respect. There can be no doubt that the best time to attend to repotting requirements is at the time when root action is commencing, by so doing the plants are enabled to become more rapidly established, and thus avoid the possibility of injury from shrivelling. A general rule may be observed where there are large numbers of plants to be dealt with, but no hard and fast lines can be laid down that may be applied to the whole. With regard to general repotting, we find the majority of plants at the rooting stage during August and September, and as the days are shortening, and the sun's power becoming less, the conditions outside may be regarded as favourable, but it must always be borne in mind that O. crispum makes its growth and flowers at different seasons of the year, and we have to give the treatment according to the circumstances of the cases. While holding the belief that very little danger will ensue by repotting at any season of the year, providing the plants are in the proper condition for repotting, seasons like the spring and summer we have recently passed naturally affect the condition of growth, with us they are three weeks later in their growths than is the case in average years, so that potting in many cases will have to be delayed accordingly until the plants are ready. In repotting odontoglossums one of the principal considerations should be the selections of proper potting composts. I do not consider it advisable to repot annually after they require more space than the smaller size of pots, so the material selected for potting should be of a lasting nature. There is nothing better or safer to use than good fibrous peat and chopped sphagnum moss, two parts of the former to one of the latter, intermixed with a liberal amount of silver sand and finely broken crocks. The pots should be filled to about one-half their depth with chopped bracken roots. Water thoroughly as soon as repotting is completed, and carefully shade from strong glaring light. Keep the atmosphere heavily charged with moisture by damping the floors, staging, etc., two or three times a day.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

CONSERVATORY.—Where bougainvilleas are planted in the conservatory border they should be now making a good display, and plenty of liquid manure should, where practicable, be given them to keep the young pushing growths going. All dead flowers should be removed, and the straggling growths be tied in as becomes necessary. This advice also applies to all kinds of conservatory climbers; many of them will now be going out of flower, so that all dead flower trusses should be removed, and, when possible, a slight thinning of the growths will benefit the plants growing underneath them. This particularly applies to such free-growing plants as habrothamnus, tacsonias, abutilons, and cobæas.

GREENHOUSE PAINTING.—As many of the summer-blooming plants are on the wane, and the weather warm enough to put them outside or in frames, a favourable opportunity is afforded of having interiors of some of the houses painted. The woodwork will now be dry, and in a good condition for painting. If the work is done at once the houses will be clean and ready for housing the bulk of the winter stock by the end of September. As regards colour, there is nothing that looks so well as white, with the ironwork picked out in dark blue. Some prefer darker shades, but if the white shows the dirt quicker, it always looks well when a little soap and warm water has been expended on it.

MIGNONETTE AND SCHIZANTHUSES.—Where early batches of these beautiful spring-flowering plants are required a sowing of seed of each should be made at once, to be followed a fortnight or three weeks later by another sowing. I prefer to sow mignonette seed in the pots in which the plants are to bloom, and the most suitable size pots being 48's or 32's. Use a compost consisting of good turfy loam and sand, with a very little leaf-soil added. Enough sand must be used to keep the whole quite porous, and to obtain really good mignonette the soil must be made very firm before sowing. During the early stages growth will be somewhat slow, but this is of no consequence, as the plants will make up for it when they become well established. Sow thinly, and thin out the seedlings as soon as they are large enough, leaving five or six plants in each pot. As regards varieties, Machet is undoubtedly the best for pot culture, although if one requires to produce large specimens by pinching and potting on, then Miles' Hybrid Spiral will be preferable. The seed of schizanthuses should be sown in large 60's or 48's. Winter them in these pots, and thin as advised for the mignonette. In each case after sowing the seed the pots should be stood in a cold frame, preferably in a semi-shady position, until the advent of cold weather, when they should be removed to a shelf in a cool greenhouse. There are many types and varieties of schizanthus available, but for general decoration the two I like best are S. pinnatus roseus and S. pinnatus roseus compactus. The flowers of these are of various shades of rose-pink, and, given fairly generous treatment they make good plants, and not too dense when in bloom.

CANNAS AND BEGONIAS. — Where named collections of these are grown, before the flowering season is quite over they should be examined to see if all are correctly labelled, as no matter how careful one may be in this respect there are often a few that become mixed. In the case of cannas, or any other plants that are increased by division, this one or two may the following season be one or two dozen, hence the necessity of keeping a close watch on them.

GLOXINIAS.—Early batches of these will be now quite dried down, and should be turned over on their side in some sunny position. Others not so forward should be given plenty of liquid manure until the leaves begin to change colour, thus ensuring good strong corms for next season.—THOMAS STEVENSON, Woburn Place Gardens, Addlestone.

THE FLOWER GARDEN.

SUMMER BEDDERS.—Within the next three weeks the propagation of the majority of subjects suitable for next summer's bedding should be propagated by cuttings, as the earlier this can be accomplished without disfiguring the beds the more successfully will these root and become established. The various varieties of bedding pelargoniums should, as far as possible, be inserted singly in small pots, using a sandy compost. Endeavour to procure the cuttings with hardened and well-ripened growths, insert very firmly, well water them in, and place in an open sunny position, or, better still, in unheated frames. The frames have the advantage that the lights can be placed over the cuttings in case of continuous heavy rains. The propagation of other subjects, such as verbenas, alternantheras, iresines,heliotropes, and mesembryanthemums,should also be proceeded with, and the cuttings of these are best inserted in five-inch pots, dibbling eight or ten in each. The soil should be fine, and contain a liberal proportion of silver sand. These should be well watered to settle the soil about them, and be placed in an unheated frame, as near to the glass as is possible, and kept close and shaded. Spray them with the syringe when the weather is favourable, and do the best to encourage them to remain in a fresh condition, and to speedily root. Fuchsias should also be treated in this way, placing five or six cuttings in each pot. Excellent hybrid varieties for bedding are Thalia, Mary, And. H. Henkel, Coralle, and Gottingen. These are splendid plants for either bush or standards. Take also cuttings of Calceolaria Burbidgei and C. amplexicaulis. These are excellent yellow-flowering subjects for bedding, and far superior to the old shrubby kinds. Cuttings of the latter, however, should be taken later on, and struck in frames in fine soil, treating in the same way as pentstemons and violas.

PENTSTEMONS.—This has been an ideal season for these charming summer and autumn flowering plants, and to ensure their continuing in bloom satisfactorily until frost intervenes, the soil must be kept thoroughly moistened, and liberal supplies of liquid manure, properly diluted, will assist them very materially to continue in bloom, and the quality of the flowers will be much improved. The plants should be kept free from weeds, the surface soil constantly stirred with the Dutch hoe, and all the principal growths should be kept looped up to the central stake. Seedlings from a good strain will give an immense amount of pleasure, as each day up to this date one watches with interest the unfolding of the flowers, and frequently some quite new and improved varieties are the result. These should be carefully marked and propagated, and if it is the intention to save seed, all inferior varieties should be rooted out immediately these are noted, and the most promising kinds carefully fertilised immediately the flowers are sufficiently advanced.

DAHLIAS.—These are now making a brave show, and will continue to do so during open weather. The growths should be kept securely fastened, or gales and winds will be certain to do irreparable damage. The roots must be kept well supplied with moisture, both clear water and liquid manure being necessary. Trap earwigs by placing short lengths of bean-stalks about the plants.—E. BECKETT, Aldenham House Gardens.

HARDY FRUITS.

PLUMS.—This has been a most exceptional season as regards the attack of aphis upon these fruits. Notwithstanding the frequent sprayings which the trees have been subjected to it has been impossible to quite clear the trees of the pest. As the fruit approaches the ripening stage spraying with an insecticide must be suspended until after the fruit is gathered, this gives the aphis another opportunity to again become established; therefore as soon as the trees are cleared of their fruit the young wood should have special attention; tie in any shoots that have been reserved on wall trees, and pinch back all sublaterals to one leaf. Afterwards give the trees a good forcible syringing with an insecticide, repeating this after three days; this will in most cases clear the foliage from aphis, but daily washing of the trees with the hose pipe, or garden engine, during the afternoon will assist in keeping the foliage free from insect pests, and will also cleanse the trees from honeydew and the filth left by the aphis.

BLACK CURRANTS, and in a lesser degree the red and white varieties also, have suffered very much from the same cause as the plum. In a few instances I have noticed trees which have been completely denuded of their leaves, with the consequent loss of fruit. These should have similar treatment to that advised for plums, the object being to cleanse them from aphis, and to endeavour to maintain the foliage in a healthy condition as long as possible, that the buds may be well developed by the autumn.

WALL TREES.—By reason of the multiplicity of work that calls for attention at this season one is apt to overlook the watering of these, but no neglect in this matter must be allowed now. The different kinds of trees are depending on there being plenty of moisture in the borders to assist them in swelling up and perfecting the buds for the next season, and dryness at the roots at this period is often the chief cause of a thin crop the following year. Superficial damping of the surface is of no use, but the borders should be thoroughly soaked throughout the whole medium of the root run. If a light mulching still remains on the borders so much the better, as this will assist materially in conserving the moisture in the soil.

FRUIT ROOM.—This should be thoroughly cleaned out by limewashing the walls and well scrubbing down the woodwork. Keep the room closed during the day, but admit a little of the cool air in during the night.

GRAFTS.—These are growing away well now, and will need some support; remove the clay, and tie some small stakes to the stock in the position to which the young scions are growing, fasten the latter to these to prevent their being broken off by the wind. Remove all growths which emanate from the stock.—GEO. WOODGATE, Rolleston Hall Gardens.

BLIGHTED BEANS.

There has been much outcry in respect to the broad bean of the garden this season, and there has been like complaint from the field also. So many reports come of thin crops and blighted tops that it is presumed the markets have not been overdone with this desirable vegetable this year. Much useful service can be done when they have advanced to the flowering period by removing their tops. This is especially so in a season when aphis troubles abound, for by the removal of the tops a twofold object is accomplished—the pods fill the more quickly, and are less likely to be damaged by high winds. The clearance of the tops with their living freight to the fire-heap gives an assurance of results at once economical and permanent. Instances have come to hand where field crops have been so badly infested as to require early clearance of the ground, for no semblance of a crop appeared. It is not often that the garden affords such instances as these, because, unlike the field bean, they can be attended more easily in the matter of spraying, or, as we have already remarked, their tops carefully removed in baskets and further infestation averted. In bad cases the flowers become attacked, but usually the growing tips are the first to surrender.

W. S.

"CARNATIONS, PICOTEES, AND PINKS," will tell you plainly how to propagate and grow these favourite flowers to perfection. The work is freely illustrated with plates of leading varieties, and explanatory diagrams as to layering, taking cuttings, fertilising blooms, etc. Price 2s. 6d. net, by post, in box, 2s. 10d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

THE CROWFOOT FAMILY.

The crowfoot, or ranunculus family doubtless derives its name from the claw-like aspect of the corms, or rootstocks, of the common ranunculus, as we see them exposed for sale in the autumn, but the family is a very large one, and embraces so many sub-orders and species that this resemblance is by no means general, and the botanist distinguishes it, not by the rootstock at all, but by the number and general arrangement of the floral components. Our most familiar examples are the buttercups of our field, but probably few of our readers would know that these pretty weeds are relatives of all our beautiful clematis, with their splendid blossoms decking their rambling concourse of deftly-clinging foliage, the equally charming anemones of many kinds, from the sweet and lowly flower of the wood anemone, to the gorgeous scarlets and crimsons of the fulgens and St. Brigid strains, the magnificent blooms of the pæonies, and the less attractive, but still charming ones of the hellebores which break the monotony of winter with their hardy inflorescence, defiant of frost and snow.

Nevertheless, despite this diversity and range of form, tint, and habit, they all constitute one great family or order, and present similarities of structure in their flowers which absolutely determine their alliance in the eyes of the botanist. The delphiniums and the Monkshood also belong to the family, which embraces, in fact, something like a thousand species in all, embodied in about forty genera, so that those we have singled out as typical are but a few in a crowd. Plants belonging to this order appear to be mainly, if not entirely, confined to cool regions, occupying in warm countries only elevated habitats, where the temperature is comparatively low. It is a singular fact that despite the great diversity of its members they generally possess either acrid properties or actually poisonous ones.

Thus it is a recognised fact that our familiar buttercup, though it figures so largely in our pastures, and is popularly supposed to contribute to the colour of our butter, is carefully avoided by the cow owing to its bitter and toxic nature, while in the monkshood of our gardens, the deadly poison known as aconite is present, and the leaves of the common wild clematis, the Traveller's Joy, have been used as a blistering medium. All the hellebores are powerful purgatives, and the powder obtained from them is frequently used as an insecticide. This last fact in all probability indicates the real reason why, in the process of evolution of the order, and consequent wide divergence of specific types, these poisonous, or, at any rate, acrid properties have been retained, viz., as a defence against the insect world, and possibly, in a less degree, against the animal world generally. At any rate, in the case of our cows, it is clear, when we watch how the animal sweeps its prehensile tongue around a clump of buttercups, collecting only the adjacent grasses, that its flavour is its salvation.

That it does not, however, render it immune from insect raids is clear, from the fact that we have seen buttercup leaves perforated with leaf miners, and their stalks by the foamy accumulations of the Spittle Fly, a proof that whatever safeguards Nature may contrive for the protection of some of her creations, she does not fail to endow others with sufficient immunity to enable them to continue that struggle for existence which constantly leads to further and, as a rule, higher developments.

Chas. T. Druery, V.M.H., F.L.S.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

Royal Horticultural Society of Aberdeen.

AUGUST 19, 20, and 21.

The members of this society held their annual show on these dates in the beautiful Duthie Public Park, Aberdeen, than which no more ideal spot could be wished for such a display. The entries numbered nearly 1,600, a very slight decrease compared with last year, but this was more than compensated for in the quality of the exhibits. The courteous secretary, Mr. J. B. Rennett, advocate, Aberdeen, made his usual complete arrangements, and the whole of the exhibits were staged in a most attractive fashion. Despite the backwardness of the season, the display was one of the finest ever seen in the eighty-five years' existence of the society, the warm weather and beautiful sunshine experienced during this month greatly assisting cultivators.

POT PLANTS.

In the marquee assigned to pot plants the display was exceedingly rich and varied. The leading honours for the best table of stove or greenhouse plants and cut flowers, arranged for effect, were taken by Mr. A. Douglas, gardener to Mr. Thomas Ogilvie, Kepplestone House, Aberdeen. The centre plant was a large fuchsia, flanked with liliums, and colour was lent by coleus and coxcombs, while roses and sweet peas in vases were introduced to add to the effect. The border was composed of gloxinias and lobelias, interspersed with maidenhair ferns. Mr. John Yule, Fae-me-well, Aberdeenshire, carried off the silver medal and second honours for best specimen plant in flower with a magnificent begonia and a finely-blossomed hydrangea of fine symmetry. Specimen foliage plants were well shown, and here Mr. John Elder, gardener, Norwood, gained the society's silver medal with a finely-grown yucca. Ferns were exceedingly good. For the best four, dissimilar, Mr. Alexander Brebner, Dalhebity, won with four fine adiantums. Mr. Alexander Duncan, Rubislaw Den House, Aberdeen, also won finely in the class for six ferns, three distinct species. Zonal geraniums were a grand feature, and Mr. J. W. Brechin, Ardoe, Aberdeenshire, carried chief honours. Mr. Brechin had also leading place for liliums, with fine Lilium auratum. Mention also must be made in this division of Mr. John Petrie, Crathes Castle; Mr. Gillespie, Aberdeen; and Mr. J. Anderson, Aberdeen.

CUT FLOWERS.

The division devoted to these was undoubtedly the outstanding feature of the show. Numbering some 600 entries, the display given here has probably never been excelled in Aberdeen. Sweet peas were shown in rich profusion, and the variety and charm of their colours added not a little to the beauty of the scene. Mr. John Grigor, gardener to Mrs. Dunbar-Dunbar, of Seapark, Forres, won handsomely for a superb collection of these flowers. The same must be said of Mr. Petrie, Crathes Castle, for his fine entry of sixteen bunches, distinct varieties, which had to include the following new Spencer varieties, namely, Mrs. Routzahn, King Edward, Queen Victoria, Apple Blossom, Mrs. Sankey, Beatrice, Tennant, and Asta Ohn. Shown in their natural foliage, beautifully built, yet not too heavy, the entry made a capital show. Mr. Crozier, Durris House, Aberdeenshire, was a good second, but his blooms were not so large, nor was his arrangement so good as Mr. Crozier's. Roses made an exceedingly fine display, and Messrs. James Cocker and Sons, Aberdeen, gained the silver challenge cup for thirty-six rose blooms, H.P. and H.T., with a fine collection. Messrs. Adam and Craigmile, Aberdeen, were second, and they also secured first place for twenty-four tea roses with a capital entry. Mr. James Jamieson, Tillery, Aberdeenshire, carried off the silver medal for the best twelve blooms, and Mr. W. Coutts, Ellon, Aberdeenshire, had a similar award for best twelve tea roses. Dahlias were well shown, the silver medal for the best group of pompon varieties going to Mr. W. Brechin, Ardoe, with a splendid arrangement. Mr. Jamieson, Tillery, carried off the trophy for cactus varieties. The season has not been favourable for show or fancy pansies, nevertheless the display was very good, chief honours going to Mr. William Scorgie, Springhill, Aberdeen, and Mackenzie, Buxburn. Mr. Jamieson, Tillery, had a fine entry of gladioli, and he richly deserved his prize. Asters and marigolds were a good average, Mr. Brechin, Ardoe, and Mr. John Grieve, Woodside, taking leading places. Zonal geraniums were good, while carnations and picotees were finely shown by Mr. Alex. Rennie, Easter Skene.

For sprays, bouquets (hand and bride's), buttonhole bouquets, and baskets of flowers the entries were not numerous, but they were very good. Mr. A. Cumming, Granitehill, Aberdeen, had a fine win for lady's sprays. He also led for buttonholes. Mr. Grigor, Seapark, had matters pretty much his own way for hand bouquets (roses) and brides' bouquets. Mr. Strachan, Botanic Gardens, Aberdeen, was first for baskets of flowers. For the best collection of twenty varieties of cut flowers, and fine foliage bedding plants, including annuals, Mr. Douglas, Kepplestone House, was first, Mr. Scorgie, Springhill, making a near second.

The competitions for nurserymen and florists, although somewhat few in number, attracted considerable interest in the cut flower division. Mr. Alexander Burns, and Mr. A. J. Burns, Newmarket, Aberdeen (father and son), did some very fine work here, with their independent entries. For hand bouquets (coloured) they took all the honours, with fine entries, composed of cattleyas and odontoglossums, with asparagus. For best floral designs they were also first, second, and third with their several entries, which were chiefly composed of Lilium Harrisi, pancratiums, lapagerias, stephanotis, and white roses, with asparagus as foliage. These were greatly admired, and reflected not a little credit on the exhibitors. The same gentlemen also showed excellent taste in sprays for lady's dress. Messrs. D. and W. Croll, Dundee, had a capital first for shower bouquets, closely followed by Mr. Burns, sen. Messrs. Adam and Craigmile, Fernielea, gained chief place for tea or noisette roses. They were also first for wreaths, with a superb entry, second and third places being taken by Mr. Alex. Burns. Messrs. James Cocker and Sons led finely in roses with excellent blooms.

FRUIT.

This division formed a very attractive feature of the show. Mr. Grigor, Seapark, Forres, scored with his collection of hardy fruits, comprising cherries (Governor Wood), apricots (Moor Park), gooseberries (Whinham's Industry), gages (Denniston's Superb), pears (Clipper's Favourite), and apples (Nonsuch). The apricots in this entry were exceptionally fine. There were some good entries of strawberries, including dishes of that fine and exquisitely flavoured berry, Aberdeen Favourite. In this class Mr. George McLennan, Fetteresso Castle, Kincardineshire, had a fine win. For cherries, Mr. Petrie, Crathes Castle, took first place with a fine dish of the Morello. Raspberries were a good lot, and here Mr. Brechin, Ardo, took first and second honours. It was the gooseberries, however, that formed the outstanding feature in this division, these being splendidly grown. Mr. Harper, Tullibelton, Perthshire, proved a grand leader with dishes of Leveller, Langley Beauty, Telegraph, and Lord Derby. Mr. Grigor, Seapark, was first with early yellows, and for reds Mr. Petrie, Crathes Castle, led the way. Black currants and red currants were splendidly shown, the leaders being Mr. J. Ferguson, Cluny, and Mr. Harper, Tulliebelton. Grapes were not a large entry, but those forwarded by Mr. McKinnon, gardener to the Countess of Aberdeen, Haddo House, Aberdeenshire, were easily first. He led for best two bunches, distinct, one each, white and black, with fine specimens of Muscat Hamburgh and Muscat of Alexandria. Mr. McKinnon was also first for single bunches, white, with Muscat of Alexandria. Mr. Petrie, Crathes Castle, took first and third prizes for best bunch, black, and he also gained first and second honours for melons with very fair specimens. Apples were not a particularly great display, the season not being favourable.

VEGETABLES.

These made a large and fine display. Mr. Douglas, Kepplestone House, was a capital first for a collection, Mr. Scorgie, Springhill, making a good second. Potatoes were the outstanding feature in this division, the tubers being clean, well grown, and thoroughly ripe. The leading prizewinners, all of whom were first in one or more classes, were Mr. William Coutts, Ellon; Mr. Alex. Brebner, Dalhebity; Mr. J. Ferguson, Linton House, Cluny; Mr. Grigor, Seapark; and Mr. William Lawson, Oakbank, Aberdeen. The last-named gentleman's entries were much admired.

The amateurs and working-class sections were capitally represented, special note having to be made of Mr. George Maitland, Great Northern Road, Woodside, who won handsomely the beautiful silver challenge cup for best table of greenhouse plants with a really meritorious entry.

MISCELLANEOUS EXHIBITS.

Than the display forwarded for exhibition only by Messrs. James Cocker and Sons, Aberdeen, nothing finer has been seen at an Aberdeen show. Messrs. W. Smith and Son, of Burnside and Silverhillock Nurseries, Aberdeen, had an unusually large and excellent display, occupying one of the largest allotted spaces in the show. There was also a fine show of named American tree carnations, from the gardens of Mrs. Smithson, Frendraught, Huntly, where these carnations are grown to great perfection; also a superb collection of begonia blooms grown at the Orphanage, Aberlour. Mr. M. H. Sinclair, seed merchant, Aberdeen, had a very large and attractive exhibit in the cut flower marquee. A very interesting collection of plants and flowers was shown by Messrs. Ben Reid and Co., Aberdeen. Mr. James Robertson, Hadden Street, Aberdeen, had a very finely decorated stand, embracing a large collection of herbaceous plants and hardy annuals.

Unfortunately, the weather, after keeping beautifully fine on the first two days, broke down completely on the Saturday, thereby marring, financially, what was otherwise one of the finest shows held under the auspices of the society.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, AUGUST 3.

Present: Mr. E. A. Bowles, M.A., F.L.S. (in the chair); Messrs. A. W. Sutton, J. T. Bennett-Poë, J. Douglas, W. Hales, G. S. Saunders, and F. J. Chittenden (hon. secretary).

DISEASED WATER LILIES.—Mr. G. S. Saunders reported that he had been unable to discover any insect or fungus pest upon the water lilies sent to the last meeting, and he considered it probable that the condition of the water, which smelt very unpleasant, was the cause of the death of the plants.

SPARROWS AND WATER LILIES.—Mr. W. Hales showed leaves of water lilies with large numbers of scratches upon them, caused by sparrows' feet. The sparrows stand upon the leaves in order to reach the water and scratch the leaves in their endeavour to retain their balance.

POINCIANA REGIA.—From Mr. S. P. Lancaster, of Alipur, Calcutta, came drawings illustrating the variation in the gorgeous flowers of this beautiful plant.

GREEN SWEET PEA.—Rev. W. Wilks exhibited flowers of a sweet pea of a yellowish-green colour. The plants had come true from seed.

MALFORMED PEA.—Mr. E. E. Turner, F.R.H.S., of Coggeshall, sent a flower of the culinary pea showing axial proliferation and various malformations, particularly in producing free stamens and regular petals in some of the small flowers. Mr. Saunders took it for further examination.

CONES OF PINUS SABINIANA.—Mrs. Hadley, of Parkside, Reigate, sent two huge cones of this pine from a tree grown in her garden which had carried five cones.

MALFORMED FLOWER IN LILIUM AURATUM.—Mr. C. E. Shea showed a flower of this species which for the third year in succession produced very narrow perianth pieces, which were green. The plant was very strong, but all the flowers were of this type.

CEROPEGIA SP.?—Mr. W. Ledger showed specimens of ceropegias from his garden. Ceropegia Rendalli, N. E. Brown (Kew Bull., 1894, p. 100, and revised in "Flora Capensis," Vol. IV., 1908, p. 814) belongs to the section having an umbrella-like canopy surmounting the corolla, as in C. Sandersoni, C. Monteiroæ, and the not yet introduced C. fimbriata. The tuber of the plant exhibited was sent without specific name by Mr. Thorncroft, of Barberton, to Mr. W. E. Gumbleton, who presented it to Mr. Ledger. A small twining species with a remarkable flower, originally sent to Kew by Dr. P. Rendall, of Barberton, after whom it was named, in 1894, and since lost. C. barbertonensis, N. E. Brown, n.sp. ("Flora Capensis," Vol. IV., 1909, Addenda and Corrigenda, p. 1,132). The flowers resemble in shape those of C. Woodi and of C. debilis. Plants were raised by Mr. W. E. Gumbleton, from seed received from Mr. Thorncroft. A certain number of the seedling plants produced leaves variegated with pale green along the veins. Both forms were exhibited. C. hybrida, N. E. Brown ("Gard. Chron.," December 8, 1906, p. 383, with figs.). A distinct and large-flowered hybrid (C. Sandersoni ♀ x C. similis ♂) raised in the Botanic Garden at Leiden from accidental insect fertilisation, and the first and only recorded hybrid. The pollen parent was sent to Leiden by Mr. Ledger, who received it from Kew, where it had long been grown as C. Thwaitesi, a Ceylon species, not at present in cultivation. The habit of this hybrid is that of a very attenuated C. stapeliæformis.

AUGUST 17.

Present: Mr. E. A. Bowles, M.A., F.L.S. (in the chair); Messrs. J. T. Bennett-Poë, J. Douglas, L. Crawshay, J. Frazer, G. Gordon, A. Rolfe, G. Saunders, and F. J. Chittenden (hon. secretary).

VARIATION IN SEEDLING CARNATIONS.—Mr. J. Douglas, V.M.H., showed numerous flowers of seedling tree carnations raised from seed saved from self-coloured varieties. He pointed out that among them were several singles in the proportion of about 12 per cent. of the whole, but the greatest peculiarity lay in the large number of striped flowers which were produced. The parents were white, pink, or red, but among the progeny was one with yellow flowers striped with purple.

PROLIFERATION IN GARDEN PEA.—Mr. A. W. Sutton, V.M.H., sent flowers of garden pea from Berkshire precisely like those shown from Mr. Turner at the last meeting.

PROLIFERATION IN CAMPANULA.—Mr. Bowles showed specimens of C. persicifolia with axial proliferation, a number of green foliage leaves growing from the centre of the flower. Some of the shoots, which were from the garden of Mrs. Trotter, Hill House, Wormley, also showed fasciation.

GERBERA NOT FLOWERING.—Heads of gerbera were received, the sender thinking they were from a plant of Gerbera Jamesoni which had failed to produce flowers before seeding, but the heads were from G. Kunzeana, a plant from the Himalayan region, which does not open its flower heads to any extent.

POTATO WITH AERIAL TUBERS.—From Mr. Bevan, of East Finchley, came potato stems bearing tubers in the axils of the foliage leaves, a condition of things frequently following injury to the soft bast tissues, preventing the downward flow of food from the leaves.

DOUBLE SWEET PEAS.—Mrs. A. P. Rigby, of Pentre Mawr, Trefnant, N. Wales, sent several flowers of sweet peas having two or three standards instead of but one. The variation had occurred last year, and seed had been produced from the flowers, which had this year given rise to a proportion of plants bearing double flowers. Other varieties than the first-named had also produced double flowers this year.

WHEAT-EAR CARNATION.—From Mr. B. Nash, of The Gardens, Oakleigh, Cheam, came specimens of the wheat-ear carnation, which, instead of flowers, bears a long series of bracts repeated again and again.

EAST AFRICAN SANDAL WOOD.—Mr. F. H. Seed, F.R.H.S., of the Agricultural Department, Mombasa, British East Africa, sent seed of the East African Sandal Wood tree (Brachylæna sp.), called by the natives "Muhugu." "The seed," writes Mr. Seed, "is as light as thistle down. The natives reported that this tree did not produce seed, but it was found that the thistle down lightness of the seed caused it to be caught on the tops of the long native grass and undergrowth. The Forestry Department has now arrested this loss by clearing the ground around the trees, so that the seed will reach 'mother earth,' and regeneration rapidly takes place. The tree is considerably larger than the Indian sandal."

"One square piece and two small plants were sent to be valued in Bombay Market during the year 1908, and an order was received from a merchant there offering half a guinea a cubic foot."

BRITISH ALPINE PLANTS.—Mr. J. Fraser, F.L.S., showed flowering plants of Saxifraga cernua. The plants bore six flowers and some buds. It was 7in. high, and had ten stems arising from the base. It had been collected at the top of Ben Lawers, and is very rarely seen in cultivation. Numerous bulbils were borne in the axils of the stem leaves, and it is by these the plant is propagated. He also showed Draba rupestris flowering for the second time this year, and flowering specimens of Salix arbuscula herbacea (flowering for the second time this year), and Alchemilla alpina, the latter having flowered continuously since May.

Le Touquet Paris-Plage.

Under the patronage of the National Horticultural Society of France, the local Horticultural Society of Abbeville, and the Société Generale du Touquet, a most interesting flower show was opened at Paris-Plage, near Boulogne-sur-Mer, on August 21. The jury was an international one, and consisted of the Comte d'Applaincourt, President of the show, Messrs. Truffaut, Moser, Leveque, Lozet, Stoneham, Gravereaux, Croux, Harman Payne, Ph. de Vilmorin, Debrie, and Madame d'Applaincourt.

The whole of the arrangements were carried out by M. Henri Martinet, of Paris. The show was held in a walled-in enclosure, which is surrounded by a part of the forest, and was an admirable site. Immediately on entering one could see the artistic way in which the ground was laid out, and the effective planting, which will afford the visitors at Boulogne and other adjacent seaside places to appreciate some of the salient features of French horticulture.

Ornamental shrubs and foliage plants were shown in large numbers, and occupied two sides of the ground. The chief exhibitors were Messrs. Croux, Moser, and Boucher. In great variety were taxus, cupressus, ligustrum, pinus, abies, cedrus, picea, thuja, euonymus, retinospora, hedera, and the like.

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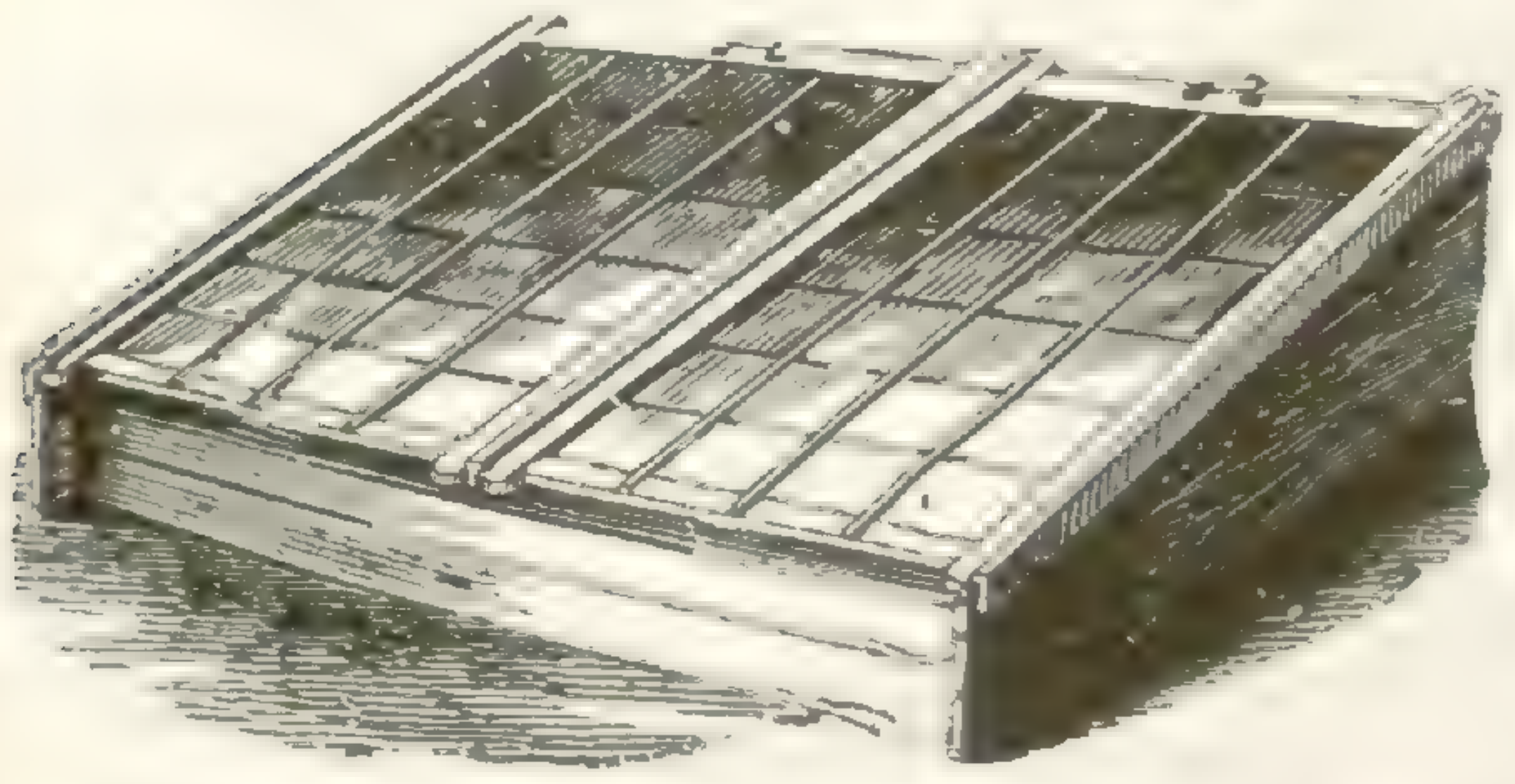

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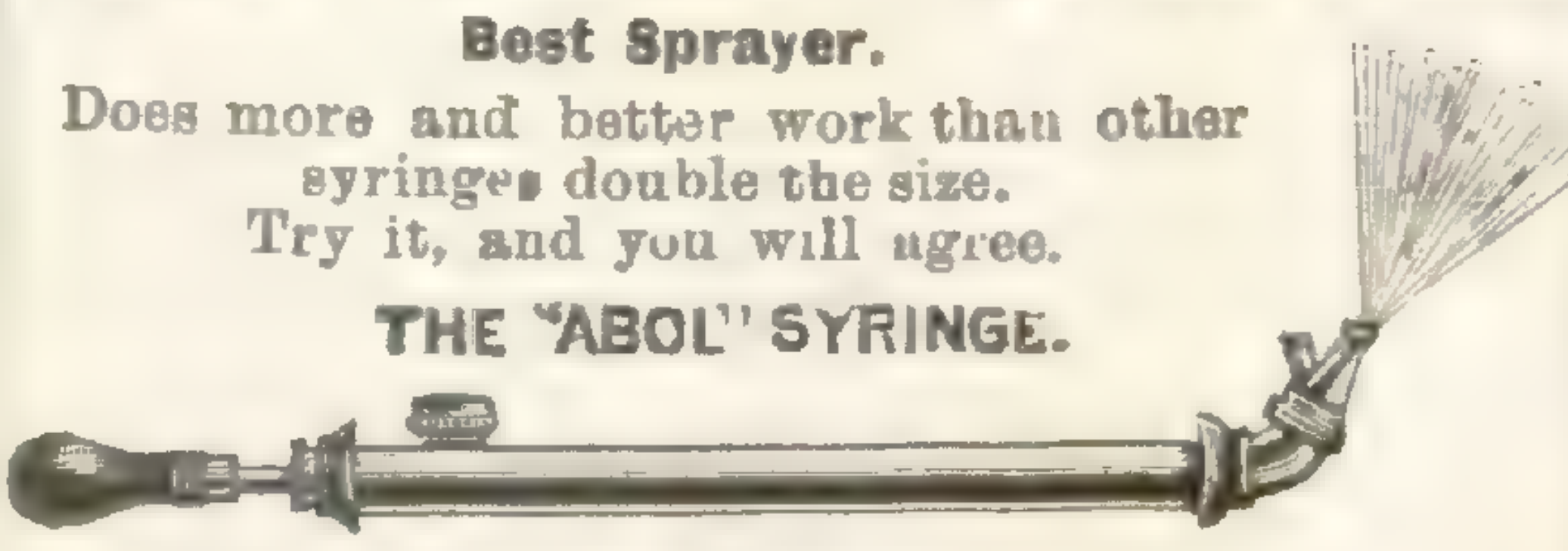

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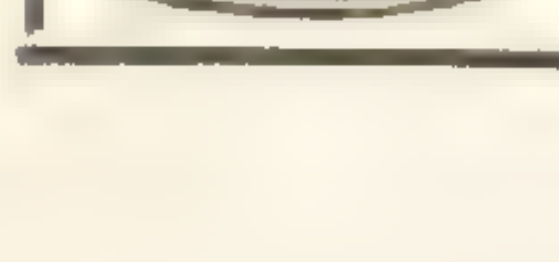

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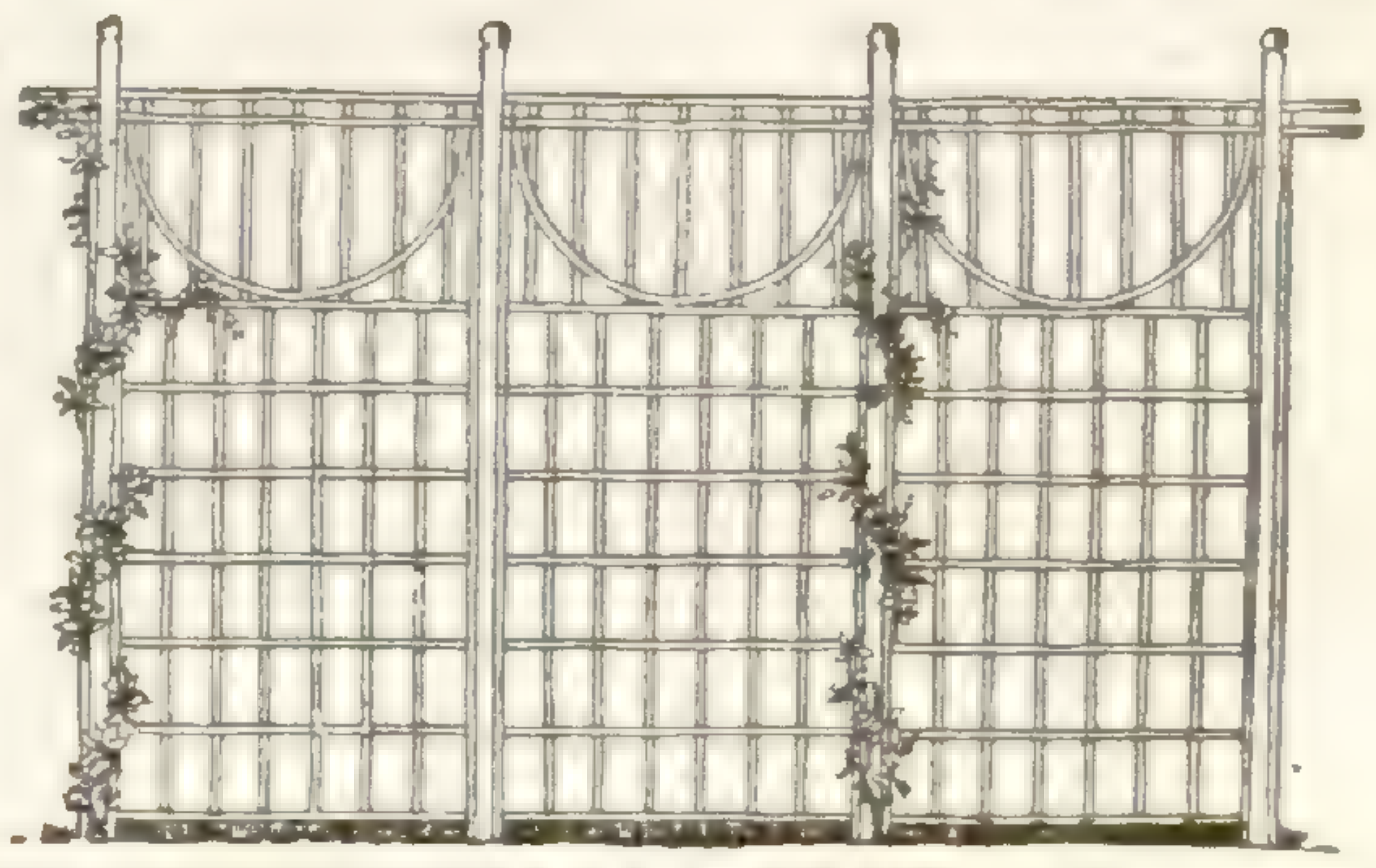

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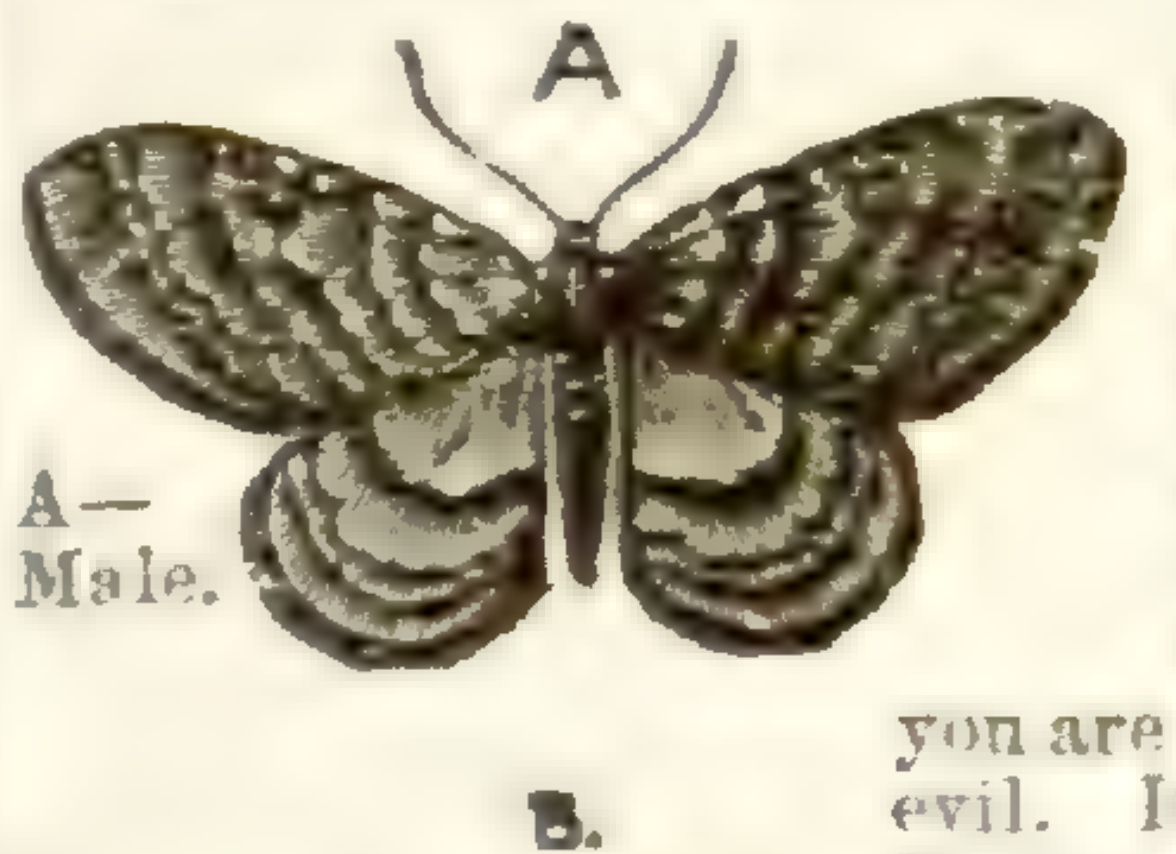
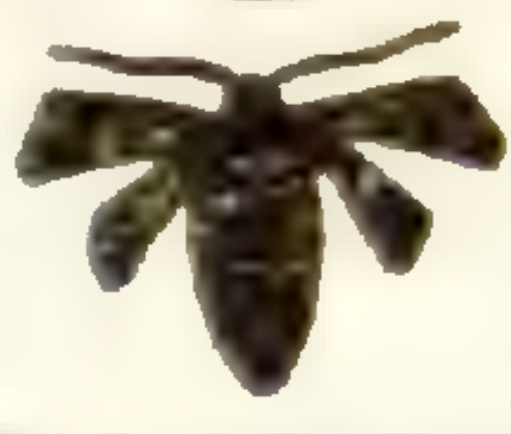


A—Male.



B—Female.

Thousands of pounds' worth of fruit have been saved by its use that otherwise would have been lost if left to the ravages of the Caterpillar Pest. Invaluable. It is obvious that by catching the female moth in its ascent to deposit the eggs you are striking at the root of the evil. It will capture the Winter Moth, Mottled Umber Moth, March Moth, Apple Blossom Weevil, and Codlin Moth.

14lbs., 7/6; 28lbs., 12/6; ½cwt., £1 1s.; 1cwt., £2.

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CLIFFE, near ROCHESTER, KENT.

A large portion of the ground, consisting of two immense grass lawns, was occupied by Messrs. Vilmorin Andrieux and Co., to whom the grand prix d'honneur was unanimously awarded. Charmingly arranged beds of all shapes and sizes were cut out and planted by that firm with Begonia gracilis Rose, edged with Cineraria maritima, petunias, Begonia semperflorens Rouge Feu, Begonia gracilis Gloire de Louveciennes, Begonia gracilis Lumineux. Beds of zinnias, tropæolums, Amaranth tricolor, also came from the same firm. They also staged in vases an immense collection of gladioli.

Roses were staged by a local firm, Messrs. Morel, who had many well-known varieties in only fairly good condition. Cut dahlias also showed rather a lack of good culture.

At the other end of the building, where the cut flowers were staged, was a fine artistic piece of dinner table decoration by M. Debrie, of Paris, and just outside asparagus from M. Compoint.

The town of Abbeville sent three nice lots. Standard fuchsias in great variety, and bicolor zonal pelargoniums; begonias were used as a filling in one bed, and an edging of Cineraria maritima, with Acyranthes Triomphe.

M. Gravereaux filled several beds with gladioli. M. Ferard also had several nice lots of Begonia gracilis Rose, dahlias, Begonia Berlini, Datura arborea fl. alba, Plumbago capensis. Tuberous begonias, double and single, were also shown by M. Billard and M. Cantrelle.

MM. Cayeux and Le Clerc, in the open ground planted some beds containing a large number of dahlias, principally of English origin. We noted Reine Amelie, Daisy Kleber, Maurice Fuld, Dreadnought, Pink Perfection, Raymond Parks, etc. At intervals Begonia semperflorens, with Cannas Benoit, Comte, Bronze Poitevin, Louis Montel, Frau Lina Daucher, Elizabeth Hoss, Jupiter, Direktor Walmark, and many more.

MM. Dubuisson-Foubert had a large display in several beds forming a square. Salvia splendens Züchter Zwerg, Anthemis Perfection, A. floribunda, Lantanas Javotte, Imperatrice Eugenie, and Eole. Zonal and ivy-leaved pelargoniums as a border in infinite variety, the best known of which was Paul Crampel. A fine Chrysanthemum maximum, Etoile d'Anvers, one of the best and largest we have seen, was employed largely, together with Dahlias Keynes' White, Amos Perry, Juliet, Kingfisher, Good Hope, etc.

MM. Billard and Cantrelle were large exhibitors of tuberous begonias, which did much to enliven the ground.

The Société du Touquet Paris-Plage, had a most attractive bed designed in a running vandyke form, filled in with begonias, the framework being of Pyrethrum lacinatum and Acyranthes brilliantissima. Sweet peas in clumps, trained to wire supports, were planted at intervals, an unsual sight at a French flower show. Gladys Unwin, Queen Alexandra, Nora Unwin, Miss Willmott, Emily Eckford, John Ingman, Venus, America, Navy Blue, Celestial, and a host of others completed this excellent display.

M. Aug. Nonin, of Paris, had a large square lawn, with dahlias, begonias, salvias, and other plants in circular beds.

The British Pteriodological Society.

At the annual meeting of this society at Kendal on August 2, it was resolved that a quarterly publication entitled the "British Fern Gazette," should be issued under the editorship of Mr. Chas. T. Druery, V.M.H., F.L.S., and as a result of this resolution a considerable number of ladies and gentlemen who had promised their support to such a publication were elected, not merely as subscribers, but also as members of the society, this being involved in the very moderate annual subscription of 5s. The first number, which will contain a series of interesting articles on the varietal forms of our native ferns, will be ready for issue in September in conjunction with the annual report of the society, the financial position of which is highly satisfactory, while the membership, in view of the new arrangement, promises to increase very rapidly.

A notification of the projected issue was made some time back in these columns, and evoked such a hearty response as to fully justify the outlay involved and the expectation of a great extension of the society's popularity and utility, the more especially as the beautiful "sports" obtained by the fern hunter and selective raiser have now become very popular as decorative foliage plants. Mr. Druery, whose address is Stanvixbank, Shaa Road, Acton, W., will be happy to receive the names of those who would like to join and receive the publication in question.

As an additional inducement to joining this society, it may be pointed out that by so doing, independently of the literature supplied, the British fern lover is brought into immediate touch with a considerable number of specialists and enthusiasts in that line. At the meeting, a number of good varietal forms were submitted by the members for the society's opinion, and a fine variety of hardy fern, A. F. F. setigerum congestum (Cowan) and a new form of Lastrea montana, L m. filifera corymbifera (Wiper), evoked special admiration.

Mr. Alexander Cowan, Valleyfield, Penicuik, was elected president.

Reading Gardeners' Association.

Good fortune again attended the members of this association when, on the evening of Friday, August 6, by kind invitation of the Vice-President, Mr. Leonard Sutton, a visit was paid to his charming gardens at Hillside, Reading. A party numbering within a few of 200, many of whom came from Maidenhead, Henley, Wokingham, Sandhurst, Pangbourne, etc., assembled at 5.45, at which hour tea, thoughtfully provided by Mr. Sutton, was taken al fresco beneath the trees in the orchard, amid perfect surroundings and in ideal weather.

A tour of the gardens under the personal leadership of Mr. Sutton was afterwards made, Mr. Townsend, the head gardener, and his staff, taking charge of those who were unable to occupy the front rank.

The Vice-President is a great lover of annuals, and these beautiful subjects, together with perennials grown as annuals, formed delightful colour effects in the beds on the lawns, lovely pentstemons, antirrhinums, salpiglossis, etc., being much admired. In the houses were to be seen splendidly grown gloxinias, gesneras, coleus, schizanthus, Celsia arcturus, etc. Altogether the party found much to interest them during the hour and a-half spent in the gardens, and as a finale they were conducted to the private recreation ground at Cintra provided by Messrs. Sutton and Sons for their employees, and watched the games of bowls, tennis, etc., until twilight brought a most pleasant evening to a close. Before separating, the President, Mr. Alderman Parfitt, expressed to Mr. Sutton the thanks of all present for providing such a very enjoyable evening.

Jersey Potato Crop.—From the annual return of shipments of potatoes from Jersey, issued for the season recently ended by Mr. Philip Barbier, of St. Heliers, it is evident the crop was a very good one, but that, prices, after starting well, fell at an early period to a low level. The total shipments amounted to 62,690 tons, and the total value to £332,403. The starting average price per ton for the four weeks ended on May 8 was £29 18s. per ton, while the finish was at only £2 12s. While the yield has seldom been greater, the money return was below the average of the previous twenty-three years. The potatoes were remarkably free from disease.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

SHRUBS FOR PEATY SOILS.—J. L.: Your question shall receive attention in our next issue.

PANSIES AND VIOLAS.—T. B., Surrey: The propagation of these should be proceeded with in the course of September, and cuttings that spring up from the centres of the tufted varieties are the best for the purpose. Cuttings about three inches in length are the best, slipping the stems off at the bottom. Frames or hand-lights placed in a cool position should be used. Put in them four or five inches of sandy soil, and in this the cuttings must be dibbled about two inches apart, and well watered to settle the soil about them.

ASPARAGUS INFESTATION. — S. J., Yorkshire: Your beds of asparagus are infested with the larvæ of the Asparagus Beetle (Crioceris asparagi), and considerable damage will be done unless you can adopt repressive measures. The larvæ, as you are aware, are dull green, and attain their full size in about fifteen days after they are hatched out, when they bury themselves in the bed, spin cocoons, and in from fifteen to twenty days the beetles, which are a quarter of an inch long and dull green, emerge and commence to lay their eggs, these being deposited along the stems to which they are attached at one end. The larvæ, or grubs, injure the plants by stripping them of their leaves and eating the tender parts of the young growths. Several broods are produced in the season, and they consequently increase rapidly, therefore repressive measures should be adopted as soon as they are detected. One of the most efficient of these is to syringe the plants with warm water, and then give the surface of the bed a rather liberal dressing of dry soot. Dusting the plants with powdered lime when moist with dew or fine rain is also useful, as is syringing with a mixture prepared by adding flowers of sulphur, soot, and soft soap to water. The latter should be quite warm, and half a pound each of the soot and sulphur and one pound of soft soap be added to eight gallons of water. We would also advise you to burn the shoots much infested with eggs and larvæ.

PHLOXES.—R. H. B.: The poor attenuated spikes that you send us are the best possible evidence we could have of the necessity for considerable improvement in your method of growing these flowers. The plants

CURE FOR MILDEW.

One ounce of Cyllin Soft Soap to a gallon of water is the surest remedy for mildew, green fly, and all forms of insect blight in the garden or greenhouse.

CYLLIN SOFT SOAP

Is a reliable all-round non-poisonous insecticide and germicide. It does not injure the tenderest shoots, and it cleanses the surface soil, thus safeguarding against further attack.

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have evidently occupied the same position without manurial assistance for some years past, and each year the whole of the growths have been allowed to remain. We should advise you to root them out early in the autumn, liberally manure and deeply trench the ground, and early in the spring replant. The varieties you are growing have long since been superseded by finer forms. If you can devote a fresh border to your phloxes do so, but they will do very well in the same border provided the soil is treated in accordance with our advice.

GOLDEN-LEAVED TREES. — W. S., Sussex: The number of really first-class trees with golden leafage is not very numerous, but there are more than enough to produce distinct effects in the pleasure grounds. Those of exceptional merit include: Acer palmatum aureum, one of the many fine forms of the elegant Japanese maples; it has yellowish leaves, and is of much value for associating with the dark-leaved varieties. Alnus glutinosus foliis aureis, a golden form of the common alder, and one of the best of its colour for planting in moist positions. Castanea vesca aureo-variegata, a very handsome variety, with leaves so richly coloured as to rival the crotons. Catalpa bignonioides aurea, a handsome tree, with pale yellow leafage; effective when grown in groups in the shrubbery border, and the growths cut down annually to within a few inches of the surface of the soil. Corylus Avellana aurea, this is a shrub, rather than a tree, but it will in course of time make a small tree, and is therefore admissible; it is rich in colour and effective. The golden poplar, Populus canadensis aurea, Quercus pedunculata concordia, and the golden elms, Ulmus campestris Dampieri aurea, and U. Rosseeli aurea, are the finest of all the strong-growing golden-leaved trees, and should in all cases have the preference in making a very limited selection.

BEGONIAS.—D. C., Shropshire: You might adopt either of the two courses you suggest for obtaining a stock for bedding out next year. It will probably be advisable for you to strike a certain number of cuttings during the next few weeks, and to pot up some of the most promising of the plants that have done duty in the beds during the summer when they begin to lose their beauty, and before they have been injured by the frost. The plants lifted should be put in pots just large enough to receive the roots, but for the majority those five inches in diameter will be the most suitable. Use a light sandy compost, and keep the plants during the winter in a warm greenhouse, near the glass, in which a rather dry atmosphere is maintained. Cuttings taken from plants that have been kept over the winter can be readily rooted in the spring.

UNHEALTHY TOMATOES.—R. B., Leicester: Judging from the fruits and foliage before us the tomato plants are in an unhealthy state. They have evidently been kept too close and moist during the cold wet periods that have been experienced during the summer. It may be too late to greatly improve the present state of things, but the only means by which an improvement can be effected are a reduction in the atmospheric moisture, and an increase in the temperature. We would also suggest that for a short time they be kept rather dry at the roots. In the case of tomatoes it is unwise to endeavour to prevent a material lowering of the temperature during periods of cold weather by closing the ventilators. The proper course during such periods is to ventilate freely, and maintain the temperature by means of a little fire heat.

UNHEATED ORCHARD HOUSES.—M. K., Lancashire: Opinions are somewhat divided as to whether houses devoted to peaches and nectarines that are required to attain maturity during September should be heated or not. This difference of opinion is a proof that good crops may be obtained from trees growing in heated and unheated structures. The balance of opinion is in favour of providing sufficient hot-water pipes to enable the cultivator to maintain the temperature above 32 degrees during sharp frosts. It is very important when such houses are heated to avoid subjecting the trees to more artificial heat than is absolutely necessary to exclude frost and maintain a dry atmosphere. If you are anxious to produce a plentiful supply of peaches and nectarines in the month stated without the trouble incidental to the management of a heating apparatus, you may have no hesitation in dispensing with the latter in furnishing the house you are about to build, as you may depend upon having good crops provided the weather is not exceptionally severe when the trees are in bloom. It is an important point in the management of an unheated peach house to keep the house so freely ventilated that the trees will not come into bloom in advance of those on the open walls.

HOUSING DECORATIVE CHRYSANTHEMUMS.—Amateur Cultivator, Leeds: The following extract from "Chrysanthemums for Garden and Greenhouse" (Messrs W. H. and L. Collingridge, 148 and 149, Aldersgate Street, E.C.), will give you the information you require on the housing of chrysanthemums: "The mid-season sorts in pots should be placed under glass during the closing days of September, or the early days of October. Previous to this, however, the glass structure should be carefully overhauled, and, if needs be, a coat of paint given both inside and outside, to prevent drip from the roof. This should be done previous to the housing, as it is impossible to do it afterwards, and not a season should pass without these precautions being taken in good time. Not only should the glass structure be painted when that already on the woodwork is impoverished, but the glass should also be cleaned as a work of preparation. It is an excellent thing to arrange some system of shading on the inside of the glass structure. This is much better than putting any shading of a permanent character on the glass, as the latter cannot very well be removed when the weather is dull and unpleasant. A simple means of shading may be erected by running a few lines of galvanised or other wire from one end of the greenhouse to the other, and stretching on this tiffany or muslin, arranged to run on brass rings. This may be pulled across at will during periods of bright sunshine, and by its use the display may be prolonged, and the colours of the flowers, some of which are very susceptible to the influence of the sun, be saved from scalding or burning. If under cover, the shading material is so well controlled, and has the advantage in the dull weather of exposing the blooms to the whole of the light available. When arranging the plants in the glass structure, see that they are brought up well under the glass, not too near, certainly, but leaving sufficient space overhead to control and inspect them as desired. Each plant, previous to being taken indoors, should have the surface soil cleaned of weeds, and any unpleasant excrescence removed. The pots should be brushed clean, and seared and decaying leaves also removed. Plants affected with mildew should be housed in a cool glass structure, the colour of the blossoms will be of the best, and their form all that one could desire."

NAMES OF PLANTS.

W. W. H., Lincoln.—Your plant is Acanthopanax variegatum.

Amateur Orchidist.—A very good form of Odontoglossum crispum, but in no way exceptional.

E. G.—1, Stenochlæna scandens; 2, Phlebodium sporodocarpum; 3, Davallia elegans polydactyla; 4, Selaginella flagellifera.

British Gardeners' Association.—A meeting of this association will be held at the Alexandra Hotel, Bath Street, Glasgow, on Wednesday next, September 1, when Mr. J. Weathers will give an address. On the following day a meeting will be held at the Y.M.C.A. Rooms, Carlisle, which also will be addressed by Mr. J. Weathers. Both meetings will commence at 6 p.m.

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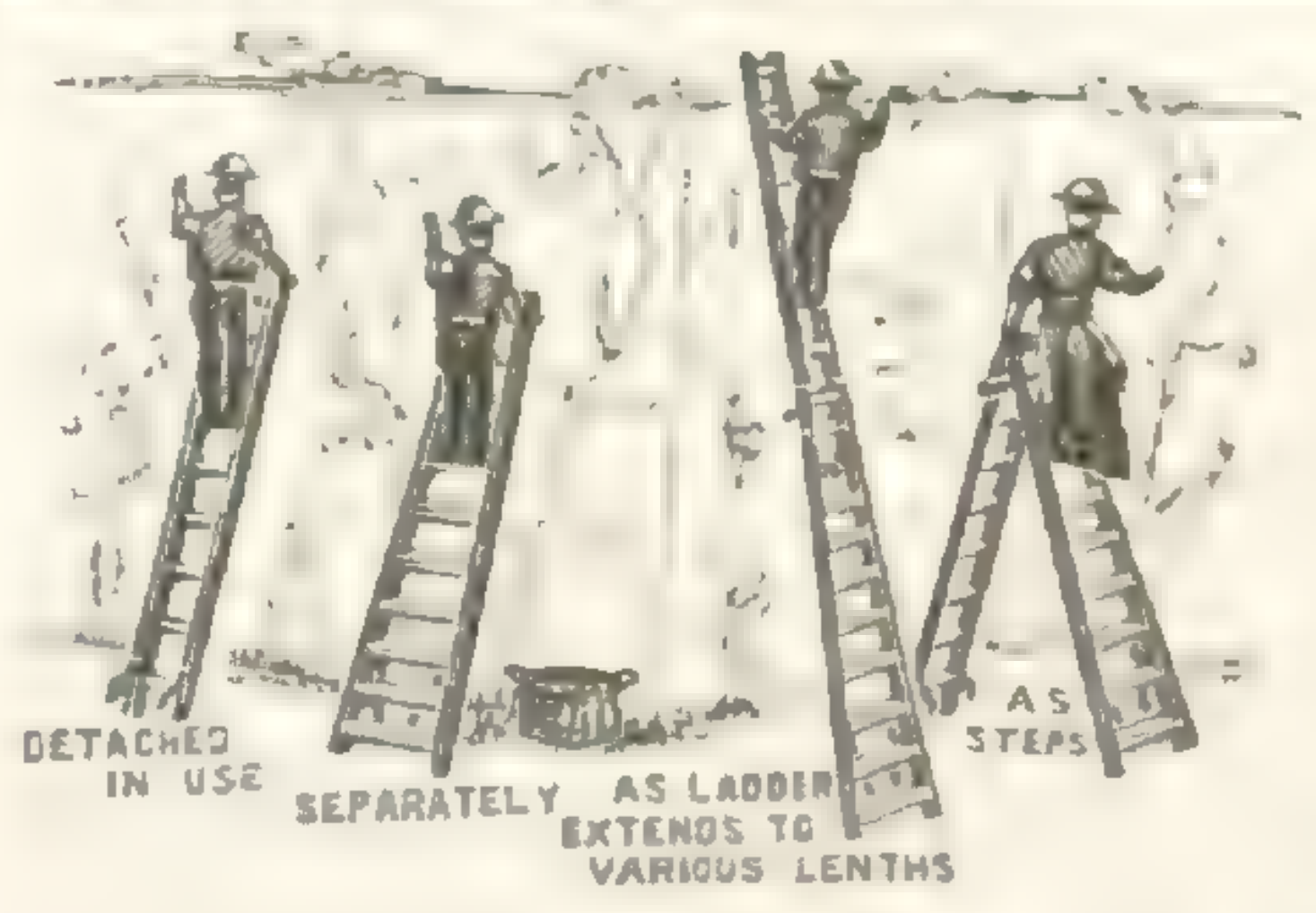

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Flowers.

Flowers of all descriptions and about equal to the demand, which, as usual in the holiday season, is not large.

		s. d.		s. d.
Adiantum cuneatum	per doz. bun.	5 0	to	8 0
Asparagus	per bun.	1 0		2 0
Asters	per doz. bun.	2 0		4 0
Carnations	per doz. blms.	0 9		1 0
,,	per doz. bun.	6 0		8 0
,, Malmaisons	per doz.	5 0		7 6
Cattleyas	per doz.	10 0		12 0
Coreopsis	per doz. bun	2 0		2 6
Croton leaves	per bun.	1 0		1 6
Cypripediums	per doz. blms.	1 6		2 6
Eucharis	per doz.	2 6		3 6
Forget-me-nots	per doz. bun.	1 6		2 0
French fern	per doz. bun.	0 6		1 0
Gaillardias	per doz. bun.	2 0		3 0
Gladiolus	per doz. bun.	2 0		5 0
Gypsophila	per doz. bun.	2 0		2 6
Lilium auratum	per bun.	2 0		3 0
,, speciosum	per bun.	1 6		2 6
,, longiflorum	per bun.	2 0		3 0
Lily of the Valley	per doz.	6 0		9 0
Marguerites, white	per doz. bun.	1 6		3 0
Mignonette	per doz. bun.	2 0		3 6
Odontoglossums	per doz. blms.	2 0		2 6
Pelargoniums	per doz. bun.	4 0		6 0
Roses	per doz.	1 0		3 0
Smilax	per doz. trails	4 0		6 0

Fruits.

Most kinds in season are fairly plentiful, French Williams pear being especially so.

		s. d.		s. d.
Apples, English	per ½-sieve	2 0		4 0
Apricots	per box	0 6		0 9
Bananas	per bun.	3 0		10 0
Figs	per doz.	0 9		2 6
Grapes, English	per lb.	0 8		3 0
,, Guernsey	per lb.	0 8		1 0
Lemons	per case	8 0		25 0
Melons	each	1 6		2 6
,, French Cantaloupe	each	2 0		3 0
Nectarines	per doz.	2 0		7 6
Oranges, Denia	per case	12 0		22 0
,, Navels	per case	12 0		14 0
,, Valencias	per case	12 0		23 0
Peaches	per doz.	1 6		7 6
Pears, English	per ½-sieve	2 6		4 0
,, French	per crate	4 0		6 0
Pineapples	each	1 9		3 6

Vegetables.

Supplies generally are good and the demand fully equal to the average.

		s. d.		s. d.
Artichokes, Globe	per doz.	2 6	to	3 0
Beet	per bush.	1 6		2 0
Beans, Scarlet Runners	per sieve	2 0		3 0
,, Broad	per ½-sieve	1 6		2 6
Cabbage	per tally	3 0		5 0
Carrots	per doz. bun.	1 0		2 0
Cauliflowers	per doz.	1 6		2 6
Cucumbers	per doz.	1 0		2 0
Endive	per doz.	1 3		1 9
Horseradish	per doz. bun.	8 0		12 0
Lettuce, Cos	per tally	1 0		2 0
Mint	per doz. bun.	1 0		2 0
Mushrooms	per doz. lb.	6 0		9 0
Onions, Valencia	per case	7 0		12 0
,, English	per doz. bun.	1 6		2 0
Parsley	per doz. bun.	1 6		2 0
Peas, English	per bush.	2 0		3 6
Spinach	per bush.	1 0		1 6
Tomatoes, English	per doz. lb.	2 3		3 0
,, Guernsey	per doz. lb.	2 0		2 6

LONDON POTATO MARKETS.

We have but little improvement in the demand to record.

		s. d.		s. d.
Bedfords	per cwt.	2 0	to	3 6
Blacklands	per cwt.	2 6		2 6
Essex Kidneys	per cwt.	2 0		2 6
Kents	per cwt.	2 6		3 0
Lincolns	per cwt.	2 0		2 6

FORTHCOMING ENGAGEMENTS.

TUESDAY, August 31.—Royal Horticultural Society; Meeting of Floral, Fruit, and Orchid Committees at noon; Scientific Committee at 4 p.m., General Meeting at 3 p.m., Lecture by Mr. James Hudson, V.M.H., on "The Gardens of Lake Como."

WEDNESDAY, September 1.—British Gardeners' Association. Meeting at the Alexandra Hotel, Bath Street, Glasgow; address by Mr. J. Weathers, 6 p.m.

Carlisle Horticultural Society; two days.

Glasgow and West of Scotland Horticultural Society; two days.

THURSDAY, September 2.—British Gardeners' Association: Meeting at the Y.M.C.A. Rooms, Carlisle; address by Mr. J. Weathers, 6 p.m.

National Dahlia Society at Crystal Palace, two days.

FRIDAY, September 3.—Chapelhall Horticultural Society.

SATURDAY, September 4.—Cambowie Horticultural Society.

French Horticultural Society of London.

WEDNESDAY, September 8.—Royal Caledonian Horticultural Society; Autumnal Exhibition at Edinburgh; two days.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1909. AUGUST 15 TO AUGUST 21.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Aug. 15—Sunday	10 0	67	65	84	57
,, 16—Monday	—	70	66	73	60
,, 17—Tuesday	4 40	62	58	70	50
,, 18—Wednesday	5 55	60	59	68	55
,, 19—Thursday	7 25	65	60	71	56
,, 20—Friday	—	63	61	63	58
,, 21—Saturday	10 5	58	54	66	53
Means	(total) 5 26	64	60	71	56

DATE. 1909. AUGUST 15 TO AUGUST 21.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
Aug. 15—Sunday	—	66	64	60	52
,, 16—Monday	0.06	66	65	61	53
,, 17—Tuesday	0.50	64	64	61	41
,, 18—Wednesday	0.07	64	64	61	52
,, 19—Thursday	0.02	62	63	61	51
,, 20—Friday	0.36	63	63	61	53
,, 21—Saturday	—	62	63	61	51
Means	(total) 1.01	64	64	61	50

CATALOGUES RECEIVED.

MESSRS. SUTTON AND SONS, READING.—A comprehensive catalogue of bulbs, freely illustrated and characterised throughout by much taste. The cover, printed in colours, shows a fine old English Mansion with a beautiful display of spring flowering bulbs.

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MESSRS. CARTWRIGHT AND GOODWIN, KIDDERMINSTER.—Daffodil catalogue.

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GARDENER (Head Working), thoroughly experienced Under Glass and Outside; also herbaceous plants; excellent character from present and previous employers; married, no children. J. L., 20, Carnarvon Road, Barnet.

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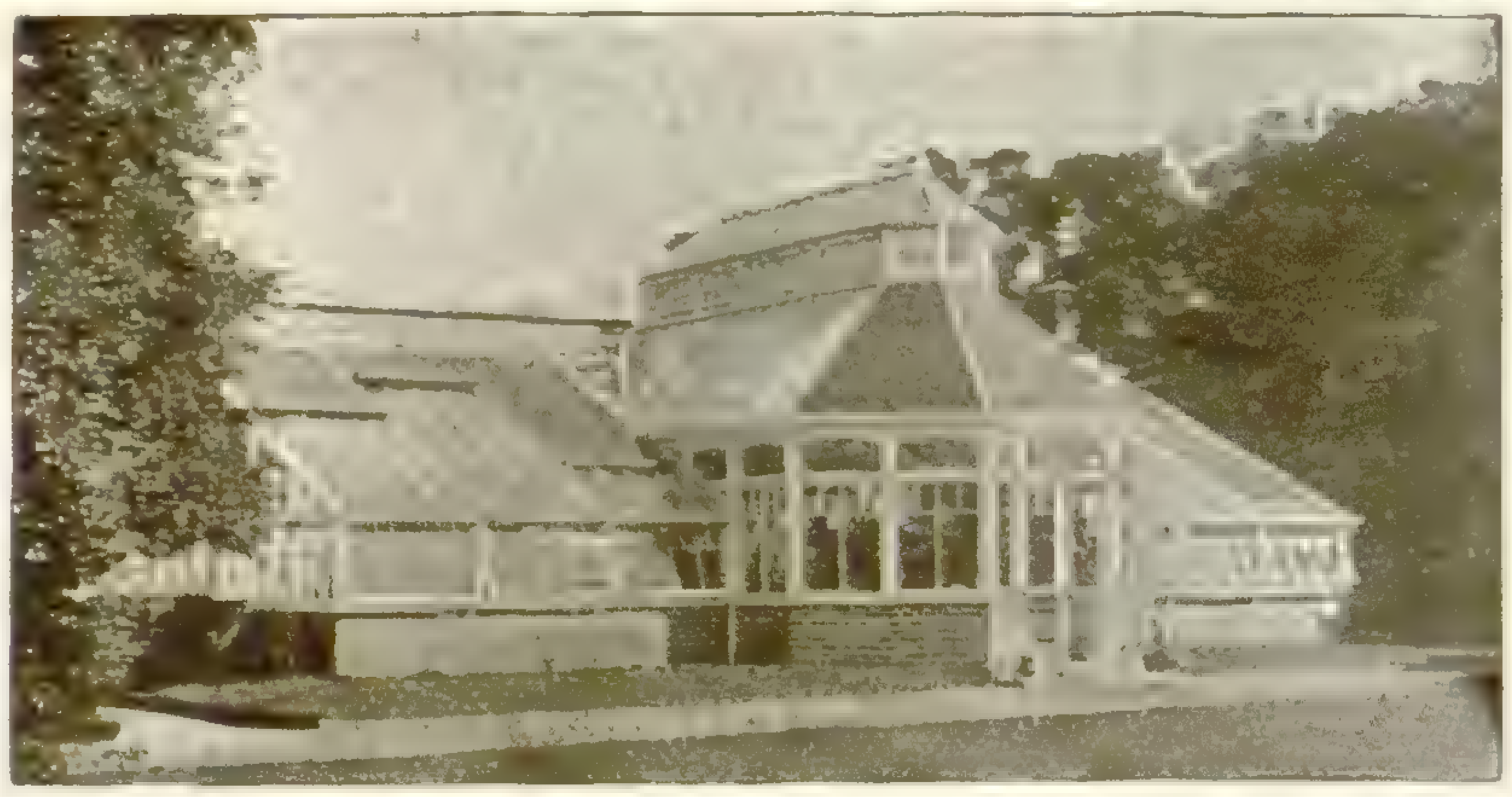

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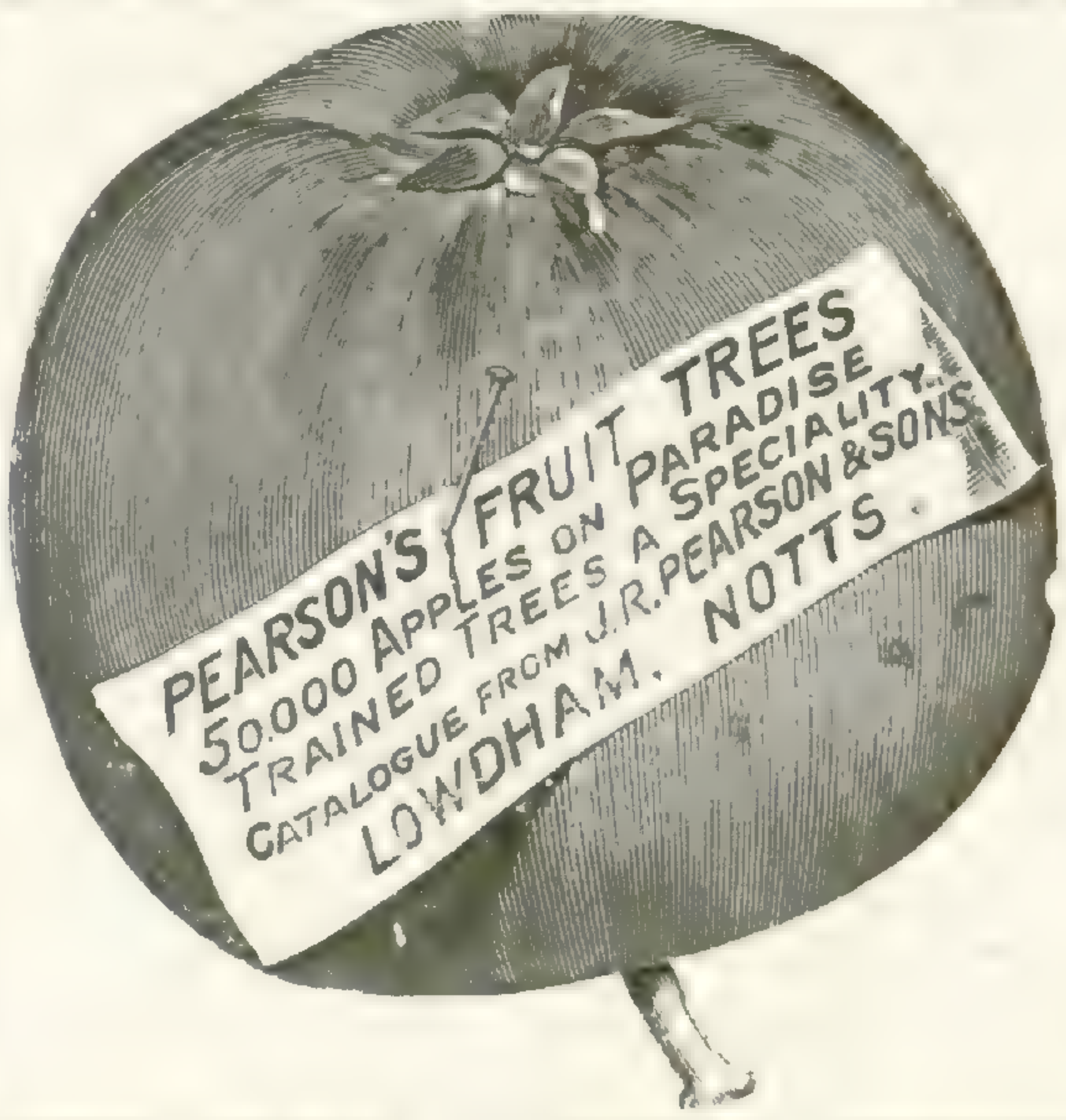

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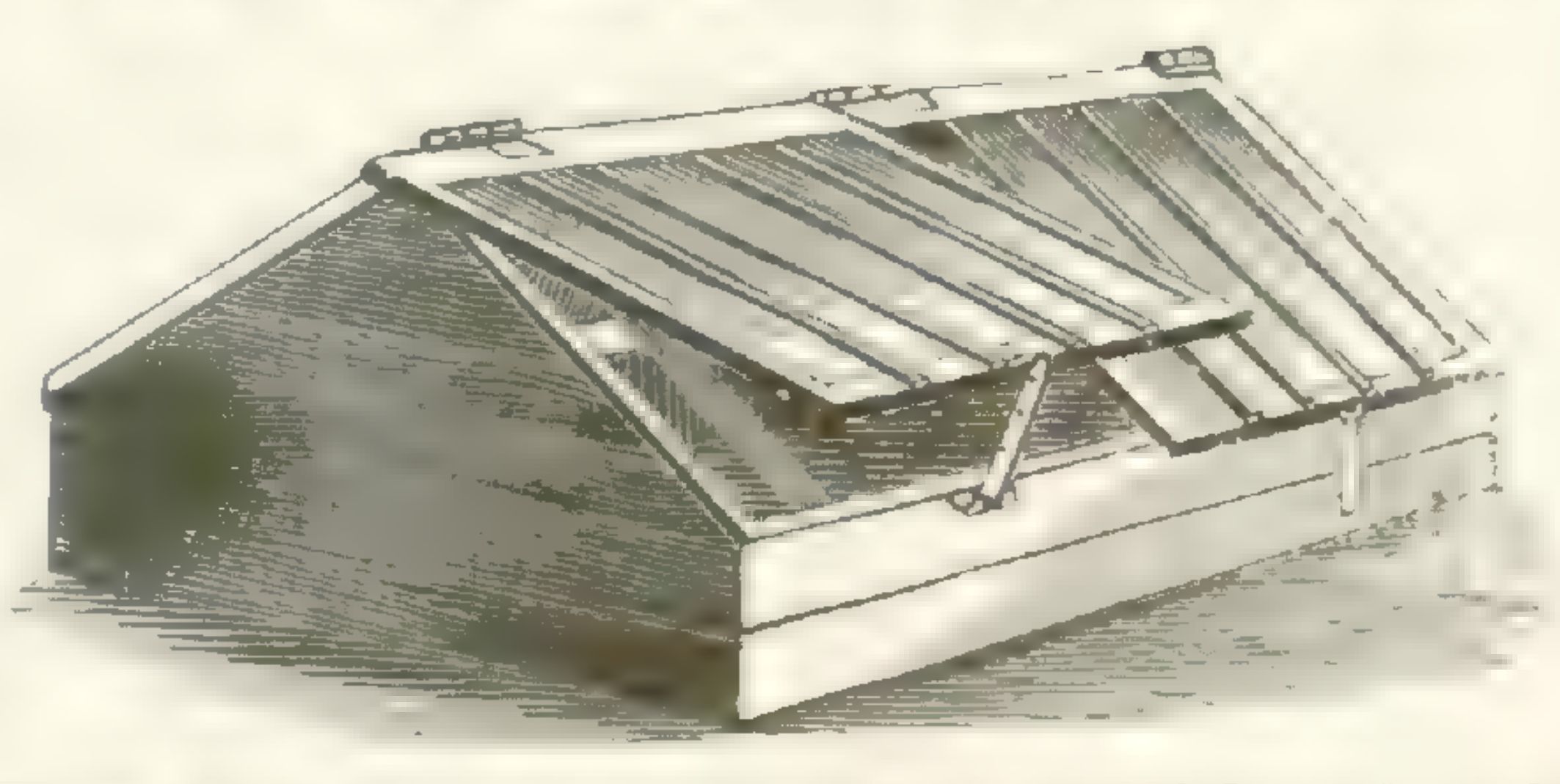

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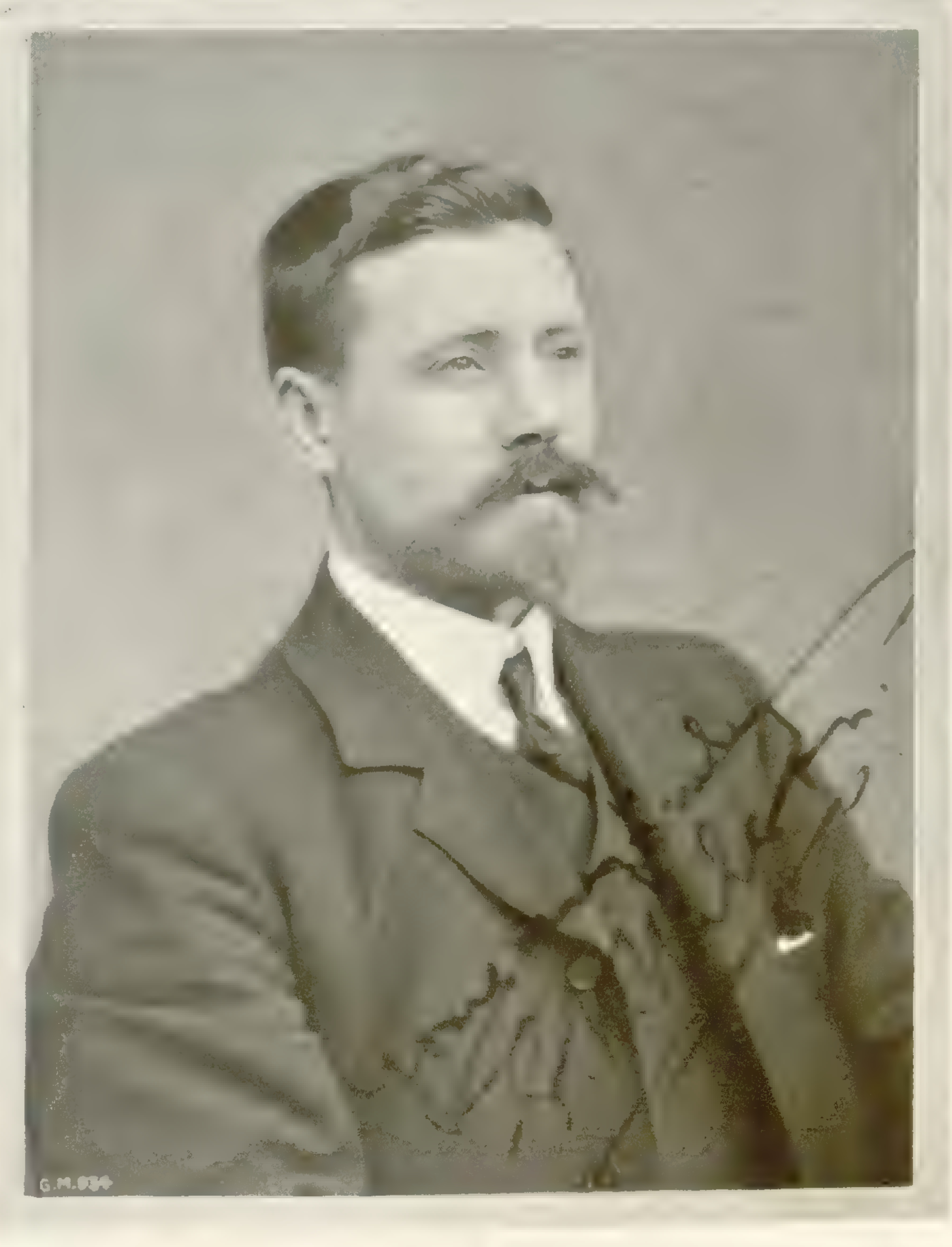
VOL. LII.—No. 2,914. SATURDAY, SEPTEMBER 4, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Pot Plants.

The successful culture of plants in pots presents many puzzling features to amateurs, especially as regards the proper supply of water. This is due to the fact that in a mixed collection we have a number of very variable factors concerned, viz., the nature of the compost, and the drainage, the requirements of the plant species concerned, the relation of its root system to the size of the pot, the state of the weather, whether humid or dry, the question of temperature, and of exposure to sun or shaded conditions. Here at once we see a fair number of circumstances, each involving many grades, and it becomes abundantly obvious that unless most plants possessed a wide margin of adaptation, pot culture, as a rule, would be a dismal failure. The first thing then to remember is that if the two extremes of constantly sodden soil and dusty dryness be avoided, a large number of plants will manage to grow fairly successful; but a thoroughbred bog plant will thrive in the first, and such drought lovers as cacti and other succulents seem to enjoy the second, while the reversal of such conditions would mean death to both. Generally speaking, the great secret of success is the supply of just sufficient water and no more. Under natural conditions in the open soil any surplus immediately drains away, and thus the healthiest condition, involving access of air to the root system, is secured by the porosity of the soil, and its unconfined state. In the pots this can only be secured by careful drainage, but the pot itself, if of the ordinary porous material, and clean, is always absorbing water from the inside, and evaporating it from its outside, thus inducing a circulation to which, as every gardener knows, the plant responds by forming a more or less mat-like mass of roots in contact with the sides of the pot, partly, of course, due to the check to their spreading laterally, but also, beyond a doubt, equally due to the stimulus of the circulation aforesaid. In this fact we see a potent argument in favour of clean pots and pans. This stimulus also undoubtedly plays a part in the health of young plants grown in small pots, and only potted on when the soil is fairly well pervaded with roots. A small plant in a large pot finds itself in a mass of soil, much of which its roots fail to reach until sourness has set in, due to stagnancy, a sourness which is poison to the growing root tips, and failure is the result. A like result also occurs when the pots are constantly standing in full saucers, the soil being thus supersaturated to the exclusion of that air between its particles which, as we have seen, is a vital desideratum for active root growth. Many failures result from unsuspected drought, due to the fact that a vigorous plant is constantly absorbing water from the soil at the bottom of the pot, while water is only supplied in driblets on the surface, which seems, therefore, wet enough, though an inch or two below it is dust dry, a state of affairs which necessitates plunging under water for an hour or so to secure a thorough soaking. On the other hand, over-abundant watering is apt to impoverish the soil by washing out of it all those soluble earthy salts which it is the province of the root system to collect and transmit to the foliage as a contribution to the elements of growth. The use of saucers is, for the reasons given, to be generally deprecated, but in the case of thoroughly established plants which are practically pot-bound, saucers may often be used with advantage, provided drainage of the pots or pans has been properly attended to, the risk of sourness or stagnancy in such cases being minimised by the abundant root action, especially in dry, hot weather. It is clear that in a mixed collection of plants some attention must be paid to their individual nature, as natives of dry or moist habitats, as rapid or slow growers, and so on, and, above all, watering should not be done if it is clear that the soil is already moist enough. Finally, a word about deciduous plants in pots, that is, plants which die down in the autumn to the ground level, and are consequently too often regarded as requiring no water at all. Naturally, having no aerial growth to make they require but little. That little, however, must be supplied, and the soil must never be allowed to dry out entirely, since there is still a living plant ensconced within it; root action is often going on as a preparation for next season's growth, and if this be checked, the apparent death is followed by a real one, and the plant lover is so much the poorer for his lack of common sense.



MR. E. H. WILSON,
The famous collector of new Chinese and Thibetan plants.

Mr. E. H. Wilson.—It is with an unusual degree of pleasure we are able to present to our readers this week a portrait of Mr. E. H. Wilson, through whose courage and energy our gardens are being enriched by many plants from Southern and Western China. After some experience in other gardens Mr. Wilson entered the Birmingham Botanical Gardens, and served under Mr. W. B. Lathom, and there he laid the foundation of that botanical and horticultural knowledge that has stood him in such good stead in recent years. In 1897 he went to Kew, there adding largely to his knowledge of plants. During the winter of 1898 he was at the Royal College of Science, and in February of 1899 he was engaged by Messrs. James Veitch and Sons, of Chelsea, to visit Southern and Central China for the purpose of collecting new and rare plants. For the greater part of three years Mr. Wilson laboured in this enormous district, and in the earlier part of that period he obtained considerable help from Dr. Augustine Henry, himself a keen botanist and collector. The chief results of this mission were the finding of Jasminum primulinum, Davidia involucrata, Ilex Pernyi, Astilbe Davidi and A. grandis, Buddleia variabilis Veitchi and B. v. magnifica, Corydalis thalictrifolia, Lonicera Maacki, Senecio clivorum, Populus lasiocarpa, Viburnum rhytidophyllum, and numerous Vitis and Rubi. So successful was Mr. Wilson that he undertook a second journey for the Messrs. Veitch, during 1903-4, to Western China and the Thibetan border, returning in March, 1905. During this trip he found Meconopsis integrifolia, M. punicea, Primula pulverulenta, P. Cockburniana, P. Veitchi, about fifty species of rhododendrons, including R. Soulei and R. intricata, Larix Potanini, Clematis montana Wilsoni, Berberis Wilsonæ, Rheum Alexandræ, Cotoneaster applanata, and a whole host of new berberis, pyrus, hollies, etc. Mr. Wilson also sent home quantities of Lilium Henryi, L. sutchuense, and L. myriophylla, and some idea of his great work may be gathered from the fact that besides collecting and forwarding plants and seeds, his herbarium specimens on these two journeys amounted to 30,000 sheets, these now being distributed among the British and Continental herbaria. Long before his return from the second journey Mr. Wilson's fame had spread throughout the Continent and in America, and so it was not surprising that he was asked to undertake a third expedition to China, this time under the direction of Professor C. S. Sargent, of Harvard University. This expedition, financed by Professor Sargent, Harvard University, and several keen American and British horticulturists, was readily undertaken, and Mr. Wilson started again for Western China in December, 1906, returning in May, 1909. The chief aim of this journey was to secure new and rare trees and shrubs of botanical and horticultural interest. It is yet too early to say very much concerning the results obtained, other than that they have been beyond the most sanguine hopes of the promoters, and even the intrepid collector himself. Nearly 30,000 sheets of herbarium specimens give some idea of the richness of the flora of Western China, and it may be mentioned that new magnolias, pyrus, prunus, berberis, and cerasus in considerable numbers have been collected, while Cercis racemosa and Catalpa Fargesi have been found. Specimens of many of the new plants, small ones, of course, are now in cultivation at Harvard, Kew, Glasnevin, Edinburgh, Aldenham House, Warley Place, etc., and there is a fine promise of the addition of many good garden plants. This very bald statement of Mr. Wilson's work must conclude with the notice that he has discovered ten new genera at least, and about 1,000 new species or well marked varieties of old species. The Royal Horticultural Society has already granted about fifty certificates and awards to plants he has introduced, and this alone indicates the great value of his introductions. On September 18 Mr. E. H. Wilson sails for America, and he will be engaged for some time at the Arnold Arboretum and Harvard University, with Professor Sargent, in arranging, identifying, and naming his collections. Mr. Wilson has a great love for Western China, and, if needs be, is quite ready to make another trip to "Far Cathay." The two Chinese scenes depicted in the present issue are from photographs taken by Mr. Wilson during his recent expedition, and we are greatly indebted to him for the opportunity of reproducing them.

The French Gardeners' Society of London is now too well known to need any reference to its aims and objects, and we can only refer enquirers to the newly-issued volume bearing the title of "Bulletin de la Société Française d'Horticulture de Londres," which contains a mass of literary matter concerning the past year's work. Briefly stated, it contains the rules, balance-sheet, lists of members, library catalogue, and condensed reports of the monthly meetings at which papers on various subjects are read by the members. A capital account of the annual dinner, presided over by Sir Albert Rollit, is given, with the principal speeches in extenso. Among the papers given in the body of the work are Pear Culture in England, Etherisation of Plants for Forcing, The Temple Show, The Bouvardia, Fruit Culture at Vitry-sur-Seine, Roses for Forcing, and A Chat about the Leading London Parks. The frontispiece is an excellent portrait of Mr. Harry J. Veitch, V.M.H., who took the chair at the annual dinner last year.

Bust of Darwin at Kew.—The centenary of the birth of Darwin has been marked by the presentation to Kew of a bronze bust of this very distinguished naturalist. For this gift the institution is indebted to the generosity of the Bentham Trustees. The bust is the work of Mr. Horace Montford; it has been placed in Museum No. I., and was put in position on June 23, 1909, the central day of the Darwin Centenary celebration at Cambridge. At this celebration Kew was officially represented by the Director.

Railwaymen's Flower Show.—Organised by the Clapham Junction branch of the London and South-Western Railway Temperance Union, the second annual exhibition of garden produce was held in one of the spacious and well-fitted arches at Clapham Junction on Wednesday, September 1. The encouragement given by the higher officials, and many friends of the railwaymen, has resulted in an immense improvement of the employees' gardens and produce, and on this occasion some sixty-three competitors, drawn from a radius of twenty-five miles of the famous junction, contributed rather over three hundred exhibits. The onions, carrots, beet, potatoes, parsnips, marrows, and cabbages were particularly good, onions and potatoes especially so. Of potatoes there were sixty-three entries, in four classes; while onions, runner beans, and beet were represented by twenty-three, twenty-seven, and eighteen dishes respectively. Collections of six dishes of vegetables formed a fine feature. Although the competitors came chiefly from Raynes Park, Worcester Park, Clandon, Twickenham, Richmond, Ewell, Malden, Strawberry Hill, Epsom, Weybridge, Barnes, Leatherhead, and Wimbledon Park, there were five who showed excellent produce grown at Clapham Junction. Plants and flowers added to the attractions of this display. Efforts of this kind are worthy of every encouragement, and deserve to be made widely known.

Our Bulb Number.—We propose to devote our issue of September 18 to a consideration of bulbs and bulbous plants for garden, conservatory, and home, and we shall include interesting and illustrated articles on Lachenalias for the Conservatory, Bulb Culture in Fibre, Tulips for Garden Decoration, Inexpensive Daffodils, Bulbs for the Rock Garden, Uncommon Bulbous Plants, Propagation of Hyacinths, Jonquils in the Wild Garden, etc. etc.

The Flora of Western Ireland.—From a contribution to the current issue of the "Kew Bulletin" we learn that in April of the present year a natural history survey was commenced of Clare Island and the adjoining mainland in the county of Mayo. The locality was selected on account of its relatively primitive nature, two of the principal objects of the investigation being (a) a detailed study of the fauna and flora of a promising portion of the West Coast of Ireland; and (b) a comparative study of the fauna and flora of Clare Island with those of the mainland, with a view of elucidating the history of the fauna and flora of the island. The survey will extend over a period of two or three years, and will be carried out under the leadership of Mr. R. Lloyd Praeger by means of monthly trips, except in the winter, when special visits will be arranged as occasion may require. It is well known that the phanerogamic flora of the West of Ireland presents features of remarkable interest. There is the striking mixture of South-west European plants with those characteristic of North America. Erica mediterranea, E. Mackai, Arbutus Unedo, Saxifraga Geum, and Pinguicula grandiflora may be taken as representatives of the first group; whilst Eriocaulon septangulare, Sisyrinchium angustifolium, and Spiranthes Romanzoffiana are examples of the second. In addition to these there is the remarkable sight of such alpine plants as Gentiana verna, Dryas octopetala, and Euphrasia salisburgensis growing in immense quantities right down to sea level, and that in a warm humid climate. Mr. Lloyd Praeger has stated that such a startling mixture of types is not to be found elsewhere in Europe.

Royalty at Messrs. Sutton and Sons' Trial Grounds.—On Wednesday, August 25, Messrs. Sutton and Sons, Reading, were greatly honoured by a Royal visit to their trial grounds. Their Royal Highnesses the Duke and Duchess of Connaught and the Crown Prince and Princess of Sweden paid a lengthened visit to their trial grounds, and remained an hour and a-half, during which time they evinced great interest in the flowers, both in the open ground and in the houses, and subsequently commanded large consignments to be forwarded to Bagshot Park, and Sofiero, Helsingborg, Sweden. Before leaving, the Royal party expressed their great satisfaction with all they had seen, and the Duke of Connaught and the Crown Prince signed the visitors' book.

Plum Fruit Sawfly.—In a contribution to the current issue of the "Journal" of the Board of Agriculture, Dr. R Stewart MacDougall writes: There is no doubt that the plum sawfly, which has been recorded from different parts of the country, is a very dangerous enemy of the different varieties of plum, and efforts should be made to restrict the damage and to prevent the spread of the insect. As regards destructive measures, the plum sawfly is most vulnerable in its larval stage before it has left the plum, and in the cocoon stage in the soil. The adult sawflies appear in spring or early summer with the opening of the blossom buds. The female saws a slit by means of her egg-laying apparatus in the calyx, and in it lays an egg, one egg for each flower bud. When the egg hatches the larva eats its way to the kernel of the ovary—the stone is at this time quite soft—and feeds on it, and it may be on the surrounding tissue. In a month and over the larva is full grown, two-fifths of an inch in length, and falls to the ground in the spoilt fruitlet: it leaves the plum by means of a round hole, and passes into the soil to make the cocoon, under cover of which the winter is passed. The cocoon is made in June and July. In the spring of the next year pupation takes place, and the adults appear in due course. In the Continental literature it is suggested that the trees should be sprayed just before the opening of the flower buds with a liquid which will be distasteful to the sawfly, and will prevent egg-laying. Mr. MacDougall points out that there is no record of the value of this mode of treatment. Cultivators are advised to: (1) Collect and burn the infested fruits before they fall, so as to prevent a new brood of sawflies. Infested fruit can be recognised by the hole, blocked, it may be, with adhering excrement or a drop of gum. (2) Shake infested fruits off the higher trees—they fall easily—and collect and burn them. (3) Collect at once and burn any fruits that have fallen and are lying under the trees, before the larvæ leave them. (4) As the cocoons lie in the soil from summer to the next year, the soil below trees that were infested should be dug and worked, the turned-up layers being beaten.

Black Scab in Potatoes.—The Board of Agriculture and Fisheries desire to remind all growers of potatoes that it is their duty, under the Destructive Insects and Pests Order of 1908, to report all outbreaks of Warty Disease or Black Scab (Chrysophlyctis endobiotica) on their premises to the Board. The penalty for failing to report the disease is ten pounds. Certain British Colonies now require a certificate from the Board with every consignment of potatoes exported to them from this country, to the effect that the potatoes have been grown in a district not infected with this disease. Exporters who require further information can obtain it on application at the Offices of the Board, 4, Whitehall Place, London, S.W. This disease appears to be rapidly on the increase in the Northern counties of England, and, speaking at a meeting of farmers, held at Ormskirk, Mr. Gant, lecturer to the Lancashire County Council, said there was no doubt that farmers in Lancashire and throughout the country were face to face with a great difficulty. Lancashire was practically the worst of the counties affected, although Cumberland and Cheshire ran it very close indeed. The disease was notifiable, and unless farmers co-operated with scientific efforts to stamp it out, the Board of Agriculture would have to take the drastic step of prohibiting potato growing in the districts affected. The disease was spreading all over the country, and there was scarcely any part free, except the eastern counties.

Vacant Land Cultivation. If any demonstration were needed to prove the usefulness of the efforts made by Mr. Joseph Fels to place vacant land at the disposal of casual labourers for the purpose of cultivating vegetables in quantity during their unoccupied time, it was found at West Ham on Thursday last. The Gas Light and Coke Company have given the use of about thirty-three acres of land, rent free, to the Vacant Land Cultivation Society, and this has been cut up in 260 plots, the majority of which are well cultivated by casual dock and gas workers. The good influence these gardens have exerted is extraordinary, and scores of men have, through them, been reclaimed from drunkenness and loafing, and have entered into the work with a spirit that is very refreshing. On the date mentioned the first exhibition was held, and some idea of the keenness of the men may be gathered from the statement that there were over a hundred collections of vegetables in the three leading classes, one hundred and thirteen exhibits of cabbages, fifty-eight of onions, forty-nine each of carrots and parsnips, and fifty-seven of potatoes. There were altogether about six hundred exhibits, and a great deal of the produce was of excellent quality. Instruction and advice have been given by Mr. R. Lewis Castle, the society's superintendent, and Mr. H. Gardner, who supervises this set of gardens, and this, like the ground, is free of charge to the workers. At present the demand for garden plots is far in excess of the supply. It may be added that very many of the men sell a good deal of produce, and thereby add materially to their casual earnings. The plots are each an eighth of an acre.

She had no use for Flowers.—The following pathetic story comes from the "New York Tribune": A big box of pæonies, roses, and lilies of the valley had come to the day school through one of the flower missions that do what they can toward equalising things between people who live where flowers grow and the unlucky ones who don't. One of the teachers was doing her best to distribute the blossoms fairly among the grimy, eager little hands that reached out ravenously for them. But there was one mite of a child who seemed quite indifferent to the gift: she just sat stolidly looking on while the others gloated over the blossoms. "Don't you want some roses, Annie?" the teacher asked her. "Here's a nice bunch." A pair of unresponsive eyes looked up from the sharp little face, and the frowsy head shook slowly. "No'm," she said, shortly. "I don't want no flowers. I ain't dead." She had never seen flowers used except at funerals, and that, she supposed, was what they were for.

LIBONIA FLORIBUNDA.

It is rarely one sees as fine plants nowadays as twenty-five years ago. I once heard a noted horticulturist and journalist, who was acting as one of the judges at a large show in the provinces, say, when passing a number of plants of libonias, "it is a real treat to see such specimens as those are, it does one's eyes good to look at them"; and I noticed he often feasted his eyes on them when passing to and fro during his morning's work. In the autumn libonias are grand subjects for the decoration of the conservatory, and also for placing in vases in the dwelling-house rooms.

Ordinarily-grown plants always lack colour in the leaves, and also in the blooms. If the leaves are deep green in colour, the flowers will be richer, too, and the contrast in foliage and flowers very agreeable. Young plants will now need to be repotted. A suitable compost is the following: Fibrous loam, two parts, leaf-soil or peat, one part; well-rotted manure and old lime rubble, one part. I prefer a heated pit or frame to a dry shelf in a greenhouse for the plants during the summer months. See that they do not become unduly pot-bound before the final potting is done, and afterwards feed carefully and use the syringe. Admit air freely in fine weather.

G. B.

A VISIT TO BELGROVE.

Towards the end of July I was enabled, greatly to my delight, to renew my acquaintance with Mr. W. E. Gumbleton's charming garden at Belgrove, County Cork. This garden is well known, by repute at least, to the horticultural world, and is famous for being the first flowering place in the British Isles of many of the best introductions of recent years. Among the interesting plants in the conservatory were the new Arctotis regalis, a hybrid between A. aureola and A. grandis, and a perennial like the first, which was sent out by Sprenger. It has orange flowers. The Himalayan climber, Dicentra torulosa, Vilmorin's introduction of last year, is an extremely rapid grower, and bears yellow flowers. Ceratostigma Polhilli is a pretty plant with blue flowers, and Campanula primulifolia, or peregrina, is an interesting biennial. Three of Lemoine's new hydrangeas were present, namely, H. Dentelle, a hybrid with delicately fringed petals; Bouquet Rose, and Ornement; and Erlangea tomentosa, with lavender-blue flowers, closely resembles an ageratum.

In the neighbouring garden was Lemoine's Hydrangea arborescens grandiflora, a fine plant, producing large white sterile flowers. In another garden I saw this growing against a wall, and the bloom trusses were fully 18 inches in width. A handsome, very free-blooming perennial is Dimorphotheca Barberiæ rosea, with pink flowers, 1½in. across, while D. aurantiaca, a splendid annual, was a sheet of glowing orange. The double and single varieties of Pelargonium Fire Dragon, very rarely met with in gardens, were in bloom, as was the new white-flowered Rehmannia Henryi. Antirrhinum calycinum, bearing white flowers flushed with pink, was pretty, and a variegated antirrhinum was interesting. Of dahlias there were D. odorata Bruanti, which bears sweet-scented blossoms; D. lignea, an evergreen, with a woody stem that never goes to rest; and D. Collarette, with a single row of outer petals, but having short curled petals round the eye. Verbascum rubrinervum was a handsome plant, with branching sprays of yellow flowers, and long leaves with red veins. Gladiolus Evolution, with flowers of a deep violet colour, was a striking plant, and Begonia Lafayette made a blaze of scarlet. Montanoa molissima, from Kew, was 4ft. high, and bears ivory-white flowers 2in. across with golden centres. The yellow Californian Tree Poppy, Dendromecon rigidum, was in the best of health, and blooming freely. The specimen of the rare Olearia insignis, which is probably the finest in the British Isles, had gone out of flower, but was bearing seed heads, but O. angustifolia was in bloom.

On the same wall were the South African Bowkeria Gerardiana, a rare shrub not in commerce, that bears flattened, calceolaria-like blossoms; Lagunaria Patersoni, from Norfold Island; Correa magnifica, Tricuspidaria lanceolata fruiting freely, the rare Crossosoma californica, Perowskia atriplicifolia, very beautiful in the autumn when bearing its long, lavender flower sprays; Fallugia paradoxa, and a species of aconitum from Lake Baikal. At the corner of the wall was a huge specimen of Freylinia cestroides, about 20ft. in height, which, however, has never flowered, and which Mr. Gumbleton is, in consequence, inclined to cut down. This freylinia has, I believe, never flowered in England, though it blooms freely on the Riviera. Other plants were the new Anthericum Burkei, the splendid Salvia dichroa, from the Atlas Mountains, which was in profuse bloom; the double Tunica saxifraga, Nemesia Blue Gem, Brachycome iberidifolia Blue Star; the first of the double Michaelmas daisies, Beauty of Colwall, Echeandia eleutherandra, with yellow flowers an inch across, which last one day; Senecio Hectori, Gilia coronopifolia, and G. aggregata coming into bloom; Lathyrus pannonicus, a pale yellow pea about 18in. in height; Calandrinia chromantha, Potentilla comarum, or salisovianum, Trollius ranunculoides, from Siberia, a very rare plant, and probably the only one of its kind in the British Isles; the South African Anemone Fannini, the new Tigridia The Giant, very large; Genista hirsutissima, with pale yellow flowers, a very free bloomer; Pittosporum Fairchildi, the flame-coloured Glaucium Fischeri, Campanula amabilis, the pink New Zealand broom, Notospartium Carmichæliæ, in full flower, and Peraphyllum ramossissinum.

Outside this garden was an enormous bush of Spiræa discolor, or ariæfolia, 20ft. in height, and 18ft. in diameter. In front of the house is a walk a sixth of a mile in length. On the further side of this a number of interesting plants are grown, the handsomest of which at the time of my visit was a splendid specimen of Beschorneria Decosteriana, with six flower spikes about 10ft. in height, the red stems and red bracts giving the plant an extremely handsome appearance. Other plants by the path were Sprenger's new grass, Miscanthus japonicus, Cortaderia Stœnackeri, with white leaves, very striking: C. Wesserlinghi, having leaves variegated with white: nearly fifty species and varieties of kniphofia, among which were noticed K. nobilis pallida, a very large plant of K. præcox, which comes into bloom in April, and K. Triumph, that sometimes carries three blooms on the same stem; some of the best of Sprenger's yuccas, the white deciduous Agapanthus St. Pauli, and twenty-three varieties of the best of Lemoine's deutzias.

Hard by was Laurus camphora, the colouring of the young leaves being very attractive. On the other side of the path is a large bed of the best of the colchicums. On the way to the upper garden is a monstrous specimen of Daphniphyllum glaucescens over 20ft. in height, which must be the finest in the British Isles.

In this portion of the garden there is a fine collection of rare shrubs. Of the Berberis family were noticed B. Egberti, the young foliage of which is variegated; B. langleyensis, one of the best; Lemoine's B. sanguinea, B. bullata, B. acuminata, B. dictophylla, B. Wallichiana, the newly-introduced B. Wilsoni, two unnamed species from Thibet and the Himalayas, and B. diaphana. Cotoneaster angustifolia, about which many complaints have been made owing to its failure to fruit, was in profuse flower, so that fruit, in this case, will doubtless follow in quantity, and others of the same race were C. bullata, the very scarce C. Fontanesi, with deep red berries; C. Franchetti, C. pannosa, C. rugosa Henryi, and C. applanata fruiting freely. Spiræa Aitchisoni never flowers here, neither has it bloomed at Bitton, and Canon Ellacombe has, in consequence, discarded it. At Abbotsbury Castle, however, it has blossomed freely for the past three years. Close by the last-named was the graceful Spiræa assurgens. Leptospermum grandiflorum is a fine bush, and there are small examples of the new rose-coloured L. Chapmanni, and the blood-red L. Nicholli. The olearias included O. virgata, O. nitida, O. Traversi, O. Forsteri, O. furfuracea, O. moschata, and O. nummularifolia. Phellodendron amurense bloomed for the first time this year. A fine example of Chimonanthus fragrans is 20ft. in height.

Other noteworthy plants in this portion of the garden were a variegated form of Azara microphylla, probably the only one in existence. This was thrown up as a sucker a few years ago by a large bush of the type, and was carefully severed from the parent plant and set out by itself, since when it has made good growth, and is now a shapely little shrub with beautifully variegated foliage; Coprosma acerosa, with pale blue berries; Cornus foliosa, Hamamelis mollis, Adenocarpus fruticosa, Fuchsia excorticata, from New Zealand, Itea ilicifolia, Rhapithamnus cyanocarpus, Hypericum Henryi, Davidia involucrata, and Viburnum Carlesi from Korea; while V. rhytidophyllum was also present, and Exochorda Alberti macrantha was bearing fruit.

In the field hard by is a fine specimen of Juglans ailanthifolia, a very scarce tree, about 35ft. high and the same in diameter. This was fruiting for the first time, and the fruit will be sent to the Royal Horticultural Society this autumn for inspection. Near at hand was a fine collection of about twenty species and varieties of cratægus from America, some of them with beautifully coloured foliage. On the sunny side of a high wall bounding the kitchen garden was a splendid example of Wistaria multijuga, covering a spread of about 30ft. W. sinensis, the double form, and W. rosea are also grown. Here Magnolia Watsoni was in flower, and the climbing Decumaria barbara from Florida, which clings like an ivy to the wall, was flowering for the first time. Several species of Cestrum were present, Plagianthus Lyalli had bloomed well, Ampelopsis Engelmanni was remarkable for its ornamental foliage, and Rubus deliciosus and Xanthoceras sorbifolia were noted.

In the kitchen garden the new Servian quince, whose fruits are said to weigh 2lbs., was bearing well. The great Buddleia Colvillei, which was the first of its species to flower in the British Islands, is about 22ft. in height, and as much through. Carpenteria californica is 8ft. by 9ft., and a fine example of the rare Eucryphia cordifolia about 10ft. in height was bearing seedpods, and E. pinnatifolia was close at hand. Clerodendron trichotomum Fargesi was a new form of this flowering shrub.

Some plants of the new Citrange, a hybrid between Citrus trifoliata and the sweet orange, a present from the American Government, were inspected. On a wall was Codonopsis tangshen, a creeper from China, and on another wall the beautiful Chilian Mutisia decurrens was clambering through a fine plant of Fremontia californica. On a third wall a good specimen of Feijoa Sellowiana 9ft. in height and 10ft. in diameter, was flowering freely. The flowers are pink, and the edges of the petals turn inward, revealing their white reverse. Mr. Beamish, at Ashbourne, has this plant flowering well as a bush in the open. Both the blue and white forms of Myosotidium nobile were in the best of health. The shrub universally grown in the south-west as Corokia buddleoides, is now found to be incorrectly named, its proper title having been decided to be C. macrocarpa.

Other plants were Aplopappus ericoides, Philadelphus Rosace, the finest of the family, Cotoneaster frigida, Myrtus obcordatus, with lovely foliage, Myrsine Urvillei, Pittosporum crassifolium, and Pæonia arborea lutea. Two pretty blue annuals that sowed themselves were Anchusa capensis and A. petiolata, and self-sown plants of Milla longipes had sprung up everywhere in the beds. There is a fine collection of the Hemerocallis family, and in a frame are nearly all the known species and varieties of the Nerines, while in the greenhouse is a splendid display of glorious double begonias.

The foregoing article is by no means exhaustive, as from lack of space many rare and valuable subjects are necessarily omitted.

Wyndham Fitzherbert.

THE FRUIT CROP.

The variable quantities of fruit in different localities will be manifest this season, and are probably due to a variety of causes. It may be that the non-bearing of some trees this season is caused by the trees taking a rest after a previous heavy crop; yet when one considers the profusion of blossom on most trees, there must be other causes than heavy cropping in the year before. There was abundance of apple blossom, but the fruits are very thin; this is the case on garden trees, as well as in the orchard. Many of the orchard trees were defoliated by caterpillars, and, although spraying was resorted to, it was something like "locking the stable after the steed has gone," for it is quite possible that if banding of the trees early in the autumn, and winter spraying had been done, a crop might have been saved. However, the spraying killed the caterpillars, washed the trees, and the frequent rains soon caused new leaves to push forth.

Shelter is a question that often arises when advice is given on orchard planting, but when deciding on the trees for that purpose, do not plant oak near; neither plant the orchard near oak trees. The fruits in both orchards and gardens, whether apples or pears, have not reached anything like the usual size at the present time, but this is not surprising when we consider the wet and comparatively sunless weather that prevailed up to the end of July. A more agreeable, though sudden, change since will have its effect on the fruit, but severe thinning, if not already done, of the ill-formed fruits must follow if fair samples are desired.

The majority of garden trees which I have seen this season have been much affected with aphis and dirt on the leaves, and those not sprayed present an unsatisfactory appearance. The fruits of apples and pears, while below the usual size at this date, are not clean in the skin, and we may probably have to look to several causes for this. With regard to trees I have in mind, two very cogent reasons may be given for the fruits being so affected, i.e., a total absence of spraying, and the roots allowed to reach and remain in unsuitable subsoil. Applying the one, and lifting the roots out of the other, would doubtless effect the necessary improvement. If, however, the trees were grown on a suitable stock for garden trees, they would usually remain healthy. Plums are a fair crop. Bush fruits have been good. Where cherries succeed, these also have produced a very good crop. Though the two principal fruits for autumn and winter use are a thin crop, no doubt, later on the show boards will display good fruits, if not in quantity.

T. H. Slade.

USEFUL GUIDE TO GARDEN WORK.—A handy all-round guide to work in the garden month by month is the Gardening Year Book, by George Gordon, V.M.H., price 1s. net from booksellers, or by post 1s. 3d., from W. H. and L. Collingridge, 148, Aldersgate Street, London. The book is freely illustrated and the cultural details thoroughly practical and up to date.

THE ALPINE AURICULA.

Auriculas are alpine, every one of them, being garden forms of various alpine primulas, but for garden purposes there are two distinct types. The stage or show auricula has been developed during the past 350 years from Primula auricula, and this section comprises the green-edged, grey-edged, white-edged, and selfs. Most of them are freely dusted with a white farina on flower and leaf, just as P. auricula is found in its wild state.

The Alpine auricula is presumably descended by ordinary selection from Primula pubescens, but this type of primula never appears to have become such a popular garden favourite as its more aristocratic relation. Drawings of both are to be found in the old herbals, but no such clearly defined history can be traced of the Alpine auricula as of the stage or show varieties. Indeed, the auricula is one of the oldest exhibition plants of our gardens, and takes its place with the show tulip in that respect.

The Alpine auricula was but little known in gardens before the middle of the last century. A few amateurs in the Midlands and the late Mr. Charles Turner, of Chalvey, and later of Slough, did some good work in the improvement of this flower in the South of England, but for many years improvement was slow. I may write of it with some authority as I have watched its progress for half a century. The Alpine auricula is a hardy garden flower, and is best adapted for the rock garden or the front row of a well-drained herbaceous border. What is termed calcareous loam seems to be the best adapted to its wants. I am trying it in a quite new class of soil, such as I have never seen it grown upon, a medium loam crowded with flint stones over chalk; there is only 15 inches of soil over the chalk. Previously I had grown the plants out of doors on light soil over gravel, and also in heavy loam over clay, in both the plants succeeded well, but they must have a free and open position. I have seen auriculas planted amongst shrubs and under trees, where few plants will thrive, and they die out in two or three years under such conditions. They are most effective in colonies of six to a dozen, and if well placed, with a surface dressing annually, they give no trouble for many years.

On one occasion I planted a group of twelve Alpine auriculas in a herbaceous border. They remained undisturbed for fifteen years, and flowered freely, producing as many as a hundred trusses of bloom at one time. It has been asked why grow such hardy plants in pots? They are grown so to produce the best results for exhibition, and it is only by the persistent application of fanciers through the stimulating influence of the National Auricula and Primula Society, holding exhibitions in London, Manchester, and Birmingham, that such splendid results have been obtained.

Quite a revolution has taken place in the character and quality of the auricula during the past decade. Moreover, amateurs have a very high standard of excellence to work up to, and this is well so far as it conduces to the highest development of plant and flower; but the raiser of seedlings would do well to look for some breaks from the regular standard that has been raised for him to follow. It is only by doing this that new types of flowers can be obtained.

At present the Alpine auricula is divided into two sections: one has a deep yellow centre, and the other whitish or cream-coloured, and it is rather curious that the marginal colour of the corolla when the centre is yellow, always runs to shades of red, crimson, maroon, or some shade of red with a yellowish or bronze tinge. The white or cream centres are always encircled with shades of purple, lilac, bluish and all intermediate shades. The marginal colour is always shaded, darkest at the centre and shading off to lighter colours at the margin. There is no meal on the leaves or flowers of the Alpines, even the centre of the corolla or "pip" is free from powder, whereas the centre of a show auricula is always densely coated.

Decayed stable or cow manure should be freely used for both garden and pot culture. I use good turfy loam, with which is mixed a fourth part of leaf-mould and a fourth part of well-rotted stable manure. Coarse sand or powdered oyster shells may be added. It is not well to use large flower pots, even the larger plants will have ample space for their roots in a 5in. or large 48-sized pot. Drain well with potsherds, and secure the drainage with some turf fibre from which the soil particles have been shaken. The plants should be placed near the glass in garden frames, and they do best when slightly shaded from hot sunshine.

NEW ALPINE AURICULA PHYLLIS.

A beautiful variety with finely formed flowers having a cream-coloured centre.

Offsets are very freely produced, and by these they are propagated. The offsets may be removed as soon as they have formed roots. They are planted in small flower pots, and placed under handlights. An offset would take from 12 to 18 months to grow into a large specimen plant. There are numerous named varieties which can be obtained at a cheap rate. Gold-centred varieties are Admiral, Argus, Byron, Dean Hole, Duke of York, Ettrick, Firefly, Flora McIvor, Mrs. Martin Smith, Mrs. Danks, Rosy Morn, The Bride, Urania, and Ziska. White or cream centres: Admiration, Blue Bell, Elegant, Euterpe, Mrs. Douglas, Miss Berkeley, Phyllis, Martin Smith, Teviotdale, and Thetis. There are other new varieties not yet in commerce.

James Douglas, V.M.H.

Edenside, Great Bookham.

CABBAGE.

Kitchen garden resources are often taxed to their fullest capacity in the endeavour to maintain an adequate supply of tender cabbage throughout the year. Demands are generally most exacting early in spring, and again late in the autumn. For the earliest heads nothing surpasses a sowing of Ellam's Early Dwarf cabbage made the previous autumn. This variety is most reliable, and is absolutely non-bolting, while it readily responds in spring to any favourable influence employed to hasten maturity. Seeds of Winningstadt cabbage sown in March or April in the open will produce plants to give heads late in the autumn, carrying the supply of this vegetable into the season of savoys. Cabbage being grown for the utility of the leaves, readily respond to light, and frequent applications of nitrogenous manures applied during the growing season. These are represented among artificial manures by sulphate of ammonia and nitrate of soda. **T. Smith.**

THE HARD FERN.

Although one of the prettiest of our hardy evergreen native species the Hard Fern (Blechnum spicant) is so rarely seen in our gardens as to be popularly unknown, which is a great pity, since it is of easy culture, and, given a shady position in leafy, loamy soil, forms very pretty specimens. It is also admirably adapted for pot culture in cold conservatories facing north or east, where flowers languish for want of sunshine, in this respect resembling the bulk of our native ferns, which in their varietal forms should be largely utilised in such situations.

The Hard Fern is very distinct from any other of our native ferns. Its fronds are once divided like a double broad-toothed comb, tapering to a bluntish point, they are dark green and very tough, whence its name, and are perfectly evergreen, so that even in the winter it is a pretty plant. It is also distinguished by producing two sorts of fronds, viz., those already described, which predominate and are barren, and which are lax in growth, forming a rosette, and others which grow perfectly erect and have much narrower divisions set wider apart, these are the fertile ones bearing the spores. It needs plenty of moisture and cannot stand lime, either in the soil or in the water, so that rain-water should be used for pot plants if the ordinary water supply be hard.

In those parts of the country where it is plentiful it is found in abundance on sloping hedge banks, and in the woods growing in the leafy soil, and under the most favourable conditions produces fertile fronds two feet high, while the rosettes of barren ones may be as much across. As regards varieties it has been fairly liberal in sports, some of which are much prettier than the common form. These have been found wild among the common ones, and decidedly one of the prettiest of all was found by the writer, viz., B. s. concinnum Drueryi. As a little note on how this was found may stimulate others to try their luck in fern hunting, I will give the particulars. After a barren day's hunt on Exmoor, barren as regards finds, but glorious as to the weather and surroundings, I and my companions, a local fern hunter and another man, reached a little inn at Simonsbath, a small village in the very heart of the moor, and sat down to rest and refresh ourselves. Several of the villagers were in the parlour, and one of them, an old man, hearing me mention ferns and our want of luck, for in that particular locality ferns were apparently few and far between, he said, "There's a zoight o' fearns in the dyke down yonder," and, as a forlorn hope we sallied forth to inspect the "zoight." Sure enough we came to a stone dyke or wall composed of a bank of soil faced and backed by rough stones, the chinks between which were crowded with young ferns, Lady ferns, Male ferns, blechnums, etc., etc., in hundreds.

My guide, the local fern hunter, rushed ahead of me to see what he could see, while I, at that time with less experience, followed him slowly, examining every plant I saw. All of a sudden, peeping out of a chink crammed with youngsters of the common blechnum, I noted about an inch of a slender frond of the same species, but, instead of a blunt toothed double comb it resembled an even string of twin scallop shells, and hastily pushing the other fronds aside, I found to my extreme delight, six thoroughbred fronds of the same type issuing from the same centre, implying a constant and thoroughbred discovery. Sorted out from the clump of common ones, with which it was entirely unassociated as an individual, its roots were packed in wet moss, and a year or so afterwards some hundreds of seedlings proved true, and were distributed widely, the fern being now in every collection worth the name.

This recital will give some idea of how such "finds" occur, and incidentally of how far the true variety hunter differs from the ordinary fern vandal. How they arise no one knows, all that we do know is that every now and again new forms are discovered under more or less similar conditions. Among such there are prettily tasselled varieties, cristatum, ramo-cristatum, serrata-cristatum, and polydactylum; narrow ones, like the one described, and lineare Barnes, with smooth-edged divisions, and plumose ones like B. s. serratum Airey and B. s. plumosum Forster. The crested ones are peculiarly pretty, since the fertile erect fronds partaking also of the tasselling, they resemble green flowers springing from a rosette of green foliage. The best compost is one consisting of friable loam and leaf-mould in about equal parts.

CHAS. T. DRUERY, V.M.H., F.L.S.

[Photo (copyright): Prof. C. S. Sargent.

CHINESE TEMPLE ON THE CHEN-TU PLAIN, WESTERN CHINA.

The trees behind the temple are the Nan-mu (Machilus Nanmu), from which the Chinese Coffin-wood is obtained. On the left is a clump of bamboos (Phyllostachys mitis), and in the foreground is a Paddy field, with rows of Soja beans.

Monarda didyma is an old and familiar subject to many, nevertheless, few plants so well repay timely forethought when planting. Though only of ordinary beauty, the flowers are of such a colour as readily become effective when boldly planted, yet the merit of the species lies less in this direction than in the leaves, which at the slightest motion or touch exhale an odour that is most refreshing to the senses. For this reason, it should be given a position of easy access, so that one may almost literally stumble over it, and thereby quicken its virtue, for amid the plenitude of garden subjects of the present time none, I believe, awaken more pleasing memories than our old friends the bergamots.—THOMAS SMITH.

THE PERFECT ROSE GARDEN

A vast space, cunningly laid out in winding walks meandering between shrubberies of the rose; paths canopied here and there, in others spanned by just a garland branch, or open to the blue of heaven; seats just at the fairest vista-views, banks crimsoned over with those red tea roses that offer shades unknown a few years back; walls crowned by pendant masses of gold and white, pink bushes wide as shrubs, arbours dense as though of evergreen, pillars to show the height to which a rose will reach. All these are but features of a perfect rose garden. In addition to space there must be a variety of levels; as well as pergola walks, we require open glades and lawns; and the borders need the background of blossoming hedges. In short, there are no limits to the beauty that the mind can imagine as existing in that perfect rosery which will never, alas, be seen on earth, but towards which all our endeavours loyally tend.

[Photo (copyright): Prof. C. S. Sargent.

A VIEW ON THE CHINA-THIBETAN BORDERLAND AT 12,000FT. ELEVATION.

This view shows the home of the yellow-bracted Rheum Alexandræ found by Mr. E. H. Wilson, and now being introduced by Messrs. Jas. Veitch and Sons. In the foreground and among the rheums is Primula siberica chinensis, and in the background is a wood of the new Larix Potanini, both found by Mr. E. H. Wilson.

A narrow taste in roses is a sin to be avoided. There is as great genuine loveliness in the clustered tiny flowrets of a dwarf polyantha as in the giant snowy cups of Frau Karl Druschki. The single briar has a form that artists of all ages have made their model; the striped York and Lancaster breathes forth historical lessons as well as perfume; the old pink cabbage, the Austrian briar, the spined Scotch rose, and the dainty moss must claim their places if a collection is to be poetic and representative.

New effects in the rosery need to be jealously considered ere they are introduced. Among modern intensely double varieties there is exquisite contrast to be found in single flowers. Surely there should be a notably old-fashioned portion of the rose garden, too, a surrounding for the sundial or quaint carved fountain, maybe also for the grotto holding some stone nymph or goddess. If so, no trouble should be grudged in seeking out and bringing there the roses that were loved so long ago that fickle memories are losing touch with them. Striped varieties were once immensely valued; we can succeed in purchasing numbers still, first of all, Œillet Parfait, Red Damask, Rosa Mundi, or the Village Maid. Perhaps we can yet discover Boule de Nanteuil, Briseis, Tricolor, of pink, red, and purple, the velvet crimson Tuscany, Harlequin, Abesses, and Pamela, those companions of the former in our great-grandfather's gardens. Borders and beds of great capacity will be needed for this old-world collection; there are hundreds of past favourites, such as La Belle Distinguée, Stanwell Perpetual, La Constance, or Pæony-flowered, the delicate blush La Chérie, the dusky moss known as Comtesse de Noé, the Rose de Meaux, the Pompon Provence, the striped Unique, and Maiden's Blush.

Probably there must be a water scene in the perfect rose garden, for the exquisiteness of the flower is not realised until it is seen mirrored in some still pool, and dipping luxuriant garlands in the stream or lake. Wichuraianas, rambling down a steep bank to touch the ripples of a trout stream, a Crimson Rambler pillar of marvellous height rising from a tiny islet, a cavern-like low arch of Euphrosyne, the pink rambler, outlining the span beneath a rustic or stone bridge, these are delights not to be owned by all, of course; but to be recommended to the few.

Monotony in planting has spoilt many a rose garden; there should exist no flat shrubberies, but standards, pillars, bushes, dwarfs, even arches set to span other roses, can be so arranged as to lead the eye gently onwards to fresh vistas and rival groups. Up hill and down dale the paths should lead, aided by steps where necessary, those steps themselves edged closely by trailing and pegged-down roses, with perhaps hand-rails that serve as supports for climbers of no great altitude. Edgings may well be various, the green mossy turf in places, rough grey stones in others, miniature hedges of small kinds of roses here and there, but not a trace of formal tiles. A rosery that has no unexpected nooks and arbours can scarcely be called a success, but it is wise to beware of erecting the usual so-called rustic summer-houses, all shiny with varnish, and of a crude brown never seen in nature.

A trellis arbour is generally excellent in effect, thatched huts built of pinewood or natural larch poles can be cordially recommended. The terrace may be made a portion of the rose garden; if this is so, let delicate growers only be trained against the stone parapets, supported on wire-netting, painted to match the background.

M. H.

HARDY AZALEAS.

The hardy azaleas might readily claim regal rank amongst deciduous shrubs, for there is nothing to surpass them in beauty whilst in flower, and the blossoms are deliciously fragrant. Added to this they have a second period of beauty which occurs in autumn, for the leaves assume brilliant shades of scarlet, orange, bronze, and red previous to falling. The group is composed of a number of species of North American and Asiatic origin and a large number of varieties and hybrids, many of which have been raised or selected by English nurserymen, whilst others have originated in Holland, France, and other countries. Although they are effective when dotted about a shrubbery, their greatest beauty is developed when a large number of plants are grouped together to form a distinct garden, and it is difficult to imagine a more lovely sight than a tastefully arranged collection of hardy azaleas in full bloom, for the numerous shades of colour, which range from white to blood red, from cream to orange, from orange to scarlet, and from pink to deep rose, are peculiarly delicate, and a harsh note is rarely struck.

GENERAL VIEW OF AZALEA GARDEN, KEW.

A Beautifully Situated Garden.

One of the accompanying illustrations shows a portion of the Azalea Garden at Kew, which is recognised as one of the most attractive features of the Royal Gardens. Situated on the northern side of the Syon Vista, a few minutes' walk from the Palm House, it occupies an open glade in the midst of large specimens of beech, oak, and lime, and consists of beds, the majority of which form two circles, and the remainder occupy positions along the numerous grass vistas which lead up to the centre of the garden. The beds are divided by grass paths, and the centre of the garden consists of a lawn on which large specimens of rare magnolias are dotted about. The nucleus of this garden was formed about fifty-five years ago at the time when Sir William Hooker was director of the gardens. That, however, was but a small affair compared with what the garden is now, for it has been enlarged on several occasions, and was partly remodelled about fifteen years ago, whilst additional beds have to be made every few years to accommodate the collection as it constantly increases in size. When the azaleas are in full bloom, about the end of May, this garden presents a sight not readily forgotten. Away in the distance one notices a vivid patch of colour, and, after traversing a long grass vista, suddenly finds himself in the midst of an acre or so of flowers of the most delicate shades imaginable, whilst round about the delicate green of the young leaves of beech, oak, lime, and hornbeam form an admirable setting amongst which touches of colour are given by copper beech.

Cultivation.

There is one thing which forms a grave stumbling block in the culture of azaleas—that is lime. In ground containing lime in any appreciable quantity it is practically impossible to grow azaleas, but in most other kinds of soil they thrive. They succeed best in that of a peaty character, but do quite well in sandy or even heavy loam when lime is absent. In preparing ground for azaleas some people go to the trouble of providing 18in. or so of peat. This is, however, quite unnecessary, and, in fact, the plants will thrive better with one-third that quantity, providing the natural ground is not of a peaty character. Should the soil be fairly light loam, dig the ground over to a depth of 18in. and take out a few inches of the lower material; then, after the trenching is done, spread 6in. of peat over the ground and fork it in. In this the plants will grow far and away better than if 18in. of peat had been provided. When planting, care must be taken to tread the plants in firmly, and keep the top roots near the surface of the soil, for deep planting is very injurious. Water will probably be required occasionally during the first year after planting, but it is a mistake to be too generous with artificial watering, though, providing the drainage is good, an abundance of rain does no harm. On the approach of hot, dry weather the beds may be mulched with a good dressing of half rotten leaves. This will prevent excessive evaporation, keep the roots cool and provide an excellent rooting medium for the surface roots. This top dressing should be left loose on the ground, and no attempt made to cover it with soil or dig it in. To keep the plants in good health it is necessary to remove the flower heads as soon as the flowers fade, to prevent the production of seed.

Azaleas for Forcing.

No better subjects can be found for forcing than the various hardy azaleas, more especially those of the sinensis or mollis class. Of compact habit, free flowering, and rich in colour, they well repay the little trouble they give, and form excellent plants for conservatory, ball-room, or dwelling-room. Quite a large industry has developed of late years, notably in Holland, by growing plants especially for forcing, and it is possible to obtain fine bushy plants 1ft. to 2ft. high, carrying 40 or 50 flower buds for a shilling or so each. If well treated it is possible to force some of these plants two successive years, though many people force them once and then plant them out, whilst other people destroy them as soon as the flowers are over.

Selection of Varieties.

As a general rule, the various varieties and hybrids are planted more extensively than the species, not so much on account of their being better, but by being more easily obtained. The species that have entered most largely into the production of this garden race are A. nudiflora, A. calendulacea, A. occidentalis, A. arborescens, and A. viscosa from North America, A. sinensis from China and Japan, and A. flava from the Caucasus. Although all are kept up under the name of azalea for garden purposes, they are now included under rhododendron.

A WELL-DEVELOPED SPECIMEN OF A VARIETY OF AZALEA MOLLIS.
Flowers bright red.

A. nudiflora (R. nudiflorum) is sometimes called the "American Honeysuckle," and the "Pinxter Flower." It forms a dense bush 3ft. to 6ft. high, with lanceolate leaves and showy flowers, which may be white, pink, red, or striped red and white in colour. It has been responsible for many of the light coloured varieties. It is widely distributed from Canada to Georgia, and has been known in English gardens since 1734. A. calendulacea (R. calendulaceum), occasionally called the "Marigold-flowered Azalea," is distributed from Pennsylvania to Georgia. It has oblong leaves which are more pubescent than those of the last-mention species. According to the conditions it is growing under, it is found from 3ft. to 6ft. in height. The flowers are orange, red, scarlet, or yellow, those on some plants being self coloured and on others composed of two shades. Many of the rich reds, scarlets, and orange-scarlets have arisen from this.

A. occidentalis (R. occidentale) is a tall-growing, white-flowered plant from California. It flowers rather later than the previously-mentioned kinds, and is very fragrant.

A. arborescens (R. arborescens) occupies mountainous parts of the country from Pennsylvania to North Carolina and Tennessee. It acquires a height of at least 8ft. to 12ft., and is distinguishable by means of its glossy leaves and white or pink fragrant flowers. It blossoms several weeks later than nudiflora and calendulacea, and is usually at its best about the end of June.

A. viscosa (R. viscosum) the "Swamp Honeysuckle," or Clammy-flowered Azalea, is widely distributed in North America. It is readily distinguished from other sorts by means of its very sticky white or pink flowers which are extremely fragrant, and borne in July. Between this and the last-named species a number of hybrids have been raised which are very floriferous and flower in July.

A. sinensis (R. sinense) is well known in gardens under the name of A. mollis. It is a native of China and Japan, and is remarkable for its large orange, yellow, red, or scarlet flowers. Out of doors it blooms in advance of the American sorts, and is frequently at its best about the end of April and early part of May. This early flowering is not in its favour for a late frost sometimes spoils the whole of the flowers. It is the most popular of all for forcing, and is now being used largely for crossing with the American species.

A. flava (R. flavum) is found wild in the Caucasus, and is distinguished by its yellow flowers. From it many good yellow and orange forms have originated.

A well-marked type is in commerce, with double flowers of different colours, the various varieties being known collectively as A. rustica. It has originated by selection. The well-known term Ghent azaleas is applied to the varieties and hybrids of the above-mentioned species from the fact of many varieties having been raised, and a large quantity of plants grown in Ghent.

Although these conclude the sorts usually grown in gardens, there are others which have equal merits that are not so well known, and brief notice may be taken of some of them. Keeping to the generic name of rhododendron they are as follows: R. dilatatum, a rare reddish purple-flowered species from Japan; R. quinquefolium, an ornamental species, curious by reason of the leaves being borne in whorls of five; very few plants of this exist in the country; R. rhododora, a purplish-flowered North American plant; R. rhombicum, a reddish-purple flowered Japanese shrub, and R. Vaseyi, a very beautiful species from North America, with white or pink flowers.

We have also several evergreen sorts, which are included in the group known as azaleas. The Indian azalea, for instance, possesses several hardy forms, such as amœnum, amœnum splendens, balsaminæflorum, and Kæmpferi, a form from the mountains of Japan, with brilliant coloured flowers produced in great luxuriance.

Then there is R. ledifolium, with large white flowers, a native of China and Japan, and its variety narcissiflorum with double pink flowers, and R. linearifolium with long, narrow, hairy leaves, and reddish-purple blooms, which comes from Japan.

With this wealth of material, it is not surprising that a garden planted with azaleas can be made a very beautiful place, and in it flowers can be found from mid-April until the end of July. W. D.

NOTES ON POTATOES.

It is satisfactory to be able to record the fact that first and second early potatoes are turning out well this season. The crops are excellent, with hardly any disease. Duke of York showed some disease, but, nevertheless, it gave a marvellous crop, and fine-shaped tubers of good cooking quality. Carter's First Crop, very perfect and prolific; May Queen, excellent, and a big crop; while Snowdrop produced a wonderful crop. White City (Sutton's) is very prolific, and the tubers remarkably good. A pink variety sent out this season by Messrs. Sutton has very handsome tubers, is a fine cropper, and cooks well. Long Keeper (Carter's) has for the second season turned out remarkably well, producing an excellent crop of good-sized tubers, quite free from disease, and of good table quality. It should become popular for maincrop.

W. A. Cook, Leonardslee.

A TYPICAL SPECIMEN OF GHENT AZALEA.
Flowers rich golden yellow, with dark blotch.

NOTES FROM KEW.

Hydrangeas.

For flowering during the late summer and early autumn months, several of the hydrangeas are of high ornamental value, and though the common kind cannot be regarded as hardy at Kew, there are others worthy of especial note. Some, the climbing H. petiolaris or volubilis in particular, are now over, but H. paniculata is only just unfolding its blossoms. The variety grandiflora, so popular from the fact that it produces its flowers in large pyramidal-shaped heads, is a general favourite, but the typical H. paniculata, whose sterile flowers are, compared with those of the variety grandiflora, less in number, is superior as an outdoor shrub, the growth being more robust and the foliage of a richer green. An exceedingly pretty hydrangea, introduced, I believe, by Robert Fortune, and known at different times as H. Lindleyi and H. roseo-alba, is at Kew regarded as a form of the common hydrangea (H. Hortensia). Though this may be botanically correct, there is a great difference between the two from a horticultural point of view, as Lindleyi flowers from the axillary as well as the terminal shoots, so that should these last be killed by the winter the display of flowers is but little affected thereby. Compared with the ordinary H. Hortensia, the flower clusters are small and the large sterile blooms are limited to a few scattered around the outside of the cluster. They are suffused more or less deeply with a bright reddish rose-tint. In stature, too, this variety is less than the common kind, while the leaves are smaller. Hydrangea radiata, a native of the Southern United States, is also flowering freely. This forms a somewhat spreading shrub 4ft. to 5ft. in height, clothed with large ovate leaves of a bright green above, and white underneath. This last-named feature is particularly noticeable when the foliage is stirred by the wind. The flowers, borne in flattened clusters, are white, but the large showy ones are very few in number.

Clethra alnifolia.

This deciduous member of the heath family which is known in the United States (where it is a native) as the White Alder and Pepper Bush, is an exceedingly valuable shrub for flowering at this season. It forms a rather compact growing bush, whose ascending branches are clothed with ovate leaves, somewhat soft in texture. Just now the plants are plentifully sprinkled with spikes of white flowers, which in general appearance suggest those of a veronica. Clethra alnifolia being of wide geographical distribution in North America there are several forms, differing more or less from each other. By far the most distinct is tomentosa, whose leaves have a whitish down on the undersides, while the plant is of looser growth. The most important feature, however, is the season of blooming, for whereas Clethra alnifolia is now in full flower, the variety tomentosa is only in the bud state, and this is always their relative times of blooming. Given a cool moist soil, such as azaleas and rhododendrons delight in, these clethras are well worthy the attention of the planter.

Hardy Heaths.

Of late years considerable stretches of the different hardy heaths have been planted at Kew, and though their flowering period is not limited to this particular season, the greater number are now in bloom. When one sees considerable breadths of such kinds as Erica cinerea represented by several varieties, Erica ciliaris and its variety Maweana, the Cornish Moor Heath (Erica vagans), the St. Dabeoc's Heath (Dabœcia polifolia), with its particularly large bells, and the numerous varieties of the ling or heather, it is then that hardy heaths appeal to ever lover of flowers as they brighten up the declining days of summer, and bloom till the autumn nights get cold and damp.

Tamarix Pallasi rosea.

This, which is often known in nurseries as Tamarix hispida æstivalis, forms an exceedingly graceful and charming specimen throughout the entire growing season, but in August and even later when the plumose shoots are wreathed for some distance with little spikes of pink blossoms, it stands out absolutely without a rival. Several examples of it occur at Kew, a bed near the succulent house being very noteworthy. K.

HARDY FRUITS IN SCOTLAND.

With the single exception of apples, which, in many places, are below the average, the present season promises to be a record one for most kinds of outdoor fruits. Gooseberries are abundant everywhere; in some cases the bushes are badly broken with the weight of the crop. Notwithstanding the heavy yield, the size and quality of the fruit is not deficient, while the loss caused to the latter by cracking through excess of moisture is less than usual. In the markets the prices obtained for good sound berries are so low that growers declare that the cost of gathering is scarcely cleared. At present the green, thin-skinned varieties are most in evidence, and as these will not keep long when pulled, and quickly deteriorate in quality, this of itself tends to lessen their value. In the course of a few days Warringtons and Whinham's Industry will be ripe, and these apparently are the market gooseberries in Scotland, great quantities being disposed of daily by auction and otherwise at prices that, though quite normal in the markets, seem ridiculously low to private growers, and one might be pardoned for thinking unequal to the cost of picking, carriage, commission, and other incidental expenses, leaving out of consideration any profit to the grower.

Raspberries.

These, too, have been a heavy crop, and still continue to yield well. The dry period in June caused grave apprehensions for this crop, as at one time both growth of foliage and fruit seemed at a standstill. Several weeks of very wet, cool weather followed, which was in turn succeeded by a spell of heat, which, together with ample moisture at the roots, caused the fruits to swell and ripen quickly, consequently record daily gatherings were made, more particularly in districts very favourable to the culture of these fruits. At present the two most extensive tracts of land devoted to raspberries in Scotland are Blairgowrie, Perthshire, and Barr, near Girvan, Ayrshire, the former being the longer established, but the acreage under crop at the latter district is increasing very rapidly. How long, or to what extent, this extension can profitably be carried out, is, of course, uncertain, but judging by wholesale market returns, prices are falling yearly, in many cases as much as several pounds per ton, so that to continue remunerative it would appear that fresh markets or better means for distribution of the crop must be found. Taking the former district, the sum collectively paid to gatherers, packers, and carters, until the time the crop is placed with the railway companies, must represent a huge total.

Strawberries.

This crop, on the whole, has been a disappointing one, not, however, because of scarcity of berries, for towards the end of June there was promise of abundance, but cool, moist, and almost sunless weather setting in as the maincrop varieties should have ripened, great quantities failed to arrive at proper maturity; or where the growth was extra vigorous or the plants very close together, almost complete failure resulted, while lack of flavour was the general comment. The advantage of young plants for fruiting was more than usually manifest this year, through the inclement weather conditions referred to, as a large plantation here put out last autumn of most of the leading sorts, both old and new, produced more fruit than a similar-sized plot a year older, which should properly have been at its best. Included in the first-named were several rows of The Bedford, an excellent strawberry for private use, though, I fear, it would prove too large and soft for travelling a long distance, or for market purposes. But fruiting freely, and being but little hampered by foliage, the individual fruits grew large, ripened thoroughly, and the colour and flavour made it much appreciated at table. Laxton's Reward appears to withstand wet seasons well, and although its quality may not quite equal that of its reputed parent, British Queen, it is certainly well ahead of many of the new varieties in this respect.

For very late use Givon's Prolific, Elton Pine, and Laxton's Latest have done well, and very good fruits were obtained until quite the end of August. Whether very late strawberries are worth the space for growth, time, and attention to preservation bestowed upon them is questionable. In the first place a cool and more or less shaded position for the plantation must be chosen, and this of itself implies that with shortening days and waning sun heat the fruit must arrive at maturity without a great amount of this most beneficial of all aids to quality. Apart from this, the trouble of protection from birds and the smaller rodents is very great: furthermore, other fruits are at this time plentiful, and although inferior quality may be tolerated early in the season, it will hardly pass muster at the end, so soon after the passing of the maincrop varieties and their due appreciation.

Currants.

Black and red varieties have both borne full crops, the former particularly so, the dampness appearing to suit them well, for as fast as the fully-developed berries were pulled those later advanced and took their place, and but few were lost in the end. The seemingly precarious condition of the foliage of these at one time caused some anxiety, for in spite of washings, as far as time would allow, insects of the aphis family appeared to increase, and the glistening of the foliage owing to their presence was not pleasing. The heavy rains, however, gave the foliage a good washing, and the bushes soon assumed their usual healthful appearance. For the first time for many years a superabundance of this crop has been produced, all requirements being fully supplied, and still fruit to spare. This fruit is in great demand in Scotland by both rich and poor, the latter thinking the winter store of preserve incomplete until several jars containing a preserve of some kind of this homely, but useful, fruit is added to it. James Day.

Galloway House, Wigtownshire.

ISOLATED ROSES.

I am at a loss for a better title to these few notes than the above. With the advent of so many charming roses of extra vigorous habit, much more use might be made of roses as specimen flowering shrubs. Nothing can be more imposing and attractive than a pyramid or standard of Dorothy Perkins in full flower. Year by year we secure suitable growth of this class of rose that is readily trained into any desired form, and only exceptionally unfavourable weather can prevent a pleasing display.

At present we have several fourteen to twenty feet pillars of these and other roses in full beauty. Most of them are trained against or around larch poles that had [illegible] one to two feet of the side spurs left on. Some are between three ordinary hop poles, and others climbing among conifers that died last season. In the latter case most of the branches were cut off, the soil made very rich at the base, and the rose set in without further trouble or disturbance. Very gratifying results were obtained, and the extreme beauty of these specimens against the various greens of the conifers is most striking, the roses themselves being a mass of colour, and growing more or less at will.

But we are by no means tied to Dorothy Perkins. There is a beautifully pure white form of this rose now. We can also use Crimson Rambler and Blush Rambler in the same connection, only these do not droop over in quite so fascinating a manner. In the Wichuraianas, too, we have a very large choice, both in time of flowering and colours. Evergreen Gem, Gardenia, Joseph Billard, François Foucard, and by no means the least, our old favourite, Wichuraiana "Type," the parent of so many of this beautiful race of roses.

On the lawn, in the shrubbery around [illegible] in fact, heaps of suitable spots can be found for this class of rose. In tall standard form they are superb, and few sights surpass a good weeping standard of these varieties. Another purpose which these roses can be put to is as a small summer house or immense umbrella shade, quite sufficient for a seat beneath, and answering the same as the weeping ash or willow; and here again the umbrella frame is a great assistance.

When we consider that the class of rose more particularly under notice makes growths of ten to twenty feet or more in length, which frequently bloom throughout, carrying immense trusses of flowers, it is easy to realise how much they are in advance of ash or willow. One can imagine few things more ideal than to sit beneath the shade, beauty, and perfume of roses.

With so many roses it is almost compulsory to plant in batches to obtain much effect, but it is not so with these. Of course, they can be so grown, or upon pergolas, etc. Then again, we have many good varieties that do well when isolated. Ards Rover, with its deep crimson, sweet-scented flowers; Conrad F. Meyer, Mrs. Paul, Gruss an Teplitz, and others of like habit, although these do not equal the drooping habit of the many graceful Wichuraianas and their hybrids. If standards are used, they need to be very tall indeed to allow of any subject being cultivated beneath them, such as violas, etc. In most cases, the lengths of growth will hang to the ground, and even if they do not quite achieve this, they never leave a gaunt or leggy effect. As for the varieties suitable, there are far too many to mention here.

A. Piper.

Uckfield.

A NEW WATER LILY.

The beautiful Nymphæa Mooreana, of which an illustration is given herewith, is of special interest from the fact that it has been received from Australia, and is of a much finer colour than the well-known and highly-popular N. Marliacea chromatella. Some eight years since this water lily was sent to Mr. James Hudson, V.M.H., by a friend of his resident in Australia, and since it became established, two years later, it has been one of the most conspicuous of the many fine nymphæas in the large collection of these beautiful aquatics in the gardens of Gunnersbury House. The variety has proved quite hardy at Gunnersbury, has a good constitution, and is profuse in flowering. The flowers are large in size, have rather short and very broad petals, and the colour is a rich lemon-yellow. The leaves of N. Mooreana differ from those of N. Marliacea in being of greater substance and quite free from marbling. This fine form attracted much attention when exhibited by Mr. Hudson at the meeting of the Royal Horticultural Society, held on July 20, when an Award of Merit was made in its favour.

NYMPHÆA MOOREANA.

A beautiful hardy water lily received from Australia; the colour rich lemon-yellow. The flower is shown much reduced below natural size.

GRAPES AND HOW TO GROW THEM.—An illustrated guide to propagation, culture, and management in vineries, greenhouses, and in the open air. By J. Landell, F.R.H.S. Price 1s. net, by post 1s. 2d.; cloth, 1s. 6d., by post 1s. 8d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

WINTER - FLOWERING CYPRIPEDIUMS.—Many of the autumn and winter-flowering section of cypripediums will now be producing their flower scapes. From this stage until the flowers have become expanded the plants will need careful attention, and every encouragement. While protecting the foliage from any possibility of disfigurement from the direct sun's rays, they will be considerably benefited by plenty of light. Where they have been for some considerable period in the same pots, so that they have become matted at the roots or pot-bound, every care must be observed to supply them with ample root moisture. While not advocating feeding of any description for cypripediums, I would say that if any assistance be given to them those that have become pot-bound will most likely be benefited. At the time they are pushing up their flowers, a little soot water or weak liquid cow manure can do little harm, and the latter will certainly assist in retaining the roots in a moist state should the next few weeks prove dry and warm. At this season insect pests are most troublesome, black thrips blown through the ventilators or carried after a shower into the rain-water tanks from the roofs of the houses, where they have been carried from surrounding trees or herbaceous borders. It may frequently be observed after a rain that the surface of the rain-water tanks become literally covered with thrips and other insects. Consequently in watering and syringing we readily convey some of the most injurious insects to our plants. Constant observation and precautions are necessary with young growths and advancing flower scapes at this season. Where the pests are observed spray the plants with some safe insecticide, and vaporise the houses at regular intervals. If the growths have become disfigured, dip them about once or twice a week; afterwards rinse them by dipping in tepid soft water and lay them on their sides to drain, so that there may be no excessive accumulation of moisture at the base of the leaves.

THE MEXICAN LÆLIAS and other light-loving orchids, should now have all permanent shading removed. Should it be necessary to protect during the hottest part of the day, a mat or piece of old shading may be temporarily laid over the glass roof for a few hours, but where ample ventilation can be given, there is little danger of injury from the sun. Syringe these plants overhead in bright weather, and close the house reasonably early in the afternoon, and thus obtain a moist warm atmosphere. Syringing should be done sufficiently early in the day to permit the foliage becoming dry before the cool evening temperatures are reached. It is desirable to have the roof ventilators open a little at night in this division, which will, with the aid of a little fire-heat, prevent any possibility of a stagnant atmosphere.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

IPOMÆA RUBRO-CÆRULEA.—To secure an abundance of the sky-blue flowers of this climber for autumn and winter use upon the breakfast and lunch tables, the plants that have been growing under cool treatment should soon be removed to their winter quarters in an intermediate house. When planted out or in pots, train near to the glass. If in pots be careful when these become full of roots; feed the plants liberally, and freely syringe the growth to prevent the attacks of red spider.

CLIMBERS IN POTS.—When the flowering season is over, and when as a rule space becomes limited, a well-heated dry pit is useful for the accommodation of those passing into the resting stage. Their removal very considerably improves the appearance of the stove, and the well-being of the inmates remaining therein. Some of the dipladenias, such as boliviensis, may continue to bloom for some time yet, and are well worth the space required. Allamandas planted out may still continue to bloom, but where the bloom buds are not set the wood may be thinned out; gradually reduce the water supply, giving only sufficient to keep the wood plump.

STEPHANOTIS. — When good early growth has been secured, with the object of obtaining early flowers, the plants should now be given more exposure to light and air, and be kept drier at the roots for a couple of months. Then with gradually increased temperature early supplies may be relied upon.

FERNS. — Keep the stock of decorative ferns and also the ferns that are being grown for supplying cut fronds as light and airy as possible with safety to the plants. Adiantum cuneatum in particular, when grown for the production of fronds for cutting should be treated in this way, the fronds being much more durable than when the plants are grown under the usual conditions. Remove all old fronds to prevent damping, and do not overcrowd the plants. Take every opportunity of increasing the stock of the more useful kinds, such as davallias, as these last for a considerable time in a cut state. Seedlings of many ferns will be found springing up in different directions, and these may now be potted up and established by winter. It is always necessary to keep a sharp outlook with a view to prevent the depredations of insect pests amongst ferns. If brown scale or black thrips gain a foothold to any extent the fronds are disfigured for the remainder of the season, and as many of these cannot be removed with the hope of being replaced, keep them as clean and healthy as possible.

CLEANING.—Take every opportunity to clean both the interior and exterior of all plant houses, and in the rearrangement many plants will be benefited by being given a lighter position. When collections are mixed the best culture is seldom secured, and as far as practicable separate structures should be provided for both flowering and foliage plants.—W. Fyfe, Lockinge Park Gardens.

FRUITS UNDER GLASS.

PEACHES AND NECTARINES.—Where the fruits have all been gathered the houses should have the ventilators opened to their widest, so that growth now pretty well complete may have the benefit of all the light and air possible. Where the lights can be taken off let this be done at the earliest possible opportunity. Examine the trees and cut out any shoots that are unnecessary, and these can easily be distinguished. Much of the old fruiting wood should be dispensed with. This is beneficial to the trees, as the removal allows more room for the foliage of the new growths, and without proper leaf development one cannot reasonably expect proper bud development. See that a proper supply of moisture is given the borders, especially should the weather be hot and dry, and let the foliage be well syringed morning and evening. If a little insecticide is applied now and then it will serve to keep the foliage absolutely clean. In the earliest house the leaves will be turning yellow, and these may be assisted to fall with a fine twiggy broom, and thus promote final bud development.

TREE LIFTING AND ROOT PRUNING.—If it is intended to remove any trees that may have made too much growth, or from any other cause, preparations should be made for carrying out the operation, as the earlier it is done the better. More care is required in lifting trees thus early in the season to prevent the tree flagging too much. As soon as the foliage is mature the buds will be far enough advanced for the operation, and a sufficiently large hole should be made to be able to reach the roots all around. Proceed carefully, and if the sun is hot the tree or trees should be sufficiently shaded, but it becomes a very simple matter to lift the roots if the trees have been lifted several times. It is when the roots are left undisturbed for some years that much damage is often done. The roots should be damped when exposed, and as the work proceeds some moist mats may be placed over the roots, although, if the house is shaded, this may not be necessary. The roots of peach and nectarine trees do not travel very far, and if any ramblers are found they should be severed with a sharp knife. When the soil is put back again some lime or mortar rubble may be mixed with the soil, and the whole should be well rammed firm. If the lifting is well done it will be seen in about a month that the roots are running freely in the new soil.

MELONS.—If the weather is hot cut the fruits and keep them in the fruit room till required for use, as they shrivel in an excess of heat. Those growing in frames should be kept clean, and should be shut up early to assist the fruits to ripen quickly. The latest plants in the melon house will now be swelling their fruits rapidly, and every attention must be paid to them. If the weather is dull some fire heat must be used to assist in the development of a rich flavour, and give a little manurial stimulant when they commence their last swelling, and then gradually reduce moisture after the netting process begins.—W. A. Cook, Leonardslee Gardens, Horsham.

THE KITCHEN GARDEN.

ASPARAGUS.—The asparagus plants will be completing their growth and forming their crowns for next season's supply of heads. This year seems to have especially suited this vegetable, and in most cases very satisfactory growth has been made. After the past dry and hot weather considerable support may be given the plants, and the quantity of next year's crops will be increased by giving the beds a good watering with diluted liquid manure from cattle sheds. Failing this, a dressing of an approved artificial manure, gradually washed down by supplies of water, will be highly beneficial.

CABBAGE.—During the next week or two the main plantation of spring cabbage must be made. Good rich land is of importance to this crop to give the best results. A site that has produced a crop of second early peas or onions is generally suitable, as it has usually been generously treated. Very little preparation is required beyond a dressing of soot and lightly forking over before planting. The rows should be arranged at about two feet apart, and the plants in the row at one foot from each other. Each alternate plant, if cut clean out when fit for use, will allow the standing ones to develop into larger and more profitable produce. Preserve the roots as much as it is possible when lifting them from the seed-bed, and plant firmly. I much prefer the trowel to the dibber in planting, as the roots are more naturally distributed with the first-named, if ordinary care is used.

LATE PEAS. — Mildew is often troublesome by attacking the foliage of late crops and reducing the vigour of the plants, the result being badly-filled pods. Examine the rows frequently, and give dustings of sulphur to the affected parts when the foliage is moist, and apply nutriment to the roots at short intervals with liquid manure water, etc. With such attention, and given a fine autumn, a much-appreciated supply of peas may be had through October.

SALADING.—As late sowings of endive and lettuce become large enough for thinning out, have them planted in quantities in available warm situations, where frames can be placed over them, or other protection given. There is mostly a considerable loss through various causes, such as damping, etc., that due allowance must be given by planting extra plants over the amount required. A large sowing of radishes made now will prove useful for the salad bowl through October. Protection of a glass frame will preserve them from frost, and keep the plants growing on when the weather outside becomes unfavourable.

TOMATOES.—The early trusses of flowers outside owing to the continual cold weather did not set so well as usual, but those formed later under more favourable circumstances are satisfactory, and are now swelling their fruit rapidly. Encourage the plants in doing this by giving them liquid manure, and mulching the surface with manure. Remove the fruits at once as soon as ripe, and keep the trusses of bloom well exposed to sun and light by removing all surplus growth.

GENERAL REMARKS.—In all crops keep the surface soil moved by constant hoeing for the benefit of the plants, and to destroy weeds. This is best performed during the hot part of the day. Give light to the early Brussels sprouts by removing a few of the bottom leaves that may be partly decayed; this will have a tendency to harden the sprouts and make them of better quality. All crops that have completed their growth and are occupying space, should, as far as practical, be taken up and stored. This applies to turnips, beet, carrots, etc.—Charles Flack, Cholmondeley Castle Gardens.

Erythræa gothica and E. Massoni are two of the daintiest alpine plants that bloom in autumn. They belong to the same family as the gentians, and when out of flower might readily pass as dwarf forms of Gentiana acaulis. The flowers in both species are borne upon slender, branching, leafy stems, in the form of flat heads, and are of a clear rosy pink colour. The flowering season extends over August and September, when the rock garden glories are decidedly upon the wane, consequently at this season these subjects become doubly welcome. Like the gentianella, they succeed best when planted firmly in limestone soil, and are most effective when represented by a strong colony.—Thomas Smith.

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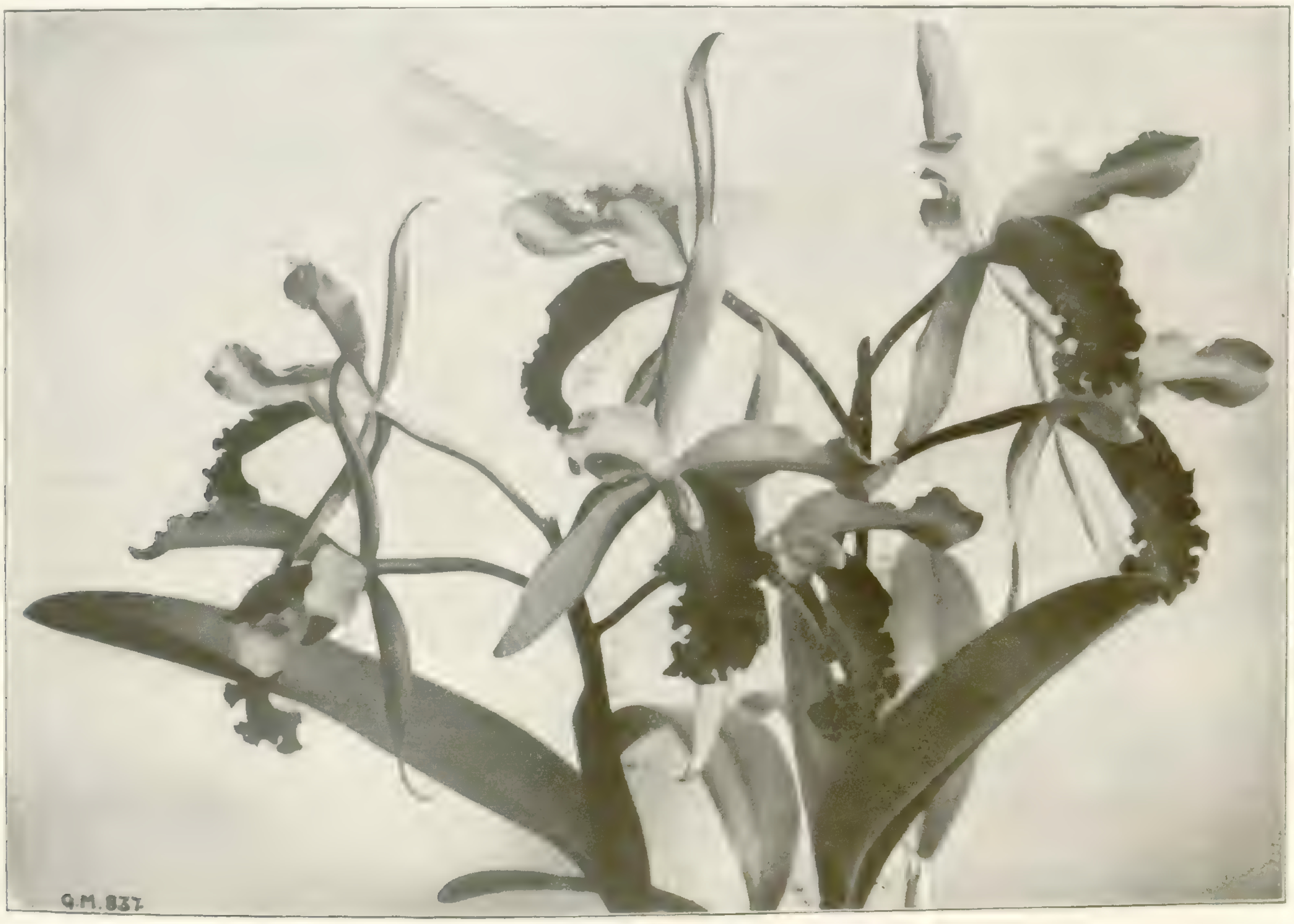
EXHIBITIONS AND MEETINGS.

◆

Royal Horticultural Society.

Dahlias and early chrysanthemums were very much to the fore at the Royal Horticultural Hall on Tuesday, August 31, and these, together with a biting wind outside, told their tale of a waning season. Hardy flowers were plentiful, and there were excellent exhibits of orchard house fruits, and some good roses. The newly introduced Chinese plants shown by the Chelsea firm, and the photographs of Chinese scenery and plants, by Mr. E. H. Wilson, formed a fine feature of the meeting.



G.M. 837.

LÆLIO-CATTLEYA GOLDEN ORIOLE, WESTONBIRT VARIETY.
A.M., R.H.S., August 31, Lieut-Colonel Holford, Westonbirt, Gloucester. Flowers, golden-yellow, crimson, and bright red-brown.

During the afternoon Mr. Jas. Hudson, V.M.H., delivered a very interesting lecture upon "The Gardens of the Lake of Como" before a good attendance, presided over by Mr. Joseph Cheal.

FLORAL COMMITTEE.

Particularly fine on this occasion was the great bank of elegant montbretias staged by Messrs. R. Wallace and Co., Colchester. The display consisted of large sheaves of [illegible] of the newer varieties, such as Prometheus, the new orange-yellow Pageant (A.M.), Hereward, E. Davison, Westwick, St. [illegible] Lord Nelson, Lady Hamilton, and G. Davison. This was a splendid exhibit of these delightful flowers. The Messrs. Wallace also showed kniphofias, gladioli, and Lilium Henryi. Mr. Amos Perry, Enfield, displayed liliums, delphiniums, phloxes, [illegible], pentstemons, rudbeckias, and a [illegible] of the beautiful Amaryllis Belladonna. Messrs. H. B. May and Sons, Edmonton, set up little groups of perpetual carnations full of flowers and buds, and representing the popular varieties; they also contributed a collection of bouvardias and the fine Lord Roberts heliotrope.

Mr. Henley, gardener to S. Morris, Esq., Thetford, contributed a very brilliant display of montbretias, showing large vases of such fine and attractive varieties as Hereward, Lord Nelson, King Edmund, Westwick, Ernest Davison, George Davison, Prometheus—very fine, and Lady Hamilton. Messrs. Hjalmar Harlmann and Co., Copenhagen, sent over a curious buff-coloured carnation, named Comtesse Knuth, very free-flowering, but not up to English form and quality. A selection of the beautiful javanico-jasminiflorum rhododendrons, brought up by Messrs. Jas. Veitch and Sons, Chelsea, were much admired, especially the varieties President, Cloth of Gold, Primrose, and Souv. de J. H. Mangles.

Of very great interest was the big group of Chinese plants, chiefly Mr. Wilson's finds, displayed by Messrs. Jas. Veitch and Sons, Chelsea. Here were Ilex Perneyi, Lilium Henryi, Buddleia variabilis Veitchiana, B. v. magnifica, Davidia involucrata, Senecio clivorum, S. Wilsonianus, Viburnum rhitidophyllum, Artemisia lactiflora, Populus lasiocarpa, Tilia Oliveri, Astilbe Davidi, Decaisnea Fargesi, Vitis Henryana, Clematis montana Wilsoni, and a host of other subjects of value for garden and park adornment. These plants were especially interesting, because just opposite the group was the fine exhibit of about 150 photographs taken in Central and Western China by Mr. E. H. Wilson on his recent expedition on behalf of Professor Sargent and the Harvard University. In many of these views could be seen the native homes of the plants staged by the Messrs. Veitch. Each photograph was mounted on a herbarium sheet, with a descriptive note attached. Two of these views, and they give a fair idea of the scope of the collection, are reproduced by special permission in the present issue. The homes of Pinus Armandi, Larix Potanini, Cunninghamia sinense, Berberis Wilsonæ, Cypripedium tibeticum, Primula Veitchi, etc., were well shown. The views of Chinese temples, the splendid views of snow-clad mountains, river scenes, Chinese carriers, etc., etc., were all vastly interesting; and what made the collection so attractive was the fact that in every case Mr. Wilson had succeeded in making a picture of his subject, and consequently the photographs were not passed over like severely technical ones would have been, but they were inspected by a crowd of visitors all the afternoon.

A magnificent exhibit of dahlias was arranged in a most effective manner by Messrs. Carter Page and Co., London Wall, E.C. This was set out across the top end of the hall. Cactus varieties were very fine, and there were splendid examples of Amos Perry, Nelson, C. E. Wilkins, Dainty, Francis Graham, Etruria, A. D. Stoop, Dr. Gray, H. W. Sillem, Buttercup, etc. Pompon, single, and pæony-flowered varieties were also well represented. Messrs. J. Cheal and Sons, Crawley, contributed a display of single dahlias, and a selection of pentstemons, solidagos, and other useful hardy flowers. Early-flowering chrysanthemums were well shown by Messrs. W. Wells and Co., Merstham, and reminded one of the nearness of autumn; with these were phloxes in quantity, pentstemons, and a few Michaelmas daisies. Mr. Wilhelm Pfitzer, Stuttgart, exhibited some interesting and bright-flowered gladioli, rather small-flowered, however.

Probably the last exhibit of sweet peas for this season was the one put up by Messrs. Dobbie and Co., the flowers coming from their Mark's Tey grounds. The blooms were clean and bright, and of good size, the leading varieties being Constance Oliver, St. George, Helen Lewis, Mrs. Hugh Dickson, Mrs. Andrew Ireland, Audrey Crier, The Marquis, Sunproof Crimson, Mrs. Chas. Foster, Clara Curtis, Mrs. Hardcastle Sykes, and John Ingman. Mr. Eames, Frome, Somerset, displayed a large collection of hardy flowers that included some excellent pentstemons and gladioli, and good spikes of Crinum Powelli and C. P. alba; Mr. Eames also had a large collection of herbaceous phloxes that contained all the leading varieties. From Messrs. J. Peed and Son, West Norwood, came a collection of phloxes, some water lilies, and the golden Anthemis Kelwayi. Some splendid tuberous begonias, single, double, and frilled varieties, were submitted by Mr. A. L. Gwillim, Cambria Nursery, New Eltham, and attracted a great deal of attention. The plumose forms of Celosia pyramidalis were grandly shown by Mr. L. R. Russell, Richmond, and the colouring and dense pluming of the flower spikes were particularly good.

Mr. Frank Brasier, Caterham Valley, showed phloxes largely, together with early chrysanthemums, perennial asters, scabious, carnations, gladioli, and other useful hardy autumn flowers. Roses were contributed by Messrs. R. Harkness and Co., Hitchin, who showed such varieties as Frau Karl Druschki, Mrs. J. Laing, Hugh Dickson, Mdme. Abel Chatenay, Victor Hugo, Ulrich Brunner, and Lady Ashtown in quantity. The Messrs. Harkness had also a goodly display of gladioli. A regiment of stalwart gladioli spikes from Messrs. Kelway and Son, Langport, once more demonstrated the value and beauty of these autumn-flowering plants; the salmon and pink shades were particularly pleasing. Artemisia lactiflora was largely shown by Messrs. Thos. S. Ware, Feltham; this is a graceful free-flowering plant of great value in the autumn; the same firm sent a small collection of alpines.

Montbretias and helianthuses made a very bright show in the group of hardy flowers set up by Mr. G. Reuthe, Keston, Kent. With these were numerous heaths, herbaceous lobelias, scabious, phloxes, and rudbeckias. Phloxes were extensively displayed by Messrs. Gunn and Sons, Olton, Warwick, who put up good spikes of Selma, Regulus, Marie Corelli, Princess Marie, Lord Curzon, F. von Lassberg, G. A. Stroechlin, and Tapis Blanc.

Messrs. J. Stredwick and Son, St. Leonards, displayed a few new cactus dahlias, their Harmony and Territorial being very good. Mr. H. Shoesmith, Woking, had a fine white cactus dahlia named Prima Donna. Mr. L. R. Russell, Richmond, filled one corner of the hall with clematises. Messrs. Barr and Sons' display consisted of hardy flowers, chiefly phloxes, kniphofias, scabious, gladiolus, etc. Messrs. W. H. Rogers and Son, Lim., Red Lodge, Southampton, showed a batch of their new scarlet pelargonium named James T. Hamilton.

ORCHID COMMITTEE.

Messrs. Charlesworth and Co., Haywards Heath, showed a group of interesting and useful orchids, the display containing Lælio-cattleya callistoglossa, L.-c. Domini, Cattleya Mrs. Pitt, the brilliant C. Venus, C. Rheda, and the handsome C. F. W. Wigan. Oncidium ornithorhynchum and its variety album, several odontoglossums, and Cypripedium A. de Lairesse and C. Lawrebel were other good things in the exhibit. Mr. Edward V. Low, Haywards Heath, sent two plants of Cattleya Gaskelliana alba. From Baron Schroder's collection Mr. Ballantine brought up some good cypripediums.

Mr. G. Day, gardener to H. S. Goodson, Esq., Fairlawn, Putney, displayed Lælio-cattleya Luminosa, L.-c. St. Gothard, L.-c. callistoglossa, Brasso-cattleya Mdme. Hye, Cypripedium H. S. Goodson, and other orchids. Messrs. Sander and Sons, St. Albans, had a display in which the leading features were Cattleya Armstrongiæ, C. Hardyana, Brasso-cattleya Maroni, Cattleya Pittianum, L.-c. Henry Greenwood, Rhyncostylis retusa majus, the interesting Angræcum Chaillui-anum, and A. infundibulare, and the handsome Dendrobium Dalhousianum.

Messrs. Stuart Low and Co., Enfield, showed a small collection of orchids that contained the white Cattleya Gaskelliana Fairy Queen, Odontoglossum Pescatorei, and numerous cypripediums. Mr. H. Alexander, orchid grower to Lieut.-Colonel Holford, Westonbirt, showed grandly grown specimens of Cattleya fulvescens, L.-c. Golden Oriole Westonbirt var., L.-c. illustre Westonbirt var., Brasso-cattleya Digbyano-Warneri, Cattleya Iris, and L.-c. Berthe Fournier Westonbirt variety; a cultural commendation was granted. Mr. Black, gardener to R. G. Thwaites, Esq., Christchurch Road, Streatham, sent Cattleya Adula, somewhat like C. Iris, Odontioda Thwaitesi, and Sophro-cattleya Blacki (A.M.), a bright hybrid between Sophronitis grandiflora and Cattleya Hardyana. The lovely Zygopetalum Lindeni was shown by Sir Trevor Lawrence, Bart., Burford Lodge, Dorking. From Messrs. William Bull and Sons, Chelsea, came a few plants of Cattleya Pittiæ, Lælio-cattleya Parysatis, Cattleya Maroni, and the bright C. Macænus, the latter representing a good form of this hybrid.

FRUIT AND VEGETABLE COMMITTEE.

A large, excellent, and interesting display of grapes came from the Royal Horticultural Society's Gardens, Wisley, and the size of bunch and berry, as well as the colour of the grapes, reflected the greatest possible credit upon Mr. S. T. Wright and Mr. Smith, who have them under their care at Wisley. The varieties shown were Canon Hall, Bowood Muscat, Black Prince, Black Monukka, Diamant Traube, Duchess of Buccleuch, Appley Towers, Muscat Hamburgh, Lady Hastings, the huge White Nice, Chasselas Napoleon, Golden Queen, Diamond Jubilee, Gros Maroc, White Frontignan, Foster's Seedling, Mrs. Pearson, the splendidly flavoured Muscat Champion, Grizzly Frontignan, and Madresfield Court. Mr. A. Mackellar, gardener to His Majesty the King, showed ten very fine, splendidly coloured bunches of Black Hamburgh grapes cut from the famous vine at Hampton Court, now 141 years old; these bunches show how greatly Mr. Mackellar has improved the vine.

A very large and interesting group of fruit trees in pots came from the King's Acre Nursery Company, Hereford, and in every case the plants carried grand crops of excellent fruits. The Queen, Emperor Alexander, Washington, and Gascoyne's Scarlet apples; Coe's Golden Drop and Jefferson plums; Triomphe de Vienne, Pitmaston Duchess, and Conference Pears; Black Hamburgh, Alicante Muscat of Alexandria, and Melton Constable grapes, trained flat and also in umbrella fashion; and the Early Silver, Barrington, Dymond, and Thos. Rivers peaches, were all very finely represented; but the great attraction was a trained Thos. Rivers peach, carrying about fifty good fruits, and growing in a 15-inch pot. A collection of melons grown without artificial heat by Mr. T. Simpson Jay, Holmwood, Putney Hill, S.W., proved very interesting; the fruits were on the small side, but were otherwise good.

Very fine was the contribution of fruit trees in pots from Messrs. Thos. Rivers and Son, Sawbridgeworth, Herts. The neat trees were grandly cropped, the plums, peaches, and nectarines being wonderfully fine. Chaucer nectarine, Sea Eagle and Dagmar peaches, and the picked fruits of Cox's Orange Pippin, Ribston Pippin, and Peasgood's Nonsuch apples were a very great attraction. Mr. Nicholls, gardener to Sir Mark Collett, St. Clere, Kemsing, Sevenoaks, sent up six dishes of grand pears, the varieties being Mdme. Treyve, Marguerite Marillat, Beurre Mortillet, Triomphe de Vienne, Souv. du Congres, and Gansel's Bergamot. Messrs. S. Spooner and Sons, Hounslow, exhibited a collection of early apples, plums, pears, raspberries, and cherries, all the fruits very clean and bright.

In the fruit classes Mr. T. Stevenson, Addlestone, gained first prize for two dishes of peaches with Rivers' Early and Royal George; he also led for two dishes of nectarines, with Pineapple and Elruge. Mr. Markham, Wrotham Park Gardens, Barnet, was first for three dishes of plums, and Mr. Tidy, Cobham Park Gardens, gained second place. Mr. J. Vert, Audley End Gardens, Saffron Walden, had the best collection of six dishes of plums, showing Golden Esperen, Pond's Seedling, President, Jefferson, Rivers' Orange, and Reine Claude d'Althan.

AWARDS.

No first-class certificates were granted.

Award of Merit.—To Lælio-cattleya Golden Oriole Westonbirt var., from Lieut.-Colonel Holford (orchid grower, Mr. H. Alexander), Westonbirt, Gloucester; to Montbretia George Henley, from S. Morris, Esq. (gardener, Mr. Henley), Thetford; to Montbretia Pageant, from Colonel Petre (gardener, Mr. G. Davison), Westwick, Norwich; to Gentiana ornata, from Messrs. Jas. Veitch and Sons, Chelsea; to Sophro-cattleya Blacki, from R. G. Thwaites, Esq. (gardener, Mr. Black), Chessington, Christchurch Road, Streatham.

Certificate of Appreciation.—To Odontioda Grairiana, from Messrs. Sander and Sons, St. Albans.

MEDALS.

Gold Medal.—To the Harvard University, U.S.A., for a collection of photographs of Chinese scenery and plants, taken by Mr. E. H. Wilson during his recent collecting tour; to the King's Acre Nursery Company, Hereford, for a display of fruit trees in pots.

Silver-gilt Flora.—To Messrs. Carter Page and Co., London Wall, E.C., for an exhibit of dahlias; to Messrs. Jas. Veitch and Sons, Chelsea, for Chinese plants; to Messrs. R. Wallace and Co., Colchester, for montbretias and gladioli.

Silver-gilt Knightian.—To Messrs. Thos. Rivers and Son, Sawbridgeworth, Herts, for fruit trees in pots.

The Hogg Medal.—To Mr. A. Mackellar, gardener to his Majesty the King, for grapes from the Hampton Court vine.

Silver-gilt Banksian.—To Messrs. R. Harkness and Co., Hitchin, for roses and gladioli; to Mr. Henley, gardener to S. Morris, Esq., Thetford, for montbretias.

Silver Flora.—To Mr. Eames, Frome, for phloxes; to Messrs. Kelway and Son, Langport, for gladioli; to Mr. L. R. Russell, Richmond, for clematises; to Messrs. Sander and Sons, St. Albans, for orchids; to Mr. Day, gardener to H. S. Goodson, Esq., Putney Hill, for orchids; to Mr. Alexander, orchid grower to Lieut.-Colonel Holford, Westonbirt, for orchids; and to Messrs. Charlesworth and Co., Haywards Heath, for orchids.

Silver Knightian.—To Mr. Nicholls, gardener to Sir Mark Collett, St. Clere, Kemsing, Sevenoaks, for pears.

Silver Banksian.—To Messrs. S. Spooner and Son, Hounslow, for hardy fruits; to Messrs. Stuart Low and Co., Enfield, for orchids; to Messrs. Barr and Sons, Covent Garden, for hardy flowers; to Messrs. Dobbie and Co., Rothesay, for sweet peas; to Messrs. Gunn and Sons, Olton, for phloxes; to Messrs. H. B. May and Sons, Edmonton, for carnations, etc.; to Mr. Amos Perry, Enfield, for hardy flowers; and to Mr. G. Reuthe, Keston, Kent, for hardy flowers.

Dundee Horticultural Association.

AUGUST 26, 27, and 28.

The Marchioness of Tullibardine gave a very happy send-off to the annual three-days' show of this society. On the whole, the show was an excellent one. No doubt the backward season had to some extent affected the exhibits, but nevertheless the display was very favourable. All the exhibits inside the large marquees were admirably arranged, and reflected great credit on the Staging Committee. The entries numbered close upon 2,000, a slight reduction from the numbers of last year.

POT PLANTS.

The marquee devoted to this section presented an exceedingly fine spectacle, the large palms, the foliage and flowering plants, and the finely-arranged exhibition stalls forming a beautiful picture. The entries for the best group of plants on a ground space 15ft. by 12ft., at once attracted the eye. Here the ingenuity and skill of Mr. James Beats, Binrock, Dundee, were indeed the envy and admiration of his professional brethren. The originality displayed in the building up of his group was quite unique, and certainly never has been bettered at any show here. The judges had no difficulty in awarding Mr. Beats premier honours. The second and third prize entries were also very good, but a long way behind that of Mr. Beats. For the best table of stove or greenhouse plants arranged for effect, Mr. George Reid, Inver-

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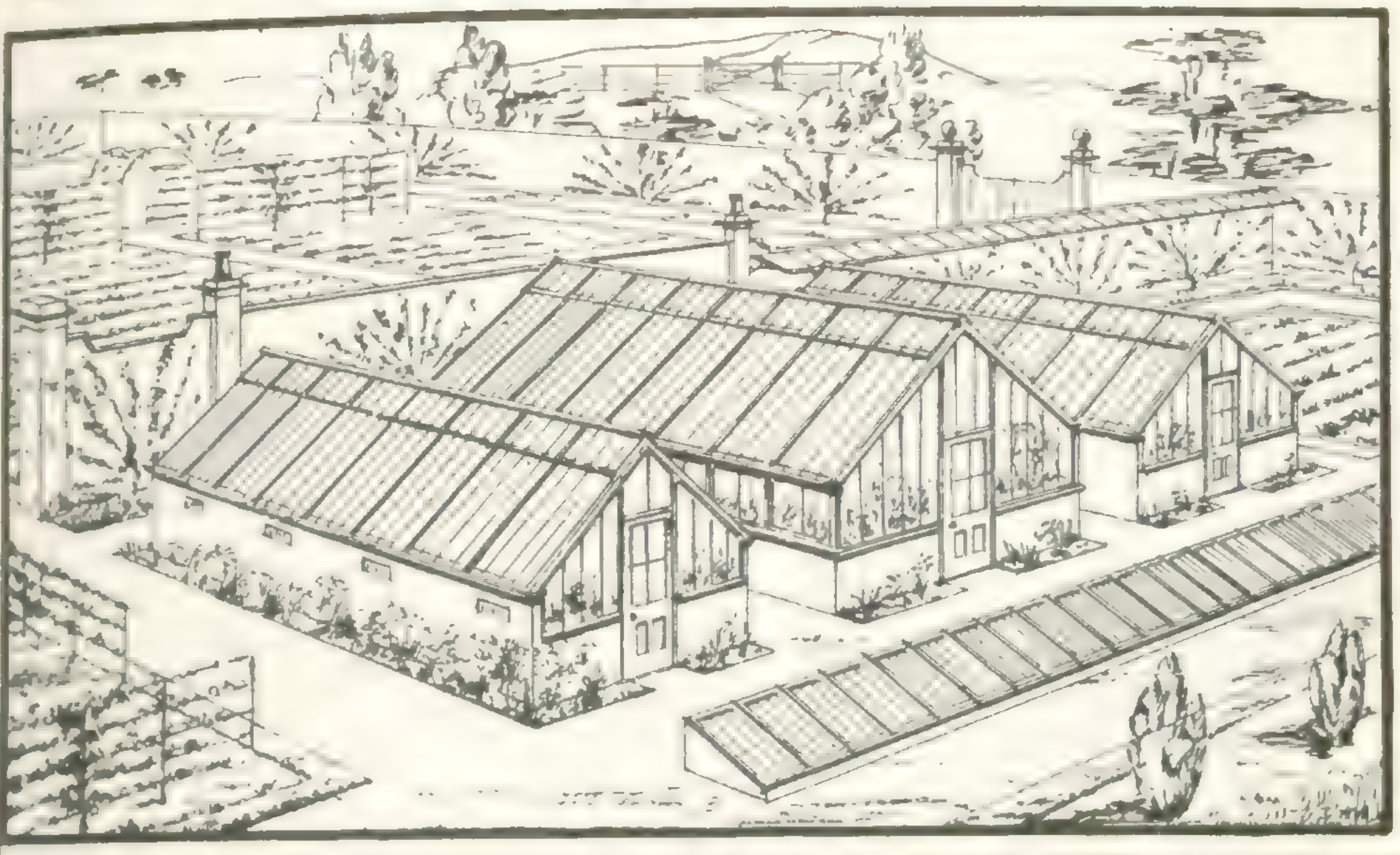

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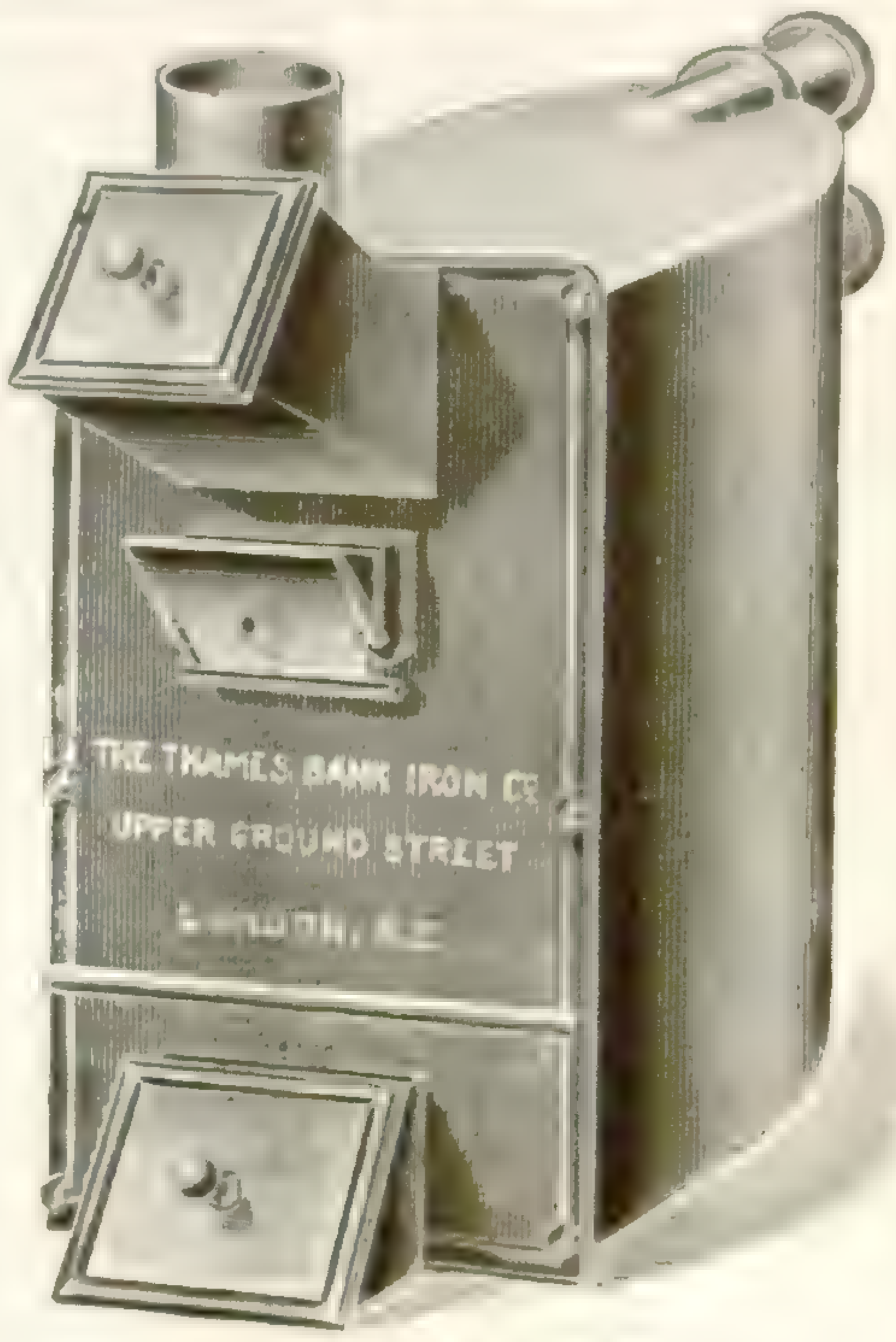

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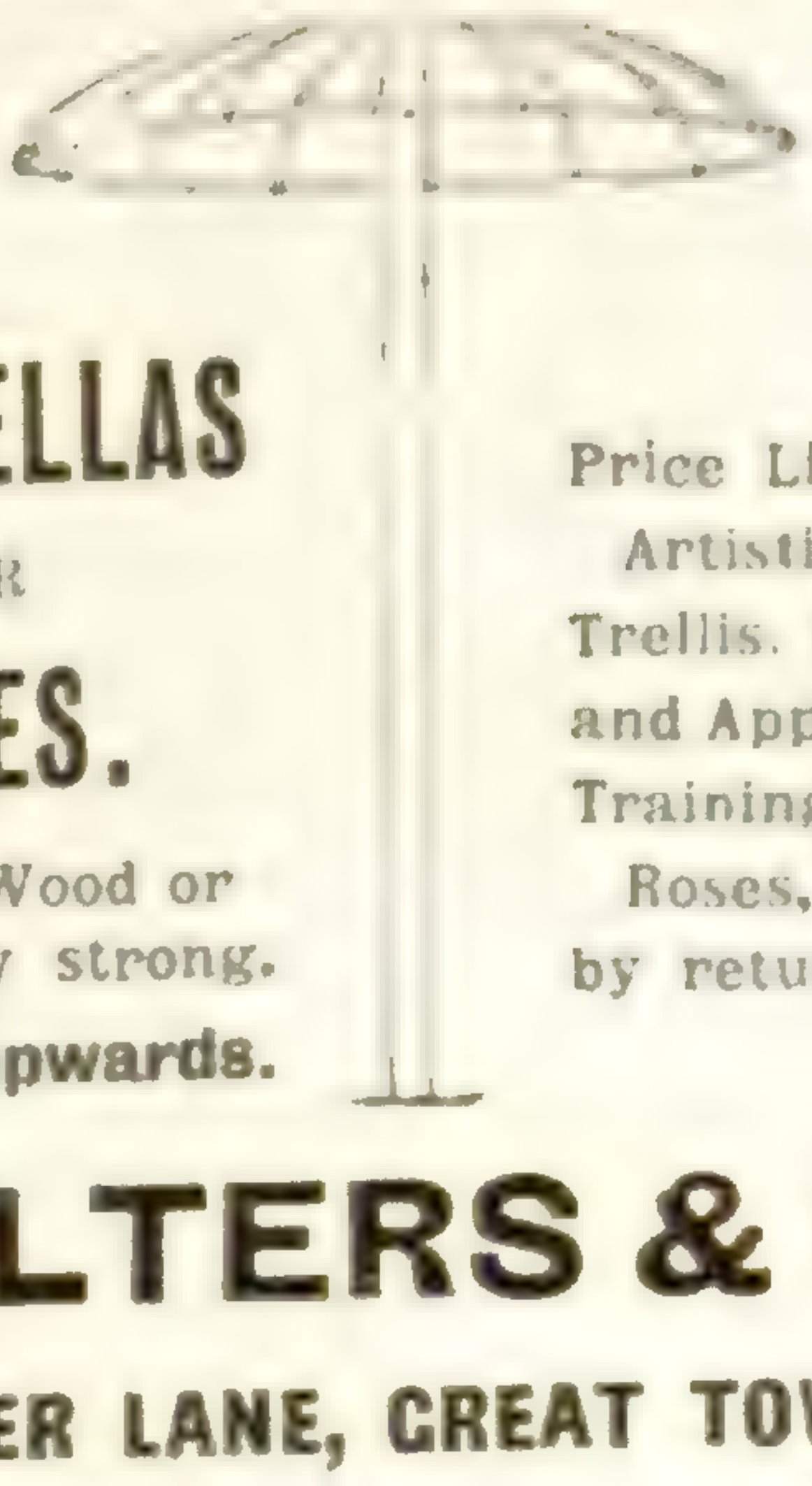

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tay, West Ferry, Dundee, was first with a capital entry. Mr. James Bethel, The Grange, Monifieth, was second and third. The latter undoubtedly lost points through his edgings being composed too much of one colour. The whole of the entries for the best six stove or greenhouse plants (unrestricted) were exceedingly fine. Here Mr. John Forbes, Taypark, West Ferry, Dundee, won with a very meritorious entry, his palms and Asparagus deflexus being enormous in size, well grown, and fine and healthy. Ferns were a charming display, Mr Beats, with his finely-grown and extraordinarily large specimens of davallias, handsomely leading the way. Begonias, both single and double, were really fine entries, and Mr. George Scott, Seathwood, Dundee, led the way in both classes. Liliums (auratum excluded) were a good average, Mr. John S. Summers, Ashcliffe, Dundee, carrying premier position with very well-grown specimens of L. speciosum album Krætzeri. For Lilium auratum Mr. James Bethel, The Grange, was first.

Chrysanthemums were exceedingly good, and the judges had little hesitation in giving first place to Mr. Beats for both disbudded and not disbudded. They were indeed splendid specimens, and reflected no little credit on the grower. In dracænas there was little to choose between the first and second prize lots sent in by Mr. R. W. Saunders, Lismore, Broughty Ferry, and Mr. John Forbes, Taypark. There was one of the finest displays of pelargoniums ever seen in Dundee. The judges found no little difficulty in apportioning the honours here, but ultimately the entries sent in by Mr. George Scott, Seathwood (singles), and Mr. James L. Gray, Dundee (doubles) could not be denied. Coleus were an average lot, and Mr. James Bethel well deserved the first place. For the best six stove or greenhouse plants, pots not to exceed 9in. in diameter, Mr. R. W. Saunders had a fine set, the outstanding plants in which were superbly grown specimens of Alocasia Sanderiana and Ixora Williamsi.

CUT FLOWERS.

Notwithstanding that the weather during the week previous to the show was not very favourable to flowers grown in the open, there was a display that evoked the liveliest admiration. The great and outstanding feature here, as at the other shows held recently throughout Scotland, was the magnificent array of sweet peas. For twelve varieties of sweet peas, distinct, Mr. George Reid, Downfield, had a capital victory, and specially attractive in his collection were Black Michael, Mrs. Routzahn, and Asta Ohn. Mr. Beats, Binrock, had matters pretty much his own way for hand bouquets and wreaths, while Mr. George Reid, Downfield, was first for lady's sprays and buttonhole bouquets. In Mr. Beat's hand bouquets carnations were the dominant feature. Mr. Scott, Seathwood, was first with an excellent basket of flowers, consisting mainly of roses, carnations, and begonias. Mr. R. W. Saunders, Lismore, had a fine win for twelve trusses or bunches cut from stove or greenhouse plants, not less than nine varieties, and not more than two trusses or bunches of orchids. It was a really fine entry. Chrysanthemums were here, as in the pot division, a very good turnout. Mr. W. Cook, Duncraig, had a notable win. Mr. G. Scott, Seathwood, also secured premier honours.

Roses were a fine display, and here Mr. D. Keillor, Seabourne, Broughty Ferry, scored finely both for H.P.'s and H.T.'s. Cactus dahlias were an exceedingly fine show, and it was not a little surprising to see so fine a turnout, considering the cold season we have had. For twelve blooms Mr. Charles Shaw, Boquhan, had a very fine set, and for six varieties Mr. H. Rutherford, Balfour, Brechin, was a good first. Pompon dahlias were a good average, the leading place being taken by Mr. J. Dobbin, Broughty Ferry. Carnations formed a capital feature, and Mr. D. Halley, Broughty Ferry, worthily won the leading place, as did also Mr. J. A. Nicoll, Taypark, for twelve vases of border varieties. Begonias were a prominent feature, being of enormous size and most excellent quality. Mr. Rutherford, Balfour, led the way very finely. Of pelargoniums it may with truth be said that there was not a bad one in the show—all, indeed, were exceedingly fine. Mr. Scott, Seathwood, carried premier honours here. Asters were fairly good, but many, owing to the lack of heat, were not thoroughly matured. Mr. J. S. Summers, Dundee, was a good first. Hardy herbaceous flowers were a splendid class, and Mr. Scott, Seathwood, is to be warmly congratulated on his fine winning entry.

FRUIT.

The fruit display was slightly below the average for Dundee, the best exhibits being amongst the hardy varieties. Grapes, of which there were over a hundred bunches, made a good show. The whites were wanting in colour somewhat, and a month or so longer on the vine would have meant a world of difference. This was very apparent in Muscat of Alexandria. Blacks were a good average. The leading winners here were Mr. James Beisant, Castle Huntly; Mr. William Green, Mylnfield; Mr. John G. Clark, Elmslea; Mr. Scott, Seathwood; Mr. D. McKenzie, Dunninald; Mr. James Kinnear, Fernbrae; and Mr. John Forbes, Taypark, all of whom were first prize winners.

Apples were well shown, but not quite so large as usual, owing to the cold season. One exception has to be noted, however, and that was the fine specimens of Emperor Alexander, shown by Mr. Alexander McIntosh, Graystane. These were very meritorious. The best entries were from Mr. W. Benvie, Murie, Errol (Dessert and Bismarck); Mr. Harry Tait (Culinary and James Grieve); Mr. R. Kirkwood, Pinegrove, Dundee (Stirling Castle and Warner's King); Mr. James Benvie, Inchmartin (Lord Suffield); Mr. W. Goodall (Ecklinville); Mr. John Machar, Fotheringham House (Lord Grosvenor); Mr. Scott, Seathwood (Duchess of Oldenburg); Mr. J. E. Davis, Stanley (Prince Albert); and Mr. John S. Summers, Ashcliffe, Dundee (Cellini). Melons looked well, Mr. Cook, Duncraig, and Mr. John Machar, Fotheringham House, having the best. Nectarines, peaches, and apricots were very well shown, but the latter were not numerically strong. For these Mr. James Beisant, Castle Huntly; Mr. Hugh S. McGlynn, Helenslea, Broughty Ferry; and Mr. J. Farquharson, Dundee, led respectively. Orchard house fruits were a good average, Mr. J. Farquharson leading again.

Hardy fruits were a capital display. Pears, although a bit late, were of good size, Mr. Alex. McIntosh, Greystane, Invergowrie; Mr. Beats, Binrock; and Mr. John Simpson, Panmure Gardens, leading the way. Plums were a good average, Mr. McIntosh leading for yellows; Mr. Nicoll, Taypark, for reds; and Mr. Bethel, The Grange, Monifieth, for purples.

VEGETABLES.

Despite a season which has not been very favourable until the later stages of growth, the quality of the vegetables was admirable, and the competition very keen. There were some splendid collections, the outstanding exhibitor being Mr. Charles Shaw, gardener at Boquhan, Kippen, who secured the beautiful Corporation Challenge Cup. Mr. William Harper, Tulliebelton, Perthshire, was placed second for a collection which was but little inferior to that of the first-prize winner. Cauliflowers were small and fewer in number than usual. Mr. Harper had it all his own way here with splendid specimens. Beetroot was only fair, Mr. Nicoll, Taypark, coming first with roots of fine shape, grain, and colour. For peas Mr. James Kinnear, Fernbrae, led with a fine dish of Gladstone, the pods being of good size and well filled. French beans were a good lot, chief place going to Mr. John Laing, Craighall, whose entry was much admired. Tomatoes were exceedingly good, Mr. Forbes, Taypark, having a very meritorious win. Potatoes were grandly shown, being clean, finely grown, and thoroughly ripe. The honours for these were divided between Mr. J. Ednie, Carnoustie House, and Mr. W. Morrice, Parkneuk House, Invergowrie. Celery and turnips were all of excellent quality, Mr. Nicoll, Taypark, and Mr. Harper, Tulliebelton, sharing chief honours. The latter also led handsomely for cabbages. Altogether the display in this division was very good.

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ROSE COMPETITIONS.

In these competitions, open to nurserymen and florists, the honours were pretty evenly divided between Messrs. Croll, of Dundee, and Messrs. Cocker, of Aberdeen.

MISCELLANEOUS DISPLAYS.

A considerable number of nurserymen and florists added much by the excellence of their displays to the success of the show. They staged their newest and their best, and gave a capital idea of what is being done in the evolution of new varieties and the perfection of the old ones. The outstanding display here was that forwarded by Messrs. Storrie and Storrie, Dundee. Their exhibit formed quite a miniature orchard of peaches, nectarines, plums, apples, cherries, and pears, all shown in pots. Prominent was a magnificent standard nectarine, with a remarkable crop. There were also over a hundred varieties of gooseberries, including the very latest introduced. Messrs. Thyne and Son, Downfield Nurseries, had as chief attraction a group of plants of the new Wonderberry raised by Luther Burbank. It made a good display, and proved to be very prolific. Sweet peas were also another exquisite feature of the Messrs. Thyne's group, their collection embracing over sixty varieties. Mr. Forbes, Hawick, showed a fine selection of herbaceous plants, but the great feature here was the magnificent display of pentstemons. Nothing finer has been seen at Dundee. Messrs. Dobbie and Co., of Rothesay, had a superb display of dahlias, and their quality was unimpeachable. Messrs. Mair and Sons, Prestwick, had a grand collection of gladioli. The splendid positions this firm has taken at the leading competitions throughout Scotland and England for these beautiful flowers during the past twenty years make comment superfluous. Then there were the Messrs. D. and W. Croll, Dundee, with their famous roses; Mr. D. C. Hutcheson, with ferns; Messrs. W. P. Laird and Sinclair, with a fine herbaceous display; Messrs. Alfred Young and Co., Elgin; and Messrs. George Paton and Sons, Dundee, with chrysanthemums.

Chester.

AUGUST 25.

This exhibition, as usual, was held on the Roodee, and the exhibits compared favourably with those at former shows, while the entries were up to the average.

Three groups were arranged for effect, the premier one being set up by Mr. W. H. Shaw, gardener to Alfred Ashworth, Esq., and it contained the usual assortment of plants, his crotons and liliums being prominent. Mr. E. Stubbs, gardener to J. MacGillycuddy, Esq., was second, and Mr. J. Breen, gardener to the executors of John Mosford, Esq., third. For six stove or greenhouse plants, Mr. A. Ellams, gardener to A. Tyrer, Esq., led, his best plants being an eucharis and a begonia; Mr. W. Reeves, gardener to E. Peter Jones, Esq., second, and Mr. J. Breen third. For four ferns Mr. J. Williams, gardener to A. E. Hall, Esq., led with fair plants. For four pelargoniums Mr. A. Ellams won with well-flowered specimens, and for six table plants Mr. A. Billington, gardener to G. B. B. Wilbraham, Esq., was first. The best single specimen plant in flower came from Mr. A. Ellams, and was a well-flowered pelargonium.

In the cut-flower section Mr. Harold Peerson won for twelve cactus dahlias, and for six varieties, Mr. E. Jones, gardener to G. H. F. Robertson, Esq., had the leading stand. For twelve asters Mr. Jones was again to the fore, and Mr. W. H. Shaw staged the best six annuals. The best twelve bunches of herbaceous flowers came from Mr. W. Shaw, while Mr. E. Smith took the lead for six bunches. In the class for twelve distinct varieties of sweet peas, Mr. E. Jones had the leading award, but the best lot was disqualified because it contained more than the proper number of spikes; Frank Dolby, John Ingman, and White Waved were noteworthy varieties. For six vases, prizes offered by Messrs. Webb and Sons, Mr. G. Faulkner led.

Mr. A. Bruckshaw, gardener to B. J. [illegible], Esq., had the best dozen roses out of a moderate lot, and for twelve gladiolus, Mr. J. C. Thornton led with very fine spikes.

For a collection of nine dishes of fruit, Mr. E. F. Hazelton, gardener to the Earl of Derby, won with a good all-round collection of grapes, melons, peaches, etc. For two bunches of white grapes Mr. E. F. Hazelton won with well-coloured Muscat of Alexandria. For two bunches of black grapes Mr. W. Pilgrim, gardener to Sir G. Meyrick, Bart., was well to the fore, with splendid bunches of Madresfield Court, excellent in every way. For six peaches Mr. E. F. Hazelton won with well-coloured fruits; Mr. J. Breen had the best nectarines. Mr. J. Clack, gardener to J. G. Frost, Esq., led for apricots and for a melon. Mr. E. F. Hazelton showed the best [illegible]. Mr. G. Aitkens, gardener to P. L. [illegible], Esq., led for culinary apples, and Mr. J. Dean, gardener to G. R. Darsie, Esq., for dessert apples and for a collection of hardy fruits.

Mr. C. Goves, gardener to Sir Gilbert Greenall, Bart., won in three classes for collections of vegetables, the prizes being given by Messrs. Sutton and Sons, Messrs. Clibrans, and Messrs. Webb and Sons. Mr. Charles Parker secured Messrs. Dickson and Robinson's prizes for a collection.

Mr. N. F. Barnes, gardener to the Duke of Westminster, contributed the finest feature of the show in the form of a grand collection of fruit, including twenty-six good bunches of grapes, a dozen large melons, richly coloured apples and plums, a dish of Royal Sovereign strawberries, figs, etc. Messrs. Dicksons, Chester, staged a fine bank of herbaceous cut flowers in which liliums were conspicuous. Mr. T. W. Darlington set up a good selection of sweet peas.

Bembridge, Isle of Wight.

AUGUST 26.

The newly-formed Bembridge Horticultural and Cottage Garden Society held its first exhibition on the above date in the grounds of Hill Grove, Bembridge, the residence of the president, Lieut.-Colonel Mac[illegible] Moreton. Considering the short time that has elapsed since its inauguration, the society has been a decided success. Two marquees were filled with meritorious exhibits.

For the best arranged dinner-table decoration, 4ft. 6in. by 3ft., ladies only, a valuable silver rose bowl, on plinth, was offered as a special first prize by Captain Sparks, and this brought eleven competitors, all of whom staged most tasteful and varied arrangements. The bowl was won by Miss Collins, [illegible], with an elegant arrangement of light blue delphiniums and Wichuraiana roses with foliage as tracery. The society's first prize fell to Miss E. Sillence for a neat table of blue delphiniums, though of a somewhat sombre appearance; the second prize

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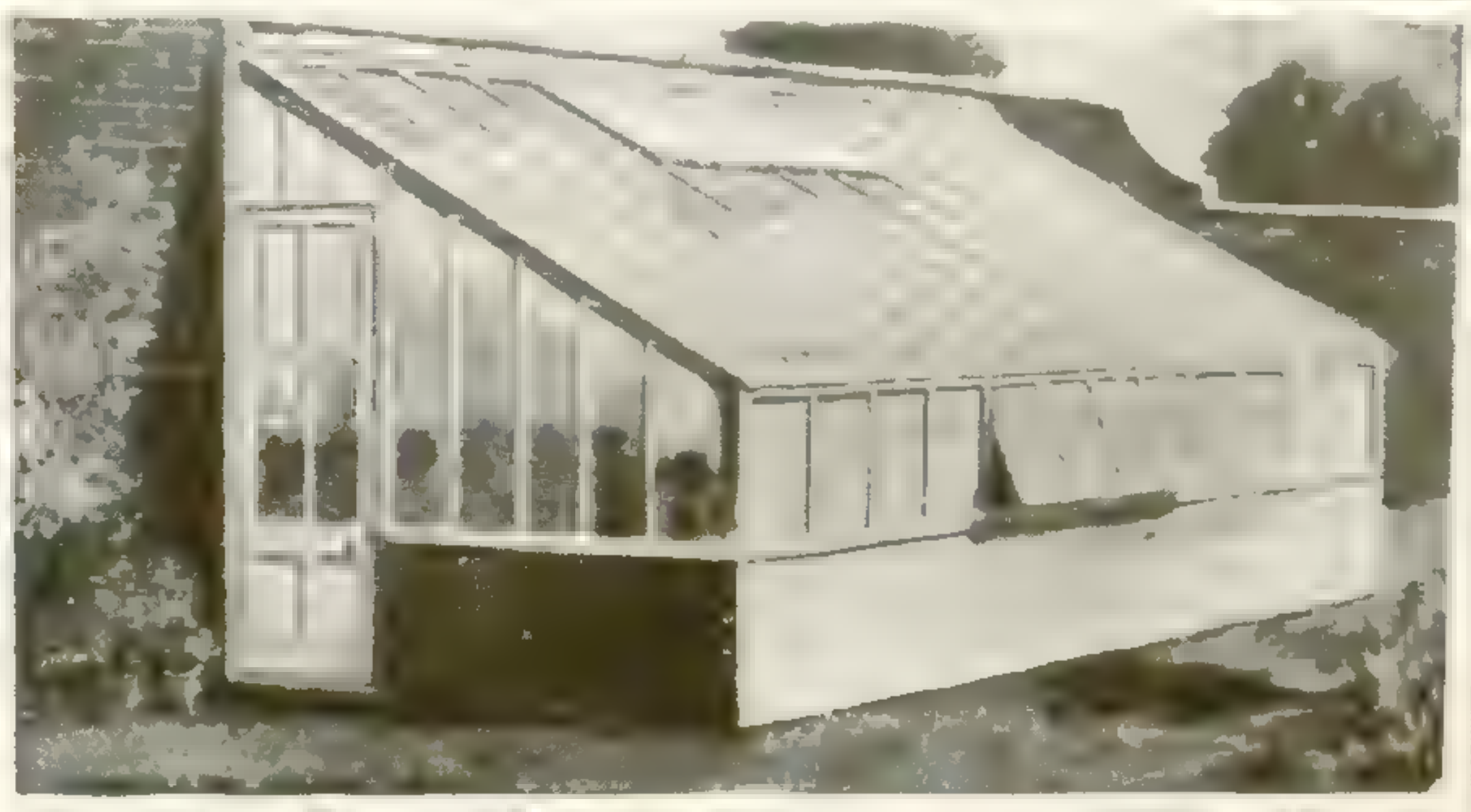

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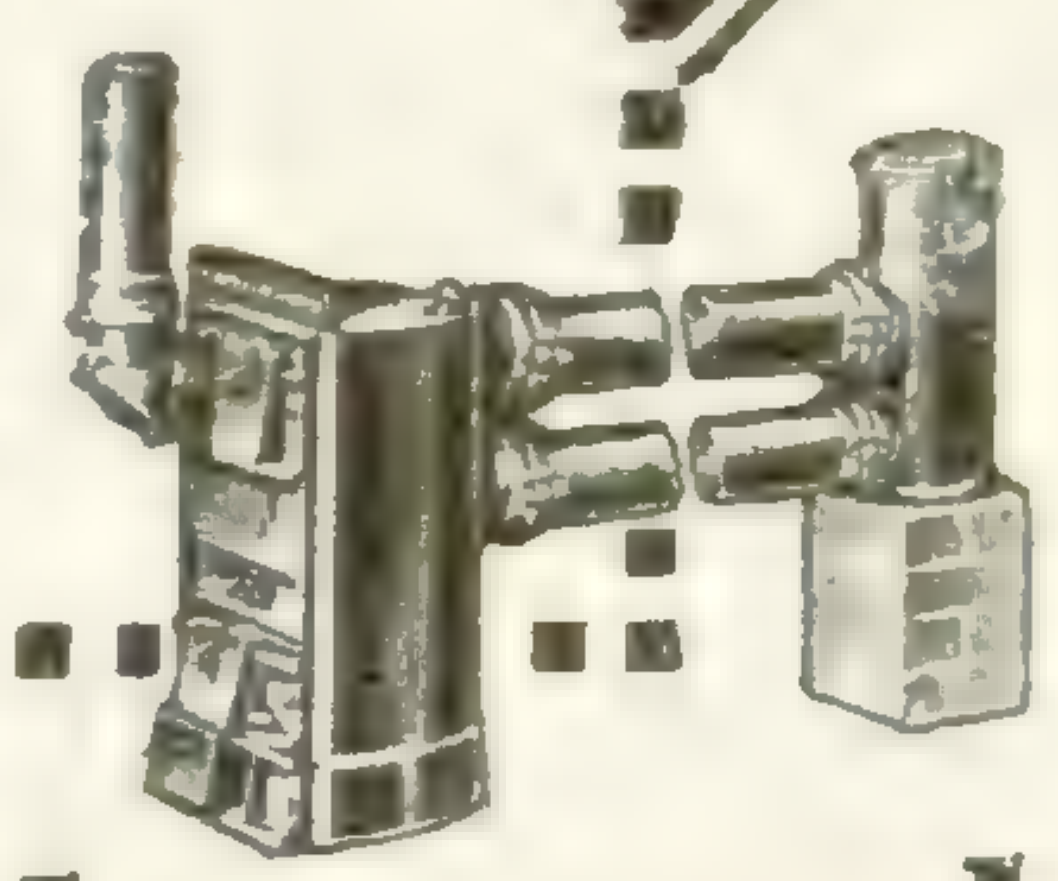

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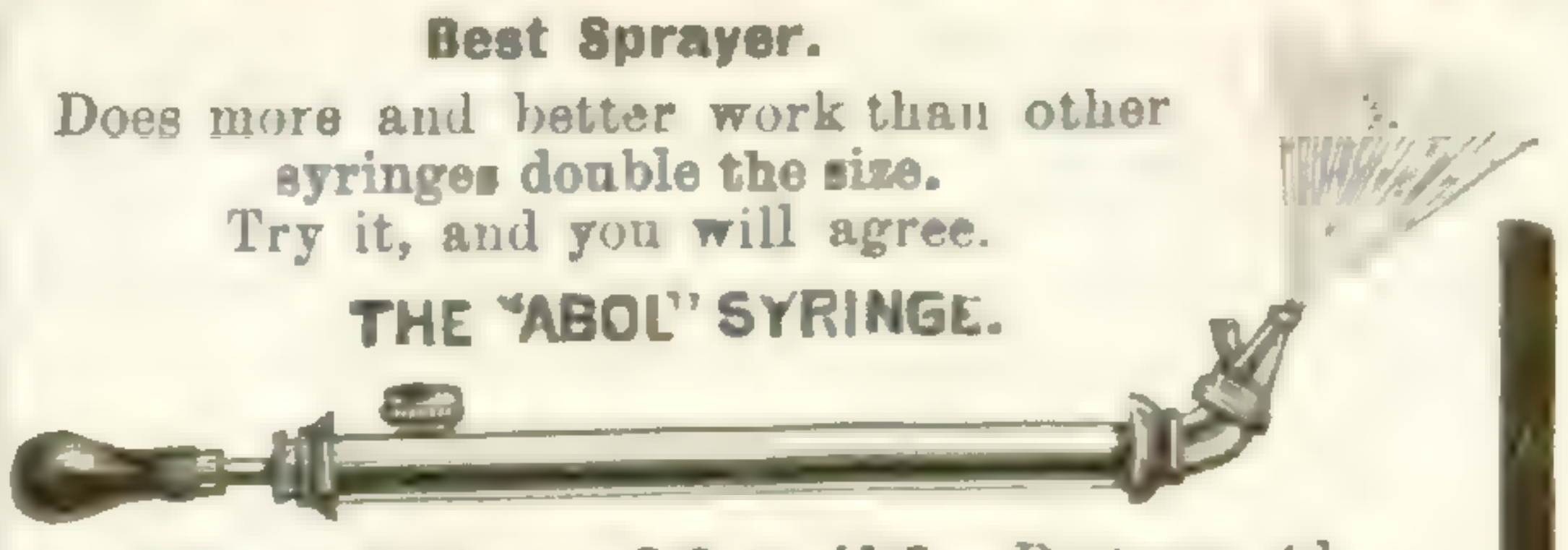
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went to Mrs. C. Orchard for a light arrangement of Constance Oliver, and other shades of sweet peas, and gypsophila, with ampelopsis tracery; and the third award fell to Mrs. W. A. Morley for a light and pleasing table of coreopsis. These tables made an attractive feature of the exhibition.

J. H. Ismay Esq. (gardener, Mr. J. Holbrook), had a splendid display of Lilium auratum and L. speciosum in variety, both flowers and foliage being good. Lady Alice Fitzwilliam (gardener, Mr. A. Parry), was first for fruit, and Mr. W. Burden, Bembridge Harbour Gardens, first in the open class for vegetables. The latter exhibitor showed an excellent collection of vegetables not for competition, the produce of the garden on reclaimed land. J. B. Denison, Esq. (gardener, Mr. G. Fry), secured Messrs. Sutton and Sons' special prize for vegetables; Mr. Parry won Messrs. Webbs' prize, and Mr. A. Smith led in the class for Messrs. Toogood's specials.

The produce from the School Gardens, for which special prizes were offered, was very meritorious. Mr. F. Weaver received a Certificate of Merit for one root of Factor potato, the produce being 111 tubers weighing 16¼lb. Messrs. Alfred Smith, E. Sillence, and C. Orchard superintended the staging arrangements; Mr. A. Parry is hon. secretary, and Mr. C. Love treasurer.

TRADE NOTES.

From Messrs. John Forbes, Hawick, Lim., we have received a box of splendid spikes of glorious pentstemons. Those who have seen the wonderful spikes and flowers of these beautiful plants, as raised and grown by the Scottish firm, will understand something of the feast of beauty we are now enjoying as a result of Messrs. Forbes' kindness.

The reference to umbrella supports for isolated specimens of roses, in the current issue, reminds us of Messrs. Walters and Co.'s catalogue of garden requisites. This firm makes a speciality of these umbrella-shaped supports, of an eminently useful and durable character. Their address is 16. Water Lane, E.C.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1909. AUGUST 22 TO AUGUST 28.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.		Day Highest.	Night Lowest.
			Wet Bulb.		
	hr. m.	deg.	deg.	deg.	deg.
Aug. 22—Sunday	10 24	56	51	63	44
,, 23 - Monday......	1 30	60	56	64	46
,, 24 - Tuesday	0 36	63	60	66	58
,, 25 - Wednesday .	3 36	60	58	67	55
,, 26 - Thursday ...	1 0	55	53	62	54
,, 27 - Friday.. ..	5 18	57	53	66	47
,, 28 - Saturday ...	12 0	56	53	70	46
Means	(total) 34 24	58	55	65	50

DATE. 1909. AUGUST 22 TO AUGUST 28.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
Aug. 22—Sunday	0.07	61	62	61	39
,, 23 - Monday...	0.11	60	62	60	40
,, 24—Tuesday......	0.46	61	62	60	58
,, 25—Wednesday.	0.33	61	62	60	52
,, 26—Thursday ...	—	61	62	60	52
,, 27—Friday..	—	60	61	60	50
,, 28—Saturday ...	—	61	61	60	39
Means ...	(total) 0.97	61	62	60	44

ANSWERS TO CORRESPONDENTS.

INSECT IN WOOD.—A. L., Blackrock: We regret we have not been able to identify the insect sent.

SPENT HOPS.—J. F. O., Amhurst Park: Many thanks. We should like to have an opportunity of considering the matter.

SEEDLING ORANGES.—F. S., Egham: The seedling oranges will produce flowers without the intervention of grafting; indeed, it is not worth while grafting them until you have fruited them, and know whether they are worth perpetuating. Do not overpot them.

LOUDON'S ENCYCLOPÆDIA.—J. C. C., Bishops Waltham: This is by no means a valuable book, but it is of great horticultural interest, and everyone having a library of gardening books desires to own a copy. The value of your copy depends upon its condition and binding. We saw a fine copy, bound in solid calf, a few days ago, that was purchased for six shillings.

BOOKS ON MARKET GARDENING.—J. H. S., Swindon: There is a series of shilling handbooks dealing with market garden crops published by Messrs. W. H. and L. Collingridge, 148, 149, Aldersgate Street, E.C., that we can recommend. No. 1 deals with green crops; No. 2 with root crops; No. 3 with asparagus, marrows, beans, peas, etc.; and No 4, with mushrooms, cucumbers, tomatoes, and salads. Two other books you will find of great value are "Packing and Selling Fruit and Vegetables," by R. Lewis Castle; and "Profitable Fruit Growing," by John Wright, V.M.H. These are one shilling each, and obtainable from the same publishers as the handbooks already referred to.

FLOWERING SHRUBS FOR PEATY SOIL.—J. L., Buxton: Quite a number of flowering plants thrive in peaty soil, and many of these, though not wedded to peat, have a strong objection to lime. Peat-loving plants are rhododendrons, azaleas, andromedas, heaths, arbutus, Calycanthus floridus, cassiopes, ceanothus, clethras, Cornus florida, Daphne Cneorum, gaultherias, Halesia tetraptera, laburnums, magnolias, mespilus, Nuttalia cerasiformis, Olearia Haasti, pernettyas, philadelphuses, Pyrus aucuparia, skimmeas, Spiræa Thunbergi, S. prunifolia fl.-pl., S. ariæfolia, S. Lindleyana, Staphylea colchica, lilacs, gorse, viburnums, vacciniums, Wistaria chinensis, Xanthoceras sorbifolia, and Zenobia speciosa.

DISEASED MUSHROOMS. — S. W., Brighton: The disease is evidently caused by the fungus Hypomyces perniciosus, which appears to be parasitic on many species of mushrooms and toadstools. Well-marked symptoms are evident from the earliest stages of disease, the mycelium of the parasite growing up with that of the mushroom. The latter, instead of gradually developing into a cap and stem, becomes an irregularly-shaped monstrous soft mass, which, if allowed to grow, often exceeds in size that of a full-grown mushroom. Sometimes a small, deformed cap is present, but, as a rule, the entire mass of a diseased mushroom consists of a much swollen stem. After a time the parasite forms its spores on the surface of the diseased mass, appearing under the form of a snow-white, minutely velvety covering. After the spores are scattered the diseased mushroom rapidly decays, forming a putrid mass having a very disagreeable pungent smell. The Board of Agriculture recommends that when a house or other structure in which mushrooms are grown has become infected, it should be completely emptied and thoroughly sprayed, both roof, walls, and floor, three times, at intervals of ten days, with a solution of sulphate of copper—one pound of sulphate to fifteen gallons of water. During this period of spraying the house should be kept warm and moist, for the purpose of favouring germination of the spores of the parasite, which are destroyed with greater certainty when growing than when in a resting condition.

LODDIGES' BOTANICAL CABINET.—C. S. Blackheath: Unless you can dispose of the books privately your best method will be to advertise them in our columns, as many of our readers are always ready to obtain good copies of famous works.

NAMES OF PLANTS.

W. K.—1, Dipladenia insignis; 2, Conoclinium ianthinum; 3, Heliconia illustris rubricaulis; 4, Campylobotrys refulgens.

H. B. K.—1, Callistemon speciosa; 2, Chironia ixifera; 3, Lomatia silaifolia; 4, Diplacus puniceus aurantiacus; 5, Pentapterygium serpens.

F. M.—We cannot undertake to name florists' flowers. The delphiniums you have sent us appear to be unnamed seedlings of average merit.

FORTHCOMING ENGAGEMENTS.

TUESDAY, September 7.—Derbyshire Horticultural Society; two days.

WEDNESDAY, September 8.—Royal Caledonian Horticultural Society; Autumnal Exhibition at Edinburgh; two days.

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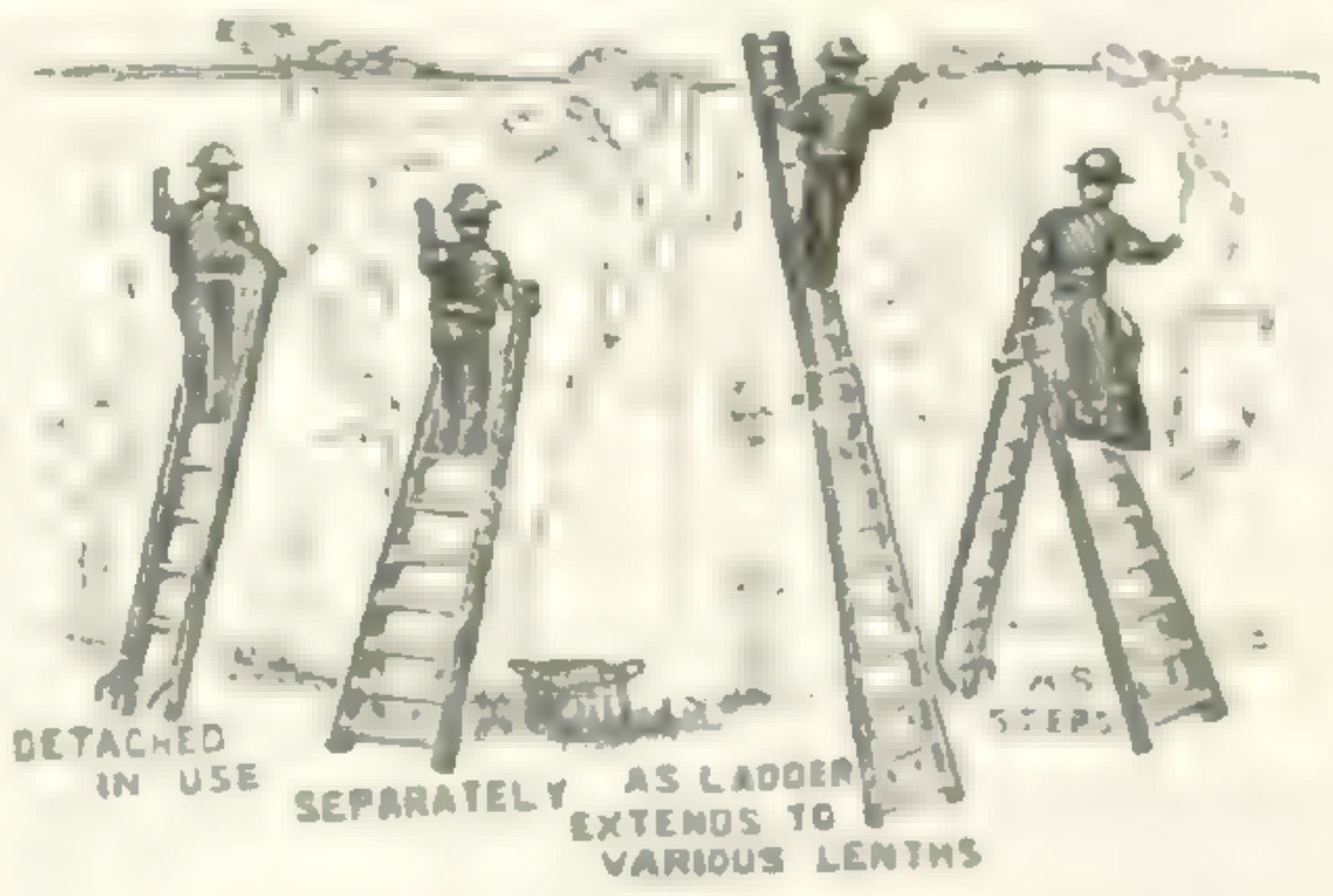

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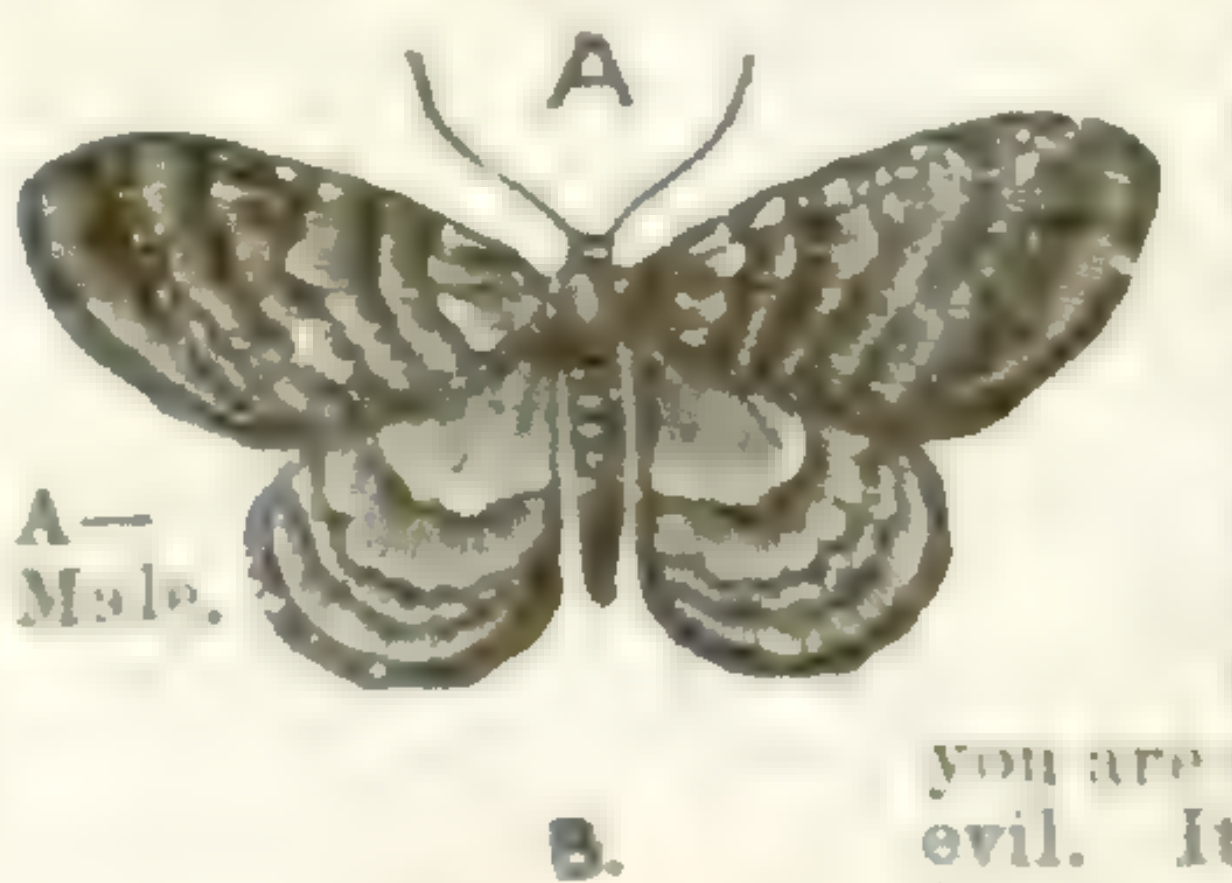
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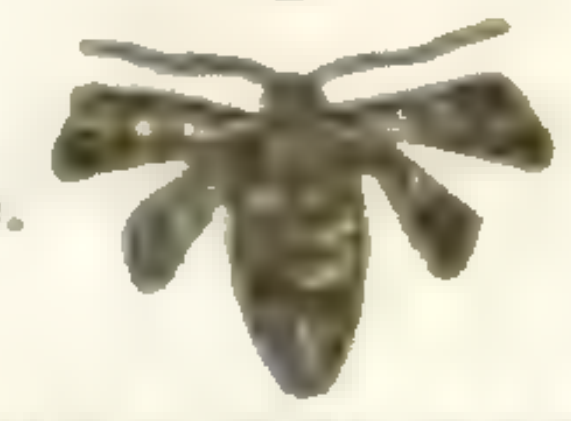
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MANSELL & HATCHER Ltd.

No change whatever occurs in the management, and Customers can rely on the same close attention to their commands.

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The stock will be in flower at the time of sale, and sold as planted in open ground, so that purchasers can see the colours, and thus guarantee them true for re-sale.

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20 galls. ... **3/4** per gall.
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In 5 gall. drums, charged half-cost, 9d. each, not returnable.
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Florence Pearson, magnificent white trumpet daffodil	£5 5 0
Gipsy Queen, a grand incomp. ...	4 4 0
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J. R. PEARSON & SONS,
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The Nurseries, LOWDHAM, NOTTS.

VOL. LII.—No. 2,917. SATURDAY, SEPTEMBER 25, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Floral Beauty.

Beauty of any description is a very difficult thing to define, the factor of taste figuring so largely in judgment. In flowers this is particularly the case since some people, regarding them in the mass, would give the verdict to gorgeousness of colouring and broad effects, without caring for detail, while others would far more appreciate simplicity of type, delicacy of make, or subtlety of contrivance, as displayed in the individual flower, however otherwise insignificant. To the true lover and student of Nature, a very large number of our choicest flowers, popularly so considered, are nothing better than monstrosities, practically created by man by the selection of abnormal features, natural mistakes, so to speak, in which the normally beautifully simple type, marvellously adapted in the process of evolution to fulfil the reproductive functions of the race, have been gradually replaced by complex abnormal arrangements entirely unfitted to that end. Thus it is, more or less, with all our double flowers, in many of which those delicate adaptations of stamen and stigma, pollen, and ovary, into which Nature had transformed the foliage, are gradually replaced by a mass of barren petals, which from the insect point of view must be nothing better than frauds, since their visual attractiveness is increased, while the trouble of a friendly visit is altogether unrepaid by the normal hospitality of honeyed nectar. From the plant's point of view, too—assuming it to have one—the selective cultivator must be always on the wrong track, since the greater his success in the doubling direction the more is the normal reproductiveness of the plant—its own great end and aim—frustrated. In judging flowers, the question often arises as to how far mere size is meritorious, especially when the increase so upsets the natural balance of the plant concerned that all sorts of props and contrivances are needed to sustain the corpulent blossoms. In this connection we may point to the beautiful dianthus or pink family, and contrast the unsophisticated Alpine forms with their well-borne flowers and pretty effects with their sophisticated descendants, the tree carnations, with their defects of bursting calyces in many cases, and tall toppling stalks in all, to see that the truer beauty belongs to the former—taking, of course, the plants as a whole. Naturally, here comes in the question of decorative utility in the household as cut flowers, and in this connection it cannot be contested that, whatever view be taken of floral beauty in the abstract, the selective cultivator has enormously enriched humanity by his horticultural successes as regards diversity of colour and form—colour especially, since many flowers are now resplendent with hues which under natural conditions they would, presumably, never have assumed. It is, perhaps, in the chrysanthemum that we see this carried almost to the extreme, and certainly no other flower of similar normal simplicity and insignificance can approach it in the extent of development into diverse types, many of which, from the æsthetic point of view, are very beautiful, and all of which are interesting. That a little daisy-like flower should respond to high culture and selection to the extent of producing gigantic blooms over a foot in diameter and nearly as much deep, with tints ranging from snowy-white to richest crimson or ruddiest gold, with up-piled petals in pendulous ringlets, Medusa-like heads, starry radiations, imbricate spheres, etc., etc., is a veritable marvel of vegetative mutability. Recurring to the student of Nature and his appreciation of floral beauty from the constructional point of view and adaptation to evolutional forces, many other flowers than those popularly recognised as beautiful are charming to him. Under the lens the simplest flower expands into a glorious gem, presenting, possibly, most subtle contrivances either for self-protection or for reproductive ends. The explosive flowers of the common stinging nettle, the hooded ones of the dead nettle, and, in short, those of the humblest weed have only to be examined closely to betray their individual beauties and marvels, which, though on perhaps a smaller scale than our horticultural triumphs, have yet an abundant beauty of their own, apart entirely from any question of taste.

MR. ARTHUR WILLIAM PAUL.

Mr. Arthur William Paul, whose portrait we have the pleasure of giving in the present issue, represents the third generation of a family engaged in horticultural pursuits, his grandfather, Mr. A. Paul, having left the North of Scotland at the close of the eighteenth century to establish a nursery in the more genial climate of the London district; and his father, the late Mr. William Paul, having founded the present nurseries at Waltham Cross fifty years ago, on the dissolution of the old firm of A. Paul and Son. Since the death of his father, Mr. A. W. Paul has had the sole direction of the firm of William Paul and Son, and, although with an area of nearly one hundred acres various hardy trees and plants and fruit trees are successfully cultivated, the name has always been especially associated with the rose, the late Mr. William Paul having been one of the pioneers of its culture in its present extended form in this country. The magnificent groups of both forced and outdoor roses which the firm has been accustomed for many years past to exhibit at the Temple Flower Show and other exhibitions, are no doubt familiar to our readers. To Mr. A W. Paul's successful efforts in exhibiting roses in the autumn some few years ago may be attributed much of the popularity of the late-blooming varieties now so largely planted, and the paper on "Autumn-blooming Roses" which he read before the Royal Horticultural Society in 1901 assisted in stimulating what was, at that time, a somewhat neglected phase of rose-culture. Under Mr. A. W. Paul's direction, also, his firm was the first to demonstrate how successfully the stronger-growing kinds of rambler roses may be grown and forced in pots. As raisers of new varieties of roses the Waltham Cross firm has always been eminent, such beautiful varieties as Pride of Waltham, Beauty of Waltham, Corallina, Sulphurea, Queen Mab, Earl of Warwick, Dr. William Gordon, Waltham Rambler, Juliet (the newest), and many others being too well-known to require more than passing mention. At the last show of the National Rose Society, on the 16th inst., the variety Earl of Warwick received the silver medal as the best hybrid tea rose in both the amateur and professional classes. Mr. A. W. Paul contributed a paper on "The Hybridisation of Roses" to the International Conference on Genetics in 1906, and both in this country and on the Continent he is recognised as an authority on the raising and testing of new varieties. We may add that Mr. A. W. Paul possesses at his private residence an extensive horticultural library of reference, including a large collection of works on roses, some being of considerable rarity.

Our Planting Number.—In view of the immense amount of work that has to be done in the garden during the autumn months in connection with planting operations, we shall devote our issue for October 16 to articles that have special reference thereto. These will include contributions on the selection and planting of various kinds of fruits, the making and management of herbaceous borders, the selection and planting of roses for various purposes, and on several classes of ornamental trees and shrubs of special value in the creation of distinct and beautiful features in the garden. We suggest that our readers should make special note of this announcement.

R.H.S. Spring Bulb Show, 1910.—A special exhibition of forced spring bulbs will be held at the Royal Horticultural Hall, on March 8 and 9, 1910. The object of this show is to demonstrate the best varieties suited for general forcing, and exhibits of small and large collections are invited from amateurs and the trade. R.H.S. medals will be awarded according to merit. At this exhibition, the council also offer (subject to the general rules of the society) the following prizes, presented to them by the General Bulb Growers' Society at Haarlem. For amateurs and gentlemen's gardeners, eighteen hyacinths, distinct. Prizes, £6 6s., £5 5s., £4 4s., £3 3s., £2 2s., £1 1s. Twelve hyacinths, distinct. Prizes, £5 5s., £4 4s., £3 3s., £2 2s., £1 1s. Six hyacinths, distinct. Prizes, £2 2s., £1 10s., £1 1s., 10s. Four pans containing hyacinths, ten roots of one variety in each pan. The blooms of each pan to be of distinctly different colour to those of the other three pans. Prizes, £4 4s., £3 3s., £2 2s., £1 1s. For trade growers. Collection of 200 hyacinths in at least 36 varieties, grown in pots or glasses. The Gold Medal of the General Bulb Growers' Society at Haarlem. Collection of 200 hyacinths in 20 varieties in pans, 10 roots of one variety in each pan. The Gold Medal of the General Bulb Growers' Society at Haarlem. All bulbs must have been forced entirely in Great Britain or Ireland. Bulbs grown in moss fibre, etc. Also subject to the general rules of the Royal Horticultural Society, the council offer the following prizes, presented to them by Mr. Robert Sydenham; for bulbs grown in moss fibre or similar material (not earth), and without drainage. The classes are open to amateurs and gentlemen's gardeners, and are as follows: Six single hyacinths, in separate vases, not exceeding six inches in diameter. Prizes, 25s., 21s., 15s., 10s. 6d., 7s. 6d. Six vases of tulips (vases not exceeding seven inches in diameter), no restriction as to the number of bulbs in a vase. Prizes, 25s., 21s., 15s., 10s. 6d., 7s. 6d. Six vases of narcissi (vases not exceeding seven inches in diameter), no restriction as to the number of bulbs in a vase. Prizes, 25s., 21s., 15s., 10s. 6d., 7s. 6d.

Bean Disease.—Two cases of a remarkable disease of beans, which has completely baffled investigation, have been submitted to the Board of Agriculture. The first report came from North Bute parish, in the Isle of Bute. The plants were said to look healthy, and promised a good crop until the end of July, when they ceased to grow, and subsequently turned black, and apparently decayed. The second case occurred near Wokingham, where a field of ten acres, well manured, produced excellent flowers but no pods. The soil was medium clay, and the beans followed wheat. The form of the disease is not unfamiliar to the Board's advisers, and cases occur from time to time, but no trace of any fungus disease can be found, and though in both cases several specimens of thrips, aphides, and some other injurious insects were found, nothing sufficient to account for the damage could be traced. The Board would be glad to hear of other cases in order that an investigation may be made.

Brussels Exhibition, 1910.—In connection with the great International Horticultural Exhibition to be held next year in Brussels, there will be a Horticultural Congress, at which amateurs, gardeners, and nurserymen are invited to attend. A committee, formed of many eminent Belgian Ministers and horticulturists, are carrying out the details of the congress, at which various subjects will be studied and discussed. Among the leading sections are floriculture, fruit tree culture, market gardening, science and instruction, horticultural economy, horticultural mechanics, special processes. An eight-paged programme has been issued containing full details, and may be obtained from the Secretary, Congrès International d'Horticulture, Brussels, 1910, 28 rue Ste. Catherine, Brussels.

A Fine Specimen of Erythrina Crista-galli.—Mr. J. Rundle, Bosahan Gardens, St. Martin, S.O., Cornwall, sends us a photograph of a remarkably fine specimen of this shrub, and with reference thereto writes: "I venture to send you a photograph of a fine specimen of Erythrina Crista-galli, growing here at the end of a greenhouse. Owing to our favoured climate, it is not pruned back to the ground level as generally recommended, but has been allowed to form a main stem and branches, from which an abundance of new shoots are produced each year. Its height is 13ft., and it is 11ft. through. It has upwards of 90 flower spikes, making, with its bright scarlet flowers, a fine display. It delights in plenty of sunshine and frequent supplies of water. Rich loam with some peat added is a most suitable soil."

Royal Botanic Society.—The annual meeting of the society was held on Tuesday, September 21, when Mr. Brinsley Marley presided. Mr. Rubinstein's proposal for the amalgamation of the society with the Royal Horticultural Society was not accepted by the chairman. The financial situation is at present not a pleasant one. With reference to Mr. Rubinstein's letter, published on page 738, in our issue of September 18, Mr. A. Kingsmill remarks that Mr. Rubinstein favours amalgamation of the R.B.S. with the R.H.S. because the latter is "a well-managed and consequently flourishing body." Surely a shareholder of a bank in a weak position might as sensibly and for identically the same reasons suggest an amalgamation with the Bank of England.

Blairgowrie Fruit Harvest.—The fruit season, which has finished in the Blairgowrie district, has (according to the "Scotsman") been a record one in more ways than one. The quantity despatched by rail is fully 800 tons more than last year, having been 3,329 tons 11 cwt. gross, or, allowing one-fifth for weight of casks, crates, etc., almost 2,664 tons net. The market has been the worst ever experienced, and prices were never at such a low figure before, £6 10s. to £7 per ton having been offered for a considerable time, while the average for the season is not expected to be much over £10. The crop of raspberries was a particularly heavy one, in some places yielding four tons per acre, though the average will be about three tons, and never before were so many tons left unpicked, it being unprofitable for the grower to continue picking.

A Great Gardener.—In connection with Lord Kitchener's relinquishment of his Indian command, those who know him most intimately maintain (according to the "Globe") that his one wish on leaving India was to settle down quietly in England and spend his time gardening. Lord Kitchener's great interest in anything to do with flowers is well known at Simla, where he has the most beautiful garden, and has cultivated every conceivable kind of rose. It is said that he knows as much about roses as he does about military matters.

Fungus on Apple Trees.—The most interesting of the fungus pests forwarded for investigation to the Board of Agriculture is described as having been found on some leaves of Cox's Orange Pippin, grown at Aspall, in Suffolk. The disease had been noticed in previous years, but had not been reported, and seems to have spread. The leaves were blotched by the fungus Cladosporium herbarum Link., an exceedingly common saprophyte, which, under certain conditions, becomes parasitic, and injures living plants, especially if these are weakened by weather or other unsuitable conditions. The foliage of many apples is liable to attack, and Cox's Orange Pippin often suffers severely. Treatment with dilute Bordeaux mixture in the spring would probably check the development of the spores.

Mauritius Chrysanthemum Society.—Although a British possession, the majority of the Europeans in Mauritius are of French origin, the island having formerly belonged to France. We have recently received from a friendly correspondent there several interesting letters relating to chrysanthemum culture in the island, and finally the rules of the Société des Chrysanthémistes de l'ile Maurice." The society started in May last with nine members, and now numbers twenty-six. M. René de Rauville, an enthusiast, has written a little cultural guide to initiate the members into the art of big bloom culture, and has given a lecture on the chrysanthemum at the Mauritius Horticultural Society, both of which have been printed in pamphlet form.

NOTES FROM KEW.

Abutilon Triomphe.

Within the last few years that celebrated hybridist, M. Lemoine, of Nancy, has distributed a few varieties of abutilon which differ much from the garden forms already in cultivation. One of these is the variety Triomphe, whose flowers are unusually large, almost saucer-shaped, and the massive petals are more or less crimped, thus giving to a flower a somewhat semi-double appearance. Instead of drooping as in the older varieties of abutilon, the flowers of this are disposed in a more or less horizontal manner. The colour is pinkish, with deeper veins. Whether these new forms are prettier than the older kinds is at least an open question, but their distinct character, as represented by the variety Triomphe, may now be seen in the greenhouse at Kew.

Chironia linoides.

This pretty shrubby member of the Gentian family forms just now a very effective greenhouse plant, several neat little specimens being laden with blossoms. It is of rather erect growth and branches freely, the slender shoots being clothed with narrow pale green leaves and terminated by a number of pleasing pink flowers. They are somewhat over an inch across, and have a long, prominent, peculiarly bent style, such as may be seen in the members of the allied genus exacum. Though the specific name of linoides is regarded as botanically correct, this species is more often met with in gardens and nurseries as Chironia ixifera. It is a native of South Africa, and by no means new, but within the last decade or so greatly increased attention has been directed to its merits. It flowers during the late summer and early autumn months, a succession being kept up from one individual for a considerable time. A second species also represented is C. floribunda. The flowers of this are of a deeper pink than the other, but it does not appear likely to make so good a decorative plant..

Gilia coronopifolia.

The "Dictionary of Gardening" gives the date of the introduction of this showy plant as 1726, but it was quite unknown to many when a couple of years ago it was given an award of merit by the Royal Horticultural Society. Since then it has become generally known, but is usually referred to as an outdoor subject. As may be seen, however, at Kew it is also valuable for greenhouse decoration, as the tone of colour and contour of the plant is quite distinct from its numerous associates.

Pavetta caffra.

An exceedingly free-flowering indoor shrub, which, being a native of Caffraria, needs for its successful culture rather more warmth than the plants from the southern portion of Cape Colony. It is thus seen at its best in the temperature of an intermediate house. Introduced about thirty years ago, this pavetta is but rarely seen in gardens, perhaps because it is not sufficiently showy to suit many tastes. It is, however, very pretty, forming as it does a neat-growing, freely-branched bush, clothed with smooth obovate leaves, while the terminal clusters of flowers, which are borne in compact rounded heads, are white with long, prominent styles. It is not at all of difficult culture, and flowers for a considerable time at this period of the year.

Allamanda grandiflora.

This very showy species of allamanda was introduced about 70 years ago, and it soon after became popular for specimen culture. Nowadays, however, it is decidedly uncommon, though it is remarkably distinct and beautiful. Such strong-growing forms as A. Hendersoni and A. Schotti are in general cultivation, principally trained to the roof or as large specimens, but are now not popular. Compared with these two kinds just mentioned, A. grandiflora is more slender and compact in growth, the shoots being clothed by small thin leaves, while the comparatively large flowers are a beautiful shade of lemon yellow. This may be trained up the rafter in a small or medium-sized structure, or it can be successfully grown as a loose bush. In the intermediate portion of the T range at Kew it is, and has been for some time, remarkably effective. A singular thing connected with this allamanda, which probably to a certain extent accounts for its scarceness is that, though cuttings are not difficult to root, the plants so obtained rarely grow in a satisfactory manner, for which reason it is usually grafted on to one of the strong-growing kinds, such as A. Schotti, and in this way good healthy plants are obtained.

Dædalacanthus Watti.

Many acanthaceous plants contribute towards the embellishment of our glasshouses at this season of the year. Among them is this dædalacanthus, which bears a certain amount of resemblance to the popular Dædalacanthus nervosus—Eranthemum pulchellum of gardens. From this better-known kind D. Watti differs in being of lesser stature, in the flowers being in short spikes, and of their distinct metallic purple colour. This, in company with several allies, is in flower in the intermediate portion of the T range. There has been a good deal of confusion regarding the name of this dædalacanthus, for eight years ago it was given an award of merit as D. Watti, which specific name had been given it by Colonel Beddome. Then this was altered to the inappropriate name of D. parvus, but botanically I believe D. Watti is now regarded as correct. It sometimes produces small abortive flowers, and an instance of this may have led to the specific name of parvus being applied to it.

K.

MATRICARIA EXIMIA GOLDEN BALL.

This is an excellent dwarf subject for producing a display of flowers in the open garden during autumn. It is raised from seed sown in a cold frame in April, and transplanted either to a nursery bed or to permanent-flowering quarters. Unlike many annuals, this variety is slow in growth, the stems having short joints and tolerably hard wood, a fact which enables it to withstand the roughest weather with impunity. The flowers of this variety are a delicate cream-yellow colour, in the form of small buttons, the disc florets being tubular, as in the familiar quilled asters, the ray florets being absent. Individual flowers scarcely exceed a half-inch in diameter, but as they are produced in crowded, flattish heads, one can readily conceive their beauty, and appreciate their merit when freely massed in quantity. The leaves very much resemble the green form of the bedding pyrethrum, and the odour is quite suggestive of a "Feverfew." It grows to a height of thirteen inches, forms a dense compact bush, and flowers during August and September. There is a white counterpart, having all the good qualities of the lemon form.

Thomas Smith.

SCHAFTA'S AUTUMN CATCHFLY.

Late-flowering alpines have special claims upon us, as the number of rock plants which come late in the season, or which favour us with their blossoms for a lengthened period, is but too limited for the requirements of those who wish to have their gardens bright for months at a time. To such Schafta's Autumn Catchfly (Silene Schafta) is a veritable boon, and they can hardly overestimate or overpraise this neat rockery plant, although they may have a lurking feeling that they would rather have had it with flowers of a slightly different shade of colour. It is described as purplish-rose, and it is just this tinge of purple which depreciates it in the eyes of some.

The general appearance of the plant is not easily conveyed in words. It forms, however, a little tuft, rather trailing in its habit, of small, glossy green leaves, and gives a great number of little purplish-rose flowers of the shape so characteristic of the silenes. It is a plant which I have long had in my garden, since it found its way there in the form of a packet of seeds. These were sown in spring and placed in a cold greenhouse. When the seedlings came through the soil, they were slightly shaded from the strong sun, were given a place as airy as possible, yet free from draughts; were pricked off about three inches apart when large enough to handle, and planted out in autumn where they were to bloom.

This little silene is best when grown over a low stone, either in the rock garden or such as is sometimes employed for an edging to the herbaceous border. A native of the Caucasus, Silene Schafta is perfectly hardy, and plants will live long in the garden when in either sun, half-shade, or even in shade, provided that they are not beneath trees, whose drip will be injurious to them.

S. Arnott.

ARUM LILIES.

As soon as our arum lilies have ceased blooming in the spring we generally plant them out in the open, selecting a pieces of land in fairly good heart, and allowing a distance between the plants of from 15 to 20 inches. So far, I have every reason to continue this practice, seeing that during the very busy months of the year they take care of themselves, with the exception of keeping the land free from weeds and an occasional deluge in hot weather with liquid manure. Our plants at the present time are strong and healthy, and in a fit state to be taken up and potted. If the weather should prove dry and the roots are in need of moisture they will receive a thorough soaking of water a day or so before being lifted and transferred to pots. Probably the soil most suitable to their growth when in pots is a sweet fibrous loam, a little well decayed manure, and sufficient grit to keep it open and sweet.

When lifting the plants be careful not to mutilate the roots more than can be helped, but no harm will accrue to the plants by a slight reduction of the roots which is necessary in some cases to get them into pots of a size useful for a particular purpose. After the plants have been lifted and potted, they are stood in a shady position for a few days, kept syringed at intervals in bright weather, and well supplied with moisture. With this treatment we experience no difficulty in getting arum lilies to flower from Christmas and onwards.

H. Markham.

Wrotham Park Gardens.

THE LATE MR. PETER BARR, V.M.H.

The regret we feel in recording the death of Mr. Peter Barr, V.M.H., will be shared by a large number of our readers, for he enjoyed a world-wide reputation for the splendid work he accomplished in connection with the daffodil, was well known as a most estimable man, and held in the highest respect by all who came into personal contact with him. The death of Mr. Barr, who was in his eighty-fifth year, occurred at the residence of his youngest son, Mr. George Barr, on the 17th inst., from heart failure, and his sudden demise must have come as a great shock to the family, for he was until within a short time previous hale and hearty, and afforded but little evidence of his having to bear the weight of fourscore and five years. Mr. Barr, it may be mentioned, has for some years past resided at Kirn, Scotland, and he had a few days previous to his death come to London for a short time on a visit to his family.

THE LATE MR. PETER BARR, V.M.H.

Mr. Peter Barr was a native of Govan, in the early part of last century a flourishing village, of which the principal industry was weaving, and was born in April, 1826. His father was a millowner, and devoted a large proportion of his leisure to the cultivation of flowers, and achieved much success as a grower of tulips. The tulips and other flowers in the father's garden were of greater interest to the son than were the looms and their products, and, recognising the trend of the son's taste, the father gave him an opportunity for entering on a horticultural career. At a quite early age he was engaged in the seed warehouse of Mr. James Thynne, of Glasgow, and here he showed such remarkable aptitude for business that by his twentieth year he had full charge of the department. On leaving Glasgow Mr. Barr obtained an appointment in the establishment of Messrs. Daly, Drysdale and Co., seedsmen, of Newry, co. Down, Ireland, and was there during the terrible famine of 1846-47 consequent on the destruction of the potato crop by disease. Leaving Newry, Mr. Barr went to Messrs. Richard Smith and Co.'s nurseries at Worcester. Two years or so later he was appointed manager to Messrs. Butler and McCulloch, seedsmen, of Covent Garden; and, after having had several years' experience in the London seed trade, he engaged in business on his own account. It was in the autumn of 1861 that Mr. Barr started a seed business, under the title of Messrs. Barr and Sugden, and within a short period his firm obtained a prominent position among the London seed houses. Mr. Barr was one of, if not the first of, the seedsmen to issue freely-illustrated and attractively-got-up catalogues, and he was not slow to take advantage of the usual channels for obtaining publicity for his goods. As the result of this vigorous policy the firm not only soon became known, but the business expanded at a remarkably rapid rate. While busily engaged in the development of the business of his firm, Mr. Barr found time to devote attention to the Act for the Prevention of Seed Adulteration, and rendered assistance in the passing of that measure.

Mr. Barr had not long been in business on his own account before he turned his attention to daffodils, which were then much neglected, and, as regards their nomenclature, in a decidedly unsatisfactory state. He devoted much time and labour to collecting the various forms known to have been cultivated in this country, and he travelled through Spain, Portugal, and the Maritime Alps in quest of species indigenous to the regions in which the daffodil was known to grow in a wild state. In his collecting expeditions he achieved much success, and in submitting his finds to public notice, and in improving their nomenclature, he was not less successful. As an indication of Mr. Barr's remarkable activity, it may be mentioned that Mr. J. G. Baker published his "Classification of Narcissi" in 1869, and stated at the Narcissus Conference subsequently held that it was largely due to the aid given by Mr. Barr that its preparation had been possible. It was thought by some of his friends that he gave too much attention to the scientific aspects of these delightful flowers, but, with his remarkable foresight, he foresaw that to ensure for the flowers the attention they so well merited from the flower-loving public, the nomenclature must be clear and trustworthy.

In the course of his quest for daffodils Mr. Barr entered into a correspondence with regard to these flowers with the late Mr. Leeds, of Longford Bridge, near Manchester, who had achieved much success as a raiser of hybrids and varieties. Some of these were exhibited at the meetings of the Royal Horticultural Society at South Kensington, and, while they attracted considerable attention, there was but little demand, commercially, for them. Towards the close of Mr. Leeds' life a rumour reached Mr. Barr that the former had given directions that if his narcissi were not sold before his death they were all to be destroyed. This induced Mr. Barr to take counsel with some of his friends who were specially interested in narcissi, and as the result the Longford Bridge collection passed into Mr. Barr's possession. Later on Mr. Barr became acquainted with the fact that Mr. Milner, of Sheffield, had a stock of bulbs of new varieties of narcissi, and, on proceeding to Sheffield to see them, he learnt that they had been raised by Mr. W. Backhouse, St. John's, Wolsingham, Durham, Mr. Milner's brother-in-law. The latter's stock was divided between Mr. Barr and his friend, the Rev. J. Nelson, and the varieties were brought into prominent notice.

When the history of the daffodil is written the historian will have to state that when Mr. Barr first turned his attention to narcissi the species and varieties in cultivation were few, and that there were thousands of gardens in which not a solitary bulb was to be found; and that at the close of his life the varieties could be numbered by the hundred, the flowers were largely grown in the gardens of all classes, and their interest and beauty enormously increased.

To avoid the slightest misapprehension it should be stated that, great as were his accomplishments in connection with daffodils, he assiduously studied the hellebores, lilies, pæonies, and some other classes of flowers, in addition to bearing the responsibilities of an ever-increasing seed business, and doing much useful work. It may be mentioned that Mr. Barr was one of the founders of the Royal Gardeners' Orphan Fund, and served on the committee for several years; and three years since he presided at the annual dinner of the United Horticultural Provident and Benefit Society, when he charmed all who were present by his genial humour and his advocacy of the claims the society has on gardeners. Mr. Barr retired from business in 1896, and in the following year he started on his memorable voyage round the world, which occupied some five or six years. On his return home he went to reside with his sister at Kirn, near Dunoon, Scotland, where he turned his attention to the improvement of polyanthuses and primroses, in which work he was actively engaged until the close of his life.

In the conduct of the business, and in his study of the several classes of plants mentioned, Mr. Barr had for a long period previous to his retirement received much assistance from his three sons, the present members of the firm of Messrs. Barr and Sons. These are Mr. P. Rudolf Barr, Mr. J. W. Barr, and Mr. George Barr, and, inheriting in a marked degree the qualities which had enabled their father to achieve so high a degree of success, they had the advantage of being trained under him, and of this training they would appear to have taken full advantage. Certainly at no time in the history of the firm has it occupied a more important position among commercial establishments, or been held in higher repute.

Mr. Barr was laid to rest in the Islington Cemetery, at East Finchley, on September 21, and among those, in addition to the members of the family and relatives, who were present to testify to their respect for his memory were Mr. T. Bevan, Mr. E. T. Cook, Mr. Dawkins, Mr. G. Gordon, Mr. G. J. Ingram, Mr. J. W. Moorman, Mr. J. Witty, and Mr. B. Wynne.

LIFTING AND TRANSPLANTING PEACHES.

Although there may be ample time yet to make preparations for lifting and transplanting fruit trees, it is not well to defer them too long, for, as sometimes happens, the weather in November is unfavourable for several weeks together, and unless preparations have been made beforehand, there is no chance of completing the work while there is sufficient warmth in the soil to cause new root action.

In all well-appointed gardens there should be a sufficient number of young trees of various kinds to replace any that become old and worn out, as this will obviate the necessity of going to a nursery for those that are more than a couple or three years old. For my own part, I much prefer to purchase maidens, or those of one year's training, than older trees. My advice, then, is to either purchase maidens or those of one year's training. Such, if planted against a fence or low wall, and given plenty of room, will in a couple of seasons be fine trees, and usually well in advance of those purchased as fruiting specimens.

Now such trees will need lifting and transplanting each year, so that their roots may be kept within bounds, and their wood from becoming too gross; and as such work is best done the first showery weather towards the end of October, or early in November, everything should be in readiness, that the work may be completed with as little delay as possible. Where the soil is of poor quality this should be removed and replaced with material of a more suitable nature; drainage should also be provided, not only beneath the roots, but where the soil is stiff, and of a cold, retentive nature; old mortar, lime rubble, broken bricks, or sandstone should be added to make the soil more porous, and thereby admit air to warm the ground. In some soil it is absolutely necessary to lift peaches, nectarines, and apricots every autumn, so as to ripen their shoots properly. Such work takes time and needs great care, especially when the trees cover a space of from 100ft. to 150ft. Where trees of this description are lifted periodically there is, or should be, ample fibrous roots to support a healthy growth the following year, and bring a crop of fruit to perfection. On cold, heavy soils, where trees are not so treated, there is but little prospect of growing fine crops of fruit, the wood being so sappy and ill-ripened.

Peach trees are in many gardens sadly neglected. This may be no fault of the gardener, for many are handicapped in various ways. With some labour is none too plentiful, with others there is the lack of suitable material for planting the trees, while with not a few there is lack of interest. The most skilful gardener cannot grow fine fruit under such disadvantageous conditions. Whatever is worth doing at all is worth doing well, and unless time and material can be provided for growing peaches it is better to let the work alone; but if they are to be grown well in some [illegible], neither pains nor trouble must be spared, for where the natural soil is uncongenial that of a more suitable character must be provided.

Before liberating trees from a wall it is well to secure the shoots by tying some [illegible] bamboo canes across them to prevent them being injured during removal. Peach trees are usually grown against south walls, and in many instances the tree borders are far too narrow. Where a wall is 12ft. high, the border ought to be not less than 18ft. wide, and 4ft. next to the wall ought to remain uncropped (unless it be with such things as radishes or cabbage lettuce at the foot of the wall in early spring), so that free access may be had at all times to the trees. When these borders are cropped at all seasons of the year it is very difficult to attend to the fruit trees, especially in the way of lifting. Such borders ought to be kept free from a winter crop, unless it and the trees can be lifted at the same time. The amount of soil required to be removed must depend on the size and age of the tree.

If the trees are 15ft. apart on the walls, take out a trench halfway between them—that is, about 7ft. from the stem. The soil should then be carefully forked out until within a couple of feet, taking care to injure the roots as little as possible. Should there be any near the wall that go straight down, these ought to be severed, and if it is necessary to take the tree away from its present position to some other spot, have the place in readiness, so that the roots may not be exposed to the air longer than is actually necessary. The roots ought not to be deeper in the earth than a foot, therefore the hole should be filled in with well-prepared soil and made ready for the reception of the plants. When the tree is placed in position, allow a space of about three inches between the stem and the wall at the base; spread out the roots evenly all round, then fill in with the specially-prepared compost, and after this is done, give a mulching with some thoroughly decayed manure. Do not remove the bamboo sticks for the present, but fasten these securely to the wall to prevent the shoots from being injured by rough winds. When the soil has settled down after the first heavy rains, give a slight covering of rough litter. This will exclude frost and assist the roots to re-establish themselves in the fresh soil. It is not well to prune and nail peach trees until the buds begin to swell, especially in southern counties, for when the shoots are nailed to the wall in winter, the bright sun during February often excites the sap to such an extent that the flower buds swell rapidly towards expansion into bloom, and when this happens so early in the year the cold frosty winds during March are most trying, and unless the trees are well protected the crop is a failure. Therefore peach and nectarine shoots should be kept away from the wall as long as possible.

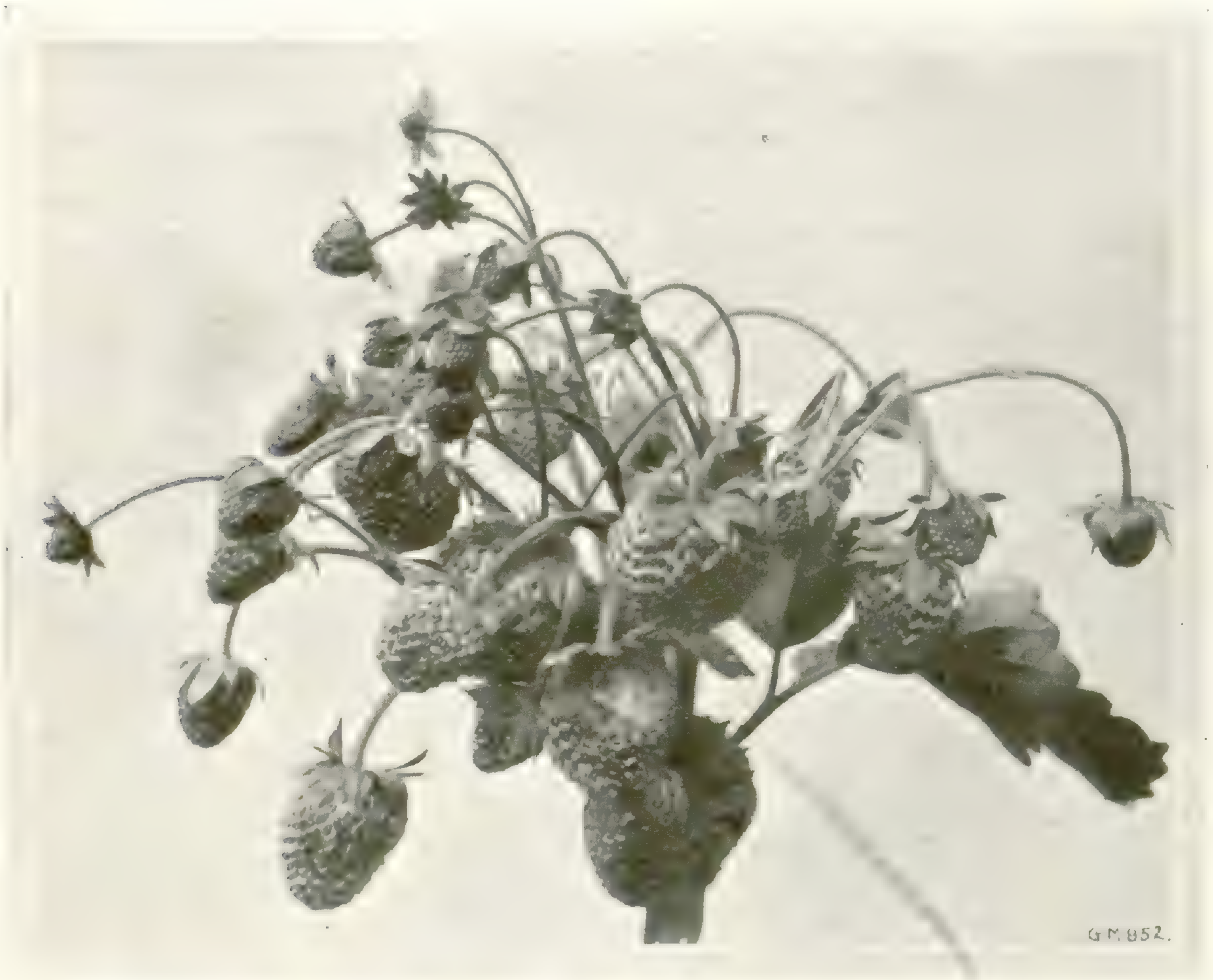
By lifting the trees as described, growth is somewhat checked, so that the trees do not start quite so soon as they otherwise would do, and as the wood will have become better ripened, the flower buds are better developed. It is a great mistake to lay in the young shoots too thickly, as this prevents a free circulation of air amongst the leaves, and such overcrowding, especially on young trees, should be avoided, for unless the foliage is properly developed it is impossible to have good strong flower buds, which are the foundation of fine fruit.

Buxted Park Gardens. H. C. Prinsep.

NEW CACTUS DAHLIA PRIMA DONNA.
White, shaded cream. A.M., R.H.S., September 14; F.C.C., N.D.S., September 21.
Mr. H. Shoesmith, Woking.

ROSES WITH YELLOW FLOWERS.

The question of employing roses of distinct colouring is one that frequently engages the attention of gardeners, and in this respect no group presents greater difficulties than that wherein the colour is some shade of yellow. With tea roses this difficulty is not so manifest, but in all other sections this colouring is restricted to comparatively few varieties. Within the last few years some valuable additions have been made to this colour group, particularly among dwarf bedding roses.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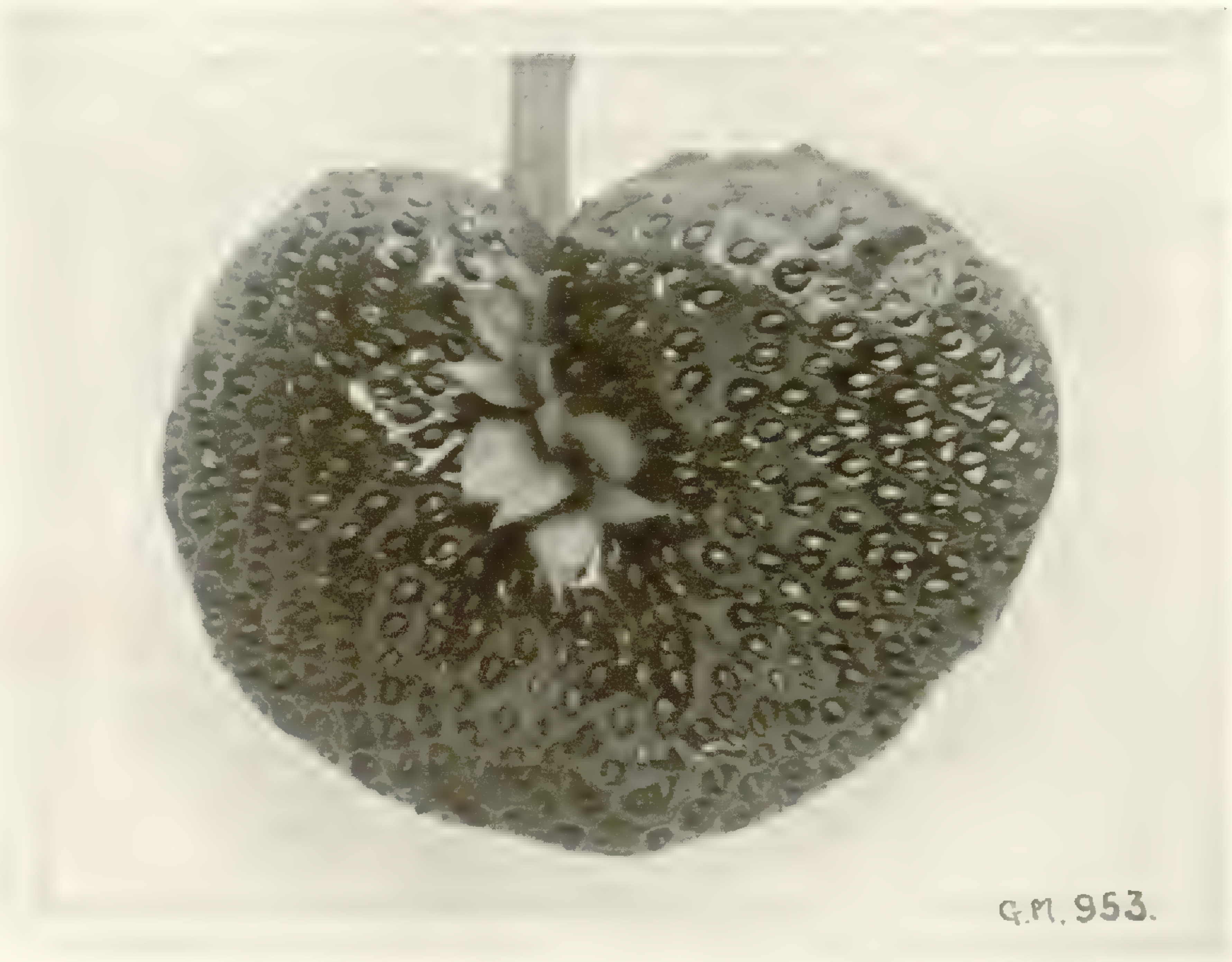
NEW STRAWBERRY, LAXTON'S PERPETUAL.
A.M., R.H.S., September 14. Messrs. Laxton Brothers, Bedford.
One of several trusses of fruit on the same plant.

Hybrid teas.—These include Mrs. Peter Blair and Betty, two varieties sent out by Messrs. Alex. Dickson and Sons, the former a lovely chrome yellow flower having a deeper coloured centre; the latter with a coppery tinge suffusing the golden-yellow ground. Mdme. Philippe Rivoire was introduced by M. Pernet-Ducher, and in this variety the flowers are globular, and of an apricot-yellow shade, the centre being generally paler. Instituteur Sirdey, from the same source, has very deep golden flowers. Florence Pemberton, also from Newtownards, is creamy-white, flushed with a pale shade of salmon-pink; while from M. Pernet-Ducher we have such well-tried sorts as Gustave Regis, creamy-yellow; Le Progrès, nankeen-yellow, deeper in bud; Mdme. Pernet Ducher, buds canary-yellow, the petals tinted carmine outwardly; and Mdme. Ravary, with golden-yellow buds, deepening to orange-yellow when expanded.

Tea roses exhibit a wider variety of yellow flowers, but as they are none too hardy their position should be carefully chosen and some protection be given around the base of the plants during winter. This section is characterised by having delicately coloured and richly perfumed flowers. Mdme. Falcot, nankeen-yellow; Mdme. Margottin, lemon-yellow with flushed centre; and Mdme. Hoste, yellow-white passing to a deeper shade, are three old varieties introduced by MM. Guillot and Sons. Isabella Sprunt (sulphur-yellow) and Jaune d'Or (golden-yellow) were both raised about the middle of last century. Medea (lemon-yellow) and Sulphurea (sulphur-yellow) were both raised by Mr. Wm. Paul; while Lady Mary Corry was raised by Messrs. A. Dickson and Sons. Mdme. Chedane Guinoisseau produces long, pointed buds, which open light canary-yellow; and Mdme. Jeanne Philippe is a beautiful variety with nankeen-yellow flowers. Perle de Lyon has dark yellow flowers, often tinted apricot; Perle des Jardins has globular straw-yellow flowers and orange centre, and Perle des Jaunes is a beautiful deep golden-yellow flower.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LAXTON'S PERPETUAL STRAWBERRY.
Single Fruit Natural Size.

Among new tea roses those that promise well include Azeline Morel, with long, tapering buds of creamy-yellow, with a distinct carmine reverse on outside petals; J. F. Giraud, a golden-yellow flower, the buds of which are oval; and Lena, an Irish rose with apricot buds, which open primrose-yellow. Mdme. P. V. Bernier is a fine deep yellow flower, paler towards the edges of the petals.

Noisette roses share with the hybrid teas a perpetual-flowering character, and they generally succeed best when lightly trained to cover walls; in nearly every instance the foliage is extremely beautiful, often ruddy-purple on the young growths, and the flowers are highly perfumed. Fortune's Yellow and Cloth of Gold are two lovely roses, somewhat tender, and both require a warm wall to develop their beauty to the utmost. The former has pointed buds, often tinted with carmine; the latter is of a chrome-yellow colour. Rêve d'Or is a vigorous subject, producing yellow flowers in great freedom. Mdme. Pierre Cochet and W. A. Richardson are somewhat similar in colouring and character of growth. Bouquet d'Or is a large, free, yellow flower.

A most distinct and graceful rose for a house wall is the yellow Banksian, and wherever its requirements are understood and provided, it forms a most charming feature in April and May, when in flower. Kronprinzessin Victoria is a splendid autumn-flowering Bourbon rose, with elongated buds, which open sulphur-yellow. Soleil d'Or is a hybrid rose, suitable for pillars; the colour is variable, opening yellow-orange and soon changing to reddish-gold.

Of the hardiest climbing roses yielding yellow flowers, Electra is conspicuous by reason of its dense panicles of small cream-coloured flowers; Aglaia, an effective variety, requires light training in order to thoroughly mature the wood; the flowers are of a good size, and of a bright canary colour. Gardenia is a lovely rose in bud; these are of the brightest yellow, but soon fade to a pale cream shade. Alberic Barbier and Jersey Beauty are Wichuraiana roses, with rich, glossy, metallic leaves. The former produces semi-double, creamy-white flowers, which are somewhat deeper towards the centre; the latter has single flowers of a pale yellow, the shell-like petals being much enhanced by the deep coloured stamens in the centre.

Thomas Smith.

Walmsgate Gardens.

NEW PLANTS, ETC.

◆

HELENIUM RIVERSLEA BEAUTY.

A very pretty and free flowering hardy plant, obtained by crossing H. pumilum with H. striatum. The flowers are freely produced, bright yellow, with brown centre. A.M., R.H.S., September 14. Mr. Maurice Prichard, Christchurch.

POTENTILLA ATROSANGUINEA GIBSON'S SCARLET.

A rather rare plant is this brilliant potentilla, but it is a good one, the flowers being especially bright and attractive. A.M., R.H.S., September 14. Mr. Maurice Prichard, Christchurch.

CHRYSANTHEMUM LESLIE WELLS.

This is a useful early-flowering variety, of good habit, and bearing a profusion of bright yellow, medium-sized blooms. A.M., R.H.S., September 14. Messrs. W. Wells and Co., Merstham.

RHUS SINICA.

The great value of this shrub lies in its elegant foliage, and especially in the brilliant scarlet colour the pinnate leaves assume in autumn. It appears to be an ideal shrub for a lawn specimen. We have referred to this species on several occasions, and illustrated it on p. 721. A.M., R.H.S., September 14. Messrs. Paul and Son, Cheshunt.

CATTLEYA IRIDESCENS SPLENDENS.

A distinct and effective hybrid, obtained by crossing C. bicolor with C. Eldorado. The flowers are of fair size and considerable substance, rounded, and well posed. The broad petals and less broad sepals are palest yellow, with a pink suffusion. The lip has a white base, and a broad, expanded purple apex, these being joined by a brilliant golden-yellow area. A.M., R.H.S., September 14. Messrs. Stanley and Co., Southgate.

DAHLIAS.

Edward Mawley.—A handsome rich crimson show dahlia, of excellent form. A.M., R.H.S., September 14. Mr. Charles Turner, Slough.

Prima Donna.—A large cactus variety of fine form; white, shading to cream at the bases of the florets. A.M., R.H.S., September 14. Mr. H. Shoesmith, Woking.

Little Beeswing.—This is a charming little show variety, the florets being yellow, neatly margined with bright red. A.M., R.H.S., September 14. Messrs. Keynes, Williams and Co., Salisbury.

Jupiter.—A fancy cactus dahlia, yellow ground, freely splashed with crimson, and with pink shading at the apex of each floret. A.M., R.H.S., September 14. Messrs. James Stredwick and Son, St. Leonards.

H. H. Thomas.—A brilliant crimson-scarlet cactus variety, of good form. F.C.C., N.D.S., September 2; A.M., R.H.S., September 14. Messrs. J. Stredwick and Son.

Indomitable.—An attractive cactus dahlia, the colour being an effective shade of mauve or deep lilac. F.C.C., N.D.S., September 2; A.M., R.H.S., September 14. Messrs. J. Stredwick and Son.

Iolanthe.—A very distinct cactus dahlia of reddish-rose colour, with yellow shading at centre and tips. F.C.C., N.D.S., September 2; A.M., R.H.S., September 14. Messrs. J. Stredwick and Son.

Red Admiral.—A brilliant rich orange-[illegible] cactus variety, of fine form and size. F.C.C., N.D.S., September 2; A.M., R.H.S., September 14. Messrs. J. Stredwick and Son.

STRAWBERRY LAXTON'S PERPETUAL.

This is a very fine addition to the section of late strawberries, for in an ordinarily good season it will fruit freely during September. It was raised by crossing Monarch and St. Joseph. It fruits most freely, the [illegible] much-divided trusses carrying a score or more of deep red, roundish fruits that are of very good flavour. A.M., R.H.S., September 14. Messrs. Laxton Brothers, Bedford.

ROSES.

Mrs. Edward J. Holland.—A beautiful pink hybrid tea rose, with full flowers of excellent form. Gold Medal N.R.S., September 16. Messrs. S. McGredy and Sons, Portadown, Ireland.

Miss Cynthia Forde.—A charming silvery-pink variety, somewhat after the style of Caroline Testout, but of rosier shade. A very fine and fragrant hybrid tea variety. Gold Medal, N.R.S., September 16. Mr. Hugh Dickson, Belfast.

Claudius.—A broad-petalled hybrid tea rose of great beauty and fine fragrance. It is of deep, glowing rose colour, and is of deep build and good form. Gold Medal, N.R.S., September 16. Messrs. Ben Cant and Son, Colchester.

NEW GOLD MEDAL H.T. ROSE MISS CYNTHIA FORDE.
Shown by Mr. Hugh Dickson, Belfast, at N.R.S. Show, September 16.

Mrs. Frank Bray.—A distinct and very delightful new hybrid tea rose, with medium-sized flowers of a pretty coppery-yellow shade, the open blooms being paler yellow. Card of commendation, N.R.S., September 16. Messrs. Alex. Dickson and Sons, Newtownards.

BEGONIA MODICA.

This distinct begonia comes from Tropical West Africa, and is a low-growing plant with undulating peltate leaves. The small yellow flowers are borne freely in umbels. The species appears to flower in autumn. "Bot. Mag.," t. 8,258.

CORNUS MACROPHYLLA.

This strong-growing cornel reaches a height of 10ft. at Kew, and has reached 17ft. at Coombe Wood. The species is widely distributed throughout Eastern Asia. It has yellowish-white flowers in large clusters, and small purplish fruits. Grown with a clean stem of 6ft. or so it makes a good lawn specimen, and it is hardy throughout the greater part of England. "Bot. Mag.," t. 8,261.

PINUS JEFFREYI.

A tall-growing species, allied to P. ponderosa. It comes from Western North America, and its branches are somewhat thinly set on columnar stems. It has long, rigid leaves, and bold brownish cones. "Bot. Mag.," t. 8,257.

SORBUS CUSPIDATA.

This is one of the finest, perhaps the finest, of the white beam trees, and it has been known as Pyrus aria himalaica. It has large leaves, flowers, and fruits, and is a most attractive tree, but, unfortunately, it may die off unaccountably in the growing season, and hence there are few fine specimens in the country. "Bot. Mag.," t. 8,259.

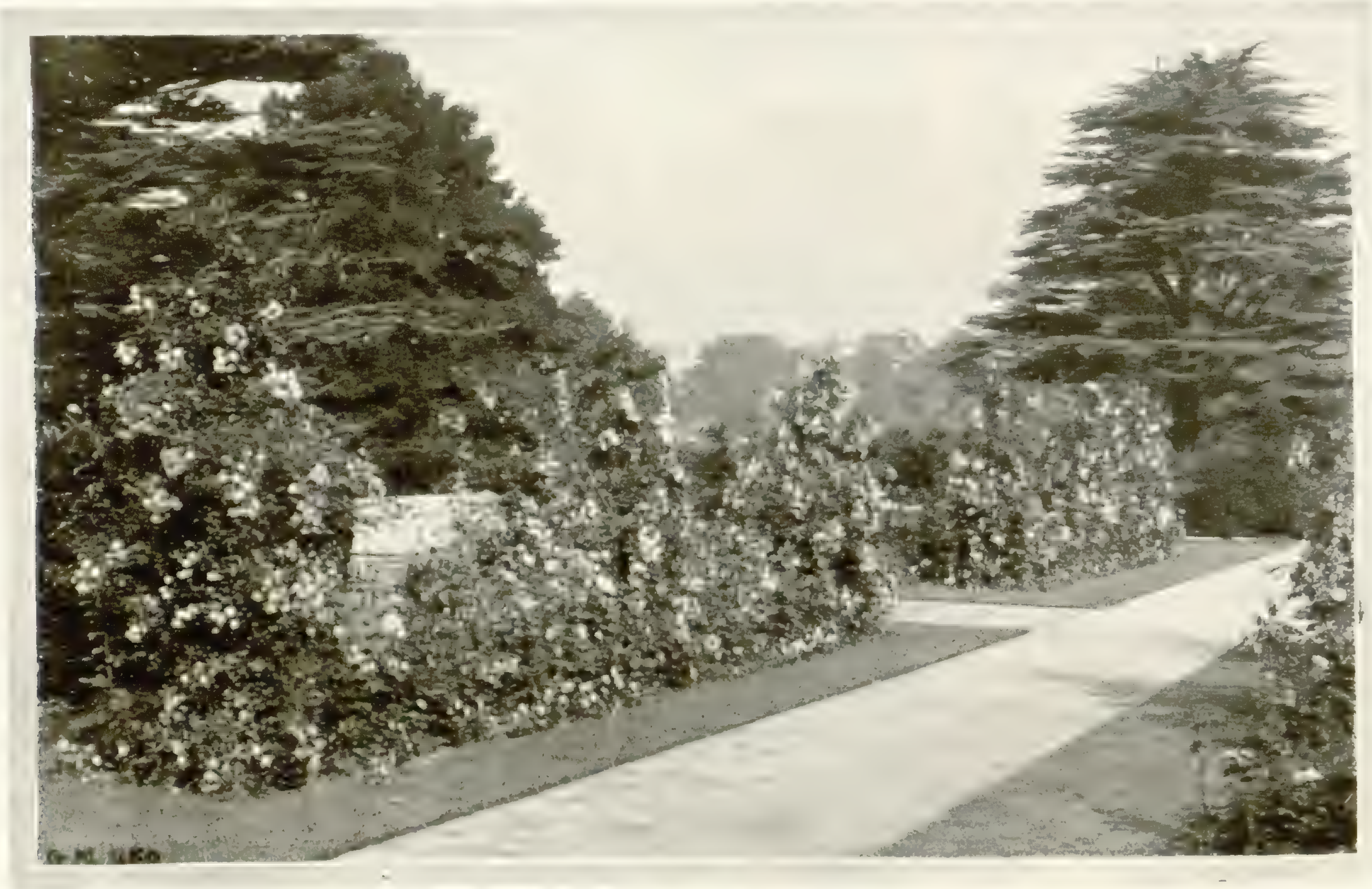
PRUNUS JAPONICA.

This low-growing shrub has rose-pink flowers, followed by an abundance of bright orange and scarlet cherry-like fruits. The double form is well known, and largely used for forcing, but the type is not so well known, and yet it is a most effective shrub in autumn when carrying a good crop of its acid and stringent fruits. "Bot. Mag.," t. 8.260.

BEST PLANTS FOR GREENHOUSE.—Nearly 300 pages are devoted to the description, propagation, and culture of the best flowers and plants for the greenhouse in The Amateur's Greenhouse, by T. W. Sanders, price 5s. net, or by post 5s. 6d., from W. H. and L. Collingridge, 148, Aldersgate Street, London

RAMBLING ROSES.

With the rose planting season near at hand, a reference to some of the more noteworthy of the rambling roses can hardly fail to be of interest or to prove useful, for no roses are more popular at the present time, and there are certainly none on which those who are not well acquainted with the relative merits of varieties are so greatly in need of advice. The immense popularity of the ramblers has so stimulated the activity of raisers that they have created with surprising rapidity such a large number of new forms as to render the task of making a small selection a somewhat difficult one. With but few exceptions all the Wichuraianas and multifloras possess sufficient beauty to add greatly to the charms of the garden when they are given suitable positions and receive proper attention. But while beautiful, they differ considerably in relative merit, and it need hardly be said that, whether the garden is large or small, the very best forms, whether of roses or other flowers, should be grown. It is important also that the varieties, especially where the garden is of limited area, should be selected with due regard to distinctness, and the purpose for which they are required, and to accomplish this without a knowledge of the characteristics of the many forms is not an easy matter.



RAMBLING ROSE LADY GAY.
Finely-furnished pillars of this charming rose-pink rambler in the Rose Garden, Welbeck Abbey.

Before passing on to refer to some of the more noteworthy varieties, it may be useful to remind readers that the rambling roses are admirably adapted for clothing pergolas, screens, arches, and pillars, for trailing up tree trunks, for running riot over the roots of trees that have been lightly dispersed in groups on the lawn, or on sloping banks in any part of the garden; and for trailing over rough banks in the wild garden, the Wichuraiana varieties are the most suitable for the last-named purpose. A deeply stirred and liberally manured soil is essential to the cultivation of these vigorous growing roses, whatever may be the position assigned them. There is one other point that must be mentioned, and that is the importance of preventing the overcrowding of the shoots. When this is allowed the growth is less vigorous than could be desired, and fails to become properly matured, with the result of the flowers being comparatively few and wanting in quality. The advice so frequently given in these pages that the old and exhausted shoots should be removed at the end of the summer, or at the beginning of the autumn, should be acted upon.

Aimée Vibert.—The climbing form of this fine old noisette is the best of all the white ramblers, and should be planted rather freely where these roses obtain attention. It is very vigorous, practically evergreen, and produces its clusters of pure white flowers in great profusion during the summer, and it continues in bloom until the autumn, but the flowers are sparingly produced after the principal display has been made.

Blush Rambler has much to recommend it. In freedom of blooming it is unsurpassed, and the large clusters of blush pink single flowers produce a remarkably beautiful effect. The suitability of this charming variety for arches is admirably shown in the illustration of an arch in the gardens of Englefield House, Reading.

Alberic Barbier is equally remarkable for its distinctness and beauty, and like some other of the Wichuraianas, is especially useful for trailing over tree stumps and for rustic trellises. The flowers are yellow in the bud state, and creamy-white when expanded.

Crimson Rambler still retains its position as the finest of all the crimson ramblers, and must therefore be included in the smallest selection. Philadelphia has not realised the promise of surpassing this old favourite, notwithstanding its great brightness of colouring. In many gardens Crimson Rambler fails to produce the effect of which it is capable, owing to the soil being in a more or less exhausted condition. Those who do not obtain large trusses of flowers should not fail to liberally enrich the soil about the roots of the plants with a dressing of half-rotted manure, or some approved artificial fertiliser.

Buttercup is a valuable addition to the multifloras; the growth is free, and the foliage dark in hue, and the comparatively small single flowers are rich orange; a new variety that should receive a largely extended trial.

Coquina, a charming Wichuraiana, of quite recent introduction. The growth is vigorous, and the flowers are single, pale pink suffused with rose at the tips of the petals, and borne in large clusters. The flowers have the merit of retaining their freshness and beauty for a comparatively long period.

Dorothy Perkins is too well known to need description. It is a remarkably fine rose, that should have a place in every garden; but it ought not, as in many instances, to be grown to the exclusion of other ramblers, with the exception, perhaps, of Crimson Rambler. This variety does well on any form of support suitable for rambling varieties.

Fairy.—This is a beautiful multiflora, less rapid in growth than some others of its section, but very free in flowering, and the large clusters of single white flowers are produced continuously throughout the summer. This fine variety is of quite recent introduction, and should be freely planted.

Hiawatha.—An effective Wichuraiana variety that deservedly enjoys a considerable popularity; the growth is vigorous, and the flowers are borne in large clusters, single, and are brilliant crimson with white centre.

Helene.—A beautiful variety belonging to the multiflora section. It grows rapidly and blooms profusely, the flowers double, pale pink, and borne in large trusses.

Lady Gay.—A highly effective form belonging to the Wichuraiana section, is said by some growers to so closely resemble Dorothy Perkins as to be indistinguishable from that variety. There is some resemblance, but it is not so close that the two varieties cannot be readily distinguished. The flowers are larger than those of Dorothy Perkins, and they are much deeper in colour. This variety is used with singularly good effect in the rose garden at Welbeck Abbey, and the long line of finely furnished pillars, of which an illustration is herewith given, presented an extremely beautiful effect when the photograph was taken in the second week of August.

Lady Godiva is a charming variety that originated as a sport from Dorothy Perkins, and has much to recommend it to the notice of planters. The flowers are soft flesh-pink.

Lyon Rambler, a distinct new multiflora with double flowers, bright red with white centres, that has the promise of proving a valuable addition to its section, and a trial is suggested.

Kathleen.—This is a new variety that may be described as a most valuable addition to the multifloras. The flowers are single, and produced in large trusses; the colour, soft carmine rose.

Mrs. F. W. Flight.—One of the finest of the multifloras, and deserves to be planted more freely than has yet been the case. It has a robust habit, the flowers are borne in large clusters where the plants receive generous treatment, and the colour is rich rose-pink.

Tea Rambler.—A strong-growing, free-flowering, and immensely attractive variety, with the perfume of the tea rose. The flowers are double, borne in large trusses, and the colour is rich salmon-pink.

Trier belongs to the multiflora section, and has much to recommend it, for in addition to other good qualities, it blooms continuously until the autumn. The flowers are white, and borne in large trusses.

Viator.

AN ATTRACTIVE ROSE ARCH

Successfully clothed with Blush Rambler in the gardens of Englefield House, Reading.

A SCARCE BOOK ON ROSES.

Within the last few months there has been offered for sale in London a complete copy of Miss Lawrance's work on roses, and as perfect examples are very seldom met with, a few notes on the book may not be without interest. So far as I am aware, the last previous appearance of a copy in public was at the Rose Conference held at the Chiswick Gardens of the Royal Horticultural Society in 1889, where, we are told in the society's "Journal," it "excited much attention." Redouté mentions that in his time copies of the book sold in London for 120 guineas.

The work is entitled "A Collection of Roses from Nature," and it is usually found in small folio size, although large paper copies of at least some of the plates are occasionally met with. The title page of the copy in question bears the date 1799, but some of the plates are dated 1796, which is about twenty years before the first edition of Redouté's great work "Les Roses," commenced to appear. There is a handsome frontispiece of a garland or crown of roses of various colours (an idea which Redouté appears to have copied), and ninety coloured plates of the most esteemed kinds of roses of the period. The text consists only of a two-page synopsis of species and varieties of roses at the end of the book, but from the present standpoint of horticultural taste and knowledge this is of little value, and the interest of the book centres in its coloured plates. These, although lacking the botanical accuracy of Redouté's drawings, present, nevertheless, to the ordinary eye, striking representations of the roses they are intended to represent, and the colouring is as bright and fresh as when it was first laid on. Horticulturally speaking, they are far in advance of any illustrations of roses that had previously appeared, and, with the exception of Redouté's drawings, I know of no collection of rose plates that has appeared since that will compare with them in magnitude and merit.

As may be supposed from the period at which the work appeared, varieties of the Provence rose (R. centifolia), the French or Provins rose (R. gallica), and the Damask rose (R. damascena) are freely figured, and, to a lesser extent we find varieties of the Austrian rose (R. lutea), the Alpine rose (R. alpina), the Scotch rose (R. spinosissima), the Alba rose (R. alba), the China rose (R. semperflorens), the Apple-bearing rose (R. villosa), the Musk rose (R. moschata), and the Sweet Briar (R. rubiginosa).

Of varieties still in cultivation as garden roses of interest and merit, the following are tastefully delineated: The Common Provence rose, the White Provence rose, the Austrian Copper rose, the York and Lancaster rose (true), the Austrian yellow rose, the Rosa Mundi, the Common Moss rose, the Maiden's Blush rose, the Miniature Rose de Meaux, the Common China rose, the Crimson China rose, the Apple-bearing rose, the Musk rose (single and double-flowered), the Sweet Briar, and Scotch roses (of various colours).

The single Macartney rose (under the name of R. lucida); also the Double Yellow or Yellow Provence rose (R. sulphurea), which is still grown in a few favoured localities are figured. The remaining plates give us a pleasing insight into the resources that were available for the formation of a rose garden 100 years ago.

The artist styles herself "Teacher of Botanical Drawing," and in addition to the work on roses she published a collection of illustrations of Passion-flowers, which is also very scarce. From "Sweet's Florists' Guide," we learn that she became, by marriage, Mrs. Kearse.

Arthur William Paul.

OLD VERSUS YOUNG VINES.

Mr. Mackellar's recent exhibit of Black Hamburgh grapes at Westminster, from the old vine at Hampton Court, should do much to check the uprooting of vines that have been in existence from twenty to thirty years. It is common knowledge that gardeners often condemn vines that have done excellent service for thirty years, especially when taking a new charge. Too often they do not wait to see the result of the first season's growth, but jump to the conclusion that because the vines are old they are useless.

Another cause of this premature uprooting of the vines is their inability to produce large bunches, owing to a lack of proper attention, especially during the early stages of the growth of the rods. Too often there is a distinct craving for huge bunches, but the experienced cultivator knows quite well these are not so satisfactory as compared with smaller bunches of superior berries, colour, and finish.

He, indeed, would be a bold man who would attempt to find fault with the bunches of Black Hamburgh cut from the 140 year old vine in question. The bunches ranged from 2½lb. to 4lb. each, and were perfect in shape, having heavy, well-formed shoulders and a tapering point. The berries were of good size (not excessively large), even, and perfectly coloured, with a density of bloom seldom seen in this variety, but which, when present, always carries weight with a judge, who realises how difficult it is to produce such examples under any conditions.

As a case in point of how old vines can be made to produce perfect grapes, I cite the above instance. It also proves that with judicious management vines are never too old to give good results. Thirty-two years ago I struck eyes from ten varieties of grapes, and grew them for a year in pots, in the Liverpool district, and planted them at Swanmore, in February, 1879. The results have been most satisfactory, as annual crops of really first-class grapes have been and are still produced. Bunches of Madresfield Court, Muscat of Alexandria, and Mrs. Pince especially, have this year weighed 4lb. each, with full-sized berries and good finish. Of the former two varieties the rods have carried from ten to fourteen bunches, Mrs. Pince naturally fewer, because the bunches are larger.

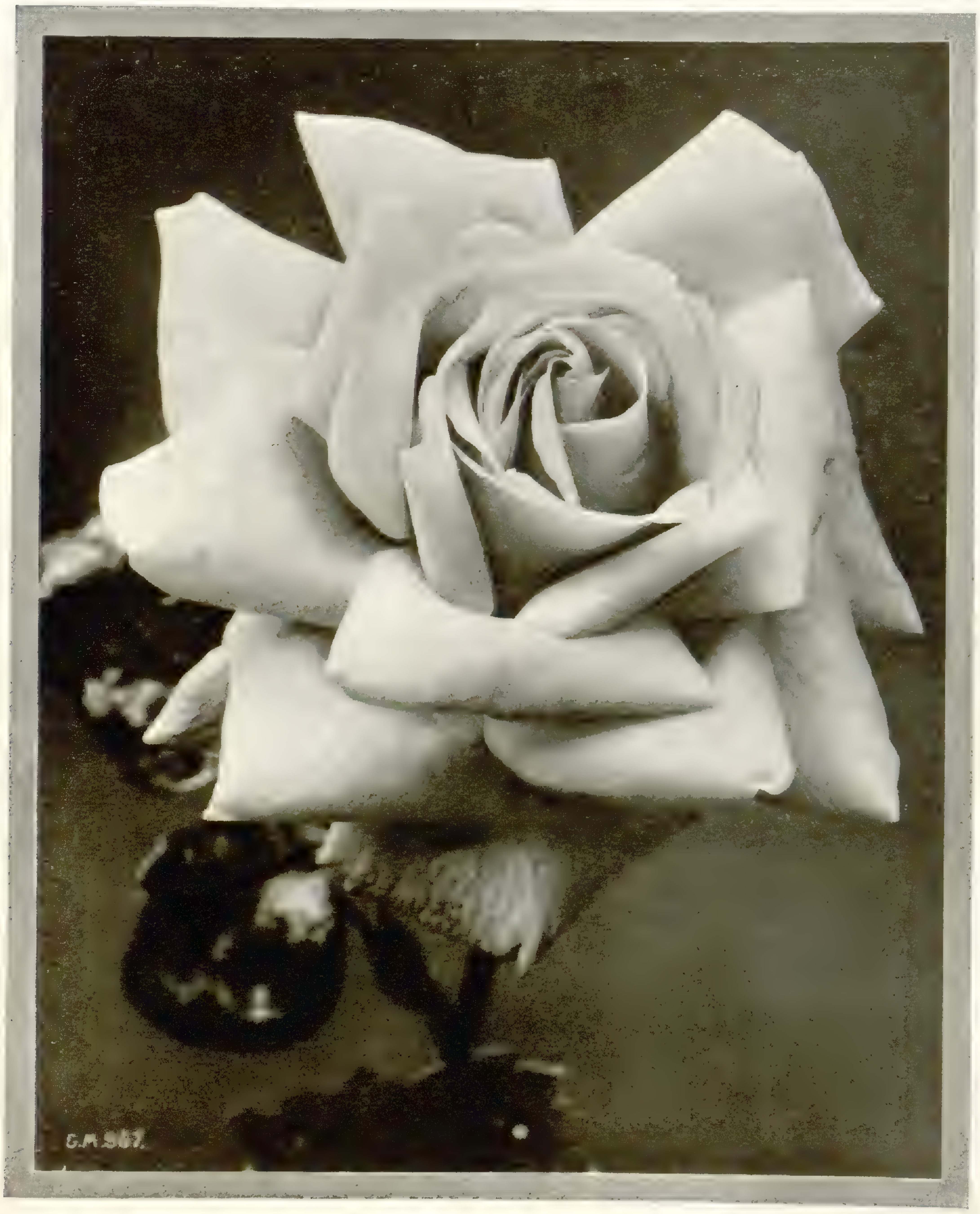
Now when such grapes can be produced after thirty years existence, there does not appear to be much reason for replacing the vines. The circumference of the vines at the base is as follows: Muscat of Alexandria, 10 inches; Alicante, 10¼ inches; Madresfield Court, 9¼ inches; Lady Downes, 9¾ inches; and Black Hamburgh, 9½ inches. Mr. Ellwood has, during the last three years, taken up from the base an occasional new rod in the Muscat house, with a view of invigorating the vines, but not with any other variety has he thought it necessary.

I have in my mind several instances of vineries planted during or about the same year as those at Swanmore, and in two cases the vineries have been replanted within the last ten years, on the plea that the vines were exhausted, and did not give bunches large enough!

What are the causes of deterioration in vines? There are several. Overcropping while the vines are under ten years old is a common cause; neglect to supply moisture to the roots after the crop is gathered is another, and the wish to fill the house too quickly is a frequent cause of failure. With some gardeners there is an undue craving to see the trellis covered in the shortest possible time, and instead of restricting the leader for the first few years to an annual extension of 2ft., as much as 6ft. is allowed to remain, and thus the vines are eventually weakened, not only in the thickness of the rods, but in the growth of the side shoots as well, so much so that many never do give a reasonable bunch of fruit.

My contention is now, and always has been, that where vines are expected to give satisfactory results for upwards of thirty years they must be restricted while in their infant state. I am, of course, referring entirely to vines growing on the single rod and spur system of culture. Vines grown on the extension or many rod principle, so as to fill a house with but one, or, at the most, four vines, in a 100ft. length, come under another category.

Swanmore Park. E. Molyneux.



NEW GOLD MEDAL H.T. ROSE MRS. EDWARD J. HOLLAND.
Shown by Messrs. S. McGredy and Sons, Portadown, Ireland, at N.R.S. Show, September 16.

ESCALLONIA MACRANTHA.

Although in most gardens about London and also in gardens north of the metropolis, it is only possible to succeed with this evergreen shrub when planted against a wall, it forms an extremely useful subject in the south and west counties, for, in addition to being an excellent evergreen, it is a charming late-flowering shrub. It is a native of Chiloe, and at its best forms a bush 10 or 12 feet high and as far through, well clothed with dark green foliage. The flowers are rosy-red, and borne in panicles from the points of the shoots during August and September.

As a wall plant, it has much to commend it, for it may be kept in moderately close by an annual pruning in spring, while it proves an attractive covering throughout the year. It is, however, in those gardens where it can be grown as a bush in the open ground that it is seen to the best advantage, for it is exceedingly handsome whether reckoned with from a floral or foliage standpoint. It stands severe cutting well, and for this reason is sometimes used as a hedge plant, for which purpose it is admirably suited, especially where something a little out of the common is required. D.

Plum, Rivers' Early Prolific.—In gardens where the walls are low, and wall space, generally, is limited, this plum will be found a sterling variety to grow. The tree makes moderately free growth, and rarely fails to bear a very heavy crop of fruits. The latter are of medium size, dense purple in colour, and of good brisk flavour. It is, undoubtedly, one of the best plums for ripening about the third week in July in the southern counties. With me, grown in a light soil, and on a wall facing south, it never fails to bear heavy crops. This variety should be included in orders given this autumn for plum trees.—G. B.

FERN SELECTION.

The fact that ferns, like other plants, when once, by virtue of their "sportive" character, they have adopted a form differing from the specific one, are apt to display the new character in a more or less varied form in the progeny obtained from their spores, renders them susceptible to great improvement on the varietal type if proper selection be adhered to. It may be accepted as a rule that entire reversion to the normal or parental form is rare when the new type is a thoroughbred one, that is, when all the fronds are similarly characterised and symmetrical.

Ferns are not infrequently found which are only partially affected, some of the fronds being normal and others of a different type, or the new character may only appear in parts of the fronds, and not throughout. Such forms are very apt to reproduce their imperfections, and are not, therefore, desirable parents. On the other hand, cases are on record in which only a small part of a frond has betrayed a sportive character, and spores taken from this have yielded a batch of plants so characterised throughout. Gymnogramma Laucheana grandiceps, raised many years ago, is a case in point, a merely dilated pinnule or minor sub-division having been noticed on an otherwise normal plant, and spores sown from this gave a large batch of finely and heavily crested ferns.

It is a common experience when fern hunting to find the Male Fern (Lastrea filix mas) with erratic fronds, the divisions forking and being otherwise varied on irregular lines. They are termed "rogues," since though sometimes promising enough to tempt even the expert to give them a trial, disappointment is the invariable result. One remarkable case, however, occurred in our own experience, in which the final result was not so unsatisfactory. The "rogue" in this case took the form of an apparently thoroughbred crested Male Fern found in Scotland, the side divisions having as many as thirty points. These plants were found in the same coppice, all alike, and all robust plants, with fronds over a yard long, tasselled throughout, and without a defect. Yet, though lifted and potted, and treated with the utmost care, the following season all three reverted to a ragged irregular "rogue" type of the worst kind, and with occasional feeble attempts at producing a decent tasselled frond, so they have remained for now about twenty years. Spores were produced in abundance on the perfect fronds as found, and, naturally, were immediately sown, with a view to propagation. Some hundreds of young plants resulted, but all, with one solitary exception, displayed their "rogue" character at the outset, the one exception, however, began well, and continued to throw up perfect tasselled fronds precisely on the lines of the original find, and this has remained constant to this day.

Obviously, however, it is better, and pays better, to start with constant varieties; and since, thanks to fern hunters, there is now such an abundance of good material, ferns with perfectly symmetrical fronds displaying special beauty, anything of an inferior character should be avoided, especially as some of the irregular laciniate or depauperate varieties possess in their spores such reproductive vigour as to become veritable weeds, and due to this, if sown with better ones, speedily oust and destroy them by overcrowding. Given careful selection of the parents, it is a period of absorbing interest when the young fronds of the progeny begin to develop sufficiently to show character, for it is now that the chances of improved type begin to present themselves.

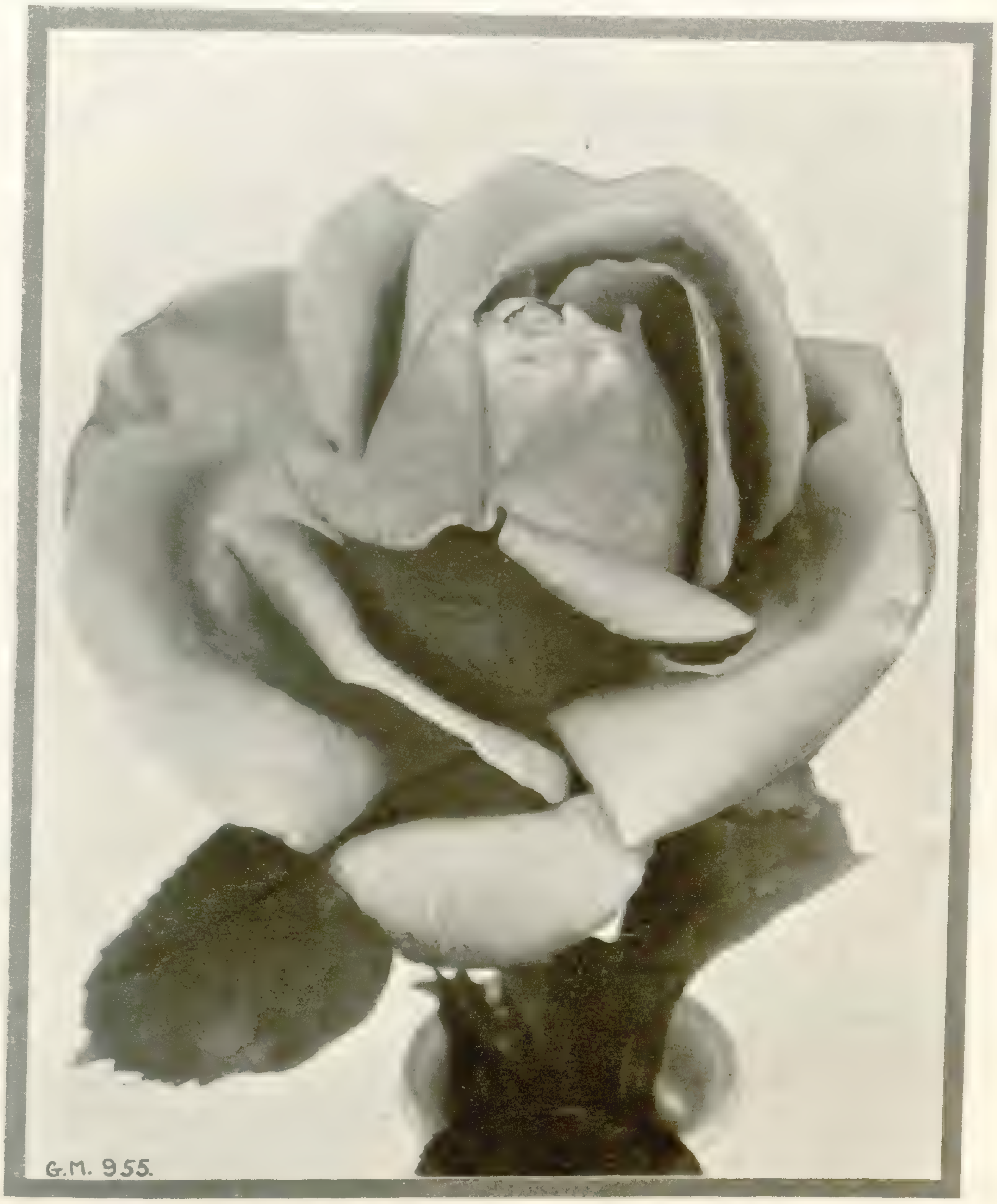
An ordinary sowing, even in a small pot or pan, if successful, is almost bound to yield far and away more plants than the amateur can accommodate as adults, and it is wise, therefore, to eliminate all inferior types as they appear, and to transfer to a special pan all such as distinguish themselves from the rest by superiority of character or distinctness of type. Spores are widely scattered when ripe, and hence with every care, stray spores are generally sown with the special ones, and when the resulting strangers appear these also should be removed, cutting them out with pointed scissors, or if they appear desirable, pulling them out roots and all, and installing elsewhere. It is in this connection that the weed forms above alluded to are likely to assert themselves.

The interest of spore sowing is greatly increased if a careful record be kept. Our plan is to keep a register with consecutive numbers, a corresponding number being marked on the outside of the pan, or on a small label inserted within it. Against the number in the register we give particulars of the sowing, with any remarks necessary to the history of possible results. The date is also attached. The cross-fertilisation of ferns has been often demonstrated as possible, but can only be effected by sowing spores of the intended two parents together, and when the prothalli or little green scales produced by the spores are full size, flooding them by holding the pan in water until it percolates through from the bottom and wets their undersides.

In this way there is a chance that the fertilising organisms of one prothallus may be floated to another, and thus lead to a cross. Without such flooding it is unlikely that the antherozoids can get beyond their own prothallus. The prothalli should remain soaking for half an hour or an hour. The microscopic character of the fern equivalent of pollen grain and stigma precludes manipulation as with flowers, and the above operation is practically the only one available. Such attempts at crossing should, of course, be made with a definite object. A non-crested fern of distinct character should be sown with a good crested one, for instance, and as these two types exist in many forms, a wide field is opened in this direction.

The forms, however, should be thoroughbred in both cases. Some ferns seem to be peculiarly adapted for crossing, and, as a result, if one variety is an irregularly crested one, occasionally failing to produce a tassel at all, we have, as in the beautiful Polystichum family, a whole range of defective combinations, in every one of which the faults appear, with the result that instead of being improvements and acquisitions they are good things spoilt.

Chas. T. Druery, V.M.H., F.L.S.



NEW GOLD MEDAL H.T. ROSE CLAUDIUS.
Shown by Messrs. B. R. Cant and Sons, Colchester, at N.R.S. Show, September 16.

SOME MORE GOOD NEW ROSES.

From time to time I have briefly described the newer roses as they have flowered with us, and since my last reference to them a few additional varieties have come out very prominently. Those that I mention have been growing under my own observation, and I am therefore in no way dependent upon the raisers for the descriptions, so that in some cases it may differ a little from theirs. I mention this because not all of us would describe a flower in the same words. Allowing for a little natural partiality I find the raiser's descriptions generally correct. I do not remember mentioning any of the following previously, and if I have done so, they amply deserve the few words repeated.

MR. GEORGE PRINCE'S GOLD MEDAL DISPLAY OF ROSES,
At N.R.S. Show, September 16.

Mrs. E. G. Hill, H.T., is a good grower that at a distance resembles Joseph Lowe, but when looked at closer is a greatly improved Grand Duc A. de Luxembourg; the deep coral-red on the reverse of petals being very pronounced.

Avoca, H.T., grows well, and whether in the maiden or cut-back stage, is a grand rose. Very sweet-scented and deepest crimson-scarlet. The growth as a maiden or cut-back is as strong as Margaret Dickson.

George C. Waud, H.T., gives a distinct colour among the many shades found in roses; a glowing vermilion touched up with a splash of orange which intensifies the colour. It also lasts well in the most brilliant sun that the present year has supplied.

Lady Ursula is a thoroughly distinct flesh pink that will find its way into any collection, whether for garden, pot, or exhibition. I like this rose very much. It is one of the best in its colour.

Barbarossa, H.P., the "red" Frau Karl Druschki, has not come so good this summer as we had it last autumn, nor do I think it quite so good a grower. If it proves as good late as Frau K. Druschki it will be exceptionally useful.

Colonel R. S. Williamson, a satiny blush, is perfection in form and size, and a good rose, but we do not want any more of these shades.

Elizabeth Barnes has been very pretty with its fawn centre passing to satiny salmon, rosy-red, and copper.

Laurent Carle, H.T., is a brilliant red, and brightens up the hybrid tea section.

Mrs. Stewart Clark, H.T., has been very showy with its cherry-pink flowers. Sure to be a grand garden rose and popular because it is so free and sweet-scented.

Madame Pol. Varin-Bernier, H.T., is one of the most distinct roses, rather like Richmond in growth and form, but a pale lemon-yellow, and stands better than most.

Aennchen Muller, P., has again been a picture among the dwarf polyanthas. One mass of immense trusses. The raiser claims the individual flowers to resemble cactus dahlias, and this is an apt description. Each bloom is looser than Dorothy Perkins and the trusses much larger. It comes remarkably clear under glass, so much so as to appear a distinct variety. This is really first-rate.

Mrs. Arthur Waddle, H.T., is a free grower and bloomer. Quite a new shade of burnished copper, apricot, and the deepest of all shades found in Mrs. Aaron Ward. The petals are large, but the flower only just exceeds the semi-double form. A very showy rose, and apparently one of the Soleil d'Or hybrids.

Blumenschmidt, T., is a citron-yellow sport from Francisca Kruger. There is a slight tinge of pale rose at the edges of petals, and it is equally free in growth and bloom as the old favourite it sported from. Not large enough for the present-day exhibition box, but good for coat and general decoration.

Celia, T., was really charming last autumn, and was good again during the cooler days of the past summer. A showy pure carnation pink.

Mrs. J. W. Budde, H.T., affords a glowing carmine among the Hybrid Teas. As it has grown here it is a decided advance upon Princesse de Sagan and Souvenir de Thérése Levet, especially in growth, and is sure to become a prominent garden rose.

Alice Roosevelt, H.T., is a most promising sport from Madame Abel Chatenay that has flowered well with us. It is deeper in colour, almost red in its younger stages, and apparently longer in the bud. A capital coat flower, very sweetly scented, and is most glowing in artificial light.

Madame Maurice de Luxe, H.T., has come very good in the open ground this season, and was one of our best under glass during winter and early spring. A large, well-built up flower, a good grower, with handsome foliage. Colour deep rose, with a cochineal-red centre. The reverse of the petals are a little lighter, and strongly remind me of an old favourite seldom seen now named Emilie Hausburgh.

Uckfield. A. Piper.

APPLE BEAUTY OF HANTS.

I, too, have not seen this variety other than in Hampshire. When the garden here was made in 1878 my attention was drawn to the variety in Messrs. R. Smith's nursery at Worcester, when selecting the fruit trees, and out of sentiment to the name I planted one tree, a standard. I have always looked upon the variety as a poor form of Blenheim Pippin, but with certain characteristics about it that made the variety desirable. While Blenheim Pippin is not in a fit condition to eat until November, Beauty of Hants is quite ready a month earlier, and as good dessert apples are scarce about that time, Beauty of Hants is a desirable crop to have. The trees does not grow so rapidly as the Blenheim, but it generally crops well. The fruit, being smaller, is of good size for dessert, whereas the Blenheim is too often over large. With me it never did keep until Christmas. October is its natural month of ripening. I know nothing of its origin, but assume it to be a seedling from Blenheim Pippin

E. Molyneux.

Swanmore Park.

Roses may be grown to perfection by following the instructions given in Roses and their Cultivation, by T. W. Sanders. A selection is given, with description of all the best varieties, and full details for culture outdoor and under glass. Price 2s. 6d. net, by post, in box, 2s. 10d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

BELLADONNA LILIES.

The Belladonna lily and its varieties appear in all their richness of colouring, and fill the garden with their sweet fragrance in autumn, when the power of the sun is on the wane. These amaryllis represent a very beautiful and refined type of bulbous plant, and are rendered very conspicuous by the fact that their inflorescence is produced in advance of the foliage. This, from an artistic point of view, may be termed a drawback, but we possess abundance of suitable material to associate with them in a cut state, while various plants of elegant and well-furnished appearance may be given a place in their immediate neighbourhood.

We are all reminded at this season of splendid colonies that have been in existence for a long term of years, and that become more profuse year by year, with but little attention beyond an annual top-dressing.

On the other hand, a huge number of failures are recorded with new plantations, and it may be explained that it is idle to conjure up scenes of extreme loveliness for a season or two after planting. This applies more particularly to bulbs which are imported from a much warmer climate than our own, and which require time to become acclimatised. It not infrequently happens that these bulbs are allowed to flower before they have become established; and, of course, the latent flower spike exists in the bulbs when purchased. This early flowering has a decidedly weakening effect upon them, the evil being aggravated by exposure to much colder conditions than they have hitherto experienced in winter. Hence the necessity of removing the flower spikes as soon as they appear, and of encouraging healthy growth by placing either frames or handlights over them.

Another and vastly more satisfactory way out of the difficulty, or, at least, to ensure success from the outset, is to purchase English-grown bulbs, and leave the others to the more skilled attention of trade growers. Other important points are a suitable position and efficient drainage. The greenhouse almost invariably occupies a sunny site, and is usually surrounded by a narrow border, and here we have an ideal spot for Amaryllis belladonna. If the soil is of a heavy, tenacious character, it must be taken out to a depth of 2½ft., and a 6in. layer of broken brick-bats, crocks, etc., be placed at the bottom, followed by a layer of turves, which will ensure perfect drainage. Then a liberal quantity of very light and sandy soil should be mixed with the loam as it is being replaced, the border being brought up 6in. above the surrounding level.

Early in October is the best time to form plantations, the bulbs being buried 6in. deep, and the soil very thoroughly solidified around them; in fact, I would advise a slight ramming of the ground after planting is completed. Abundance of water is necessary during the time leaf growth is being made.

As regards varieties, the old type plant is in every way excellent, and certainly was never so popular as it is to-day. A. Belladonna purpurea major stands alone in being indifferent to surroundings and position, and its great vigour enables it to flourish amazingly under circumstances where the others would cease to exist. A magnificent form is seen in Kewensis, which is far and away the finest of the family. It has enormous stems, and from eighteen to two dozen flowers are produced upon a spreading umbel, and these are of great substance, and of a beautiful shade of rose. The variety blanda does not find much favour in this country, but I understand it is largely grown on the Continent. The variety major is very fine, with dark-rose petals of great length; while rosea perfecta has the same colouring as blanda.

Amateurs who visit Kew Gardens during the autumn should make a point of inspecting the superb display of these refined subjects, and happily they are now represented in large colonies in the majority of the great London and provincial parks.

Walter H. Aggett.

MESSRS. FRANK CANT AND CO.'S FIRST PRIZE GROUP OF THIRTY-SIX BUNCHES OF DECORATIVE ROSES, at N.R.S. Show, September 16.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

COOL HOUSE ORCHIDS.—The general repotting of odontoglossums should now be proceeded with without delay. It is advisable that the plants should be given an opportunity to become rooted into the fresh potting compost before the colder nights set in, as they are less liable to become shrivelled or otherwise detrimentally affected when the potting is completed a few weeks before there is likely to be much artificial heat required. The atmosphere of the house should be kept moist and cool about the plants, as this will encourage root action, as well as prevent the pseudo-bulbs becoming unduly shrivelled. Constant observation for thrips is necessary at this season of the year, and as soon as any signs of the pest are found the necessary steps for their destruction must be taken. There is nothing more injurious to the growth of the plants, or anything more disfiguring to the foliage than thrips. Where the houses are situated close to herbaceous borders the difficulty of keeping odontoglossums free from thrips is considerably increased; but where the method of spraying at regular intervals is adopted the pest may be kept in check.

MASDEVALLIAS.—Where the necessary repotting of the large-growing kinds has not been done this should now receive attention. Before repotting it is well to have the foliage of the plants sponged. Care must now be observed to prevent any excessive accumulation of moisture towards evening. Now that the cooler nights are setting in it is well to see the moisture in the atmosphere is reduced to the minimum. I consider a great deal of the unsightly black spotting of the foliage is caused by an excess of moisture in the atmosphere, combined with a low reading of the thermometer. A minimum of 50 deg. is quite as low as can with safety be reached, with the atmosphere at all damp, at any season of the year.

DECIDUOUS DENDROBIUMS.—Many of the species and hybrids will now have completed their growth. Those that have matured should be removed from their growing quarters and placed in a drier atmosphere.

in a position where they may obtain the maximum amount of bright light, as this will assist them to properly ripen their flowering growths; and the fact should not be overlooked that the best quality of any flowers can only be procured from properly-ripened growths. Liberal ventilation should be afforded when the outside conditions permit, and an occasional syringe overhead will assist in keeping down red spider and other insect pests, which are liable to attack the plants as soon as the condition of the atmosphere becomes at all dry. Sufficient root moisture should be given to retain the pseudo-bulbs in a normal, plump condition, but care must be observed to prevent, as far as possible, the plants restarting into growth, which is very liable to take place when they are subjected to over-liberal treatment. There are some kinds, such as D. Wardianum, where it is natural for the plants to commence secondary growth, often before the last growth is completed. Where this is the case too much encouragement must not be given to the young growths, even if the lower leaves become discoloured, it will generally be found that they restart in due season.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

CONSERVATORY. — Serious thought must now be given to housing all plants that are likely to be injured by frost, especially so as already frost has been registered on the grass. The late batches of begonias, fuchsias, gloxinias, etc., etc., must be placed in the conservatory, and so make it bright for the last time this season with summer-flowering plants, and a good show they still ought to make intermixed with liliums, early-flowering chrysanthemums, and salvias. These will all make room in the greenhouses for other things.

CHRYSANTHEMUMS.—Where a large batch of the earlier flowering varieties is grown, such as Soleil d'Or, Le Pactole, Polly, Harry, Horace Martin, and others that do not quite come to perfection out of doors, these should, if possible, be placed in a house by themselves, and it will be found that they will be over in time to make room for the latest batch of decorative varieties. Preparations must also be made for housing the main batch of Japanese and incurved varieties, and usually these are placed in vineries and peach houses; this being the case, all unnecessary foliage must be cleared from the vines or peaches, afterwards giving the house a good syringing or hosing down, and at the same time giving the borders a thorough soaking of water. All the plants should be sprayed with sulphide of potassium before housing, taking care that they are dry before being taken in, or any paint work that is splashed by the wet plants will turn brown. Try to arrange all the earlier plants together in one house, and keep later ones separate, so that if they are wanted out by a certain date for a party or a show, a little heat may be given or withheld as they require it. If the pots are stood upon the vine or peach borders it is as well to use boards beneath the pots, and a good plan is to place clean straw among the pots, as this prevents the borders from becoming dry, and also keeps the moisture from rising and spoiling the flowers as they open. Keep the houses as cool as possible for a time, not giving any fire heat till the blooms begin to expand, when, of course, sufficient must be given to keep the atmosphere dry. Do not stint water at the root for the first week or two after housing, giving a little liquid manure to all the backward plants, but after the flowers begin to expand greater care must be taken with the watering.

ARUMS, EUPATORIUMS, SALVIAS, ETC., planted out in the open ground should be lifted at once and carefully potted, keeping them close and lightly syringed overhead until they get over the check. Half-hardy plants that may be plunged out on the lawn in exposed positions should be removed to more sheltered quarters on the first sign of serious frost.

POT ROSES.—The present is the best time for overhauling these, and, where necessary, they should be repotted; and those that do not require potting should be turned out to see that the drainage is quite clean, and then be given a good top-dressing of loam, with a little bone-meal and charcoal added. After potting, or top-dressing, all the pots should be plunged to the rim in straw litter or leaves, and this will encourage the formation of new roots much more quickly than if they were stood in the open without something to protect the pots. It is almost unnecessary to add that an open position is the best for the plants. In the case of climbing varieties and standards, they should be securely staked to prevent damage by wind.

BULBS.—Continue to pot up all bulbs for forcing directly they come to hand, plunging the same in ashes, preferably in cold frames, as there they can be dealt with even during the hardest of weather, which is not the case if they are plunged in the open. Further batches of freesias and lachenalias should also be potted, but these will not require covering. Roman hyacinths potted early in August should now be rooting freely, and may be removed from the ashes, and if wanted very early, may be introduced into a little heat.—Thomas Stevenson, Woburn Place Gardens.

THE FLOWER GARDEN.

PENTSTEMONS.—If not already done, no time should now be lost in propagating the best varieties of these for another season's supply, by cuttings, which should now be plentifully produced from the base of the plants. These must be firmly inserted in a sandy compost, either in frames, boxes, or pots. Personally, I prefer the latter, using five-inch pots for the purpose, placing six or seven cuttings in each. An unheated frame will suit them best. Keep shaded if the sun be unduly bright until they are established, afterwards give all the air possible. Care must be exercised during the winter, or frost will seriously injure them. Therefore cover the frames, and especially the glass, whenever the weather is doubtful. If it is desirable to increase pentstemons by seed, this must be collected, well dried, and cleaned. The seed should be kept dry, and sown early in the spring.

FLOWER BEDS.—Any cuttings that are now required from the occupants of these should be taken off without delay. These should be examined at frequent intervals and all decaying flowers removed. Aim at keeping the beds as attractive as possible for the short period that the summer occupants will remain in them. Slight protection when an early ground frost is likely to occur should be given to such tender subjects as heliotropiums, calceolarias, begonias, etc., and this will often prolong their attractiveness. When compulsory steps have to be taken to remove the plants, all those required for another season, such as standard fuchsias, lantanas, pelargoniums, etc., should be put into pots. These will require well picking over, the growths shortened back, and be put into pots, using the smallest size possible. Stand them closely together in cool houses or deep pits. All plants of echeveria should be boxed up or otherwise stored in a cool place from which frost can be excluded, keeping them in a fairly dry condition during the winter months.

MONTBRETIAS.—Rapid strides have been made during recent years in improving the quality and variety of these charming autumn-flowering bulbous plants. Their extreme vigour, many of them producing spikes three to four feet long, with flowers two to three inches apart, must secure for them a position in most borders. After the flowering period is past, it is an excellent plan to lift and put them in boxes, using a light leafy compost, and winter in cold frames, as our wet, cold winters are liable to cause them to rot.

BULBS.—The present affords a good time for the planting of many kinds of bulbs in the open ground, and the effect produced in the spring when the planting has been carried out in such manner as to give them a natural appearance, will be pleasing, and much appreciated. Large quantities of winter aconites (Eranthis hyemalis), a bulb which will grow almost anywhere, should be planted where the yellow flowers will be the first to herald the approach of spring. The mixed varieties of crocus will make a brilliant show, also amongst small bulbs the Dog's Tooth violets (Erythroniums) produce charming effects when liberally planted in grass. All varieties of narcissi are suitable for wild gardening, and all bulbs which have done duty for forcing should be carefully looked after, and planted for this purpose.—E. Beckett, Aldenham House Gardens, Elstree.

HARDY FRUITS.

FILBERTS AND COB NUTS.—These are a heavy crop with us this year, but owing to a most unpropitious season, the fruits are not so large as usual. Earwigs are very apt to secrete themselves in the husks of the filbert, and the latter should be closely examined before being sent in for dessert. Squirrels are very partial to these nuts, and if means are not taken to prevent them they will soon clear the trees. Filberts required for keeping should not be gathered until quite ripe, that is when the husks and nuts have become brown, and the latter parts freely from the husk. After gathering the nuts should be well dried by being laid out on some boards in the sun for two or three days before being stored. Earthenware jars or some large clean flower pots answer well for this purpose. Place the nuts in layers, and sprinkle a little salt between each layer until the pots are filled, then place a piece of slate on the top to prevent mice from getting to the nuts, and place the jars in a cool, but perfectly dry place, where the salt will not dissolve. Cob nuts should be gathered before they leave the husks, if not, many will fall out and be lost if the trees are growing on grass.

WALNUTS.—These are, with us, a very poor crop, owing to the greater portion of the blossoms being destroyed by late frosts. It is usual in many places to "thrash" the trees to get the nuts, but I think it a better plan to send a man up into the trees to give the branches a good shaking, when those nuts that are ready will fall, and in this condition they will part freely from the husks, and can be easily removed from the outer covering without staining the shell. Nuts so stained are not so eligible for the dessert table as those that are perfectly clean. For keeping purposes walnuts should not lay about or the kernels will soon shrivel after they are taken from the husks. We usually store ours away at once, and use receptacles as advised for filberts, but we cover each layer of nuts with a mixture of equal parts of silver sand and salt, and have no difficulty in keeping the nuts plump and fresh as long as required, but care is necessary to prevent the salt from dissolving, or the brine will enter the shells and spoil the nuts.

PLANTING.—After notes have been made as to the quantity of fresh trees that will be required for filling up vacancies, or for making new plantations during the coming season, special care should be exercised in selecting the varieties of each kind. In some establishments large quantities of fruit are often wanted at certain seasons of the year, while in other places a regular supply over as long a period as is possible is required, therefore the wants of each place must be taken into consideration when purchasing additional fruit trees. It is undesirable to plant more of the earlier varieties of apples and pears than is actually required, as the fruits from these so soon become useless after being gathered.

STRAWBERRIES.—Beds which are to remain for another season should have all runners removed, and a few of the outside and worn-out leaves trimmed off. Lightly prick over the soil with a garden fork, and give the beds a light mulching of well-decomposed farmyard manure. — Geo. Woodgate, Rolleston Hall Gardens.

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EXHIBITIONS AND MEETINGS.

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National Rose Society.

The autumn exhibition of this society, held at the Royal Horticultural Hall, Westminster, on Thursday, September 16, was a remarkable one, because, although there were many feet of blank spaces on the tables, there was a display of roses that must be regarded as wonderful, considering the unkind weather that has of late prevailed. Some fine blooms came from Scotland and Ireland, but the decorative roses from the south of England, and the amateurs' efforts, were splendid also. The greater enthusiasm in rose culture, and the production of varieties that bloom well in autumn, have done much to bring about such a result as was evident on Thursday last.

NURSERYMEN.

Messrs. James Cocker and Sons, Aberdeen, were awarded first prize for three dozen blooms, distinct varieties, and they won with a beautiful set of clean, bright flowers, their leading varieties being Mrs. J. Laing, F. K. Druschki, Madame Wagram, Caroline Testout, J. B. Clarke, The Lyon, Richmond, Captain Hayward, Mrs. W. J. Grant, Lohengrin, Hugh Dickson, Mrs. T. Roosevelt, Madame Melanie Soupert, A. Colomb, and Gladys Harkness. Mr. Hugh Dickson, Belfast, second; Messrs. Adam and Craigmile, Aberdeen, third; and Messrs. Alex. Dickson and Son, Newtownards, co. Down, an extra prize. There were ten competitors.

Premier place for a collection of thirty-six varieties of roses, in bunches of not fewer than three trusses each, was well won by Messrs. Frank Cant and Co., Braiswick, Colchester, with a glorious display that included Betty, Earl of Warwick, F. K. Druschki, Madame Melanie Soupert, Lady Ashtown, Liberty, Sulphurea, Irish Glory, Lady Waterlow, Mrs. T. Roosevelt, Madame Abel Chatenay, and Edu Meyer. Mr. John Crossling, Penarth, secured the second award with smaller bunches of beautiful blooms. Mr. J. Mattock, Headington, Oxford, third, with a splendid set that seemed to merit a higher award, the blooms being so fresh and bright. There were five displays, and these were very effective.

There were four entries in the class for eighteen tea and noisette roses, distinct varieties, and here the chief award fell to Messrs. Adam and Craigmile, Aberdeen, for a clean set of medium-sized flowers of White Maman Cochet, Madame C. Soupert, Madame Lambard, Lady Roberts, Luciole, Madame Hoste, Maman Cochet, The Bride, etc. Mr. George Prince, Longworth, second; and Mr. John Pigg, Royston, Herts, third. The best set of twelve varieties of exhibition roses, seven blooms of each, in vases, came from Mr. Hugh Dickson, Belfast, who scored with very good blooms of Dean Hole, Caroline Testout, J. B. Clarke, Mrs. Stewart Clarke, Madame Wagram, Gladys Harkness, W. E. Lippiatt, F. K. Druschki, Ulrich Brunner, Hugh Dickson, Princess Marie Mertchersky, and Mrs. John Laing; Messrs. Cocker and Sons, second; and Messrs. Alex. Dickson and Sons, Newtownards, third, the latter showing Alex. Hill Gray, The Lyon, Oscar Cordel, and Harry Kirk finely.

The best dozen blooms of any one rose, in a vase, were good examples of Mrs. J. Laing, shown by Mr. J. Mattock, Headington; Mr. W. Ferguson, Brucefield, Dunfermline, second; and Messrs. D. Prior and Son, Colchester, third, the latter showing F. K. Druschki.

For twenty-four distinct varieties of garden roses, in vases, arranged on a space 8ft. by 6ft., Messrs. Frank Cant and Co., Colchester, led the way, and put up a very attractive exhibit of G. Nabonnand, Edu Meyer, Lady Wenlock, Irish Pride, Beryl, Gustave Regis, Ecarlate, Sulphurea, Peace, etc.; Messrs. Paul and Son, Cheshunt, were placed second; and Mr. J. Mattock, Headington, third. The best set of twelve varieties of decorative roses, in vases, was adjudged to be the one from Mr. Charles Turner, Slough; Betty, Madame Ravary, Irish Elegance, Le Progres, and Madame Abel Chatenay were the leading varieties. Mr. J. Crossling and Mr. W. Ferguson were placed equal second; and Mr. G. Prince was awarded a third prize.

In the section for decorative roses there were three entries in the class for a dozen bamboo stands, each filled with blooms of one variety, and here Mr. Charles Turner, Slough, secured the premier award with a very fine exhibit, the varieties so well shown being Madame J. Grolez, La Tosca, Madame Ravary, Madame Abel Chatenay, Mrs. W. H. Cutbush, Viscountess Folkestone, Gruss an Teplitz, Dorothy Perkins, Betty, Madame P. Ducher, Papa Gontier, and Irish Elegance. Mr. J. Mattock, Headington, second; and Mr. H. Drew, Headington, third. Messrs. Frank Cant and Co., Colchester, scored for a set of twelve varieties of polyantha roses, in vases, their best varieties being Eugenie Lamesch, Mrs. W. Cutbush, Phillipine Lambert, Frau Cecilie Walter, and Leonie Lamesch; Messrs. Benjamin Cant and Sons, Colchester, second; and Messrs. W. and J. Brown, Peterborough, third.

Messrs. Hobbies, Lim., Dereham, won the gold medal and first prize offered for a representative group of roses in pots, baskets, vases, etc., arranged on a floor space of 100 sq. ft. They occupied the corner next the upper annexe, and filled it with standards of Wichuraiana varieties, filling up the space under these with large stands of cut blooms of Madame Abel Chatenay, General McArthur, La Tosca, Betty, Madame Ravary, Gustave Regis, Countess of Gosford, and other beautiful varieties, and making a foreground with baskets of Le Progres, Madame Melanie Soupert, Edu Meyer, Mrs. J. Laing, White Maman Cochet, etc. Messrs. Paul and Son, Cheshunt, filled the opposite corner of the hall, and set up large bowls of Mrs. J. Laing, Gustave Regis, Madame Ravary, La Tosca, Madame Abel Chatenay, F. K. Druschki, and the lovely Irish Glory; they won second prize.

The displays of roses on a staging space of 10ft. by 6ft. made a very fine feature of the show. There were three competitors, and Mr. George Prince, Longworth, scored, winning the gold medal and first prize with a most artistic display in which tall pillars, big stands, arches, and baskets were used effectively for the display of the blooms. The leading varieties were Mrs. J. Laing, Irish Elegance, Mdme. Abel Chatenay, F. Karl Druschki, Lyon Rose, Perle des Jardins, Mdme. Ravary, Gustave Regis, and Irish Harmony. This was a very fine exhibit. Messrs. W. and J. Brown, Peterborough, won the silver-gilt medal with a bold and attractive exhibit of good flowers, and the King's Acre Nursery Company secured the third prize.

The class for a representative group of cut roses arranged on an area of 60 sq. ft., and to include varieties of various sections, was a popular one, and there were four entries. The first prize was won by Mr. F. M. Bradley, Church Street, Peterborough, with a very prettily arranged display, but one in which the dressing of the blooms was rather too evident. There were tall stands and vases of Frau Karl Druschki, Mdme. Abel Chatenay, Mdme. Hoste, Pauline Bersey, J. B. Clarke, Betty, Climbing Lady Ashtown, etc., all very pleasingly arranged with long sprays of rose foliage. Messrs. R. Harkness and Co., Hitchin, were a very close second, and had grand stands of Mdme. Abel Chatenay, Hugh Dickson, Edu Meyer, Betty, Mrs. J. Laing, F. Karl Druschki, etc., but the front of their display was not so fine as the back and centre; Messrs. G. Jackson and Son, Woking, third.

For an exhibit of rose hips in vases, Mr. Chas. Turner gained first prize, and he had bright bunches of Rosa pyrenaica with elongated hips, grand vases of R. rugosa rubra, R. Rose Apple, and the double Pink Scotch with blackish fruits; Mr. George Prince, Longworth, second; and Messrs. F. Cant and Co. third.

AMATEURS.

The chief amateurs' class was one for eighteen blooms, distinct, and here Mr. E. B. Lindsell, Bearton, Hitchin, asserted his superiority once more, with a very even set of fair flowers, among which Suzanne M. Rodoconachi, Mrs. T. Roosevelt, Frau Karl Druschki, Maman Cochet, Mrs. J. Laing, Hugh Dickson, Comte de Laimbaud, Caroline Testout, and J. B. Clarke were the best varieties; Mr. Conway Jones, Hucclecote, Gloucester, came second; and the Rev. J. H. Pemberton, Havering, third; six entries. Mr. W. O. Times, Hitchin, scored for a dozen blooms, distinct, and he had good flowers of Mrs. Laing, Frau Karl Druschki, White Maman Cochet, Bessie Brown, and Mdme. Jules Gravereaux; Mr. G. Speight, Market Harborough, second; and Mr. W. C. Romaine, The Priory, Old Windsor, third; eight entries.

Nine fine blooms won first prize for Mr. Wm. Upton, Claremont Street, Leicester, and his varieties were Caroline Testout, Horace Vernet, Frau Karl Druschki, Bessie Brown, Ulrich Brunner, J. B. Clarke, Mrs. J. Laing, W. E. Lippiatt, and Maman Cochet. Mr. C. F. H. Leslie, Epcombes, Hertingfordbury, second, and Mr. E. B. Lehmann, Ifield Lodge, Crawley, third; three entries. Rev. H. S. Arkwright, Binfield Rectory, Berks, scored for six blooms, with Frau Karl Druschki, K. A. Victoria, La France of '89, Mrs. David McKee, Gustave Piganeau, and Earl of Warwick; Mrs. M. Barnes, Sydenham House, Rochford, second; and Mr. S. J. Hogg, Leaside, Hertingfordbury, third; nine entries.

In the amateurs' class for six blooms in four varieties, Mr. J. W. Kaisar, Heimat, Penarth, won the first prize, and Mr. E. W. Morris, Uckfield, Sussex, came second, with Mrs. V. Wood, Rosemont, Rickmansworth, third; seven entries. Mr. H. R. Darlington, Potters Bar, led for a dozen vases of roses, and he showed Papa Gontier, Mdme. Ravary, Gustave Regis, and Corralina in good form; Rev. J. H. Pemberton second, and Mr. E. B. Lindsell third.

Mr. Conway Jones, Hucclecote, Gloucester, led the way for a dozen tea and noisette roses, but his was a poor set, Mdme. Hoste and White Maman Cochet being the only decent flowers; Rev. T. E. W. Henslow, Stanton Rectory, Chippenham, second; and Mr. E. M. Eversfield, Denne Park, Horsham, third. Mr. M. Whittle, Belgrave Avenue, Leicester, scored for nine teas and noisettes, and had small bright flowers of Mdme. Pierre Notting, Mdme. Constant Soupert, and Maman Cochet; Rev. J. A. L. Fellowe, Bunwell Rectory, Attleborough, second; and Mr. C. F. H. Leslie third. Mr. Upton was first, Mr. W. O. Times second, and Rev. H. Tower, Holy Trinity, Windsor, third for six tea and noisette roses.

For six vases of exhibition roses the Rev. J. H. Pemberton led; Mr. E. B. Lindsell was second, and Mr. Eversfield third. There was only one exhibit of four vases of tea roses, and this, from Rev. T. G. Henslow, Chippenham, was awarded a first prize.

The Rev. J. H. Pemberton scored for a dozen vases of decorative roses, and his best were Gustave Regis, Gruss an Teplitz, Rosette de la Legion d'Honneur, and Dorothy Page Roberts. Mr. Conway Jones annexed the first prize for nine vases of decorative roses, and he had a pretty vase of Irish Elegance; Mr. H. R. Darlington second. For seven varieties of roses in bamboo stands, the Rev. J. H. Pemberton, Havering, was an easy first with charming sets of Trier, Dorothy Perkins, Hiawatha, Gruss an Teplitz, Leonie Lamesch, Daphne, and Blush Monthly; Mr. Conway Jones second, and Mrs. V. Wood third.

FLORAL DECORATIONS.

Premier award for a table decoration of roses was won by Miss A. F. Harwood, St. Peter Street, Colchester, with a particularly pleasing design of beautiful Mdme. Abel Chatenay blooms; Mrs. G. A. Hammond, Cambrian House, Burgess Hill, second with the single coppery-yellow Muriel Jamieson; Mrs. J. W. Smith, Sparrows Herne Hall, Bushey Heath, third, with Irish Elegance; and Mrs. E. P. Butcher, Upper Brook Street, Ipswich, fourth.

Miss A. Harwood, Colchester, scored for a bowl of exhibition roses, and was followed closely by Miss E. M. Robinson and Mrs. Edwin Mawley, who were second and third respectively. In the open class Mr. J. Mattock submitted the best bowl of China roses, showing the pretty Comtesse du Cayla; Mr. E. J. Hicks, Twyford, Berks, second; and Messrs. B. R. Cant and Sons third.

In the ladies' class for a bowl of roses, Miss E. M. Robinson, Emerson Park, Hornchurch, was first; Mrs. C. A. Tisdall, Trevor Road, Woodford Green, second; and Miss Jessie Langton, Raymead, Hendon, third, all showing Mdme. Abel Chatenay. The best basket of roses was a light arrangement of yellow blooms from Miss E. M. Robinson; Miss Jessie Langton was second with an equally beautiful design; and Mrs. E. Williamson, Wilstead, Canterbury, third.

SILVER MEDAL ROSES.

Nurserymen.—H.P., Mrs. J. Laing, from Messrs. Adam and Craigmile; H.T., Earl of Warwick, from Messrs. Adam and Craigmile; T., Souv. de Pierre Notting, from Messrs. S. McGredy and Son.

Amateurs.—H.P., Mrs. J. Laing, from Mr. W. O. Times; H.T., Earl of Warwick, from Rev. H. S. Arkwright; T., Maman Cochet, from Mr. E. B. Lindsell.

National Dahlia Society.

The second exhibition of this society for the year, held on September 21 and 22, at the Royal Botanic Society's Gardens, Regent's Park, was, in the matter of quality, far and away better than the show at the Crystal Palace a fortnight previous. It was also of considerable extent, and the competition was keen.

Only two new dahlias obtained the approval of the committee of judges, and these were Tristram, a crimson pompon variety, from Mr. Charles Turner; and Prima Donna, a white cactus variety, from Mr. H. Shoesmith. Unfortunately, the close of the business of judging was marred by an untimely and unconstitutional protest against the judgment given in one of the amateur classes for pompons.

OPEN CLASSES.

Fourteen open classes were provided, and in the first of these Mr. W. Stephens, Isleworth, offered prizes for three vases of cactus varieties put into commerce for the first time in 1907-8. The premier award fell to Mr. John Walker, Thame, for handsome vases of Harold Peerman, Helium, and C. E. Wilkins; Messrs. Keynes, Williams, and Co., Salisbury, second with T. A. Havemeyer, Ruby Grinsted, and Caradoc; Mr. M. V. Seale, third, with C. E. Wilkins, Frederick McQuade, and Harold Peerman. Messrs. J. Burrell and Co., Cambridge, led for nine bunches of pompon cactus dahlias, six blooms in a bunch, winning with neat flowers of Mercy, Alwyn, Argus, Minima, Cheerful, Martha, William Marshall, Lena, and Nora; Mr. M. V. Seale, Sevenoaks, second, and Messrs. J. Cheal and Sons, Crawley, third.

For show and fancy dahlias, twenty-four blooms, distinct, the chief honours were secured by Mr. J. Walker, Thame, Oxon, with a very fine set of blooms, the leading varieties being Thomas Pendered, Rothesay, R. T. Rawlings, Harry Keith, Chieftain, Duchess of York, A. M. Burnie, and Ethel Britton; Mr. S. Mortimer, Farnham, second, and Mr. M. V. Seale, third. The best dozen show and fancy dahlias were those shown by Mr. R. Burgin, 21, Bower Street, Bedford, who scored with Mrs. Sanders, Colonist, John Walker, Duke of Fife, Gracchus, H. Walton, William Rawlings, J. T. West, G. Rawlings, R. T. Rawlings, Rev. J. B. M. Camm, and Thomas Anstiss, in fine form; Messrs. J. Cheal and Son, Crawley, second, and Mr. S. H. Cooper, The Hamlet, Chippenham, third.

The class for a dozen bunches of cactus dahlias, distinct varieties, six blooms of each, proved an attractive one, and there were four contestants, first prize falling to Messrs. J. Stredwick and Son, St. Leonards, for a set that contained numerous varieties with incurving petal tips; the varieties were Snowdon, Quimbo, Satisfaction, Harold Peerman, W. H. Wenham, Red Admiral, Ruby Grinsted, C. E. Wilkins, H. H. Thomas, and William Marshall. Messrs. J. Burrell and Co., Cambridge, came in an excellent second, and Messrs. J. Cheal and Sons, third.

For twenty-four cactus dahlia blooms, distinct, staged on boards, the prizes fell, in order of merit, to Messrs. J. Stredwick and Son, St. Leonards; Messrs. J. Burrell and Co., Cambridge; and Messrs. Keynes, Williams, and Co., Salisbury. The former showed good examples of Quimbo, H. H. Thomas, William Marshall, J. B. Riding, Monarch, Glory of Wilts, W. H. Wenham, Mercury, Red Admiral, C. E. Wilkins, and Harold Peerman. For a dozen cactus dahlias, distinct, on boards, Mr. M. V. Seale secured the first prize with bright blooms of William Marshall, Mrs. T. W. Miller, Evening Star, Imperial, Diadem, C. E. Wilkins, Lady Kenmare, C. H. Curtis, Rev. A. Bridge, Sir J. Sinclair, Clincher, and Satisfaction; Mr. S. Mortimer and Messrs. J. Cheal and Sons were second and third respectively.

Mr. J. Walker, Thame, annexed the first prize for three vases of cactus dahlias, nine flowers in each vase, arranged with suitable foliage. Mr. Walker had first-class flowers associated with sprays of golden privet, purple plum, and tall grasses; Mr. M. V. Seale second, and Messrs. Keynes, Williams, and Co., Salisbury, third. There were four exhibits, all good.

Messrs. Keynes, Williams and Co. led for six cactus blooms, one variety, with Clincher; Mr. J. Hicks, Bensham Manor Road, Thornton Heath, second, with William Marshall; and the Rev. A. Bridge, Worth Rectory, Sussex, third, with C. E. Wilkins. Mr. Charles Turner, Slough, had a delightful set of a dozen bunches of pompon dahlias, ten flowers in each bunch, and he worthily won the first prize; his varieties were Isabel, Silvia, Clarence, Adelaide, Montague Wootten, Phyllis, Queen of Whites, Cyril, Nerissa, Jessica, Manetta, and Little Mary; Messrs. J. Burrell and Co., second, and Mr. M. V. Seale, third. Six entries.

The single dahlias shown by Messrs. J. Cheal and Sons, Crawley, were very fine in form and colour, and they won first place for a dozen bunches with Betty, Miss Roberts, Brilliant, Peggy, Flambeau, Flora, Princess of Wales, Stromboli, Winona, Miss Morland, Columbine, and Leslie Seale; Mr. J. Walker, Thame, second; and Mr. M. V. Seale, third.

From a competitor's point of view the pæony-flowered dahlias are not yet popular, as in the class for a vase of these there were but three contestants, the prizes falling, in order of merit, to Mr. Charles Turner, Mr. J. Walker, and Messrs. J. Cheal and Sons. A curious class was the one for six bunches of decorative dahlias, including garden cactus varieties. Mr. Charles Turner won first place with Eccentric, Lemon King, Jean Charmier, Mdme. Lumière, Mdme. Van den Dael, and Meteor; Mr. M. V. Seale, second, and Messrs. J. Cheal and Sons, third.

AMATEURS.

The best nine varieties of cactus dahlias, three blooms of each, in the amateurs' section, came from Mr. F. Grinsted, Beauport Park, Battle, who had a fine set of Snowstorm, J. B. Riding, Ruby Grinsted, Satisfaction, William Marshall, Snowdon, Dr. G. G. Gray, H. Peerman, and C. E. Wilkins; Mr. Charles Luckin, Apsley, Thakenham, second; and Mr. W. E. Peters, gardener to Sir John Kennedy, Holmhurst, St. Leonards, third. Rev. A. Bridge was first; Mr. A. Tofield, New Malden, second; and Mr. W. C. Pagram, Redfern Cottages, Weybridge, third, for a vase of pink or white cactus dahlias, but all showed pink varieties.

Mr. W. H. Jackson, The Leys, Woburn Sands, led for six varieties of cactus dahlias, three flowers of each, and was followed in order by Mr. Edward Mawley, Rosebank, Berkhamsted; and the Rev. A. Bridge. Mr. J. Hicks, Thornton Heath, scored for four varieties of cactus dahlias, three blooms of each, on boards, with Faunus, H. Peerman, Clincher, and William Marshall, in fine condition; Mr. F. H. Curtey, Osborne Road, Palmer's Green, second, and Mr. H. Brown, Dahlia Dene, Havelock Road, Luton, third. Six competitors.

Out of six competitors in the class for a dozen cactus dahlias, on boards, Mr. W. H. Jackson, Woburn Sands, won first place with Hyacinth, Mrs. W. Baxter, Ruby, Etruria, William Marshall, C. E. Wilkins, Mrs. F. Grinsted, Ruby Grinsted, Fred McQuade, Crepuscule, and C. H. Curtis; Mr. H. Brown, second, and Mr. F. Grinsted, third. Mr. J. Hicks scored for six cactus dahlias, on boards, and was followed by Mr. G. Davidson, Quadrant Road, Thornton Heath, second, and Mr. E. Mawley, third.

There were ten competitors in the class for one vase of cactus dahlias, staged for effect, and here Mr. H. Brown led with a bold arrangement of flowers, in which the wires supporting the stems were far too much in evidence; Mr. Thomas Jones, Bryn-Penylan, Ruabon, second, and Mr. A. H. Burgess, third.

Mr. C. Luckin was first; Dr. Roy Appleton, Beverley, East Yorks, second; and Mr. J. Cousins, May Cottages, Chippenham, third, for six show and fancy dahlias; while for a dozen blooms Mr. S. H. Cooper, Mr. R. Burgin, Bower Street, Bedford, and Mr. W. H. Jackson were placed as named. First prize for six bunches of pompon dahlias was awarded to Mr. A. P. Ironside, 43, Park Lane, Chippenham, for rather large flowers of Harbinger, Bacchus, Darkest of All, Tommy Keith, Violet, and Douglas; Mr. S. H. Cooper, second, and Mr. A. Brown, Frederick Street, Luton, third. The Rev. S. S. Pearce, Coombe Vicarage, Woodstock, was placed first for six bunches of single dahlias, with good blooms of Darkness, Miss Morland, Princess of Wales, Alice Searle, Polly Eccles, and Leslie Seale; Mr. A. Brown was placed second, and the Rev. A. Bridge third.

Mr. A. Brown won the silver-gilt medal offered by Messrs. J. Cheal and Sons for the best vase of twelve blooms of single dahlias, and he was followed in order by the Rev. A. Bridge and Mr. Thomas Jones. Mr. W. C. Pagram was the only exhibitor of nine pæony-flowered dahlias arranged in a vase, and he was awarded the first prize.

NON-COMPETITIVE.

Mr. J. T. West, Tower Hill, Brentwood, contributed a very fine display of dahlias, putting up a delightful set of neat cactus blooms representing all the leading show varieties, as well as the pompon cactus sorts. In front of the array of bunches Mr. West displayed beautiful bunches of pompons, and then, as a border, set up specimen cactus dahlias in small vases. Of special interest were the pæony-flowered varieties of Mr. West's own raising, and among these three varieties stood out particularly well, viz., the brilliant scarlet Liberty, the rose-pink, salmon flushed Rubens, and the more stiffly built Burne Jones, with broad, rosy-lilac petals, and a bright yellow centre. (Gold medal). Mr. Williams, Oxford Road, Ealing, put up a table of his rustic stands prettily filled with dahlias of various kinds.

Messrs. R. Harkness and Co., Hitchin, were represented by a remarkably fine display of autumn roses set up in vases and bamboo stands. The flowers were delightfully fresh and fragrant, and especially attractive were Caroline Testout, Madame Abel Chatenay, Mrs. P. Blair, Mrs. J.

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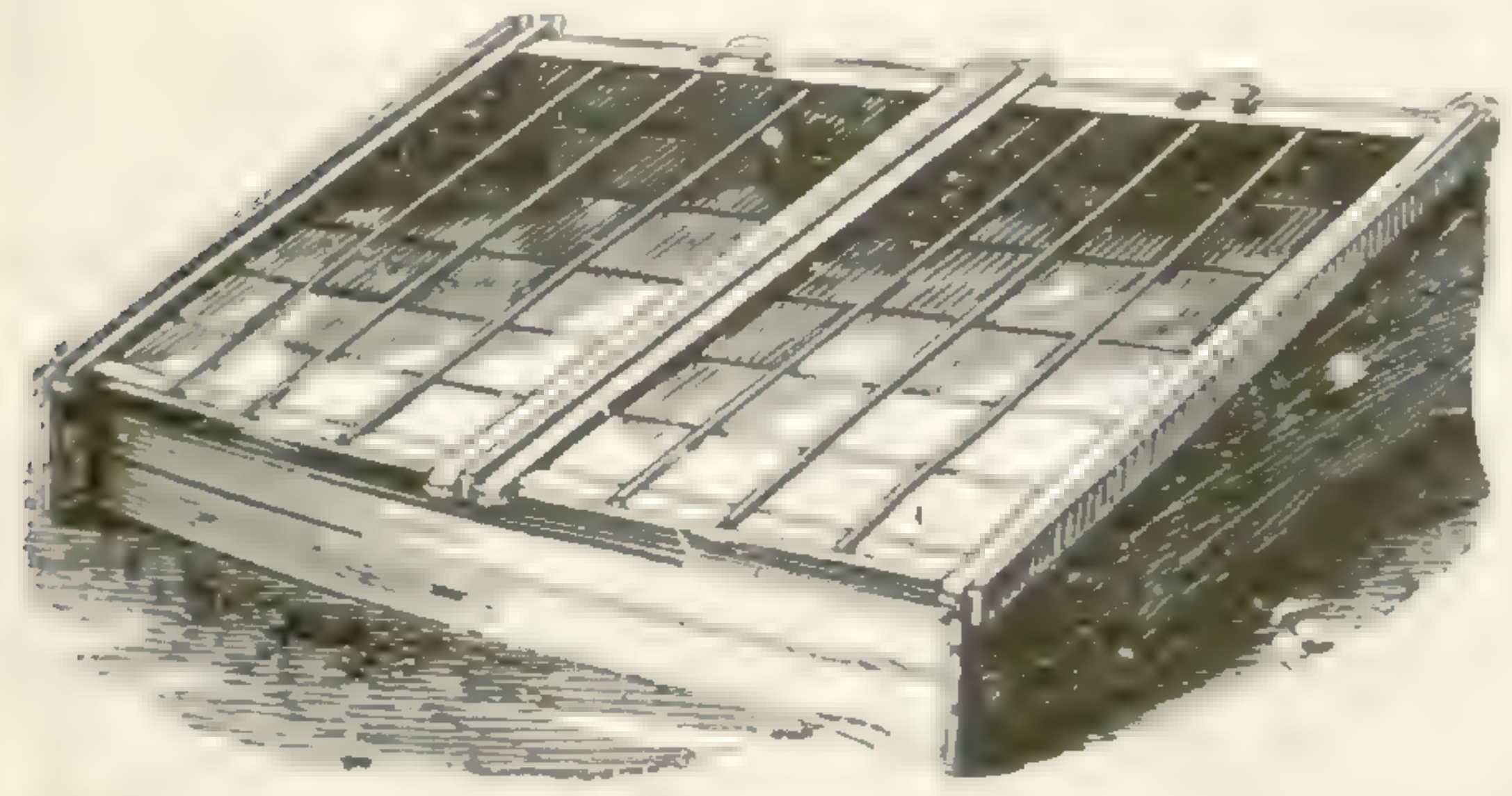

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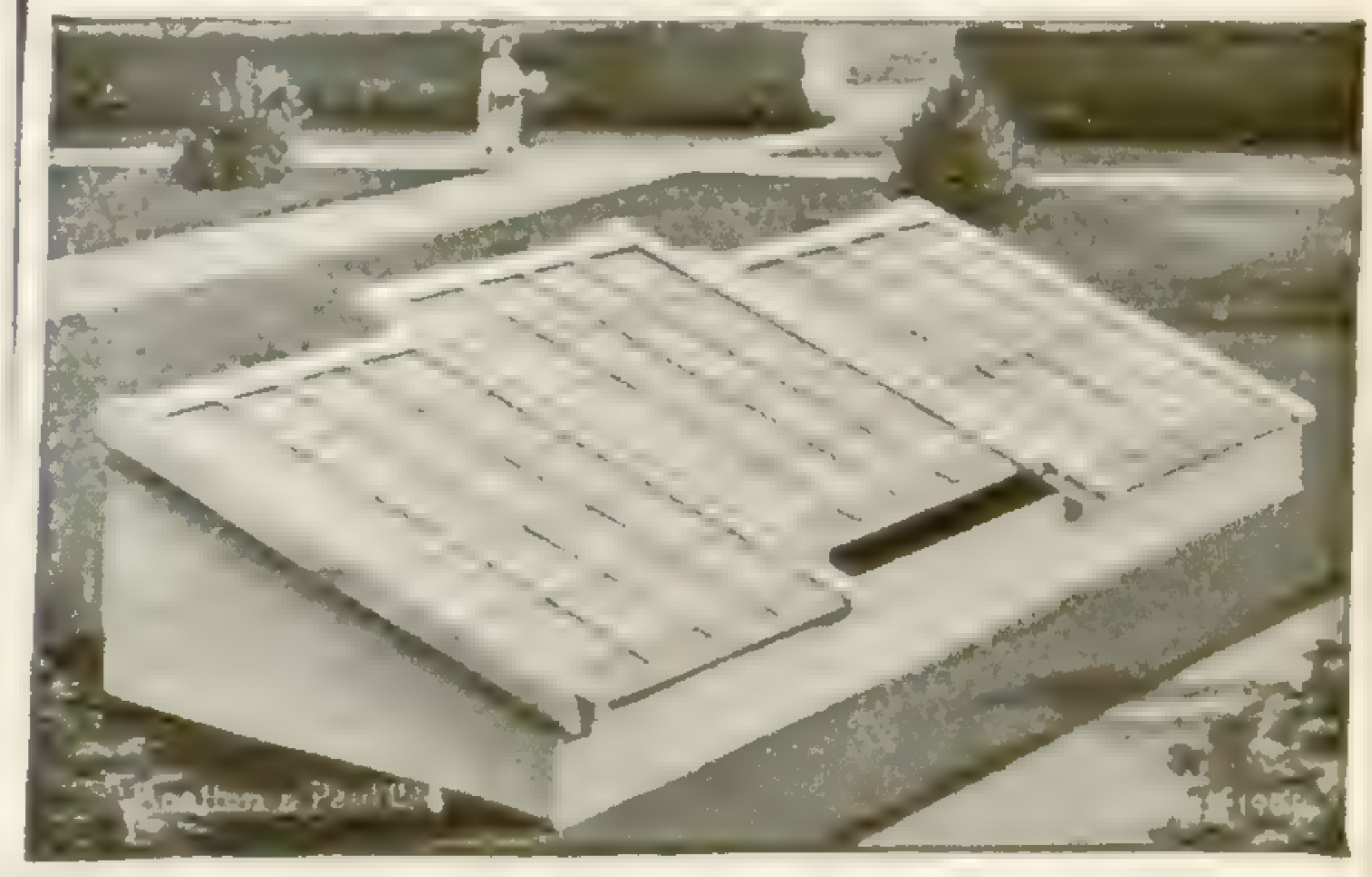

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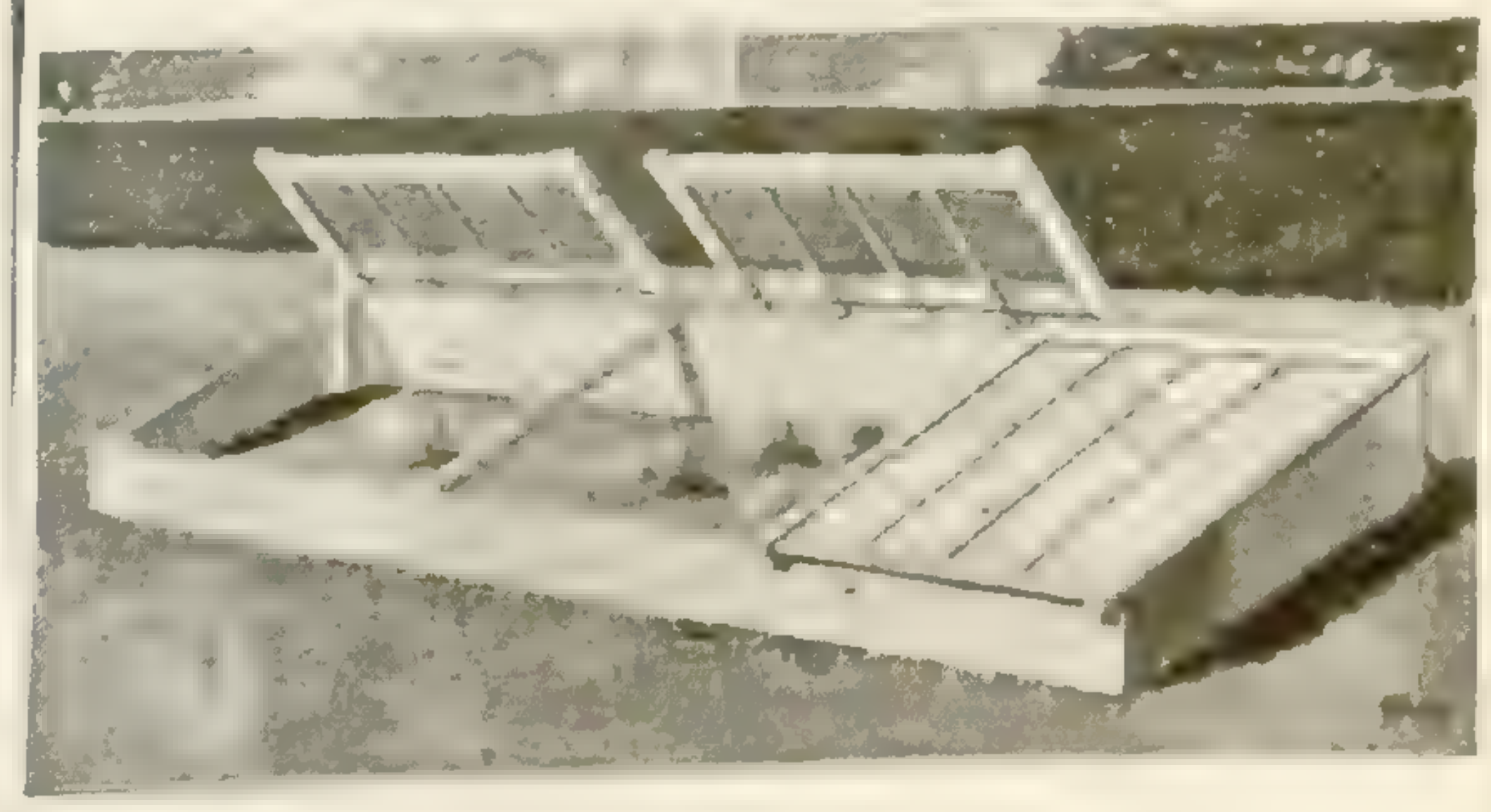

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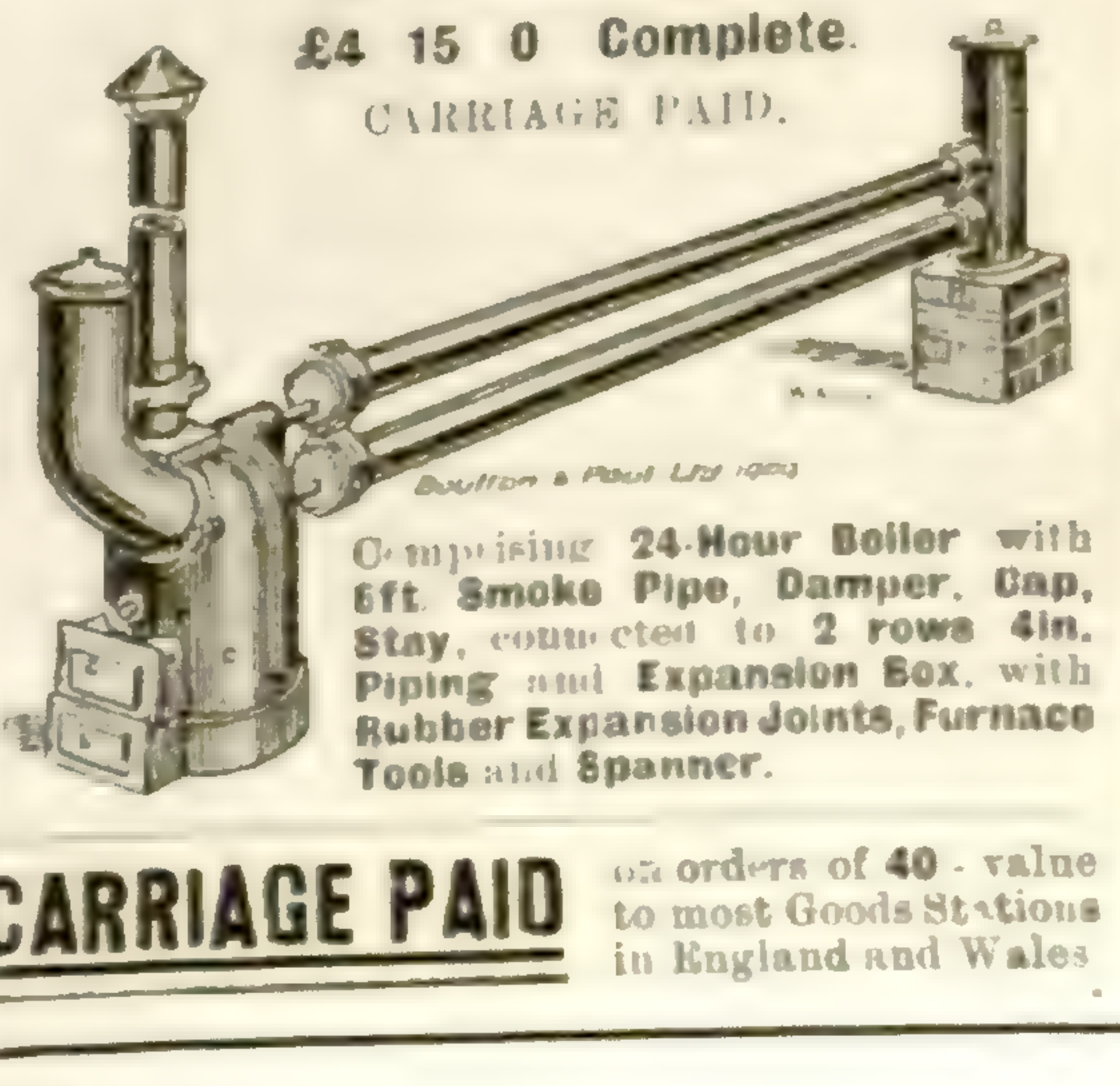

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Laing, Gruss an Teplitz, Alfred Colomb, and Frau Karl Druschki. (Gold medal.) Messrs. Webb and Brand, Saffron Walden, contributed beautiful spikes of finely-grown hollyhocks, and these made up an imposing display. (Silver-gilt medal.)

A very fine exhibit of dahlias, from Messrs. Dobbie and Co., Rothesay, made a fine feature. Cactus varieties in the usual triangular bunches made a bold background for tall stands of such varieties as Harold Peerman, Lusitania, Mauve Queen, Rev. A. Bridge, Primrose, and Elsa Elbrick. A row of vases of brilliant pæony-flowered dahlias was set just above a line of neat and contrasting bunches of pompon varieties, while singles, pompon cactus, single cactus, and specimen show, fancy, and cactus varieties filled in the foreground. The use of gypsophila with the flowers was a great success. (Gold medal.) A splendid array of very fine seedling gladioli spikes cut from bulbs flowering for the first time, was greatly admired; this was from Messrs. J. Burrell and Co., Howe House Nurseries, Cambridge. Some of the spikes carried as many as eleven full-sized blooms, and the range of colours was particularly wide. (Gold medal.)

Messrs. Thomas S. Ware, Lim., Feltham, were represented by a bold exhibit in which pæony-flowered dahlias in tall stands made a very prominent feature. Among these, the most attractive were Glory of Baarn, The Geisha, and Ruddigore (new and brilliant purple and flame colour), together with several new seedlings. Cactus dahlias were well shown in the foreground, and considerable numbers of flowers of a variety were effectively grouped together behind an edging of isolepis. (Gold medal.) Messrs. Hobbies, Lim., Dereham, had a large and tasteful display in the conservatory, and they put up pæony-flowered dahlias in great quantity, associating these with grasses and Michaelmas daisy sprays (unopened buds). Queen Wilhelmina, Paul Kruger, Glenton, Thunder, Glory of Baarn, Princess Royal, Careless, and Baron Grancy were well represented. Cactus varieties made a bold front to the display, Mrs. Alfred Dyer, Snowdon, Stormer, Vigil, C. E. Wilkins, Etruria, Dr. G. G. Gray, Caradoc, Flame, and Gazelle being the best varieties shown.

National Chrysanthemum Society.

The first meeting of the Floral Committee for this season was held at Essex Hall on Monday, September 20. Mr. D. B. Crane was re-elected chairman.

Messrs. W. Wells and Co., Merstham, made up a quite bright display of early-flowering varieties, showing fine bunches of the yellow Leslie, Nellie Riding, Crimson Diana, Mary, Wells' Primrose, J. Bannister—a fawn-coloured sport from Perle Chatillonaise, Parapan, Amber Queen—a new single; Firebrand (F.C.C.)—a handsome chestnut-scarlet single, with yellow zone round the orange-yellow disc; and Dolly Reeves (commendation), a large purplish-rose, early Japanese variety.

Mr. J. H. Witty, Rose Nursery, Highgate, contributed bunches of early chrysanthemums, of such varieties as Polly, Nina Blick, White Pitcher, Countess, Mrs. A. Beach, Carrie, Harvest Home, Goacher's Crimson, Roi des Blancs, etc., etc., these all making a bright and useful display. Mr. H. Woolman, Shirley, Birmingham, brought forward numerous new early singles, and gained a Commendation for Mrs. H. Statham, a fairly large silvery-rose variety, with white zone round the disc.

The General Committee met at 7 o'clock at Carr's Restaurant, when Mr. T. Bevan presided. A balance of £63 18s. 4d. was reported. Messrs. C. H. Payne, D. B. Crane, and C. H. Curtis outlined the programme for the conference to be held at Essex Hall on October 6, and this was approved. Full particulars will be published immediately. Two new members were elected, and judges were appointed for the November show.

NATIONAL VEGETABLE SOCIETY.

The following circular has been issued, and, being in full sympathy with the objects of the society, we strongly commend it to the notice of our readers:—

On behalf of the committee of the above-named newly formed society, we beg to invite your hearty co-operation in its aims and objects, and trust to have the pleasure of enrolling your name on our list of members. The society has been formed to promote the wider and more successful culture of vegetables, not only for private use, but also for commercial purposes, and especially their wider consumption as wholesome and healthful food. It is incongruous that whilst several special societies exist for the encouragement of diverse particular flowers no such special society should have so far existed to promote and encourage the wider cultivation of good vegetables, and it is to remove that incongruity the National Vegetable Society has been formed. Already not only has His Grace the Duke of Portland very kindly consented to act as president, but a large number of gentlemen and seed firms have consented to become vice-presidents, also a committee of twenty-four persons well known in horticulture has been formed, constituting a very representative body.

The society trusts later on to have demonstrations in the form of vegetable exhibitions, conferences, and other public functions. At present, however, it has been determined to restrict operations to the very practical work of conducting trials of vegetables on ordinary cultural or commercial lines, and, as the season is now advanced, a selection of seeds of cabbages and onions for immediate sowing has been obtained gratuitously from many eminent seed firms whose hearty co-operation in the aims of the society we gladly acknowledge.

From year to year as funds permit similar trials will be instituted of all known vegetables. The result of these trials it is hoped will be to eliminate the many synonyms and worthless varieties on the market, and to make it easier both to the amateur and private gardener to select the kinds and varieties he may wish to plant. These trials it is also hoped will prove of considerable service to seed growers and merchants in enormously reducing the number of varieties they are now compelled to grow. The society hopes to be able to give every new kind and variety an impartial and thorough trial, and the public may implicitly rely on their verdict. A register of the trials will be kept and varieties only worth growing will be recorded in its pages, and this will be at the service of all members. Awards will be given to new varieties or novelties which after trial may be thought deserving.

With the support and encouragement of all those interested in the improved and increased culture of vegetables either for home consumption or for market purposes, the committee hope soon to be in a position to deal effectively with all aspects and questions bearing on the successful growth of this great national food commodity. The committee is composed of practical gardeners all thoroughly conversant with the work they have taken in hand (some are market gardeners and some are private gardeners), and each one is giving his services gratuitously. Naturally there must be considerable expense in carrying out experiments and other work associated with the society, and the committee earnestly hope for a generous and numerous response to this appeal.

Members subscription has been fixed at 5s. per annum, and the vice-presidents at one guinea.

The present season's trials will by kind consent be conducted simultaneously by Mr. C. Foster, Director of "The Times" Experimental Station, Sutton Green, near Guildford; on Mr. W. Poupart's Marsh Farm at Twickenham; and on stiff soil at Romford, Essex, kindly furnished by Mr. G. Hobday. The instructions given in each case are to sow cabbage seed in drills July 31, and again same varieties on August 14, for planting out in rows 18in. apart when ready. The onion seed to be sown where to bulb in rows, alternate drills to be left for transplanting into from the sown rows in the spring. A full report of the result of these trials will be furnished next autumn to each member.

ALEX. DEAN, V.M.H., Chairman.
OWEN THOMAS, V.M.H.,
Vice-Chairman.
GEORGE WYTHES, V.M.H., Treasurer,
Hopefield, Windmill Road, Brentford.
E. G. QUICK, Hon. Secretary,
Kelmscott, Harrow View, Wealdstone,
Harrow.

MARKETS.

◆

COVENT GARDEN.

Flowers.

The better weather has improved supplies from outdoors and roses are especially plentiful.

		s.	d.		s.	d.
Adiantum cuneatum	per doz. bun.	5	0	to	8	0
Asparagus	per bun.	1	0		2	0
Asters	per doz. bun.	2	0		4	0
Carnations	per doz. blms.	0	9		1	0
,,	per doz. bun.	6	0		8	0
,, Malmaisons	per doz.	5	0		7	6
Cattleyas	per doz.	10	0		12	0
Coreopsis	per doz. bun.	1	6		2	6
Croton leaves	per bun.	1	0		1	6
Cypripediums	per doz. blms.	1	6		2	6
Eucharis	per doz.	2	6		3	6
French fern	per doz. bun.	0	6		1	0
Gaillardias	per doz. bun.	1	6		3	0
Gladiolus	per doz. bun.	2	0		5	0
Gypsophila	per doz. bun.	2	0		2	6
Lilium auratum	per bun.	2	0		3	0
,, speciosum	per bun.	1	6		2	6
,, longiflorum	per bun.	2	0		3	0
Lily of the Valley	per doz.	6	0		9	0
Marguerites, white	per doz. bun.	1	6		3	0
Mignonette	per doz. bun.	2	0		3	6
Odontoglossums	per doz. blms.	2	0		2	6
Pelargoniums	per doz. bun.	4	0		6	0
Roses	per doz.	1	0		3	6
Smilax	per doz. trails	4	0		5	0
Statice	per doz. bun.	3	0		5	0
Sweet Peas	per doz. bun.	1	6		2	6
Stocks	per doz. bun.	2	0		3	0
Tuberoses	per doz.	0	3		0	4

Fruits.

Fine supplies of plums, apples, and pears meet a ready sale.

		s.	d.		s.	d.
Apples, English	per bush.	2	0		8	0
Bananas	per bun.	3	0		10	0
Figs	per doz.	0	9		3	6
Grapes, English	per lb.	0	8		3	0
,, Guernsey	per lb.	0	5		1	0
Lemons	per case	8	0		12	0
Melons	each	1	0		2	0
Nectarines	per doz.	3	0		12	0
Oranges, Denia	per case	12	0		22	0
,, Navels	per case	12	0		14	0
,, Valencias	per case	12	0		23	0
Peaches	per doz.	2	0		10	6
Pears, English	per bush.	2	6		7	6
,, Williams	per ½-bush.	2	0		5	0
,, French	per crate	3	6		6	0
Pineapples	each	1	9		3	6
Plums	per ½-sieve	1	9		3	6

Vegetables.

Cauliflowers are over abundant; beans are good, and salading meets a brisk demand.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	2	6	to	3	0
Beet	per bush.	1	6		2	6
Beans, Scarlet Runners	per sieve	1	6		3	0
Cabbage	per tally	2	6		4	0
Carrots	per doz. bun.	1	0		1	6
Cauliflowers	per tally	2	6		5	0
Cucumbers	per doz.	1	0		2	0
Endive	per doz.	1	3		1	9
Horseradish	per doz. bun.	8	0		12	0
Lettuce, Cos	per score	0	6		1	0
Mint	per doz. bun.	1	0		2	0
Mushrooms	per doz. lb.	6	0		9	0
Onions, Valencia	per case	7	0		12	0
,, English	per doz. bun.	1	6		2	0
Parsley	per doz. bun.	1	6		2	0
Spinach	per bush.	1	0		1	6
Tomatoes, English	per doz. lb.	2	3		4	0
,, Guernsey	per doz. lb.	2	6		3	9
Turnips	per doz. bun.	1	6		2	6
Vegetable Marrows	per tally	2	0		4	0

CATALOGUES RECEIVED.

DICKSON AND ROBINSON, CATHEDRAL STREET, MANCHESTER.—Roses and sundries, as well as bulbs and flowering roots are listed in this illustrated catalogue.

J. R. PEARSON AND SONS, LOWDHAM, NOTTS.—An illustrated and indexed catalogue of roses.

J. A. COOPER, LISSADELL, SLIGO.—A neat and handy catalogue of daffodils grown on Sir J. Gore Booth's bulb farm in the West of Ireland. All the varieties are carefully described.

GEORGE BUNYARD AND CO., LIM., MAIDSTONE.—This list comprises bulbs, vines, strawberries, figs, violets, and carnations.

ANSWERS TO CORRESPONDENTS.

MILDEW ON OAK SHOOTS.—R. H. W., Dorking: We have not seen shoots affected by Oidium quercinum, but, judging from the description of the disease, it would appear that your tree is suffering from an attack. Spraying with sulphide of potassium would do good if such is practicable.

GALLS ON RHODODENDRONS.—S. E. G., Wexford: The galls on the leaves of Rhododendron hirsutum are caused by a fungus named Exobasidium rhododendri. These galls may vary in size from that of a pea to a large marble. The leaves bearing galls should be removed and burned, but to render the work really effective these leaves should be destroyed when the galls are quite young, early in the season, because this prevents the distribution of spores, and consequently materially reduces the possibility of attack the following season.

POTATOES FOR TRIAL.—C. R., Barnsley: We do not know whether the Royal Horticultural Society proposes to conduct potato trials during the coming season, but even if not, we have no doubt they would be pleased to test your new varieties at Wisley. You should communicate with the Secretary, Royal Horticultural Society, Vincent Square, Westminster, on this matter. Further, the newly-formed Vegetable Society may have opportunity for testing the varieties next year, and if so Mr. Quick, Kelmscott, Harrow View, Wealdstone, Harrow, the hon. secretary, will be able to furnish information. In either case the cost to yourself will be very small.

BROWN SPOTS ON VINE LEAVES.—J. W., Wakefield: The brown spots are due to scalding, and the fact that the vinery root is in a very bad condition aggravates the evil, as globules of moisture will often be on the leaves, acting as burning glasses during sunshine, no matter how carefully the house is ventilated. Have the roof thoroughly cleaned, make good all broken panes of glass, and paint the woodwork. If it is necessary to remove all the glass and putty and reglaze the house, the work must be deferred until the vines are resting, and then the house should be thoroughly painted both inside and out. We do not recognise the peach.

DWARF JAPANESE TREES.—W. J. C., Overstrand: These dwarfed trees need no special treatment, but as they are in fancy pots it is desirable to house them for the winter in a cool greenhouse. There is no need to keep them from the sun provided always that they receive ample supplies of water. Watering them once in ten days will often be much too seldom in spring and summer, and it may be too often in the winter. The state of the soil must govern the supply of water.

SHANKED GRAPES.—P., Swansea: The bunch of grapes sent shows a very bad case of shanking. So far as we can gather, the vines are not over-cropped this season, but they may have been enfeebled in the past. It is to the roots you will have to look for the cause of the trouble, and if you find the root tips dead in many cases, then there is something wrong with the drainage or watering, and this must be rectified.

PERPETUAL CARNATION SHOW.—J. B., Lynn: The next exhibition of the Perpetual Flowering Carnation Society will be held at the Royal Horticultural Hall on Wednesday, December 8. You may register a name with the society, but "the fact of a name being registered by the society must not be advertised by any raiser in such a manner as may convey to the public the idea that registration is synonymous to receiving an award. If referred to in catalogues, advertisements, or any other printed matter, it must be confined to the use of the following

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words only: 'Name Registered P.F.C.S.' or 'Name Registered by Perpetual Flowering Carnation Society.' Any raiser violating this rule will be debarred from presenting the variety for awards or certificate."

NAMES OF PLANTS.

R. M., Honiton.—Anguloa Clowesi.

L. E. D., Harrow.—1, Sedum spectabile; 2, Cercis siliquastrum; 3, Chelone barbata.

W. B. W., Royston.—1, Asclepias curassavica; 2, Aralia gracillima; 3, Asplenium Nidus; 4, Rhododendron hirsutum.

F. C., Worcester.—1, Montbretia crocosmæflora; 2, Lobelia syphilitica; 3, Cimicifuga japonica; 4, Anemone japonica.

S. E. G., Lincoln.—1, Pentstemon barbatus; 2, Gillenia trifoliata; 3, Pinus sylvestris; 4, Abies Nordmanniana; 5, Leycesteria formosa; 6, Rubus deliciosus.

NAMES OF FRUITS.

F. G. J., Yeovil.—1, Golden Noble; 2, Dumelow's Seedling.

J. W. L., Ross.—1, Lemon Pippin; 2, Yellow Ingestre; 3, Ribston Pippin.

N. D., Effingham.—1, Louise Bonne of Jersey; 2, Catillac; 3, Warner's King.

C. G., Reading.—1, Lord Suffield; 2, King of the Pippins; 3, Lane's Prince Albert.

F. B. J., Bury St. Edmunds.—1, Worcester Pearmain; 2, The Queen; 3, Ribston Pippin; 4, Allington Pippin.

E. W. S., Lingfield.—1, Waltham Abbey Seedling; 2, King of the Pippins; 3, Ecklinville; 4, Coe's Golden Drop.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE.	SUNSHINE.	TEMPERATURE OF THE AIR.			
1909. SEPTEMBER 12 TO SEPTEMBER 18.		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Sept. 12—Sunday	8 0	59	55	65	51
,, 13—Monday ...	—	52	51	56	49
,, 14—Tuesday	1 30	55	51	57	51
,, 15—Wednesday .	1 54	51	51	61	43
,, 16—Thursday ...	0 6	53	53	61	49
,, 17—Friday..	2 0	56	55	66	49
,, 18—Saturday ...	6 54	56	55	62	53
Means	(total) 20 24	55	53	61	49

DATE.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M.			LOWEST TEMPERATURE ON GRASS.
1909. SEPTEMBER 12 TO SEPTEMBER 18.		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
Sept. 12—Sunday	0.08	57	58	57	41
,, 13—Monday.... .	0.18	58	58	57	45
,, 14—Tuesday......	—	57	58	57	48
,, 15—Wednesday .	0.11	56	58	57	31
,, 16—Thursday ...	trace	56	57	57	40
,, 17—Friday..	1.41	57	57	57	42
,, 18—Saturday ...	trace	56	57	57	46
Means ...	(total) 1.78	57	58	57	42

FORTHCOMING ENGAGEMENTS.

TUESDAY, September 28.—Royal Horticultural Society; Committees meet at 12 o'clock; Lecture at 3 p.m. on "The Production of Horticultural Varieties," by Prof. Hugo de Vries; Scientific Committee at 4 o'clock.

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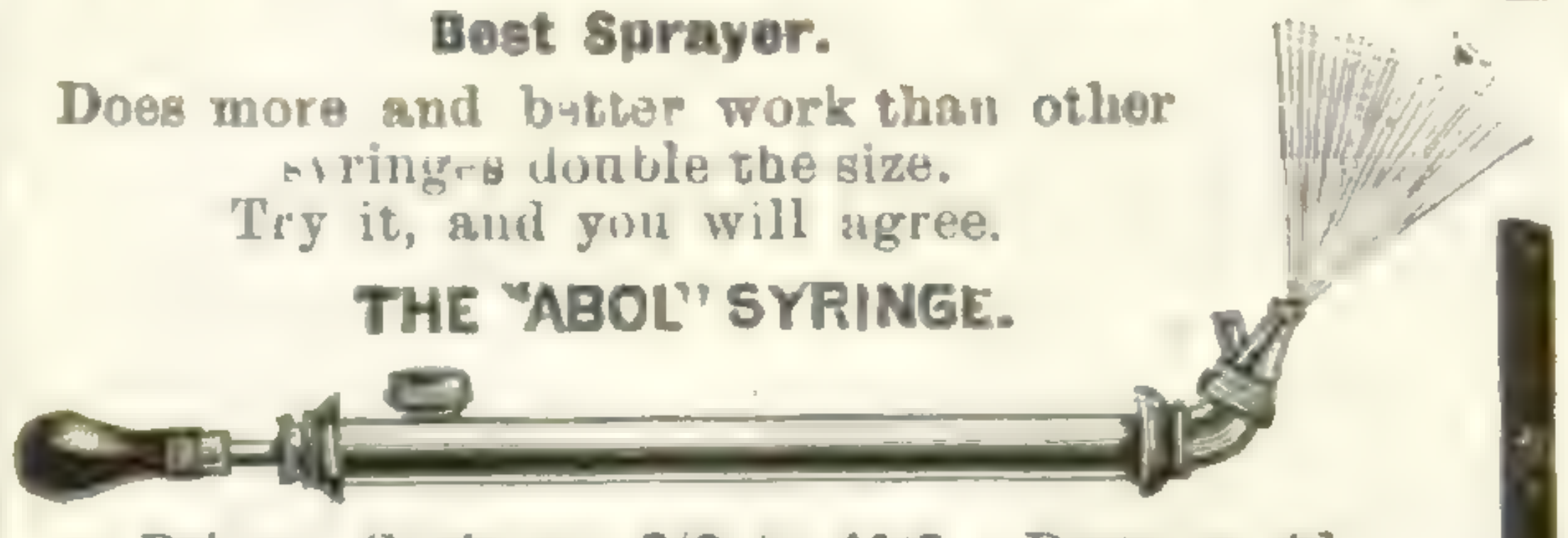

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Situations Wanted—*continued.*

STRONG YOUNG MAN, age 18, seeks SITUATION, kitchen garden, or pleasure ground; 4½ years' experience; Herts or Essex preferred; good reference; Bothy or otherwise. MARSHALL, Cranham Hall, Cottage, Near Upminster, Essex.

YOUNG MAN (20) seeks SITUATION as Under, or Inside and Out; four years' experience; good reference; abstainer. W. FIELD, Royal Oak Place, Lee, S.E.

YOUNG MAN (23) seeks SITUATION, experience in Ferns, Cucumbers, Tomatoes, Chrysanthemums, Bedding Stuff; 6½ years last place. A. BROOK, The Old Vicarage, Hailsham, Sussex.

YOUNG MAN wants SITUATION, Single-handed, or as Leading Hand; well up in all branches; abstainer; single; good character; age 30. H. DAVIS, Lilley, Luton, Beds.

YOUNG MAN seeks SITUATION, Inside and Out and Pleasure Grounds; age 20; good references; five years' experience. W. PRATT, care of Mrs. Miles, Greenford Green, Harrow.

YOUTH as JOURNEYMAN, Inside and Out; willing to learn; good references, abstainer; age 20. F. MILES, Upper Oddington, Moreton-in-Marsh, Glos.

YOUNG MAN seeks SITUATION as JOURNEYMAN; 6 years' experience under glass; well recommended. FISHBOURNE, Ballyn Ireland.

Situations Vacant.

WANTED, for Sussex, end of September, SECOND GARDENER to assist in vineries, peach houses, conservatory, decorating, wall trees, etc.; age 22; wages 18s. week and Bothy. Apply J. HILL, Lamorbey Park Gardens, Sidcup, Kent.

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Employment THE GARDENERS' MAGAZINE Register.

The charge for an Advertisement INCLUDES A FREE ENTRY ON THE REGISTER. Immediate Notice must be given when an engagement is secured.

A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

GARDENER (Head, where two or three are kept or good Single-handed), thoroughly experienced in all branches, Inside and Out; management of cows and poultry, if required; good references; married, two children. A. GOODFELLOW, 94, Sherrard Road, Forest Gate, Essex.

GARDENER (Head), in first-class establishment; life experience in all branches, both Inside and Out; five years in last situation, and can be well recommended; age 38; married, one child. Apply fully to W. DUNKLEY, Stokelake Gardens, Chudleigh, South Devon.

GARDENER (Head, where two or three kept, or good Single); experience in all branches; Norfolk man, and winner of 21 prizes and champion shields at Ashford, July 8; one boy (12). HEAD GARDENER, Selwood Lodge, Stanwell, Staines.

GARDENER (Head Working) requires SITUATION; highly recommended; thoroughly understands his duties, both Inside and Out, including vines, peaches, stove, and conservatory, lawns, rock gardens; well up in the cultivation of vegetables. Address GARDENER, The Lodge, Severn End, Hanley Castle, Worcester.

GARDENER (Head Working or Second); 12 years' practical experience; highly recommended; age 27; married. KEMP, Possingworth Gardens, Cross-in-Hand, Sussex.

GARDENER (Head), age 36. A. H. COOPER is open for ENGAGEMENT with Lady or Gentleman requiring good all-round Man; disengaged COOPER, Ivy Lodge, Great Cheverill, Devizes.

GARDENER (Head, where two are kept); thorough good, all-round, practical experience, both Inside and Out; excellent character and recommendations H. GARDENER, 72, Hampstead Road, London, N.W. (No circulars.)

GARDENER (Head, or good Single-handed), thoroughly experienced; all-round glass, fruit, flowers, and vegetables; excellent references as head; age 40; married; disengaged at any time; near London preferred. H. W., 32, Alexandra Road, Chislehurst, Kent.

GARDENER (Head Working, five or six kept), 17½ years' experience, Inside and Out; 3 years as Head; married, two children; age 33; good references. H. JONES, Brownslade Gardens, Pembroke.

GARDENER (Head Working), good, practical life experience in all branches, Inside and Out; early and late forcing; especially good with Melons, Violets, and Chrysanthemums; nine years with last employer as Head; can have excellent references. H. TURNER, 4, Glenton Street, Peterborough.

GARDENER (Head Working, where three or more are kept); age 31; excellent references as to character and ability; disengaged Sept. 29. F. ALFORD, The Gardens, Bazzleways, Milborne Port, Somerset.

GARDENER (Head Working); life experience in all departments in good establishments; age 32; disengaged; excellent references. GARDENER, 2, Fern Cottages, The Rise, Sunningdale.

GARDENER (Head Working); married; age 44; one girl, age 13; thoroughly competent in all branches; life experience in good establishments. F. GREENGRASS, The Lodge, Woodbury, Clay Hill, Enfield.

GARDENER (Head Working), age 33, married. H. MARKHAM, Gardener to The Right Hon. Viscount Enfield, will be pleased to recommend a most dependable, energetic Man of good experience to any Lady or Gentleman in want of a good Gardener. Wrotham Park Gardens, Barnet, Herts.

GARDENER (Head Working); life experience in good establishments; excellent references; thoroughly recommended by present employer; age 26; married when suited. C. PAYNE, Nazeing Park, Waltham Cross.

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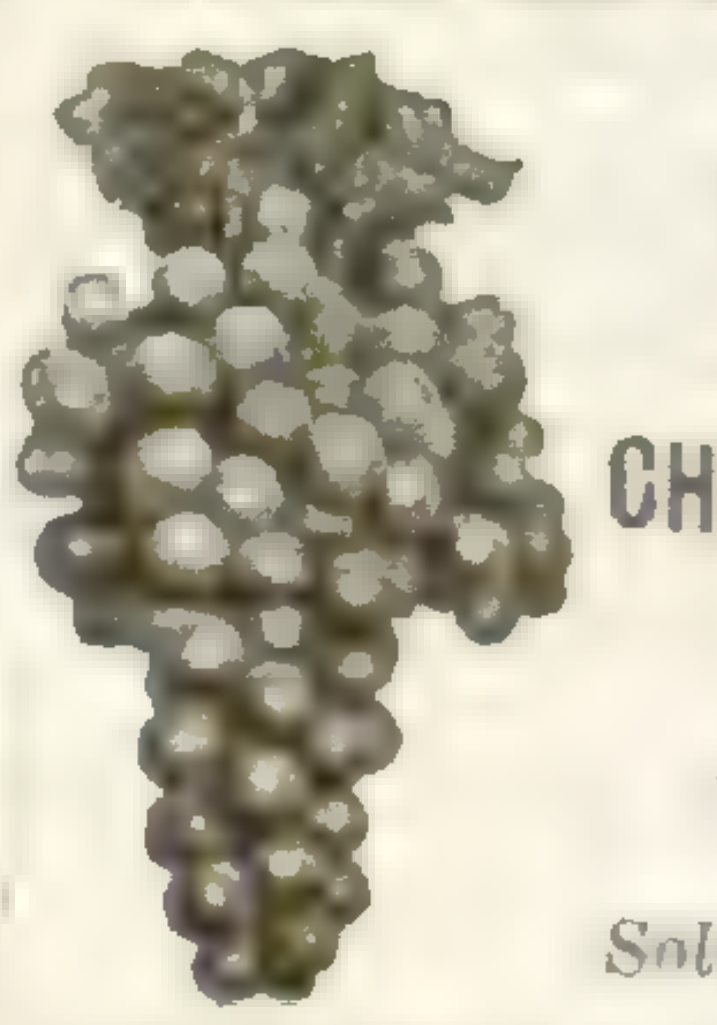

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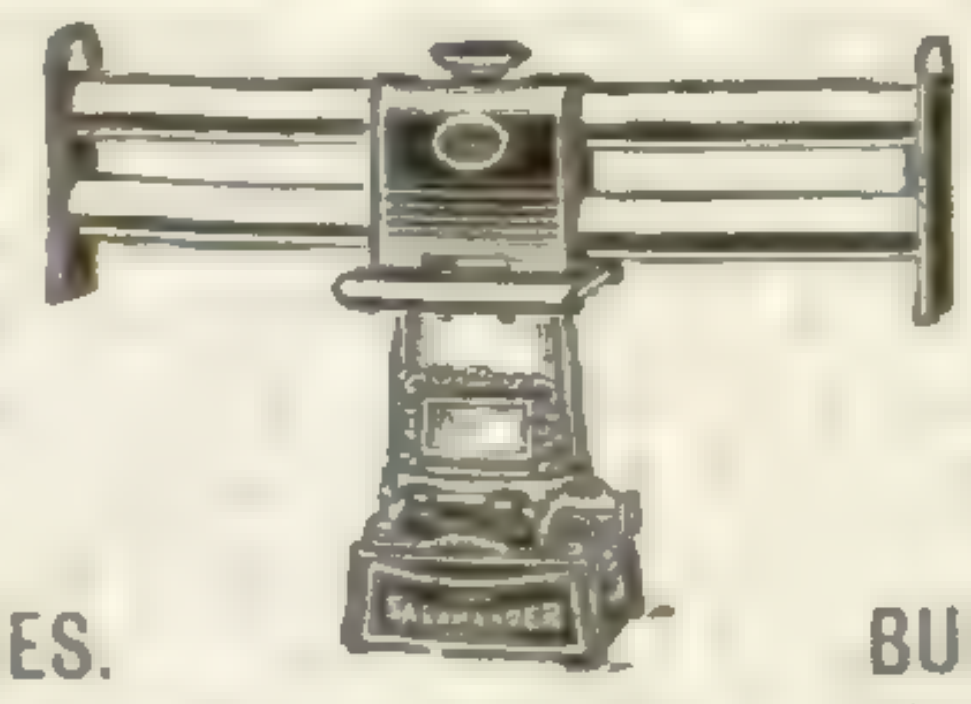

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Situations Wanted—*continued.*

LAD, strong, seeks SITUATION, age 18; experience in Kitchen Garden and Pleasure Grounds; good references. P. KING, Blastford Hill, Little Waltham, near Chelmsford, Essex.

LADY recommends GARDENER, age 26; single; Inside and Out; Single-handed, or one of several; three years' and two years' references. H. CLAPHAM, 6, Empire Cottages, Westcott, Dorking.

MR. J. MARTIN, Clarendon Park Gardens, near Salisbury, wishes to recommend a Young Man as GARDENER (under); age 28; four years present situation.

SITUATION required by HANDYMAN; assist Gardener; understands Bees (certificated expert); handy with carpentering tools, painting, etc. total abstainer; Single. SHORT, Langton Lodge Farm, Blandford, Dorset.

STRONG YOUNG MAN, age 18, seeks SITUATION, kitchen garden, or pleasure ground; 4½ years' experience; Herts or Essex preferred; good reference; Bothy or otherwise. E. MARSHALL, Cranham Hall, Cottage, Near Upminster, Essex.

WANTED, to place a LAD, 17, where he can learn gardening; bothy preferred. State terms to A. LAY, 77, Hamilton Road, West Norwood, S.E.

YOUNG MAN (20) seeks SITUATION as Under, or Inside and Out; four years' experience; good reference; abstainer. W. FIELD, 18, Royal Oak Place, Lee, S.E.

YOUNG MAN (21) seeks SITUATION as GROWER; Cucumbers, Tomatoes, Chrysanthemums, and all general Bedding and Pot Plants. G. G., Hill Cliff Lane Nurseries, Turnditch, Derby.

YOUNG MAN (23) seeks SITUATION, experience in Ferns, Cucumbers, Tomatoes, Chrysanthemums, Bedding Stuff; 6½ years last place. A. BROOK, The Old Vicarage, Hailsham, Sussex.

YOUNG MAN seeks SITUATION; drive Motor car, Hornsley's Oil Engine for Electric Light, or in Kitchen and Pleasure Garden; good references. D. FRANKS, Bonnington, Hythe, Kent.

YOUNG MAN, age 21; good knowledge Inside and Out; five years' experience; good character and well recommended. A. HILL, Bardney Road, Wragley, Lincs.

YOUNG married MAN requires work as HANDYMAN (working temporary); good testimonials; estate or nursery. H. W. SOLOMON, 34, Francis Road, Wallington, Surrey.

YOUTH requires SITUATION in Glass Department of Nursery; five years' experience; strong and intelligent; good character; accustomed to Markets; good Salesman. 9, St. Jude's Avenue, Nottingham.

Employment THE GARDENERS' MAGAZINE Register.

The charge for an Advertisement INCLUDES A FREE ENTRY ON THE REGISTER. Immediate Notice must be given when an engagement is secured.

Situations Wanted.

A. S. DE P. CHANCE, Esq., Wheatfields, Worcester, would be pleased to recommend his GARDENER (Head), WM. TARLING, who has been with him nine years, as a thoroughly reliable and practical Man in all branches of Gardening. Address WM. TARLING, Wheatfields, Worcester.

A. H. E. WOOD, Esq., Browhead, Windermere, recommends for first-class place his HEAD GARDENER, G. HARDY; nearly three years present situation; experienced in fruit, plant, and vegetable forcing, kitchen gardens, pleasure grounds, rockeries, roses, lawns, etc.; age 32, married; eighteen years' experience in first-class places.

HER GRACE THE DUCHESS of DEVONSHIRE wishes to recommend J. THOMPSON to any Lady or Gentleman requiring the services of a HEAD GARDENER, where several are kept; 20 years' experience in all branches. Holker Gardens, Cark-in-Cartmel, Lancs.

THE REV. C. POYNTZ SANDERSON highly recommends his HEAD GARDENER, age 35, who has been with him 8½ years; he is thoroughly steady, capable, trustworthy, and hardworking; understands glass, fruit, and flowers. Address, G. MUSSON, Rectory Gardens, Doverdale, Droitwich.

GARDENER (Head, where two or three are kept or good Single-handed), thoroughly experienced in all branches, Inside and Out; management of cows and poultry, if required; good references; married, two children. A. GOODFELLOW, 94, Sherrard Road, Forest Gate, Essex.

GARDENER (Head where one or two are kept); age 42, married; life experience in all branches, including orchids; nineteen years in last situation; can be highly recommended; left through the estate being sold. W. BROWN, 7, Tooting Bec Gardens, Streatham.

GARDENER (Head), in first-class establishment; life experience in all branches, both Inside and Out; five years in last situation, and can be well recommended; age 38; married, one child. Apply fully to W. DUNKLEY, Stokelake Gardens, Chudleigh, South Devon.

MR, T. TRUSSLER, Windmill Hill, Enfield, wishes to recommend a trustworthy, all-round Man as HEAD WORKING GARDENER; life experience Inside and Out; age 34; married, 2 children. Apply to above.

GARDENER (Head, or good Single-handed), thoroughly experienced; all-round glass, fruit, flowers, and vegetables; excellent references as head; age 40; married; disengaged at any [illegible] near London preferred. H. W., 32, Alexandra [illegible] Chislehurst, Kent.

GARDENER (Head Working, five or six kept), 17½ years' experience, Inside and Out; 3 years as Head; married, two children; age 33; good references. H. JONES, Brownslade Gardens, Pembroke.

GARDENER (Head Working), age 28. JOHN CARTER, Gardener to Sir Walter Greene, Bart., highly recommends his late Foreman as a good, practical Man; life experience, Inside and Out. SIMS, Brooklyn, Watlington, Oxon.

GARDENER (Head Working), age 33, married. H. MARKHAM, Gardener to The Right Hon. Viscount Enfield, will be pleased to recommend a most dependable, energetic Man of good experience to any Lady or Gentleman in want of a good Gardener. Wrotham Park Gardens, Barnet, Herts.

GARDENER (Head Working, where three or more are kept); age 31; excellent references as to character and ability; disengaged Sept. 29. F. ALFORD, The Gardens, Bazzleways, Milborne Port, Somerset.

GARDENER (Head Working), good, practical life experience in all branches, Inside and Out; early and late forcing; especially good with Melons, Violets, and Chrysanthemums; nine years with last employer as Head; can have excellent references. H. TURNER, 4, Glenton Street, Peterborough.

GARDENER (Head Working, where one or two under are kept); life experience; excellent references; married, no family; both abstainers; age 29. E. FLETCHER, Holmbury St. Mary, Dorking.

GARDENER (Head Working), age 36. A. H. COOPER is open for engagement as above, ten years head, last six years at Chaldecott House, Abingdon, Berks.

GARDENER (Head Working or Single-handed with help); life experience, Inside and Out; Carnations, Vines, Peaches, Kitchen Garden, Lawns; highly recommended by present employer; age 39; two children. CHAPMAN, The Lodge, Middleton Hall, King's Lynn.

FOREMAN (Inside), age 28; life experience in all branches; six years as Foreman; House and Table Decorations; Bothy preferred. R. SCRIVEN, Grove House, Yeovil.

MR. W. MITCHELL, The Gardens, Hengherst Park, Ashford, Kent, can highly recommend C. E. SHEPPARD, who has been his Foreman 6½ years, as a thoroughly practical GARDENER (Indoors and Out); married when suited.

MR. CHAMPION can thoroughly recommend good, all-round, hard-working GARDENER, single-handed, or with one under; married, no children; age 36. Apply H. HANCOCK, Sibdon Castle, Craven Arms, Shropshire.

GARDENER (Single-handed or Head where two or three are kept); thoroughly experienced, Inside and Out; 9½ years in present Situation; good reference; age 37; married, small family. RICHARD NEWMAN, Moor Cottage, Crondall, Farnham, Surrey.

GARDENER (Single-handed or with help); good Second's place not objected to; married; age 36; tall; one child; life experience, Inside and Out; good references. H. WARNER, 17, Salmestone Road, Margate, Kent.

GARDENER (Single-handed or Foreman, general); experienced in Fruit and Plant Houses, Pleasure, and Kitchen Garden; age 29; good references. D. HILLS, Bochanger Cottages, Kennington, Ashford, Kent.

GARDENER (Single-handed), good, practical experience, inside and out; age 27; can be well recommended. J. SHREEVE, The Gardens, Osterley Park, Isleworth, W.

GARDENERS (Single-handed or with help) seeks re-engagement; experience Inside and Out; poultry, etc.; good references by me; 18 months at present place in a nursery; willing to be useful; age 25, married; 1 child, boy, 6 years. C. SMITH, 44, Ravenbourne Road, Catford, S.E.

GARDENER (Single-handed), married, no family; experience Kitchen and Flower Garden, Greenhouse; good character. All particulars, C., Gardener's Cottage, Macartney House, Greenwich Park.

GARDENER (Second), age 24; Inside and Out; 10 years' experience; highly recommended. E. AUSTIN, The Gardens, Brantwood, Langly Avenue, Surbiton, Surrey.

GARDENER seeks SITUATION, as Second or Single-handed; 18 months as Foreman; good references; married; age 24. Apply GARDENER, 10, Sanderstead Road, South Croydon, Surrey.

GARDENER (Second of three or four) seeks Situation; last place three years; good references. W. ORCHARD, Furzehill, near Wimborne.

GARDENER, age 23, seeks SITUATION as Second, where 3 are kept; have had 7 years' experience, Inside and Out; is well recommended by late Head Gardeners. A. SMITH, Dippenhall Street, Crondall, Farnham, Surrey.

GENTLEMAN wishes to recommend YOUNG MAN as UNDER GARDENER; 7 years' experience Inside and Out; age 22; good references. N., Red House Gardens, Heatherside, Camberley, Surrey.

GARDENER seeks SITUATION as Under or Single-handed; odd jobs not objected to; 9 years' experience Inside and Out; 4 years present situation; age 24. Apply, W. GULLIFORD, 19, Mill Place, Chislehurst, Kent.

GARDENERS (Under) seek SITUATIONS, Inside and Out; 3 and 4 years' experience with good references; ages 19 and 21 years. Apply J. B. and E. P., c/o Mrs. Roberts, White Hill, Wrotham, Kent.

GARDENER (Under); five years last place, and can be well recommended; age 21; disengaged. Address R. P., 113, Nutley Lane, Reigate. (No circulars.)

GARDENER, age 27; single; in Pleasure Grounds or good Single-handed with help; life experience; four years last situation. W. FREEMAN, 22, High Street, Roehampton, S.W.

JOURNEYMAN (Inside or Inside and Out). Mr. NOBBS, Beech Hurst Gardens, Haywards Heath, wishes to highly recommend W. MEADS as above; age 21.

ADVERTISER seeks SITUATION; 16 years' experience in Shop work (Seeds, Bulbs, and Making-up, etc.); Nurseries and Landscape work; age 33. H. D., 49, Ormeley Road, Balham.

AS IMPROVER in Gentleman's Establishment; life experience Inside and Out; age 21. H. GILBERT, Gardens, Westfield House, Wimborne.

COWMAN on Gentleman's Estate; Pigs and Poultry; handy at repairs; good references; disengaged. H. N., Stonerwood Farms, Petersfield, Hants.

CARPENTER and JOINER, single, seeks SITUATION on Estate, or as House Carpenter; abstainer; excellent references, own tools. FEARN, Moseley Terrace, Rolleston, Burton-on-Trent.

DUTCHMAN (23), having a practical experience in Forcing all kind of Bulbs, seeks SITUATION as BULB FORCER. Address W. F. v. d. POEL, 3, Carew Terrace, Oak Avenue, Hampton, Middlesex.

FLORISTS.—MAN (26) requires RE-ENGAGEMENT as MANAGER or HEAD SHOPMAN. 11 years' experience in Provinces; excellent Maker-up, Decorator, and Buyer, used to high-class trade; obliging Salesman; splendid references. STEAD, 23, East London Street, Edinburgh.

FLORIST.—YOUNG LADY seeks SITUATION as IMPROVER or ASSISTANT; London or Suburbs preferred. E. A., 16, Glyn Road, Clapton Park, N.E.

GROOM-GARDENER seeks SITUATION, age 32; married, and two children. Strong and willing to make himself useful; good references. T. C. CARTER, Pantile Road, St. Mary's Road, Oatlands Park, Weybridge, Surrey.

IMPROVER (Inside and Out).—Mr. TAMPLIN, Gardener to W. R. Mitchell, Esq., will be pleased to recommend H. HALSON, age 18, as above; able to take duty; good references. Seaborough Court, Crewkerne.

LAD, age 16, seeks SITUATION to assist Gardener; slight experience; fond of Gardening. R. BROWN, 7, Cottenham Terrace, Hornsey Rise.

SITUATION COUPON

To the Advertisement Manager of "THE GARDENERS' MAGAZINE,"
148 & 149, Aldersgate Street, London, E.C.

For SEPTEMBER 18, 1909.

Please Repeat my Advertisement.

Name...

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Date............................

THIS COUPON, duly filled up, should be forwarded not later than Tuesday for the next issue.

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VOL. LII.—No. 2,915. SATURDAY, SEPTEMBER 11, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Dahlias.

Although the exhibition held by the National Dahlia Society at the Crystal Palace on the 2nd and 3rd inst. was rather below the high average of recent years, the display of flowers was more than sufficient to show that the dahlia is held in high estimation by a large and important section of the flower-loving community, and that it has no superior in its season for beautifying the flower garden and supplying flowers for indoor decorations. Such falling-off in the quality of the blooms as was evident in a critical examination of the competitive and other collections was unquestionably due to the unfavourable weather conditions that have obtained during the past summer. The dahlia in its many and varied forms has a strong constitution, and will thrive in gardens that are within the range of atmospheric conditions decidedly unfavourable to plant life, but, as in the case of many other plants, the degree of development to which the blooms attain is largely dependent upon the weather experienced during the period of the greatest vegetative activity. The past summer has not been favourable to the production of blooms of the highest quality at the beginning of September, and consequently the exhibition suffered. Had the weather experienced during the first half of August continued during the month, the growth would have had an opportunity of becoming moderately firm, and the development of the blooms proceeded more rapidly. This, however, was not the case, and growth and flower production proceeded at a very slow rate. As might have been expected, the vigorous growing pæony-flowered varieties suffered as much from the low temperature and frequent rains as did any of the sections, and, in consequence, but one vase of blooms was exhibited. This was unfortunate, because the society had, in carrying out its more expansive policy, provided a class for them, and an adequate representation of the pæony-flowered type would have materially enhanced the educational value of the exhibition. If this was matter for regret, one had as a counterbalance the satisfaction of seeing that strenuous endeavour is being made by raisers to improve the cactus section for garden decoration and the supply of cut flowers. Three new cactus varieties were submitted that are remarkable for the length and rigidity of the flower stalks. The blooms were not considered sufficiently high in quality to merit the award of a first-class certificate, but the value of the improvement in the stalks was recognised by their being commended for special trial next year. This recognition was sufficient in the case of these varieties, but we would suggest that in determining the merits of varieties with long, stiff flower stalks, too much importance should not be attached to the size and form of the individual blooms. There is at the present time no lack of cactus dahlias of a high degree of excellence for competitive purposes, but the cactus varieties that are capable of producing rich colour effects in the garden are comparatively few. Hence the necessity for making such awards as will clearly indicate their value for garden decoration, and thereby induce cultivators to buy and plant them. The unfavourable weather that has characterised the past summer has brought into prominence the great value of the pompon and single varieties, for where strong plants were used, they have been flowering freely for some time past. The blooms of the first-named section are decidedly formal, but they are bright in colour, decidedly elegant, and borne on long stiff stems well above the foliage. Single dahlias are rather fugacious, but the blooms are produced in great profusion, and have the advantage of being lightly poised on their stems and attractive in colour. To maintain the single varieties in their most attractive form for as long a period as possible, the seed heads should be removed at intervals, as they are exhausting to the plant, and anything but pleasing. The present season affords unquestionable proofs, both in private and public gardens, of the importance of having strong and well-established plants of all sections for bedding out at the end of May. These, where they have been grown under ordinary conditions as regards soil, are now blooming freely and contributing their full share to the attractions of the gardens, whereas plants that were kept in three-inch pots until they were bedded are only coming into bloom. We have no wish to unduly labour this point, to which we have on several occasions directed special attention, but the English summer is so short that unless the plants are well advanced when put out, it is not possible to obtain a full return for the attention devoted to them. It would be better not to attempt their culture than to bed out plants so weakly that there is not time for them to reach the flowering stage before they are liable to injury from early frosts. Such plants certainly do not contribute to an appreciable extent to the attractions of the garden, and in many cases they bring the dahlia into disrepute. The chief points, we would mention in the preparation of dahlias, whether intended for garden decoration or the production of exhibition blooms, are to commence the work of propagation early; to give the plants from an early stage a light position near the glass, where they will have a free circulation of air about them; and to transfer them immediately they have filled the small pots with roots to others 6in. in diameter, using a rather rich compost. Plants so prepared will come into bloom several weeks

MR. H. K. JUDD.

in advance of those raised from cuttings rooted late and kept in small pots until bedded out, a point of much importance, considering that they are usually cut down by the frost within four months of their being transferred to beds and borders.

Mr. H. K. Judd, whose portrait we have the pleasure of giving in this issue, occupies a commanding position among amateur horticulturists, for, while devoting special attention to sweet peas and various other subjects, he labours with a zeal that is beyond praise in the promotion of horticultural activities among his friends and neighbours at Edgware. Mr. Judd's energy is certainly remarkable, for while bearing the responsibilities inseparable from the position of managing director of an important city firm, he is honorary secretary of the Edgware Horticultural Society, and discharges the duties connected therewith in such manner as to enjoy the golden opinions of all who are acquainted with the society and its accomplishments. This society is by no means the largest of the organisations which have for their object the advancement of horticulture, yet at its annual exhibitions visitors have the opportunity of enjoying displays of roses and sweet peas of great magnitude and the highest quality. Many other classes of useful and ornamental subjects are largely and well shown, but the two classes of fragrant flowers mentioned are the outstanding features, and we were informed by members of the executive, when two years ago we expressed our surprise at the distinctive character and the attractiveness of the exhibition, that the results were largely due to Mr. Judd's strenuous efforts to break away from the course of procedure that is usually followed in the management of local horticultural societies and to give special encouragement to the two classes of flowers that now enjoy so high a degree of popularity. We are not quite certain as to the classes of flowers for which Mr. Judd has the strongest affection, but we know that he is a formidable competitor in the classes for roses and sweet peas, and for several subjects that require glass culture. In addition to being the honorary secretary of the Edgware Horticultural Society, which, by the way, gives special encouragement to cottagers and allotment holders, Mr. Judd is the local secretary of the National Rose Society, a past master in Freemasonry, a member of the Board of Arbitration of the Bookbinders and Machine Rulers of the United Kingdom, a Commissioner of Land Tax for the County of Middlesex, and Rector's Warden at Edgware parish church, a post which he has occupied during the past fifteen years.

Perception of Light by Plants.—In the botanical section of the meeting of the British Association, which has recently been held at Winnipeg, Mr. Harold Wager read a paper on the perception of light in plants. As so well known, various organs of plants exhibit a definite response to light, and in his introductory remarks Mr. Wager pointed out that it was shown by Charles and Francis Darwin in 1880 that the illumination of one part of the sensitive organ determined the movement in another part; that one part of the sensitive organ perceived the light and that a stimulus was set up which was transmitted to another part, where the movement took place. In ordinary leaves the leaf blade was usually the perceptive region, the movement being brought about by the petiole. It was clear that the object of these heliotropic movements was either to protect the plant from a too intense light or to bring it into such a position that it could take the fullest advantage of the light which fell upon it. There could be no doubt that this was effected with considerable precision. But how it was that the plant was enabled to perceive that it was or was not in the right position, and the means by which the light stimulus was set up, were not yet clearly understood. In dia-heliotropic foliage leaves Haberlandt suggested that the epidermal cells or special modifications of them functioned as ocelli or rudimentary eyes by converging the light so as to bring about a differential illumination of the cytoplasm on the basal wall of the epidermal cells, by means of which the stimulus was set up. The layer of cytoplasm lining the epidermal cells would therefore in this case be the percipient organ. The evidence in favour of this view was, however, not very satisfactory. As an alternative it was suggested by Mr. Wager that the chlorophyll grains were the percipient organs. It was well known that they were sensitive to light, and that in some cases they showed this by definite responsive movements. The unequal illumination of the chlorophyll grains when the rays of light fell upon the leaf in a slanting direction would, he considered, be sufficient to account for the generation of the stimulus, and it was possible that the optical behaviour of the epidermal cells might be of importance in this respect. The rays of light which were absorbed by the chlorophyll were the only ones which appeared to be functional in heliotropism, and these by their action upon the various colouring matters contained in the chlorophyll might set up in the cytoplasm immediately adjacent changes necessary to bring about the stimulus.

Masters' Lectures.—The second of the two Masters' lectures by Professor Hugo de Vries, will be delivered at the meeting of the Royal Horticultural Society on the 28th inst. The subject will be the "Production of Horticultural Varieties," and the chairman will be Mr. A. D. Hall, F.R.S., Director of the Rothamsted Experimental Station.

August in the North.—Our Aberdeen correspondent writes: The weather experienced during August has been very varied. We had an exceedingly fine spell from the 4th to the 12th, which did a vast amount of good to vegetables and fruits, so that strawberries turned out well. This fine spell of weather also practically saved the situation, from the farmer's point of view. From the last-mentioned date, however, the weather became cloudier, colder, and more showery, especially during the closing days, the last day, the 31st, being the coldest of the whole month. August and October are the two months in which most rain falls in the North-east of Scotland, and there is in that respect little difference between them. This year, however, we have had no heavy spate of rain such as we sometimes have in August. The rainfall registered over the whole north-east would average about 2.50 inches, a trifle below the average for the last 42 years. Rain fell on 17 days, and the maximum temperature in the shade was 81 degrees, and the minimum 40 degrees. On an average of years July is our warmest month, August coming next with a mean temperature of 56.6 degrees. This year its temperature has varied much. The 25th was a very bad day, wet from morning till night, with a murky sky, and a cold north-east wind. This broke down and twisted the heaviest crops of grain, so that they will be bad to cut. Turnips, however, have done well, making a great advance. The frequent showers have kept the leaves of trees, etc., fine and healthy. Potatoes are looking remarkably well, and show little signs of disease.

British Association.—It has been decided to hold the meeting of the British Association at Sheffield in 1910, and the Rev. Thomas G. Bonney, F.R.S., Professor of Geology at the University College, London, has been elected president for the ensuing year.

Fruits of Foreign Growth contributed but little to the large increase in the value of the imports into this country during August, as the increase was only £848, as compared with the corresponding month of last year. In the imports of apples there was again a large decrease, and in the imports of grapes the decrease in quantity was considerable. The imports of the first-mentioned of the two classes of fruits were 59,436 cwt., of the value of £34,591, or a decrease in quantity of 29,196 cwt., and in value of £13,135. Peaches and apricots, on the other hand, show a big increase, the aggregate having been 12,345 cwt., of the value of £16,366, against 3,014 cwt., of the value of £5,500. A large proportion of the imported peaches came from France, and in the second half of August they were so plentiful in the London markets that boxes containing twelve medium-sized fruits were selling at eighteen pence each. Bananas were rather more plentiful, the imports aggregating 649,337 bunches, of the value of £175,143. Cherries also were received in larger quantities, the total imports of these fruits having been 3,315 cwt., of the value of £2,566, as compared with 760 cwt., of the value of £689 in August, 1908. The imports of currants also were larger, the total having been 11,495 cwt., of the value of £12,957, or an increase in quantity of 7,784 cwt., and in value of £9,250. Of gooseberries the imports were only 12 cwt., of the value of £10, against 937 cwt., of the value of £468 in the corresponding month of last year. The imports of grapes aggregated 74,742 cwt., of the value of £59,266, or a decrease in quantity of 20,583 cwt., and in value of £16,379. Oranges, lemons, and almonds were received in larger quantities, as also were pears. Of the last-named, the aggregate imports were 222,994 cwt., of the value of £191,501, these figures representing an increase in quantity of 12,699 cwt., and a decrease in value of £25,822. In the imports of plums there was an increase in quantity of 8,038 cwt., and a decrease in value of £6,449, the total having been 252,695 cwt., of the value of £240,227. Of strawberries the imports were 16 cwt., of the value of £15, and those of unenumerated fruits aggregated 171,759 cwt., of the value of £71,037. The total value of the fruit imports was £923,297.

Our Bulb Number.—We shall devote our next issue (September 18) chiefly to a consideration of bulbs and bulbous plants for garden, conservatory, and home, and we shall include interesting and illustrated articles on Lachenalias for the Conservatory, Bulb Culture in Fibre, Tulips for Garden Decoration, Inexpensive Daffodils, Bulbs for the Rock Garden, Uncommon Bulbous Plants, Propagation of Hyacinths, Jonquils in the Wild Garden, Hyacinths for Beds and Borders, Outdoor Culture of Hippeastrums, etc., etc.

A Fortunate Gardener.—Under the will of the late Lady Saye and Sele, Mr. William Clarke, her gardener, received a legacy of £200.

ROYAL CALEDONIAN HORTICULTURAL SOCIETY.

There was a brave turnout of exhibits and exhibitors at the Waverley Market, Princes Street, Edinburgh, on September 8 and 9, on the occasion of the centenary show of the above society. The exhibition was of about the usual character and quality, though interest had been stimulated by the offer of four Centenary Cups, and hence everyone wanted to know who had won these coveted awards. Grapes, hardy fruits, vegetables, and cut flowers were abundant and good, but the plant classes were only moderate.

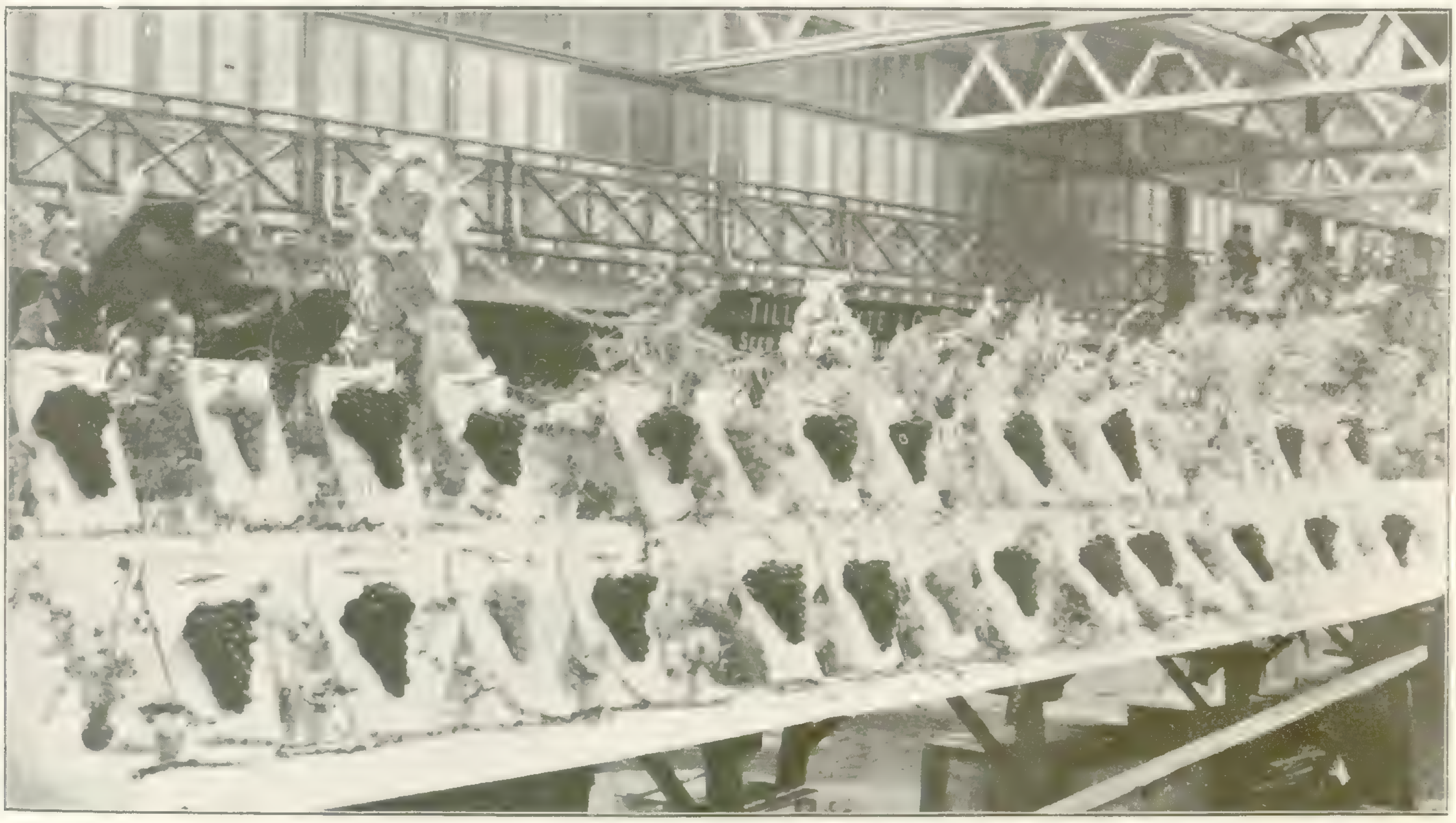
In Mr. Mackenzie's enforced absence through illness Mr. A. D. Richardson took over the secretarial duties, and was ably supported by Mr. J. W. McHattie and others.

Fine weather attended the first day of the show, and the attendance was very good.

DESSERT TABLE CLASS.

Two competitors entered in the class for a table of dessert fruit, decorated with flowers. Not more than sixteen dishes of fruit were permitted, and the size of the table was 10ft. by 4ft. 6in. Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby, gained the premier award with a total of 107 points for fruit and 18 for decoration—125 points. He showed Madresfield Court (8), Chasselas Napoleon (6½), Muscat Hamburgh (7½), and Muscat of Alexandria (8½) grapes; Dr. Jules Guyot (6), and Margaret Marillat (7½) pears; Elruge (5) and Pineapple (6½) nectarines; Princess (7) and Bellegarde (6) peaches; Cox's Orange Pippin (6½) and Ribston Pippin (6½) apples; Negro Largo figs (5); Washington (5½) plums; Seedling (7) and The Budget (7½) melons. The decorations consisted of montbretias and francoa sprays.

Mr. James Gibson, gardener to the Duke of Portland, Welbeck Abbey, Worksop, secured the second prize with 103 points for fruit and 17 points for decoration—120. He was equal with Mr. Goodacre for grapes, but lost a little on peaches and melons. It was a splendid fight for the premier place.



THE CHAMPION GRAPE TROPHY CLASS.

Mr. Lunt's first prize collection is the second from the left; Mr. Kirk's set on the extreme left; Mr. Goodacre's on the extreme right; and Mr. Beisant's, the second from the right.

CHALLENGE TROPHY GRAPE CLASS.

For the Scottish Challenge Trophy for the best eight bunches of grapes there were four competitors, and these made up a most interesting and effective display. The cup was won by Mr. Thomas Lunt, gardener to Captain A Stirling, of Keir, Dunblane, with one of the best sets of grapes we have seen for a long time, the bunches being of even size and splendidly coloured. The bunches were arranged as follows, and we give the pointing, with the possible points in brackets. Cooper's Black (8), 7½; Alnwick Seedling (8), 6½; Mrs. Pince (9), 8½; Muscat of Alexandria (10), 10; Muscat of Alexandria (10), 9; Cooper's Black (8), 6½; Madresfield Court (9), 7½; Madresfield Court (9), 7½; total, 62½, out of a possible 71. We congratulate Mr. Lunt upon his splendid grapes and excellent win. Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, was second, with Madresfield Court (9), 7½ and 8; Cannon Hall Muscat (10), 8 and 7; Muscat of Alexandria (10), 8 and 7; Muscat Hamburgh (9), 6 and 7; total, 59½ points, out of a possible 76. Mr. James Beisant, gardener to Lady Armistead, Castle Kennedy, third, with 51 points, out of 71; Mr. A. Kirk, gardener to J. Thomson Paton, Esq., Norwood, Alloa, fourth, with 46½ out of a possible 70.

COLLECTIONS OF FRUIT.

There were only three competitors in the important class for a dozen dishes of choice dessert fruits, not more than two dishes of any one kind allowed. The chief award fell to Mr. J. H. Goodacre, who showed big bunches of Muscat of Alexandria grapes, and smaller ones of Madresfield Court, Princess and Sea Eagle peaches, Victoria and Pineapple nectarines, grand Peasgood Nonsuch apples, giant Margaret Marillat pears, Kirke's and Washington plums, Negro Largo figs, and a seedling melon; Mr. W. Galloway, gardener to the Earl of Wemyss, Gosford, Longmiddry, was placed second for a very fair set; and Mr. David Murray, gardener to the Marquis of Ailsa, Culzean Castle, third, the latter showing a small pineapple.

There were three entries in the class for a dozen dishes of orchard-house fruits, and here Mr. James Gibson, Welbeck Abbey Gardens, won the premier place with Peasgood's Nonsuch and Emperor Alexander apples, Souv. du Congres and Margaret Marillat pears, Dymond and Stirling Castle peaches, Pitmaston Orange and Humboldt nectarines, Hemskirk apricots, Kirke's and Jefferson plums, and Negro Largo figs; the apples were especially good; Mr. J. H. Goodacre came second, his best dishes being Margaret Marillat and Souv. du Congres pears; Mr. G. Mackinlay, gardener to the American Ambassador, Wrest Park, Beds, third.

GRAPES.

In addition to the trophy class, there were fourteen classes for grapes, and the competition was keen as a whole. First prize for four bunches was awarded to Mr. George Stewart, gardener to Sir Jas. Sivewright, K.C.M.G., Fullallan Castle, for excellent clusters of Madresfield Court, Black Hamburgh, Alicante, and Muscat of Alexandria; Mr. S. Gordon, gardener to Sir H. E. Maxwell, Bart., Monreith, Wigtown, came second with Alnwick Seedling, Black Hamburgh, Alicante, and Muscat of Alexandria; Mr. J. Highgate, gardener to the Marquis of Tweeddale, K.T., Yester, third; there were seven competitors.

The best pair of bunches of Muscat of Alexandria grapes were shown by Mr. Thos. Lunt, who staged splendidly coloured, weighty clusters; Mr. J. Highgate second; and Mr. Thos. McPhail, gardener to Mr. and Mrs. Hamilton Ogilvy, Ascherfield, third; four entrants. Mr. S. Gordon scored for a pair of clusters of Black Hamburgh grapes with neat examples; Mr. W. Galloway, Gosford Gardens, second; and Mr. J. Highgate third; fifteen entries. Mr. Lunt also led the way for a single bunch of Muscat of Alexandria, again showing finely; he was followed in order by Mr. Thos. McPhail, and Mr. W. Clanachan, gardener to J. S. Crawford, Esq., Melton Mowbray; eight competitors.

There were seventeen competitors in the class for one bunch of Black Hamburgh, and here Mr. S. Gordon scored with a very weighty, nicely-coloured cluster; Mr. R. Stuart, gardener to Lord Lauderdale, Thirlestone Castle, second; and Mr. T. MacPhail third. The best single bunch of Alicante came from Mr. S. Gordon, and was a shapely, well-coloured one; Mr. G. Pirrie, gardener to

C. W. Cowan, Esq., Dalhousie Castle, second; and Mr. J. Beisant third; twelve entries. Mr. S. Gordon scored again for one bunch of Alnwick Seedling, and was closely followed by Mr. Thos. Lunt and Mr. T. MacPhail. Mr. J. Shiells, gardener to Sir Jas. King, Bart., Carstairs House, led for one bunch of Gros Colmar, with a medium sized, large-berried bunch; Mr. H. E. Hughes second; and Mr. Jas. Todd, gardener to P. Ray Geddes, Esq., Colinton, third. For one bunch of Lady Downes, Mr. Thos. Lunt was placed first, Mr. T. MacPhail second, and Mr. J. Highgate third. One bunch of Madresfield Court made a good class, and here Mr. J. Stewart led with a very good bunch; Mr. W. Buchanan, Forth Vineyard, Kippen, second; and Mr. J. Highgate, third; eight entries. For a bunch of any other black grape, Mr. Jas. Beisant scored with Gros Maroc, a big cluster, finely coloured; Mr. T. Lunt second with Cooper's Black; and Mr. T. MacPhail third with Gros Maroc.

For any other white, Mr. M. Matheson, gardener to the Dowager Lady Kinross, North Berwick, scored with Buckland Sweetwater, beautifully finished; Mr. S. Gordon second, and Mr. H. E. Hughes third. For a bunch of black grapes showing the finest bloom, Mr. T. Lunt led with Cooper's Black.

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MESSRS. DOBBIE AND CO.'S GOLD MEDAL DISPLAY OF DAHLIAS AND CHRYSANTHEMUMS.

HARDY FRUITS, ETC.

Mr. J. Brown, gardener to F. Balfour, Esq., Fernie Castle, Fife, had the best dish of figs. Mr. J. Highgate led for a dish of peaches with Royal George, Mr. J. Gibson coming second with Bellegarde; sixteen entries. Nectarines were best shown by Mr. T. Lunt, who scored with a grand dish of Pineapple; Mr. R. Greenlaw second; seventeen competitors. In the melon classes Mr. B. Ness, gardener to the Earl of Stair, Oxenford Castle, Dalkeith; and Mr. R. Greenlaw, gardener to H. J. Younger, Esq., Benmore, Kilmun, won the leading awards.

Mr. R. M. Whiting, Credenhill, Hereford, won the first prize for a dozen dishes of apples with medium-sized, clean specimens of Cox's Orange Pippin, Worcester Pearmain, Queen Caroline, Baron Wolseley, Lord Suffield, Glory of the West, The Queen, Stirling Castle, James Grieve, Lady Sudeley, Charles Ross, and Duchess of Oldenburg; Mr. J. Mackinlay, Wrest Park Gardens, second, and Mr. J. Lee, Kingscroft, Cheshire, third. Mr. James Duff, gardener to Colonel Gordon, Castle Douglas, won first place for a collection of apples grown in Scotland, his varieties, all clean and well developed, being Duchess of Oldenburgh, King of the Pippins, Emperor Alexander, Worcester Pearmain, Lady Sudeley, Cox's Pomona, Peasgood's Nonsuch, Ecklinville, Yorkshire Beauty, Warner's King, Stirling Castle, and Gascoigne's Scarlet; Mr. R. G. Sinclair, Congleton Gardens, Drem, second, and Mr. D. Nicoll, gardener to Messrs. Bell, Forgandenny, third. Mr. Robert Currie, gardener to the Rev. G. H. Davenport, Hereford, scored for six dishes of culinary apples, and was followed in order of mention by Mr. J. Lee, Kingscroft, Bebington, and Mr. R. M. Whiting, Credenhill, Hereford.

For a dish of gage plums Mr. B. Ness led, with Mr. T. MacPhail second. Mr. J. E. Davis scored for a dish of yellow plums, with Jefferson; Mr. G. Watson, Walkinshaw, second; nine entries. For red plums, Mr. G. MacKinlay scored with Fonthill; Mr. J. Duff second, and Mr. J. Fairholm third; fifteen entries. Mr. J. E. Davis had the best dish of purple plums, showing Kirkes; Mr. J. Mackinlay second; eight entries. Mr. G. Mackinlay had the best collection of dessert plums, scoring with Transparent Gage, Washington, Jefferson, and Kirkes; Mr. R. G. Sinclair second, and Mr. W. Galloway third. For a collection of culinary plums Mr. Mackinlay was again to the front with Magnum Bonum, Belgian Purple, Fonthill, and Diamond; Mr. R. G. Sinclair second, and Mr. Hugh McFadyen, gardener to L. Breitmeyer, Esq., Cuckfield Park, Sussex, third. Mr. David Nicoll was a capital first for four dishes of orchard house apples with grand (but polished) specimens of Peasgood's Nonsuch, Emperor Alexander, James Grieve, and Gascoigne's Scarlet; Mr. James Gibson second. Mr. P. McAndrew, gardener to the Earl of Home, The Hirsel, Coldstream, led for six dessert apples.

APPLES AND PEARS.

Numerous classes were provided for single dishes of certain varieties of apples, and in these Mr. R. M. Whiting led for Charles Ross; Mr. J. Duff for Gascoigne's Scarlet; Mr. Robert Currie for James Grieve; Mr. R. Currie for Irish Peach; Mr. J. Duff for Lady Sudeley; Mr. J. Duff for Worcester Pearmain; Mr. A. Hogg, gardener to H. W. Hope, Esq., Abercady, for Baillie Nelson; Mr. R. Currie for Beauty of Kent and for Bismarck; Mr. R. G. Sinclair for Cellini; Mr. R. Currie for Cox's Pomona; Mr. J. Duff for Duchess of Oldenburgh and for Emperor Alexander; Mr. J. Lee for Ecklinville, for Golden Spire, and for Grenadier; Mr. Currie for Keswick Codlin, for Prince Albert, and for Lord Derby; Mr. J. Lee for Lord Grosvenor and for Mère de Ménage; Mr. Currie for Lord Suffield and Peasgood's Nonsuch; Mr. Whiting for Stirling Castle; Mr. Lee for Pott's Seedling; Mr. Whiting for Wellington; Mr. P. McAndrew for any dessert apple; and Mr. Currie for any culinary apple.

Mr. James Gibson staged the best collection of pears, his varieties being Beurre d'Amanlis, Doyenne Boussoch, Magnate, Beurre Clairgeau, Beurre Benoist, Pitmaston Duchess, Margaret Marillat, etc.; Mr. G. Mackinlay second, and Mr. Robert Currie third; six competitors. For six dishes of Scottish-grown pears Mr. P. McAndrew was an excellent first with unnamed varieties; Mr. D. Murray second, and Mr. W. Galloway third. Mr. J. Scott, Mr. R. Currie, Mr. Mackiniay, Mr. R. Greenlaw, and Mr. J. Gibson were the leading prizewinners in the single dish classes for pears.

GROUPS AND PLANTS.

The chief plant class was for a circular group, arranged for effect, on a space 18ft. in diameter. There were only two competitors, chief honours falling to Mr. J. E. Davis, gardener to Colonel E. R. Stewart Richardson, Battachie, Stanley. Although campanulas were largely used to secure effect, these were not specially good, but the humeas and celosias were good points. Crotons and variegated abutilons figured largely also. The design was a central mound, with an outer irregular ring of tall plants. The second prize was awarded to Mr. Adam Knight, Brayton Gardens, Carlisle. His was a bold group, and contained a number of finely-grown and well-coloured crotons, liliums in variety, and francoas.

Premier place for six foliage plants was won by Mr. A. McMillan, gardener to the Earl of Home, K.T., Douglas Castle, Lanark, with large examples of Alocasia metallica, Phyllotænium Lindeni, Dieffenbachia magnifica, Alocasia spectabilis, Anthurium crystallinum, and Maranta zebrina. Second prize was won by Mr. Adam Knight, Brayton gardens; and third by Mr. J. McKenna, gardener to Sir Robert Usher, Bart., Norton, Ratho. First prize for four stove plants was won by Mr. Duncan Mackay, gardener to C. Dickson, Esq., Lasswade, who showed Oncidium incurvum, Statice protu-

(*Continued on page 713.*)

THE CHARM OF OLD GARDENS.

If we inquire into the reasons of the great loveliness of English country villages and their neighbourhoods, we shall find that a considerable measure of them are owing to the flowers

"In green old gardens, hidden away."

There are visions of ideal beauty to be seen wherever pleasure grounds are lovingly cultivated, vistas of vivid or cool colour, groups of noble plants, lawns of the hue and softness of moss, all chequered by the shafts of sunshine and lines of shade that differ in size and shape every instant of daylight: modern gardens can boast many such attractions, of course, but it is in the ancient gardens, in which growth has been restrained just enough but not too much, that the perfection of charm exists.

Probably we sacrifice luxuriance to neatness nowadays; when creeper boughs hang in festoons from walls or arches we consider the use of ties and nails has become necessary; when trailing boughs exceed the space of beds we turn them inwards again and peg them to the soil; when the perennials and annuals of our borders twine about one another, thrust branches through branches, lean together, we come with stakes, raffia, and scissors to restore tidiness among them. In some degree restrictions must be pursued, of course, yet the tangled flower and foliage masses of an old garden should be imitated as far as may be where tall and lesser plants are grown together in borders.

As with roses we cherish the distinction between those fittest for exhibition and those admirable for decorative garden effect, so with the delphiniums, dahlias, and hollyhocks we should recognise that some are to be grown for the production of giant blossoms, others for the improvement of the scene; overcrowding is a thing quite distinct from massing for effect, but even massing is tabooed by the cultivators who aim only at gaining blooms of a record number, circumference, or breadth. With many a fruit and vegetable this straining after size has been pursued at the sacrifice of flavour: with many a perennial fineness has been studied rather than elegance. Take, for example, the much-vaunted foxgloves, that produce an extra-large blossom at the summit, just where gracefulness requires tapering of buds and partly open blooms; such a monstrosity could not be valued except for its curiosity.

Our grandfathers' gardens were planned essentially for comfort more than for grandeur; the arbours faced the best views and overlooked bowling greens and other lawns, the cut-out beds were not too numerous to be well filled with choicest plants; the borders frequently showed the more ornamental vegetables, such as scarlet runners, marrows, peas, lettuces, and carrots, growing in close proximity to flowers, and this not only in the vegetable plots.

One feature of old style that we miss was the union of roses with all the usual border plants: great round bushes of Aimeé Vibert, Maiden's Blush, York and Lancaster, Persian Briar, and other roses towered among pentstemons, pansies, columbines, and lilies, and certainly seemed to take no harm from their surroundings. While admitting that delicate roses must be grown in beds almost by themselves, I would draw attention to the splendid effects obtained in earlier years, by associating strong kinds with flowers of other species. There is a monotony about a dozen rose bushes with no other plants visible; colour harmonies of ideal exquisiteness result from the use of blue and mauve with pink and yellow, and we have, as yet, neither of those first hues in roses.

The proper creation of an arbour is always a work of time, but our ancestors threw all their skill and energy into such labour; a well-made honeysuckle, jasmine, sweet briar, or even ivy arbour constituted a show spot in the garden, as well as one of great comfort and service; nowadays the purchase of an almost ready-built summer-house is generally preferred, and, though that kind of structure forms a good support for well-trained climbers, the whole must be well grown over before it can become at all a poetic sort of bower.

When a sun-dial was set up it was always with a view to its giving time-warming and intelligence, not as a freak, or a costly plaything; consequently it was placed where the sunshine could reach it most of the day, and tall shrubs and plants were not permitted near. Too often can a sun-dial be found to-day exhibited where it is not the slightest service, and giant vegetation is allowed to still further shadow its dial; indeed, the sole reason why it appears at all is that it is a feature costly and uncommon. This, to my thinking, is vulgarity as applied to gardening.

Perhaps the former ages were less lacking in patience, and that is why screens were made of shrubs and hedges, instead of the now ubiquitous trelliswork; though there is nothing inartistic about the unobtrusively painted mesh of wood, no gardener can surely claim that natural tracery of branches, with their clothing of foliage and blossom, sometimes of fruit also, is not more charming. We should do well always to consider whether it is not worth while to slowly build up a garden beauty rather than construct a less attractive feature in a few hours.

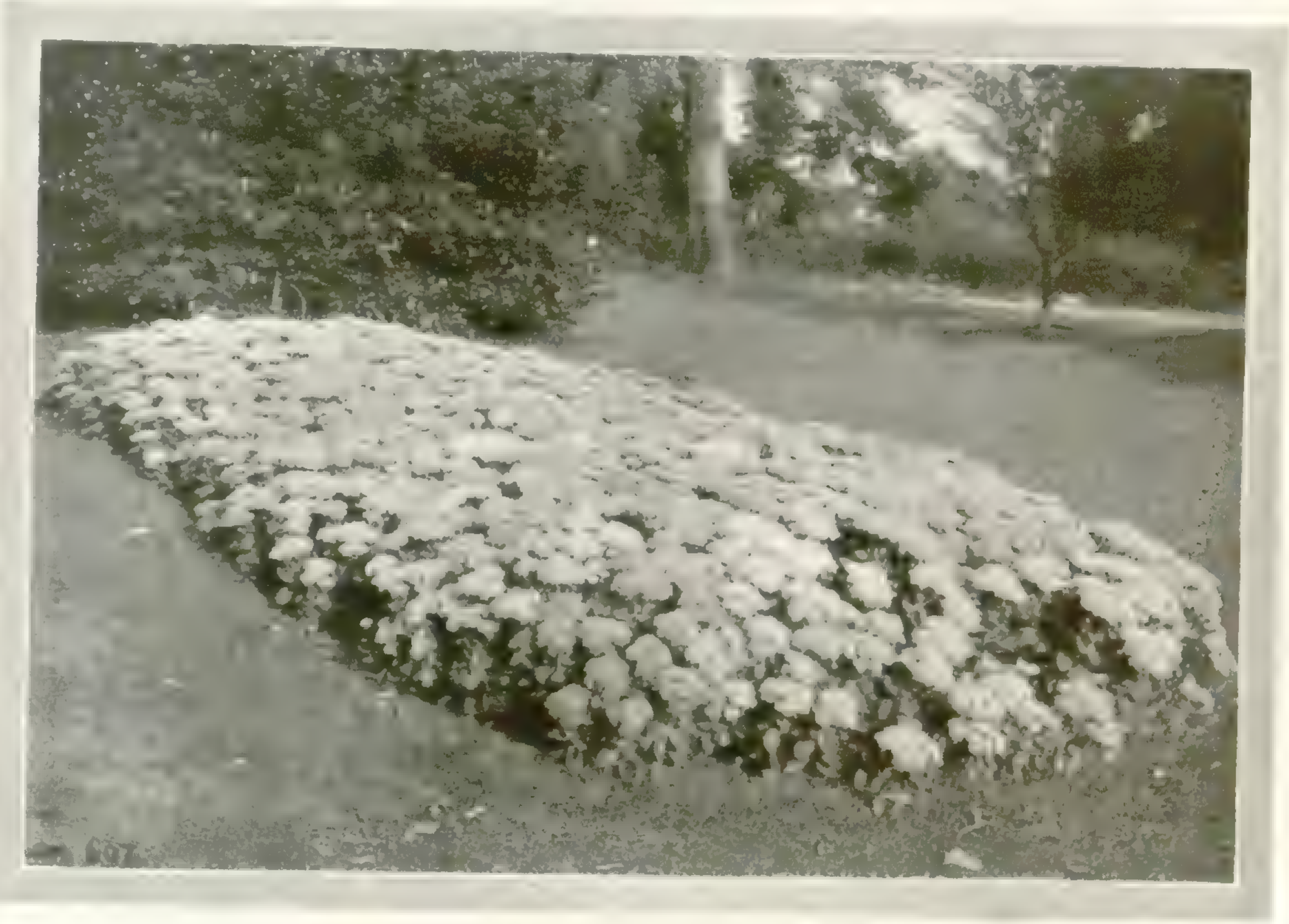
Lastly, the old-fashioned flowers are charming still, so let us not suffer any of them to die out of knowledge; the ancient roses especially have a claim upon our grateful memory, and if we do not wish to grow them in the actual rosery we can place them among the annuals and perennials in borders. For freedom of bloom and decorative value what can surpass the old China roses, crimson, pink, and white, the autumn luxuriance of such Bourbons as Souvenir de la Malmaison, and Acidalie, or the buttonhole furnishing of the common moss? Pentstemons, monkshoods, Turk's-cap lilies, hen-and-chicken daisies, carmine phloxes, crimson sweet williams, purple columbines, brown wallflowers, we can surely find space for them all, with the prim asters that mostly surrounded the sun-dial, and the snapdragons and sedums which revelled even upon the summits of antique walls?

A little less regularity, more appreciation of natural methods of plant growth, some reluctance to put similar sized plants in lines or plots at equal distances, and then we shall be possessors of gardens that combine both olden and modern merits.

M. H.

SEDUM SPECTABILE.

Few autumn-flowering hardy plants are more familiar than the fine old Sedum spectabile, a species loved by keen cottagers, and the old folks in country districts. Fortunately, it has not been ousted from the more highly cultivated gardens by modern introductions, but still holds a place as an autumn-flowering plant of high merit. Good groups of S. spectabile form a striking feature in the herbaceous border in September, and, during the hours of sunshine, the flattish heads of deep pink flowers are almost alive with bees and butterflies, Red Admiral and Peacock butterflies appearing to have a very great liking for the plant.



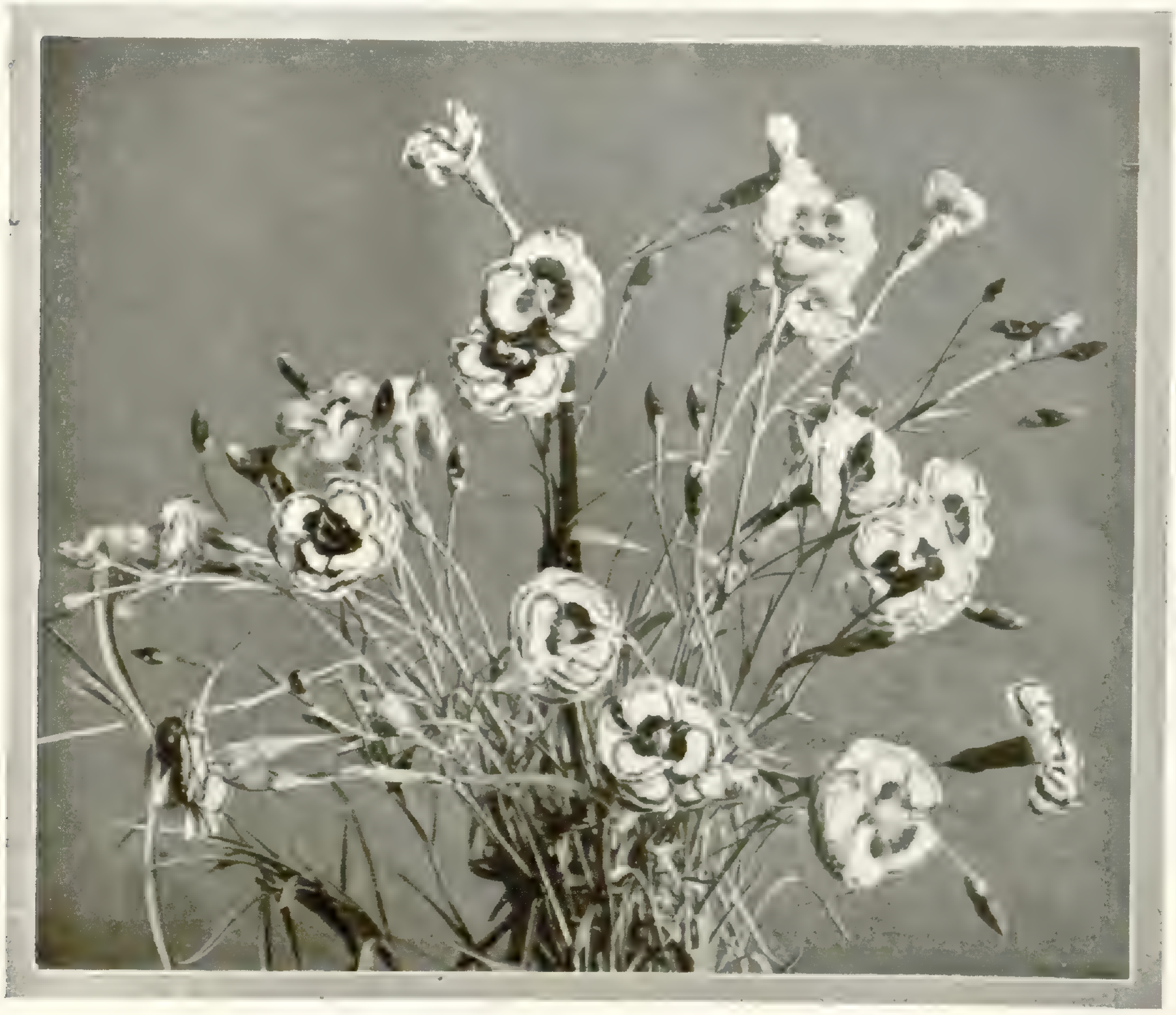
A BED OF SEDUM SPECTABILE IN THE ROYAL GARDENS, KEW.

Although as a border plant Sedum spectabile is well known, it is not usually regarded as a suitable subject for filling a whole bed, and yet it provides a very distinct and attractive bed when so planted. At Kew it is so treated, and the illustration herewith shows its use as a bedder in the Royal Gardens. The only fault that can well be brought against it is its formality when grown in a mass. So even do the plants grow in the matter of height that when in bloom a bed presents an almost flat and solid mass of pink colouring. Possibly, if planted in groups with some taller-growing plant between, instead of in a mass, the effect would be as bright, and possibly more elegant.

HARDY FLOWERS are always popular, as they make the garden bright and attractive, and require but little attention. All the information required for their successful culture is given in Easily Grown Hardy Perennials, by G. H. Vos. Price 5s. net, by post in box, 5s. 6d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

TYDÆAS.

Taken altogether gesneraceous plants are remarkable for the showy nature of their blossoms, yet, excepting gloxinias and streptocarpuses, most of them have their merits overlooked. To my mind, a much-neglected race are the tydæas, which the botanist tells us are not tydæas at all, but isolomas. The older name, however, is, in gardens at least, not likely to be superseded. The flowering period of the tydæas depends to a great extent upon the treatment the plants have received, but if grown under the most natural conditions, that is to say, started into growth in the spring, brought on for a time in an intermediate temperature, and then removed into the greenhouse, they will in that structure form a very attractive feature at this season of the year. Unlike some gesnerads the tydæas form a decided stem; indeed, some will mount up to a fair height. The inflated tubular blossoms are more or less expanded at the mouth, in some varieties to a considerable extent. This spreading portion of the corolla shows the most decided markings which in a few forms at least are very quaint and uncommon.



NEW PINK, THE DUKE.

Flowers white, laced with deep rose. Raised by Mr. Jas. Douglas, Great Bookham.

As a class the tydæas are noteworthy for their continuous flowering, for whereas in many cases they will commence to bloom by midsummer, the shoots lengthen and flowers are produced therefrom till autumn is well advanced. One reason perhaps that tydæas are not more grown is that the blossoms are of little or no service in a cut state, but as already mentioned, they are exceedingly attractive on the plant.

The cultural requirements of tydæas are not at all exacting, and to anyone about to take up their cultivation I should advise obtaining them in early spring before the curious caterpillar-like rhizomes start into growth. In this stage they can be sent by post at a very cheap rate. Like most gesnerads they are especially partial to a liberal amount of vegetable matter in the soil, hence a very suitable compost may be formed of equal parts of loam and well-decayed leaf-mould, with a good sprinkling of sand. The rhizomes should be so placed that the tip or growing portion is about one-third of an inch below the surface of the soil. Very little water will be required until growth recommences; indeed, the general treatment may be much the same as that given to gloxinias, which popular plants may be successfully grown under much cooler conditions than is generally considered necessary for them. From year-old tubers I have grown them with the same treatment as tuberous-rooted begonias, and have had a fine show of flowers in July and August.

Tydæas are very readily propagated by the formation of new rhizomes, and also by seeds, which, if saved from a representative collection, will give a great variety in the markings and colour of the flowers If sown in a warm structure early in the year, pricked off as soon as large enough to handle, and potted on afterwards, tydæas will flower well the first season.

In a most instructive paper on gesneraceous plants by Colonel R. H. Beddome, F.L.S., which appeared in the "Journal" of the Royal Horticultural Society for January, 1908, the writer states in reference to Isoloma amabile (belonging to the tydæa section) that it is one of the oldest of the tydæas,and it is, I believe, the parent of most of the hybrids sent out by Continental growers. Although Colonel Beddome follows the lead of most botanists, and includes the tydæas in the genus Isoloma, he keeps them in a separate section, and thus refers to their points of difference: "Tydæa has a corolla much dilated at the mouth of the tube, the lobes spreading and copiously dotted and flaked. Isoloma has a more cylindric tube, more or less contracted at the mouth, the lobes small, the colour of the flower nearly uniform crimson, scarlet, or orange, with slight flaking about the mouth; tydæa is an old, well-established name, and will not, I think, be readily given up by horticulturists, particularly as it is easily distinguishable from isoloma." W. T.

GALTONIA CANDICANS.

Galtonia candicans is a well-known and extremely beautiful hardy flowering bulb, producing in autumn tall, erect spikes, carrying from 40 to 50 drooping white bell-shaped flowers. In a general way the individual flowers resemble those of the common snowdrop, but are a good deal larger; they begin to expand in August, opening from the bottom of the spike upwards, and it is usually well into October before the last flower on the spike begins to fade.

The whole character of the plant is imposing, the long strap leaves being sub-erect, and from the centre of these spring the stout glaucous scapes often 5 feet or more in height, each spike arrayed with its quota of graceful bells, so that when liberally planted in groups or clumps the effect is extremely pleasing, and one which increases the interest, and adds to the charm of a garden in autumn.

One might readily enumerate instances where galtonias could be effectively planted in association with other subjects; as a contrast to the bright scarlet flowers of Gladiolus brenchleyensis or Salvia splendens, it is frequently employed, the latter being certainly the best plant, as the gladioli is too short-lived for the galtonia. I think, however, that its beauty is doubly refined when employed in harmony with low-toned subjects, such as in the case where the slender inflorescence of Bocconia cordata and Stipa pinnata have maintained the interest of the group during the flowering period of the adjacent lily beds (Lilium longiflorum); and when the galtonias come into flower, the glaucous grey leafage of Eucalyptus globulus and the silver-grey foliage of Leucophyton Browni form an admirable setting for the pearly-white blossoms. A few plants of double lemon hollyhocks add to the effectiveness of the whole. As a composition it is extremely restful and in marked contrast to, and also a decided change from, the stereotyped use of scarlet and white.

Galtonia bulbs require deep planting to be successful from year to year, but it is essential that the ground be well drained, because being natives of South Africa our cold soils are inimical to their welfare during winter.

Positions well exposed to autumn sun ensure the maximum ripening of the leaves and maturing of the bulbs, and in winter it is advisable to cover the ground with some light, open material like bracken or spruce tops, as by these means we admit sun and air on all favourable occasions, and afford protection from frosts.

Ground intended for galtonias should be enriched with manure from a spent mushroom bed and deeply dug during autumn, deferring planting until spring. On heavy soil shallow planting, with winter protection, will give the best results, and a good layer of sharp sand should be put under each bulb at planting time. Galtonias answer readily to stimulants applied when in full growth, and by this means prodigious spikes may often be secured, especially upon soils naturally fertile, but this practice appears to weaken the constitution of the bulbs in that they are liable to decay in winter, and unless one cares to replenish the stock annually, a moderate floral display gives, on the whole, the most satisfactory results.

Thomas Smith.

Walmsgate Gardens.

THE PINK.

We cannot trace the garden history of the pink to a date so early as that of the carnation, but I happened to look into "Flora, Ceres, and Pomona," by John Rea, Gent., 1676, and find he says, "The pinks flower with the roses in June, and every ordinary gardener knows how to plant and dispose of them, as also that vulgar plant called thrift." The flowers, he adds, are used "for posies, mixed with the buds of Damask roses; most of them are single, and there are some that bear double flowers."

Garden varieties had been produced previous to Rea's time, and there were varieties with varied coloured double flowers; white, light red, bright purple, and some with a deeper or paler spot in the middle. The feather Pink of Austria had a large deep purple spot in the centre. The "Floricultural Cabinet" gave many illustrations of pinks from 1833 onward, and the improvement was very rapid during the following years. "The Florist" was started in 1848, and the coloured plates of pinks, by Mr. Andrews, were evidence of the great improvement in the flowers caused by the stimulus of numerous pink shows held all over the country. I remember the late Mr. John Keynes saying they had six pink shows in Salisbury in one year, and that he carried his silver watch to the pawnshop to obtain the wherewith to purchase his first collection.

The bedding-out fever set in about this time, and every garden became a blaze of scarlet geraniums, yellow calceolarias, purple verbenas, blue lobelias, etc., etc., in lines and masses, and all the beautiful florists' flowers were sadly neglected. The fever, like all fevers, ran its course, and the good old-fashioned flowers are again in their right place. It may be of interest to readers of the **Gardeners' Magazine** to know the properties of the pink, defined by the florists, in Vol. II. of the "Floricultural Cabinet," page 46:

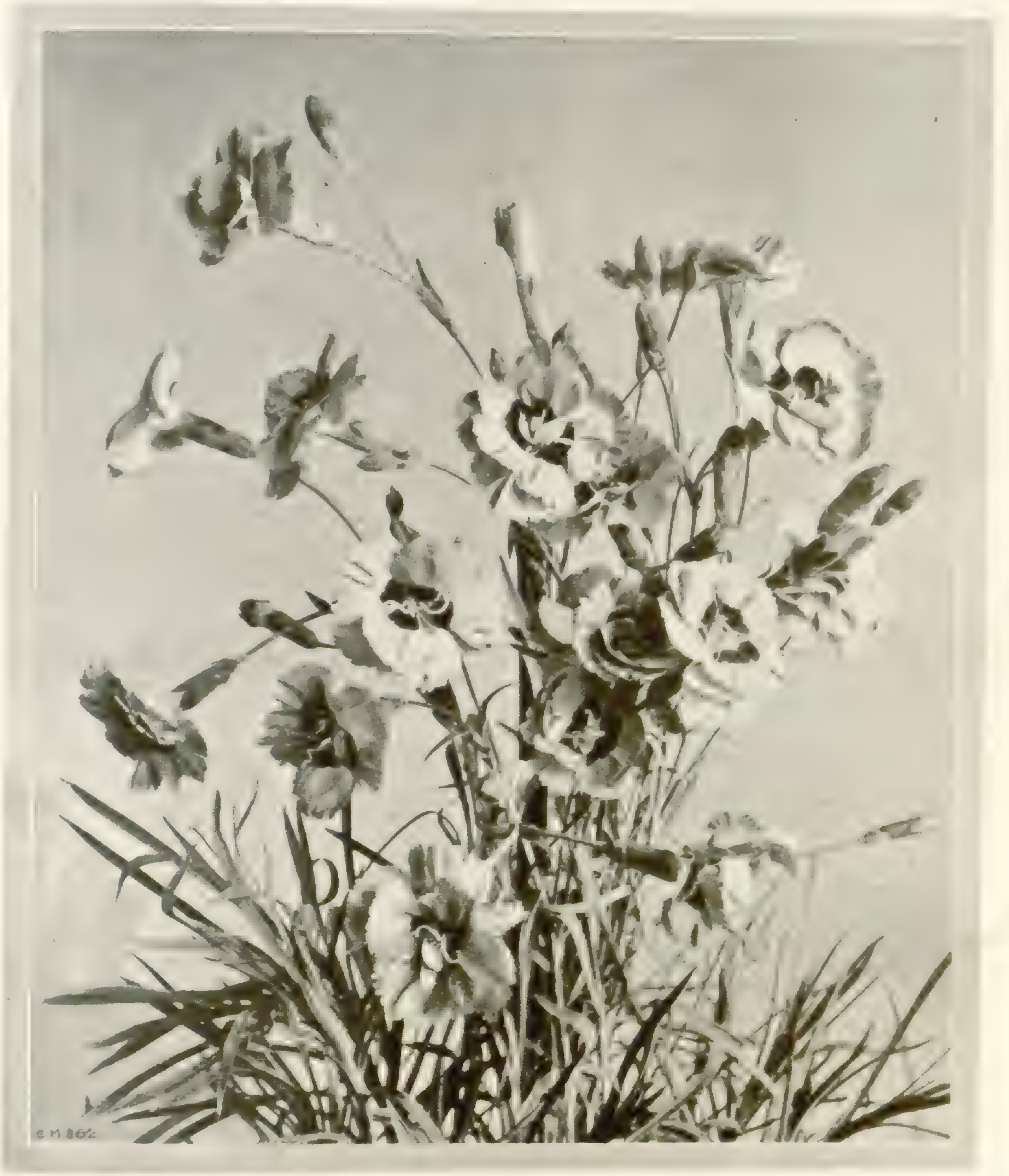
I.—The stem should be strong, elastic, and erect, and not less than twelve inches high.

II.—The flower should not be less than two inches and a-half in diameter; the petals should be large, broad, and substantial, and free from large, coarse, deep notches, or indentures; in short, approach nearest to perfection when they are rose-leaved, i.e., without any fringe at all.

III.—The broad end of the petals should be perfectly white, and distinct from the eye, unless it be a laced pink, which should be bold, clean, and distinct, leaving a considerable proportion of white in the centre, perfectly free from any tinge or spot.

IV.—The eye should consist of a bright rich dark crimson or purple, resembling velvet; but the nearer it approaches to black the more it is esteemed; its proportion should be about equal to that of the white, that it may appear neither too large nor too small.

The lacing of laced pinks is usually lighter than the blotch of colour in the eye, and as sweetly scented. Perfectly hardy plants for the flower garden, there is considerable sameness amongst them. I have cultivated pinks from boyhood, and think any garden incomplete without a collection of them. They are easily grown, and easy of propagation, either by layers or slips, and so hardy that no protection of any kind is needed. It is interesting, too, to raise seedlings, which give excellent results. A large proportion of the seedlings will be as good as the parent plants. The interest in the cultivation of any class of plants is greatly increased by the anticipation of the flowering of seedlings. The seeds of pinks should be sown in March, and the seedlings ought to be pricked out in boxes, and treated much as half-hardy annuals. They are planted out in beds about the end of May or early in June, a foot apart, in good soil, and the foliage will about cover the ground, giving a wealth of blossom the following season; a few of the plants produce single flowers, but many of these are very beautiful, and more esteemed by many tasteful persons than those with double flowers.



NEW PINK, RUBICON.
Flowers old rose and crimson. Raised by Captain Poë, Riverston, Ireland.

If the standard varieties of pinks are propagated by layers, this may be done a month before the carnations are ready. The slips, or pipings, may be taken off at the same time, and inserted under handlights in any fine sandy soil; they soon form roots, and may be planted out as soon as they are well established. It is desirable to have them planted out where they are to flower early in September, so that they may become well established before frosts set in.

Referring to the two illustrations of pinks reproduced herein from photographs of plants grown at Edenside, Great Bookham. The Duke is a very handsome variety, of the laced type. The centre of the flower is a maroon-crimson, and the lacing of a much lighter tint; it was produced from seed at Edenside. Rubicon is a very handsome border pink, raised by Captain Poë at Riverston, Ireland and the colour is what is termed vieux-rose, the centre of the flowers darker; it is quite distinct, and, like The Duke, of vigorous growth.

James Douglas, V.M.H.

OLD MUD WALLS FOR ROSES

Some time ago an old building constructed with mud and a small quantity of shingle, was demolished in the southern part of the county of Hampshire. The mud walls were broken up roughly and carted to some land where it was intended to grow roses. After remaining in heaps for a few weeks exposed to rains and the weather generally, the lumps were broken down to a powder and the material spread evenly on the surface of the land. The ground was then trenched, and the powdered mud and clay well mixed with the soil. The original soil is of a light nature, gravelly and poor in quality. Roses from this ground were exceptionally fine after the treatment above referred to; but they were of only moderate quality before from adjoining ground even after good dressings of well-rotted manure had been given. The old mud wall material acted like magic and proves how valuable well pulverised clay and marl are in the growing of roses in light soils. Hybrid Perpetuals, Hybrid Teas, Teas, and climbing roses were mainly grown in the garden referred to. The leaves were large, and very glossy and of a deep green colour.

G. B.

NEW PLANTS, ETC.

LÆLIO-CATTLEYA GOLDEN ORIOLE WESTONBIRT VAR.

The beautiful and useful hybrid derived from the intercrossing of Lælio-cattleya Charlesworthi and Cattleya Dowiana aurea is variable, but every variation is charming, and the plants bloom in early autumn. The above-named variety is one of the most beautiful forms, and is one of the most attractive of orchids. It has golden sepals and petals, and a fine crimson lip, shaded with red-brown and freely veined with gold. The colouring is splendid. A.M., R.H.S., August 31. Mr. H. Alexander, orchid grower to Lieut.-Colonel Holford, Westonbirt, Gloucester.

MONTBRETIA PAGEANT.
A.M., R.H.S., August 31; Col. Petre, Westwick, Norwich. Flowers orange-yellow and crimson.

SOPHRO-CATTLEYA BLACKI.

A handsome hybrid between Sophronitis grandiflora and Cattleya Hardyana. The flowers are of fair size, and the plant is of dwarf growth. The colour is scarlet, suffused with yellow, the latter showing mostly in the lip. A.M., R.H.S., August 31. Mr. Black, gardener to R. G. Thwaites, Esq., Chessington, Streatham.

ODONTIODA GRAIRIANA.

A new and interesting hybrid, having Odontoglossum Rossi majus and Cochlioda Noetzliana as parents. The colour is pale salmon with darker shading. The influence of both parents is obvious in the flowers and growth. Certificate of Appreciation, R.H.S., August 31. Mons. H. Graire, Amiens, France.

MONTBRETIAS.

Pageant.—A fine addition to the newer montbretias. It is scarcely so splendid as Prometheus, but its great merit lies in its extremely robust growth and free branching and free flowering habit. It is growing 5ft. high at Westwick, and making a splendid blaze of colour. The large, rounded flowers are orange-yellow, with a crimson zone around the eye or centre of the bloom. A.M., R.H.S., August 31. Mr. G. Davison, gardener to Colonel Petre, Westwick, Norwich.

George Henley.—An elegant and pretty variety, bearing branching spikes of pale orange-yellow flowers. A.M., R.H.S., August 31. Mr. G. Henley, gardener to S. Morris, Esq., Thetford.

GENTIANA ORNATA.

A beautiful little plant, collected by Mr. E. H. Wilson at an elevation of about 12,500ft. in China, where it was found growing with Meconopsis punicea. About three inches high, apparently of free growth, this little gem produces intense blue flowers that are rather more than an inch across the mouth. A.M., R.H.S., August 31. Messrs. Jas. Veitch and Sons, Chelsea.

ANTHURIUM TRINERVE.

A distinct species with long, narrow leaves and bearing, somewhat freely, violet-coloured fruits. It is nearly allied to A. violaceum, and is quite distinct from A. trinervium, Kunth. Bot. Mag., t. 8251.

MUSSÆNDA TREUTLERI.

An attractive stove plant with bright scarlet flowers and large white bracts. This species was introduced into cultivation by Messrs. Knight and Perry about 1840, and appears to have flowered with them in 1844 and 1845, and was figured in two of the botanical periodicals as M. macrophylla, Wall, under which name it is usually cultivated. Bot. Mag., t. 8254.

CYPRIPEDIUM A. DE LAIRESSE

As an early autumn flowering cypripedium C. A. de Lairesse ranks high, and though it may lack the finer colouring of the later flowering sorts, it possesses many points of interest and attraction. The hybrid was raised by crossing C. Curtisi with C. Rothschildeanum, and is remarkable for its free growth and freedom of flowering. In the accompanying illustration is depicted a specimen carrying two spikes of three blooms each. C. Curtisi has given the bolder lip and broader petals, while C. Rothschildeanum has given elegance and increased the length of the spike. The colouring is white and green, with stripes and spots of rich purple, with crimson shading on the lip. The specimen figured on page 707 was grown by Mr. G. Day, gardener to H. S. Goodson, Esq., Fairlawn, Putney, and represents cultural skill of a high order.

LONICERA MAACKI.

People who intend to plant shrubs during the forthcoming planting season ought not to overlook this honeysuckle when making their selection. Although it has been in cultivation for a long while, it is only within the last few years that it has proved to be such a good shrub as it really is. The original introduction appears to have been a poor form, for plants which were raised in the Coombe Wood nursery of Messrs. Veitch, from seeds sent from Central China by Mr. E. H. Wilson in 1900, produce larger flowers and blossom more profusely than the old plants.

The species belongs to the bushy set, and grows eventually to a height of eight or ten feet, with long arching branches. The leaves are more or less ovate, and the flowers white and tubular, or rather trumpet shaped. The latter are produced from the leaf axils, and are in such profusion as to make a branch appear to be one large inflorescence. Added to their showy character, they possess the additional advantage of being fragrant. It is a shrub that anyone may try without fear of failure, for it is of good constitution, and grows freely in good garden soil.

The original L. Maackii is said to be one of Fortune's discoveries in 1843, and it was named in honour of Richard Maack, a Russian. A very good illustration of a flowering bush is given in Messrs. Veitch's list of novelties for 1906. D.

PERENNIAL SUNFLOWERS.

And, underneath the mount, a flower I know.
He (the Sun) cannot have perceived, that
changes ever
At his approach; and, in the lost endeavour
To live his life, has parted, one by one,
With all a flower's true graces, for the grace
Of being but a foolish mimic sun,
With ray-like florets round a disk-like face.
. . . .
Men call the flower, the Sunflower, sportively.
—BROWNING (Rudel to the Lady of Tripoli).

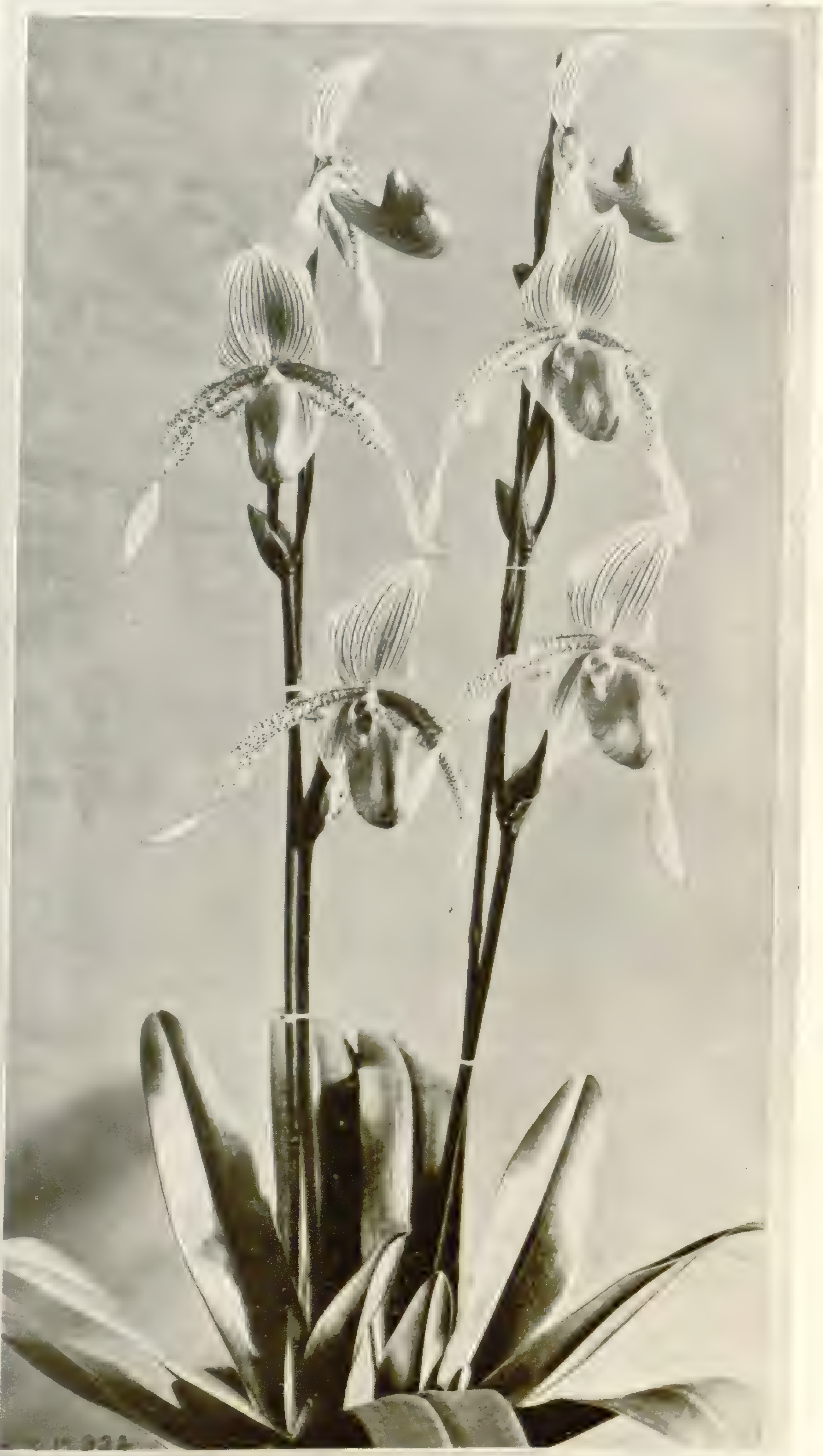
When Browning wrote the above lines the flower in his mind was, of course, the immense annual Sunflower (Helianthus annuus), this being the flower which at that time was generally understood when the sunflower was mentioned, the many perennial varieties which now brighten up our gardens either not having been introduced, or not being generally known. If the poet had known of them he could scarcely have said of them that they had

. . . . . parted, one by one,
With all a flower's true graces. . . . . .

I well remember someone giving me a plant of Helianthus rigidus, the original species, I believe, under the name of Harpalium rigidum, as something quite new, and, indeed, until I grew it in my own garden I had never seen it or any of its varieties, though now any neglected garden is covered with it. Though it is scoffed at as a weed, as, indeed, it is on the prairies of N. America, still it lightens up many a garden which would be a dreary waste otherwise. Many people who want a garden to keep itself in order without any trouble rail at the whole race of perennial sunflowers because of the spreading habit of some members of it. It must be confessed that some species are so rank and coarse in their growth that, though the blossom is beautiful, they are not fitted for the flower garden proper, but rather for the wild garden, copses, woodlands, etc.

The cultivation of the perennial sunflowers is of the simplest, most of the original species abounding in North America in a wild state—on the prairies, by the rivers, and on the dry plains of some of the southern and western States. But they are gross feeders, and the richer the soil the better will be the result, both in the size and quality of the flowers, in the duration of individual blooms, either cut or on the plant, and the length of time a clump will remain in bloom, owing to the greater abundance of laterals on well-grown plants. They will succeed in any soil or situation, if not too dry, but prefer a moist, deep loam, with at least a fair amount of sunshine. In very dry places in a hot summer they often look as unhappy as perennial phloxes in similar positions, and then they fail to give satisfaction. Those with non-spreading roots should be moved every alternate year, divided by means of a cold chisel, and the young outer pieces planted in some good fresh soil, or in a different position. Those varieties which spread by means of creeping underground stems should be taken up every year and the ground cleared of them, the strongest and best species being replanted in bold groups. Autumn is the best time to do the replanting of all sunflowers, but it may be done any time in the spring, even up to early June in a damp season, but the plants will be later in coming into flower, and not so fine.

The uses to which the perennial sunflowers may be put are varied; and although all the varieties are of various shades of yellow, yet a very different effect will be produced by a double yellow flower and a single one of the same colour, with a dark centre. They are essentially plants of the late summer and autumn, though some will be in bloom early in July in a favourable season. They make fine large breaks of colour in the mixed border, not necessarily in a line at the back, but coming to the front in large masses so as to form wide bays. Some of the rank-growing forms may be planted in woodlands, or in the grass in new plantations. For putting in shrubberies, where young shrubs have been planted a sufficient distance apart to allow room for the full and free development of the individuals composing it in years to come, there is splendid scope for showing off these gorgeous plants to advantage, but the planting should be confined to those species and varieties which do not spread by means of underground tubers, as they will get among the roots of choice shrubs, and either they will overwhelm them, or the shrubs will be damaged in getting out the roots of the sunflowers. Few flowers are better adapted for making specimen clumps on the lawn, the beds three or four feet in diameter, deeply dug out, and filled with good soil, giving them the opportunity to develop their full free-



CYPRIPEDIUM A. DE LAIRESSE.
Flowers green, white, and purple. (See page 706.)

dom of growth, and in such places the spreading varieties may be planted with impunity, assuming that the beds will be turned out every year, and the underground stems pulled out where they have got under the turf.

But it is not in the garden only that these flowers are so much appreciated, as they make such excellent material for cutting for the house during the late summer and autumn months. One often sees vases of them at flower shows in a very deplorable condition, sometimes quite withered, and where not so bad as that, yet with all the stiffness gone out of the petals. Some varieties are more subject to this defect than others, but it can be almost completely overcome in all by gathering the flowers either late in the evening or early in the morning before the sun is on them, and putting them at once as deeply as possible in a jug of fairly warm water, where they may be left for an hour or two, after which it will be found that they will last for some days, especially if care is taken to only cut those which, as can be seen by the disc florets, have recently opened. This should be done when it is intended to send or carry any on a journey, the sap vessels then getting so full of water before they are despatched that they will arrive after a journey of some hours as fresh as when they started. They are most appropriate for autumn arrangements, as no flowers look better in a setting of red-tinted foliage.

We must now deal briefly with some of the best varieties. One of my favourites is Helianthus multiflorus maximus. This has been considered by some a variety of H. decapetalus, and by others as a hybrid of which the origin is lost. It grows six to eight feet high, with broad, rough, pointed leaves, and produces from July or August to October, a constant succession of large deep yellow and well formed flowers, which are richer in colour and larger than those of the type, while the ray florets form a larger proportion of the flower, which often measures five to six inches in diameter. The centre is greenish-yellow, when first opened, and afterwards yellowish-brown. Its roots form a compact stool, and it only increases slowly unless taken up every year and replanted in good soil. Small rooted pieces taken off the old clumps in damp weather in May, and planted in good soil, will make fine flowering plants in the autumn if the season is not too dry. Other very desirable forms of H. multiflorus are H. m. plenus and H. m. Soleil d'Or, the latter having the deep yellow ray petals developed to the centre of the flower, which is thus somewhat in the form of a cactus dahlia. The public gardens in London and large towns have made everyone very familiar with these double forms of H. multiflorus. With all of them slugs are very troublesome in winter and early spring, secreting themselves in the hollows of the crowns, and gnawing off the young shoots as fast as they are formed, sometimes killing the clumps completely, and often delaying their period of coming into flower by a month or more.

There are other desirable forms of the same species, notably Queen Victoria and Bouquet d'Or, but we must leave these to speak of the other great class of perennial sunflowers, the varieties of H. rigidus, the prairie sunflower of America. True forms of this species may always be known by their rough, bristly stem, hispid, as botanists call it, with the upper leaves alternate and three-veined, and the lower ones opposite, all the leaves narrowing to a winged petiole. The original H. rigidus, growing three to six feet high, is still not to be despised, both for the garden display and for cutting, if well grown, that is, replanted every year in good soil, or, failing this, having the shoots well thinned out in the spring. Otherwise it is only a weed. This, and an improvement upon it, H. r. grandiflorus, have the advantage of flowering earlier, I think, than any of the sunflowers, sometimes being in flower at the beginning of July. One of the best forms is Miss Mellish, which makes a noble clump when well grown, attaining a height of seven or eight feet, and producing an abundance of bright orange-yellow flowers with a double row of long narrow petals and a very dark brown centre. The first blooms are sometimes as much as six inches across, though the centre is very small, and the petals, or ray florets, by no means flattened out, the whole being cup or bowl-shaped. The later flowers are much smaller. It does not last in flower so long as the multiflorus varieties—none of the rigidus forms quite equal that—but keeps up a good succession during most of August and September, or later in some seasons. It is one of the best for house decoration, though blooms sometimes droop unaccountably even when all precautions are taken. Another variety is H. r. semiplenus, growing four to five feet in height, and flowering in August and September, producing an abundance of beautiful orange-yellow flowers with several rows of petals. It has been awarded a First Class Certificate by the Royal Horticultural Society. As in all the rigidus forms, the flowers stand well above the foliage. Somewhat similar to this last is a variety of comparatively recent introduction, H. G. Moon, which received an Award of Merit by the R.H.S. in 1900.

All the varieties I have described are of the greatest excellence (except H. rigidus type), and though I might mention many more, I do not think I could mention any better, or, in my experience, even as good. Some are very tall and very late, such as H. giganteus and H. orgyalis (the willow-leaved sunflower), both of which are from sunny climes, and need one of our best summers for them to do well. I have confined my descriptions to those I have had actual experience of, and some of them have been among my favourite plants in the garden for many years.

Alger Petts.

APPLE BEAUTY OF HANTS.

I have only seen this variety in one garden in Hampshire, one of which I had charge for a number of years. The tree forms one of the most perfect standards I have ever seen. The main stem grows wonderfully clean, in fact the bark of all the branches is clear and smooth, the foliage ample, on straight-growing shoots—which makes the work of pruning one of delight—and the fruit is freely produced. The latter somewhat resembles that of Blenheim Orange, but is smoother, rather paler green in colour, and more even in form. Moreover, the variety commences to bear fruit much earlier than the Blenheim Orange does. The flavour is much the same, however. I strongly recommend this variety. Perhaps some readers of the Gardeners' Magazine may have had more experience of the apple than I have, and be able to furnish further particulars. It is a good keeping variety, and is in season at Christmas time.

G. B.

BEST PLANTS FOR GREENHOUSE.—Nearly 300 pages are devoted to the description, propagation, and culture of the best flowers and plants for the greenhouse in The Amateur's Greenhouse, by T. W. Sanders, price 5s. net, or by post 5s. 6d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

THE DOUBLE POTENTILLAS.

Few plants of a hardy character respond more freely to liberal treatment than the double potentillas, flowers that are of much beauty and really valuable ornaments of the border or the bed of mixed hardy plants. At one time more largely cultivated, they seemed for a short season to share the fate of many good hardy plants by being little favoured. Now, however, it is gratifying to know, they are coming into greater prominence, and nurserymen who make specialities of flowers of this class report an increasing demand for the double potentillas. They may be said to be among the most useful of hardy plants, although not specially adapted for cut flowers, but their profusion of bloom and the fine variety of colour embraced in their range of colouration make them most useful indeed.

These double potentillas, which are understood to be of hybrid origin in the first place, are showy plants, excellent either for the border or for large rockwork. In the former they require staking to enable them to display their flowers to perfection, unless they can be so planted that the stems can be made to trail over a part of the soil it is desired to cover. When timeously fastened to sticks so that the stems are not bent, they form clumps of pretty, strawberry-like leaves and good flowers of various shades of colour from light-yellow to orange, and from almost black to light scarlet, with varieties combining two or more of these hues, In the review of varieties below these colours are indicated, so that this point need not be elaborated in the meantime.

Cultivation.

On the rockery, where they look well trailing over large stones, they will thrive and do fairly well without manuring, but in the border it is desirable to give them a deeply-dug and well-manured soil, so as to secure the finest plants, the largest flowers, and a more lengthened bloom. It will be found that the double potentilla in poor soil is always starved-looking in the border, and that a more generous treatment will be rewarded by corresponding results in the way of flowers, and foliage of greater beauty and vigour. In light soils plenty of farm-yard manure, and in heavier mediums, stable manure, both thoroughly decayed and dug deeply in, will be highly beneficial. I now prefer spring planting, except it can be done early in September, when, if small plants are employed, they must be watched, lest frosts lift them partly out of the soil. They must then be pressed gently down.

Propagation of the named varieties is effected by division, but new ones can be raised from seeds. So cheap, however, are the named varieties that it is hardly profitable for the gardener to purchase seeds, seeing that he will secure infinitely better flowers from a few named sorts than from a host of seedlings.

Varieties.

The name of the varieties of the double potentilla may well be termed legion, and a consideration of all those grown in this country under title would be too exhaustive. I have, therefore, endeavoured to give a selection of different varieties, all excellent in their way, but embodying the different colours and shades. Any or all of these will be acquisitions to the garden.

The yellows of various shades are bright and pretty, and from them we may select Drap d'Or, orange with yellow edge; Gloire de Nancy, self; Gold Prince, gold self; the fine Mont d'Or; the large Phœbus; the dwarf-growing St. Blaise; and the red-yellow Vervianum. Any of these will give satisfaction.

Among the self or almost self dark-coloured varieties we have the dark-red Arabella; the deep-coloured, almost black, Belzebuth; the scarlet Etna; the dark crimson Louis van Houtte, a capital thing; and the purplish-red Puritan.

The parti-coloured varieties comprise a large proportion of the flowers, some being spotted; some striped, others blotched; some suffused, and some striped with different colours from those of the ground. Atlas, maroon, marked yellow, is fine; Chameleon, scarlet with stripes of yellow and purple, is good; the great flowered Etendard, yellow and purple, pleases some; [illegible], also with very large flowers, is red and yellow; Fantome is ochre-yellow streaked with purple; and Jupiter has flowers of crimson with yellow spots. I like Le Vesuve, red, flushed yellow; Melpomene, maroon, faintly margined with yellow; and the bright Panorama, which is yellow with purple stripes.

In Proserpine we have a fine blood crimson flower edged with yellow, and the fine Romeo, of blood-red edged yellow, is also fine. Telephone, yellow, striped with red, is a really good potentilla, as also is Van Dyck, yellow, with red stripes. Variabilis is crimson with yellow suffusion; and among the best will be found the gay Versicolor, carnation-like in its stripes and blotches of varied colours; the vermilion Victor Lemoine with its ground striped with gold; and one of the very best, the old William Rollison, deep mahogany, suffused with orange.

These flowers, or many of them, are kept in stock by large dealers in hardy flowers, and their purchase will be followed by a decided increase of interest in the purchaser's garden, to its greater beauty and the profitable pleasure of the cultivator of the best hardy flowers.

S. Arnott.

AUTUMN-FLOWERING CEANOTHUSES.

The ceanothuses which blossom from July until October are made up of two or three species and a large number of hybrids, the majority of which possess considerable decorative merit. The greater number of the hybrids have been raised in France, and one of the best known of them is Gloire de Versailles, a form that enjoys extensive cultivation in English gardens. The group differs from the spring-flowering set by forming softer and more pithy wood, and producing the inflorescences from the current year's shoots, in much the same way as the autumn-flowering spiræas. For this reason different methods of cultivation have to be adopted for the two groups. In the case of the spring-flowering set very little pruning is required, except when the plants are grown against walls, and in such a case it must not be done until after the flowering season has passed. For the autumn-flowering group, however, a considerable amount of pruning is necessary to ensure the best results. This pruning should be done early in spring, say February or March, previous to the commencement of growth, and should consist of cutting the preceding year's wood well back, in the case of weak shoots to within a bud or two of the base, and of strong ones to from six to nine inches of the base. At the same time, branches that appear to be weakening should be removed to the ground, and a strong shoot of the previous year encouraged to take its place. As all the sorts are very floriferous, and the cutting back process is an exhaustive one, plants cannot be expected to retain their vigour for an unlimited period, even when given generous treatment. It is, therefore, a good plan to root cuttings and commence afresh when signs of deterioration appear.

Cuttings of young shoots taken before the flowers open root well if placed in a compost of sandy loam in a warm propagating case, early in July being a good time to take the cuttings. During the first year, whilst the young plants are in nursery quarters, they ought not to be allowed to flower, for by removing the buds as they appear a better foundation is obtained for the future plant. Rich, but rather light loamy soil is most suitable for these ceanothuses, and a light top-dressing of well-rotted manure may be applied with advantage each spring. The various sorts are most effective when planted in groups containing not less than six plants of each variety, whilst beds eight to twelve feet across made up of single varieties are very showy. Some of the stronger-growing sorts, such as Gloire de Versailles and grandiflora, are sometimes grown against walls and trellises, and, under certain conditions, are effective. When grown in this manner, however, they must not be secured too stiffly to the support. The main branches only should be secured, and the young flowering branches allowed to hang free of the wall or trellis. This method of culture is recommended for very cold districts, and in such places plants that are grown in the open ground should be protected in severe weather with a little bracken or spruce branches. The principal autumn-flowering species and varieties are as follows:

FIRST PRIZE AMATEUR'S BASKET OF DAHLIAS.
Shown by Mr. A. Barton, Brand Road, Greenwich, at the National Dahlia Society's Exhibition, Crystal Palace, September 2 and 3.

C. americanus.—A species widely distributed in North America, from Canada to Florida, where it forms a bush up to three feet in height. The leaves are ovate and serrate, and usually about two inches long. The flowers are white, borne in terminal inflorescences, and are succeeded by black fruits. The common name of New Jersey tea is applied to it, on account of the dried leaves being sometimes used as a substitute for tea. Other parts of the plant have also been used for economic purposes, for the stems are said to be of use for dyeing articles to a cinnamon colour, whilst the roots are reputed to possess medicinal properties. Several varieties are known, such as nanus roseus, with reddish flowers, and opacus, which is dwarfer than the type.

C. azureus is a native of Mexico, and under cultivation it attains a height of from four to five feet. The leaves are ovate and serrate, and the flowers blue.

The latter are borne in large terminal panicles, and are more showy than those of the previously-mentioned species.

The principal value of the two species mentioned, however, lies in their breeding qualities, for in the hands of the hybridist they have proved very prolific in producing good hybrids, the majority of which are extremely showy. According to Loudon, one of the earliest hybrids originated upwards of sixty years ago. This was called intermedius, and was raised by Mr. Masters, of Canterbury. The best of the hybrids have, however, originated in France within the last twenty years or so. For general purposes the following will be found to be a good selection: Albert Pittet, large, elegant heads of rosy-lilac flowers; albus plenus, with double white blooms; Asteroide, blue; Bijou, blue, inflorescences very large; Brilliant, purple; Ceres, rose, a very pretty variety; Fleur d'Été, carmine; George Simon, rosy-lilac; Gloire de Versailles, enormous heads of blue flowers; Ibis, rose; Indigo, very dark blue; Lucie Moser, blue; Lustre, rose; Perle Rose, large inflorescences of rose-coloured blooms; and Sirius, blue. W. D.

CHERRIES ON WALLS.

Although the finest cherries are gathered from trees grown under glass, finely flavoured and highly coloured fruit may be obtained from trees growing against walls. But as walls are required for the production of so many other kinds of fruit, wall space becomes scarce, unless, as is the case in some old establishments, the kitchen garden is divided into sections by means of cross walls, then space for the growth of cherries may be provided. In some seasons good crops of fruit may be gathered from trees growing in the open, but the fruit is not of the same quality as that which is allowed to hang until thoroughly ripe, being protected from birds by means of nets. Where wall space is limited it is a good plan to grow cherries on the single cordon or the gridiron system of training, for by this method a greater number of varieties may be planted, which, if judiciously selected, will prolong the supplies. Cherries will not hang for an indefinite time after having become fully ripe.

The number of varieties must in a measure be determined by the requirements of the establishments, but as some kinds are much more prolific than others, a selection of the best and most useful should be made, unless an unlimited quantity can be grown, then it is well to extend the number and plant them on various aspects. Some of the latest varieties should be grown against a north wall, as rains from that quarter are not so frequent as from south or south-west. The early kinds should be planted against south or south-east walls, the mid-season ones against a west or north-west wall, and the later ones against a north or north-east wall, and by this means the season of usefulness may be extended from early in June till November.

With us, Guigne d'Annonay is usually the first to ripen; the fruit is not large, but is very richly flavoured, and as it sets so freely there is generally a good crop. In some seasons when the weather is favourable during the time the trees are in bloom, the crop is so heavy that it is necessary to thin them, otherwise the fruits would be too small for dessert. Thinning should be done as soon as the fruit has stoned, otherwise it will be too late. Early Rivers is a fine dark early cherry, but it is not one of the most prolific, for it seldom sets its fruit so freely as to need thinning. To induce the tree to form ample spurs the shoots ought not to be closer than fifteen inches, as the foliage is very large and excludes the light from the spurs. On heavy soils this makes rampant growth, therefore, to induce it to be more fruitful, the tree should be lifted occasionally. The flower stalks are long and slender, hanging down, therefore it is a good plan to fertilise the flowers artificially in order to secure a full crop. Knight's Early Black, when grown on a south wall where the soil is not too rich, makes short-jointed wood, and if the shoots are not overcrowded it produces ample spurs thickly set with fruit buds. This is a prolific cherry, usually producing a crop of fruit. Belle d'Orleans is a fine prolific cherry of medium size, and when well ripened of excellent flavour. Bigarreau de Schreken is a fine early black cherry of medium growth and one that should be in all collections, as it is of good constitution, fine flavour, and most prolific.

The Noble is a rather new variety, producing large dark-coloured fruits. The tree is of medium growth, makes ample fruit buds, and sets freely; a very fine variety for a south wall. Frogmore Early Bigarreau, when grown against a west or south-west wall, is very fine. The large, pale yellow fruits, marbled with red, hanging in clusters, look very tempting. The tree has a good constitution, is most prolific, and when thoroughly ripened the fruit is of fine flavour. Black Tartarian, with us, is one of the finest cherries we grow, and out of about three dozen varieties grown it has the best constitution of all. There is an old tree that was planted against a north-west wall in 1842 still in existence, and it usually produces a crop of fruit, and though these are not so large as from younger trees, they are still of fair size, and of fine flavour. St. Margaret's, or, as it is sometimes named, Tradescant's Heart, produces large dark purple fruits, which hang well on a north wall. The tree is hardy and an abundant bearer. Bigarreau Napoleon when grown against a north wall and allowed to hang until fully ripe, is very fine, the fruit being of a pale yellow colour, and, where it is exposed, mottled with red. When kept from the rain, as it will be by the nets, it will hang well into the month of August.

Florence is a fine old variety for a north wall. There was an old tree of it here, planted in 1842, which bore fine crops of fruit until last year, when it was cut down. It very seldom failed to produce a crop of fruit, which used to hang well until the beginning of September. Guigne de Winkler is a bright red variety that will hang on the trees until well on in October, provided the fruit is kept from damp. Geant de Hedelfinger is a large black, extra fine variety that hangs well on a north wall. The old Late Duke is also a valuable variety for late use, as when kept free from damp it will hang well on into September.

Cherries have many enemies, but the worst of all are the wasps during dry, hot seasons, especially in rural districts in the South of England. It is astonishing the quantity of fruits they will spoil in the course of a day. To guard against their depredations a close search should be made for all nests within half a mile of the garden, and every one that can be found should be destroyed. Traps should also be set for the queen wasps in spring, and in this way a multitude may be got rid of. Birds are also very fond of cherries, and in some places are very troublesome, especially in thickly wooded districts, where not only blackbirds and thrushes are numerous, but starlings are a great pest. I have watched these crawl up the nets and examine the meshes to see if there are any holes, and if there is the least chance they will get through. Cherry trees are very subject to the attack of black aphis, but this can be kept in check by thoroughly washing the shoots in winter, and by spraying them over in spring as soon as they have flowered and the fruit has set. Quassia extracts and other vegetable bitters are effective, but these should not be used after the fruits have commenced to ripen, or the excessive moisture will cause them to split. Three or four dressings will usually be sufficient to cleanse the trees and rid the young shoots of this troublesome pest. H. C. Prinsep.

Buxted Park Gardens.

GOOSEBERRY AND CURRANT SCALE.

The brown scale of the gooseberry and currant (Lecanium persicæ, var. ribis Fitch) is found in great abundance on the gooseberry, currant, rose, plum, and cotoneaster, but rarely on the raspberry, and it has also been found on a variety of other cultivated and wild plants.

It has a decided preference for the older branches, the young shoots being attacked only when the insects become overcrowded.

It is, as a rule, much more prolific on plants grown in sheltered spots, especially on well-trained trees in a fairly sunny aspect, and no plant suffers in such situations so much as the cotoneaster.

It is very generally distributed throughout England, but is less known in Wales, Scotland, and Ireland.

There can be no doubt that this insect is a variety of the peach scale (L. persicæ), differing only by its usually smaller size, its more rotund or hemispherical form, and the more marked character of the blackish, transverse bands in the immature stage. Apart from these exceptions, the description of the one serves equally for the other, and the methods of control herein described will serve equally well for both kinds.

Description.

Female.—The young gravid female is short and ovate in form, being a little longer than it is broad, flat beneath, and highly convex above. The colour of its upper parts varies from dusky ochreous-yellow to greenish-yellow, with eight or nine more or less interrupted, blackish, transverse bands, of which the foremost is the broadest, the rest diminishing in width as they approach the hinder or cleft extremity of the body. The legs and antennæ are retained, but the insect loses all power of locomotion long before the period of egg-laying commences. As the insect matures the pale colour gradually changes to bright chestnut-brown or ochreous-brown. At this stage the integument becomes hard and brittle, and bears a number of transverse wrinkles at the sides.

Larvæ.—The young larvæ are quite minute, about the size of a large cheese mite, which they somewhat resemble, except that they possess but three pairs of legs, have rather long antennæ, and two long bristles at the end of the abdomen. They are active for a short time, but soon become inert. The mouth parts consist of a fleshy lip or labium, through which pass the extremely slender hair-like mandibles and maxillæ with which the insect pierces the bark, and through which it sucks up the juices of the plant—collectively, therefore, these organs form a sucking tube.

Male.—The male of this insect has not yet been discovered, and there can be no doubt that the females are able to reproduce their species without the intervention of the opposite sex. This remarkable trait is however, quite common among scale insects and some of the plant lice.

Life History.

The female begins to lay her eggs while the body is yet soft and distended, and as the process develops the ventral surface of the insect shrinks until it finally reaches the under surface of the outer hardened skin, so that a relatively large cavity is formed beneath the insect which is filled with hundreds of whitish translucent eggs. At this stage the insect dies, and her dead body, the so-called "scale," forms a protection for the eggs, and for a short period also for the young larvæ or "lice." The young escape from beneath the dead parent chiefly through the little slit or cleft at the posterior extremity, leaving behind them the white egg shells and a little white mealy secretion.

The larvæ usually fix themselves under the partly detached or curled up portions of the bark, so that they are often completely hidden, and in this way pass the winter without any material change. They are then of a reddish-brown colour, and so small that at first sight they may be easily mistaken for the stomata of the plant. In spring they cast their skins, and may become active for a short period; in June they become adults, and the cycle commences again. The old "scales" or dead females may, if undisturbed, remain attached to the host plant for a very long period—two or three years in some instances; it often happens, therefore, that the representatives of two or three generations may occur on the plant at the same time.

The scale insects indigenous to this country are probably single brooded, but egg-laying may sometimes be retarded by the influence of the weather, while the young larvæ may continue to hatch out for a relatively long period, so that the life cycles are not always clearly defined, and there may be a slight overlapping of the stages of development.

Remedies and Methods of Control.

Spraying in the early part of February with either of the washes mentioned below is the only practical means by which this pest can be controlled or destroyed. At the same time, it should be borne in mind that it is the larvæ or young insects which are found living during the winter months; and as they are very minute, and often protected by the semi-detached bark, the spraying must be thorough, or the result will not be satisfactory. Care must also be taken to ensure that the undersides of the branches are well sprayed, as the insects are usually more abundant in such situations than on the exposed and more accessible portions of the bushes.

It is advisable to complete pruning before spraying operations are commenced, and in the case of old and badly infested plants it is desirable to remove as much of the old wood as is practicable.

The spraying apparatus should have the nozzle fitted at an angle of about 45 degrees so that the spray may be conveniently directed to the undersides of the branches.

In the case of the gooseberry, "sponging" or "brushing" is practically impossible owing to the spinose character of the branches.

(1) Caustic Soda Wash.—This wash consists of:—

Sulphate of iron …………	½ lb.
Lime …………………………	¼ lb.
Caustic soda ………………	2 lb.
Paraffin ……………………	5 pints.

Water to make 10 gallons.

The wash should be prepared as follows:—(a) Dissolve the iron sulphate in about 9 gallons of water. (b) Shake the lime in a little water, and then add a little more water to make it into a "milk." (c) Run "b" into "a" through a piece of coarse sacking to keep back grit. (d) Churn the paraffin into the mixture. (e) add the caustic soda in the powdered condition. It is not wise to add the caustic soda till just before using.

(2) Paraffin-soda Wash.—In this case the wash is composed of:—

Caustic soda …………………	2 lb.
Soft soap ……………………	½ lb.
Paraffin ……………………	5 pints.
Water ………………………	10 gallons.

The directions for making are:—Dissolve the soft soap in a gallon of boiling water. Add the paraffin while the soft soap solution is still boiling hot, and churn thoroughly until an emulsion is obtained. Dissolve the caustic soda in the rest of the water, just before using, and then pour it into the paraffin emulsion, mixing well, and using at once.

Rubber gloves should be worn by the sprayer as a protection against the effects of the caustic soda, and goggles fitted with a piece of rubber sheeting or waterproof of some kind are an excellent safeguard for the eyes and face.—Board of Agriculture Leaflet (No. 223).

Propagating. — Good batches of small furnishing stuff, such as panicum, tradescantia, etc., should now be put in, also a batch of coleus cuttings, to provide stock for the spring; and, though not quite in order in this calendar, I think it wise to mention that, if not already done, good batches of fuchsias, heliotropes, iresine, streptosolens, and all other soft-wooded bedding plants should be put in at once, and I find nothing more suitable for striking these subjects in than a mild hotbed with a frame or two placed on it.—Thomas Stevenson.

FIRST PRIZE BASKET OF DAHLIAS AND AUTUMN FOLIAGE.
Shown by Mr. M. V. Seale, Sevenoaks, in the open class at the National Dahlia Society's Exhibition, Crystal Palace, September 2 and 3.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

EAST INDIAN HOUSE.—Most of the saccolabiums, ærides, vandas, and allied genera will still be in an active state of growth, and the plants will need every encouragement to assist them to reach maturity. Sunless seasons such as the past summer are generally found to be most unfavourable to the proper development of growth, and when the season has practically to depend on artificial heat the growths thus produced are generally of a soft and sappy nature, and if not properly matured before winter sets in, they promise anxiety to those in charge. The temperature at night must be maintained at the maximum, but care must be observed that the atmosphere is not charged to excess with moisture; should there be a possibility of this, the roof ventilators should be brought into use on the leeward side. With the maximum conditions of heat during the day, the atmospheric moisture should be maintained accordingly. All permanent shading should be removed from the roof glass, and discreet use of the roof blinds will be desirable, so that while guarding against any possible scorching, the plants may be afforded all the available light.

CATASETUMS and other allied genera that are now producing their flowers should be suspended in a position where they may display their quaint flower scapes to the best advantage. They should be kept in the warm division until the flowers have become expanded, and if the plants are then removed to a cooler, drier atmosphere, the flowers will last much longer in perfection. As soon as the flowers have been removed place the plants again in the warm house, and suspend them in a position where they may obtain plenty of strong light; liberal supplies of root moisture should be continued until the growths reach maturity. As soon as the foliage shows signs of declining, only sufficient water should be given to keep the pseudo-bulbs plump. It is most unfortunate that the catasetums and their allies do not find greater favour in our gardens. Their quaint character is always of the greatest interest, and as they are so easily cultivated in an ordinary plant stove, suspended from the roof, they are far more suitable than many of the subjects we find attempted in the general collection. It is also to be deplored that only in a few of our prominent orchid collections are they included. Possibly many readers think that the space I have here occupied might with advantage be filled with more interesting matter; but I find frequently that information is sought concerning the plants that are not in general cultivation. In the case of catasetums the plants are easily procurable, and we frequently find them in gardens where they have been sent home by friends who have collected them. When the plants are resting there is always a possibility of their being attacked by red spider and other pests. These should be removed by carefully sponging or vapourising with some safe preparation.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

CONSERVATORY.—Hanging baskets that have been furnished with flowering plants such as begonias, fuchsias, petunias, or campanulas, will now be past their best, and should be replaced by others that have been growing in the greenhouses. Those made up with ferns will now be most useful, while several of the ornamental foliaged begonias are well adapted for the conservatory in the winter, B. Haageana being one of the best. Where the conservatory or winter garden is used for sitting out in after dinner, care must be taken to keep the temperature comfortable during dull or wet evenings, as it is apt to fall rather quickly at this season of the year, and a temperature under 65 deg. is not comfortable.

CARNATIONS.—If the weather continues at all damp, it will be wise not to delay the housing of the winter-flowering varieties, but before doing so it will be as well to stake and tie them, carefully removing any grass that may be rusty, and giving the whole of the plants a thorough spraying with sulphide of potassium. They must be kept as cool as possible for a time, and in the event of really warm weather, a daily syringing between the pots, and occasionally overhead, will greatly benefit them. Continue to pot up the young layers of Malmaison varieties as they become fit, keeping them fairly close for a few days until the roots take to the new soil, when more air may be given. Those that have been potted some time should have all the air possible given them, and where intended for very early blooming, they should be potted into their flowering pots at as early a date as possible.

SOLANUMS that have been planted out in frames or in the open air, should now be lifted carefully and potted into as small-sized pots as they will conveniently go in, placing them in a frame, where they may be kept shaded and frequently syringed for a few days. They must on no account receive a check by becoming dry at the roots, or in any other way, or the foliage will drop badly and thus spoil the plants.

PRIMULA SINENSIS AND P. OBCONICA should be potted as they require it, using a light compost, and for all practical purposes a small 32-sized pot is large enough; in fact, a 48-size is the most useful, and in this, with judicious feeding after they have nicely rooted, they will make plants large enough for any purpose.

SALVIAS.—A batch of these should now be placed indoors, and given copious supplies of liquid manure, and they will then soon make a good show. To prolong the season of flowers a batch may be again pinched over, and if these are kept out of doors as long as possible, they should make a bright display till after Christmas.

BEGONIA GLOIRE DE LORRAINE.—The batches of this begonia are now growing away very freely, and whether they are wanted as close pyramids or as good bushy specimens, they should now be carefully staked and tied, using small bamboo tips for the purpose, though if only one is used it should be fairly stiff, as the plants often get somewhat top-heavy.

THE GREENHOUSE generally should now be thoroughly overhauled, putting outside all plants such as cannas, fuchsias, etc., that are going out of bloom; also all plants that are to be dried off, such as amaryllis, begonias, and gloxinias, should be turned into frames, so that with the advent of cold or boisterous weather the houses will be ready to receive the plants that are being brought forward out of doors, and this will be found a much more simple matter when everything is properly arranged beforehand.—Thomas Stevenson, Woburn Place Gardens.

THE FLOWER GARDEN.

CLIMBING ROSES.—Now that these have passed out of flower excellent facilities are afforded for thinning out the growths. Remove as much of the old wood as possible, and tie in loosely the present season's growth. This will greatly help these to mature and ripen, and thus do much towards ensuring a good supply of flowers next season. Give a thorough syringing to clean the foliage from aphis, and guard against mildew, which is now very prevalent owing to sudden changes of temperature. The best time is now at hand for increasing these roses, and this can be readily accomplished by cuttings. The majority of the ramblers will easily strike if well-matured growths are now taken, five or six inches long, and firmly set in shallow trenches of fine sandy soil. An excellent rose now in flower is Madame N. Levavasseur, which is best described as a dwarf Crimson Rambler. This is an excellent variety for cutting at this season, while Rosa rugosa repens alba, another interesting variety now in flower, makes a splendid subject for rockwork, or other undulating parts of the garden.

CROWN IMPERIALS.—The bulbs of these must now be planted in order to give a good effect in the spring. Placed in large masses in the borders or in open positions in the shrubbery, these give a fine effect, and though the flowers are of short duration they are very imposing and beautiful.

HARDY CYCLAMEN. — Where these charming little flowers grow to perfection, as they do in some parts, they readily increase themselves by seed, and nothing is more attractive than colonies under the shade of trees and on grassy slopes. In dry weather copious supplies of water must be given them. This is an excellent time for planting and making further batches.

IRISES.—Nearly all kinds of iris are best propagated during the present month by dividing them up and planting them in fairly good soil. There are very many beautiful species and varieties suitably adapted for growing in the ordinary way in the herbaceous borders, and likewise for grouping on the margins of streams and ponds, as few plants look more happy when growing and flowering by the side of water than this family. The various varieties of I. sibirica are charming for this purpose, as not only when in bloom are they attractive, but their graceful foliage is at all times beautiful. The varieties of I. Kæmpferi are unquestionably the cream of the family, especially when growing by the side of water. Not only are the flowers varied and most attractive in colour and shape, but they continue to bloom more or less till quite late in the autumn. These should be planted in rich soil just above the water level, and be thoroughly dressed with half-decayed cow manure once a year. Seed should be saved from the best varieties, and sown immediately it is sufficiently ripe; sow in pans or boxes and raise in a cold frame. These seedlings if well grown will flower the second season.

MICHAELMAS DAISIES.—Attend to the tying of the growths, and give the plants a good soaking of diluted farmyard manure.—E Beckett, Aldenham Gardens.

HARDY FRUITS.

PEACHES AND NECTARINES.—As soon as the fruits are gathered remove as much of the old fruiting wood as can be spared to allow a better opportunity for the ripening up of the young shoots. Syringe the trees during the afternoon on fine days, endeavouring to keep the foliage in as clean and healthy a condition as possible.

NOTE-TAKING.—This is a good season of the year for making notes of various items which may require special attention during the autumn and winter months. The first of these, no doubt, will be to mark all those trees which are making too much wood at the expense of fruit, and which may be brought into a more fruitful condition by having their main roots pruned back later on. Young trees also, which have been planted two or three years, and are found making extra strong shoots, should be marked for the purpose of their being taken up as soon as the foliage is well ripened, and replanted. Then sometimes the question arises as to the advisability of grafting some more useful variety on trees which bear only worthless fruits. This is always a safe plan to adopt when the stock is thoroughly healthy. Trees for this purpose should be marked, and also notes made of the varieties intended for scions, so that the young shoots may be taken off when the trees are pruned, and reserved by tying them into small bundles, and laying them in by the heels on a north border until required. In making arrangements for planting new quarters of bush fruits, as currants, gooseberries, and raspberries, positions should be chosen on which no fruit has been grown for several years, and these should be made at least two years before they are required to take the place of the old ones. The ground should be well trenched and liberally manured, and have a good dressing of soot and wood ashes well incorporated with the upper layer of soil. On soils deficient in lime, give a good sprinkling of this at the same time, or in its place apply half a pound per square yard of basic slag.

WHEN PLANTING YOUNG TREES in the same positions from which the old and worn-out ones have been removed, it will be necessary to take away a certain amount of the old soil, and replace it with some taken from another part of the garden. Each season there are several acquisitions introduced which may be found superior to some of the older varieties, and it is advisable that a few of the most promising of these should be given a trial, not planting largely of any kind until it has proved suitable to the particular locality. It is a good plan to adopt in gardens where a large quantity and variety of fruit is grown, to purchase a few trees annually, and plant them in a sort of nursery bed for a couple of years, when they may be transplanted into their permanent positions without receiving any check.

AUTUMN-FRUITING RASPBERRIES.—These will soon be in fruit. See that the canes are made secure to the supports, and before the fruit changes colour place some fish netting over the quarter to keep away the birds.

GATHERING FRUIT. — Continue to gather the ripening fruits of apples and pears as they become fit; careful treatment is especially required in dealing with these, as the flesh is more tender than in the case of later varieties. The majority of the early sorts remain for so short a time in use that great care is necessary in sending them to table in the best possible condition.—Geo. Woodgate, Rolleston Hall Gardens.

ROYAL CALEDONIAN HORTICULTURAL SOCIETY.

(Concluded from page 702.)

Acalypha hispida, and Bougainvillea glabra; Mr. H. E. Hughes, gardener to Sir D. E. Hay, Bart., King's Meadows, second; and Mr. G. McKenna third.

Mr. D. Mackay led for four orchids with fine examples of Cattleya Harrisonæ, Oncidium incurvum, Odontoglossum bellatulum, and Cypripedium œnanthum. Mr. G. Pirie, gardener to C. W. Cowan, Esq., Dalhousie Castle, was first for one orchid with a fine Cypripedium insigne Sanderæ carrying ten flowers; Mr. Mackay second, and Mr. R. Findlay, Gogar Park Gardens, third. Mr. A. Findlay, gardener to A. Dryburgh, Esq., Gogar Park, led for three cypripediums with C. Veitchi, C. villosum, and C. Rothschildeanum. Mr. James Templeton, gardener to Mrs. Alex. Rose, Richmond House, Glasgow, showed the best pair of dracænas—Queen Victoria and Doucetti. Mr. A. McMillan scored for half-a-dozen foliage plants with alocasias, anthuriums, and dracænas. Premier place for one fuchsia was won by Mr. D. Penderleith, gardener to T. A. C. Mortimer, Esq., Whitehouse Terrace, with a giant pyramid; Mr. A. Thomson, Dalkeith, second. Mr. D. Mackay had the best three fuchsias, medium-sized, well-flowered examples. Mr. A. Hogg led for ivy-leaved pelargoniums, and Mr. G. McKinna, gardener to Sir Robert Usher, Norton, Ratho, for zonal pelargoniums. Mr. W. Armstrong, gardener to Dr. Scott, Musselburgh, gained first prize for an excellent half-dozen chrysanthemums, bushes of early varieties. Mr. Mackay led for three pots of liliums, while for two pots of Lilium auratum Mr. C. D. Kerry, Langton, Duns, scored, with Mr. W. Galloway first for one specimen of this fine lily carrying eight spikes. Mr. A. Knight was easily first for a pair of crotons, and he was also first for a pair of palms. In the begonia classes Mr. Robert Brown, Union Villa, Eskbank, and Mr. W. Galloway were the leading prizewinners.

CUT FLOWERS.

The great cut-flower class on this occasion was one for three dozen vases of flowers grown in and cut from the open, arranged on a space 6ft. by 5ft. The offer of one of the Centenary Cups as first prize, with the addition of three guineas cash resulted in a fine competition, nine competitors entering. The cup was won by Mr. William Young, gardener to Mrs. Fleming Hamilton, Kirkcowan, who had a grand collection, in which some of the finest things were Francoa appendiculata, Cimicifuga japonica, Erythrina cristi-galli, Montbretias Tigridie and Rayon d'Or, Anemone japonica elegans, Lobelia cardinalis, Lilium auratum, several fine [illegible], Gentiana asclepiadea alba, Chelone barbata, etc. Second prize fell to Mr. A. Dickson, gardener to M. G. Thorburn, Esq., Glenormiston, Innerleithen, and third to Mr. Adam Brydon, Tweedbank, Innerleithen.

There were a very large number of cut flower classes, but time and space permit us only to refer to the first prizewinner in the majority of these. Mr. W. G. Pirie led for three vases of montbretias with Germania, George Davison, and St. Botolph. Mr. J. C. Fordy, Warkworth, Northumberland, scored for a dozen spikes of gladioli with splendid spikes and blooms, and he also was first for six spikes of these stately flowers. For six bunches of pompon dahlias honours fell to Mr. W. Jenkins, Cambuslang, for a well set up lot of neat flowers. Mr. J. C. Wright, Dunblane, scored for six vases of dahlias with splendid flowers of Mrs. S. [illegible], Carabus, Hildegarde, Sam Weller, etc. Mr. D. Halley, Roycroft, Broughty Ferry, scored for six vases in another class, and he also showed finely.

Mr. W. Jenkins had the best six vases of early chrysanthemums, and Mr. J. Richardson, The Schoolhouse, Peebles, led for phloxes. Mr. C. Shaw, gardener to St. Mitchell, Esq., Boquhan, Kippen, led for a dozen cactus dahlia blooms on boards.

First prize for nine bunches of sweet peas was awarded to Mr. G. D. Kerr, Langton Gardens, Duns, who scored with lovely flowers of Prince of Asturias, Evelyn Hemus, Primrose Spencer, J. Ingman, Lavender George Herbert, Mrs. H. Sykes, Etta Dyke, Mrs. Routzahn, and Elsie Herbert; Mr. T. Fender, Crieff, second. For six bunches, Mr. T. Kirkwood Cultoquhey, Crieff, was first, and Mr. G. Reid, Floral Cottage, Dundee, second. The competition was keen in both classes.

Mr. Parlane, Rosslea, Rous, led for a dozen tea roses, but had not a very good set. Mr. J. Pearson, scored for a dozen roses, and Mr. Parlane, led for two dozen blooms. Messrs. Adam and Craigmile, Rubestain, Aberdeen, won first place for three dozen roses with some lovely flowers of C. J. Grahame, B. Cant, Captain Hayward, etc. The same firm scored for eighteen roses. Messrs. D. and W. Croll scored for eighteen teas. Messrs. Adam and Craigmile had the best twelve pink roses—Mrs. W. J. Grant; and Messrs. D. and W. Croll led for twelve white roses with Frau Karl Druschki.

In the class for eighteen bunches of chrysanthemums, Mr. J. Smellie, Busby, was an easy first with grand bunches of Caledonia, Mrs. W. Sydenham, Elstob Yellow, Improved Polly, Roi des Blancs, The Champion, etc.; Mr. G. Bowness, Busby, second. Mr. Bowness scored for six bunches of cactus dahlias with lovely flowers, well set up. Messrs. Campbell and Son, High Blantyre, had the premier award for a collection of dahlias, and here they showed good flowers of the various sections. Mr. J. Paul, Drumbeg, Killearn, had the best twenty-four bunches of cactus dahlias, but as all the flowers in this class were laid flat against velvet they were not pleasing to look at.

Messrs. James Cocker and Sons, Aberdeen, made up a charming display of roses in pillars, stands, bowls, and vases, and they secured first prize for their collection.

VEGETABLES.

In the chief vegetable class, for eighteen dishes, the Centenary Cup offered as first prize brought up Mr. James Gibson, gardener to the Duke of Portland, Welbeck, who annexed the cup and first prize with a grand display, consisting of Superb Pink and Solid White celery; Ailsa Craig and Globe onions, Tender and True parsnips, Centenary and Sutton's Selected peas; Satisfaction and Superlative potatoes; Early Giant and Autumn Mammoth cauliflowers, New Red Intermediate carrots, Sutton's Black beet; Perfection and Princess of Wales tomatoes, Delicacy cucumbers, and Best of All runner beans. Mr. R. Stuart, gardener to Lord Lauderdale, Thirlestane Castle, second with a good set that was however a good way behind Mr. Gibson's.

THE CENTENARY VEGETABLE CLASS.
Mr. J. Gibson's First Prize Collection is the left-hand one.

Mr. W. Galloway led for a display of vegetables grown in Scotland; Mr. W. Harper, gardener to J. Ramsey S. Richardson, Esq., Tulliebolton House, second; and Mr. W. Bell, Bothwell Castle Gardens, third. For a collection of six kinds, Mr. D. A. Hill, Kelso, led, with Mr. G. Watson, Kirkhill, Kippen, second; and Mr. J. B. Brown, Biggar, third.

Vegetables in the single dish classes were splendid, the potatoes alone making quite a good exhibition; onions were also grand, and the roots very clean. Mr. J. Gibson and Mr. S. Gordon won numerous prizes.

FLORAL DECORATIONS.

Six competitors entered in the table decoration class, and the premier award was won by Messrs. M. Campbell and Sons, High Blantyre, with a dainty arrangement of narrow croton leaves and light sprays of Oncidium flexuosum and Francoa ramosa; Mr. W. Kidd, gardener to Lord Elphinstone, Carberry Tower, second, with Sunset roses, montbretias, and francoa sprays; Mr. A. Knight, gardener to Sir Wilfrid Lawson, Bart., Brayton, Carlisle, third.

Mr. A. Hogg, of Aberlady, had the best basket of foliage and berries, and Mr. F. M. Urquhart, Melrose, led for a vase of autumn foliage and berries. The best ladies' spray was of Miltonia vexillaria, shown by Mr. A. Govenlock, Melrose. Mr. A. Knight scored for six gentlemen's buttonholes with neat designs in orchids.

NON-COMPETITIVE.

Sweet peas formed a good feature of the non-competitive section. Mr. H. Eckford, Wem, Salop, contributed a goodly collection of the leading varieties, and among other good things set up Jas. Grieve, Queen Alexandra, Clara Curtis, Evelyn Hemus, Black Knight, President, Countess Spencer, Jeannie Gordon, Henry Eckford, Dorothy Eckford, and Etta Dyke. Messrs. Dobbie and Co., Rothesay, were large exhibitors, and they had a few sweet peas and a commanding display of dahlias, chrysanthemums, pansies, and violas, the first-named predominating. The centre of the display consisted of a cone of the best varieties of cactus dahlias, with four pillars of cactus varieties around it. Then came banks of pompon, pæony-flowered and single dahlias, flanked by pyramids of late roses and early chrysanthemums. Pillars of roses and chrysanthemums marked the corners of the display. This firm had also a fine exhibit of beautifully clean potatoes. Messrs. Tillie, White, and Co., Edinburgh, exhibited a collection of vegetables.

Messrs. James Cocker and Sons, Aberdeen, contributed a fine bank of hardy flowers. Messrs. W. Wells and Co., Merstham, put up a collection of early-flowering chrysanthemums, contributing a fine set of the Marie

Masse varieties. Messrs. Thomas Methven and Son, Edinburgh, had an effective display of plants. Messrs. James Dickson and Sons, Hanover Street, Edinburgh, had an effective exhibit of the useful Hydrangea paniculata grandiflora, associated with neat, well-grown conifers. From Messrs. Laing and Mather, Kelso, came a group of variegated ivies, over dwarf privets. Messrs. Cunningham and Fraser, Comely Bank Nurseries, Edinburgh, contributed a collection of hardy border flowers. Sweet peas were well shown by Mr. T. W. Darlington, Warton, Carnforth.

Messrs. Storrie and Storrie, Glencarse, Perthshire, had a fine exhibit of fruit trees in pots, their miniature orchard being one of the most attractive displays in the market. Over a bed of maidenhair ferns Mr J. Phillips, Granton Road Nurseries, Edinburgh, set up Dracæna Panache, a green and cream-striped variety very like D. Bruanti, the pretty Clianthus Dampieri, and Rochea falcata. Mr. D. McOmish, Crieff, had a large collection of hardy border flowers, early chrysanthemums, dahlias, and roses. Messrs. James Mason and Co., Jamestown, showed some beautiful pansies and violas. The newer sweet and culinary peas were exhibited by Mr. W. G. Holmes, Tain.

A good collection of bright clean apples from Messrs. Spooner and Sons, Hounslow, together with pears, plums, and the strawberry-raspberry, made up an excellent exhibit. Mr. H. N. Ellison, of West Bromwich, contributed a collection of the newer ferns, and set them up charmingly. The herbaceous phloxes contributed by Messrs. Gunn and Sons, Olton, made a grand display.

Mr. D. McLeod, Chorlton-cum-Hardy, Manchester, displayed a small collection of choice orchids. A noble and brilliant lot of well-grown tuberous begonias from Messrs. T. S. Ware, Feltham, Middlesex, was a great centre of attraction, the beautiful colouring and splendid forms of the flowers being greatly admired.

Of considerable interest was the exhibit of growing plants of disease-proof potatoes, all seedlings from Solanum etuberosum, shown by Messrs. Sutton and Sons, Reading; these seedlings showed great diversity of habit, and it is hoped that through them a race of commercially valuable, disease-resisting varieties may be raised.

Roses and herbaceous flowers were staged by Messrs. T. Smith and Sons, of Stranraer. Carnations were abundantly exhibited, and in fine style, by Messrs. M. Campbell and Son, High Blantyre. Particularly brilliant was the long bank of the graceful montbretias staged by Messrs. R. Wallace and Co., Colchester. Here all the leading varieties of these beautiful autumn flowers were set up in quantity.

Mr. D. Nicoll, Rossie, Forgandenny, made a small but capital exhibit of orchard-house grown apples, all grand examples, and highly coloured. The Patent Safety Ladder Company, Peterborough, made an exhibit of their extending ladders and steps. Messrs. Pullock, Tarbolton, contributed summer-houses and rustic seats. Mr. John Downie, Shandwick Place, was represented by a bank of single and double tuberous begonias.

MEDALS.

Gold.—To Messrs. Dobbie and Co., Rothesay; Messrs. Thos. S. Ware, Feltham; Messrs. Storrie and Storrie, Glencarse.

Silver Medal.—To Mr. D. McOmish, Crieff; Mr. John Downie, Edinburgh; Messrs. Thos. Methven and Sons, Edinburgh; Messrs. Jas. Cocker and Sons, Aberdeen; Messrs. S. Spooner and Sons, Hounslow; Messrs. R. Wallace and Co., Colchester; and Mr. Nicoll, Forgandenny.

Bronze Medal.—To Messrs. M. Campbell and Sons, Blantyre; Messrs. Gunn and Son, Olton; Messrs. W. Wells and Co., Merstham; Messrs. J. and A. Glass, Princes Street, Edinburgh; Messrs. Cunningham, Fraser, and Co., Comely Bank, Edinburgh

The two Centenary Cups not previous allocated were awarded to Colonel Stewart Richardson for his first prize group of plants, and to the Earl of Harrington for his first prize table of fruits.

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EXHIBITIONS AND MEETINGS.

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National Dahlia Society.

The first of the exhibitions held by the National Dahlia Society since its amalgamation with the London Dahlia Union, took place at the Crystal Palace on Thursday and Friday, September 2 and 3. It was not a good show, both quantity and quality falling below the usual standard; but the lateness of the present season entirely accounts for this failing. However, given good weather during the next fortnight or so, the society's second show, at Regent's Park, on September 21 and 22, should be a great success. Pompon dahlias were good on this occasion, and the decorative exhibits were also of a high order of merit.

NURSERYMEN'S SHOW DAHLIAS.

In the premier class for forty-eight show and fancy dahlias there were but two competitors, and here the first prize was easily won by Mr. Wm. Treseder, Cardiff, who had what was a fine lot of flowers for the season, his best varieties being Spitfire, Gracchus, Excellent, Shirley Hibberd, Merlin, David Johnson, Virginale, George Hobbs, Harbinger, Mr. Chamberlain, Prince of Denmark, and Richard Dean; Mr. S. Mortimer, Rowledge, Farnham, was placed second for rather small flowers not yet at their best.

There were three exhibitors of twenty-four show and fancy dahlias, distinct, and here Mr. John Walker, Thame, Oxford, led, showing good specimens of J. Hickling, J. Walker, Rothesay, Wm. Rawlings, R. T. Rawlings, and A. Rawlings; Mr. G. Humphries, Kington Langley, second; and Mr. M. V. Seale, Sevenoaks, third. Mr. W. Treseder was the only exhibitor of eighteen fancy dahlias, and he was awarded the chief prize for good blooms of Rev. J. B. M. Camm, Goldsmith, Tom Perryman, Mrs. Saunders, Peacock, Sunset, etc.

Mr. G. Humphries led for a dozen fancy dahlias with a moderate set, and was followed in order by Mr. S. Mortimer and Mr. M. V. Seale. For a dozen show dahlias, Mr. J. R. Tranter, Henley-on-Thames, scored with bright neat flowers of Goldfinch, Blush Gem, Rebecca, etc.; Messrs. J. Cheal and Sons second; and Messrs. W. Pemberton and Son, Harden Nurseries, Bloxwich, Walsall, third.

NURSERYMEN'S CACTUS DAHLIAS, ETC.

The silver challenge cup offered for the best eighteen varieties of cactus dahlias, in bunches of six blooms each, was once again won by Messrs. Jas. Stredwick and Son, Silverhill, St. Leonards, who showed good flowers, but scarcely up to their usual quality, of Rev. T. W. Jamieson, Snowdon, Saxonia, Wm. Marshall, Penguin, Satisfaction, H. H. Thomas, Red Admiral, Aviator, Saxon Queen, C. E. Wilkins, Ruby Grinstead, Rosel, Iolanthe, J. B. Riding, Harold Peerman, Jupiter, and Indomitable; second prize fell to Messrs. J. Burrell and Co., Cambridge, whose best flowers were of Nelson, C. E. Wilkins, Wm. Marshall, Faunus, and T. A. Havemayer; Messrs. J. Cheal and Sons, Crawley, third.

The finest dozen bunches of cactus dahlias were from Mr. G. Humphries, who had rather small but clean and bright examples of Ruby Grinstead, Nelson, Etruria, Mrs. Gaskill, Conrad, Harold Peerman, Dorothy, Dr. G. J. Gray, Helium, Mrs. Raby, Mrs. MacMillan, and Rev. A. Bridge; the second prize fell to Mr. John Walker; and third to Mr. M. V. Seale, who were the only other exhibitors. In the class for forty-eight blooms, distinct, of cactus varieties, staged on flat boards, the competition was close among the three entrants. Messrs. Keynes, Williams, and Co., Salisbury, were placed first for a bright, even set, in which were good flowers of Clincher, Captain Cody, Killarney, John Peel, Florabelle, Etruria, Joan of Arc, Rev. T. Jamieson, etc.; Messrs. J. Stredwick and Son, St. Leonards, gained second prize, and were but few points behind the Salisbury firm; Messrs. J. Burrell and Co., Cambridge, third.

There were six competitors in the class for two dozen cactus dahlias, distinct, set up on boards, and here Mr. Wm. Treseder, Cardiff, was a good first, his set containing good flowers of Wm. Marshall, Rev. A. Bridge, Ivernia, Faunus, Mrs. McMillan, H. Shoesmith, Harbour Lights, and Harold Peerman. Messrs. W. Pemberton and Son, Walsall, second; and Mr. J. Walker, Thame, third.

For a table of a dozen vases of garden cactus dahlias, Mr. M. V. Seale was a good first with flowers tastefully disposed with golden privet, berberis, grasses, bramble sprays, etc.; C. E. Wilkins, Sirius, Faunus, Phineas, and Mrs. Chas. Scott were the best varieties; Messrs. J. Cheal and Sons, Crawley, were second.

Two competitors came forward in the class for twenty-four bunches of pompon dahlias, distinct, ten flowers in each bunch; premier place was granted to Messrs. J. Cheal and Sons, Crawley, who showed very neat and pretty flowers of Dr. Jim, Ideal, Girlie, Daisy, Jessica, Ganymede, Madeline, Norah, Hesperia, Adelaide, and Phœbus; Mr. M. V. Seale, Sevenoaks, second. Premier award for a dozen bunches of pompon dahlias fell to Messrs. J. Burrell and Co., Cambridge, for a very neat, bright set of Lizzie, Emily Hopper, Phyllis, San Toy, Baccnus, Midget, Darkest of All, Adelaide, Marietta, Jessica, Hecla, and Nellie Broomhead; Mr. J. Walker second, and Messrs. Keynes, Williams, and Co., third.

Single dahlias were very well shown by Messrs. J. Cheal and Sons, Lowfield Nurseries, Crawley, who gained first prize for two dozen bunches, that included very fine flowers of Betty, Mikado, Miss Morland, Miss Roberts, Columbine, Sunray, Peggy, Butterfly, Hector, Eric, Kitty, and Owen Thomas; Mr. M. V. Seale second. For twelve bunches of singles, Mr. J. Walker secured the first prize, and was the only exhibitor. Only one bunch of pæony-flowered dahlias was forthcoming, and this, from Messrs. J. Cheal and Sons, Crawley, was awarded a first prize.

AMATEURS.

The silver cup in the amateurs' section for two dozen show or fancy dahlias was won by Mr. Sidney Cooper, The Hamlet, Chippenham, who, however, must have been run very close by Mr. Thos. Jones, Bryn Penylan, Ruabon, who was placed second; Mr. G. Buss, Windmill Hill Place, Hailsham, third. Mr. T. Jones led for a dozen show dahlias, and was followed by Mr. S. Cooper and Mr. A. Robbins, Prospect Place, Keynsham. For six show dahlias, Mr. C. Luckin, Apsley, Pulborough, scored, with Mr. J. Haycock, Wagoners' Inn, Gyfelia, Wrexham, second, and Mr. A. P. Ironside, Park Lane, Chippenham, third.

Mr. S. Cooper led for a dozen fancy dahlias, with Mr. G. Buss second, but neither showed really well. Mr. Ironside, Mr. A. Robbins, and Mr. G. Boothroyd, Portfield, Chichester, were the winners in order of merit for six fancy dahlias.

The Crystal Palace Company's silver cup for six varieties of cactus dahlias, in vases, arranged with appropriate foliage, was withheld on this occasion; the Rev. A. Bridge, Worth Rectory, Three Bridges, was disqualified for using supports to some of his flowers, and Mr. Francis H. Currey, Osborne Road, Palmers Green, was awarded a second prize; these were the only two entrants. The competition was keen in the class for three blooms each of nine varieties of cactus dahlias, there being six competitors. Mr. Daisley, gardener to the Rev. A. Bridge, Worth Rctory, gained the first prize and silver challenge cup with very good flowers of Ivernia, Wm. Marshall, T. A. Havemayer, Snowdon, Rev. T. W. Jamieson, Nelson, Harold Peerman, Ruby Grinstead, and J. B. Riding; Mr. F. Grinsted, Beaufort Park, Battle, second; and

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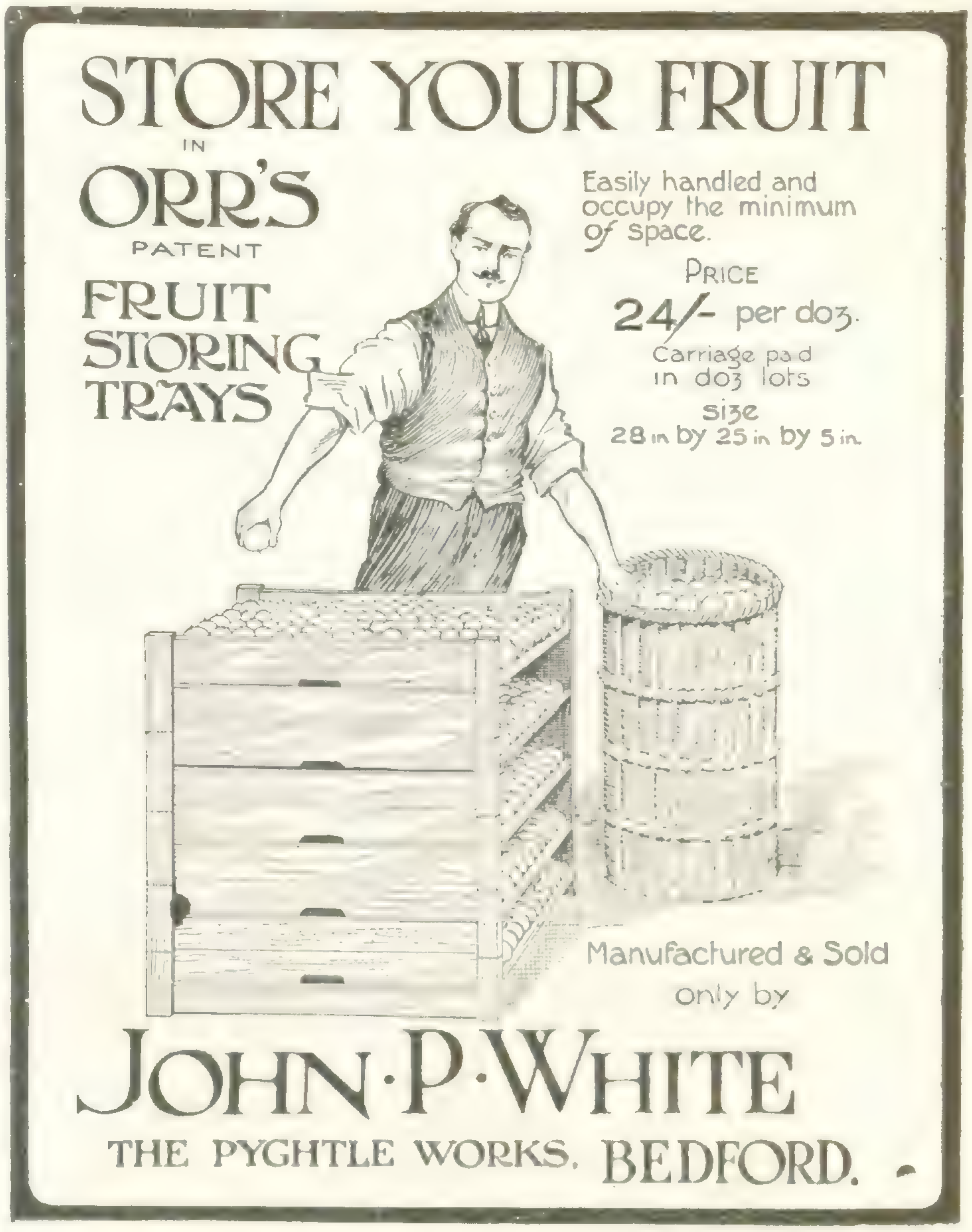

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WEDNESDAY, SEPTEMBER 15th, is the latest date for receiving advertisements.

Mr. Chas. Luckin, Pulborough, third. Mr. H. Jackson, The Leys, Woburn Sands, scored for six bunches of cactus dahlias, with Mr. Francis H. Currey, Palmers Green, second, and Mr. A. H. Palmer, Kitchener Road, Walthamstow, third; seven entries. For two dozen cactus blooms, on boards, Mr. J. B. Bryant, St. Martin's Terrace, Salisbury, won the chief award with a very even, clean set of moderate sized flowers of popular varieties; Mr. Edward E. Barton, Brand Street, Greenwich, second; and Mr. L. H. Farmer third; five contestants.

Mr. Montague W. Dance, School House, Abbott's Ann, Andover, scored for a dozen cactus blooms, distinct, on boards, and was followed in order by the Rev. A. Bridge and Mr. H. Jackson. This was a good class, and contained some very good flowers of varieties already noticed. Mr. F. H. Currey led for six cactus dahlias, with Mr. R. Carrington Willis, Palmers Green, second.

Mr. H. Brown, Dahlia Dene, Luton, had the best dozen bunches of pompon dahlias, and he won with very neat examples of Nerissa, Nellie Broomhead, Bacchus, Emily Hopper, Daisy, Phœbus, Jessica, etc.; Mr. W. C. Pagram, Weybridge, second; and Mr. S. Cooper third. Mr. Brown scored again for six bunches, followed by Mr. G. Davidson, Quadrant Road, Thornton Heath; and Mr. A. Tofield, Seaforth Avenue, New Malden.

Rev. S. Spence Pearce, Woodstock, had the best six bunches of single dahlias, and led with Polly, Kitty, Eclipse, Miss Morland, Columbine, and Miss Roberts; Mr. E. Mawley, V.M.H., second. For six bunches of ten blooms each, the Rev. A. Bridge scored with Columbine, Snowdrop, Leslie Seale, Eclipse, Princess of Wales, and Polly Eccles, all well shown; Mr. A. Brown second. Mr. Mawley scored for four vases of single dahlias, and Mr. A. Brown was second.

DECORATIVE EXHIBITS.

The best basket of cactus dahlias and autumn foliage came from Mr. Edward E. Barton, Broad Street, Greenwich, and was a very fine, bold design of yellow, cream, and crimson varieties; Mr. Thos. Jones second, and Mr. W. Cooper, gardener to Miss Gladstone, Hampton Hill, Bishop's Waltham, third. In the open class for a basket of dahlias and appropriate foliage, Mr. M. V. Seale was the chief prize winner, with a very elegant design in yellow and red cactus dahlias, grasses, and berberis sprays; Mr. W. Treseder second. Mr. Seale was first, and Mr. Pagram second, for a vase of pompon dahlias. Mr. Seale was placed first, and Mr. Treseder second, for a shower bouquet of dahlias, with Mr. Walker third; many folks preferred Mr. Treseder's bouquet before Mr. Seale's. Mr. Jas. Bryant had the best three vases of cactus dahlias and appropriate foliage, with Mr. Thos. Jones a good second, and Mr. C. Luckin third.

OPEN CLASSES.

In the open classes Mr. W. Treseder led for six show blooms, one variety, with J. Walker. Mr. F. H. Curry was first for six cactus dahlias, one variety, with Nelson. Messrs. J. Burrell and Co. led for six bunches of pompon cactus dahlias with Nora, Minima, Mary, Martha, Wm. Marshall, and Lena; Messrs. J. Cheal and Sons second, and Mr. M. V. Seale third.

Messrs. J. Stredwick and Son led for six bunches of fancy cactus dahlias with Columbine, Flora, Sirius, Mercury, Cockatoo, and Pegasus; Mr. J. Walker second. Messrs. J. Cheal and Sons had the best set of six bunches of fancy single varieties, and were followed by Mr. M. V. Seale and Mr. J. Walker; the Rev. A. Bridge was disqualified for showing Mrs. W. W. Merry as a fancy.

NON-COMPETITIVE.

Messrs. Hobbies, Lim., Dereham, were large exhibitors of roses and hardy flowers, and they displayed a collection of cactus and pæony-flowered dahlias (gold medal). Messrs. H. Cannell and Sons, Swanley, arranged a bright bank of cactus, decorative, and pæony-flowered dahlias, associating these with gypsophila, etc. (gold medal). Mr. J. T. West, Brentwood, contributed a charming set of pretty pompon varieties of dahlias, together with a collection of cactus dahlias (gold medal). Another exhibitor of cactus and pæony-flowered dahlias and hardy flowers was Mr. J. E. Knight, Wolverhampton, who gained a silver medal.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, August 31.

Present: Mr. G. Massee, F.L.S., V.M.H. (in the chair); Messrs. J. W. Odell, W. Cuthbertson, W. Hales, J. Fraser, G. Saunders, and F. J. Chittenden (hon. sec.), and Messrs. H. Alexander, E. H. Wilson, and F. N. Meyer (of the U.S.A. Dep. Agr.), visitors.

MALFORMATIONS IN TRIFOLIUM.—Mr. J. Fraser, F.L.S., showed specimens of Trifolium hybridum with the pedicels elongated, the calyx with elongated teeth, the petals widely separated and the stamens exposed, and the pistil developed into a trifoliate leaf consisting of a stalk bent in the part where the style usually begins, and carrying the leaflets above this. As he remarked, according to this evidence, the ovary is made up of the base of the petiole with its stipules, the top of the petiole forms the style, and the leaflets form the stigma of the normal flowers. He also showed T. pratense with the primary capitulum having two opposite bracts at its base, above these a calyx with many teeth, springing from the inside of which were the pedicels unusually elongated, then a second calyx enclosing a corolla of five petals, sometimes partly affected with chloranthy and exposed stamens, then a leafy bract, and in the centre numerous flowers. The central flowers have a well-formed calyx, are apetalous, with exposed stamens and a small pistil in the centre. The Chairman remarked that the occurrence of virescence such as was exhibited in the specimens shown was the result of the attack upon the base of the plant of a small grub belonging to the family Diptera.

HYBRID RADICULA.—Mr. Fraser also showed specimens of what he considered to be a hybrid between Radicula (Nasturtium) palustris and R. sylvestris. The plant had occurred in company with both its supposed parents, and had imperfect flowers. In most of its characters it appeared midway between the two plants named, although perhaps nearer to R. palustris.

THE WONDERBERRY.—Mr. Cuthbertson showed a specimen of the American "Wonderberry," said to have been raised by Mr. Burbank. He also showed Solanum nigrum for comparison. The plant, though differing in some few details from the specimen of Solanum nigrum shown, is apparently only a form of that very widespread and variable weed of cultivated land. Mr. Meyer remarked that the fruit of S. nigrum was frequently made into pies and eaten in different parts of the States, and he was unable to distinguish the plant exhibited from the spontaneously occurring plant.

SPENCER SWEET PEAS.—Mr. Cuthbertson also made some remarks regarding the reasons why the Spencer type of sweet pea is shy in producing seed, showing photographs and flowers in illustration of his remarks. The reasons he considers to be as follows:

1. The keel is not constricted or clamped, and consequently the anthers and stigma are not compressed together as in the old type of flower.

2. The open keel tends to allow the pollen to drop into the base of the keel without coming in contact with the stigmatic point. In the old type this was hardly possible.

3. In many of the waved forms the style grows beyond the anthers before the anthers dehisce, and the point is thus never brought into contact with the pollen.

4. In some, notably salmon and orange-coloured varieties, the anthers are nearly sterile.

5. The large waved standard does not act as an umbrella in bad weather. The hooded standard did deflect the rain from the vital parts of the flower.

Note.—The Unwin or moderately waved type of flower is a good seeder. It follows the old type very closely in the formation of its keel.

CHINESE PLANTS.—Mr. E. H. Wil showed an interesting series of photographs of some of the plants he had met with in his last travels in China. Among them were pictures of—

1. Pinus Bungeana, taken in S.W. Ichang at an altitude of 3,500ft., showing the [illegible] bark of the stem and exposed parts of [illegible] root. Mr. Wilson said he regarded this [illegible] and Pinus sylvestris, which has in certain parts of the world a very light bark, as the two most picturesque of the pines.

2. Cunninghamia sinensis, a picture of solitary tree 130ft. in height and 20ft. girth. This tree forms pure forest in Ch at an elevation of 5,000ft., and is the [illegible] monest timber tree in Central China, wh it is very valuable. The photograph [illegible] taken in S.W. Tatien-lu.

3. Gingko biloba. Mr. Wilson remark that it had recently been stated that this [illegible] occurred truly wild in China, but althoug he had traversed the whole of the land wh it was said to occur, he had found [illegible] planted trees. The photograph was tak at Kiating, and depicted a tree 90ft. h and 24ft in girth.

4. Actinidia chinensis, a beautiful shrub producing green fruit with a russet tinge, of excellent flavour as a dessert fruit, and making good preserves. This plant has flowered in France and England, but so [illegible] only staminate flowers have been produ Hermaphrodite flowers are borne by [illegible] plants, and, perhaps rarely, pistillate flo only.

5. Cypripedium tibeticum. This is one [illegible] the commonest herbaceous plants in [illegible] places at an altitude of 11,500ft. to 12,0

SPORT IN PHLOX DECUSSATA.—[illegible] Mr. Douglas came an inflorescence of Ph decussata, some of the flowers of which [illegible] white with the faintest tinge of violet, [illegible] others (the greater number) were white w broad stripes of violet-mauve. The plant had for fifteen years borne only white flowers, but last year had some coloured flowers, and again this year.

WINTER-ROT IN POTATOES.—Mr. Wigley sent from Hartridge, Grav [illegible] specimens of potato badly affected [illegible] winter rot, due to Fusarium solani. [illegible] variety, Midlothian Early, had been [illegible] as soon as the tops died down, and some tubers selected for seed next season; these were placed in the sun to "green," and had "sweated with dark liquid drops at the eyes, and had softened on that side and then shrivelled." None of the stored potatoes (kept cool) showed signs of the disease at present, while 50 per cent. of the portion saved for seed were affected.

LARGE LARCH SAWFLY.—Mr. E. [illegible] Holmes, F.L.S., sent specimens of the [illegible] of this destructive insect (Nematus E [illegible] soni) collected in the Lake District, wh [illegible] larch is being defoliated by them on La [illegible] and Skiddaw. This insect seems likely [illegible] destroy the larches in the district unless [illegible] natural enemy should prove effective.

MALFORMED CYPRIPEDIUM.—Mr. R. W. Richards, of Usk Priory, sent a [illegible] of Cypripedium insigne in which the [illegible] lateral petals had a slight tendency [illegible] the form of the lip, and the bract was g [illegible] and leathery instead of membranous.

ASTER DISEASED.—From Patcham, Sus sex, came specimens of asters attacked by [illegible] species of Fusarium. This fungus att [illegible] the plants by the roots, which are killed, [illegible] the plant wilts through lack of water. [illegible] unsafe to plant asters in soil where [illegible] have previously been attacked, and the [illegible] in which they are grown should be lim [illegible]

"SHOT-HOLE" IN PEACHES.—[illegible] mens of peach leaves from near East [illegible] showing round browned patches, and [illegible] some cases holes, from which the dead tis had fallen out. The committee was [illegible] mously of opinion that the spots were [illegible] to the "shot-hole" fungus.

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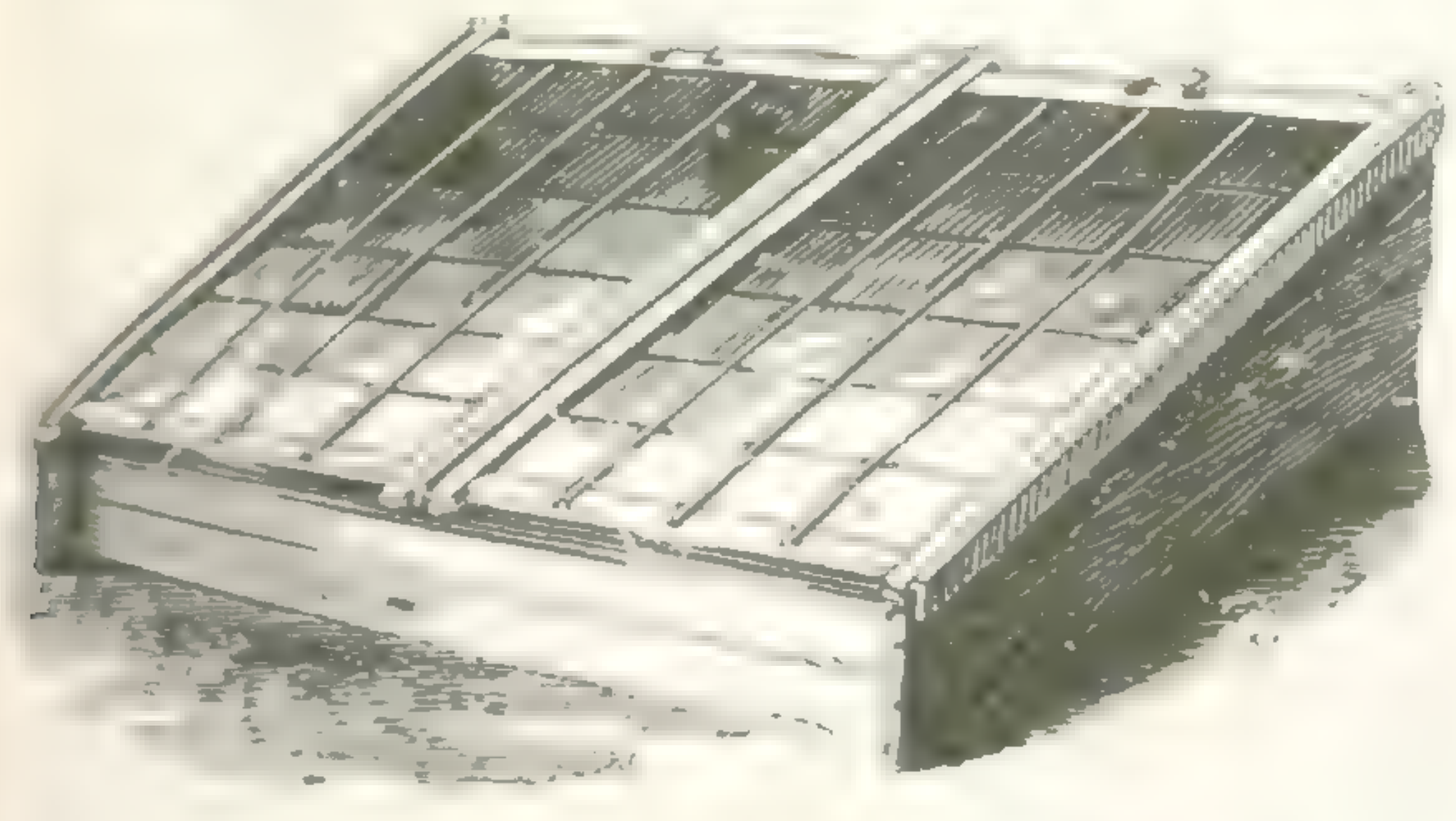

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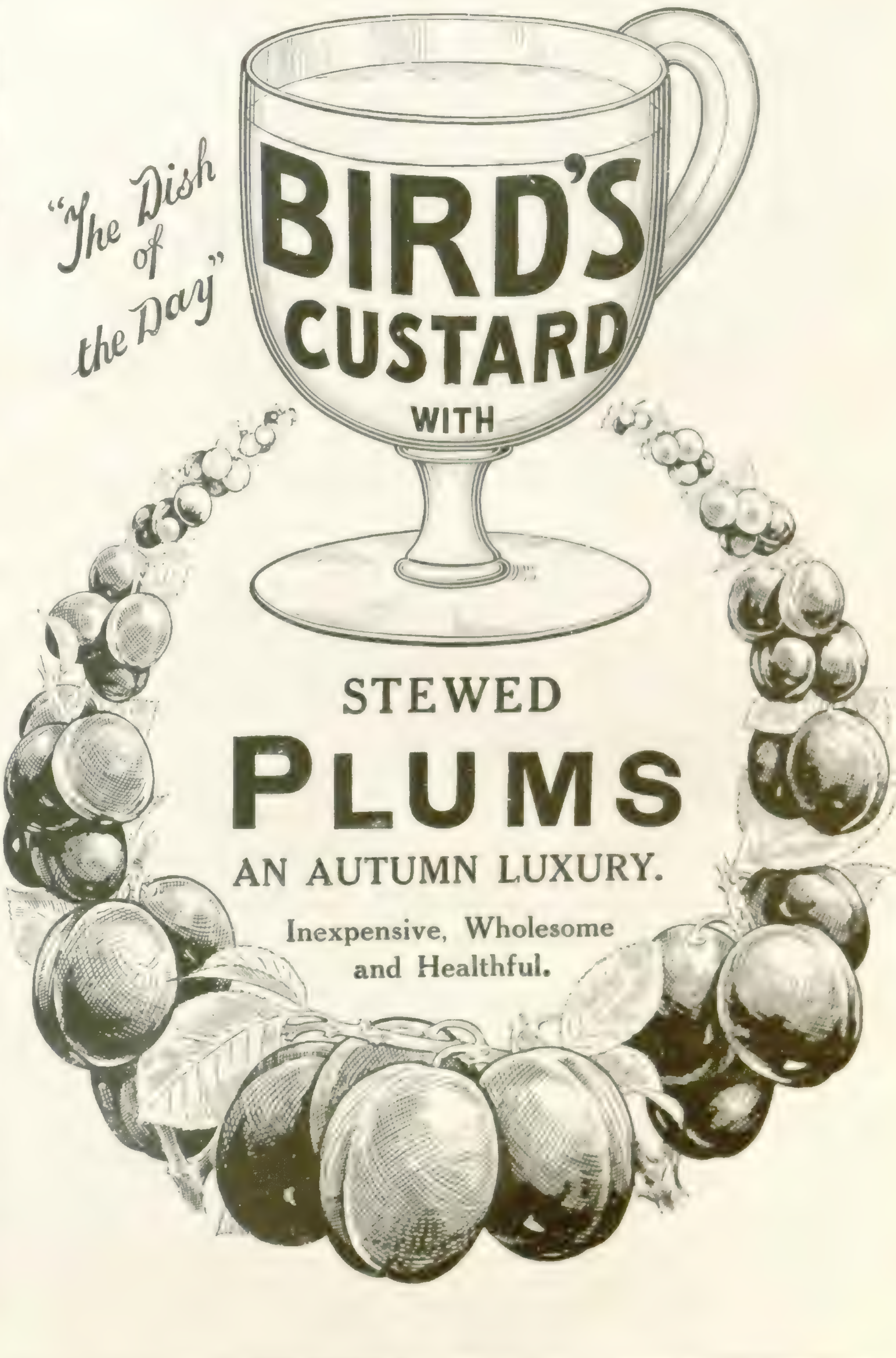

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ANSWERS TO CORRESPONDENTS.

PLANTING BULBS.—E. W., Birmingham: Can you give us chapter and verse? If you can we will look the matter up and do our best to oblige you.

BOURBON ROSES.—J. B., Shoreham: The best of these are Mrs. Paul, Mdme. Isaac Periere, Armosa (or Hermosa), Souv. de la Malmaison, Setina, and Zephirine Drouhin.

ROSES FOR POT CULTURE.—J. B., Shoreham: The best H.P. roses for pot culture are Captain Hayward, Frau Karl Druschki, and Mrs. J. Laing. Excellent H.T. varieties for the purpose are Antoine Rivoire, Caroline Testout, Lady Battersea, Liberty, Mdme. Abel Chatenay, and Papa Gontier. Good tea-scented roses for pots are Bridesmaid, Lady Roberts, Mdme. Falcot, Mdme. Hoste, Mrs. Edward Mawley, Souv. de Pierre Notting, Sunrise, The Bride, and White Maman Cochet.

CANKERED MELON STEM.—E. F., Yorks: The damage is due to canker caused either by an excess of moisture round the "collar" of the plant, or to rupture produced by careless handling, tight ligatures, knocks with the spout of the can, etc. Water should not be applied directly around the stems of melons; a zinc or earthen ring six inches or so in diameter, placed round each plant stem, will serve as a guide, and no water should be given within the ring. Sulphur serves as a good remedy if applied at the slightest sign of damage.

AUTUMN-SOWN SWEET PEAS.—W. A. C., Yeovil: Where the intention is to sow sweet peas out of doors in the autumn the ground, if not already prepared, must be made ready at once by deep digging and manuring. A firm seed bed is essential, consequently just previous to sowing the soil should be trodden over both ways, unless it has been worked some time previously and has had ample time to settle down. Take advantage of suitable weather at the end of the present month or the first week in October, and, having already red-leaded the seeds, sow them thinly in shallow trenches about eight inches wide, and cover with about three inches of soil. Label the varieties directly they are sown. A good dressing of lime, or old soot, given about ten days or a fortnight after sowing, will check the attacks of slugs and snails that are always ready to feast upon the new growth. When the seedlings are four inches high, draw some soil up to them from each side of the row, as the ridge thus produced is a great protection. Thin out the seedlings at the end of March, and, if space is available, plant the thinnings to make other rows. Supposing a double row is left in each drill or trench, the plants should be about fifteen inches apart when the work of thinning is finished. Staking should immediately follow thinning.

WINTER-FLOWERING ORCHIDS.—C., Norwich: If you rule all the cypripediums out of order, then you very materially reduce the chances of a display from orchids from December on to the end of the winter season. Where dendrobiums are largely and well grown it is quite possible to force some of these into flower by January, notably D. nobile, D. Pierardi, D. aureum, D. Ainsworthi, and several hybrids of similar character to the latter. Cœlogyne cristata, Cattleya Trianæ, Lycaste Skinneri, Odontoglossum crispum, Oncidium crispum, and O. varicosum Rogersi will be giving flowers in most large collections, and zygopetalums will bloom early in the year. Some of the calanthes will also be still in flower. In February and March dendrobiums will be much more in evidence, and give a splendid display, provided a good selection of species and hybrids is made. Cattleya gigas, Cymbidium eburneum, odontoglossums, and phalænopsis will now be blooming; indeed, where there is a good collection of cool orchids, odontoglossums are almost always to be had in bloom. Towards the end of the winter period Cymbidium Lowianum will begin to flower, as well as the various phaius. You do not state what facilities you have for orchid culture, hence it is difficult to give really useful advice on the subject. So far as we are able to judge, you will, in the absence of cypripediums, have to depend largely upon dendrobiums for flowers in late winter.

COMBATING THE APPLE SUCKER.—S. J. C., Cirencester: The apple sucker (Psylla mali) lays its eggs during September, October, and November, and therefore spraying with a paraffin emulsion, in the case of trees from which the crop has been gathered, will destroy large numbers of adult insects, and so greatly reduce the pest. Winter spraying does not appear to be of any real value as a means of checking the apple sucker, but it is useful in cleaning the trees and giving them a better chance of making clean growth another season. The best method of dealing with the apple sucker is to spray the trees just before the blossoms open, though nicotine solution does not harm expanded blooms or kill the bees that are at work among them. Nicotine of 96 per cent. purity should be used at the rate of 1 1-5th oz. to each ten gallons of water.

NAMES OF PLANTS.

F. W., Rochester.—1, Odontoglossum ardentissimum; 2, Oncidium flexuosum.

F. E. S., Ongar.—1, Sidalcea rosea; 2, Lonicera sempervirens; 3, Lomaria procera.

J. B., Warrington.—1, Centaurea macrocephala; 2, Astilbe Davidi; 3, Thalictrum adiantifolium; 4, Helxine Solieroli.

W. E., Guildford.—1, Tacsonia Van Volxemi; 2, Chorezema Lowi; 3, Fuchsia triphylla; 4, Ipomaea rubro-caerulea.

L. R. C., Fakenham.—1, Thuia Lobbi; 2, Juniperus chinensis; 3, Libocedrus decurrens; 4, Abies Douglasi; 5, Pinus Pinsapo.

E. F. S., Sandling: 1, Sedum spectabile; 2, Vitis Henryi; 3, Ceanothus azureus; 4, Dabœcia polifolia; 5, Cotoneaster horizontalis.

OBITUARY.

MR. JOHN FORBES.

With deep regret we have to record the death of Mr. John Forbes, of the Royal Nurseries, Hawick, which occurred on the 6th inst., in his 68th year. Mr. Forbes was a native of Alberfeldy, Perthshire, and commenced his horticultural career in the gardens at Killiechassie Castle. In 1870 he commenced business at Hawick, and during the thirty-nine years he was engaged in commercial horticulture he enjoyed uninterrupted success, and was highly esteemed by his wide circle of friends, and indeed by all who knew him. Mr. Forbes specially distinguished himself as a raiser and cultivator of pentstemons, phloxes, pansies, and other classes of florists' and hardy border flowers, and large numbers of varieties of the highest merit were distributed by him. His comprehensive catalogue of these subjects is a model of its kind, and has much value as a work of reference, for in his collections Mr. Forbes was careful to include all the finest varieties, whether raised at Hawick or elsewhere. Two years since Mr. Forbes received the Royal Warrant appointing him nurseryman and florist to the King, and for family reasons the business was a year ago converted into a limited liability company under the title of John Forbes, Hawick, Lim. For many years Mr. Forbes has been assisted by his son in the conduct of his important business.

MR. JOHN HENRY WILSON.

We regret to record the death of Mr. J. H. Wilson, a well-known florist of Handsworth, which occurred on August 29, in his 58th year. Mr. Wilson devoted considerable attention to auriculas, in the cultivation of which he achieved much success.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY SURREY.

Height above Sea-level, 150 feet.

DATE. 1909. August 29 to September 4.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	Temperature of the Air. At 9 a.m. Wet Bulb.	Temperature of the Air. Day Highest.	Temperature of the Air. Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Aug. 29—Sunday	10 12	61	57	67	48
„ 30—Monday	6 54	55	50	62	[illegible]
„ 31—Tuesday	6 54	55	49	60	51
Sept. 1—Wednesday .	4 54	53	48	59	42
„ 2—Thursday ..	7 24	45	45	64	57
„ 3—Friday.......	9 48	59	52	62	42
„ 4—Saturday ...	—	58	55	59	52
Means	(total) 46 6	55	51	62	[illegible]

DATE. 1909. August 29 to September 4.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	Temperature of the Soil at 9 a.m. At 2 ft. deep.	Temperature of the Soil at 9 a.m. At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
Aug. 29—Sunday	0.04	61	62	60	41
„ 30—Monday ...	—	61	62	60	[illegible]
„ 31—Tuesday......	—	60	61	60	45
Sept. 1—Wednesday.	0.03	58	61	60	36
„ 2—Thursday ...	—	56	60	59	[illegible]
„ 3—Friday.......	—	57	60	59	33
„ 4—Saturday ...	0.06	59	60	59	[illegible]
Means ...	(total) 0.13	59	61	59	41

CATALOGUES RECEIVED.

JAMES VEITCH AND SONS, LIM., CHELSEA.—A fully and finely illustrated catalogue of bulbs illustrations comprising portraits of many of the forms and successful examples of utilising We have also to acknowledge a catalogue of ornamental trees and shrubs which is of much terest.

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MESSRS W. CUTBUSH AND SON, HIGHGATE, LONDON.—Catalogues of bulbs and carnations.

WILLIAM PAUL AND SON, WALTHAM CROSS, HERTS.—A comprehensive catalogue of bulbs taining the finest of the varieties in the classes. The catalogue is also of interest for the of camellias which form such an important feature at Waltham Cross.

H. N. ELLISON, 5 AND 7, BULL STREET, WEST BROMWICH.—Concise lists of bulbs and ferns, in which the most useful kinds are enumerated.

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FORTHCOMING ENGAGEMENTS.

TUESDAY, September 14.—Royal Horticultural Society; Meeting of Floral, Fruit, and Orchid Committees, noon; General Meeting, at 3 p.m.; and Scientific Committee, 4 p.m.

WEDNESDAY, September 15.—Messrs. Dickson and Robinson's Onion Show at Manchester.

THURSDAY, September 16.—National Rose Society's Autumn Show, R.H.S. Hall, Westminster.

SATURDAY, September 18.—Didsbury Horticultural Society.

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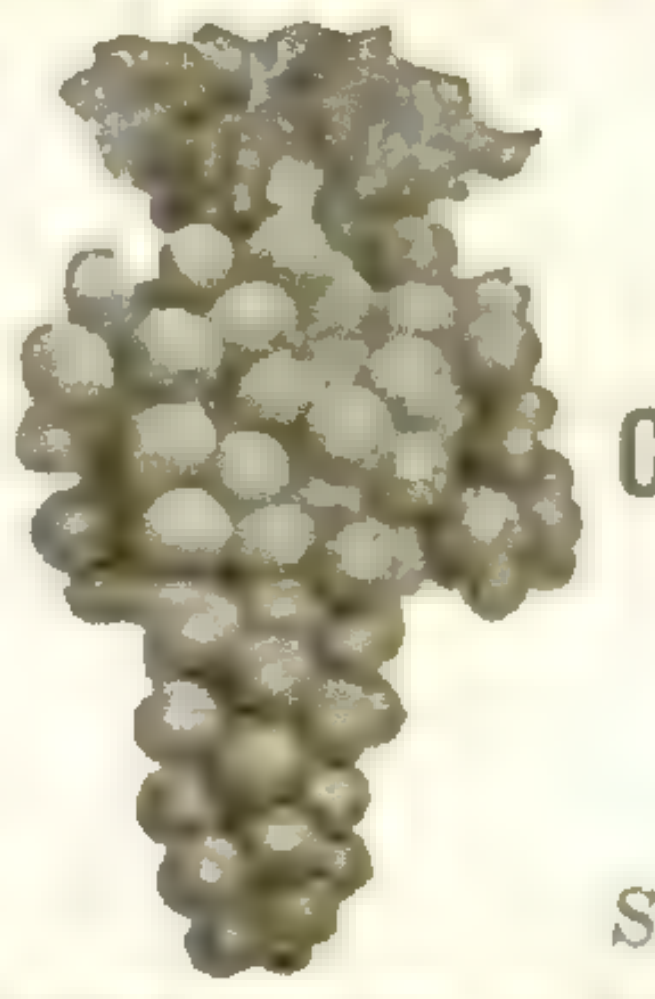

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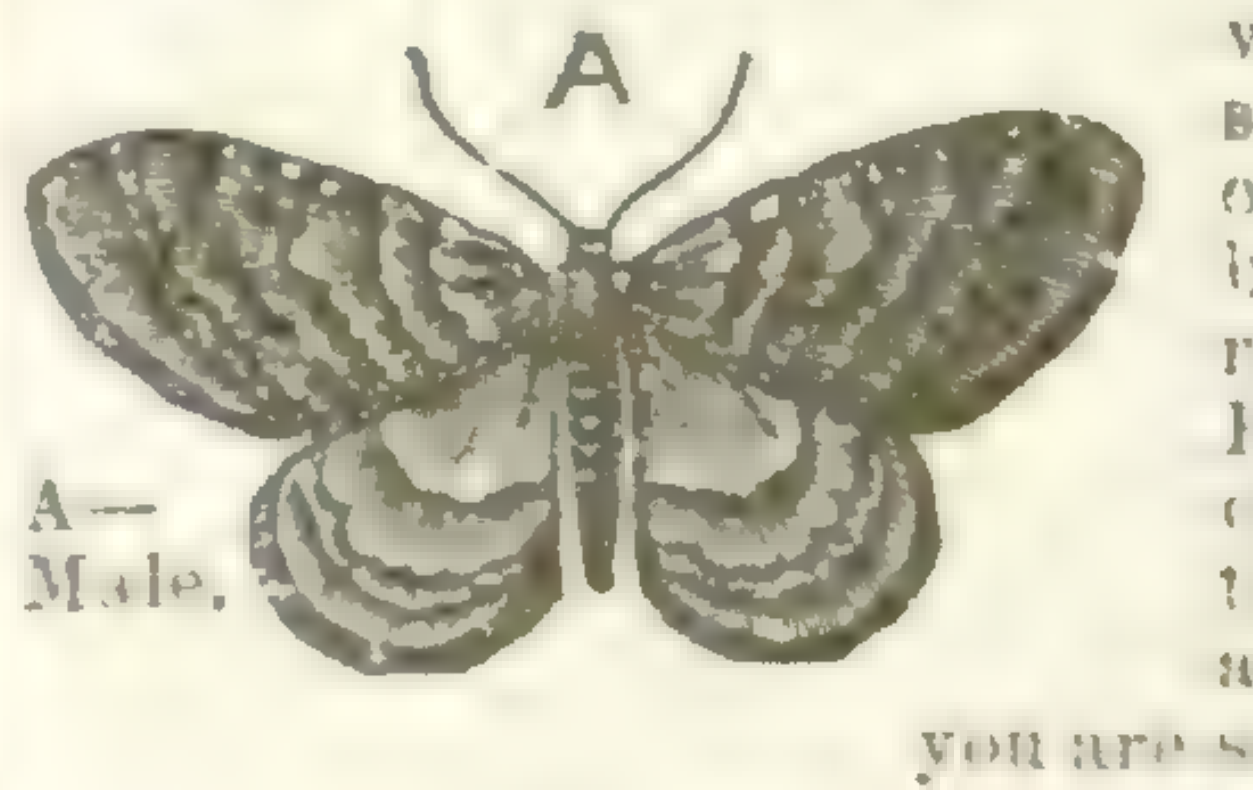

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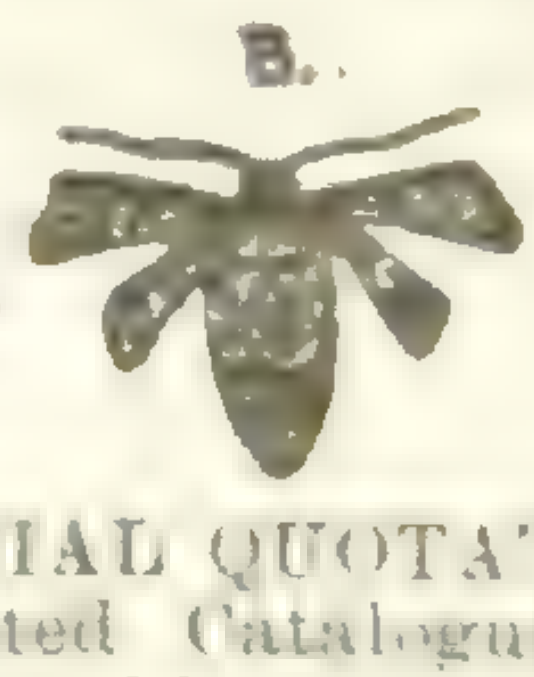

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„	first size	5d.	2/6
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VOL. LII.—No. 2,916. SATURDAY, SEPTEMBER 18, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Spring-flowering Bulbs.

Hardy bulbs that bloom in spring have of late years attained to so important a position among the plants suitable for the production of attractive colour effects early in the year that we have no doubt as to our readers fully appreciating the large amount of information relating to them we are giving in this issue. In devoting the present issue chiefly to a consideration of the more useful of the hardy bulbous plants we are only continuing the policy which has proved so useful to our readers in past years, and has exercised an enormous influence for good on the extension of bulb culture which has formed so characteristic a feature of flower garden management for a considerable period. We have not only persistently advocated a more generous use of bulbous plants in the garden than was for so long considered advisable, but we have constantly kept in view the possibilities of bulb culture for commercial purposes. Our views with regard to the cultivation of bulbs for profit were not accepted without some question, and it would have been unreasonable to expect a general acquiescence in them immediately on their being expressed. In process of time their soundness was recognised, and we have had the satisfaction of seeing the commercial culture of bulbs in England become a large and profitable industry. It has been proved to demonstration that with the exception of hyacinths, all the more important classes of bulbous plants can be grown in England, at least as successfully as in any other part of the world. As the result of this extension of flower farming the more popular bulbs have been so cheapened as to be within the reach of the majority of those who love flowers, and these flowers are supplied to the markets in such quantities as to enable all but the poorest of town dwellers to enjoy their beauty. Although the possibilities of the production of hyacinth bulbs has not as yet been fully demonstrated, it by no means follows that they cannot be successfully grown in England for profit. We have on several occasions had brought under our notice bulbs that have been wholly grown in this country, and the best of these have been of high quality, as proved by the test of flower production. The question whether, given favourable soil conditions, hyacinth bulbs equal to those received from Holland can be produced in large quantities at a remunerative rate, might with advantage be put to a practical test by those who have command of a soil similar to that of the districts in Holland that are largely devoted to these flowers. We do not suggest trials should be made in soils of all descriptions, for many failures would be inevitable, and these would, in all probability, check experimental culture in soils of the proper character. To those who may have a desire to give some attention to this matter, the fully-illustrated article on the propagation of hyacinths which appears on another page should be of material assistance. It will be seen that the increase of stock is a comparatively simple matter, but production of clean, solid bulbs that will give fine spikes of flowers within the period mentioned by our correspondent, will require a carefully devised method of procedure. There is no occasion to pass under review the several classes of bulbs available for general cultivation for the purpose of endeavouring to determine their relative merits. It is generally accepted by those who have had experience in flower garden management that the narcissi and tulips are the most generally useful. The crocuses are recognised as of much value in the production of rich displays quite early in the spring, and hyacinths obtain much favour for their distinctness, both in habit and colouring. There are numerous other classes of bulbs that deserve a much higher degree of popularity than they at present receive, and those who have any considerable area of border that is devoted to hardy flowers should endeavour to become well acquainted with the finest of the kinds that are usually found in catalogues under the general heading of "Miscellaneous Bulbs." While full advantage should be taken of the more noteworthy kinds for massing in beds and borders that during the summer months are occupied with other classes of plants, the usefulness of bulbs generally for carpeting the surface of shrubbery borders should not be overlooked. Where the shrubs are deciduous, and not overcrowded, a considerable number of kinds may be planted between them with the most successful results. Indeed, a considerable number will retain their full vigour for a much longer period than will bulbs of similar kinds planted in rich borders in the open. This important fact admits of an explanation that can be given in a few words. The soil of the shrubbery border is filled with roots, which become very active in the absorption of moisture when the shrubs are in full leaf, and evaporation is proceeding at a rapid rate. Usually, the soil in which shrubs are growing becomes very dry during the summer, when the bulbs are passing into their resting period, and as the dry conditions continue for some time, they are able to enjoy a rest more or less complete. On the other hand, bulbs that are planted in rich borders devoted to hardy perennials have more moisture about their roots during their resting season, and frequently suffer from the effects of heavy rains following short periods of dry weather. It is satisfactory there should

MR. HENRY R. FARMER.

be a steady increase in the growth of narcissi in the grass in the less highly-dressed part of the grounds, for nowhere do these elegant flowers appear to greater advantage than when they spring from fresh green turf. For grass culture it is advisable that varieties having a strong constitution be selected, and that crowding should be avoided. We refer to this point because we now and again meet with glades and spaces between trees so thickly planted as to suggest narcissi beds on a flower farm rather than a portion of the pleasure grounds, and much of the charm of the effect produced by the bulbs is lost. While it is most desirable that spring-flowering bulbs should be liberally planted in both country and town gardens, it is important to point out that they are especially valuable in the latter. It matters not whether the soil or atmospheric conditions are unfavourable to plant life, or whether the garden be surrounded by trees that shade a considerable part of the area, the owner can, with the aid of bulbs,have most attractive displays of flowers during the spring months. The bulbs prepared in some part of the country, where they enjoy the advantage of pure air, a well-tilled soil, and full exposure to the sun's rays, complete their growth under the most favourable conditions, and in the year following yield freely of their wealth of floral beauty, even if the conditions under which they are placed are distinctly unfavourable. After they have flowered the bulbs can be removed to make way for the summer occupants, and if the cheaper kinds are selected this annual renewal will not be a costly matter.

Mr. Henry R. Farmer, as chief of the Cardiff Castle gardens, occupies a commanding position among practical horticulturists, and although quite a young man, has shown such remarkable ability as to have greatly enhanced the fame the gardens under his charge have so long enjoyed. Mr. Farmer commenced his gardening career at an early age, under his father, at West Hill, Fareham, the country seat of General Sir Percy Fielding, K.C.B., where he remained two and a-half years. Thence he went to fill a position in the gardens of Longleat, the seat of the Marquis of Bath, and in this well-known establishment he remained three years. Mr. Farmer was then appointed to a position in the kitchen and fruit gardens at Cardiff, which were under the charge of the late Mr. A. Pettigrew. At the end of about twenty months he was promoted to the post of foreman in the plant and fruit houses, which he occupied until some five years later, when he was made general foreman. In this position Mr. Farmer remained until about two and a-half years after Mr. Pettigrew's death, having sole charge of the gardens, no head gardener having been appointed. Three years ago Mr. Farmer was appointed by the Marquis of Bute head gardener, with the charge, in addition to the castle gardens, of the vineyards and recreation grounds. During the past three years many alterations have been made in the extensive pleasure grounds. Large shrubberies and plantations of laurels and other evergreen shrubs have been cut down, and the spaces planted with a choice collection of flowering trees and shrubs. Another attractive feature has been added by the planting of thousands of hardy bulbs on the banks and slopes in the pleasure grounds. The expanding city of Cardiff had so far encroached upon the old gardens that it was decided to make a new kitchen garden, half a mile or so from the castle, and to build new plant and fruit houses. The manner in which the alterations have been carried out under Mr. Farmer's direction is beyond praise, and we hope at no distant date to refer to this new garden with more fulness than is now possible. We will only say that the new garden is not less remarkable for skilful management than for careful planning, and that in common with the pleasure grounds, is well able to afford abundant interest to those who are in any way concerned with horticulture. The high estimation in which Mr. Farmer is held by the gardening community in the district of which Cardiff is the centre, is indicated by the fact that for the past three years he has been chairman of the Cardiff Gardeners' Society, and is vice-chairman of the Cardiff County Horticultural Society, and of the Cardiff and District Chrysanthemum Society.

National Vegetable Society.—This newly-formed and important society is quietly forging ahead, and already has some good work in hand. Trials of spring cabbages and autumn-sown onions are being made at Guildford on gravelly soil, at Twickenham on marshy land, and at Romford on stiff Essex clay, and the seeds are sown and the young plants making good progress. What the new society now wants is members, and there must be many of our readers who have a great interest in vegetables and who would derive much benefit from the society. As previously stated in our columns, His Grace the Duke of Portland, K.G., is the president. The annual subscription for members is only 5s., and we invite our readers to support the committee in its praiseworthy endeavours to promote the culture and more extensive consumption of high-class home-grown vegetables. A circular has been prepared setting forth clearly the aims of the society and inviting membership, and a copy of this will be sent to anyone on application being made to the hon. secretary, Mr. E. G. Quick, Kelmscott, Harrow View, Wealdstone, Harrow.

M. Viger.—This eminent representative of French horticulture has recently been the object of a special honour, the first he has yet received from England. At a recent meeting of the council of the Royal Horticultural Society it was resolved, upon the motion of Sir Albert Rollit, to confer upon M. Viger the distinction of honorary corresponding member. M. Viger has for many years been president of the Société Nationale d'Horticulture de France, and has always been held in the highest esteem by his colleagues for his devotion to the interests of horticulture. Many English visitors to French shows have admired his eloquence, for as an orator he has few equals, and have also been grateful to him for the courtesy and hospitality he has bestowed upon them. His nomination by the Royal Horticultural Society will meet with a responsive echo in the minds of all our countrymen who have come into contact with M. Viger, and we venture to indulge the hope that he may long live to enjoy the well-deserved honour conferred upon him.

The Vegetable Imports were rather above the average in August, and the most noteworthy increases were in the foreign supplies of onions and tomatoes. The excellent crop of British-grown potatoes had the effect of reducing the prices to an extent that imposed a great check upon the importation of foreign-grown tubers. The imports of potatoes aggregated 124,581 cwt., of the value of £22,090, as compared with 152,075 cwt., of the value of £30,287, in the corresponding month of last year. Of tomatoes the imports were 135,739 cwt., of the value of £125,539, or an increase in quantity of about 11,000 cwt., and in value of about £5,000. Onions, as indicated above, were received in largely-increased quantities, the total having been 717,490 bushels, of the value of £98,626, against 593,973 bushels, of the value of £65,820, in August, 1909. Unenumerated vegetables, on the other hand, were received in smaller quantities, and the value was only £12,141, or a trifle over 50 per cent. of the value in the corresponding month of last year.

Wilton House, Salisbury.—On the occasion of the annual excursion of the Gosport Gardeners' Association, the members, some fifty in number, visited Wilton House, Salisbury, the seat of the Earl of Pembroke, and also the nurseries of Messrs. Keynes, Williams, and Co. The latter were first visited, and the members of the party were much interested in the dahlias and roses. After the luncheon at the Salisbury Assembly Rooms, the party proceeded to Wilton House, where the great range of fruit houses, the numerous plant houses, the kitchen garden, the fine wall trees, and the extensive pleasure grounds were found rich in interest and highly attractive.

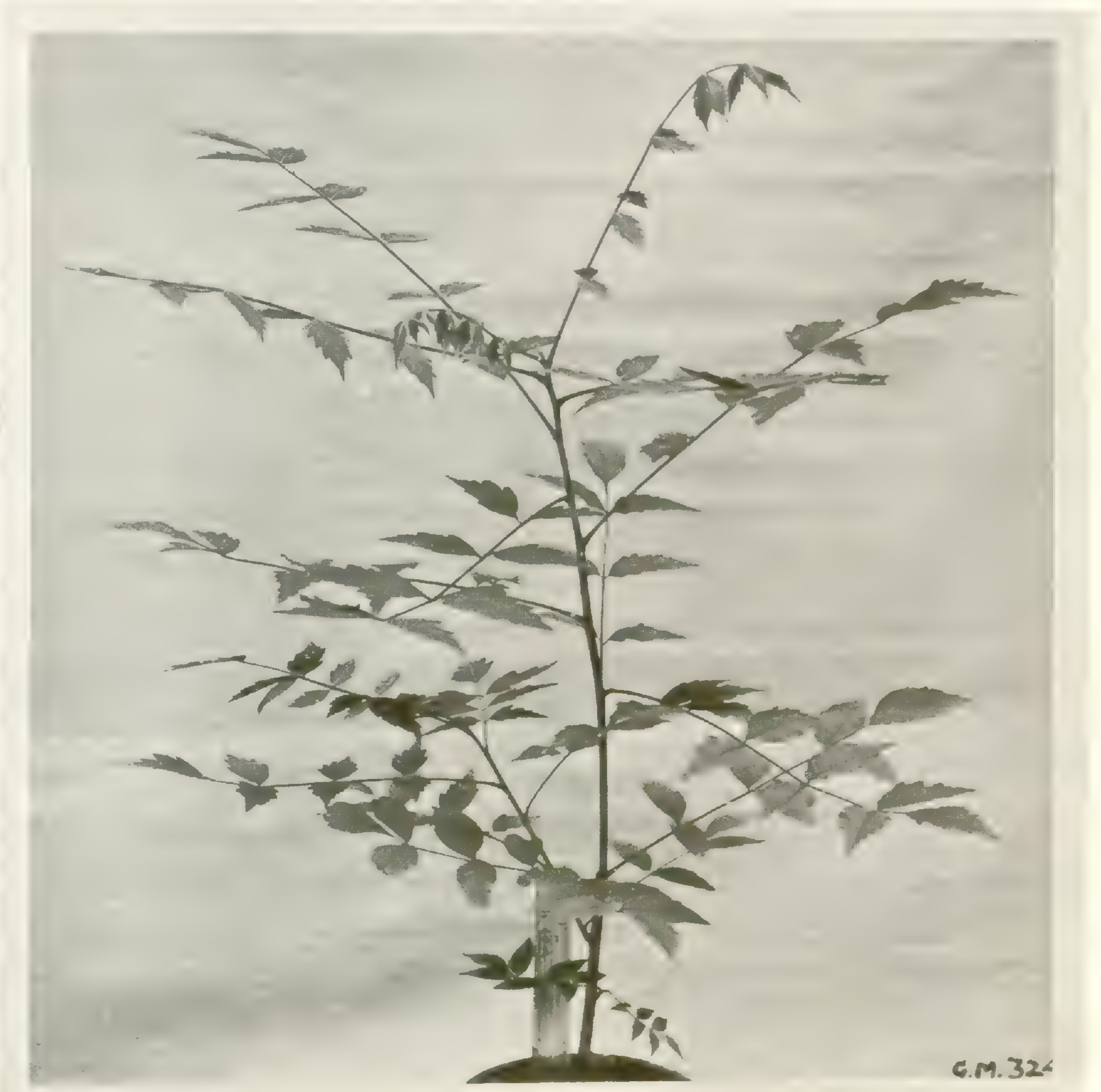
Summer Rainfall.—According to the summary of the weather issued by the Meteorological Office for the past summer the rainfall for the three months June, July, and August, was in excess of the average in all the English districts except in the South-west, where the deficiency amounted to 0.76in. The excess in the North-east of England was 1.67in. The deficiency in the South of Ireland was 4.12in., and in the Channel Islands 2.95in., where the aggregate rainfall was only 3.81in.

The Honey Harvest in the North. It is only too apparent, writes our Aberdeen correspondent, that the honey harvest in the North this year must be ranked as little better than the disastrous one of 1907. Assuming that a little surplus may still be gathered from the heather, it cannot do more, in many cases, than help to keep down the heavy expenses of preparing the apiary for the coming winter. The old-fashioned straw-made hive still abounds in the North, and is still a favourite with those who keep bees on a small scale, but in these a number of stocks have perished during the summer, while many more will doubtless be lost where heavy swarming prevailed, from want of stores and queens. Now is the time for everyone interested to see that his stock goes into winter quarters with ample stores and a fertile queen, and thereby lay the foundations for success next season. Bad and hopeless as the outlook may appear at the end of an unproductive season, let those concerned not forget that two bad years never follow each other in the bee-keeping world. Last year was a most remunerative one, and especially so where stocks received due attention at the end of 1907. This season has been too cold and sunless all through, except for a brief period of very warm weather in early August. The honey gathered from clover this season has been a very small quantity. From charlock, which was in blossom in August, during the heat wave, a considerable quantity was gleaned. Much was expected of the weather, but the onset of a prolonged period of bad weather after St. Bartholomew's Day has proved disastrous. Reports from the most experienced of apiarists are this season depressing in the extreme.

The "Botanical Magazine" for the current month contains illustrations and descriptions of Aphelandra tetragona, a handsome stove plant, with bright orange-red flowers, which has long been in cultivation at Kew. Megaclinium purpureorachis, an interesting orchid, met with by Mr. Gentil on the Upper Lomami, a tributary of the Congo, a few years since, with brownish and decidedly unattractive flowers. Exostemma subcordata, a low-growing shrub, introduced from San Domingo, blooming in autumn, and bearing white flowers; it thrives under the same conditions as the ixoras. Euphorbia Ledieni, an interesting species, with thick fleshy stems, and yellow flowers. Peliosanthes violacea, var. Clarkei, the most attractive of the forms of this distinct species.

Soil Moisture.—At a meeting of the Agricultural Section of the British Association at Winnipeg, Mr. F. H. King read a paper on soil moisture in relation to plant growth. He first directed attention to the importance of soil moisture in crop production, and then proceeded to state that water was not only an important plant food, but was also the medium in which all other plant food derived from the soil was elaborated and carried to the plant tissues. To produce a ton of dry matter in the crop from 250 to 600 tons of water were withdrawn from the soil by transpiration and by evaporation from soil. It was not possible to separate these two factors, but probably the plant took not less than from 200 to 400 tons. Only a portion of the water in the soil was available for the crop; the rest was held as a film to the soil particles and could not enter the plant roots. The amount of this unavailable water depended on the size and arrangements of the soil particles and on the quantity of colloidal matter present. Thus a soil might be physiologically dry and yet contain more moisture than another soil which was actually supplying water to plants. Further, on one soil (e.g., a coarse sand) 0.3in. of rain would double the water content of the surface root and place it in a good growing condition, while on another soil (e.g., a clay) the same rainfall would be largely retained near the surface, above the roots, and be quickly lost by evaporation. On the sandy soil also the rain would have dissolved any soluble salts accumulated near the surface and have carried them down about the surfaces of the active root hairs, so that the crop would have been fertilised as well as watered; on the clay soil the water might even have the effect of strengthening the upward capillary rise from below, leaving the deeper soil both drier and less richly charged with soluble plant food than before. When the natural particles were caused to agglomerate by tillage, the amount of available water increased; suitable soil texture was, therefore, a very important consideration.

New Flora of Krakatau.—Considerable interest attaches, observes "Nature," to the report by Professor D. H. Campbell, on the new flora of Krakatau (Krakatoa). When the island was first visited by scientific men two months after the great eruption of 1883, the whole surface was buried under a layer of ashes and pumice averaging 90 feet in depth, and in some places reaching double this depth. A clean sweep of living organisms was thus made. Except phosphorus and nitrogen, the elements necessary for plant life existed in the ashes. By 1886, when the island was visited by Dr. Treub, from Java, a number of plants had already established themselves, slimy, blue-green algæ being of special importance in preparing the soil for higher plants. The plants in the interior were found to be quite different from those near the coast, and the preponderance of ferns was remarkable. Since 1897, when another visit was paid, the progress of the new flora has been rapid, this being especially noticeable in 1906 in the case of the forest trees, which made it evident that the island will ere long be as densely afforested as ever. Nitrogen-forming bacteria have played an important part in rendering the soil fitted for vegetation. As regards distributional agencies, there seems no doubt that the earliest plant-immigrants, such as bacteria, blue-green algæ, ferns, and mosses, were wind-borne, and the same is probably true of the first phanerogams, Compositæ, and grasses to reach the island. On the other hand, ocean currents have probably been the chief agents in transporting seeds and fruits, those of the strand plants being almost certainly water-borne.



RHUS SINICA.

An elegant Chinese shrub remarkable for the bright colouring of the leaves in autumn. Exhibited by Messrs. Paul and Son, at the Royal Horticultural Society's Meeting, on the 14th inst., when it received an Award of Merit.

Sicilian Lemons.—It is estimated that, under good cultivation the Sicilian lemon trees yield from 500 to 1,200 fruits per annum, but a good deal depends on whether irrigation can be practised or not. Under the most favourable circumstances, well developed and vigorous lemon trees in Sicily have yielded as high as 1,700 to 2,000 lemons and even more. In the year 1908 there were produced about 23,000 pipes of citrate of lime in Sicily. About 100,000 lemons are required to make 1 pipe (672lb.) of citrate, and it is estimated that about one-third of the total crop is used in the manufacture of citrate of lime. The total production of lemons has more than doubled in the past ten years. In 1897-8 there were manufactured 9,500 pipes of citrate of lime as compared with 23,000 pipes in 1907-8. The chief reasons that account for this extension of the industry are the improved facilities that have been introduced for irrigation of the groves, and for transport of the fruit.

Eucalyptus viminalis. — Mr. Francis George Heath, writing to "The Times," from Silverton, Devon, says:— "The cultivation in this country of the various species of gums, many of which are highly esteemed for their timber as well as for the beauty of their foliage, has hitherto been prevented owing to their extreme susceptibility to our frosts during the early stages of their growth. Hitherto the only species that during those stages has survived our winters is Eucalyptus coccifera. In the spring of last year Mr. P. C. M. Veitch, J.P., head of the Exeter nurseries, knowing my interest in the subject, kindly sent me two or three seedlings believed to be very hardy from seed he had obtained from California. Of these the hardiest, which I augur will exceed the frost-resisting capacity of E. coccifera, is E. viminalis, the osier-barked or 'Manna' gum. It has stood in my garden here absolutely uninjured over 12 deg. of frost, and the seedling of 3in. is now over 10ft. high. It has exceedingly graceful and beautiful foliage, and is highly perfumed. The secret of its hardiness is the early formation of a hard woody stem, in great contrast to the soft-wooded succulent stem of the popular E. globulus, which almost invariably succumbs to our winters."

THE AMATEUR'S PERPLEXITY.

Happy in his gardening experience is he who can say that if he were planting fruit trees in his garden again he would put in the same varieties as he did before. Such a one is indeed lucky, for, however great his experience, and sound his judgment, the cultivator is still to some extent at the mercy of chance, for he may find that something in his soil does not suit a particular variety; or that trees growing upon it are late in maturing their fruit, so that the latest varieties, like Sturmer Pippin, Adams' Pearmain, and Duke of Devonshire, are a failure in any but the best seasons; or that some trees are not upon the stocks most suited to them, a weak grower having been put upon an exceptionally feeble stock, or a strong grower upon a very strong one, for even in nurseries a good deal of work has to be left to paid men, and mistakes will occur. Still, barring accidents, of which there must be some, it is possible by the exercise of judgment, combined with experience and observation, to reduce the number of failures to a minimum. It is hoped that these few notes, by pointing out some of the pitfalls which beset the amateur, may help him, if not in the making of a good selection, at least in the avoidance of some of the mistakes into which so many fall.

Perhaps the most frequent source of failure is the exhibition table. The would-be grower inspects the varieties, and feels he must have this and that, without taking into account the exceptional conditions that have contributed to the placing upon the table of such splendid specimens—selected, perhaps, from the produce of scores, or even hundreds, of trees of the same variety. A given variety may be a poor bearer, extremely subject to canker, very tender, liable to spot, a feeble grower, very slow coming into bearing, etc., etc., but if a grower has a hundred three-year-old trees of it he will be unlucky indeed if he does not get enough fruit to be able to show a half-dozen selected specimens. If you had a dozen bushels of the ugliest variety of apple grown you would probably be able to pick out half a dozen that were fairly presentable. It should be remembered, too, that the finest specimens are usually obtained from two or three-year-old trees, of which a nurseryman, of course, has a large stock.

Varieties are all too numerous, and are becoming yearly more so. In some lists nothing is mentioned that is unfavourable to any variety which is catalogued, though there are few varieties of fruits which do not possess some drawback. If a variety is a poor grower, or bad cropper, or very tender, the catalogue should say so, but it rarely does. The comparing of two or three catalogues together also adds to the planter's perplexity, but it may also save him from hastily deciding upon certain varieties when he sees what different opinions are held by people of experience.

For instance, one describes Lord Burghley apple as a small grower only suitable for garden culture, while another says that it forms a large pyramid and a good standard. Of Winter Nelis pear one says that it is hardy and a good cropper, and another that it is tender, and can only be depended upon as a garden tree or on walls. Of Oullin's Golden Gage plum, one says it is a shy bearer until the tree gets old, and another that it is remarkable for its abounding fertility. No less perplexing is the diversity of opinion as to the quality of different varieties. One says that the old Roundway Magnum Bonum apple is the best dessert kind, richer in flavour than Cox's Orange Pippin, and withal fruitful on the paradise, while another well-known list omits it altogether. One says that that beautiful pear, Josephine de Malines, is one of the most regular-bearing sorts we have, while the first grower you meet will probably tell you that he has a difficulty in getting it to fruit, at least, until the tree gets old.

There is no doubt that not only do fruits behave very differently in different soils—a liability to variation which is increased by the varying nature of the stocks upon which they are worked—but that nurserymen have different strains of the same fruit, strong or weak, prolific or the reverse, early or late, more or less highly coloured, and so on. It is a well-known fact that two Blenheim Orange trees may be growing side by side, and the fruit on one be different from the fruit on the other. This increases the element of luck in the purchase of fruit trees. I have had some striking instances of this in my own experience. Catalogues tell us that Fearn's Pippin is a small grower, and an abundant bearer, but with me it grows so rampantly that no pinching will subdue it, and I have had to vigorously root-prune it, while during the half-dozen years I have had the tree—a cordon on the paradise—it has scarcely produced anything. So with Lord Burghley, which someone writing about in one of the gardening papers a little while ago, said was the worst grower and bearer he knew of, and yet with me it grows too strongly for the space assigned to it, and bears fairly well.

Similar instances might be multiplied. Novices at fruit-growing may well say it is hopeless to make a successful selection of varieties for planting. If he is quite a novice it doubtless is so, and the best thing he can do is to take the advice of some experienced gardening friend or nurseryman. But whether inexperienced or otherwise the first thing to do is to make up one's mind for what definite purpose one wants the fruit. To go to a man and say to him, "Tell me some good apples to plant," is as careless and diffuse a way of speaking as to say, "What book shall I read ?" It is of no use consulting catalogues or friends until one has quite settled in one's own mind whether one wants dessert or cooking sorts, early, mid-season, or late; whether as standards, dwarfs, or wall-trained, etc., having regard to the nature of the soil and situation, with all that it involves in the matter of spring frosts, early or late ripening, the inducing of canker, and other considerations which lead the experienced amateur to determine what sorts he will plant. All this needs careful study, and after it one is in a position to profit by a friend's advice, and to put some leading questions to him, with the result that one's mistakes may be reduced to a minimum. There is one mistake most of us make, and that is in the planting of too many varieties. It is interesting, of course, to have in one's garden a collection of varieties, but the more sorts the more failures, besides which, after the novelty of growing the different sorts has worn off, one wishes that he had more of the best sorts, and less of the indifferent ones, as some are bound to turn out to be. The most valuable help one can get is to see the sorts which succeed best in gardens adjoining one's own, or in the near neighbourhood, assuming the soil and general conditions are somewhat similar. As regards the number of varieties, it has been said of apples that a half-dozen dessert, and a half-dozen culinary varieties are enough for any man, and yet we generally want to plant more. The sorts which are really excellent in all respects, however, are not much more numerous than this, and if we can find out two or three of these sorts which do well in the neighbourhood, the best thing to do, if they answer our purpose as to season, etc., is to plant as many of them as we have space available for.

ALGER PETTS.

ANEMONE BLANDA.

Earlier than the delightful Apennine windflower, what is known as the Greek windflower (Anemone blanda) is in no whit behind that charming flower in its attractions to our eyes. Its popular name is somewhat misleading, inasmuch as it is not a native of Greece alone, but is widely spread throughout the Mediterranean region, and some of our most beautiful forms have come to us from Asia Minor. Thus I should almost prefer the other popular term of Winter Windflower to that which gives a false impression of the nationality of the flower. Yet the name matters little when the flower itself is so beautiful.

It is like the Apennine windflower in its general appearance, but it owns several points of distinctness. For one thing, it is earlier; sometimes, in favoured places and in favoured seasons, coming into flower at Christmas, and lasting even till its congener, A. apennina, comes into blow. It is seldom, however, that it blooms so early, and it matters little, for we have, as a rule, too little sunshine to induce it to open its starry flowers. In February and March it is probably at its best, and then a group of its blue, starry flowers, moving on their slender pedicels with every breath of wind, is delightful indeed. It is dwarfer than A. apennina, has larger flowers, is harder and smoother in the leaves, and is even more enduring than it when in suitable places, although in poor and sandy soil, where I have seen A. apennina do well enough, A. blanda is liable to become weak and die out.

It is easy for those who know the true plant to distinguish it from A. apennina, but, as I have seen the latter, which is cheaper, supplied for A. blanda, it may be well to point out one great distinction between the two. The carpels of A. blanda have a black-pointed style.

It is not difficult to find room in every garden for A. blanda, as it can be accommodated on the rockery, in the border, or even in thin grass or on bare banks, where it may catch the early sunshine, for it will not open well in the shade. This charming flower, of a deep blue in the type, and not more than four inches high, can surely be granted a place in all our gardens.

There are quite a number of forms or colours of this lovely anemone. One of the prettiest of these is A. blanda scythinica, which has white flowers, with the outside of the petals blue. There are other forms, such as white, light blue, and deeper blue ones. The late Mr. James Allen raised a pink one, which I have the good fortune to possess.

This windflower seems to prefer a rather strong soil, and in such thrives better and gives larger flowers than in a poor one. Like other anemones, A. blanda is subject to several diseases, and the best preventive for any of these is the drastic, but effectual one of removing all infected plants and burning every vestige of them, and even charring some of the soil in which they were placed. Planting is effected in autumn, when the tubers are at rest. Seedlings can be raised, but the seeds must be saved just as they are about to fall from the carpel, and sown when ripe.

A.

TULIPS FOR GARDEN DECORATION.

Of all the bulbous plants that are used to embellish our gardens none are either more beautiful or possess a greater variety of colouring than the tulips. From a very early date they have been great favourites, and their cultivation in olden times was not less enthusiastic than it is to-day, though they were grown less then for cutting than now. To prolong the season of bloom it is necessary to grow both the early and late flowering kinds, and these are divided into various groups, such as Early, May-flowering, Parrot, Darwin, etc. Each and all in their way are very beautiful, but it is more with the self-coloured forms that we wish to treat at the present time, as these are far more effective for bedding when employed with other plants as a groundwork, than are those having various colourings on the same flower.

First let us treat of the plants to be used as a carpeting. Though these are by no means numerous, they are ample for the purpose. Of the myosotis, or forget-me-not, there are various shades of blue, in addition to the white forms. Seeds sown in July will produce plants large enough for putting out by the time the beds are ready for them in the autumn. Where a large quantity have to be required sow the seeds thinly on a north or shaded border, where the soil can be kept moist. In such a place the seeds will germinate freely and the plants grow away rapidly. When large enough to handle, prick them out about four or five inches apart, and let them stand until the beds are ready, when they can be lifted with balls of earth attached. The same remarks apply to Alyssum saxatile compacta, the common white arabis, aubrietias, and others of that class. Pansies and violas may also be treated in like manner; but where particular shades of colours are desired, they are best grown from cuttings. By sowing early in July, and giving the plants liberal treatment, the majority of them will be in bloom by the autumn, so that the best may be picked out, keeping each distinct colour by itself.

There are many plants, however, that will not seed readily, and these must be propagated by cuttings. The double white arabis is one of them, and nothing could be more beautiful for carpeting beds in which some of the tall May-flowering tulips are planted. If cuttings of this plant are inserted in a light sandy soil in a north border they will soon take root, and thousands of them may be propagated in this way with but little trouble. When rooted they should be transplanted, so as to induce them to make a sturdy growth. The various wallflowers are also useful, but a preference should be given to the dwarf-growing kinds when employed for this purpose. The seeds should be sown thinly in June or early in July, and when the plants are large enough to handle prick them out sufficiently far apart in an open space on poor ground to induce them to grow the more sturdy. There are also some annuals which, if sown in the autumn, will flower early in spring. Having a good stock of these plants, there should be no difficulty in making a fine display, provided the colours are properly blended, and the varieties so arranged that both the carpet beneath and the tulips above flower at the same time.

Amongst the early-flowering tulips the Pottebakkers, Proserpine, Yellow Prince, Chrysolora, White Hawk, La Reine, and Crimson King are the best selfs, while in mixed colours Keizerskroon, Duchesse de Parma, Rosa Mundi, and the like are useful. The May-flowering class, however, are by far the most effective. What can be more beautiful than a bed of forget-me-nots over which are fine bold flowers of Mrs. Moon, Gesneriana lutea, or Mrs. Keightley tulips are waving their stately blooms? When well grown the stems of these tulips vary from eighteen inches to two and a-half feet, so that in exposed places they will need slight supports. The first-named grows the tallest, and produces bright yellow pointed flowers, while lutea is of globular form, large size, and good substance. Mrs. Keightley is pale primrose. There are several others of this class varying from a pale primrose or straw colour to a deep orange-yellow, such as elegans maxima lutea, retroflexa, vitellina, Leghorn Bonnet, ixioides, Illuminator, and the old Bouton-d'Or, all first class.

Of whites we have such varieties as the old Picotee, or Maiden's Blush, which has for a long time been a great favourite: then there is the Parisian White, a fine globular form; Milkmaid, a dwarf-growing variety, suitable for small beds; Didieri alba, White Swan, Snowdon, elegans alba, and Creamy White. The beautiful shades of pink and fawn colour should not be overlooked, as amongst these we have some of the finest blooms, notably Inglescombe Pink, La Perle, The Fawn, La Merveille, and others. Amongst the most showy of all the tulips are the scarlets and crimsons. The old Gesneriana is a fine, tall-growing kind; macrospila, Greigi, spathulata major, fulgens, and its early form, elegans, are all beautiful in their way, and may be grown in beds carpeted with other plants to harmonise with their colours. The number of varieties producing striped and mixed-coloured blooms is very large, and these, as a rule, are best planted in groups by themselves in borders, that their colouring may not clash with other things: Bridesmaid, Bronze Prince, Clusiana, Bainty Maid, Billietiana, Shandon Belle, and Striped Beauty, are all good.

We now come to the Darwins, which are noted for their long stout stems and blooms of remarkable beauty. These are best

MAY-FLOWERING TULIPS AT KEW.
Combined with violas, wallflowers, and other fibrous-rooted plants flowering in spring.

planted in rather a shady position, so that the bright sunshine may not take the colouring out of their thick fleshy petals. The colours range from a creamy-white to almost a jet black. For cutting they should be grown in quantity, as their stems are stout enough to carry the blooms erect when placed in vases. Then we have what are called the Parrot tulips, but as these produce flowers out of all proportion to the strength of their stems, they cannot be recommended either for cutting or for making a display in the flower garden, as the flowers flop over so much, unless staked, that they come in contact with the soil, and are therefore spoiled by the heavy rains in spring. There is one other set, the old English varieties, which include Bizarres, Byblœmens, and Roses, all known by their various markings. These florists' tulips are best grown by themselves, where each can be given proper treatment, but I do not advise their cultivation for making a display in the flower garden, as the colours, as a rule, are not bright enough for that purpose, but as show flowers they are a most interesting group, and should be cultivated on that account.

H. C. Prinsep.

Buxted Park Gardens.

PROFITABLE FRUIT GROWING for Cottagers and Small Holders of Land.—By John Wright, V.M.H. A Gold Medal Essay, written for the Worshipful Company of Fruiterers. Fully illustrated. Price 1s., by post 1s. 3d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

LACHENALIAS FOR THE CONSERVATORY.

For the decoration both of house and conservatory in the late winter and early spring months some of the lachenalias, or Cape hyacinths, are well worthy of cultivation, one of the prettiest and most useful being L. Nelsoni, a garden variety, raised, I believe, about 1880.

This may be grown equally well in pots or baskets, but is perhaps seen at its best when well grown in small wire baskets. I find it succeeds well in a compost of three parts good fibrous loam, one and a-half parts of leaf-mould, a similar proportion of spent mushroom bed manure, and one part each of sand and burnt earth from the rubbish heap fire, to which may be added a little dried cow manure rubbed through a half-inch sieve, the whole being well mixed.

LACHENALIA NELSONI.
As grown at Hatfield House for conservatory decoration. Flowers rich golden-yellow.

About the end of July or early in August the baskets, six inches to eight inches in diameter, and nearly as deep, should be lined with fresh moss, about one and a-half inches of the compost being placed in the bottom over the moss, and the bulbs set about one and a-half to two inches apart on this, with the crowns close to the moss, and pointing slighting downwards; another layer of soil and bulbs should be added, and the soil made firm: then follow with a third layer of soil, and the bulbs towards the sides, as well as some bulbs, crown upward, about two inches apart, over the surface, using sufficient soil to well cover them. When finished the soil should be fairly firm, with a space of about half an inch left at the top of the basket to allow of watering.

The baskets may be suspended from the roof of a cool greenhouse, syringed once or twice on all fine days, and watered only when the soil is thoroughly dry until they are well filled with roots, when they will require more frequent waterings. I find that to examine them once or twice weekly, for watering, is sufficient during the winter months. When the flower spikes appear assistance may be given in the form of a little artificial manure. Unless required for increasing the stock the small side growths from new bulbs, at this time showing rather freely, should be removed carefully.

After flowering, watering and occasional feeding should be continued until the foliage has naturally died down and the bulbs are quite resting. At this time I prefer to carefully shake out the bulbs, place them in shallow boxes, and in fine weather stand them outside in a sunny position until they are thoroughly ripened, and then store them until the time to again start them into growth arrives.

Hatfield House Gardens. H. Prime.

THE POET'S NARCISSUS IN THE WILD GARDEN.

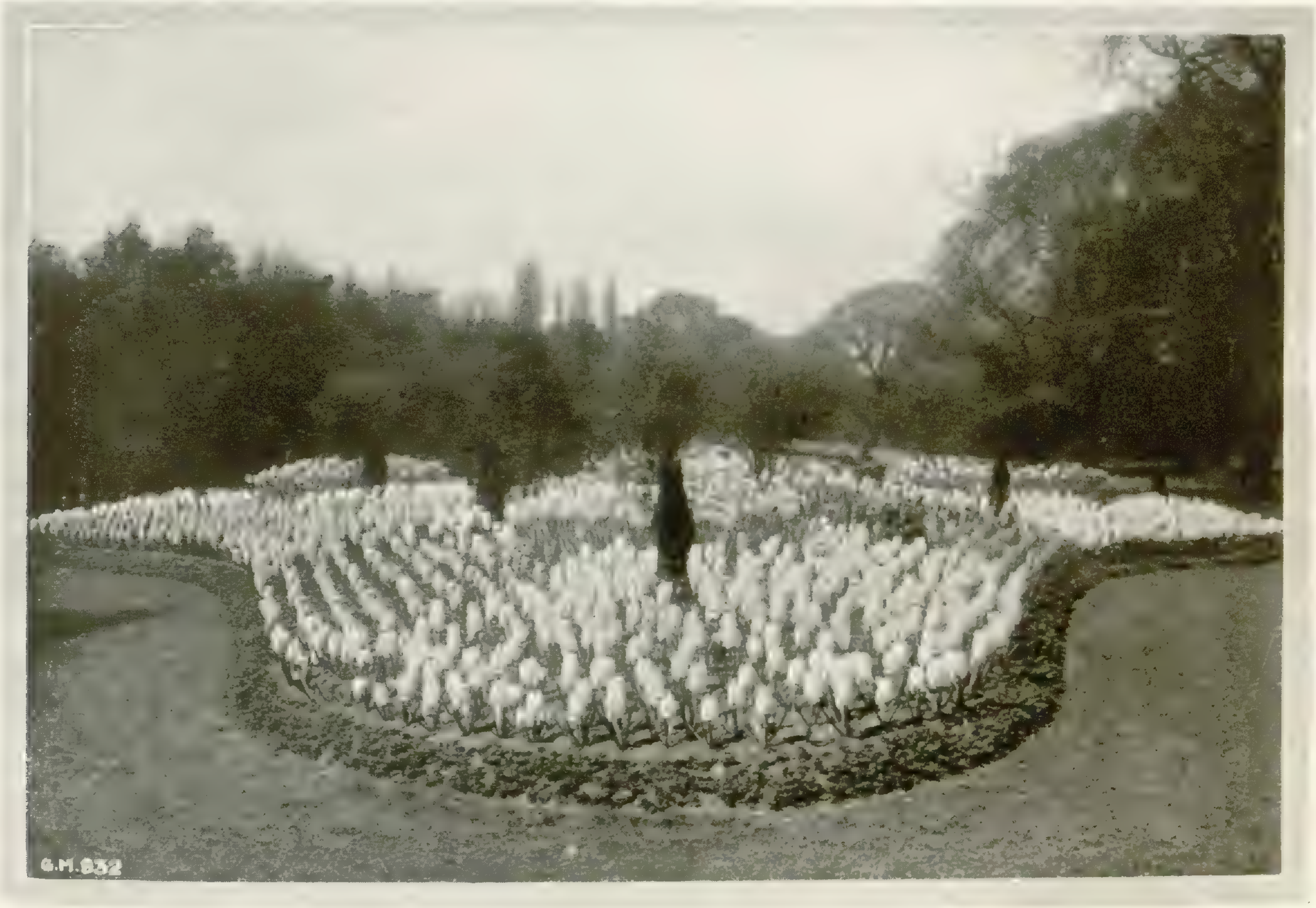
The poet's, or pheasant's-eye, narcissus, Narcissus poeticus, is infinitely prettier when planted amongst grass in the wilder parts of the garden than when grown in a formal bed, and it is one of the best of the numerous species for planting amongst grass. It thrives best in good loamy soil, but is quite a success in land of a light character, and plantations made fifteen years ago in the latter kind of soil continue to give a good account of themselves. It is specially suited for planting in the vicinity of dark coniferous trees, the dark green foliage forming a suitable setting for the delicate white flowers. As to whether this, and, in fact, any kind of narcissus, is to look well or not when planted in grass depends largely on the planter, for if he plants without thought and taste the effect is wretched. Hard lines must be avoided, and so must a repetition of the same-sized groups. Copy nature as far as possible; here and there extensive patches of irregular outline must be formed, with open spaces between, and again a small patch, a group of three or four bulbs, or even a single one. On the outskirts of the groups, likewise, a few bulbs should be scattered here and there several yards away, so that the idea of planting is done away with as far as possible. In fact, they must be made to look as one would expect to find them if they had been sown broadcast, or, if such a thing were possible, had been blown about by the wind.

As this is the narcissus that a certain amount of romance centres round, it is worth a little trouble to have it at its best. Tradition says that it was this particular sort that was created by the gods from the corpse of a very beautiful youth of Bœotia. Of this youth it had been prophesied that he would lead a very happy life until he saw his own face. He was petted and courted by everybody until one day, after becoming very heated whilst hunting, he stooped to quench his thirst in a stream of clear water, and saw the reflection of his face. He was so enamoured with his own beauty that he could not stir from the spot, and eventually died there. From his corpse the flower is said to have sprung.

D. K.

HYACINTHS IN THE FLOWER GARDEN.

Although it can hardly be said that hyacinths compare favourably with narcissi and tulips in the production of colour effects in the garden during the spring months, they are so distinct in character and attractive in colouring that they possess a value for garden decoration that should not be lost sight of. They are too formal to appeal to some flower lovers, and the bulbs are comparatively expensive, but their formality assists the planter in producing distinct contrasts, and suitable varieties for outdoor culture are not so costly as to be beyond the means of the majority of the owners of gardens. Those who would be satisfied with bulbs selected according to their colours, and sold without name, may fill their beds and borders at a really small cost.



AN EFFECTIVE ARRANGEMENT OF HYACINTHS IN ASSOCIATION WITH NARCISSI, REGENT'S PARK.

There is an advantage in the purchase of hyacinth bulbs for outdoor culture under name, as the planter is able to obtain exactly the shades of colour desired, and flower spikes uniform in height and shape. There is no occasion to select first quality bulbs, such as are desirable for forcing and pot culture generally, and for a long number of years the writer has planted second-size bulbs of the finest of the cheap varieties, which can be obtained retail at a price per hundred averaging about twenty-five shillings. The results have been most satisfactory, and to those who have no occasion to exercise the greatest economy in the garden this practice can be recommended. The cheap varieties of special value for massing in the flower garden are: shades of red, Gertrude, Gigantea, King of the Belgians, and Robert Steiger; white, Grandeur à Merveille, L'Innocence, and Madame Van der Hoop; shades of blue, Grand Maitre, King of the Blues, and Shotel. The bulbs, in selected colours, cost about a guinea a hundred, and the most effective shades are bright red, bright blue, porcelain blue, and white.

There is no necessity for preparing the beds and the stations in borders otherwise than by the application of a dressing of leaf-mould or some such material, and moderately deep digging. To produce a really good effect the bulbs should be planted from nine to ten inches apart, when they are grown by themselves, or twelve inches apart when associated with fibrous-rooted plants, such as the evergreen candytuft, aubrietias, and double daisies. It is of importance that the fibrous-rooted plants be of low growth.

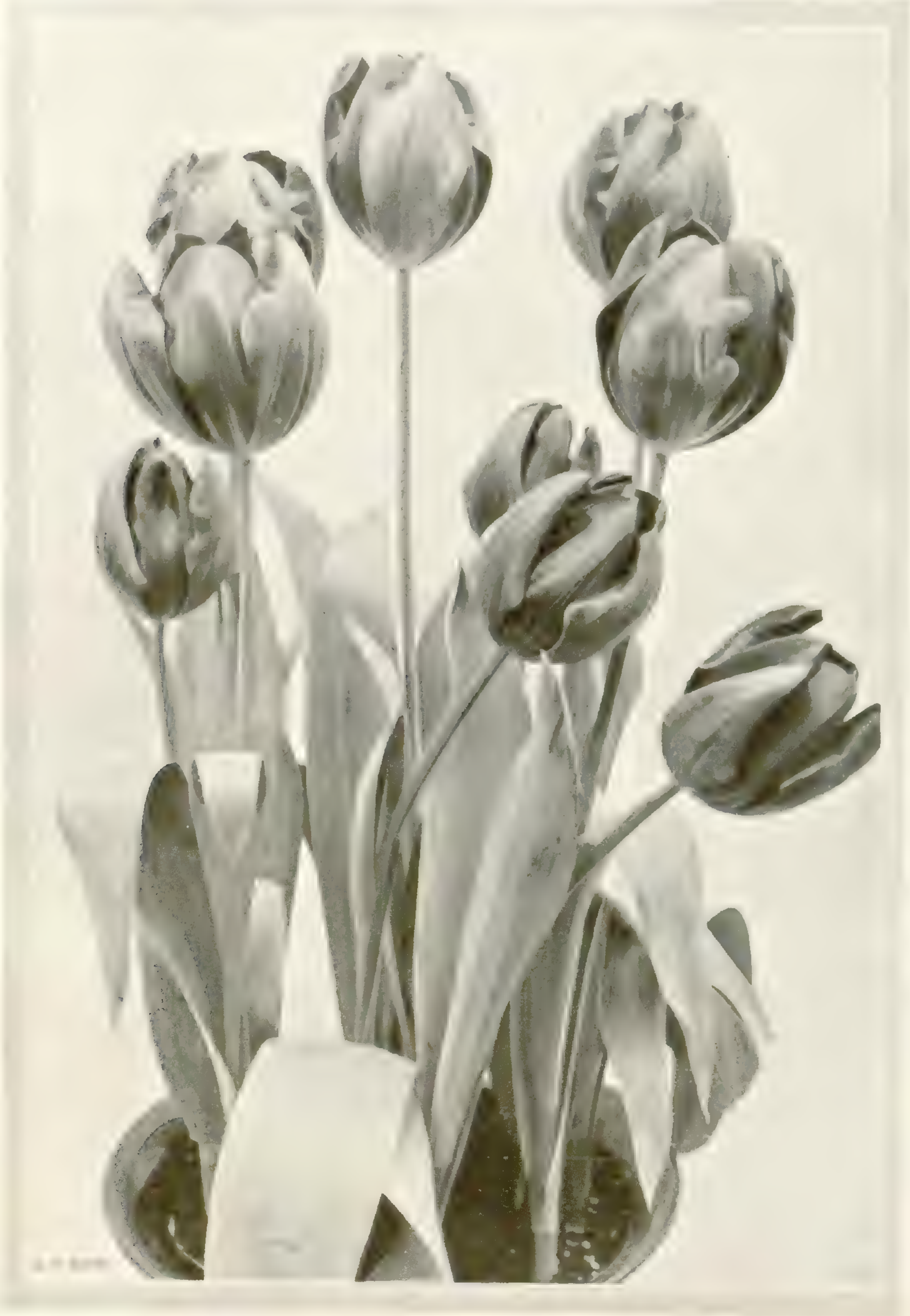
One of the finest displays of hyacinths that has yet come under the notice of the writer was the arrangement that formed so striking a feature in Regent's Park in the spring of the current year. The illustration given herewith will afford an excellent idea of the arrangement which brought so much praise to Mr. A. D. Webster, the superintendent of this park. It will be seen that the larger-growing narcissi, particularly Sir Watkin, were arranged in bold groups, in association with the hyacinths, and did much to relieve the sameness that characterises beds which are composed mainly of the last-named flowers. Six varieties of hyacinths were used in the planting of the huge bed, the number of bulbs being about 3,500. For the sake of a diversity each variety was massed separately, the harmony of colour arrangement being readily carried out with such varieties as Robert Steiger, Gertrude, Gigantea, Grandeur à Merveille, Grand Maitre, and La Peyrouse. The large masses of Sir Watkin narcissi were arranged round the dark cypress, and golden privets in the centre, and towards the back, and on the margin was a bold band of saxifrage, which formed an excellent finish to what was properly regarded as one of the most effective arrangements of spring flowers that has yet been made in Regent's Park.

G. G.

INEXPENSIVE NARCISSI.

The activity of the raisers of new narcissi has of late years been so great as to materially augment the number of varieties in commerce, and to increase the difficulty usually felt by the less experienced cultivators in making selections of these highly popular and extremely beautiful spring flowers. As a grower with considerable experience and possessing an extensive collection, I do not complain of what is being done in the creation of new forms; but, on the contrary, am always ready to give a hearty welcome to varieties that combine distinctness with high quality. I am not thinking of myself and other experienced cultivators, but of those who are not well acquainted with any considerable proportion of the numerous varieties, and are consequently much perplexed when they take up a catalogue for the purpose of making a selection that can be purchased at a comparatively small cost. The purchaser of high-priced varieties will not be in need of assistance, for he will have been careful to become acquainted with the new varieties as they are presented to public notice, and, in the case of any that he may not have seen, he will look up the reports of the spring exhibitions in the Gardeners' Magazine, and see whether they have received awards from any of the principal societies. The inexperienced cultivator, on the other hand, may, in making selections, attach too much importance to the price as a guide to the value of a variety for beautifying the garden. Generally speaking, the more expensive varieties are the best in their several sections and shades of colour; but this is not invariably the case, the price being sometimes determined by the difference in the rate of increase. For instance, such fine varieties as Barri conspicuus, Emperor, Bicolor grandis, and Sir Watkin have a strong constitution, and multiply at so rapid a rate that the growers are able to place them on the market at a very low price.

It is always advisable to commence the cultivation of narcissi with the best of the inexpensive varieties, for should there be a failure consequent on the cultural requirements being imperfectly understood, the stock can be readily replenished. Not so with the expensive varieties, and when the losses are heavy, there is usually a strong tendency to abandon the culture of daffodils. The advice I usually give to my friends who become interested in these flowers is to buy the best of the established favourites, and when sufficient progress has been made to grow them well, to add the more expensive forms according to the amount of money they may be disposed to spend. This advice may be repeated here with advantage.



TULIP PRINCE OF AUSTRIA GROWN IN FIBRE.

A handsome variety with orange-scarlet flowers.

In making a selection of varieties that are inexpensive and meritorious, I shall arrange them in two groups. The first of these will contain varieties that may be purchased retail at a rate not exceeding half-a-crown per dozen, and the second varieties that will not cost more than seven shillings and sixpence per bulb. A considerable proportion of the varieties in each of the groups will be much less than the maximum stated. Those forming the cheaper group should, it may be suggested, be utilised in filling beds and borders, in planting in the grass, and in forming beds in the kitchen garden for the supply of cut flowers. The varieties forming the other groups should be used chiefly in the formation of clumps along the front of herbaceous borders, the size of the clumps being in some measure determined by their cost. Twelve bulbs will form an effective group, but a less number will suffice in the case of those approaching the maximum price. They should be planted in moderately open spaces, and the position clearly marked to avoid the risk of their being injured by any of the tools when the leaves have died down. The cheaper kinds may also be arranged in the herbaceous borders in groups of a dozen or so bulbs in each, where considered desirable.

The following will make an excellent selection of inexpensive narcissi. Large trumpet varieties: Ard Righ, rich yellow, early, and effective; Empress and Grandis are two fine bicolors of high quality. Mrs. Walter T. Ware and Princeps are also meritorious bicolors, and of exceptional excellence in the bicolor section is Victoria, a very strong growing and effective variety of which it would be difficult to speak too highly. C. W. Cowan and Countess of Annesley are two charming varieties with light perianths and bright yellow trumpets. Emperor is strong in growth, has rich yellow flowers is effective, and one of the best for the wild garden. Golden Spur, rich yellow; M. J. Berkeley, bright yellow; Moschatus, white, dwarf in growth and very pleasing; P. R. Barr, primrose perianth, with yellow trumpet, very fine; William Goldring, white. Barri varieties: Barri conspicuus, yellow, with orange-scarlet margin to the cup; Flora Wilson, pure white, with yellow cup edged with scarlet; and Maurice Vilmorin, cream-white, with lemon and red cup. Incomparabilis varieties: Stella superba, white with yellow cup, and Sir Watkin, bright yellow, of much value for extensive planting. Leedsi varieties: Minnie Hume, Mrs. Langtry, and M. M. de Graaff may be specially mentioned for their distinctive beauty; they have all white perianths, and the first-named has a white cup, while the other two have yellow cups.

The selection of more expensive varieties should include the following: Large trumpets: Apricot, perianth white and trumpet apricot buff; Duke of Bedford, a very fine bicolor; Hodsock Pride, a superb variety, with flowers of large size, the perianth white, and the trumpet rich yellow; Countess of Cadogan, a charming variety, with elegant flowers, the perianth white, and the trumpet primrose; Glory of Leiden, flowers large and of a rich shade of yellow; Madame de Graaff, white perianth, pale primrose trumpet, very beautiful; Weardale Perfection, white perianth, with primrose trumpet. Barri varieties: Dorothy E. Wemyss, white perianth and pale yellow cup; Sensation, primrose, the cup-edged scarlet; Incomparabilis varieties; Brigadier, flowers large, perianth white with yellow cup; Flambeau, yellow, with orange-red cup; Gloria Mundi, yellow, the cup marked with scarlet; Lulworth, white, with orange cup; and Torch, yellow perianth and red cup. Leedsi varieties: Albatross, Ariadne, Elaine, Seagull, Waterwitch, and White Lady are six varieties that can be specially recommended. Nelsoni varieties: Lady Gore Booth and White Wings are two distinct and charming varieties.

A. D. C.

BULB CULTURE IN MOSS FIBRE.

As so well known to our readers, Mr. Robert Sydenham has for some years past given special attention to the cultivation of bulbous plants in moss fibre for indoor decoration and achieved much success in his endeavour to popularise this simple method of flower production. At one of the spring exhibitions held this year by the Royal Horticultural Society, Mr. Sydenham offered liberal prizes for hyacinths, tulips, narcissi, and other bulbs grown in moss fibre, and one of the most successful of the exhibitors on that occasion was Mr. W. Howe, gardener to Lady Tate, Park Hill, Streatham Common. Impressed by the success achieved by Mr. Howe in the use of moss fibre, we had several of his specimens photographed, and some we have the pleasure of illustrating herewith. Mr. Howe has kindly written, in response to our request, an article fully describing his method of procedure. He writes:

I have much pleasure in giving your readers particulars of the method of procedure which I have found to answer admirably. In preparing the moss fibre it is necessary to see that all lumps are broken up fine, and to each bushel of the fibre add about 7 or 8 lbs. of crushed oyster shell, and about 6 lbs. of crushed charcoal. Mix the materials thoroughly, and add enough water to just moisten the fibre. Let it stand about twenty-four hours before using, by which time it will have greatly increased in bulk.

If used in vases without drainage a few pieces of charcoal should be placed at the bottom of each vase to keep the compost sweet. According to the size of the vase put two or three inches of the fibre on the charcoal, and then place the bulbs in position, as many as may be required for the size of vase. Work the fibre between the bulbs lightly, and cover the latter with an inch of material, but do not press it tightly, as they root better when the compost is loose. Fill up the vases to about an inch below the rim.

When the bulbs are potted they should be plunged in cocoanut fibre refuse or similar material, and covered to a depth of two or three inches, and not watered till the bulbs have made an inch of growth; if possible, glass lights should be placed over them to keep off rain. When they have made the growth as before mentioned they should be taken out of the plunging material and carefully examined, and any that are dry should be given just enough water to moisten the fibre, then placed in a frame for a few days, and covered over with any shading material that may be available. Subsequently they can be exposed to the light, and brought into the greenhouse as required, and from thence to the forcing houses, providing they have made plenty of roots, and whether they have done so or not can easily be ascertained by lifting a little of the fibre with a pointed stick.

The principle point to ensure success in the cultivation of bulbs in moss fibre is careful watering. The fibre must always be kept in a moist state, and any that show signs of being too wet must be placed on their sides, and the water allowed to drain out of the vases. I find a little soot water, weak, is beneficial to them, also weak guano water when the flowers are becoming prominent.

I tried some narcissi and tulips last year in fibre in the ordinary pots, and they did remarkably well, the flowers being quite up to the standard of those grown in soil. This year I shall grow more bulbs in the fibre. The following are the varieties that I grew in fibre last season:

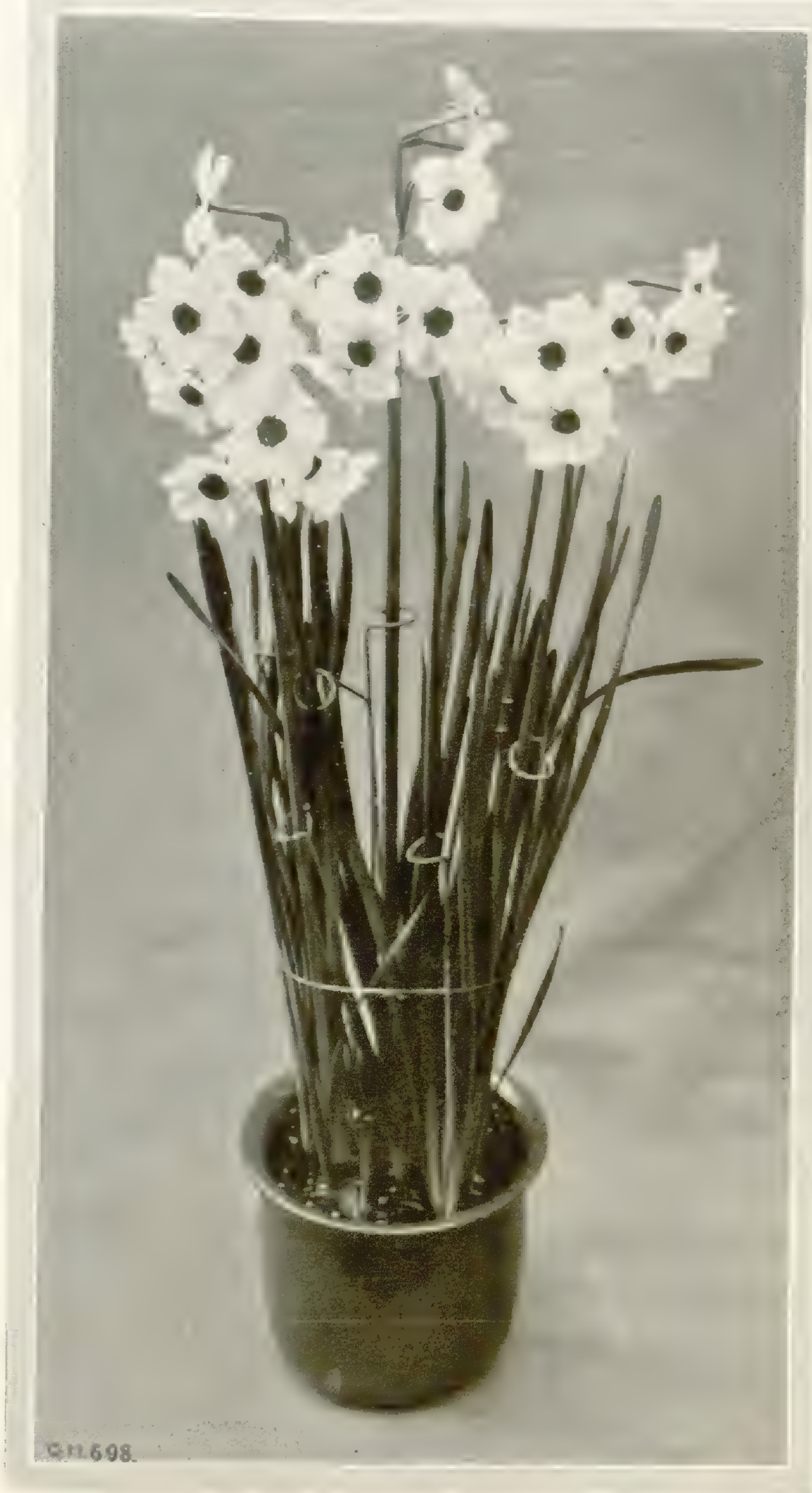
Narcissi.—Emperor, Empress, Golden Spur, Victoria, Madame Plemp, Madame de Graaf, Albicans, Lulworth, Glory of Leiden, Waterwitch, Barri conspicuus, Sir Watkin, Campernelle, Rugulosus, Poetarum, Poetaz Aspasia, Poeticus ornatus, and Van Sion.

Tulips.—Duchesse de Parma, Keizerskroon, La Reine, Mon Tresor, Prince of Austria, Proserpine, Rose Gris de Lin, Thomas Moore, Unique, Van de Neer, Vermilion Brilliant, White Pottebakker, and Grace Darling.

Hyacinths. — Balfour, Grand Lilas, Grand Vedette, Grand Maitre, L'Innocence, Isabella, Jacques, Johan, Koh-i-noor, King of the Blues, King of the Belgians, and La Grandesse.

Wm. Howe.

The Gardens, Park Hill,
Streatham Common.



POETAZ NARCISSUS ASPASIA GROWN IN FIBRE.
A valuable variety for indoor culture; the flowers white with yellow cup.

Rose Madame Isaac Pereire.—This hybrid Bourbon rose is one of the best for growing for the production of cut flowers throughout the summer season. It is a grand variety for training over arches and pergolas, as plenty of space is necessary for the full development of the branches. Severe pruning is, I think, a mistake, except where the plant is growing in very poor soil. I have one very large specimen that I would not like to be without, for it has supplied me with flowers for vases every week since last May, and still bears many buds. The flowers are deliciously fragrant. The only fault I find is the very early buds open with green centres.—G. B.

OUTDOOR CULTURE OF HIPPEASTRUMS.

The culture of these bulbous plants has hitherto been under glass, and therefore to advocate their being planted in the open may at first appear somewhat startling. Yet, when we consider the origin of the progenitors of the present-day hippeastrums, there appears to be no reason why we should not grow them outside in suitable positions, and there are spots in many gardens where these bulbs might be planted. Where the culture of hippeastrums is taken up it very often occurs that in growing on seedlings one obtains more bulbs than the space at command will accommodate, for friends will not always take the surplus, and one hesitates, after growing them to the flowering stage, to throw them away; hence the question as to what to do with the surplus arises.

There are in many gardens narrow borders of 18in. or so width, in front of houses or pits, that cannot be utilised for many subjects, and in such places the surplus bulbs can be planted. If protection from heavy rains and severe frosts is given, such borders furnish an ideal place for the purpose. Excessive wet would be the chief thing to guard against, as the winter is the period of rest for these bulbs. Except in very severe frost the warmth from the houses would keep them safe in that respect.

The position here described is what the plants would also enjoy during the summer months, and an occasional watering during that period would supply their needs.

Under such conditions I have seen as fine flowers produced as the same bulbs would give cultivated in pots under glass. The bulk of the plants grown in pots will now be gradually ripening up, and when they have matured and are dormant the autumn provides a suitable time for transferring any not required to the narrow borders mentioned. A prepared bed is not necessary for the bulbs, and if the staple consists of fairly good garden soil, it will answer well for their culture.

T. H. Slade.

CHRYSANTHEMUMS.—For full instructions on the Culture of Early-flowering Chrysanthemums in beds or borders for garden or greenhouse decoration, read the Second Edition of CHRYSANTHEMUMS FOR GARDEN AND GREENHOUSE, by D. B. Crane, price 2s. 6d. net; or by post, 2s. 10d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

BULBS FOR MID-WINTER DECORATIONS.

The flowers of bulbous plants are so thoroughly appreciated by everyone at the present time that there is a great demand for them in a cut state, and for the plants for conservatory and room decoration. No doubt much of their popularity is due to the ease and rapidity with which they may be had in bloom, and there are very few places where they are not required in bloom quite by Christmas, or as soon after as possible. The flowering of bulbous plants in these days of cold storage is nothing like so difficult a matter as was the case a few years ago, and a quite respectable display of bulbs may be had at midwinter, providing, of course, one has suitable accommodation for them.

HYACINTH JACQUES GROWN IN FIBRE.
A charming variety; the flowers bright pink.

Where house room is limited, and cut flowers are in great demand, bulbs are especially welcome, and it is really wonderful the many batches that may be passed through one house during the season. Now, to obtain good results in the early forcing of all kinds of bulbs an early commencement is essential, and good, firm, well-ripened bulbs must be secured. Although by commencing now a certain degree of success may be achieved, the cultivator cannot hope for the same success as when an earlier start is made. It is not, of course, necessary that the actual forcing should be in process, but the bulbs should all have been potted up, and most of them making roots in the ash bed.

Those who have for many years been forcing bulbs will have their own favourite varieties and methods of forwarding them, but this need not deter me from giving the names of some of the best, and a few notes on their culture. We all know what a simple matter bulb growing in pots is when their flowers are required near their natural time of blooming, but to have them really early there are several very essential points to be borne in mind. The chief one is to have them well rooted before any attempt is made to subject them to artificial heat, and this applies to all classes of bulbs, with perhaps the exception of the lily of the valley.

Liliums.

In large establishments where there is plenty of room liliums should be grown largely for midwinter blooming, as they are splendid subjects for decorative purposes, and the varieties best suited are L. longiflorum, L. speciosum Melpomene, and L. speciosum album Krætzeri. These, of course, must be retarded bulbs from the year previous, and be obtained from cold storage about the end of July or early in August, and potted straight away either singly in 48's, or three in 24's, according to requirements. Nothing suits them better than friable loam and sand, to which has been added some well-broken charcoal. In potting bulbs of the speciosum varieties a little room may be left for a top-dressing, but with the longiflorum bulbs this is not necessary. After potting they should be placed in a fairly cool position out of doors, and the pots just covered either with leaf-mould or old straw litter. Here they will soon make root, and should not be disturbed till the middle or end of September, when they should be brought indoors and given a temperature not higher than 50 to 55 degrees at night, according to the weather, which will promote a steady growth, and it will not be necessary to give them more heat than this till the bloom buds are well formed, or dropped buds will result; but should it be necessary after this the temperature may be raised to 60 or 65 degrees.

During growth watering must be carefully done, and a little liquid manure given them when well rooted, also one or two moderate applications of Peruvian guano may be made, but it is necessary to be very careful about the time the bloom buds are forming. A little air should be given during the day on all favourable occasions, and light fumigations will keep down green-fly. Under this treatment they should flower well, although, of course, the blooms may not be so large or quite as many on a stem as if flowered during July and August.

Freesias.

Freesias are also very much sought after for flowering during the winter, and to have these in good condition during January corms should be secured early in August, and potted seven or eight in each 48-size pot. Use a light compost consisting of loam, leaf-soil, well-rotted manure, and sand. After potting place in a quite cold frame until the young growth is about two inches high, when, if the weather is cold, they may be removed to a slightly heated house, and put on a shelf near the glass. This is even better than allowing them to remain in a heated pit, as the air all round the plants tends to promote a stout growth. Freesias will also take a fair amount of liquid manure when growing freely. The temperature at night even in mild weather should not exceed 60 degrees, and during cold spells 55 degrees will be sufficient, and if this temperature is maintained they will commence to produce their flower spikes early in December.

Fumigation is very apt to injure the tips of the leaves, so that if it is really necessary let it be done lightly, or, better still, syringe the plants with a little soft soap to remove green-fly.

Freesia refracta alba (cultivated corms) will be found to give more satisfaction than those sold ordinarily for that variety, as the flowers come pure white, and are of much better form.

Tulips and Narcissi.

Tulips are, without doubt, the brightest of all winter and spring flowering bulbs, and as early forced subjects I am afraid they are grown with less success than most other bulbs, and one seldom sees any other than the Van Thol varieties in bloom at Christmas, and these are usually so small in flower and short of stem that they are only useful in the making up of small vases. Van Thol, scarlet, and maximus are the two best of this type. A few other really good varieties for early forcing are Rosa Mundi. Huikmann, pink; King of Yellows, Thomas Moore, orange; L'Immaculée, white; and Chrysolora, yellow. The whole of the foregoing varieties should be procured, and potted as early as possible; they should then be covered to the depth of six inches, preferably with old cocoanut-fibre, ashes being somewhat liable to injure the young growth, and left under this till rooting freely, when they may be removed to a house in which a temperature ranging from 50 to 55 degrees is maintained at night. To secure good stems heavy shading will be necessary, two or three thicknesses of coarse tiffany being none too much, so that where part of a house only is used this must be put over them inside, and should not be removed until a few days before the flowers are fit to cut. As they make growth and the buds can be felt well out of the bulb, the temperature of the house may be increased to about 65 degrees, and this latter will be quite necessary to ensure their full development early in January.

JONQUILS IN THE WILD GARDEN.

A delightful effect produced by the judicious use of these fragrant golden flowers in the Royal Gardens, Kew.

Boxes are far the best to use in forcing tulips, as the roots can be kept at a more equable degree of moisture, and it is absolutely essential that they shall not become dry after growth commences.

Narcissi will require practically the same treatment as the tulips up to the time of being taken indoors, but after this somewhat cooler quarters must be afforded them. The earliest to bloom after the Paper White are the varieties Trumpet Major and the Double Van Sion, and these, with a little care, may be had in bloom by Christmas. For following these to bloom about the middle of January, Poeticus ornatus, Golden Spur, and Victoria are of much value; the last-named I consider one of the finest of all narcissi for pot culture.

Roman Hyacinths and Lily of the Valley.

Roman hyacinths are, in my opinion, the most easily forced of all bulbs, and they are usually over by the middle of January, but their graceful spikes of bloom are so useful for table decoration in conjunction with other flowers, and when well grown in pots are so valuable in the conservatory that they might with advantage be had in bloom over a longer period. For following these closely the blue and white Italian hyacinths are also useful. In many instances they are preferred to the more formal Dutch hyacinths that follow them along rather later in the season.

Another very pretty bulb that may be had in bloom quite early in the year is Iris reticulata, and although not of much service for the supply of cut flowers, a few examples arranged amongst other plants produce a very pleasing effect.

Lily of the valley flowers are easy of production at any season of the year, and for mid-winter blooming it is best to rely on retarded bulbs; if potted as soon as received and covered with a little moss or fibre, and placed in a house with a temperature at not over 60 degrees, they will in from four to five weeks produce flowers fit for cutting or using in any other way that may be desirable.

Thomas Stevenson.

Woburn Place Gardens.

JONQUILS AND CAMPERNELLES IN GRASS.

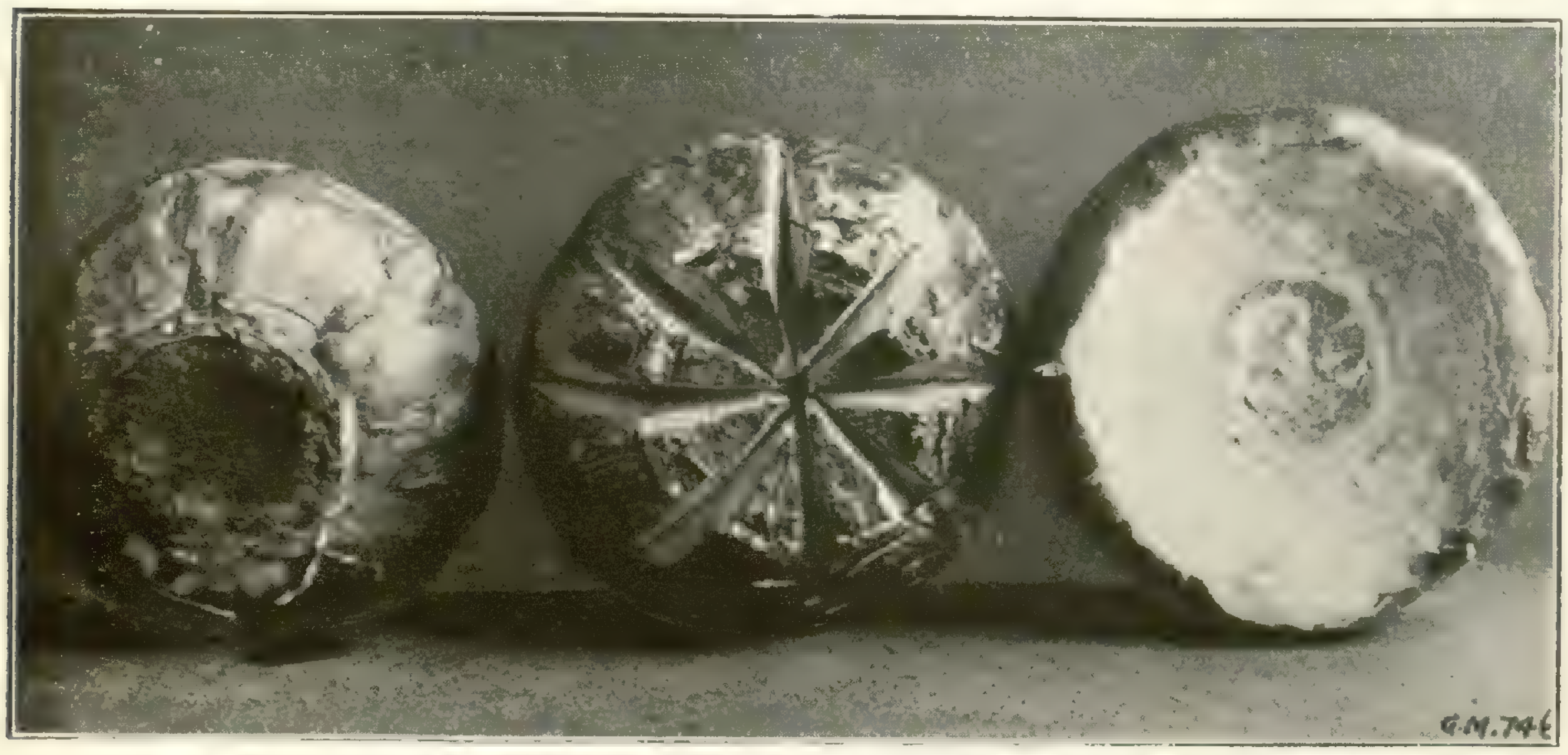
The group of Campernelles which in spring carpet the ground with a golden covering beneath the large group of maples between the Temperate House and Picture Gallery at Kew, always attract a goodly share of attention from visitors, for, in addition to being distinct in appearance from the many acres of different kinds of narcissi found in other parts of the gardens, they are attended with a delicious perfume, which scents the air for some distance around. Both the Jonquils and Campernelles are very graceful, with their slender, rush-like leaves, and small flowers borne several together on stems nine to twelve inches high, and, like other narcissi, look far better when growing in a free and natural manner, than when huddled together in beds cut out of a smoothly-shaven lawn. They are, however, not so well fitted for growing amongst coarse, dense grass, as some other sorts are, and ought only to be planted where the grass is moderately thin, or, better still, in a thin wood or plantation where the soil is moderately good. In grass land they last for a number of years, but gradually deteriorate. In more open ground they grow vigorously, and continue to increase in strength. Of the two, the Campernelle, Narcissus odorus, appears to succeed best, being a somewhat stronger grower than the Jonquil, Narcissus jonquilla.

W. Dallimore.

Beet.—Frost is likely to damage beet if left too long, and it is wise to lift the crop before this is likely to happen. Preserve the roots intact in lifting the crop by working a fork well under them to loosen the soil.—C. F.

PROPAGATION OF HYACINTHS.

Along the west coast of the Continent there is no country so liberally supplied with water as Holland. Everyone has a place to live on, but the Dutchman made about the half of his country himself. Very interesting is it that Holland is protected by a mighty dyke of sand, every particle brought in by the waves. So there has formed a strip of land on or above the original peat, consisting mostly of sand. From the dunes along the sea coast, about two or three miles inland, and in length about one hundred miles from Alkmaar to the Hook, is the most beautiful and oldest part of the Netherlands. But few of those who have their hyacinths, tulips, or narcissi on their tables or in their gardens, think of the careful way in which the flower bulbs are produced.



BULBS SHOWING FIRST STAGE OF HYACINTH PROPAGATION.
The left-hand bulb is intact, the middle bulb has had eight cuts across its base, and the right-hand bulb has been hollowed out.

We think it will be very interesting to give your readers some information relating to the propagation and preparation of hyacinths as carried out in Holland. Everyone knows the bulb of the hyacinth, as it comes to us for potting or for planting in beds and borders, but a quantity of full grown bulbs, very sound and big, are kept back by the growers for the increase of stock.

In commencing the work of propagation in summer time, the big bulb is, in our case, hollowed out, as so well shown in the first of the illustrations. It is known that in all bulbous plants roots appear as very small leafbuds, which develop to small bulbs. A second method of producing the same result is to cut the bulbs on the underside over the base crosswise, thus eight cuts from the centre. Both hollowed and cross-cut bulbs are strewn with a drying substance as stentite, peat-ash, lime, etc., to dry the cut surface as soon as possible, as well as to prevent the loss of sap.

Now the bulbs are taken to a room as shown in the second illustration, which is well warmed and ventilated. From floor to ceiling the movable shelves are filled with bulbs, which rest on very small open laths or wire net.

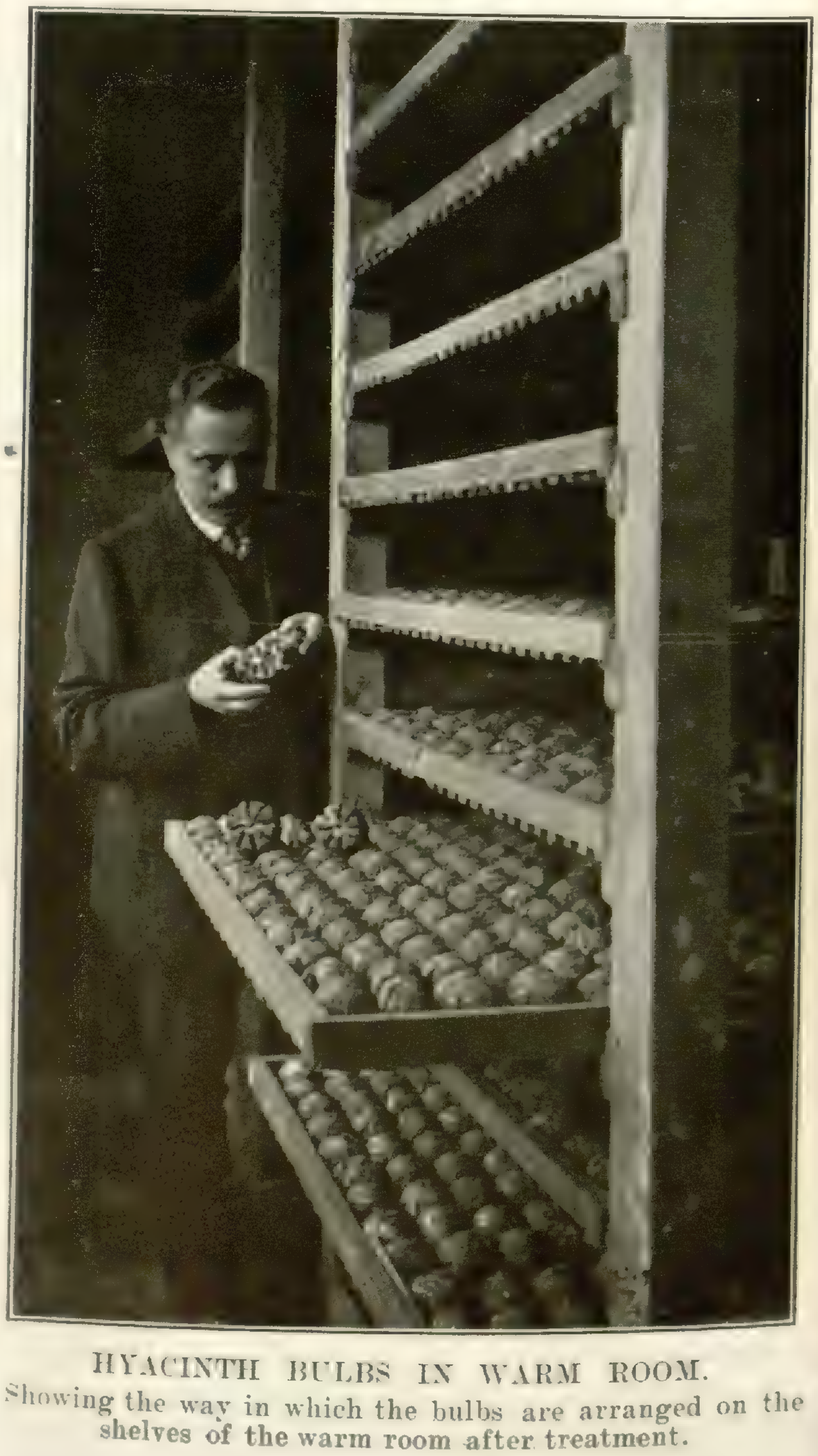
Every grower has his own way of treatment, but the main point is always the same, i.e., to keep the room warm and airy. In the autumn there appears at the edge of every cut surface the small embryos, which develop into small bulbs, so the parts of the cut or hollowed bulb make more and more room for the young ones. While in the cut bulbs more room is given the small bulblets more food is taken from the mother bulb. The cut bulb brings stronger and bigger bulblets, while those which have been hollowed give a much greater number of small ones.

In November the time comes when the latter part of the work is done in the fields. The beds are well manured the previous year and the mother bulbs are placed six in a row in the bed, where they remain throughout the winter. The small bulbs make no plant, but the mother bulb makes a bundle of leaves, which prepare and convey the food to the small new bulbs, which are in July lifted. By this time the mother bulb has disappeared and left a great number of small bulbs. In the case of the hollowed bulb there will be a great number, usually between sixty and eighty, from each bulb. The small bulbs from the cross-cut bulbs will be fewer, but will be bigger and stronger.

The young bulbs are, of course, dried and stored in ventilated houses. They are carefully watched and kept in good condition, to be planted again in September or October, to bloom the following year in a small way. According to circumstances, as ground, weather, etc., the bulbs have to be grown two, three, or four years before they reach a saleable size. Every year the flower-spikes are cut as soon as possible to prevent them imposing a check upon the growth. The utmost care is taken in the fields as well as in the stores to remove the faulty bulbs. The importance of this care need hardly be mentioned, because it will be seen that unless the imperfect bulbs were removed at an early stage there would be much waste of ground and time.

In conclusion, thanks must be given to Mr. F. de Meulder, one of the leading growers at Lisse, who allowed us to have a look into his sanctum, and thus enabled us to show the various stages of hyacinth propagation, as carried out in Holland.

Piet Ammerlaan.



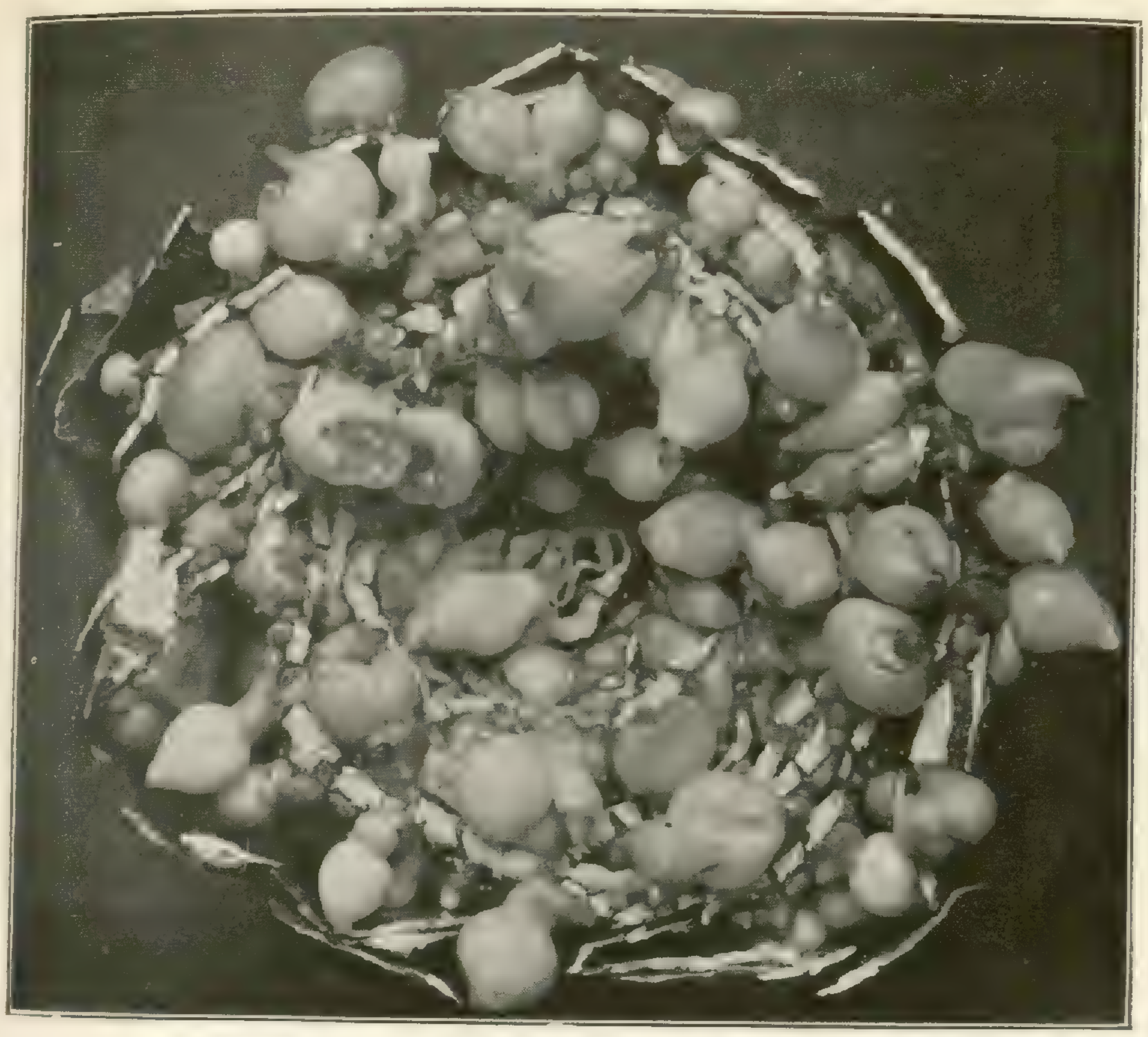
HYACINTH BULBS IN WARM ROOM.
Showing the way in which the bulbs are arranged on the shelves of the warm room after treatment.

CHOICE BULBS FOR THE ROCKERY.

Some there are who contend that bulbous and tuberous-rooted plants should be excluded from the rockery, holding that the dying foliage of these flowers is a decided objection to their presence in a choice collection of alpine flowers. There may be some ground for the contention if the rockery has, as its sole inhabitants, a few only of the choicest plants which delight the heart of the exclusive alpinist, but in the average rockery, the property of the average lover of alpine flowers, the bulbous and tuberous plants cannot be omitted without a serious detraction from the real beauty and interest of the garden. In by far the greater number of rockeries there is room enough for at least a selection of suitable bulbs, either growing by themselves or carpeted by some dwarf alpines, not too choice and delicate to suffer from this association, but good growers; not too tall at the flowering period of the bulbs they cover, nor too lacking in vigour to be the worse for the leaves of the bulbs remaining among them until they fall into the sere and yellow leaf, and can be removed without detriment to the flowering of the bulbs another year.

Situations for Bulbs on the Rockery.

It is never difficult to find on the average rockery more than one position for some bulbs, and it may be noted that the greater number of the suitable plants of this class require sun, such as can be obtained on



HOLLOWED HYACINTH BULB WITH BULBLETS
At the time of planting in the autumn.

the sunny side, but there are others, such as the snowdrops, the scillas, and even the chionodoxas, which will thrive and flower on the shady side. Among ferns is an excellent position for early bulbs, which generally ripen their foliage ere the ferns have developed their fronds. The rockery arranged in terraces gives many places for bulbs, but in others the pockets for other plants can be utilised as well, and there are in many rockeries little chinks in the stones with soil behind in which the bulbs can be placed, and where they will spear through the crevices and give their flowers in plenty. Then at the base there may be pretty nooks where the bulbs will look well, and will flourish from year to year.

The Soil in which to Plant.

A soil such as that which is suitable for the alpines will serve for the bulbs quite well. Loam, lightened by the addition of leaf-soil, if heavy, and with some sharp sand and grit added, will answer well for such, but the greater number of rockery bulbs are not exclusive in their diet, and will content themselves with the daily fare of their companions. Many alpines require plenty of stones about them, and will not flourish without these. The bulbs will accommodate themselves to these conditions perfectly.

When to Plant and How.

Early in the autumn is generally the best time to plant all the bulbs on a rockery, and I prefer that it should be done as soon as possible, so that the alpines used as carpeters may have time to establish themselves before winter. In planting the good rule to plant the bulbs at a depth practically corresponding to twice their height from crown to base may be followed, with some exceptions in the case of snowdrops, snowflakes, and scillas, which all, I find, grow stronger if planted deeper. Six inches is not too much for the two first-named, and four will do for the greater number of the scillas It has to be remembered that these bulbs should be as seldom disturbed as possible, only removing and replanting them when they are too crowded to flower, or increase is required. Plant firmly when the soil is not too wet and stiff.

Here a word may be said about carpeting. The smaller mossy saxifrages are excellent for the purpose, and among other things such dwarf veronicas as repens, prostrata, saxatilis, etc., will be excellent, together with cerastiums for dark-flowered bulbs; Arenaria balearica for the shade; Arenaria cæspitosa, dwarf campanulas, sedums, Potentilla alchemilloides, and many other dwarf plants which will not suffer from the leaves of the bulbs remaining until they become yellow, and can be safely removed.

What Bulbs to Plant.

The best bulbs are naturally those of dwarf habit, as we do not require to plant tall flowers among the choicer alpines, and the smaller kinds are more according to the genius of the rockery. Those which have been left untouched by the florist and are natural species and varieties are the best. Such flowers as the crocus species will afford a long succession of bloom beginning with C. speciosus, C. pulchellus, C. asturicus, the lovely C. iridiflorus, and C. medius, the lovely C. zonatus, and passing on to the fine C. alatavicus, C. ancryensis, different forms of C. aureus, the lovely C. Balansæ, the handsome C. banaticus, the several forms of C. biflorus, such as Pestalozzæ and Weldeni, candidus, chrysanthus, etruscus, the indispensable Imperati, reticulatus, Sieberi and Tommasinianus, with others of the race to form a long succession.

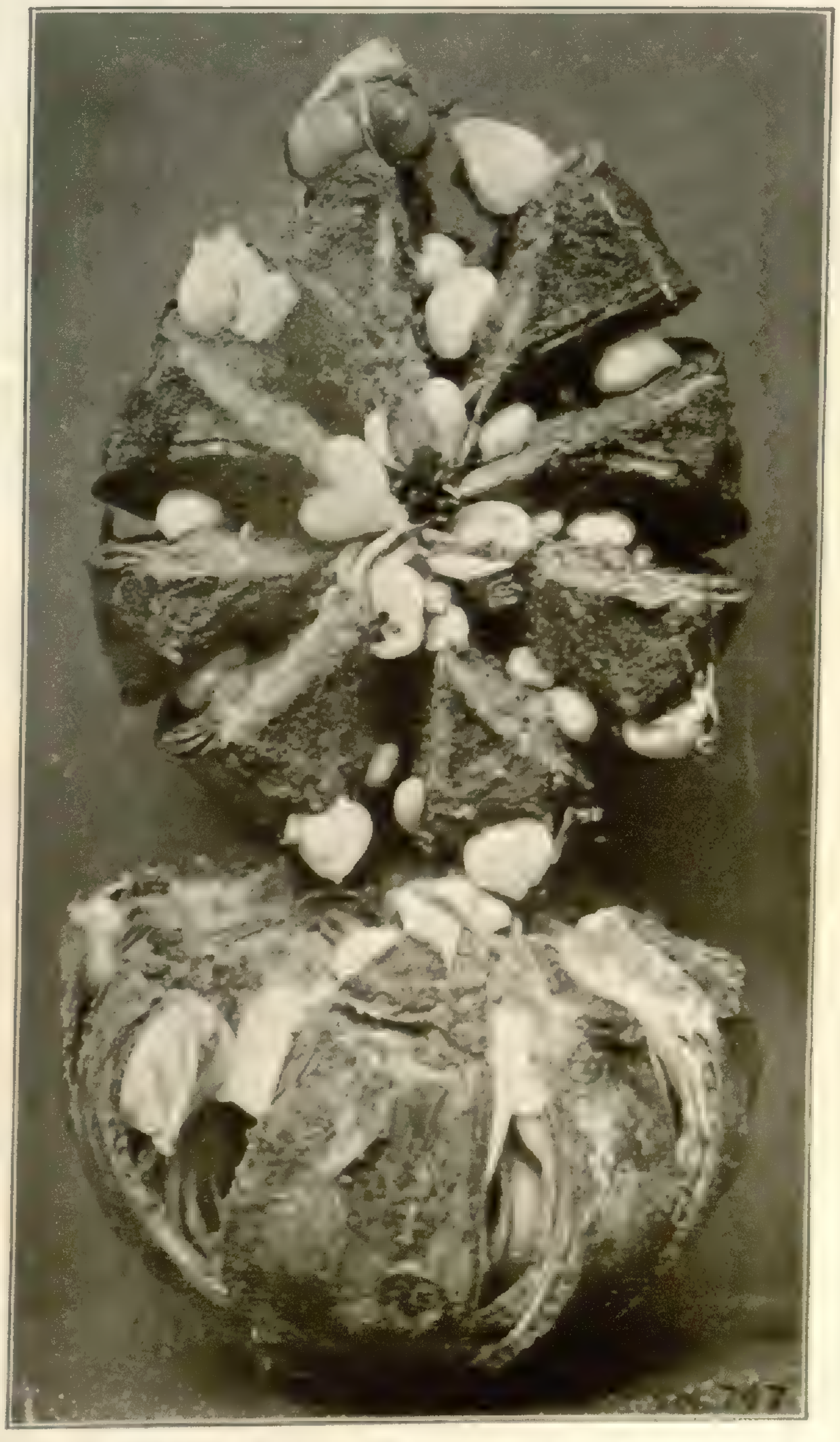
The choicer snowdrops, such as Galanthuses Imperati, plicatus, Elwesi, and its varieties, will look well early in the year, and the common one is not to be despised in little groups on the large rock garden. A group or two of Eranthis cilicicus or of the common winter aconite, E. hyemalis, on the shady side near the base, will give a gay appearance at a time when colour is not too plentiful. Such hardy cyclamens as Coum, ibericum, cilicicum, and the autumnal neapolitanum will be excellent.

Scillas are a host in themselves, and S. sibirica, S. bifolia, S. italica, and on the rougher parts, varieties of S. hispanica, and some choice varieties of the lovely common blue bell, S. nutans, will be capital. Chionodoxas are all suitable, and some lovely effects can be made with any of these. Hyacinthus amethystinus and the muscaris are all charming, and groups of the finer fritillaria species look delightful in their time, although F. recurva is not very reliable.

The puschkinia may be added, and the bright flowers of Bulbocodium vernum look well in early spring, although they are liable to the attacks of slugs, often troublesome on a rockery. For summer bloom Brodiæa ixioides may be added as one of the most reliable of its race. Allium Ostrowskyanum is a good bulb also, and not too common in the garden. Enough have been named, however, to satisfy all but the confirmed bulb lover.

The anemones must, however, be mentioned, and in A. nemorosa, especially its varieties flore pleno, Robinsoniana, and Alleni, we have desirable things, while A. apennina in several forms, with the earlier A. blanda, are all excellent for the rockery.

S. Arnott.



CROSS-CUT HYACINTH BULBS WITH BULBLETS
At the time of planting in the autumn

BOLD BULB PLANTING.

Every gardener has a chance to practice bold planting of bulbs; even a three-feet wide and twelve feet long border can contain several fine groups, instead of the usual insignificant-looking lines of bulbous plants, but it is, of course, in the large garden that the art can be carried out to perfection. Bank sides and summits, stretches of spare ground anywhere, glades among the evergreens of the shrubbery, terrace slopes either of earth or turf, are suitable places for this kind of adornment, while the neighbourhood of lakes and streams, as well as rock gardens of all descriptions, absolutely demand it.

It is a satisfactory truth, too, that bulbous plants are, on an average, less expensive than others of similar effectiveness and durability; two dozen Crown Imperials, costing less than half a sovereign, will create a spring bank covering that can scarcely be surpassed; crocuses by the thousand are little more money, and when massed, create wonderful glades of gold, purple, or silver; five hundred nodding daffodils upon which ten shillings have been spent will turn a piece of woodland or meadow into a vision of great loveliness. Then where the bulbs are set, there they increase year by year, needing the minimum of care. Narcissus poeticus is one of the most charming when represented by hundreds; a few high banks or knolls crowned and wholly covered by these grey-green spear leaves and snowy blossoms, backed perhaps by some thickets of Berberis aquifolium and young copper beeches, form a magnificent setting to a lake or stream. Early planting of Crown Imperials and Madonna lilies is necessary, so the gardener's work in connection with bulbs begins during the hottest months of summer; a triple avenue of either of these, on each side of a grass walk, with shrubs or a rose hedge or trellis for background, constitutes a fine feature. Perhaps, however, Lilium candidum never looks quite so well as when planted in groups to rise here and there out of grass lawns or turn embankments to terraces, the foliage concealing all sign of bed, or with one of the mossy saxifrages used for a carpet to attain the same all-green effect. Immense groups of Crown Imperials, carpeted by purple and white crocuses, should exist near all lakes and ponds.

PLANTING HYACINTH BULBS IN HOLLAND.

The bulbs that are being planted are those which have been cut and have produced bulblets in the warm room.

Every person familiar with the lovely appearance of many fields in poppy season will realise the value of scarlet in a landscape; now the vermilion tulip is capable of giving just as gorgeous a show as the field poppy, only it is not often generously enough employed. The early Van Thol is best for use in turf, because it is over and the foliage sufficiently yellowed before there is need to cut the grass of the parkland; the trim lawn is not, of course, fit for this treatment. Later single and double red tulips should be used to fill large spaces in the shrubbery, or occupy any immense beds or borders that are afterwards to be filled with bedding plants. They can be splendidly planted, too, upon small islands of lakes or rivers. Different results, as fair if less striking, are gleaned by the massing of white, gold, deep crimson, or purple, rose, or orange tulips. In woods and quite dense shade, Darwin tulips may generally be depended upon, and give a bolder result than do the dainty anemones and bluebells, so are suited to wider spaces. In colour production the tulip has value that should be more recognised: to mass the cheaper varieties will assuredly give greater pleasure to those who dwell near or merely visit the scene, than will be gained by the cultivation of specimen tulips of high cost. Tulip species live permanently out; some, such as the orange-vermilion Griegi, are too expensive for the majority of flower lovers to plant in profusion, but there are others, the price of which can be reckoned as less, or but little more, than half a sovereign a hundred. Notably good are Tulipa cornuta, yellow and red, with threadlike petals; T. Billietiana, yellow, edged cerise; T. Didieri alba, cream; T. fulgens, scarlet-crimson, T. Mauriana, scarlet; T. retroflexa, clear yellow; and T. sylvestris, yellow. In rockeries these also give a fine show.

The hardiest bulbous plants are among the best for covering banks, leaving room between them for the introduction of a few such bedding subjects as ivy-leaved pelargoniums. The leucojums, or snowflakes, indeed, can be combined on a bank so as to provide the only floral show, since some blossom in spring, others in summer and autumn, and as they love shade they supply a need. Leucojum pulchellum, and the minute pink Leucojum roseum should not be forgotten when the ordinary Leucojums æstivum, vernum, carpathicum, and autumnale are ordered.

Where to place the Himalayan Lily, Lilium giganteum, is a puzzle to some, but there are no woodlands or shrubberies where it cannot be well cultivated if some peat is introduced into the soil, and there is semi-shade. The finest effects with the lily are gained by lake or river sides, where their enormous foliage can be fully observed. Only large bulbs can be trusted to bloom the first season.

Coloured lilies are of immense service against white or dull-looking walls of the house or garden; the Cottagers' Orange Lily, L. croceum thrives almost anywhere, preferring sunshine, and sends up free spikes of tawny, black-spotted, fine blossoms to a height of seven feet. A wooden summer-house, ivy-covered, can be beautifully surrounded by a thicket of these lilies, and climbed by the violet Clematis Jackmanni, with a ground carpeting of the many variegated thymes, or else of different sedums. Scarlet Turk's Cap lilies will wonderfully brighten front gardens that contain little beside dark evergreens. The Oregon lily, Lilium columbianum, though giving only a few small orange and crimson blooms, can be specially recommended for the sake of its rich hue; the tomato-orange Lilium Batemani, three feet high, the five-feet yellow, crimson-spotted L. Humboldti, and the apricot, purple-spotted Lilium Wilsoni, when well represented in a garden, have a rich effect.

It is only by making careful note of the exact times at which plants blossom that the gardener can succeed in creating the fairest landscapes round the home; by the use of bulbs alone every month, aye, each week, of spring, summer, and autumn, may be replete with floral beauty, while the noble scarlet-crimson schizostylis, many crocus species, yellow aconites, and other hardy subjects carry the loveliness on throughout winter. Use these bulbs sparingly, and pretty patches only are visible; cover the land lavishly, and then something is gained of the prodigal effects which Nature, the servant of God, works with such perfection in the woods and meadows.

M. H.

Notes on Bulbous Plants.—The earliest opportunity should now be taken to pot up the first batches of bulbs. Such subjects as lachenalias, freesias, Roman hyacinths, and narcissus will be potted up in batches from this time forward, the former particularly requiring a long growing season and cool conditions during all subsequent stages of growth. The latter are, of course, largely depended upon for Christmas displays, and unless thoroughly well rooted before being placed in the forcing bed the best results cannot be secured. Of hardy subjects, snowdrops and aconites (Eranthis) should be planted without delay, as these always make a great amount of root growth before any indication of vegetative activity is apparent above ground. Of alli- subjects Ostrowskia magnifica and eremuri ought to be planted as early in autumn as one can procure them. The possibilities are then in favour of some display the following season.—THOMAS SMITH.

UNCOMMON GREENHOUSE BULBS.

While some bulbous plants that require the protection of a greenhouse, such as hippeastrums, lachenalias, nerines, vallotas, and others, are very generally grown, and may be met with in many gardens, there are, on the other hand, a large number that, if not actually rare, may be looked upon as decidedly uncommon. Some of them are very beautiful when in flower, and so distinct from the general run of greenhouse plants as to well merit extended cultivation. A long list of such may be compiled, but I will confine myself to the few set forth below.

Acidanthera bicolor.

A native of Abyssinia, and a near relative of the gladiolus. The strap-shaped leaves are disposed in two rows, and the flower stem, which reaches a height of a couple of feet or more, bears on the upper portion several loosely disposed drooping blossoms. They are from three to four inches in diameter, creamy-white, with a blotch of purple in the centre. These flowers, which are agreeably scented, are borne during the summer months.

Anoiganthus breviflorus.

This forms a solid brownish bulb, and from it are produced several stiff, nearly erect leaves, about a foot long and an inch in width. The flower stem, which, as a rule, just overtops the foliage, is terminated by a loose umbel of blossoms. They are of a rich golden colour, and about a couple of inches long, but are so constructed at the base that at no time do they expand fully. This anoiganthus often blooms during the late autumn and winter months, but it may also be had in flower in the spring. Though very uncommon it is, I see, quoted at a cheap rate in the catalogue of one of the bulb dealers.

Babianas.

Pretty little bulbs, whose leaves are clothed with greyish down, and the comparatively large flowers are of various shades of blue and purple. These may be bought at a cheap rate in the autumn, and if eight bulbs are put into a five-inch pot, they form effective specimens when in flower in the spring.

Brunsvigia Josephinæ.

A very large bulb and a remarkably showy one when in flower, but unfortunately it cannot always be depended upon to do this. The greatest measure of success is attained by giving it much the same treatment as a nerine, that is to say, it should be kept growing during the winter, and given a period of absolute rest in the summer. When in good condition the flower scape will reach a height of a couple of feet or more, and when terminated by a large rounded head of 20 to 30 flowers it is very showy. The flowers, in shape somewhat like those of the Belladonna Lily, are bright red in colour.

Callipsyche aurantiaca.

A very uncommon bulbous plant, native of the Andes of Ecuador. It is quite distinct from any other bulb, and usually flowers during the autumn and winter months. These flowers, which are borne in an umbel at the top of a stem a couple of feet or so in height, are of a golden yellow colour, and in general appearance somewhat like a small hemerocallis. The most prominent feature of the inflorescence is furnished by the long prominent stamens, which protrude three or four inches from the mouth of the perianth. As the flowers are disposed almost on one plane, a head of blossoms is very suggestive of a sweep's brush.

Cyrtanthus.

A variable genus, for some species have large bulbs, while in others they are about the size of a snowdrop. This last-named section is the more useful, as the different members grow freely, and can be depended upon to flower well. Among the best are C. angustifolius, scarlet; C. lutescens, yellow; and C. Macowani, bright red. There is a distinct and attractive species known as C. sanguineus, which was formerly called Gastronema sanguinea. The flowers of this remind one of a vallota, and hybrids have been raised between the two. These different cyrtanthuses flower at various times of the year, but the greater amount of blossoms are borne in the spring.

Eucomis punctata.

This forms a mass of handsome waved leaves, from the centre of which is pushed up a stout flower scape to a height of a couple of feet or so. It is in colour green spotted with brown, and the strongly-scented greenish flowers are disposed in a fox-brushlike manner around the upper half. Flowering as it does towards the latter part of the summer, this eucomis is very useful for greenhouse decoration.

Freesia Tubergeni.

One of the hybrid freesias, in the production of which the South African F. Armstrongi has been employed. The flowers of this are of a pleasing shade of soft carmine rose.

Hæmanthus coccineus.

The South African Blood Flower, as this is termed, forms a very striking feature in the greenhouse about the end of August or in September. It needs a thorough baking in the summer to ensure a good display of blossoms. The most prominent feature of the inflorescence is the brushlike mass of stamens. In H. albiflos the flowers are white, and the filaments of the same hue with yellow anthers.

Ixias, Sparaxis, and Tritonias.

These are all small bulbs that may be grown eight together in a five-inch pot. They are all very beautiful, and the flowers are, in the case of the ixias and sparaxis, extremely varied in colour. In the tritonias most of the flowers are more or less of an orange-scarlet tint.

Lycoris aurea.

A beautiful bulbous plant, but a very difficult one to flower. As a rule, freshly-imported bulbs bloom well, but this is seldom the case afterwards. The flowers of this are of a golden hue.

Moræa glaucopis, the Peacock Iris, known also as Iris Pavonia and Vieusseuxia glaucopis. The flowers of this are white, with a large eyelike spot of metallic blue in the centre of each segment. This may be readily grown in pots, putting about eight bulbs in a five-inch pot.

Phædranassa chloracea.

A South American bulb that bears a spike of drooping flowers, in colour yellow tipped with green. There are other species, but this is the one most generally met with.

Sprekelia formosissima.

This, known also as Amaryllis formosissima, and popularly termed the Jacobean Lily, bears its deep blood-red flowers in early summer. It needs the same treatment as the garden varieties of hippeastrum.

Urceolina pendula.

The bulb and foliage of this are not unlike those of the eucharis, but the flowers, which are borne in the autumn, are quite distinct. They are disposed in an umbel, and are individually urn-shaped, drooping, and in colour yellow, tipped with green and margined with white. It is a native of South America, and is also known as Urceolina aurea.

Watsonia iridifolia O'Brieni or Ardernei.

A beautiful gladiolus-like flower of the purest white. Grown in pots it forms a very attractive object in the greenhouse during the summer.

Zephyranthes carinata.

This, one of the best of the zephyranthes, has flowers nearly as large as those of Vallota purpurea, and of a deep rich rose colour. It has bulbs about the size of a small daffodil, and readily lends itself to cultivation. The flowers, as a rule, are borne during the summer months.

W. T.

WINTER ACONITE.

The Winter Aconite (Eranthis hyemalis) may properly be called the first flower of spring, for, though it begins to flower in January, it lasts long enough to be contemporary with the snowdrop, with which, indeed, it forms a very beautiful combination. It is a flower which cheers us up in the winter as a herald of the floral procession of the year. It will not succeed in cold, wet soils, but warm or light soils, especially those in which chalk is present in some quantity, are most suitable to it, and in such soils it will increase rapidly.

I know a garden where it is a veritable weed, and is allowed to come up in its thousands along the edges of the gravel paths. As it can be cleared away before the spring is far advanced it is not a bad idea to let it grow wild where it will in this fashion. We cannot spare room for it on the beds and borders, and in fact it is better, as a rule, on rough banks and under deciduous shrubs or trees, where, if the conditions are not too dry, it will luxuriate, and, after its display of cloth of gold, form a carpet of shining leaves on the ground in the spring. It looks specially well when so grown mixed with chionodoxas, early scillas, and anemones. I have even seen it smothering the ground in combination with snowdrops under a big Portugal laurel. Where the soil is favourable it is a useful plant for naturalising in grass, and it is an advantage that it can be cut away earlier than the remains of most bulbs.

It should be planted as early in the autumn as possible, or still better, in the summer, as it dislikes being dried off. If it is intended to grow it in a rough place it would be better in the season of purchase to plant it in some good light soil by itself, and then, as soon as it has died down in the early summer, it can be lifted and put in its permanent quarters, this being the best time of the year for moving it in any case.

Alger Petts.

Pear, Emile d'Heyst.—This is not an attractive pear, but its quality is of the highest. It is at its best from the middle of October until the middle of December. Of medium size, with a very rich juicy flesh, melting and sugary, it is a variety that should be in every collection of pears. I have not had experience of it in heavy soil, but in a medium one I have, and in such I may safely say that the cultivator that grows it once will always grow it. A wall with a south-west aspect should be selected for the trees, though the latter will succeed as bushes and standards in the open.—G. B.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

DENDROBIUM FORMOSUM GIGANTEUM.—Most of the plants of this species will now have developed their new pseudobulbs, and the flower buds will be advancing. The plants must be liberally treated in the matter of heat and moisture until the flowers have become fully expanded. After this, if the plants are removed to cooler and drier quarters, they retain their flowers in perfection for a considerably longer period. If allowed to remain in an atmosphere that is heavily charged with atmospheric moisture, they are liable to become spotted and unsightly. I have previously pointed out the advantage of growing this desirable species where there is a demand for flowers in the early autumn months. They are exceedingly useful for decorative purposes, and where white flowers are especially required for any purpose there are few orchids more serviceable. I find this species grows exceedingly well when suspended in baskets from the roof of the ordinary plant stove. I have no reason to complain of difficulties in its culture. The plants we have were in the collection when I took charge, nearly eight years ago, and they have retained their normal vigour, although they have flowered freely annually. I might add that after the flowers have been removed the plants are placed again in the stove to ripen their pseudo-bulbs. Little water is necessary during the winter; only sufficient should be given to maintain the pseudo-bulbs in a plump state.

SOBRALIAS.—Many beautiful species and hybrids are included in this genus that are easily cultivated, and are exceedingly useful for cultivating in large conservatories and other structures where an intermediate temperature is maintained. We cannot state that they are useful for the supply of cut flowers, but they produce a succession of flowers on the same stem, and the plants are capable of giving an effective display during the greater part of the summer and autumn months. At the present season many of the young growths will have advanced to the stage when the new roots are being made, and any potting requirements necessary should be attended to at this period. It is not advisable to annually disturb sobralias, so that when repotting ample pot room should be allowed, thorough drainage given, and the materials used should be of a lasting character. An excellent compost is formed with equal portions of good turfy, fibrous loam, fibrous peat, or polypodium fibre, some chopped sphagnum, and sufficient sand and broken crocks added to render the compost porous. Make the potting compost firm about the roots, and give a good watering, using rain water, as soon as potting is completed, wetting the compost through. Shade from strong light and spray the plants overhead for a few days until the new roots are running freely in the compost. The stock may be increased by divisions at the time of repotting by severing the rhizome as described, and taking away the portion thus divided.—H. J. CHAPMAN, Oakwood Gardens.

STOVE PLANTS.

SHADING, ETC.—It will not be advisable to continue the use of blinds after this date; benefit will rather be derived from a fuller exposure, as light has a tendency to mature growths and foliage. Where blinds are annually removed in the autumn, the first dry day should be taken advantage of to secure them in a proper condition. If whiting or other material has been used in place of blinds, this should be washed off as soon as possible. Examine hot-water piping, furnaces, etc., as defects seen to early before extra pressure is put upon the piping may prevent a breakdown at a more critical time. Continue to close the stove early in the afternoon, so as to husband as much sunheat as possible to economise the firing. Spray freely such plants as crotons, etc. A portion of the stock of eucharis should be induced to produce flowers, which will come in useful as the supply from out of doors becomes less.

WINTER BLOOMING PLANTS.—Poinsettias must have attention. Do not let the temperature fall below 55 deg., or they will suffer at the roots, with a consequent loss of foliage. With growth advancing, every encouragement should be given the plants to produce the best possible growths, as stout, well-matured stems are sure, with due attention, to produce fine bracts.

CALADIUMS.—Some of the plants will now be beginning to naturally loose their foliage. These should be allowed to pass into a resting stage. Gradually decrease the supply of water, but do not send them to rest prematurely, or place them in a cold position, as under such conditions the tubers are liable to decay. In a temperature of 60 deg. they will be safe; late vineries where heat is still maintained are suitable places for them. Plants of Caladium argyrites that have had a long season of rest, may be started into growth for decorative purposes during the winter. Remove the tubers from the old soil, and repot, using a fresh compost. The most suitable pots are those three and five inches in diameter. Both plants and leaves will be found useful in decorations.

GARDENIAS that have been kept in a cool house for a time will, if placed in a brisk heat, give flowers that will be very useful; and where flowers are wanted at Christmas, the plants having been pushed on to make strong growth, should be placed in a cool house or pit for a time to give the necessary maturity. Let there be a little warmth in the pipes on cold nights. Feeding should be discontinued until the plants are put into heat.—W. FYFE, Lockinge Park Gardens.

FRUITS UNDER GLASS.

VINES IN EARLY HOUSES.—The vines in the early houses should be afforded all the rest possible now, and, as I suggested in a previous calendar, all the cleansing that can be done should be attended to, so as to clear the house and vines of any pests. All the lights should be thrown open. The branches may now be shortened back to about three or four eyes if the wood is sufficiently ripened, which it should be after the hot and bright weather experienced through August. Much more water should not be necessary, though the border must not be allowed to become too dry on the surface, or the little fibrous roots will be sacrificed, and it is very essential to keep these going. Any root pruning or lifting may be taken in hand, and it is a good plan to do this before all the foliage has fallen, so that there is some circulation of sap after the operation has been effected.

UNHEALTHY VINES.—Vines that are in a bad condition should be treated with a view of bringing them into a better condition, and in order to do this thoroughly a start should be made at the extreme outside of the border. First ascertain whether the drainage is sound, for here very often lies the mischief. If the drainage is choked, or in any way defective, take steps to remedy this first of all. All defective drainage should be removed and a sound lot put in before anything else can be effectually done, taking care there is a proper outlet so that no stagnant water can at any time remain. If the drainage is all right, then proceed to move the soil, taking care of all living roots, laying these on one side and keeping them covered with damp mats. After this is done and the old soil taken away, bring the new soil and make it as firm as possible, taking care to distribute the roots evenly all over the border. Let the soil be of the very best loam, containing some lime, and if this latter is not present some must be added, together with some bone-meal, ¼-inch bones, and some good vine manure, such as is offered by the leading dealers. After the operation is completed, give a sufficient watering to moisten the whole, but not to make it very wet; shade the vines for a time from very bright sunshine, and moisten the remaining leaves by syringing them occasionally as the weather demands.

SUCCESSIONAL HOUSES.—Muscats, if now ripe, should be kept cooler and shaded from fierce sunshine.

LATE HOUSES.—Hasten the ripening of late grapes, and if the nights prove cold turn on a little fire-heat. See that the borders are not lacking moisture, and in fine weather keep the floors and stages damp.—W. A. COOK, Leonardslee Gardens.

THE KITCHEN GARDEN.

CUCUMBERS. — Seeds sown last month will have produced plants that are now large enough to be established in their winter quarters. Low, light, span-roofed houses are the most suitable structures for their growth. The chief point to consider is to grow them along slowly, so that they will be fortified against the sunless and short days that are fast approaching. This to a great extent can be done by permitting only a light crop, and admitting air at the top of the house whenever the outside temperature is sufficiently warm. Liberally assist the young surface roots with dressings of good loam as they show themselves.

TOMATOES.—Where tomatoes are grown in pots outside and utilised for the purpose of providing fruit through the early part of the winter, they will need to be placed under glass where they can have a steady warm temperature, and free ventilation. Top-dress the plants with rich soil from time to time with the addition of some stimulating manure, when the fruits are swelling. Artificially fertilise the flowers at midday, and see that the plants do not become unduly dry at the roots, or faulty setting of the fruits will assuredly follow.

CARROTS.—The large and main crop of carrots will require lifting and storing. If left too long after maturing the roots are subject to cracking, and consequently a great percentage of loss is experienced. The roots should be allowed to become fairly dry, and afterwards packed in moderately dry sand in the root house, or shed. See that only sound specimens are placed together, or decay may spread to a considerable quantity surrounding the affected ones.

ONIONS.—These will be sufficiently matured to pull for storage. Should the weather be favourable, they may be left on the ground to dry for a day or two; otherwise a dry, airy shed is best, and kept frequently turned until quite dry. I much advocate the roping system of keeping them. They can be suspended in the air and are less liable to rot than when laying close together on shelves, etc. This kind of storage entails more labour, but the ropes may be made on wet days when the staff is unable to work outside, consequently the labour is not seriously missed.

POTATOES.—Continue to lift the main crop of potatoes. Disease in many parts is badly affecting them, and will continue to do so as long as they remain in the soil. Carefully remove all tubers that are unsound, and only store those that appear free from disease, keeping them as dry as possible. Probably no better way of keeping the larger bulk of the crop can be found than the method of clamping them in ridges, and covering them with straw and soil. In cases where it is properly carried out, potatoes invariably come out satisfactory.

FRENCH BEANS.—The late sown plants on south borders will require protection by placing frames over them. Do not keep the lights too close, but apply plenty of air on fine days, admitting, except when frost is expected, a little during the night. Where this excellent vegetable is required throughout the year, a sowing should be made in pots in rich soil and placed in a cool position until nicely up, to be placed later in a more growing temperature to form a successional crop of the above.—CHARLES FLACK, Cholmondeley Castle Gardens.

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EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

The meeting held on September 14 was a full one, and most of the displays were of large size. Dahlias, hardy flowers, bamboos, fruits, and potatoes were all very much in evidence, and orchids were well shown for the season. The fruit was especially good, and unusually fine features were the pot fruit trees from Maidstone, the collection of fruits from Lockinge Park, and the fine grapes and melons from The Hendre. Novelties were neither numerous nor of outstanding merit.

FLORAL COMMITTEE.

Dahlias were extensively displayed by Messrs. J. Cheal and Son, Crawley, who had cactus varieties in fine form, showing good bunches of Mrs. Alfred Dyer, Pearl, Snowdon, Ruby Grinstead, Sunshine, Buttercup, and C. E. Wilkins. The single varieties shown by this firm were also very beautiful. Although the group of dahlias put up by Mr. J. T. West, Tower Hill, Brentwood, was rather stiff and formal, it contained beautiful flowers of W. Marshall, Coronation, Constancy, Oscar, Sunbeam, Mrs. W. Baxter, Nelly Riding, and numerous seedling cactus varieties, and a fine lot of pompon dahlias of perfect form and good colour, and a set of the bold pæony-flowered varieties.

A grand bank of dahlias, almost all cactus varieties, was arranged by Messrs. Carter Page and Co., London Wall, E.C. The tall and large stands of Decima, Harold Peerman, Lustre, Francis Graham, and Thos. Wilson were very bold and attractive, while the baskets of Faunus, Australian, Dr. G. G. Gray, and Harlequin, contained very beautiful blooms. This exhibit occupied both sides of a whole table length, and at either end were selections of single, pompon, and pæony-flowered varieties.

Specially well-grown blooms of show and cactus dahlias were arranged on boards by Mr. S. Mortimer, Farnham, Surrey; among the latter, Snowdon, J. B. Riding, Wm. Marshall, Crepuscule, Brigadier, and C. H. Curtis were prominent, and conspicuous show varieties were Glow-worm, Lord Salisbury, Buffalo Bill, Jas. Cocker, J. T. West, Esmond, J. H. Keynes, Red Cap, and H. Walton. New cactus dahlias were shown by Messrs. J. Burrell and Co., Cambridge, the varieties, Enetta, Una, and Comedy standing out well. Mr. H. Shoesmith, Woking, also showed new dahlias, and gained an A.M. for the white Prima Donna. Messrs. Stredwick and Son, St. Leonards, showed new cactus dahlias, and gained distinction for H. H. Thomas, Jupiter, Red Admiral, Indomitable, and Iolanthe.

Messrs. H. Cannell and Son's exhibit consisted of decorative, pæony-flowered, cactus, and collarette dahlias, shown in the usual fine Swanley style. Messrs. H. B. May and Sons, Edmonton, were represented by a collection of gymnogrammas and veronicas. Mr. F. Brasier, Caterham Valley, filled one corner with phloxes, Michaelmas daisies, and early chrysanthemums. Messrs. Keynes, Williams, and Co., Salisbury, had a few new dahlias, including the new red and yellow Little Beeswing, a pretty pompon variety that gained an A.M. Edward Mawley (A.M.), a big crimson show dahlia was submitted by Mr. Chas. Turner, Slough.

A brave show of late hardy flowers was made by Mr. Maurice Prichard, Christchurch, and in his fine display he had Kniphofia Macowani, K. tricolor maxima, K. Leichtlini, K. Triumph, K. tricolor, and the fine K. Northiæ, as well as forms of Anemone japonica, montbretias, gladioli, Crinum Powelli, the new Potentilla atrosanguinea Gibson's Scarlet (A.M.), Helenium Riverslea Beauty (A.M.), and other good things. Messrs. W. Cutbush and Son, Highgate, put up a large bank of hardy flowers, and arranged these in excellent style. There were batches of Lilium speciosum, helianthuses, phloxes, pentstemons, delphiniums, veronicas, Michaelmas daisies, montbretias, etc., with water lilies in front, and an edging of Adiantum pedatum. Messrs. Barr and Sons, Covent Garden, contributed tritomas, varieties of Anemone japonica, Crinum Powelli, and C. P. alba, gladioli, phloxes, and a collection of small plants of various eucalypti.

Roses were contributed by Mr. W. Leggett, West Bergholt, Colchester, but they showed the effect of the recent bad weather. The new single-flowered early chrysanthemums from Messrs. W. Wells and Co., Merstham, were very interesting, and such varieties as Nellie King, Masterpiece, Eric, Pink Gem, Roderick, and Gold Lace came in for a good deal of admiration. Conspicuous in the display made by Mr. Amos Perry, Enfield, were the baskets of the lovely Amaryllis Belladonna, Valotta purpurea, and batches of pentstemons, and a splendid lot of delphiniums, among which Lemartin, Pluto, Mrs. Creighton, and King of Delphiniums were very imposing.

Extremely graceful and beautiful was the splendid display of bamboos arranged by Mr. L. R. Russell, Richmond, Surrey. This display almost filled one side of the hall, and it was a great and unique attraction. The exhibit contained thirty-nine distinct species and varieties, varying greatly in height, habit, and colour, and it showed in an admirable manner the scope and usefulness of bamboos for garden decoration. A few of the kinds that mostly appealed to us were Bambusa rubicunda, B. sulphurea, B. gracilis, B. marmorata variegata. Arundinaria Simoni, A. fastuosa, A. Fortunei variegata, A. anceps, A. japonica, A. auricoma, Phyllostachys Quilioi, P. aurea, P. castillonis, P. nigra, and P. Kumasasa.

The double Michaelmas daisy Beauty of Colwall was finely shown by its introducers, Messrs. T. S. Ware, Lim., Feltham. This firm also showed the effective Feltham Blue variety, and made a brilliant display with select varieties of cactus and pæony-flowered dahlias. From the Guildford Hardy Plant Company came a small collection of hardy flowers, and from Messrs. R. Harkness and Co., Hitchin, came a small selection of gladioli. Messrs. Paul and Son, Cheshunt, displayed a comprehensive collection of shrubs that contained many having coloured and otherwise ornamental leafage. There were also Lonicera Hildebrandti, Clematis Kermesina, Abutilon vitifolium, Hydrangea paniculata grandiflora, Hypericum Moserianum, Coronilla emerus, Tamarix germanica, and various shrubby hibiscus, to represent flowering shrubs. Berried plants, Rhus sinica (A.M.), and Rosa sericea pteracantha were also very attractive in this group. Mr. John Peed, West Norwood, contributed an interesting collection of succulent plants associated with rockwork.

Very fine in spike and flower were the stately gladioli set up in large numbers by Messrs. J. Burrell and Co., Cambridge; it was a fine array, and worthy of special note as consisting entirely of spikes cut from seedlings flowering for the first time.

ORCHID COMMITTEE.

Mr. Black, gardener to R. G. Thwaites, Esq., Chessington, Streatham, showed Cattleya Roupelliana, derived from C. superba and C. Hardyana; Sophro-lælia Ortoniana, from S. grandiflora and Lælia Diana, etc. Messrs. Stanley and Co., Southgate, showed several forms of a handsome cross between Cattleya bicolor and C. Eldorada, named C. iridescens (A.M.), the result being a flower with broad, rounded petals and a yellow lip with a purple apex—a most distinct hybrid. From Messrs. J. and A. McBean, Cooksbridge, came a fine specimen of Vanda Sanderiana with two good spikes, Cattleya Iris, C. aurea, Oncidium ornithorhynchum, and Odontoglossum Harryanum. The group of orchids set up by Messrs. Stuart Low and Co., Bush Hill Park, contained Dendrobium formosum giganteum, Vanda Kimballiana, Cattleya Gaskelliana alba, Anguloa Clowesi, Cypripedium Godefroyæ leucochilum, C. niveum, C. concolor, and other good things.

Cattleya Iris was well shown by Messrs. Sander and Sons, St. Albans, this firm also contributing good examples of C. Wendlandiana, Lælio-cattleya Eximia, L.-c. Carissima, Rhyncostylis retusa majus, and Cycnoches Egertonianum viride, the latter carrying spikes of both male and female flowers. Messrs. Charlesworth and Co., Haywards Heath, were responsible for a goodly display of orchids, in which were such hybrids as Cattleya F. W. Wigan, C. Iris, C. Mrs. Pitt, L.-c. Elva, L.-c. Dominiana, L.-c. St. Gothard, Brasso-cattleya Mdme. Chas. Maron, and the beautiful Sophro-cattleya Heatonense, Oncidium ornithorhynchum album, Odontoglossum Harryanum, and the fine O. grande.

Mr. Edward V. Low, Vale Bridge, Haywards Heath, showed some good forms of Cattleya Iris, L.-c. Bletchleyensis, and Cypripedium Maudiæ. The tall and curious Angræcum Eichlerianum was well shown by Mr. Collier, gardener to Sir J. Colman, Bart., Gatton Park, Reigate, and gained a cultural commendation. From Sir Trevor Lawrence's collection came a fine example of Angræcum Kotschzi, with eight drooping spikes of white flowers, one carrying fifteen blooms; A. stylosum (B.C.), and Sophrolælia pum-eximea. From Messrs. William Bull and Sons, Chelsea, came numerous examples of Cattleya Maroni, C. Adula, C. Pittiana, and C. Greavesiæ, together with the graceful Stenoglottis longifolia.

FRUIT AND VEGETABLE COMMITTEE.

The whole of the top end of the hall was occupied by Messrs. G. Bunyard and Co., Maidstone, who filled the long stage with splendid examples of orchard-house fruit culture. It was a magnificent exhibit, and contained splendidly cropped trained peaches and nectarines, and fine examples of pot-grown bushes of Sea Eagle, Duchess of York, Thos. Rivers, and Princess of Wales peaches. The plums, President, Bell de Septembre, Jefferson, and Coe's Golden Drop, were carrying wonderful crops of fine fruit, and the pears, notably Beurre Alexandre Lucas, Princess Marguerite Marillat, Marie Benoist, and Doyenne du Comice, were grand, the fruits being abundant and of large size. Apples were equally fine, and the pick of the trees and varieties were Gascoigne's Scarlet, Cox's Orange Pippin, James Grieve, Peasgood's Nonsuch, Allington Pippin, and Emperor Alexander. The picked fruits were of first-class order, and the dishes of Rival, Coronation, Norfolk Beauty, Gascoigne's Scarlet, Twenty-ounce, Emperor Alexander, Peasgood's Nonsuch, Lady Sudeley, Ribston Pippin, and Houblon were fine; and equally good were the dishes of Clapp's Favourite, Dr. Jules Guyot, Doyenne Boussoch, Marguerite Marillat, Souv. du Congrès, Durondeau, Williams' Bon Chretien, White Doyenne, and Fondante Thirriott. Undoubtedly the display was one of the great attractions of the meeting.

The display of fruits made by Mr. W. Fyfe, gardener to Lady Wantage, Lockinge Park, Wantage, was a large one for a private establishment. It was also most tastefully arranged, and contained some very fine dishes of grapes, etc. There were altogether about sixty dishes of fruits. Grapes were represented by good clusters of Black Hamburgh, Buckland Sweetwater, Foster's Seedling, Alicante (very heavy), Madresfield Court, Gros Maroc. and Muscat of Alexandria. The pick of the rest of the collection staged by this veteran grower comprised Condor, Hale's Early, and Dymond peaches; Lord Napier nectarines; The Queen, Gascoigne's Scarlet, Jas. Grieve, Peasgood's Nonsuch, and Lady Sudeley apples; Dr. Jules Guyot, Beurre Hardy, and Louise Bonne of Jersey pears; and Jefferson's, Washington.

and White Magnum Bonum plums. Messrs. Stuart Low and Co., Enfield, showed a collection of small apple trees in pots, all finely cropped, and carrying fruits of good quality.

A large set of excellent vegetables, put up in a very attractive manner by Mr. A. Grubb, gardener to C. F. Raphael, Esq., Porter's Park, Shenley, Herts, was another great attraction, and proved that Mr. Grubb must be counted among the foremost of vegetable cultivators. He had beautiful heads of Early Giant, Walcheren, Mammoth, Early Autumn Giant, and Autumn Giant cauliflowers, and grand bulbs of Giant Rocca and Ailsa Craig onions. Scarlet Emperor and Hackwood Park Success runner beans, Black, and Globe beet, Model carrots, Snowball, Surprise, Windsor Castle, Sharpe's Express, and Duchess of Cornwall potatoes, Dwarf Gem Brussels sprouts, Sunrise and Perfection tomatoes, Matchless cucumbers, Maltese parsnips, and Standard Bearer celery.

Mr. T. Coomber, gardener to Lord Llangattock, The Hendre, Monmouth, put up sixteen beautiful bunches of grapes and eight fine melons. The grapes were grandly finished, especially Muscat of Alexandria, Lady Downes, Alicante, Lady Hutt, and Gros Maroc. The melon was The Hendre Seedling. Mr. W. Camm, gardener to Waldorf Astor, Esq., Clivedon, submitted beautifully finished and highly-coloured Alicante grapes grown on supernumerary vines in half-paraffin casks. Grapes were largely shown by Mr. T. Heron, gardener to H. B. Brandt, Esq., Capenor, Nutfield, Surrey; Appley Towers, Diamond Jubilee, Prince of Wales, and Alicante were especially good.

The display of apples from Messrs. W. Seabrook and Sons, Chelmsford, was greatly admired; Lady Sudeley, Emperor Alexander, Worcester Pearmain, and Langley Pippin were very well coloured. Mr. G. W. Miller, Clarkson's Nursery, Wisbech, showed a new and very attractive apple named Miller's Red Victoria; this is a very early, weighty, and brilliant crimson variety. Mr. G. Kelf, gardener to M. Drummond, Esq., Danesbury, Welwyn, Herts, showed fine samples of Pond's Seedling, Transparent Gage, Late Orange, Victoria, Monarch, Jefferson's and Kirke's plums. Mr. Nicholls, St. Clere Gardens, Kemsing, contributed some very fine pears from pot-grown trees; Mdme. Treyve, Pitmaston Duchess, Gansel's Bergamotte, Souv. du Congrès, Magnate, and Marguerite Marillat were specially large.

Though a mid-September strawberry is not exactly novel, it is a matter of great interest, especially if it be a good one. In the present instance the variety Laxton's Perpetual (A.M.) merited attention because of its fine flavour and big, spreading trusses of fruits. The colour is rich red. From Wisley Gardens came various cauliflowers, runner beans, and potatoes, that have been on trial there.

Forty-one baskets of clean, even-sized tubers of as many varieties of potatoes were put up by Messrs. Dobbie and Co., Rothesay, and it is rarely that one sees such a fine and indeed handsome collection. The Admiral, a white oval variety that promises well, and Dobbie's Red Kidney, a fine kidney-shaped red-skinned variety, are a pair of excellent new potatoes. Other fine varieties on view were Windsor Castle, Eightyfold, White City, Epicure, Climax, King Edward VII., Dobbie's Favourite, Adirondack, The Factor, Dalmeny Radium, and Midlothian Early.

In the competitive classes for fruits, Mr. M. Nicholls, gardener to Sir Mark W. Collet, Bart., Kemsing, was first for two dishes of dessert apples with Wealthy and Lady Sudeley. Mr. Pateman, gardener to M. W. Price, Esq., The Node, Welwyn, led for four dishes of dessert apples with fine specimens of Washington, Chas. Ross, Cox's Orange Pippin, and Lady Sudeley. Mr. Bacon, gardener to Sir Marcus Samuel, The Mote, Maidstone, scored for six dishes of cooking apples with Grenadier, Peasgood's Nonsuch, Lord Grosvenor, Ecklinville, Stirling Castle, and Emperor Alexander. Mr. F. W. Church, gardener to E. S. Hanbury, Esq., Poles Park, Ware, second for two dishes of pears, and Mr. Nicholls led for four dishes of pears, with beautiful fruits of Beurre Mortillet, Souv. du Congrès, Triomphe de Vienne, and Marguerite Marillat.

AWARDS OF MERIT.

Awards of Merit were granted as follows:

To Cactus Dahlias Red Admiral, Jupiter, Indomitable, H. H. Thomas, and Iolanthe, from Messrs. J. Stredwick and Son, St. Leonards.

To Pompon Dahlia Little Beeswing, from Messrs. Keynes, Williams, and Co., Salisbury.

To Show Dahlia Edward Mawley, from Mr. Chas. Turner, Slough.

To Cactus Dahlia Prima Donna, from Mr. H. Shoesmith, Woking.

To Chrysanthemum Leslie, from Messrs. W. Wells and Co., Merstham.

To Potentilla atrosanguinea Gibson's Scarlet, and to Helenium Riverslea Beauty, from Mr. Maurice Prichard, Christchurch.

To Rhus sinica, from Messrs. Paul and Son, Cheshunt.

To Cattleya iridescens, from Messrs. Stanley and Co., Southgate.

To Strawberry Laxton's Perpetual, from Messrs. Laxton Brothers, Bedford.

MEDALS.

Gold.—To Messrs. G. Bunyard and Co., Maidstone, for fruit trees in pots.

Silver-gilt Knightian.—Messrs. Dobbie and Co., Rothesay, for potatoes; Mr. W. Fyfe, gardener to Lady Wantage, Lockinge Park, Wantage, for fruits; Mr. T. Coomber, gardener to Lord Llangattock, The Hendre, Monmouth, for grapes and melons; Mr. Grubb, gardener to C. Raphael, Esq., Porters Park, Shenley, for vegetables.

Silver-gilt Flora.—To Mr. L. R. Russell, Richmond, for collection of bamboos; Messrs. Paul and Son, Cheshunt, for cut sprays of ornamental shrubs; Messrs. Carter, Page, and Co., London Wall, E.C., for dahlias.

Silver-gilt Banksian.—To Messrs. J. Burrell and Co., Cambridge, for gladioli; Messrs. W. Seabrook and Sons, Chelmsford, for apples; Mr. Nicholls, gardener to Sir Mark W. Collet, Bart., St. Clere, Kemsing, Sevenoaks, for pears.

Silver Knightian.—To Mr. T. Heron, gardener to H. B. Brandt, Esq., Capenor, Nutfield, Surrey, for grapes.

Silver Flora.—Messrs. H. B. May and Sons, Edmonton, for gymnogrammas; Mr. S. Mortimer, Farnham, for dahlias; Mr. J. T. West, Brentwood, for dahlias; Mrs. Matthews, Anerley, for Vallota purpurea; Messrs. Charlesworth and Co., Haywards Heath, for orchids; Messrs. Sander and Sons, St. Albans, for orchids; Messrs. Stuart Low and Co., Bush Hill Park, for orchids.

Silver Banksian.—Messrs. J. and A. A. McBean, Cooksbridge, for orchids; Mr. E. V. Low, Haywards Heath, for orchids; Mr. Maurice Prichard, Christchurch, for hardy flowers; Mr. W. Camm, gardener to Waldorf Astor, Esq., Cliveden, for grapes; Mr. E. Kelf, gardener to M. Drummond, Esq., Danesbury, Welwyn, for plums.

Bronze Flora.—To Messrs. H. Cannell and Sons, Swanley, for dahlias; to Messrs. J. Cheal and Sons, Crawley, for dahlias; Messrs. T. S. Ware, Lim., Feltham, for dahlias.

Bronze Banksian.—To Messrs. Barr and Sons, Thames Ditton, for hardy flowers; Messrs. W. Cutbush and Son, Highgate, for hardy flowers.

United Horticultural Benefit and Provident Society.

The monthly meeting of this society was held at the Horticultural Hall, Vincent Square, Westminster, on Monday evening last. Mr. Charles H. Curtis presided. Six new members were elected. The death certificate of the late Mr. J. H. Wilson was produced, and the amount standing to his credit in the society's books (£65 17s. 3d.) was passed for payment to his nominee, Mrs. Wilson. The amount paid out in sick benefit since the last meeting was £47 6s. The annual dinner will be held at the Waldorf Hotel in October, particulars of which will shortly be given.

A Great Onion Show.

To the person who looks upon vegetables as eatables and nothing more, a show devoted solely to onions will doubtless appear a very tame and uninteresting affair: but to the grower who has studied the points of "type" and "quality," and strives to reach a high position as an expert cultivator, an onion show is as full of interest and importance as a show of roses or sweet peas may be to those whose aspirations lean that way.

That there are plenty of gardeners who are what may be termed onion enthusiasts is well known, and that an onion show may really be an affair of importance was well evidenced by the capital exhibition organised by Messrs. Dickson and Robinson, which was held in their extensive premises at Cheetham, Manchester, on Wednesday, September 15.

Having introduced an onion of very fine type and quality named Premier, the firm conceived the idea of offering prizes for the best specimens, and on Wednesday the result of their enterprise was submitted to the public in a display of large, well-grown bulbs, of beautiful form and quality. Each competitor staged four bulbs, and the entries numbered 117. Mr. Ben Ashton, who undertook the task of selecting ten dishes, to be awarded prizes varying in value from £5 to 4s., had no easy task, but, as is well known, Mr. Ashton is himself a grower of high repute, and therefore can pick out the "best" specimens with comparative ease.

"Premier" is an onion of excellent type and quality. It is not of globular shape, but still has good depth. The skin is beautifully fine, evenly veined, and of a pleasing straw-colour. We may add that, judging by the exhibits, which came from all quarters of the United Kingdom, the type is well fixed.

PRIZE LIST.

That redoubtable champion, Mr. E. Beckett, gardener to Hon. Vicary Gibbs, Aldenham House, Elstree, added another leaf to his laurels by securing the first prize with four most perfect models of what a high-class onion should be. We have seen bigger bulbs, the weight of the four being 8lb. 5oz., but for evenness, fineness of skin, and neat, small neck these were as good as one could wish to see. Mr. Bowerman, Hackwood Park Gardens, Basingstoke, was second, his weight being 8lb. 10oz., but his bulbs were scarcely so even or so fine in neck. Mr. T. Wilkinson, Tyntesfield Gardens, Flaxbourton, Bristol, was third; 8lb. 6oz. was the weight of his four good bulbs, which were, however, rather rough in skin. Mr. E. Johnson, Duffield House Gardens, Stoke Green, Slough, came fourth, his bulbs having too much shoulder. The remainder of the prizes were awarded to Mr. George Duncan, Merstham House Gardens, Merstham; Mr. T. Avory, Loudwater House Gardens, Rickmansworth; Mr. W. Folkes, Ampthill, Beds; Mr. H. Tysoe, The Lodge Gardens, Bedford; Mr. J. Fraser, Ottershaw Park Gardens, Chertsey; and Mr. H. Parrott, Brockhampton Court Gardens, Hereford, who occupied positions in the order named.

Much as the fine array of onions engaged the attention of the visitors, there was also great interest shown in the more decorative exhibits of flowers arranged by Messrs. Dickson and Robinson, which were of varied character and excellent quality, proving the firm to be good florists as well as seedsmen. Well-grown dahlias of cactus, pompon, and double types were shown in the form of specimen blooms and in bamboo stands. A fine bank of phloxes constituted another delightful feature, and there were also early-flowering chrysanthemums, and beautiful sweet scabious. Heavily laden branches of the very effective tomatoes Golden Nugget and Cascade came in for much praise.

Bristol Gardeners' Association.

The usual monthly meeting was held at St. John's Parish Rooms, Mr. Shaddick in the chair. Mr. C. Holt, gardener to Mrs.

Baker, Henbury, gave a practical lecture upon "Tuberous Begonias." Mr. Holt, who has charge of the best named and most up-to-date collection in the neighbourhood, was eagerly listened to. The Chairman, and Messrs. Morse, Lee, Bird, Thoday, Curtis, Brook, and House took part in the discussion. A hearty vote of thanks was accorded to Mr. Holt at the close.

For two pots of begonias Mr. Holt was first, and he also gained two points for a collection of named varieties. Mr. Gosling was awarded three points for four hybrid cypripediums of C. Rothschildianum parentage, and Mr. Curtis two points for a pot of vallota.

THE ROYAL BOTANIC SOCIETY.

As I have for many years taken an interest in this society, I would like to say a word on the suggestions that have been made with regard to the future of the Botanic Gardens. These suggestions are (1) that the gardens should be thrown into Regent's Park, and (2) that the gardens of the Zoological Society should be enlarged with a view to uniting the two societies.

There are many objections to the second proposal. The objects of the societies are wholly different. The new buildings that would have to be erected would cost thousands of pounds.

The adoption of the first proposal would, in my view, be most unfortunate. London cannot afford to lose the one ideal place still available for flower and horticultural exhibitions, and for outdoor receptions by public bodies and societies. Regent's Park is already one of the largest and most attractive in London, covering, with Primrose Hill, some 470 acres, and, except in the principal avenues, the frequenters over acres are few and far between.

I favour an amalgamation with the Royal Horticultural Society—a well-managed and consequently flourishing body. Under enlightened control the Botanic Gardens would, I am sure, soon become what they should be, one of the brightest and most useful places in London.

J. S. RUBINSTEIN.

76, Addison Road, Kensington, W.

NEW BOOKS.

A FRENCH GARDEN IN ENGLAND.

By Helen Nursey and O. J. Cockerell (Stead's Publishing House, Bank Buildings, Kingsway, London). Price 1s. net.

An interesting account of the first year's experience of two women gardeners in intensive culture, or what is commonly known as French gardening. The garden, we are told, is situate on an estate in Sussex, and has the advantage of a good soil, and is within a convenient distance of a railway station. Both partners had had the advantage of a year's training in a French garden in England, but it would appear that, owing to their commencing operations two months late, they had many difficulties to contend with, more particularly in disposing of the crops. No balance-sheet is given in the book, but the results were so far satisfactory that the two fair gardeners are anticipating future operations with some degree of confidence.

HOME-BOTTLED FRUITS.

By G. W. S. Brewer (Harvey and Healing, Manchester Street, Cheltenham). Price sixpence net.

A small but extremely useful work on the bottling of the various kinds of fruit grown in British gardens. It is essentially practical, and gives the temperature best suited for each kind of fruit.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

SALT FOR ASPARAGUS PLUMOSUS.—A. L., Fairlie: We have had no experience of the use of agricultural salt for Asparagus plumosus. It might prove useful in the form of a weak solution, but nitrate of soda would be better. Given good soil to grow in Asparagus plumosus thrives if given liquid cow manure when well rooted. By the way, what is the asparagus doing in a vine border?

RUST ON MUSCAT GRAPES.—M. E. G., Buxton: The discoloration of the grapes is probably due to the berries having been handled during the process of thinning. It is, of course, possible that cold draughts on the one hand, or excessive dryness of the atmosphere on the other, may have produced a similar result. In most cases, however, the rusty discoloration is due to lack of care during the work of thinning the berries, and the tender skins become slightly bruised, or the protecting waxy covering that presently develops as "bloom" is rubbed off.

OUTDOOR TOMATOES.—J. S. B., Haslemere: If you can fix frame lights over the outdoor tomatoes you should do so at once, as this will materially increase the chances of maturing the crop. Pick all fruits directly they commence to colour, and place these on a shelf in a warm greenhouse to finish ripening. Do not permit side growths to extend, and if you have not already done so, cut out the growing point at one leaf beyond a promising truss of fruit. At this season you may also rather severely shorten the leaves, but it is a mistake to remove these altogether. At the approach of frosts cut the remaining fruit bunches and hang them from the roof wires in a warm shed or greenhouse.

LAND FOR DAFFODIL CULTURE.—S. M., Bangor: Under the circumstances it will be better to defer planting for a season, as it is practically impossible to bring the land into a fertile condition for bulb planting this season. At any rate, the risk of failure is too great. Have the ground thoroughly cleaned, manured, and trenched, and let it lay rough for the winter. Then, early next year, fork the ground over after dressing it freely with soot and sifted ashes from the rubbish heap fire. Plant a crop, such as first early potatoes, cos lettuce, turnips, etc., that can be cleared in ample time for the ground to be cleaned and forked over ready for daffodils. On poor land that has refused to grow potatoes it is impossible to grow either good bulbs or flowers until its fertility is restored. Further, freshly manured ground (and manure must be used freely in this case) is not suitable for bulbs.

FAILURE WITH GRAPES.—Kent: Unless one has the opportunity of inspecting the vineries and gaining full knowledge of the general conditions that prevail, as well as the particular conditions that have to be considered, there is very great difficulty in giving useful advice. In your case, however, we believe we can read the story aright. The vines were badly injured by the use of turpentine in the mixture used for cleaning in the winter of 1907-8, and this injury showed itself in the death of many spurs and the weakly growth from those that remained. The idea of training up new rods from the best basal growths was a good one, but it would have been better practice to cut back the old rods at once and take up one new rod from the base of each, as this would have given the new growth a better chance in every way. The progress of the new rods is evidence that there was little if anything the matter with the root system of the vines, but to heavily crop these young rods this year was a grave error. The rods should have been shortened, as in the case of young vines, and a bunch or two at most would have been a good crop this year. The cold, damp weather this season has not helped matters, and we can imagine that, as a result of overcarefulness, the vineries were not sufficiently ventilated (more artificial heat with increased ventilation would have been better), with the result that mildew appeared. The use of sulphur to counteract the mildew resulted in rusted berries, and the large amount of moisture in the border, due, not so much to overwatering as to a greatly reduced need, because of the smaller crop of fruit, leaves, and growth, caused splitting of the berries, and subsequent shanking. Remove the crop of fruit entirely, it is not worth bothering about; use fire heat, and ventilation, so as to ripen up the wood well, and secure a good resting season for the vines. Clean the rods with some well-known and safe mixture this winter, and shorten them back so that they will produce spurs the whole of their length. Crop very lightly next season; pay particular attention to ventilation, and remember that in cool, damp weather it pays to use fire heat and give increased ventilation rather than keep the vineries close and use little or no fire heat. Keep a close watch upon the borders, because, for another season, at least, it will be an easy matter to overwater, and thus severely damage the roots.

PRESERVING PEA AND BEAN STICKS.—C. C. D., Tenby: When the pea and bean crops are over and the sticks are removed, many of the latter will be found of little value except for firewood. The best may be retained, however, and used to help out the new supply next year; and when sticks are difficult to obtain it is economical procedure to stack the good sticks under cover in an open-sided shed, taking care to keep the lower sticks well above the floor. Failing a shed of this kind, the sticks may be roughly bundled and stood against a wall or hedge where they will be sheltered from rain. Either here, or stacked in the open, raised above the ground, a rough thatching should be given to throw off winter rains and snow.

NAMES OF PLANTS.

F. G., Hexham.—1, Colchicum autumnale; 2, Galtonia candicans; 3, Spiræa Douglasi.

G. S., Sherborne.—1, Salix babylonica; 2, Cotoneaster microphylla; 3, Daphne Cneorum.

H. M. A., Leicester.—1, Sambucus racemosus; 2, Montbretia rosea; 3, Eupatorium purpureum.

G. F. G., Lincoln.—1, Berberis stenophylla; 2, Leycesteria formosa; 3, Lycaste Skinneri; 4, Costus igneus; 5, Phrynium variegatum.

H. T. W., Orpington.—1, Cotoneaster horizontalis; 2, Hypericum Moserianum; 3, Pentstemon barbatus; 4, Eleagnus longipes; 5, Caryopteris mastacanthus.

F. C., Guildford.—1, Hesperis matronalis; 2, Quercus ilex; 3, Odontoglossum ardentissimum (very poor variety); 4, Jacaranda mimosæfolia; 5, Pteris tremula.

H. T. S., Barnet.—1, Cypripedium barbatum; 2, C. longifolium—very poor specimens, that are as named, so far as we were able to judge; 3, Helianthus multiflorus.

S. P., Essex.—No. 1, Spiræa Douglassi; 2. Olearia Haasti. The other specimens are insufficient for identification, and examples should be sent again when in flower; 3 is a hypericum; 5, a viburnum; and 7, a maple.

FORTHCOMING ENGAGEMENTS.

SATURDAY, September 18.—Arnold Horticultural Society.

MONDAY, September 20.—National Chrysanthemum Society; Floral Committee, Essex Hall, at 3 o'clock; General Committee at 7 o'clock, at Carr's Restaurant.

TUESDAY, September 21.—National Dahlia Society, at Royal Botanic Gardens, Regent's Park; two days.

TUESDAY, September 28.—Royal Horticultural Society; Committees meet at 12 o'clock; Lecture at 3 p.m. on "The Production of Horticultural Varieties," by Prof. Hugo de Vries; Scientific Committee at 4 o'clock.

MONDAY, October 4.—National Fruit Growers' Federation.

WEDNESDAY, October 6.—National Chrysanthemum Society: Conference on Chrysanthemums at Essex Hall, Strand, commencing at 3 p.m.

FRIDAY, October 8.—Carluke Chrysanthemum Show.

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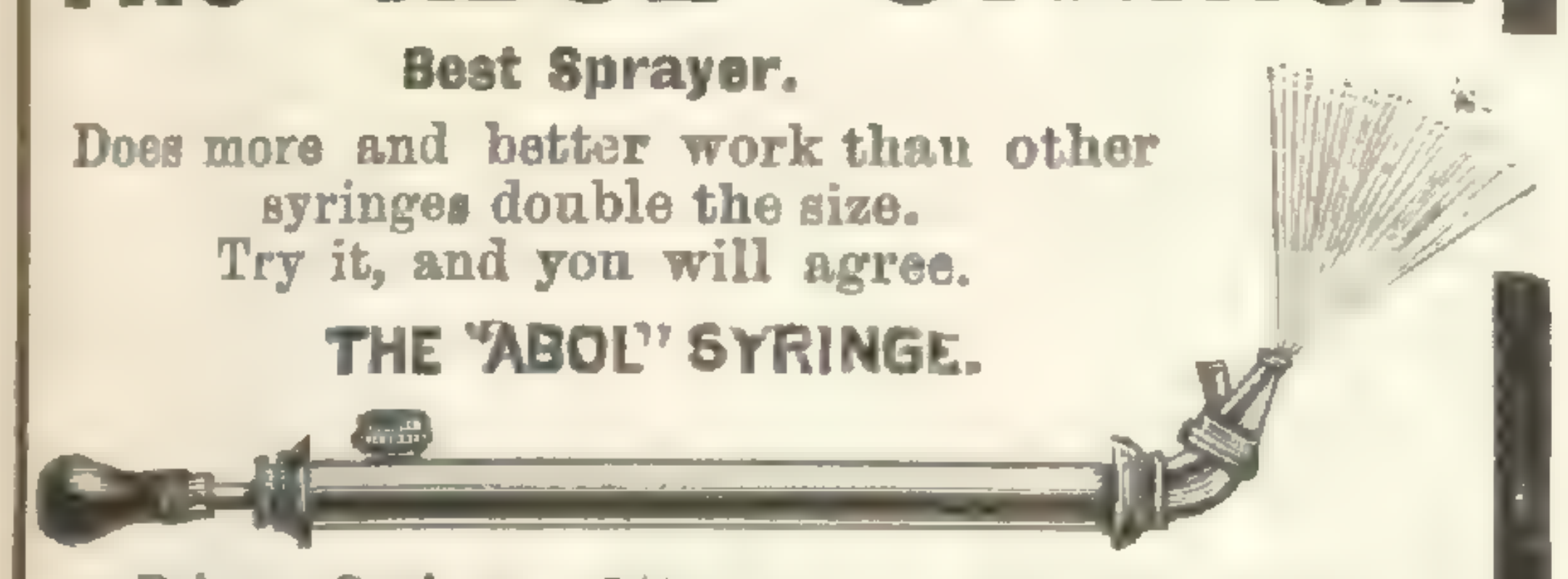
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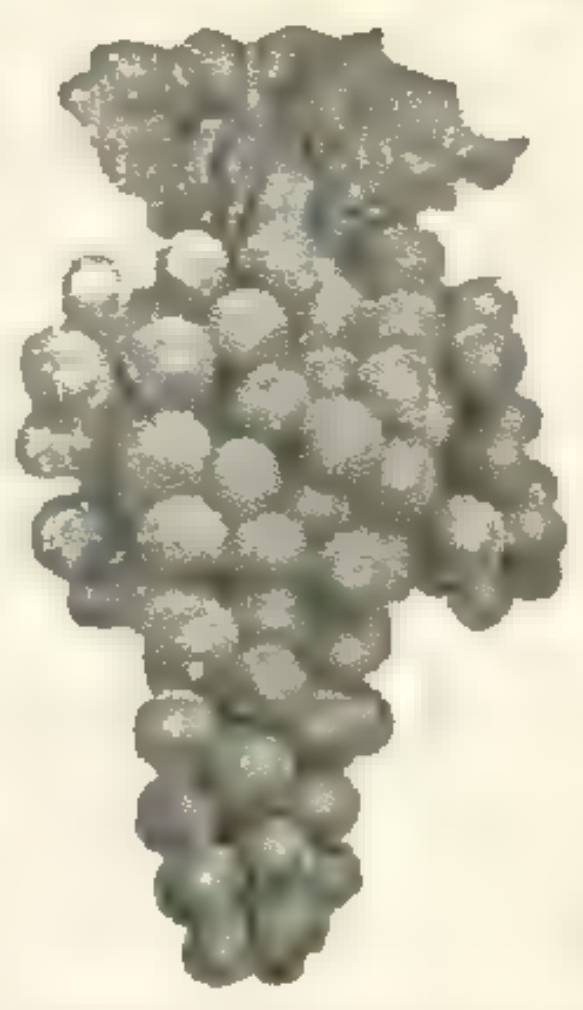

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Endive	per doz.	1	3		1	9
Horseradish	per doz. bun.	8	0		12	0
Lettuce, Cos	per score	0	6		1	0
Mint	per doz. bun.	1	0		2	0
Mushrooms	per doz. lb.	6	0		9	0
Onions, Valencia	per case	7	0		12	0
,, English	per doz. bun.	1	6		2	0
Parsley	per doz. bun.	1	6		2	0
Peas, English	per bush.	2	0		4	0
Spinach	per bush.	1	0		1	6

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TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date.	Sunshine.	Temperature of the Air.			
1909. September 5. to September 11.		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Sept. 5—Sunday	11 42	56	52	64	50
,, 6—Monday	6 36	62	59	70	51
,, 7—Tuesday	5 18	56	51	59	50
,, 8—Wednesday	4 0	51	48	54	39
,, 9—Thursday	4 30	52	50	60	45
,, 10—Friday	—	51	50	59	41
,, 11—Saturday	4 30	58	58	64	51
Means	(total) 36 36	55	52	61	47

Date.	Rain.	Temperature of the Soil at 9 a.m.			Lowest Temperature on Grass.
1909. September 5 to September 11.		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
Sept. 5—Sunday	0.04	58	60	59	43
,, 6—Monday	trace	59	60	59	43
,, 7—Tuesday	0.03	58	60	58	45
,, 8—Wednesday	0.16	56	59	58	32
,, 9—Thursday	0.04	56	58	58	36
,, 10—Friday	0.16	55	58	58	30
,, 11—Saturday	0.01	56	57	58	50
Means	(total) 0.44	57	59	58	40

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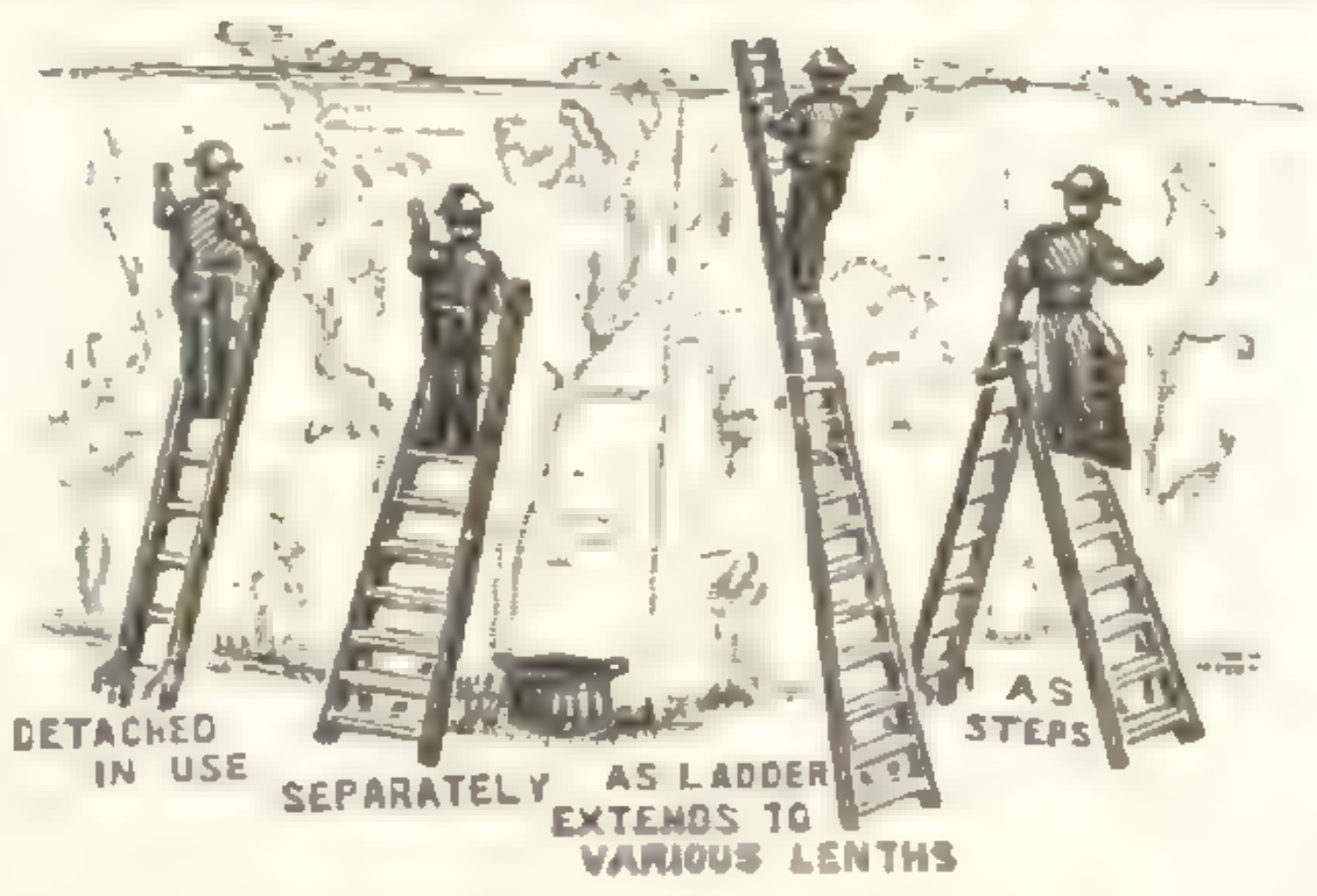

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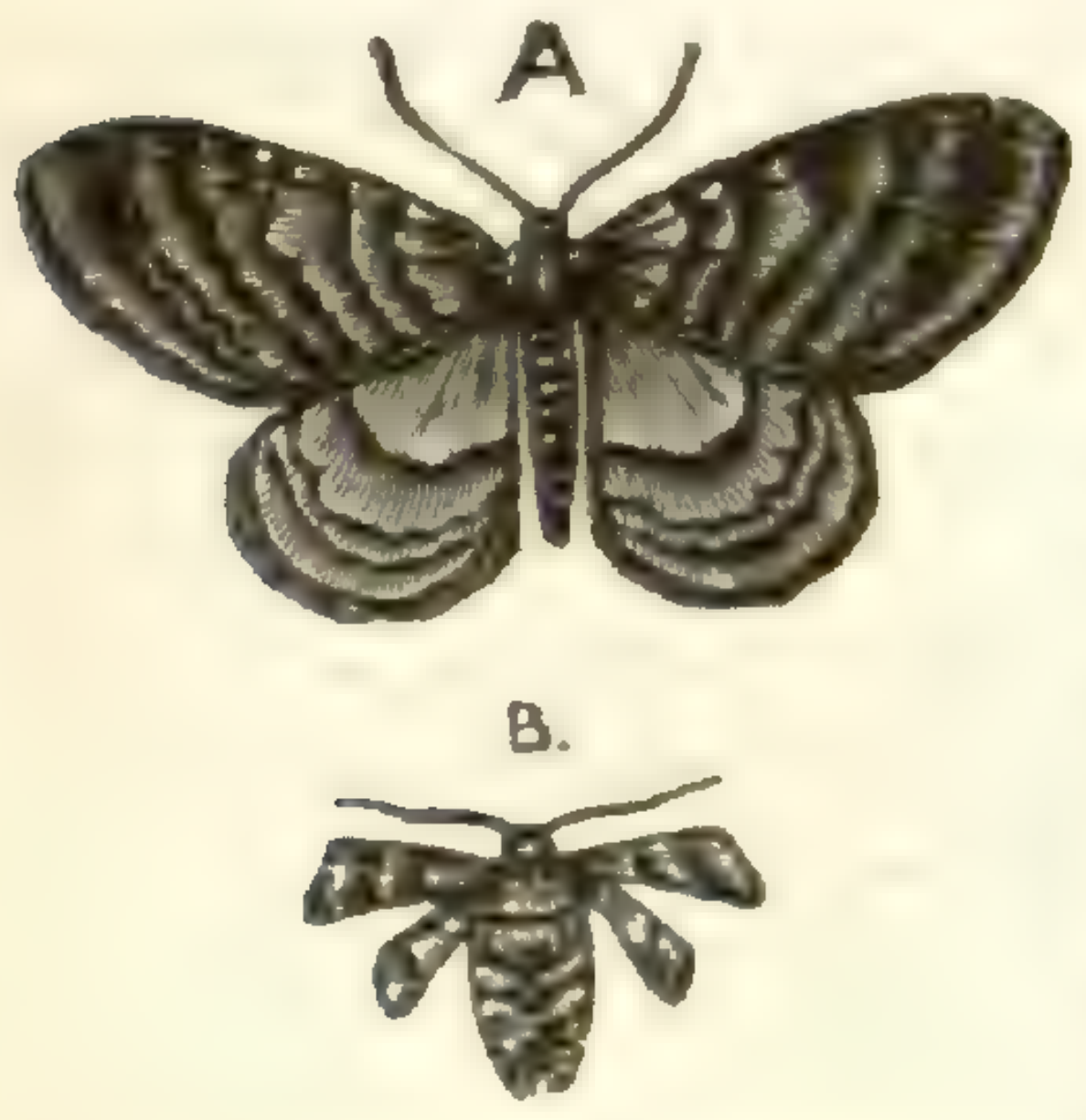

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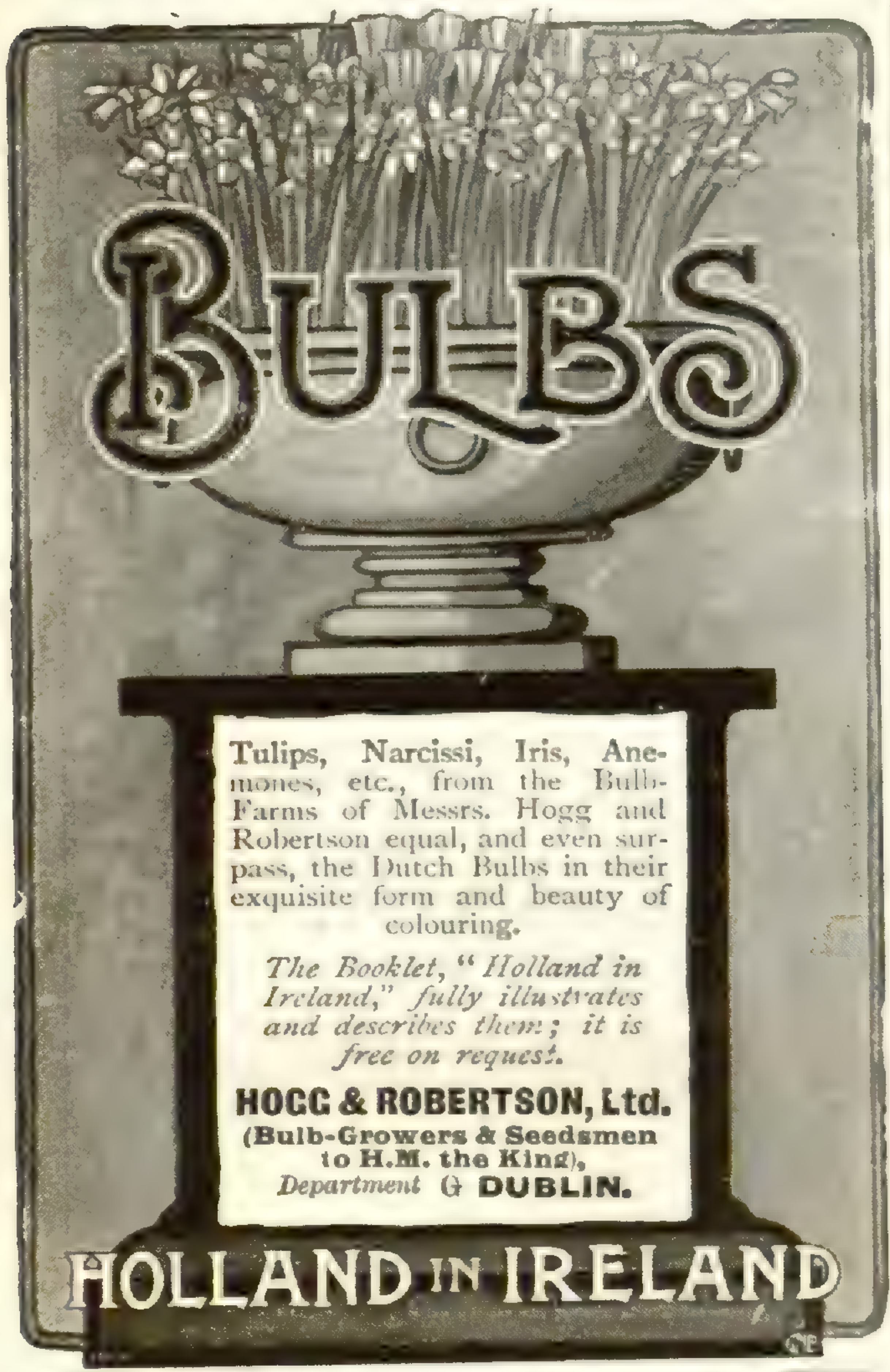

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VOL. LII.—No. 2,918. SATURDAY, OCTOBER 2, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

The Fall.

In adopting the term "Fall" for the autumn the Americans have certainly chosen a very appropriate one, for of all autumnal phenomena it is certainly the shedding of deciduous foliage which strikes us most as a preliminary to winter conditions. The four seasons, indeed, might be fitly named on similar lines, the Rise, the Rush, the Fall, and the Rest, as indicative of the flow and ebb of that vegetative activity which constitutes the one link between the sun, the direct source of all vital action, and the organic world. In the spring, as the sun's influence daily increases, we see the vegetative world, hitherto in a state of apparent dormancy, at first slowly and then rapidly bud out and burst into a wealth of leafage, which betokens a more or less sudden flow of sap, which finds a vent through the myriad channels initiated at the leaf bases of the previous season. The incipient foliage closely packed in the axial buds expands under the genial influence of sunbeam and shower, breaks the protecting sheaths which have hitherto enclosed it, and all at once, as it appears, the bare branches are clothed with innumerable types, according to the species, of delicate leaves, to be followed in many cases by the flowers which herald the formation of the fruits, the end and aim of vegetative life. Then as the noonday sun rises higher and higher, as the terrestrial pole inclines more and more towards it, the summer comes upon us, and the host of flowers follow with a rush as the solar energy approaches its maximum. Time goes on, the busy leaves complete their creative work, absorbing from air and soil the few elemental gases and salts which they work up into the innumerable products upon which the animal world, including man himself, is dependent for its existence and for the great majority of the luxuries which it is man's privilege to enjoy. Take, for instance, a luxurious home and study its contents, and it will soon be seen that, apart from the mere brick and stone used in its construction and the jewels and metals which ornament it and its owners, nine-tenths of its contents will have been fashioned directly or indirectly by the sunbeam acting on the chlorophyll within the leaves. Now, however, the leaves have finished their task, the fruits they have shaped is either already harvested or is ripening in the declining sunshine. Their work is done save, perhaps, the final perfecting of the bud at their base, which is destined to replace them the following season. They are no longer needed, and their further persistence through the winter may involve a serious risk of damage to the parent tree when snow may overload it or fierce storms assail it. The Fall is imminent, and more or less rapidly, their varied greens pale and assume all the colours present in the sunbeam which had created them, and the glowing hues of autumn greet our eyes, until the chilly breezes bring the dead leaves down in ever-increasing showers, and the branches grow barer and barer until finally the trees are but apparent skeletons, and the season of Rest has arrived. The Autumn, the Fall, superficially considered, seems a depressing season. It embraces in our climate a period of chill, fog, and other discomforting factors, while to the garden lover, it is a period of general decay and of disappearance of hitherto beautiful objects. The parterres, ablaze to-day with begonias, dahlias, and other late blooming flowers, are to-morrow a wreck of blackened foliage and dead blossoms and buds, due to a snap of frost. A persistent litter of brown and rotting foliage pervades the trim walks and lawns, and even the hardier evergreen plants become shabby and unpresentable in most instances. Happily, however, the philosophical gardener finds comfort in the fact that for six long months he has had a continual feast, and hence, like one who has enjoyed a substantial dinner, he is content, like the plants, to take a rest, and, like a gourmand, to cultivate a fresh appetite for the feast for which that rest is but a salutary preparation. A continuous meal leads but to a surfeit, an interregnum is an essential to fresh enjoyment. To the observant mind, too, the Rest season even presents its enjoyment, the garden proper is never without some attraction even though it be but the beauty of a fresh snowfall or that of a frosty morning when every twig is a string of sparkling gems; and finally, if there is nothing else to console him, he has at least the benefit of a truce with the plant foes which assail his pets at all other seasons of the year.

MR. THOMAS HAY.

Mr. Thomas Hay, whose portrait we have the pleasure of giving herewith, is one of the best known and most highly respected of Scottish gardeners, and the high keeping and the attractiveness of the gardens of Hopetoun House, the residence of the Marchioness of Linlithgow, afford unquestionable proof of his remarkable skill and administrative ability. It is a matter of some interest that Mr. Hay received the whole of the training by which he fitted himself for the high position he occupies, in gardens across the Border, which, by the way, he closely approached at one time. Mr. Hay is a native of Cullen, Banffshire, and served his apprenticeship in Duff House Gardens, under Mr. Brander, and subsequently was engaged in good gardens in Perth and Stirlingshire. Thence he went to Ayton Castle, Berwickshire, under Mr. McKinnon, and from the Ayton Castle gardens he accompanied the latter to Teregles, Dumfries, where he was a part of his time outdoor foreman and a part indoor foreman. From the last-named establishment Mr. Hay went to Hopetoun House as foreman, and on the retirement of Mr. Smith, who was then in charge, he was appointed head gardener. Long well known for their extent, distinctive characteristics, and high keeping, the gardens of Hopetoun House have, under Mr. Hay's management, become famous throughout the United Kingdom. Mr. Hay does not make a pretence of suggesting that the gardens enjoy a reputation higher than they deserve, he is too manly for that, but, with a loyalty that one can hardly too greatly admire, is not slow to make it quite clear that he believes whatever success he has achieved is largely due to the generous support he has received from his noble employers and the great interest they have shown in their beautiful gardens. As we hope to make some reference to them at no distant date and to illustrate several of the more noteworthy features, there is no occasion to say anything with regard to them now. In the making and management of herbaceous borders Mr. Hay has achieved a degree of success which has placed him in a prominent position among the authorities on hardy flowers; he has developed a method of using tender plants in the flower garden during the summer months by which effects of surpassing beauty are obtained; and in the cultivation and use of such subjects as antirrhinums, perennial phloxes, pentstemons, and East Lothian stocks, he gives annual practical demonstrations that should prove of great educational value to those who have the opportunity of visiting the Hopetoun House Gardens. In fruit and vegetable culture Mr. Hay is not less successful than in the cultivation of flowering plants. Mr. Hay is a member of the council of the Royal Caledonian Horticultural Society and a member of the committee of the Scottish Horticultural Association.

Our Autumn Planting Number will be published on the 16th inst., and, as it will be devoted to the important work immediately associated with the present season, it should prove of much interest and be a valuable guide to those engaged in planting operations. The contents will include articles specially written for the issue on weeping trees, flowering crabs, rhododendrons for grouping, and climbers for walls and trellises; making and planting herbaceous borders, and golden flowers; selecting and planting bush apples, plums for the garden, orchard-house fruits, summer and autumn raspberries, and gooseberries and currants; and standard roses, dwarf bedding roses, and dwarf single roses. The number will be freely illustrated, and the illustrations will be not less remarkable for their utility than for their attractiveness.

Dressing Roses.—The dressing of rose blooms has less justification than the dressing of carnations, chrysanthemums, and dahlias, for in the manipulation of these the operator endeavours to remove imperfections and give the blooms a more finished appearance, but in these endeavours he is not always successful. In the dressing of roses, on the other hand, the operator opens out and pulls the petals back in such manner as to destroy in some degree the individuality of varieties and to give the flowers a rough and a more or less objectionable appearance. Some blooms of roses were submitted to the Floral Committee of the Royal Horticultural Society on Tuesday last that bore evidence of "dressing," although they had not been manipulated to the same extent as many roses that are annually submitted to public notice. The committee, however, considered that a proper estimate of the merits of new roses could not be formed from dressed blooms, and passed a resolution to the effect that roses must be staged as grown. The National Rose Society has a rule relating to dressing, but, as one of the high officers of the society remarked, the judges do not give it sufficient consideration when awarding the prizes.

Wye Agricultural College.—The South-Eastern Agricultural College, Wye, will commence the 1909-10 session on October 4. The full complement of students, 120, will be in residence, and it is satisfactory to record that all the places reserved for Kent and Surrey ratepayers will be filled. Three scholarships have been awarded by the Kent County Council, and two of these have been won by East Kent farmers' sons, and in one case it is the third and in the other the second member of the family attending the college. The prizes and diplomas awarded during last session will be distributed on Saturday, October 9, 1909, at 2 p.m. by the principal of London University (Dr. H. A. Miers, F.R.S.), of which the college forms an integral part.

Trial of Pompon Dahlias.—During the past summer Mr. Charles Turner has, on behalf of the National Dahlia Society, carried out a trial of Pompon dahlias in his nurseries at Slough, the object being to determine the relative merits of varieties for garden decoration. All the pompon dahlias possess merit for producing bright colour effects in the garden, but some are much better than others, a fact which has been brought into prominence by the trial. The collection of pompon dahlias in the Slough nurseries has long been a comprehensive one, and as several plants of each variety were grown, and all were placed under much the same conditions as those which obtain in gardens, the test was a thorough one. On the 23rd inst., the committee of the National Dahlia Society, accompanied by Mr. E. Mawley, V.M.H., president of the society, and Mr. George Gordon, chairman of committee, paid a visit to Slough for the purpose of inspecting the trial, and were not a little surprised to find the collection in such splendid condition. The season has not been particularly favourable to the pompons, for the low temperature and frequent rains have encouraged leaf development instead of flower production, and in consequence some of the varieties that usually bloom freely enough in ordinary seasons were not flowering very freely. There were, however, a goodly number of each of the several colours that were blooming so freely as to produce a series of brilliant colour effects. The collection was carefully examined by the committee, and marks assigned the varieties according to their value for garden decoration, and the official report should prove of immense value as a guide to the selection of varieties for beautifying the garden. At the close of the inspection Mr. Turner was very heartily thanked for the great service he had rendered the society and dahlia growers generally, and the kindness shown the committee.

Pæony-flowered Dahlias, which are rapidly acquiring popularity in this country, were very strongly represented at the Royal Horticultural Society's meeting on Tuesday, and received a full share of attention from visitors. It was satisfactory to have evidence that English raisers have entered into the creation of new forms with much spirit, and have achieved so much success as to be able to present to public notice forms much superior to those received from Holland. Especially noteworthy were the collections of new varieties exhibited by Messrs. T. S. Ware, Lim., of Feltham, and Mr. J. T. West, of Brentwood.

Iceland Poppies are so highly attractive when they represent a good strain and have had the advantage of good cultivation that the box of flowers received from Messrs. Storrie and Storrie was much appreciated. The flowers are throughout of large size and fine form, and are remarkable for the substance of the petals, a point of importance when the Iceland poppies are used for decorative purposes. It need hardly be said that the gathering included orange, yellow, and white flowers, but it must be mentioned that there were also flowers of a pale rose colour, and these at once obtained attention by reason of their attractiveness.

Chrysanthemum Conference.—A conference on chrysanthemums will be held by the National Chrysanthemum Society at Essex Hall, Strand, on Wednesday, the 6th inst. There will be two sessions, the first will commence at 3 p.m., and the chairman will be Sir Albert Rollit, LL.D., D.C.L. The second session will commence at 6 p.m., and at this Mr. T. Bevan will preside. Each session will extend over two hours, and the papers that will be read at the afternoon session will deal with "Chrysanthemums as Annuals" and "Early Single Chrysanthemums," and at the evening session the papers will be on "Late Market Chrysanthemums" and "The Best Chrysanthemums for Cut Flowers" The readers of papers, so far as announced, will be Mr. W. Wells, Mr. P. A. Cragg, Mr. J. B. Riding, and Mr. D. B. Crane. There will be a special meeting of the Floral Committee and an exhibition in association with the conference, and the public will be admitted to the show and conference, a small charge being made for admission.

Eckford's Mammoth Exhibition Bean.—Mr. Henry Eckford, whose name is so intimately associated with the development of the sweet pea, devotes a considerable share of his attention to the improvement of vegetables. Of his successful endeavours in this direction we are reminded by receiving from Wem a gathering of pods of the fine scarlet runner Eckford's Mammoth Exhibition. The variety is fully entitled to the designation of mammoth, and it is certainly highly meritorious for exhibition purpose. The pods received ranged from twelve to thirteen inches in length, and an inch in breadth, and were thick and fleshy and very handsome in shape. While possessing much merit from the exhibitor's point of view, the variety has much to recommend it to those who grow vegetables simply for the supply of the table, for it crops heavily and the quality is high.

Leigh Woods, Bristol.—At the annual meeting of the Leigh Woods Land Company, the Chairman stated that the picturesque woodland scenery presented by Mr. G. A. Wills to the City of Bristol had been transferred to the National Trust for Places of Historic Interest or Natural Beauty. This body would be the legal owners, but the management of the property would be entrusted to a committee which would be appointed by Mr. Wills and several local societies. A fund of £4,010 had been raised for providing the amount annually required for the upkeep of the property.

THE WILD HEATH GARDEN.

The subject of the wild heath garden and its surroundings should provide an interesting study to those who have open spaces which require to be turned into interesting and charming garden scenes.

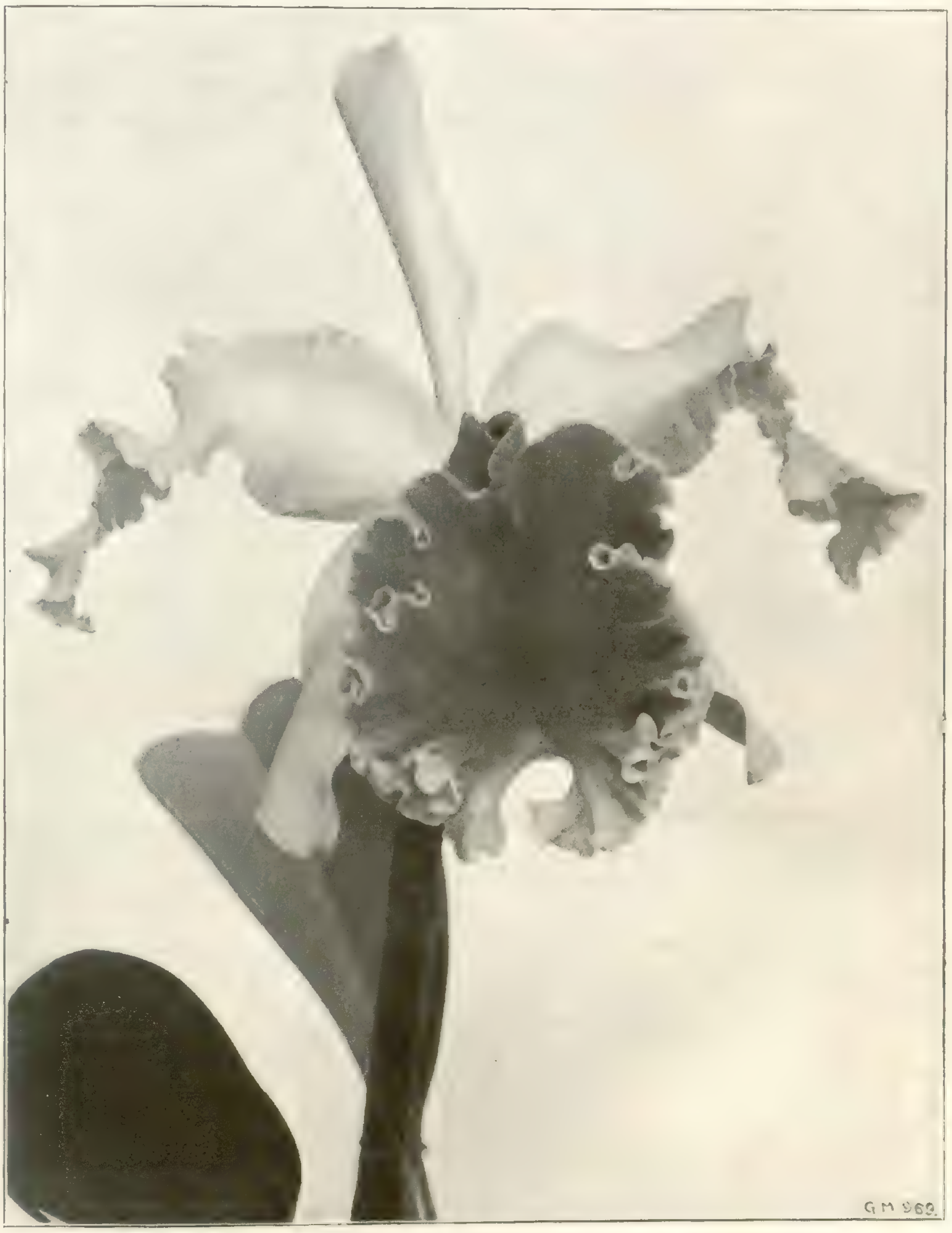
My purpose is to enthuse one with a desire for garden scenery which shall embody some of the most delightful aspects of Nature's own garden in the countryside, and thus it is that the call is given for the praise of the wild heath garden. This idea of the heath garden is pleasing by reason of its simplicity, and not less in the favour of the scheme is the facility with which it can be carried out at a small cost.

Picture, if you will, a slightly undulating stretch of ground, broken by a series of ridges, with here and there an outcrop of weathered rock, and you have an idea of the general outline of the heath garden. One or more winding paths should intersect the ground, rising and falling in accordance with the natural formation, anon losing itself among the rifts and depressions, and appearing again farther on, in just the same way that a beaten track would appear in nature. Here and there a broken weathered seam of stone may occur in the pathway, while the plant and shrub groupings should appear in as natural a manner as is possible under the circumstances. Here and there should be grouped masses of heaths of a hardy and attractive nature. Bold groups are very necessary on the crests of ridges, and on sloping banks, but diversity must be given, therefore other plants which thrive under similar conditions to the heaths should be allowed for.

In arrangement care must be taken to give the heaths a certain prominence, and then allow the groups to lighten outwards, until single specimens are seemingly lost among groups of other subjects. Here and there should occur pleasing groupings of our native linarias, particularly the taller forms, such as L. vulgaris, and L. genistæfolia. Masses of golden ragworts may appear in spots which seem to need tallish subjects of bright appearance, while fern groupings, in which even the common brake, Pteris aquilina, may be used, will be found of no uncertain value, both for their refreshing greenery of summer time, and the gold and bronze tints of autumn.

In the harebells, or campanulas, one finds additional charm, and the light habits, pendant, and sub-pendant bells, and delightful blue shades, one gets pleasing material, which will show to decided advantage either near the pathways or lightly waving from the higher ridges. Gentians, too, come to mind for the planting of spots by the track sides, and many other subjects, such as some of the lychnis, achilleas, wild lathyrus, with here and there a tangled mass of honeysuckle, or a group of double gorse, will give a bit of tone value to the scene.

Here and there the general effect will be enhanced by the inclusion of a few pines, such as cembra and montana. For large gardens one might go farther and add a few rubus, dwarf willows, hollies, and silver birches, which help to break the monotony of dwarf things. On the other hand, a more ornate garden might be modelled by allowing for the inclusion of azaleas, kalmias, dwarf rhododendrons, and a host of bright shrubby plants which will come to the mind of the garden lover. But in the idea of the wild heath garden one gets a wondrous appealing charm, which can be considerably added to by the grouping of a few cherries, rowans, or pyrus away toward the northern limit.



LÆLIO-CATTLEYA PIZZARO HOLFORD'S VARIETY.

A handsome form, rich in colour, and remarkable for its old gold and crimson lip. Exhibited by Lieut.-Colonel Holford at the Royal Horticultural Society's Meeting on Tuesday, when it received a First-class Certificate.

The wild bird cherry is infinitely charming, with its snowy clouds of blossoms in spring, and its wondrous orange-red shades of autumn leaf-colouring. The double cerasus (particularly the Japanese varieties) are of utmost value, and the pretty foliage and brilliant berries of the rowans, and the charms of some of the pyrus, are very delightful, and grouped toward the north, where they will not interfere with the range of the sunlight, they will prove of distinct service.

Among the heaths which are of service for the wild heath garden one notes the better varieties of our native Erica vulgaris. All are acquainted with the pinkish-lilac blossoms of the type, but the fine forms, aurea, a lovely golden-bronze foliaged gem; argentea, with its silvered tips; Alporti, a sterling crimson-flowered gem; alba, a neat white; Hammondi, a white with rich dark green foliage; and Serlei, a useful form, distinct in foliage and blossom, should be included if space permits, being sterling acquisitions.

E. tetralix, the mountain bell, or cross-leaved heath, with its rosy-red blossoms, is of surpassing charm.

The Cornish heaths, E. vagans, and its varieties, including the pretty white form, will be found serviceable in most places, while the Scotch heath, E. cinerea, and cinerea alba, are of great value for massing.

Others of note are the pale red Dorset heath, E. ciliaris, E. carnea, and E. carnea alba, which are invaluable for early spring blossoming. E. mediterranea and its varieties alba and glauca, which should be planted but sparingly, as they develop into magnificent specimens under favourable conditions, and E. codonodes, the lovely white shrubby species.

Several other ericas and similar peat-loving subjects may be grown, though the reader will realise that the foregoing are among the most serviceable.

In some places the natural soil will be found to possess the needful elements for success in heath culture, while in others a good dressing of moorland soil should be thoroughly worked into it. Planting should be carefully carried out, especially in regard to making the plants firm. Should a warm dry season follow that of planting care should be taken to supply with water until they are established.

Finally, a loamy bank, bowered with the graceful cytisus (brooms) will provide an additional feature of great beauty.

P. S. Hayward.

NARCISSUS CULTURE FOR PROFIT.

Until ten or twelve years ago the Dutch had almost a monopoly of the bulb trade of this country, but bulb cultivation has recently been successfully undertaken in various parts of the British Isles. Bulb culture is one of the chief industries in the Channel Islands, and during the spring months tons of bloom are thence daily despatched to London and other large centres, to be followed in the summer by the further despatch of tons of bulbs. In the South Lincoln and Cambridgeshire Fens many acres of bulbs are now planted, several of the larger growers having from twenty to fifty acres under cultivation. An ideal bulb soil is found here, which, with good culture, produces bulbs equal to those grown in Holland, and, in addition to supplying a home demand, a considerable export trade is now being conducted from this centre. It is probable, however, that there are many other parts of England where the soil and climate would also be found suitable, and as narcissus cultivation is an industry which can be begun on a small scale, it is one which appears to be well worth the attention of small holders and others.

The Board of Agriculture has issued a leaflet (No. 224) dealing with the commercial culture of narcissi, and in view of the importance of this subject we reproduce it in a slightly abridged form.

I.—GROWING BULBS FOR SALE.

Suitable Soils.

The soil best suited for narcissus cultivation is a deep friable loam. Stagnant moisture is detrimental to the plants, and where such a condition exists it must be remedied by draining and raising the beds above the level of the paths.

Preparation of the Soil.

Land from which an early crop of potatoes has been lifted furnishes a very suitable soil for narcissi. When preparing it for the potato crop, the land ought to receive a heavy dressing of farmyard manure, from fifty to sixty tons per acre, according to the condition of the soil. As soon as the potatoes are cleared off, at the end of July or beginning of August, the land should be deeply ploughed or dug so that the enriched top spit is placed in a position to allow the roots of the narcissi to penetrate freely. If the soil is infested with weeds, such as twitch, bindweed, thistles, docks, etc., these should be removed as the work proceeds, as it is impossible to eradicate such pests once the bulbs are planted. If the work has been done by the plough the ground should be broken up by harrowing and rolling, but if dug by the spade it should be broken up as digging proceeds. This accomplished, and a good tilth obtained, the land is then ready for planting. The soil should be uniformly level, as hollows in which water stands injuriously affect the bulbs.

Manures.

Fresh farmyard manure must never be used for narcissus cultivation; its ammoniacal constituents have an injurious effect upon the plants, and this is the chief reason for recommending that they should follow such a crop as potatoes, where the rankness of a heavy manuring has already expended itself. Sixty tons of farmyard manure per acre may appear to be an unnecessary large amount, but, unless the ground is in good condition, it is not an excessive quantity. Good bulbs, like most other crops, cannot be grown on poor land. If it be necessary to plant on land which has not recently been well manured, bone-meal is probably the best artificial manure to use at the time of planting—it should be applied at the rate of ten to fifteen cwt. per acre, and can either be harrowed or raked in before planting commences, or worked in as planting proceeds.

Time of Planting.

As a general rule, the shorter the period the bulbs are out of the ground the better. In some cases, such as in the Poeticus section, new roots are formed simultaneously with the drying of the old, and a decided injury is done by keeping such varieties out of the ground for a lengthened period. With few exceptions, however, narcissi may be planted as late as Christmas, and still give fair results; but the best time for general planting is during August and September, and all planting should certainly be finished during October. The ground should be dry and friable at the time of planting.

Methods of Planting.

Planting should be done at a depth of two to four inches — the larger bulbs at the greater depth, and the smaller ones proportionately shallower. Various methods of planting are adopted, and the area to be planted will influence the method decided upon. Many large growers use a one-horse plough to which is fixed a special share that works in the bottom of the furrow and makes the necessary impression for the reception of the bulbs, and on large establishments the work is expeditiously performed in this way. From twenty-four to thirty planters are necessary to keep the plough constantly at work, and an acre a day may be planted. The cost would be: Man and horse per day, 8s.; thirty planters at 2s., £3; man in charge, 4s.; total, £3 12s. per acre.

This method is suitable where a single variety of bulb is being planted in large quantities. The work proceeds in the ordinary way of ploughing, one furrow covering the bulbs already planted in the furrow previously made. The furrows are about nine or ten inches wide, and every seventh furrow is left unplanted, and this forms a path, which is necessary for getting among the bulbs when bloom-gathering, cleaning, etc.

Where small areas are planted, a different method must be adopted. The following is a useful plan: First divide the land into suitable divisions, say fifty feet wide, with eighteen-inch paths between. Then stretch a line across the end of the first division, and with a spade throw out a shallow opening in which to plant the first row of bulbs. This done, shift the line the width of the rows, say nine inches; then proceed to open the second furrow, covering the first and already planted row with the soil from the second. Proceed thus with succeeding rows, again leaving every seventh unplanted to form a path. By this method one man with a spade will keep two planters busy, and the cost will be about £6 per acre.

Another method for the small grower, after he has marked his land into fifty-foot divisions with eighteen-inch paths, is to mark each division across with beds 3ft. 6in. wide and with paths 12in. wide. The soil from the first bed is taken out to a depth of three inches and wheeled to the far end of the division; this first bed is then carefully raked, and marked across in rows six inches apart. The bulbs are then planted, and this bed is covered with soil taken from the second bed, and so the work proceeds to the end of the division. This method, although a little more expensive than the preceding, has advantages, especially where handling a considerable number of varieties in small quantities, as the danger of mixing sorts is less likely to arise.

The quantity of bulbs necessary to plant a given area will vary considerably, according to the size of bulb produced by the particular variety. From five to six tons may be taken as an average weight to plant an acre.

Cultivation Between Planting and Harvesting.

The chief labour involved is in keeping the ground clean, and the amount of labour necessary varies according to the condition of the land and the weather. When planting has been done early, say in August or September, weeds will soon begin to show. These can be kept in check by hoeing (large growers use horse labour), provided the weather is favourable. If it is showery, so that hoeing is not effective, the land must be lightly "pointed," i.e., shallow-dug, in order to bury the weeds. For this work a broad-tined fork is the best tool to use, and the most suitable time to perform this work is at the end of October or beginning of November. If performed earlier there is the risk of another crop of weeds appearing; if done later, the bulbs may be too far advanced, and damage may result in consequence.

During the winter months some growers protect their bulbs from frost by covering the ground with heather or other loose litter, but for the varieties to be recommended this labour is unnecessary. In February, before the foliage pushes through the ground, soot may be applied broadcast and lightly harrowed or raked in. This is especially recommended where bulbs have remained in the same position two or three years.

During the spring months weeds must be kept in check by hoeing and hand-weeding, care being taken that the least possible damage is done to the foliage. Treading on the beds is to be avoided as much as possible. When the foliage dies down, the whole area should be hoed over if the bulbs are to remain another year, and the operation should be repeated two or three times during the summer months, which is all the attention necessary until the period for autumn "pointing" again returns.

(To be continued.)

COLOUR NOMENCLATURE.

For many years the Royal Horticultural Society has been confronted with the difficulty of describing exactly the colour of any particular flower in terms which shall be distinctly and definitely intelligible in New York and Paris, Berlin and Quebec, etc., as in London. It is a difficulty shared by all who have in any way, or at any time, to represent colour in words. We determined, therefore, to endeavour to establish an international code, by which anyone, anywhere, could convey to anyone else at a distance of time or place exactly and precisely the colour and shade he is speaking of.

With this end in view we searched for a good colour chart, and have been successful in finding an excellent one containing 360 colours between white and black, with the name of each in French, German, English, Spanish, and Italian, together with four shades of each of the 360 colours, so that anyone wishing to describe to a friend at Calcutta the exact colour and shade of a flower, or a silk, or a painting, need only refer to the colour chart number, quoting, if for "apricot," e.g., page 53, shade 3; or if for "rosy-pink," p. 118, shade 4; and so on.

The cost of production of so beautifully printed and so large a chart was, of course, very heavy, and it was issued at one guinea net, but our society, by adopting it as an international standard, and purchasing a very large number of copies from the publisher, is able to supply it to our Fellows and others at 14s. 6d., or if by post 15s.

My excuse for asking for space in your valuable journal to make this widely known is the manifest utility which would accrue to everyone all the world over if this chart were adopted universally as a standard of colour nomenclature, not only (as it will be) for flowers, but also for all trade and commercial purposes which relate in any way to colour. How very vague, for example, are most people's ideas of the distinction between purple, crimson, and mauve, and how often is the word carmine used as an easy method of solving the difficulty without conveying any definite notion as to what colour exactly is meant. It would make it quite easy for mercers and drapers to match any goods for customers at a distance. In fact, if once we could establish this chart as an international colour reference, its subsequent use would develop in all directions.

I need hardly say that our society has no pecuniary interest in the matter whatever.

W. WILKS, Secretary.

Vincent Square, Westminster.

DAMSONS.

The Cheshire damsons are fairly well known throughout the country. Damsons are very profitable to grow where the trees are properly treated, though the latter certainly do well, as a rule, even when they are not attended to carefully after the work of planting is finished. I have had much to do with the cultivation of damsons in Cheshire, and strongly advocate a more extensive planting of the trees. Of course, tastes differ, but I think there are few kinds of jam to surpass damson jam when the latter is properly made; but it is not often that the fruits are allowed to remain on the trees long enough. They are gathered before they are perfectly ripe. The fruits should be left on the trees until they commence to fall off freely; then they are just right for jam making. If it is necessary to pull the fruit it is not ripe enough and never takes the sugar as well as falling fruit does. Where possible, tall steps should be used to enable the owner to gather the damsons, as ladders often crash through the branches and break off many of them.

Damson trees are grown in hedges and in the open fields, as standards, in some parts of Cheshire, and when they are in full bloom the sight is a very pretty one indeed. It does not matter much in which aspect the trees are planted, as they bear freely in all. I have seen many specimens quite overshadowed by large trees of other kinds, yet the branches nestling under those of the other trees were well laden with fruit.

The best position is an open one, and where there is an orchard of fruit trees in the open quarters, damsons should be planted on the outside to act as a shelter. I would certainly not advocate the planting of the trees in hedges if the very best is required of the former, as the roots of the plants forming the hedge rob the damsons of much nourishment, and the fruits are numerous enough, but small. If planted where cattle can gain free access to them the trees should be standards, so that the branches will be out of their reach, and some guard must be provided to prevent the animals rubbing against the trunks to the injury of the bark, and it may be, bending over the trunks. Sometimes much injury is done to damson trees owing to the main stems being without protection.

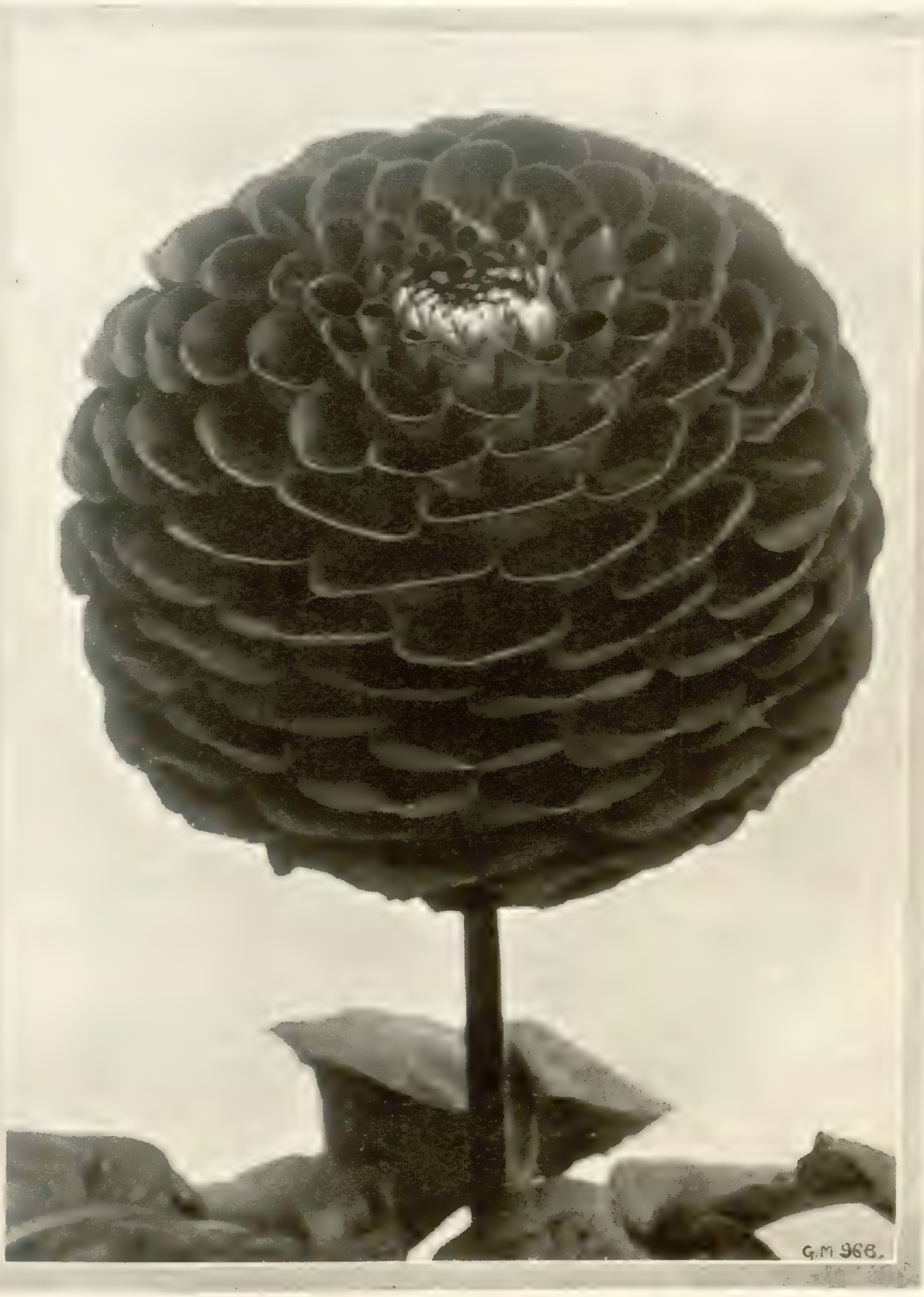
I do not know of any kind of fruit tree that is planted in as careless a manner, generally, as the damson is. The tree will thrive in a moderately clayey soil, for a time, but my experience teaches me that when the tree has attained full size or thereabouts, gumming and decay sets in. The soil, whether it be light or heavy, should be well trenched and drained, if necessary; but much feeding is not advisable, especially while the tree is young. Firm ground is essential. Early support must be afforded the trees, taking care to avoid any bruising as gumming sets in badly afterwards.

I have seen boys—myself among them—climbing the damson trees in search of gum from branches which had crossed each other and so got bruised. The gum was sweet (at least, we boys used to consider it so), and was chewed freely. In Shropshire and Warwickshire damsons are largely grown, but I have not seen many trees nor had much to do with their cultivation in the southern counties. Perhaps some contributors have such experience, and will give some information as to the way in which the trees thrive. I have frequently been told that damsons will not do well in the south.

Geo. Garner.

NEW SHOW DAHLIA EDWARD MAWLEY.

It is not often in these days of cactus and pæony-flowered dahlias that a new show variety jumps into prominence directly it is exhibited, and wins the favour even of those who have no special liking for the show section. But such has happened in the case of the fine new crimson show dahlia named after Mr. Edward Mawley, the president of the National Dahlia Society. This variety was raised, and has been exhibited by Mr. Charles Turner, of Slough, and it has gained the Award of Merit of the Royal Horticultural Society and a First-Class Certificate from the National Dahlia Society. The flower is a solid symmetrical one that would please the most fastidious florist of the old school, and yet it has a great additional merit, for, by reason of the fact that each bloom is borne erect on a very stout stem, well above the foliage, Edward Mawley is a first-rate garden dahlia. We have seen it growing at Slough, and express this opinion as the result of observation, and we are glad to find that other experts who have seen the variety at Slough also regard it as eminently suitable for garden decoration.



NEW SHOW DAHLIA EDWARD MAWLEY.
A.M., R.H.S., September 14; F.C.C., N.D.S., September 21. Mr. Chas. Turner, Slough.
Flowers rich crimson.

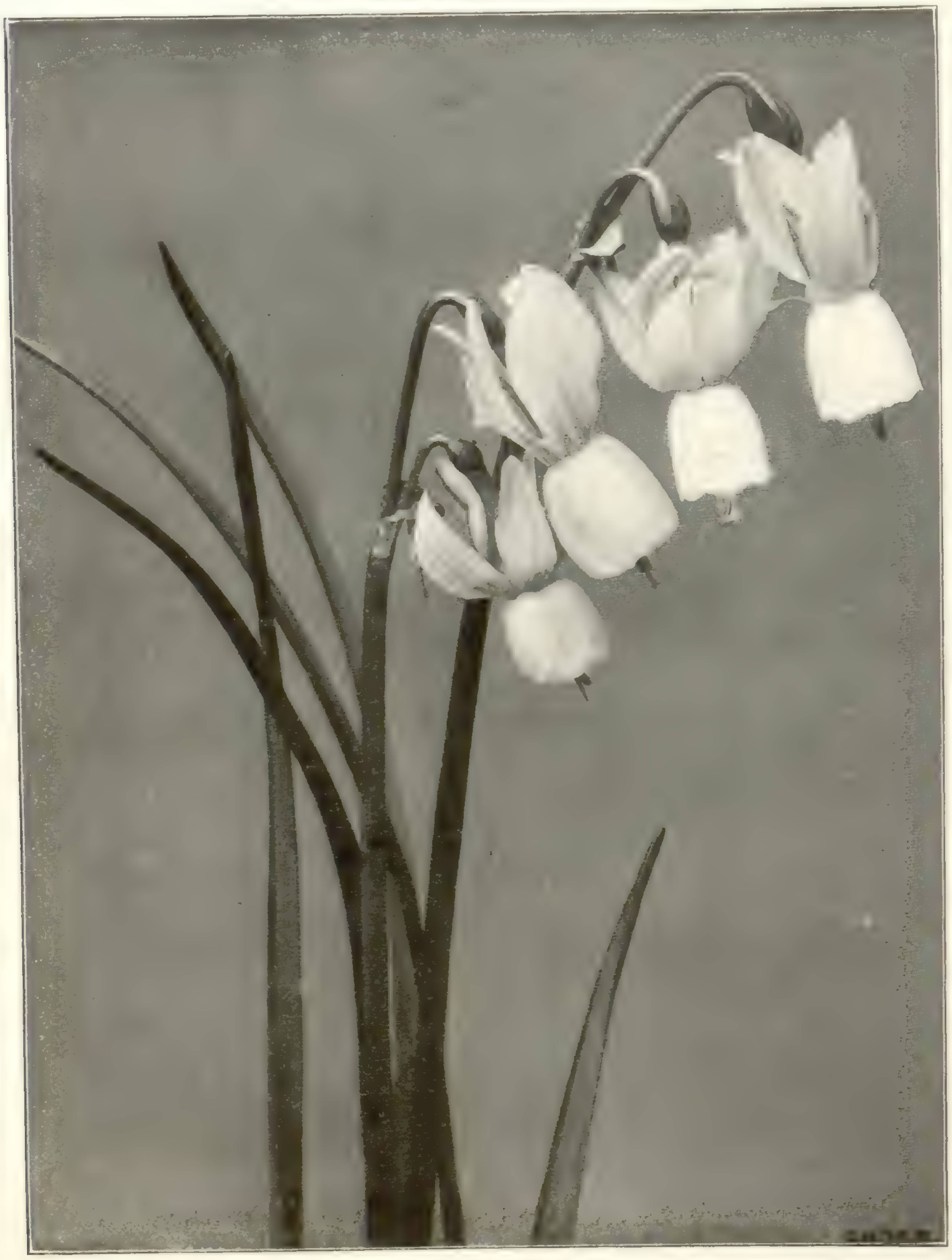
UNCOMMON HERBACEOUS BORDERS.

> "Massed in a stretch of border, sweet
> With lily scent and roses,
> Heartsease and violets we greet,
> As perfect for our posies.
> Tall hollyhocks to heaven tower,
> Beside the snowy daisies,
> And e'en the very smallest flower,
> Is worthy mighty praises."

Not a blossom in the herbaceous border but should be of value, not a shrub, climber, or foliage plant be visible but as adding to the beauty of the scene. Yet how often do we find hardy subjects that seem to have been flung together at random, and fit only as representatives of what poor forms there are of perennials. The cultivator who makes such a border must act either from indifference or ignorance.

Novelty in planting is not sufficiently sought after. Where space is ample a lovely effect can be gained by making horseshoes or half circles of hardy shrubs at short distances all along, and within each horseshoe massing flowers of one colour, mingled, perhaps, with white or cream ones, or silver, gold, or crimson foliage subjects. In a cold, exposed garden the shrubs used could be all evergreens, and then even delicate plants would be able to thrive in their welcome shelter.

Pillars set at intervals along a border give it an uncommon appearance, and serve to show off the innumerable hardy climbers that are seldom seen except on walls and trellises. Different varieties of roses, clematis, ampelopsis, ivy, tropæolum, and vitis should appear, together with calystegias, honeysuckles, jasmines, hops, lathyrus, passion flowers, and rubus. Wistaria sinensis in white, as well as lilac; Pyrus japonica in blush, red, and pink, should be employed; Polygonum Baldschuanicum is a charming, graceful, hardy climber, with sprays of pink and white bloom freely produced in summer and autumn. The Canadian Moonseed, Menispermum canadense, with its feathery yellowish-green florescence, will give a fine show on a tall pillar, either in shadow or sunshine. These supports had better be larch poles, or silver birch poles with the bark left on, and if they are well varnished before being put up their appearance will be longer maintained in its first excellence. The plants massed around these pillars should not be too high, so that the climbers can be fully seen; taller plants located behind them will give many a fair colour harmony, and especial care should be taken to make the carpet accord perfectly in tone.



NARCISSUS TRIANDRUS ALBUS (ANGELS' TEARS).
Flowers pure white.

Where herbaceous borders can be numerous, or at least not solitary, it is extra advisible to aim at boldly original effects: a pink border is the favourite feature of one estate, and an all white one attracts admiration in another case. This last border is exceptionally well carried out, for silver foliaged plants and shrubs are at the back of the flowers, and the ultimate background consists of an immense hedge of glossy dark laurels, which acts as perfect contrast. A scarlet border could be easily carried out, so could a golden one, in which, of course, the many shades between palest lemon and scarlet-orange would appear; a crimson border could contain a large number of plants backed by red-leaved trees and shrubs, but this, as would also a blue border, would require great art in planting, because shades of crimson and of blue are either absolutely shaded one into the other, or as absolutely antagonistic; brown-crimson and maroon, scarlet-crimson and carmine, should never be juxtaposed, neither should lavender and royal blue, purple-blue and azure.

A rockeried herbaceous border can be splendidly carried out if the supply of old-looking grey rocks is large enough; any introduction of coloured "burrs" or "clinkers" would ruin the natural loveliness associated with grouped hardy plants. The background could show a rockery wall of any height, while mounds, higher pillars, and low arches of the rocks might appear here and there along the border; the edging would be a somewhat high rock one, of course, while the majority of the ground would be merely strewn with the great stones, some grouped, others scattered, but all serving to well suit the health and beauty of the plants beside them. Myriads of primroses peeping out from rock clefts have a delightful effect; clusters of towering white foxgloves peering over mounds are purely fair; the rich purple and mauve of pansies will give warmth to the foreground scene.

A shaded herbaceous border may yet be a splendid one if the whole of the middle row is given up to phloxes of summer and autumn blooming; the effect will not be monotonous, for heights and colours among these are so different, but there will be lavish white, rose, carmine, lilac, mauve, purple, scarlet, and maroon flowers visible from June until December. In front of the phloxes there will be ample room for all the usual perennials of the shaded garden—hypericums, vincas, Solomon's seals, saxifrages, lysimachias, primroses, pansies, mimuluses, golden rods, honesty, foxgloves, aquilegias, spiræas, etc., for some tall groups look well situated quite at border edges.

Let everyone who has before him the enviable task of making a new herbaceous border remember that he plants, not for one year only, but for many; a collection of perennials will last a lifetime if properly treated, separated, increased by cuttings, as well as division, and furnished at all times with the requisite soil nourishment. M. H.

NARCISSUS TRIANDRUS ALBUS.

Although it is not one of the most popular of daffodils it is nevertheless a fact that Narcissus triandrus albus is one of the most exquisitely beautiful flowers we have in the spring time. It is seen at its best in the rock garden, as it delights in a well-drained position and gritty soil. A point to be remembered also is that a partially-shaded site is the most suitable one for this charming variety. The popular title of Angel's Tears for this flower is a pretty and appropriate one, as the white pendulous blossoms are so chaste and dainty that they possess a beauty suggestive of Eden or Paradise. Everyone who grows daffodils at all should plant at least a few bulbs of M. triandrus albus because of the fine contrast its flowers offer to those of the big trumpet varieties.

So popular have daffodils become now that we hardly realise N. t. albus was rare thirty years ago. In 1880 the late Mr. F. W. Burbidge was charmed by "a pure white-flowered form of Narcissus triandrus, sent to me by Mr. Gumbleton. Its lovely cyclamenlike blossoms are borne solitary on graceful scapes, and when cut, compare favourably with the choicest of orchids as regards delicate beauty." We now know that N. triandrus and its varieties mostly have twin-flowered scapes, and, also we know that the beautiful N. Johnstoni is a hybrid from N. triandrus, while each succeeding spring now brings into prominence new and beautiful varieties raised artificially by the use of N. triandrus as one parent, and one has but to mention such varieties as Countess Grey, Countess Visconti, Count Visconti, Earl Grey, Dorothy Kingsmill, Eleanor Berkeley, Cyprian, Cecil Rhodes, J. T. Bennett-Poe, Eileen Mitchell, Zoe, and others to conjure up in the minds of daffodil experts some of the wonderful varieties of this new class, but alas, varieties that, with but few exceptions, are not yet in commerce.

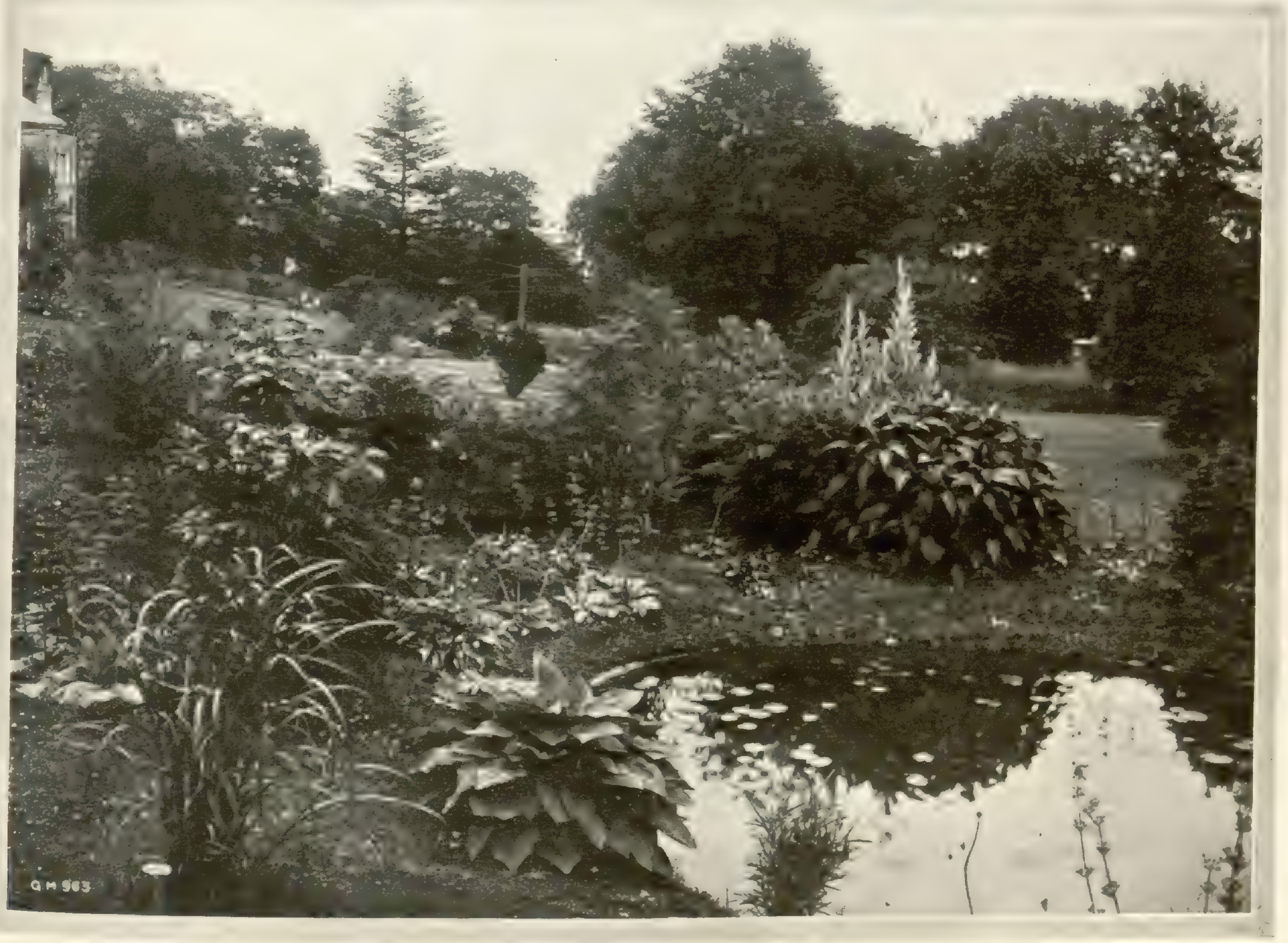
ASHBOURNE, COUNTY CORK.

Ashbourne, the residence of Mr. R. H. Beamish, has a most interesting garden, since it contains an extensive collection of rare and tender plants, the majority of which are in the best of health. The rock garden is formed out of a disused quarry, and is about 70 yards square. At one side is a cliff face sloping almost perpendicularly down for 40 feet, and about 50 yards in length. At the further end a streamlet falls over the brow, and, forming a little rock pool some 10 feet below, descends by a series of cascades to the lower level, where it flows into a little sheet of water about nine yards in length. The water runs thence under two bridges of rough stone to another long pool shaded by an ash, and on one side ramondias planted between stones in a perpendicular bank are flourishing to perfection.

The rugged face of the cliff is diversified by hundreds of members of the dianthus family, masses of aubrietia and arabis, dwarf campanulas, and other rock plants, interspersed with Kniphofia Northiæ. On the lower ledges of the cliff veronicas and sedums luxuriate. At the base of the rock Mandevilla suaveolens is planted, and evidently appreciates the intense heat refracted from the sun-baked stone, for it has made prodigious growth, and its blossoms are very large, fully three inches across, and are borne in profusion. By the mandevilla are growing Spinovitis Davidi, Actinidia chinensis, A. arguta, Bignonia radicans, and Vitis armata. By the pool at the foot of the cliff are Funkia Fortunei, very fine; Saxifraga telamonoides, Rodgersia podophylla, and the new astilbes Peach Blossom and Queen Alexandra.

The plants in the rock garden are excellently arranged, not being dotted about singly as is so often the case, but grouped in large masses, so that a bold colour effect is produced. Thus at the time of my visit a large colony of Aster Thompsoni was associated with a breadth of Erigeron speciosus on a higher level, the two shades of lavender-blue creating a very charming impression. One of the most beautiful sights in the garden in July was provided by three great masses of Campanula G. F. Wilson some yards in extent, forming a sheet of purple over and between the rocks. Near by Campanula cæspitosa spread a sheet of soft colour some feet in extent, and its white variety was also present in quantity. C. lanata, from Bulgaria, formed a handsome pyramidal plant over two feet in height, covered with white flowers, which are shown up well by the grey foliage. Unfortunately, this plant is not a perennial. There was a large group of strong seedlings of this campanula about three yards across. Anomatheca cruenta, of which self-sown seedlings spring up in quantity, showed a bright spot of colour on an elevated site. Saxifraga oppositifolia occupied a steeply-sloping rift over two yards in length between two rock ledges, and was evidently in the best of health, a large mass of crimson sweet williams, many yards in extent, was a sheet of glowing colour, and a very dwarf crimson sweet william was a pretty plant. Zauschneria californica covered a rocky slope four yards in length and three yards in width, and must be a glorious sight when in full bloom, and a large colony of Sedum cœruleum, which seeds itself, spreading over a high bluff, made a pretty picture. Convolvulus mauritanicus had a charming effect hanging over the rocks, and Mimulus glutinosus was attractive.

Other plants in the rock garden included large groups of Androsace sarmentosa and A. foliosa, Hypericum reptans, H. hircinum nanum, H. Moserianum tricolor, Campanula Mayi, C. Portenschlagiana, C. carpatica, C. mirabilis in flower, C. laciniata, fine groups of the splendid Salvia dichroa from the Atlas mountains, Grevillea alpina, Eryngium alpinum, Pentstemon heterophyllus, three feet high, a mass of Œnothera speciosa, Sphæralcea Munroi, Scabiosa Parnassi, Corydalis cheilanthifolia, Clematis involucrata, a small bush, Nierembergia frutescens, flourishing, Codonopsis ovata, Anemone Fannini from South Africa, with leaves over a foot in width, a mass of Aubrietia Dr. Mules, 18 feet in length, Daphne cneorum, D. Blagayana, Rehmannia angulata in flower, the rare Haplocarpus scaposa, with yellow flowers on stems two feet high, Antirrhinum Asarina, Iris tectorum, a brilliant double orange-scarlet nasturtium, and a single orange-scarlet raised by Henckel, of Darmstadt, Genista aspalathoides, the dwarf yellow G. dalmatica, fine bushes of Rhododendron hirsutum, the new Cotoneaster adpressa and C. alpina, Dianthus neglectus doing splendidly between the rocks, D. Knappi, yellow, D. alpina, D. a. alba, Cytisus proliferus, C. purpureus albus, Saxifraga Burseriana Gloria in vigorous health, Rubus



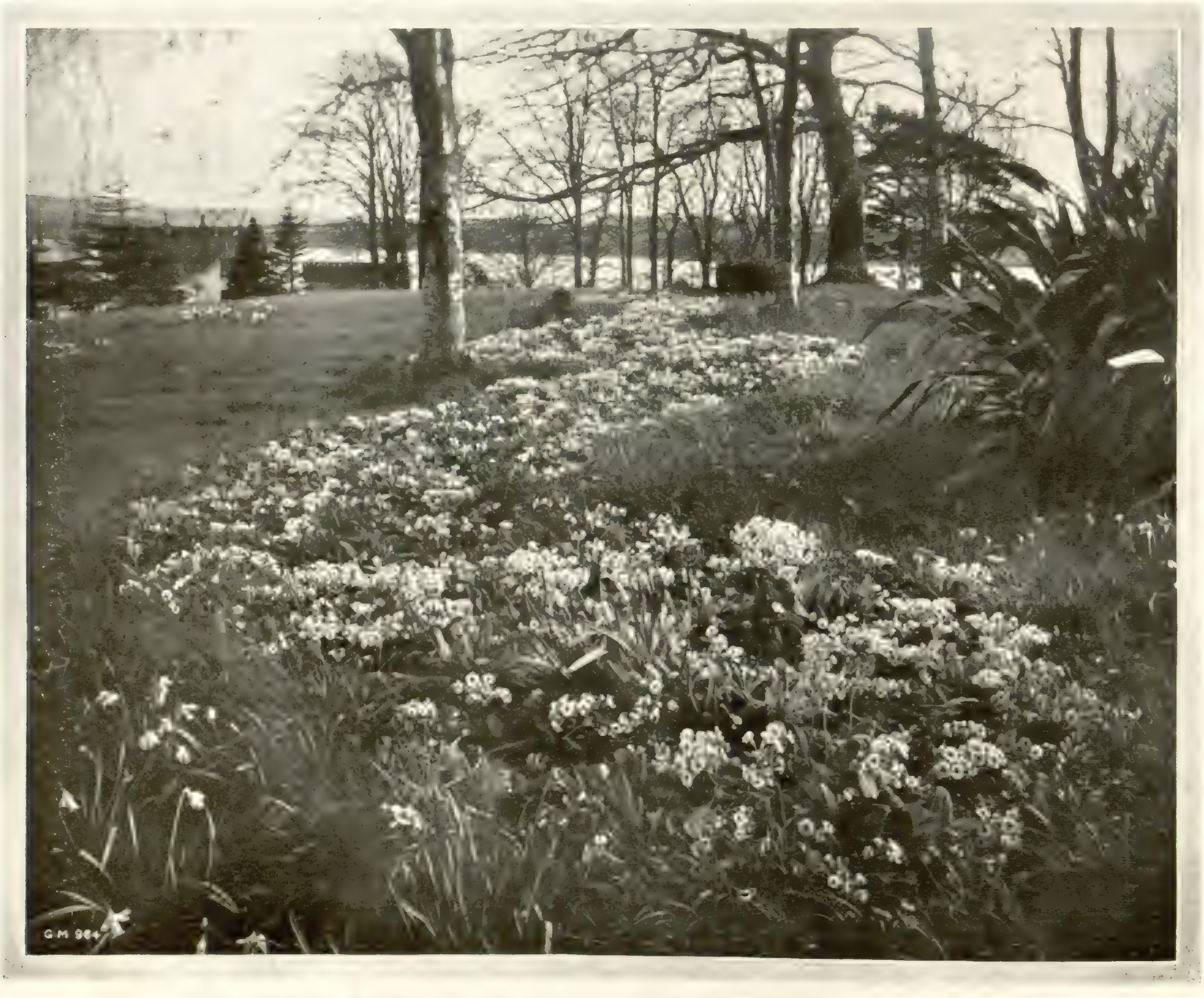
A BEAUTIFUL SCENE IN ASHBOURNE GARDENS,
Showing the blue-flowered Nymphæa stellata in the pool.

rosæfolius, R. australis, R. a. foliosa, and Acæna microphylla in flower covering the pathway and rough stone steps for many yards.

The collection of rare conifers includes Pinus Montezumæ, P. flexilis, P. oocarpa, P. patula, P. Merkusi, P. Hartwegi, P. omorica, P. arizonica, P. beuvronensis, P. palustris, P. Ayacahuite, P. Armandi, P. Teocote, P. khasya, P. pseudo patula, P. cembroides, P. Massoniana, P. excelsa var. virgata, P. Webbiana, Abies concolor violacea, A. lasiocarpa arizonica, A. pungens argentea, Cupressus macrocarpa compacta, C. cashmeriana, C. arizonica, Cryptomeria selaginoides, Picea pungens glauca, P. p. Kosteri, P. concolor, P. pungens pendula, Taxus japonica aurea, Taxodium mucronatum, Sciadopitys verticillata, Juniperus Cedrus, and Torreya myristica. Of hollies there is a fine assortment, comprising the rare Ilex insignis, the deciduous I. verticillata, I. castaneæfolia, I. Shepherdi, I. laurifolia, I. camelliæfolia, I. ciliata variegata, I. cornuta, I. Perneyi. There is a very complete collection of the berberis family, including B. dulcis variegata, B. applanata, B. acuminata, B. purpurea Egberti, B. sanguinea, a large group of B. langlevensis, B. stenophylla corallina, B. Talucaense, the old leaves of which become brilliant scarlet in spring, B. congestifolia, B. aristata, B. cerasina, B. macrophylla, B. Thunbergi, B. Wilsonæ, B. Hookeri, B. umbilicata, while a steep slope above a lawn, about twelve yards in height, is completely covered with bushes of B. Thunbergi, which in the autumn, when the foliage becomes bright crimson, produce a most briliant effect.

On the house are growing Vitis Henryana, Ampelopsis St. Pauli, Clematis Pratti, Clianthus puniceus, Cestrum fasciculatum, Vitis Coignetiæ, Solanum crispum up to the eaves of the house, Fremontia californica 15 feet, Actinidia kolomikta, Cæsalpinia Gilliesi, eight feet, Ercilla spicata, Lonicera Hildebrantiana, Cassia corymbosa, Jacaranda mimosæfolia, the very rare South African Smodingium argutum, the new Vitis Thompsoni, Mutisia decurrens, and Clematis montana rubens.

In a little pool about nine yards long, near the house, Nymphæa stellata is grown. In the autumn, as soon as the first frost occurs, the roots are lifted with a fork and placed in a tub, which is taken into a glasshouse. In the early spring the roots are extracted from the mud, all the eyes but one are cut out, and they are placed in 4in. pots in heat. Later on they are shifted into 6in. pots, and soon form good plants for putting out as soon as the weather becomes warm. When they are at their best the pond, which is surrounded by spiræas, mischanthus, funkias, rheums, verbascums, and other plants, is covered with their blue blossoms. Roses are well grown in the vicinity. In a long pond, which narrows in the centre, where it is crossed by stepping-stones, nymphæas are grown, these including Marliacea rosea, gloriosa, Ellisiana, Richardsoni, W. Doogue, gracillima alba, a very large pure white from America, pumila, and three Swedish species.



A CHARMING EFFECT PRODUCED BY POLYANTHUSES AT ASHBOURNE.

In the neighbourhood of this pond are numbers of rare shrubs, among which are Tricuspidaria lanceolata, T. dependens, Eucryphia pinnatifolia, Brachyglottis repanda, Lomatia ferruginea, Sophora Korolkowi, Viburnum lanatum pulverulentum, Cornus macrophyllus, Myoporum lætum, Hovenia dulcis, nine feet, Desmodium cyrtobotryum, Stuartia pseudo-camellia, Clethra arborea, C. alnifolia, Feijoa Sellowiana, five feet high and four feet through, flowering freely, the handsome blossoms, which are about two inches across, having pink petals which turn inward at the edges, showing the white reverse and long, spreading, crimson stamens tipped with gold. A fine specimen of the gutta percha tree, Eucomia ulmoides, ten feet in height, was present, as were Broussonetia papyrifera, Chionanthus maritima, Philodendron sachalinense, Gleditschia macrantha, Meliosma myriantha, Exochorda Alberti macrantha, Andromeda cassinefolia, A. speciosa, Corylus thibetica, Ginkgo biloba, Corokia cotoneaster, C. buddleoides, Philodendron amurense, Lonicera involucrata, Olearia Forsteri, O. insignis, O. lyrata, Plagiospermum sinense, Citrus trifoliata, Embothrium coccineum, Olea fragrans, Nandina domestica, Guevina avellana, Cercocarpus betulifolius, ten feet, Desfontainea spinosa, covered with its scarlet and yellow blossoms, a colony of twenty plants of Cordyline Banksi erythroracis, with red midribs to the leaves, backed by a line of the Dropmore variety of Anchusa italica, twelve yards in length, which formed a sheet of glorious colour.

On a lower level than the pond is a large bed of damp soil about thirty yards in length, where Iris Kæmpferi flourishes to perfection, some of the blossoms being fully ten inches across. The irises are associated with Lilium pardalinum, of which there must be some hundreds of bulbs, and in July both irises and lilies were in full bloom and created a beautiful picture. Earlier in the year Primula japonica flowers in the same bed. Near the bed is a plant of Gunnera Elwesi, said to bear leaves twelve feet across, and a fine group of over twenty flowering plants of Kniphofia Northiæ. By the side of a streamlet in damp soil the Californian Castilleja miniata is growing luxuriantly, the brilliant scarlet flower-heads being borne on stems nearly three feet in height. This plant is generally considered a most capricious subject, but here it is evidently happy

Hard by is a fine group of Primula Poissoni, some yards across, with flower-stems two feet high. A large mass of Linnea borealis was blooming freely, and Nertera depressa was carrying its little bright orange fruits. Plants of a hybrid between Meconopsis integrifolia and M. grandis had flowered, their blossoms being pale yellow with a purple blotch at the base of the petals. Kerengeshoma palmata Sprengeri was a handsome shrub with delicately cut foliage. All the best species of eremurus are grown, as well as many seedling forms. Lilies do well, Lilium auratum platyphyllum lasting for years, and L. Henryi, L. speciosum, L. excelsum, L. tigrinum, L. sulphureum, and others being in the best of health, while L. croceum makes a pretty picture, flowering in the grass under oak and walnut trees.

There is an excellent collection of kniphofias, including the rare K. præcox, and there is a fine assortment of Japanese maples. On a steep bank a space of about six yards square is covered with Dimorphotheca aurantiaca, one of the best of our annuals, which in the sunshine has a most brilliant effect, with its sheet of glowing orange. Close by is an enormous plant of the yellow Californian tree poppy, Dendromecon rigidum, about eight feet in height, and on the opposite side of the path is Musa japonica coming into flower. In one spot a large bank is entirely covered with Iris stylosa.

There are fine specimens of the golden and silver variegated forms of Dimorphanthus mandschuricus, and Hydrangea quercifolia is doing well. A pretty plant is Loasa vulcanica, an annual from the West Indies, with white flowers having a scarlet centre. Rhus typhina laciniata, the cut-leaved sumach, has very attractive foliage, and Fagus purpurea pendula Raygerloo, a weeping tree, is the darkest form of the purple beech. Complaints have been made that the new Cotoneaster angustifolia does not fruit freely, but at Ashbourne it was literally smothered with flowers that were beginning to set.

Other good things in various parts of the garden were the rare Crossosoma californica, Descainea Fargesi, fruiting well, Stenanthium robustum, bearing white spikes of flower, Viburnum rhytidophyllum, V. Carlesi, V. macrophyllum, Rubus trifidus, R. innominatus, R. bambusarum, Lonicera rupicola, L. thibetica, flowering and fruiting, the new blood-red Leptospermum Nicholli, Davidia involucrata, Mitraria coccinea, Vitis cantonensis, Pentapterygium serpens, Thibaudia acuminata, Psoralea pinnata, Anopterus glandulosa, the New Zealand Parsonia albiflora, Piper excelsum, the Mexican Amicia zygomeris, Myrsine Urvillei, the Japanese Stachyurus præcox, Zizyphus Giraldi, and the pretty autumn-flowering Perowskia atriplicifolia. One of the finest things in the garden was a magnificent specimen of the palm Cocos australis, seven feet in height, with a leaf-spread of ten feet, in the most perfect health.

WYNDHAM FITZHERBERT.

THE WATER-LILY POND AT ASHBOURNE.

Early-flowering Chrysanthemums.—These are very gay now, and disbudded plants have beautiful flowers in the open. Amongst some of the best are Harvest Home, Cranford White, Horace Martin, Marie Masse, G. Wermig, Miss Burnett, Carrie, Flora, and Le Pactole. These are now in full bloom, and, being disbudded, are more effective than they otherwise would be. When planted in good batches these cannot fail to give immense satisfaction, especially when cultural requirements have been well attended to.—W. A. COOK, Leonardslee Gardens.

THE SNAKE'S HEAD FRITILLARY.

Very many people who plant bulbs for spring effects confine their attention to daffodils, tulips, hyacinths, and crocuses, and while there is good reason for planting these kinds extensively, and for relying upon them for bold and broad effects, and for abundance of flowers for cutting, there appears to be no good reason why many other kinds of beautiful bulbous plants should be so frequently ignored. For instance, the delightful Snake's Head Fritillary or Common Fritillary is so useful, distinct, and graceful that there should be no need for anyone to press its claims. As a pot plant it makes a charming subject for conservatory decoration; but beautiful as it is when grown in pots its beauty is far greater when planted in large colonies in semi-shaded woodland glens in the grass. If large groupings of the various colours now available are planted, or even if the several varieties are mixed, the display will always be pleasing. The Snake's Head Fritillary (Fritillaria Meleagris) is undoubtedly one of the best of bulbs for naturalising in grass, but a more or less shady position is necessary to ensure success. Raisers have evolved numerous distinct forms, such as Cassandra, purple, silver-grey, and green; Sylvanus, white, with purple mottlings; Orion, deep claret purple; and Triton, bright purple. There is also a pure white form of great beauty, while the common variations of the type, with their wonderfully mottled and chequered flowers all have a quaint and graceful beauty. The cost can hardly be urged as a reason for not planting these fritillaries, because the prices range from 5s. to 10s. 6d. per hundred bulbs.

SNAKE'S HEAD FRITILLARIES (FRITILLARIA MELEAGRIS).
Flowers light rose beautifully reticulated deep rose.

Fritillaria Meleagris and its varieties should be planted six inches deep, and if the soil is a deep light one then eight inches will be all the better. F. Meleagris is found widely distributed in Europe, and may be found wild in Oxfordshire.

THE BEST RASPBERRIES.

Although the well-known varieties of raspberries are less numerous than those of most other commonly grown fruits, yet the number of varieties usually required in one garden is so small that the choice is much less difficult. As one sort is the best for one purpose and another sort for some other purpose, most of us have to be content with a compromise. If only one variety can be grown—and the raspberry is a fruit which needs space to insure success—probably most would agree that Superlative is the best. It crops heavily and for a long period, sometimes extending into the autumn, the canes are stout and almost self-supporting, and it appears to do equally well in various parts of the country, while the fruit is large and deep red in colour, and has a long foot-stalk which renders it easy to pick for dessert. It is, too, excellent for cooking and preserving. That is a good character. But its flavour is not first-rate, being too acid for a really first-class dessert raspberry, and on some heavy soils it is not a good doer.

There is no doubt that a great many canes have been sent out as Superlative not true to name, and that may sometimes explain its failure or only partial success, but I believe mine is true to name, and it is certainly a very poor grower.

Another very fine variety for general purposes is Carter's Prolific, which is of such sturdy habit that it scarcely needs any support. Its name is well justified. Those who have gardens in the country and are thinking of planting it may be interested to know that the canes are a special favourite with rabbits and hares. The fruit is almost round and very firm, which makes it good for preserving. It is a favourite sort with market growers. Norwich Wonder is another good variety, producing self-supporting canes, and is grown a good deal for market.

If a variety is to be grown for flavour only, Baumforth's Seedling is perhaps unsurpassed, the fruit being large, deep crimson in colour, and the canes very prolific. It is sometimes described as an improved Northumberland Fillbasket, the latter being an excellent variety for market, the firmness of its fruit enabling it to resist the usually damaging effect of carriage. It is very robust and prolific, and is specially adapted for the North. If a yellow variety is wanted for dessert, Yellow Antwerp is perhaps the best, being sweet and good, but the yellow varieties seldom bear so well as the red, and they are not so generally useful. If a second dessert variety is wanted, no better could be named than Red Antwerp, an old favourite, which is very sweet and rich.

There is one variety, for preserving only, which is well worth growing, and that is Semper Fidelis. It is a heavy cropper for a long period, and continues later than the others, August being its full season. The fruit is bright red and very firm, so that it retains its shape better than any other. It is more acid than most, and this gives a briskness to the preserve which does not generally characterise that made from raspberries.

Autumn-fruiting raspberries are rather precarious, owing to the differences of soil and season, but October Red and October Yellow are probably two of the best sorts for the purpose. ALGER PETTS.

THE BAY-LEAVED WILLOW.

Salix pentandra, or the "Bay-leaved Willow," as it is frequently called, is one of the stronger-growing species, forming, when mature, a tree 25 to 30ft. high, with a head of goodly dimensions. It is one of the best for planting to form an ornamental tree, for the leaves command more notice than those of most willows, from the fact of their being large, deep green, and glossy. The flowers are borne later than those of most species, being at their best when the leaves have attained full dimensions. The male catkins are conspicuous and composed of a large number of tiny flowers, which are usually made up of five stamens each, which is a distinguishing feature of the species. It is a widely distributed tree through Europe and North Asia, and is found in some parts of Britain. Like other willows, it thrives luxuriantly in moist ground about the margins of lakes or streams, but it may, however, be grown successfully in loamy soil away from water.

W. DALLIMORE.

Bamboos and Phyllostachys.—These have been suited remarkably well by the showery season, and I have never seen them throw up stems so strongly as they have done. Nearly all kinds have made exceptional growth, especially Phyllostachys fastuosa, P. nigra, P. nigra punctata, P. viridi glaucescens, Bambusa nobilis, B. aurea, B. flexuosa, B. mitis. This proves that a good supply of moisture is necessary to successful cultivation.—W. A. COOK.

NOTES FROM HERE AND THERE.

Like a good many other members of the British public, I have recently spent a few days by the briny ocean, at a watering-place of some repute, and there got a little insight into the difference in the value of fruit and vegetable products in such places compared to what the growers receive for them. The consumer pays, but who gets the difference between the original buying and the selling price? Is it the retailer, the railway company, the commission agent, or who? Perhaps they all get a picking, and, I suppose, they all have to live, but after paying a long figure for a few very second-rate plums, I wished that I could hire an aeroplane and transfer a ton or so of fruit from a district I know well. I could have paid the grower a price that would have made his mouth water, and made profit enough to pay my holiday expenses, and left a bit over.

What a popular fruit the "William" pear is in the holiday season, and during those few hot days we had in August it was pleasant to quench one's thirst with one of those luscious fruits even if you paid twopence for it! There appears to have been a big harvest of Williams' Bon Chretien this year, judging from the quantity offered for sale, but the majority of them came not from British fruit fields. They were foreign, like the early greengages which come in during August time. The home grower could hardly compete in this trade as his products are not early enough, but he stands to suffer on account of the fact that consumers get their fill of foreign pears and plums, and have got a little tired of them when the home-grown article arrives. In fairness to the foreigner, however, it must be said that he makes the most of his opportunities, and the fine, nicely packed specimens he sends have a taking appearance.

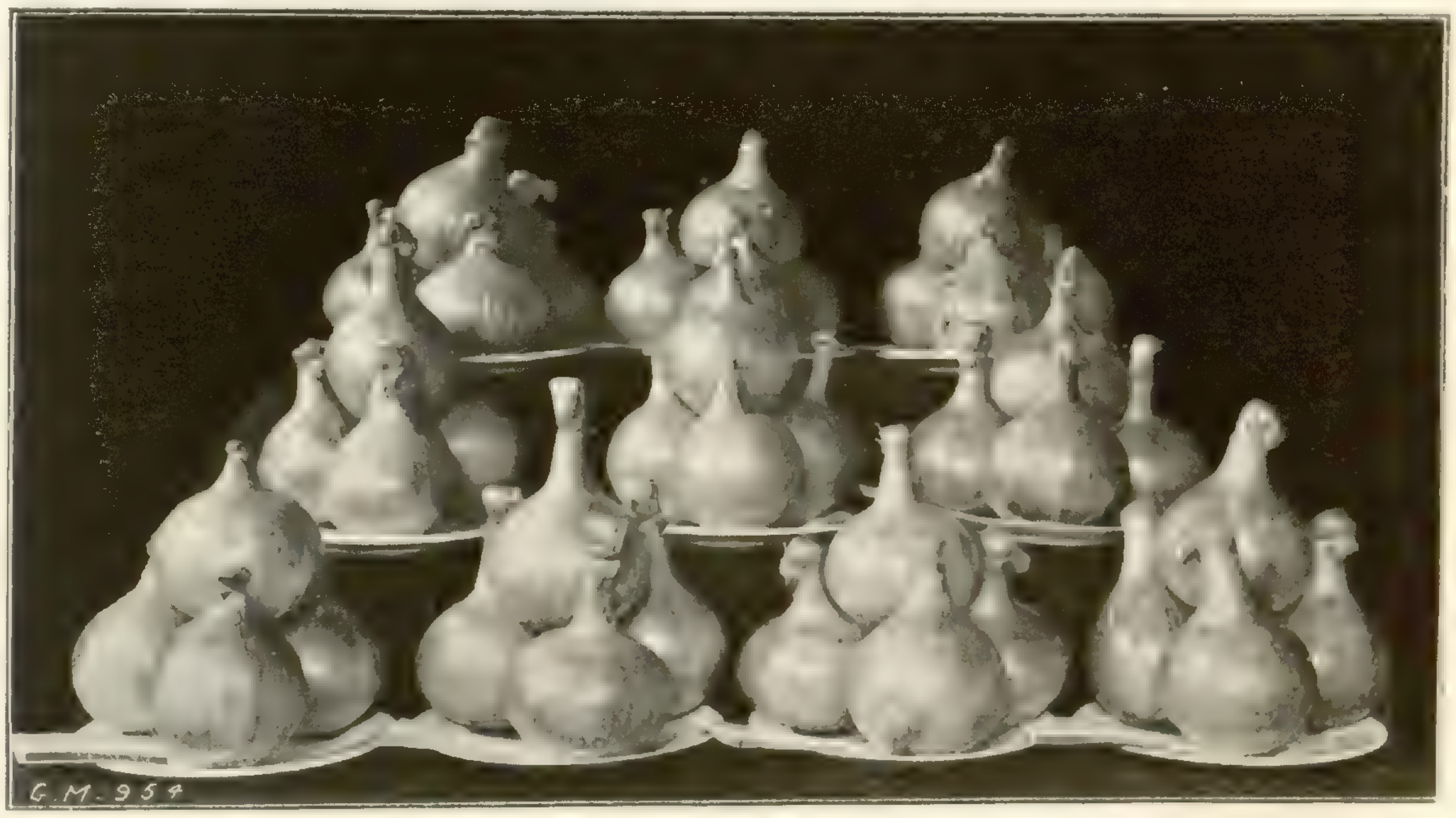
Is it possible to run a village flower show successfully without giving prizes? I judged at such a one the other day, and know another which has been running for twenty years, and the only award given is a medal or some trophy to the exhibitor who obtains the highest aggregate of points. But let me explain. At the shows in question there are the usual classes for fruit, vegetables, flowers, etc., and first, second, and third prize cards are given, but no prizes. Yet the exhibitors are numerous, the competition is keen, and at the end of the show the whole of the exhibits, which are given (excepting pot plants), are sold by public auction, and the whole proceeds, after paying expenses, are presented to the local hospitals. When I say that in the twenty years of its existence one of the societies referred to has contributed over a thousand pounds to local medical institutions, it will be agreed, I think, that it is possible to encourage horticulture and support a worthy cause at the same time.

The other day, in a market town some thirty or forty miles from the coast, I met an individual—evidently a son of the soil—with a staff over his shoulder, and dangling at back and front were long wreaths of onions. No, he was not a local cottager, allottee, or small holder, but one of the big fraternity of Breton peasantry who grow onions, ship them over the Channel, hawk them round the country, and, it is said, go back at the end of the season with a big lump of English money. It seems strange that there should be a market for those tons of foreign onions in a country that is favourable for onion culture, but doubtless there is, and, as a matter of fact, foreigners seem to find a market for anything in old England. Small holders, in the future, will have to hunt round for crops to grow at a profit, and perhaps onions will be one of them, but I wonder if the dignity of the British small holder will allow him to shoulder his wares and hawk them round as the Breton peasant does.

During the last week or two raids of wasps have made their unwelcome presence felt, and are doing their best to devour all the best of the apricots and plums on the walls, as well as the early apples and pears, and grapes in the vinery. They form a coalition with birds, and between the two of them fruit has a bad time of it. Various ways and means are devised for capturing the thieves, but if you lure one to destruction in a bottle of beer and sugar a dozen attend its funeral, and stop and have a fill of fruit before departing. The thing is to strike at the root of the evil by encouraging the capture of queens in the early summer. At a local show, quite recently, I saw several thousands pinned up on cards. How many nests did they represent, and how much fruit would their progeny have devoured had they been allowed to live? But it is impossible to catch all the queens, and when the wasp raid begins at fruit time searches should be made for the nests that can easily be destroyed in the evening.

It would perhaps be heresy after so many successful exhibitions this season to say that the popularity of the sweet pea is declining, so I will put it in another way, and say that a good many enthusiasts this year are disappointed, for reasons that are various in character. I have heard more than one complain about paying dearly for small packets of seeds of novelties, which, when they came into bloom, were unfixed, and sent up flowers of different colours. What may we conclude from this? Simply that if new varieties cannot be depended on to come true, the man in the street, or the garden, otherwise the amateur, will lose interest in the sweet pea, and it is this individual more than any other who has made it what it is. Again, there are the ravages of disease which have upset the calculations of more than one grower this season, and the weather in the spring was unfavourable for the development of the plants. Through these factors I am quite sure there are people about who are not quite so keen on sweet pea growing as they were.

Be the season dry or wet, sunny or gloomy, mildew seems to come with a regularity worthy of a better cause, and its presence appears to be due more to extremes and sudden climatic changes than anything. In many ways walled-in kitchen gardens are a convenience, but within such enclosures, particularly if the soil is light, one may now see late peas white with mildew, though the same varieties growing in open allotments round about are fresh and green. The reason is not far to seek, for there are few hotter places on a hot day than a walled-in kitchen garden, and there is a lack of that free circulation of air which crops in the open enjoy. Perhaps an outdoor crop which suffers more than any other through mildew is onions, and a good many bulbs have ripened off prematurely this season through the disease. It may be checked in an early stage by applying remedies, but if you let that time go past fungicides are of little use. H.



THE TEN PRIZE ONION EXHIBITS
At Messrs. Dickson and Robinson's Onion Show on September 15.

PRIZE ONIONS.

Our readers will remember that in the Gardeners' Magazine of September 18 we gave a full report of the interesting Onion Show held by Messrs. Dickson and Robinson at Manchester on September 15. We then gave the list of prizewinners, and we now have an opportunity of presenting an illustration of the ten prize-winning dishes, the variety in each case being The Premier.

Reading from left to right in each case, the exhibits were from the following: Bottom row—First prize, Mr. Edwin Beckett, Aldenham House Gardens, Elstree; second, Mr. Bowerman, Hackwood Park Gardens, Basingstoke; third, Mr. Wilkinson, Tyntesfield Gardens, Bristol; fourth, Mr. Johnson, Duffield House Gardens, Slough. Middle row—seventh, Mr. W. Folkes, Ampthill; sixth, Mr. Avery, Loudwater Park Gardens, Rickmansworth; fifth, Mr. Duncan, Merstham House Gardens. Top row—eighth, Mr. Tysoe, The Lodge Gardens, Bedford; ninth, Mr. Fraser, Ottershaw Park Gardens, Chertsey; tenth, Mr. Parrott, Brockhampton Court Gardens, Hereford.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

AMONG THE SEEDLINGS.—As it is at this season that we are called upon to give attention to so many stages of growth development among the established plants, it is often difficult to find time to turn our attention to the pressing requirements of seedlings in their early stages of growth, yet seedlings that are ready should be removed from their seed beds and encouraged by every possible means to become somewhat established in their new surroundings before the winter sets in.

CATTLEYAS AND ALLIED GENERA.—Where the early summer sowings have made satisfactory progress, the young plants will be found developing new roots. While these are in this state, the sooner they are attended to the better. They may either be planted singly in small pots, or several together in store pots. I prefer giving all seedlings separate pots as soon as possible, and consider they can be better accommodated when treated individually than where several are grown together in the same pot; there may not be that marked difference for a few months, but when the store pot seedlings have to be potted singly it is then that the individual treatment is found to have the greatest advantages. Select clean pots, and fill them to about two-thirds their depth with clean broken crocks. The compost we use at this early stage is made up of equal proportions of finely-broken leaves, peat, and sphagnum moss. If the surface is covered with sphagnum, finely chopped, this will assist in preventing the flies from working so readily into the potting compost. Make the compost firm after the seedlings have been pricked out. It is most desirable that the compost should be firm to prevent rapid evaporation of moisture. As soon as the seedlings have been pricked out, place them in a warm, moist position where they may be shaded from strong light for a few days until the roots get hold of the compost. When water is required, use a fine sprayer or syringe, being careful to use rain water only at about the same temperature as the house.

CYPRIPEDIUMS.—There are few orchids that make greater progress during the autumn and winter months than cypripedium seedlings. It is a good plan to leave these until the second leaf has formed, as they are then more easily handled; and, if potted when in an active rooting state, they quickly become established at this season of the year, and make good progress. A warm, moist atmosphere is essential for cypripedium seedlings, and a position near the roof glass, such as a shelf or stage raised to within 18 inches of the glass, is desirable, especially so during the dull winter months. Care must be taken that the plants do not remain dry for any length of time. Keep a sharp look out for small yellow thrips, as these often attack the lower sides of the leaves, and are sometimes overlooked until considerable damage has been caused. Frequent and close examination must therefore be made.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

BOUGAINVILLEA GLABRA.—In order to have the showy bracts of this plant freely produced, it will be necessary at the present time to give special attention to the plants, whether in pots or planted out, so as to thoroughly mature the wood. Plants kept in a cool house while in flower should have been transferred to the stove, and every means taken to ripen the wood, otherwise blooms are scantily produced. Water should only be given in sufficient quantity to keep the roots from injury, and a night temperature of about 55 deg. should be maintained until new growth is started next year.

IXORAS.—Careful treatment of the plants is necessary during the winter months, for too much or too little water is injurious. In a temperature of 65 degrees the syringe may be freely used; a mild bottom heat will benefit young plants intended to flower in small pots, and water a few degrees warmer than the temperature of the house should be used.

DIPLADENIAS.—As these plants cease to flower plenty of air may be given, with full sunlight. Gradually reduce the supply of water at the roots—indeed, very little will be needed during the winter months. Keep the plants perfectly free from insect pests.

BEGONIA GLOIRE DE SCEAUX.—Keep this fine begonia in a temperature of about 60 degrees, and afford a fair supply of moisture; fumigate regularly to keep thrips in check. If at all pot-bound, a further shift will be beneficial before growth is completed, but should the pots be considered large enough and getting well filled with roots, give liquid manure and soot water occasionally.

BEGONIA GLOIRE DE LORRAINE.—The early batch of this beautiful begonia will now be well developed, and commencing to bloom freely. Shelves near the glass, or stages in low houses, are best suited to its requirements. To keep the plants symmetrical, stakes will be necessary; we use but one stake in the centre of each. The roots having now taken full possession of the soil, assistance will be necessary in the form of weak liquid manure, used in a clear state. Late propagated plants may still be potted into larger pots, but beautiful plants can be secured in comparatively small ones.

GESNERAS.—Assistance should now be given by occasional applications of weak liquid manure, to encourage the plants to continue in bloom as long as possible. Provide a fairly dry atmosphere, and do not give an excess of water at the roots. When flowering is over, gradually withhold water, and store in a dry place in a temperature of about 55 degrees.

PROPAGATION.—Such plants as acalyphas, pandanus, crotons, dracænas, abutilons, etc., root readily at this season, and by propagating them now time and space is gained. Use small pots and insert singly. When rooted they can be kept in their cutting pots until the turn of the year, with no disturbance.—W. Fyfe, Lockinge Park Gardens.

FRUITS UNDER GLASS.

FIG TREES still in bearing should be given liquid manure each week, but the house should be now closed, plenty of air being admitted continually, so that the atmosphere shall be dry. Trees from which the fruits have all been gathered should have the branches untied, so that sun and air will have full opportunity for ripening the wood; any shoots that are of no further service should be cut out at once. The foliage should still be syringed on fine days. Root pruning, if desirable, may now be begun, or any lifting may be done if the trees are rank and have not given a satisfactory supply of fruit. The fig tree does not require a large border of rich material; on the contrary, it does best in a small border, and one in which the roots can be kept in check and food afforded by surface feeding. If the border is too large a small wall can be easily built to confine the roots.

FIGS IN POTS, and plunged out of doors, should be laid on their sides, or placed under cover in an unheated house, if frosts or heavy rains prevail.

MELONS.—Push forward the ripening of melons, and let the fruits be well exposed to all light and sunshine; the last few weeks have not given good weather for late melons. Keep the temperature 75 to 80 degrees by day and 70 degrees at night, and be very careful not to overwater. When the fruits begin to ripen give a little ventilation to assist in developing a good flavour.

PEACHES AND NECTARINES.—Trees in the early house will be fast losing their foliage now, and when this is all down give a thorough cleansing before making use of the floor for chrysanthemums, etc. These early fruit houses are often used for this purpose, and very often the loss of a fruit crop can be traced to it. Do not put the lights on till the last possible moment, and on no account allow any heat to be turned on, as the fruit buds must not be excited, or there will be bud dropping later on. See that the borders are not dry, and do not allow them to become dry at this season. These remarks will also apply to succession houses, in fact to all trees under glass. Syringe late trees well to keep the foliage clean.

VINERIES.—All grapes should be rapidly approaching ripeness now, and where late varieties are not quite ripe some fire heat must be used to assist them. This has not been the best of seasons for the thorough development of grapes in cool houses. Should any of the borders require water choose a fine bright morning for the operation, so that a good deal of the surplus moisture will be evaporated before nightfall. Keep a sharp lookout for decaying berries, and cut them out as soon as detected. Care must be taken in watering when grapes are ripe, or the berries will decay quickly, especially of some varieties. Yet very often a certain amount of watering must be done, especially in shallow borders. Admit a little air day and night, and when the weather is damp turn on a little fire heat to dispel damp. It is a good plan to relieve vines of heavy crops as soon as possible after the grapes are really ripe, so that the strain is not so great on the rods; the bunches can be viewed just as well in a good grape room, and will keep there a reasonable time.

BORDERS.—Continue to carry out additions to the vine borders, renewing any that are exhausted, and making additions to those of two and three years' planting, using soil of the best quality, such as chopped turfy-loam, with some vine manure or bonemeal mixed, at the rate of about half cwt. to a ton of loam and lime rubble. The whole should be thoroughly mixed by turning it several times.

PAINTING THE HOUSES.—Now is a good time to have the houses painted, especially the outsides of fruit houses. The insides can be painted later, or any time during the autumn previous to starting. The inside should be painted every second season, as this will preserve the woodwork, and keep the house free from pests.

POT FRUIT TREES.—All pot trees that have finished fruiting should be removed into open quarters. See that these do not become dry at the roots; this is most important as they are now making up their buds for next season's crop. Any lifting or root pruning may be done now in order to keep trees fruitful and restrict their size.—W. A. Cook, Leonardslee Gardens.

THE KITCHEN GARDEN.

CAULIFLOWERS.—Seeds sown as advised will have produced plants large enough to be pricked out in frames, where they will be protected through winter. Allow about six inches between each plant, and keep the lights off the frames as long as it is safe to do so. The hardier the plants are kept the greater their chance of going through hard weather without harm. There will now be a glut of cauliflowers of the Autumn Giant class. Do everything possible to keep them from damage by frost, and to carry on the supply into the winter lift batches of plants and place in cool positions where they can be protected.

WINTER SPINACH.—This is making good headway, and will require to be thinned out to at least nine inches apart. Periodically dusting the quarter with soot, and working the Dutch hoe between the rows about once a week will materially assist growth. The perennial spinach beet will be of great value from now onwards if a large batch was sown any time about midsummer.

CELERY.—The main crop of celery has made its chief growth, and is about ready to be blanched. Remove all small growths that may have formed round the base of the plants, and apply liquid manure before commencing to earth up. Utilise care in keeping the centre free from dirt. It is much preferable to earth the stems by degrees than apply a great amount of soil at once, allowing about a fortnight between each earthing.

CABBAGE.—If the chief plantation of cabbages has been made from the largest plants there will probably be a quantity of useful small plants left. These, if pricked out in nursery beds, about six inches apart, will prove very valuable for transplanting in the spring to permanent beds, and also for filling up any gaps that may occur through plants running to seed and other causes.

OUTDOOR TOMATOES.—There will be quantities of fruit on these plants approaching ripeness, and it will not be safe to leave them long or damage from frost may cause considerable loss. A vinery or peach house that is resting, and has a dry, airy atmosphere, will form a suitable place to finish the fruit off in. The produce may not be of first-rate quality, but it will be of great value for the rougher culinary purposes.

SALADING.—A lesser variety of suitable kinds of plants for salads will naturally occur as winter approaches. Therefore, forethought in providing against scarcity is very necessary. Lift and protect lettuces that are completing their growth, and place them in frames facing north. Considerable sowings of mustard and cress will be helpful and appreciated. A commencement must be made with the blanching of endive in large quantities by placing slates over their crowns or introducing them to the mushroom house.

GENERAL REMARKS.—Protecting material of different kinds will need to be made ready for use, as frosts severe enough to damage many plants may be expected at any time. Vegetable marrows may often be carried on for several weeks by placing mats or boughs over the plants at night. Runner beans may also be similarly treated. Have manure turned and assisted to rot in readiness for wheeling on the ground next month.—Charles Flack, Cholmondeley Castle Gardens.

THE LATE MR. PETER BARR.

Having enjoyed the acquaintance of the late Mr. Barr for forty years, may I suggest that the memory of a man so remarkable should be fittingly perpetuated? Moreover, if this could be done in a way by which great permanent good might accrue, without appreciable sacrifice by those sharing in it, would it not be worth the doing? Assuming there would be a large measure of concurrence on those points, in what way could the object be realised? This leads to a definite proposition, and not the less worthy of consideration, as being based on Mr. Barr's own efforts in the realisation of an object which all believe to be good. The fact cannot in the nature of things be known to all, or even half the readers of these lines; but a fact it assuredly is that Mr. Barr's name stands first on the list of the first committee of the Royal Gardeners' Orphan Fund, which he assisted in establishing, and only those who acted with him, including the present writer (in 1887), can know how zealously our deceased friend worked for the accomplishment of that object. Would it not, therefore, be especially appropriate, if, by a large number of small gifts, an adequate sum were secured to endow a memorial in perpetuity in connection with that beneficent charity, and thus commemorate—in a way we know he would rejoice in—the honoured name of Peter Barr?

John Wright, V.M.H.

GREENHOUSE MANAGEMENT.—The Amateur's Greenhouse, the popular book by the Editor of "Amateur Gardening," not only treats of the selection and cultivation of greenhouse plants and flowers, but gives full instructions how to build a greenhouse and how to heat it, as well as every detail as to the management of the plants and flowers grown in it. The price of this book of 416 pages is 5s. net, or by post 5s. 6d. from The Gardeners' Magazine Office, 148, Aldersgate Street, London.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

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Royal Horticultural Society.

The Hall was full, crowded, overflowing with exhibits on September 28, and, in spite of cold, wet weather, there was a large attendance during the afternoon. Fruits and vegetables were largely shown, and were excellent; while dahlias, hardy flowers, and orchids were superabundant.

Professor Hugo de Vries gave the second of the Master's Lectures during the afternoon, but there was not a large attendance, and, unfortunately, the noise of motors and heavy traffic outside the hall was so great that some difficulty was experienced in following the lecturer. Professor de Vries showed a series of slides representing the peloriate variety of Linaria vulgaris, a variation that came spontaneously in a very small proportion of any large number of cultures of the type, and was not gradually evolved by selection. On the other hand, he showed what he called "mutants," practically species, evolved from Œnothera Lamarckiana, one, a dwarf free-flowering form that, if self-fertilised, would afterwards give a fixed race of dwarfs. His description of how he secured a double variety of the corn marigold, by first saving seed from a garden flower head that contained twenty-one ray florets, as against the average of twelve florets in a wild flower. He then found the average of ray florets raised in the succeeding generation, and, finding one head with forty-eight florets; seed from this again gave a higher percentage, and seed from a hundred rayed head was saved, and from this generation came a flower with two hundred florets, and so, in five years, from the single garden form he obtained a good double variety that could be kept constant. The Professor also showed how a five-leaved clover could by selection be made to produce a ten-leaved one, and said that if he had an order for a thousand plants of this variety, he could produce them in a reasonable time. The illustrations of the Professor's garden, and the methods followed in his extensive experiments; the beds of plants, the netted-in garden, and the fine gauze-wire greenhouse for excluding insects, all proved wonderfully interesting and instructive.

FLORAL COMMITTEE.

Messrs. Barr and Sons, Covent Garden, submitted a collection of Michaelmas daisies, early chrysanthemums, kniphofias, phloxes, montbretias, etc. Pæony-flowered dahlias were shown by Mr. J. T. West, Brentwood, who showed his new seedlings Vandyke, Burne Jones, Titian, and Turner, all very fine in size and colour. The lovely Colchicum speciosum and C. s. alba was beautifully represented by Messrs. J. Backhouse and Son, Lim., York, who always show these autumn flowers finely. Stately gladioli, all seedlings, from bulbs flowering for the first time, were submitted in quantity by Messrs. J. Burrell and Co., Howe Nurseries, Cambridge, and they, by reason of their fine flowers and colouring, attracted a great deal of attention. This firm also showed some charming roses and a handsome set of cactus dahlias.

Dahlias were largely and finely shown by Messrs. Carter Page and Co., London Wall, E.C., this firm filling a length of tabling with a grand display of cactus, single-flowered, pompon, and pæony-flowered varieties. The former varieties were very prominent, notably Dreadnought, Wm. Marshall, Rev. G. W. Jamieson, Celia, Nisi Prius, Rev. A. Bridge, Brigadier, and Nelly Riding. Phloxes and Michaelmas daisies were extensively staged by Mr. Frank Brazier, Caterham Valley, the former being especially bright; Hilda Morris and Mrs. F. Brazier were two good Michaelmas daisies.

Ornamental vines, as shown by Messrs. Jas. Veitch and Sons, Chelsea, were a fine feature of the meeting, the elegant foliage and deepening leaf colours all attracting a great deal of attention. There is no doubt a great future for such fine kinds as V. Coignetiæ, V. aconitifolia, V. tomentosa, V. flexuosa major, V. Thunbergi, V. Thomsoni, V. Labrusca, V. armata Veitchi, V. Romaneti, V. Wilsonæ (A.M.), and the exquisite V. Henryana. An interesting collection of heaths came from Mr. L. R. Russell, Richmond. The Rev. A. Chalmers Hunt, Willian Rectory, Hitchin, set up a few bunches of good autumn roses. Mr. E. P. Cooper, gardener to Miss Abethall, Colney Hatch Lane, N., showed a very large specimen of the old Platycerium alcicorne.

Pompon dahlias were delightfully shown by Mr. Chas. Turner, Slough, and his display of these charming little flowers should do much to further popularise the section for garden decoration. The bright golden Geisha, a big pæony-flowered dahlia, was also grandly shown by Mr. Chas. Turner. Mr. W. Leggett, West Bergholt, Colchester, contributed a few bunches of roses, and Messrs. Frank Cant and Co., Colchester, submitted a very beautiful bank of roses, in which Frau Karl Druschki, Mons. Paul Lede, Peace, Mdme. Melanie Soupert, Countess of Derby, Betty, Chas. J. Grahame, Edu Meyer, George Nabonnand, Mdme. Pierre Cochet, Earl of Warwick, La Tosca, and Kaiserin Augusta Victoria were extremely beautiful, clean, and fragrant.

A display of roses, and show and cactus dahlias, was made by Mr. Wm. Treseder, of Cardiff, and a dahlia bouquet in the exhibit was very pretty. Messrs. Jas. Stredwick and Son, St. Leonards, had beautiful flowers of their new cactus dahlias, such as Quimbo (A.M.), W. N. Thomas, Gold Crest (A.M.), Mrs. A. Willis, Dr. Kindal, W. H. Wenham, Indomitable, Orion, Iolanthe, etc. Messrs. S. McGredy and Son, Portadown, Ireland, had some lovely roses in the entrance hall, but all their other varieties were eclipsed by the brilliant H.T. Mrs. Arthur Coxhead, a rose of great beauty, wonderful breadth of petal, and delightful fragrance.

Cactus and pompon dahlias were finely displayed by Mr. J. T. West, Tower Hill, Brentwood, the bank of blooms providing a splendid bit of colour. Mr. West always shows neat and refined flowers. On a low staging Messrs. Dobbie and Co., Rothesay, displayed early flowering chrysanthemums in large vases, and these made a striking exhibit; Market White, Polly, Ethel, Leslie, Lilie, Agnes, Caledonia, Goacher's Crimson, Roi des Blancs, Harry, Crimson Marie Masse, and Horace Martin were among the best. The Rothesay firm also contributed a few sweet peas, including Masterpiece, Evelyn Hemus, Mrs. H. Dickson, and several seedlings.

In their group of hardy flowers Messrs. G. and A. Clarke, Dover, showed the graceful Cimicifuga simplex finely. Messrs. Paul and Son, Cheshunt, contributed many interesting shrubs, but the exhibit was rather too crowded; Catalpa bignonioides purpureis, Viburnum rhytidophylla, Cotoneaster nummularia, Pyrus foliosa, the parsley-leaved bramble, and the variegated tulip tree were a few of the good things. Mr. M. V. Seale, Sevenoaks, filled a table with a bold and brilliant display of dahlias; the background consisted of large stands of cactus dahlias associated with eulalia foliage, and in front were bowls of miniature cactus dahlias with vases of single pompon varieties between. Messrs. Wm. Paul and Son, Waltham Cross, were represented by a beautiful exhibit of roses, and it was also a large one and daintily set up. Prominent varieties shown in quantity were Mdme. Abel Chatenay, Pharisaer, Le Progres, La France, Corallina, Hugo Roller, Ecarlate, F. K. Druschki, Mdme. Jeany Guillemot, Mdme. Ravary, Betty, and Richmond. Conspicuous in Mr. G. Reuthe's exhibit, from Keston, was a batch of the strikingly handsome Lilium auratum rubro-vittatum, and hybrid hardy lobelias. Messrs. W. Cutbush and Son, Highgate, were represented by a large display of hardy flowers and cut carnations. Bouvardias, salvias, and dwarf and standard veronicas in full bloom, and a collection of varieties of Polypodium vulgare, including the elegant P. v. cambricum and P. v. pulcherrimum, were shown by Messrs. H. B. May and Sons, Edmonton.

Messrs. Benjamin R. Cant and Sons' exhibit of roses contained excellent bunches of Killarney, Queen Mab, G. Nabonnand, the new H.T. Claudius, F. K. Druschki, Aurore, Hugh Dickson, Mdme. Charles, etc. An elegant exhibit of Michaelmas daisies, set up by Mr. H. J. Jones, Ryecroft, Lewisham, showed a fine style of staging these flowers; Framfieldense, Mrs. D. Mann, Finchley White, Margaret Matthews, Hilda Morris, Distinction, Mrs. F. Brazier, and Mrs. S. T. Wright were the leading varieties. Mr. Clarence Elliott, Six Hills Nursery, Stevenage, had a group of Michaelmas daisies, anemones, etc.

Baskets of the very free-blooming Viola cornuta, V. c. purpurea, and V. c. alba, from Messrs. Gunn and Sons, Olton, were conspicuously good. Messrs. T. S. Ware, Lim., Feltham, displayed cactus and pæony-flowered dahlias in fine style, and they set up large vases of their new double Michaelmas daisy Beauty of Colwall. Messrs. W. Wells and Co., Merstham, contributed a collection of phloxes, and a selection of early-flowering chrysanthemums, among which were fine groups of Leslie, Connie, Carmelite, Roi des Blancs, J. Bannister, Perle Chatillonaise, Wells' Scarlet, Firebrand, and Tapis d'Or. Messrs. J. Cheal and Son, Crawley, set up a very charming set of single dahlias, together with pompon and cactus varieties also, but the former were especially bright and good. Mr. S. Mortimer sent a few dahlias, and gained an A.M. for Little Donald, a deep crimson pompon variety.

ORCHID COMMITTEE.

Messrs. Charlesworth and Co., Haywards Heath, Sussex, had a very bright exhibit, wherein the most conspicuous plants were the handsome Lælio-cattleya Etna, Cattleya Vulcan superba, C. Acklandiæ, Odontoglossum crispum, O. grande, O. Warnhamense, O. Phœbe—a fine form, Vanda cærulea, Sophro-cattleya Marathon, and the vivid S.-c. Gratrixæ, Phalænopsis Esmeralda, Cattleya Basil (A.M.), and Cattleya Mrs. Pitt superba (A.M.). Some very interesting orchids were shown by Messrs. Sander and Sons, St. Albans, and included Epi-cattleya Lilianiæ, Dendrobium velutinum, Cœlogyne Micholitzi, the fine new Dendrobium Sanderæ, Cattleya Thayeriana, L.-c. Baroness Schroder, and fine forms of L.-c. Bletchleyensis.

Mr. H. Alexander, orchid grower to Lieut.-Colonel Holford, Westonbirt, Gloucester, showed Lælio-cattleya Pizarro Holford's var. (F.C.C.) with grand old gold and crimson lip; L.-c. Golden Fleece, with golden and red-brown flowers; and Cattleya Rhoda conspicua (A.M.), the latter very like a white-petalled C. Hardyana. Messrs. J. Veitch and Sons, Chelsea, sent the curious yellow, long-spiked Disa polygonoides (B.C.), from Australia. Odontoglossum crispum Ethel, with splendid red blotches, was shown by Mr. E. Rogerson, Oakdene, West Didsbury. Mr. Davis, gardener to J. Gurney Fowler, Esq., Glebelands, South Woodford, contributed several fine cypripediums, including C. Thalia New Hall Hey var.

From Messrs. Stanley and Co., Southgate, came the new Cattleya iridescens, a new hybrid that presents considerable variation, C. St. Gilles, C. minucia, L.-c. Bletchleyensis, and Cattleya Gaskelliana alba. Mr. J. Collier, gardener to Sir Jeremiah Colman, Bart., showed numerous varieties of Dendrobium Phalænopsis, the rare D. Taurinum, Brasso-cattleya Mary, Cirrhopetalum appendiculatum, and the quaint Dendrobium bicaudatum. Messrs. Mansell and Hatcher, Lim., Rawdon, Leeds (formerly Moore, Lim.), were represented by a large group of orchids, in which prominent subjects were Cattleya Iris, Cypripedium Wiertzianum Potter's var., C. Morganiæ Burfordense, Cœlogyne Massangeana, Mormodes unicolor, Cattleya Fabia, and various interesting odontoglossums, etc. Messrs. Stuart Low and Co.'s exhibit contained Oncidium oblongatum citrinum in fine form with large spikes of bloom; O. incurvum, Bulbophyllum Godseffianum, Cycnoches chlorochiton, Cattleya Iris, Cycnoches maculatum, and Dendrobium formosum giganteum.

FRUIT COMMITTEE.

A particularly fine display of fruit trees lifted from the open ground and staged in pots, came from Messrs. Jas. Veitch and Sons, Chelsea. It was a grand exhibit, showing how well the trees are managed and how clean and abundant the fruit. The bush trees of Lane's Prince Albert, Grantonian, Chas. Ross, Bismarck, Tyler's Kernel, Mrs. Barron, and Bramley's Seedling apples were splendid; while the trained trees of Beurre Van Geert, Beurre Fouqueray, Louise Bonne of Jersey, Verulam, and Beurre Clairgeau pears were unusually good; and the figs were excellently cropped. The trees of the Langley bullace, a fine late, heavy-cropping variety, gave ample evidence of the usefulness of this introduction. The Chelsea firm's display of clean, well-grown vegetables, proved a great attraction, and especially good in their large collection were the specimens of Hackwood Park runner beans, Ailsa Craig onions, Hollow Crown parsnips, Red Globe turnips, Matchless carrot, Ham Green tomato, Lyon leeks, etc.

A very fine display of magnificently grown fruit, both picked examples, and trees carrying famous crops, was set up well by Messrs. T. Rivers and Son, Sawbridgeworth. The oranges were striking, as were the baskets of orchard-house fruits of Cox's Orange Pippin, Gascoigne's Scarlet, Ribston Pippin, Peasgood's Nonsuch, and Worcester Pearmain apples; Golden Eagle peaches; Golden Transparent, Autumn Compote, Admiral, and other plums; and Alicante, Black Hamburgh, Gros Maroc, and Muscat grapes. The heavily laden peaches, apples, pears, vines, plums, and figs were a great feature, and gave evidence of splendid culture.

Good apples and pears, and well-finished clusters of Appley Towers, Madresfield Court, Mrs. Pince, Black Hamburgh, Gros Maroc, Lady Downes, and Alicante grapes were shown by Mr. E. Neal, gardener to J. A. Nix, Esq., Tilgate, Crawley. From the same gardener came first-rate samples of nectarine Princess of Wales, and Walburton Admirable peaches. Mrs. V. Banks, 102, Park Street, Grosvenor Square, W., put up a particularly fine collection of bottled fruits; the fruits were all whole, and beautifully clean and clear.

Messrs. H. Cannell and Sons, Swanley, contributed a very fine exhibit of fruit, filling up a large space with excellent apples, pears, plums, etc. The exhibit was also an attractive one, and contained fine samples of Allington Pippin, Ecklinville, Warner's King, Bismarck, Lady Sudeley, Worcester Pearmain, Jas. Grieve, Peasgood's Nonsuch, New Hawthornden, Chas. Ross, Grenadier, Potts' Seedling, The Queen, and other apples, and Goliath, Transparent Gage, Reine Claude de Bavay, Kirke's Blue, Grand Duke, Coe's Late Red, Black Diamond, Pond's Seedling, Monarch, and Burbank's Mirabelle plums. Altogether there were 280 dishes and varieties of fruits in this interesting and striking display. About three dozen dishes of apples and pears, backed by heavily fruited young apple and pear trees, were set up by Messrs. Stuart Low and Co., Bush Hill Park, Enfield. Messrs. S. Spooner and Son, Hounslow, filled one of the tables in the annexe with large baskets of well-grown apples representing popular varieties.

Mr. George Hobday, of Romford, put up a splendid amateur's collection of vegetables, all grown by himself. Mr. Hobday is not new to vegetable culture, and such exhibits as his cannot help but stimulate observers to take greater interest in kitchen garden produce.

Several collections of vegetables were staged in competition for the society's prizes for nine kinds, and here Mr. Edwin Beckett, V.M.H., Aldenham House Gardens, was first with one of his wonderful exhibits, in which everything was first-class, the Prizetaker leeks, Ailsa Craig onions, and Early Giant cauliflowers being unusually fine; Mr. Gaiger, gardener to H. T. Tatham, Esq., Hendall Hall, Elstree, was second. In the class for six kinds, Mr. A. Basile, gardener to the Rev. Oswald Turner, Woburn Park, Weybridge, Surrey, was a fine first with produce of high quality, but he was run closely by Mr. G. Hobday, Romford, who won second place. Mr. Beckett was first for peas with Sutton's Late Queen, and Mr. Staward second.

In a class for salading Mr. Beckett and Mr. Staward were first and second respectively.

CERTIFICATES AND AWARDS.

First-class Certificate.—To Lælio-cattleya Pizarro Holford's var., from Lieut.-Colonel Holford, Westonbirt, Gloucester; to apple St. Everard (Cox's Orange Pippin crossed with Margil), from Messrs. Jas. Veitch and Sons, Chelsea.

Award of Merit.—To Pentstemon Middleton Gem, from Messrs. R. Wallace and Co., Colchester; to carnation O. P. Basset, from Mr. A. F. Dutton, Iver, Bucks; to rambling rose Flower of Fairfield, from Messrs. Stuart Low and Co., Bush Hill Park; to Vitis Wilsonæ, from Messrs. Jas. Veitch and Sons, Chelsea; to pompon dahlia Little Donald, from Mr. S. Mortimer, Rowledge, Farnham; to cactus dahlia Lancer, from Mr. H. Shoesmith, Woking; to cactus dahlias Gold Crest and Quimbo, from Messrs. J. Stredwick and Son, St. Leonards; to Lælio-cattleya Rhoda conspicua, from Messrs. Stuart Low and Co., Enfield; to Cattleya Basil and Cattleya Mrs. Pitt superba, from Messrs. Charlesworth and Co., Haywards Heath.

MEDALS.

Gold.—To Messrs. Jas. Veitch and Sons, Chelsea, for fruit trees, and one for a collection of ornamental vines; to Messrs. T. Rivers and Son, Sawbridgeworth, for fruit.

Silver-gilt Flora.—To Messrs. Charlesworth and Co., Haywards Heath, for orchids; to Messrs. Frank Cant and Co., Colchester, for roses; to Messrs. Wm. Paul and Son, Waltham Cross, for roses; to Messrs. Paul and Son, Cheshunt, for ornamental shrubs.

Silver-gilt Knightian.—To Mr. J. A. Nix (gardener, Mr. E. Neal), Tilgate, Crawley, for fruits; to Messrs. H. Cannell and Sons, Swanley, for fruits; to Mr. G. Hobday, Romford, for vegetables.

Silver-gilt Banksian.—To Messrs. J. Burrell and Co., Cambridge, for gladioli and dahlias; to Mr. Wm. Treseder, Cardiff, for dahlias.

Silver Flora.—To Messrs. Stuart Low and Co., Enfield, for orchids; to Messrs. Sander and Sons, St. Albans, for orchids; to Messrs. Mansell and Hatcher, Rawdon, Leeds, for orchids; to Messrs. Carter Page and Co., London Wall, for dahlias; to Messrs. Wm. Cutbush and Son, Highgate, for hardy flowers; to Messrs. Dobbie and Co., Rothesay, for early chrysanthemums; to Mr. H. J. Jones, Ryecroft, Lewisham, for Michaelmas daisies; to Messrs. H. B. May and Sons, Edmonton, for flowering plants and ferns; to Mr. M. V. Seale, Sevenoaks, for dahlias; to Mr. Chas. Turner, Slough, for dahlias; to Messrs. S. McGredy and Son, Portadown, Ireland, for roses.

Silver Knightian.—To Messrs. Jas. Veitch and Sons, Chelsea, for vegetables; Messrs. S. Spooner and Sons, Hounslow, for fruit.

Silver Banksian.—To Messrs. B. R. Cant and Sons, Colchester, for roses; to Messrs. J. Cheal and Sons, Crawley, for dahlias; to Messrs. Gunn and Sons, Olton, for violas; to Mr. J. T. West, Brentwood, for dahlias; to Messrs. W. Wells and Co., Merstham, for phloxes and chrysanthemums.

Bronze Flora.—To Messrs. T. S. Ware, Lim., Feltham, for dahlias; to Messrs. G. and A. Clark, Dover, for hardy flowers; to Messrs. J. Stredwick and Son, St. Leonards, for dahlias.

SCIENTIFIC COMMITTEE, September 14.

Present: Mr. A. Hall, M.A., F.L.S. (in the chair), with Dr. Voelcker, and Messrs. J. Fraser, W. Hales, J. W. Odell, and Geo. Gordon, V.M.H.

PRUNUS CHAPRONI.—Mr. Odell submitted the fruit and leaves of a Prunus growing in a plantation at Henley. A comparison with the description and plate of the "Revue Horticole," 1881, p. 467, of Prunus Chaproni, showed apparent agreement, except that the fruits of the sample were a little smaller. Mr. Hall undertook to see whether he could determine anything further regarding it from the Kew records.

ŒNOTHERA SP., ETC.—Mr. Fraser showed a specimen of Œnothera Lamarckiana in flower, which he had found in his garden, and was self-sown. He took the form to be that of the primitive species named Œ. rubrinervis by de Vries. Last year the veins of the leaves were reddish, whilst this year they were almost white, due possibly to the sunless season. The fruits, however, were red streaked. Mr. Fraser thought that this variety was taking the place of Œ. biennis in Surrey in both the garden and the wild state.

A flesh-coloured specimen of Echium vulgare, collected in 1901 by Mr. Fraser, was shown still retaining the flesh colour. Mr. Fraser showed further sprigs of Calluna vulgaris, var. glabrescens, and Erica cinerea, gathered in Surrey, growing on a chalk cliff at an elevation of 700ft. The difficulty of growing heaths and rhododendrons on chalky soils is generally known, and Mr. Fraser was surprised to find the present specimens. The soil was about 18in. deep, with a further 6in. of decayed chalk. As 5in. of soil would be a sufficient depth for the ericas, it was thought possible that the upper stratum was free from lime, and Dr. Voelcker undertook to analyse a sample if sent to him.

PEACH DISCOLOURED.—Rear-Admiral Goodridge, of Rudgwick, sent a peach for inspection. It was found to be not diseased, but covered with the excrement of aphis, upon which a species of fungus was growing. It was evident that the tree needed cleansing and fumigating.

DISEASED PEARS.—Mr. Wigley, of Whitehill, Gravesend, sent some pears attacked by the fungus Glœosporium fructigenum. The trees should be winter-sprayed with copper sulphate solution (1lb. to 25 gallons of water), and with Bordeaux mixture in summer.

LETTUCE DYING.—Cos and cabbage lettuces, both young and old plants, were received from Mr. Haskins, of Bournemouth, the leaves of which were browned and decayed at the edges. Mr. Gordon said that he had experienced the same trouble, and he thought it was due merely to the excessively wet season and cold weather, and was not attributable either to soil conditions or disease.

CATALOGUES RECEIVED.

WM. PAUL AND SON, WALTHAM CROSS.—The rose catalogue issued by this firm is one to keep on the book-shelf as it contains a mine of information relative to the sections and varieties of roses. The present issue is freely illustrated, and contains coloured plates of the new roses, Margaret and Albatross, both Waltham Cross varieties.

AMOS PERRY, ENFIELD.—A comprehensive list of bulbous plants and flowering roots, the lilies and irises receiving special attention. Also a list of delphiniums that gives some idea of the remarkable collection at Enfield.

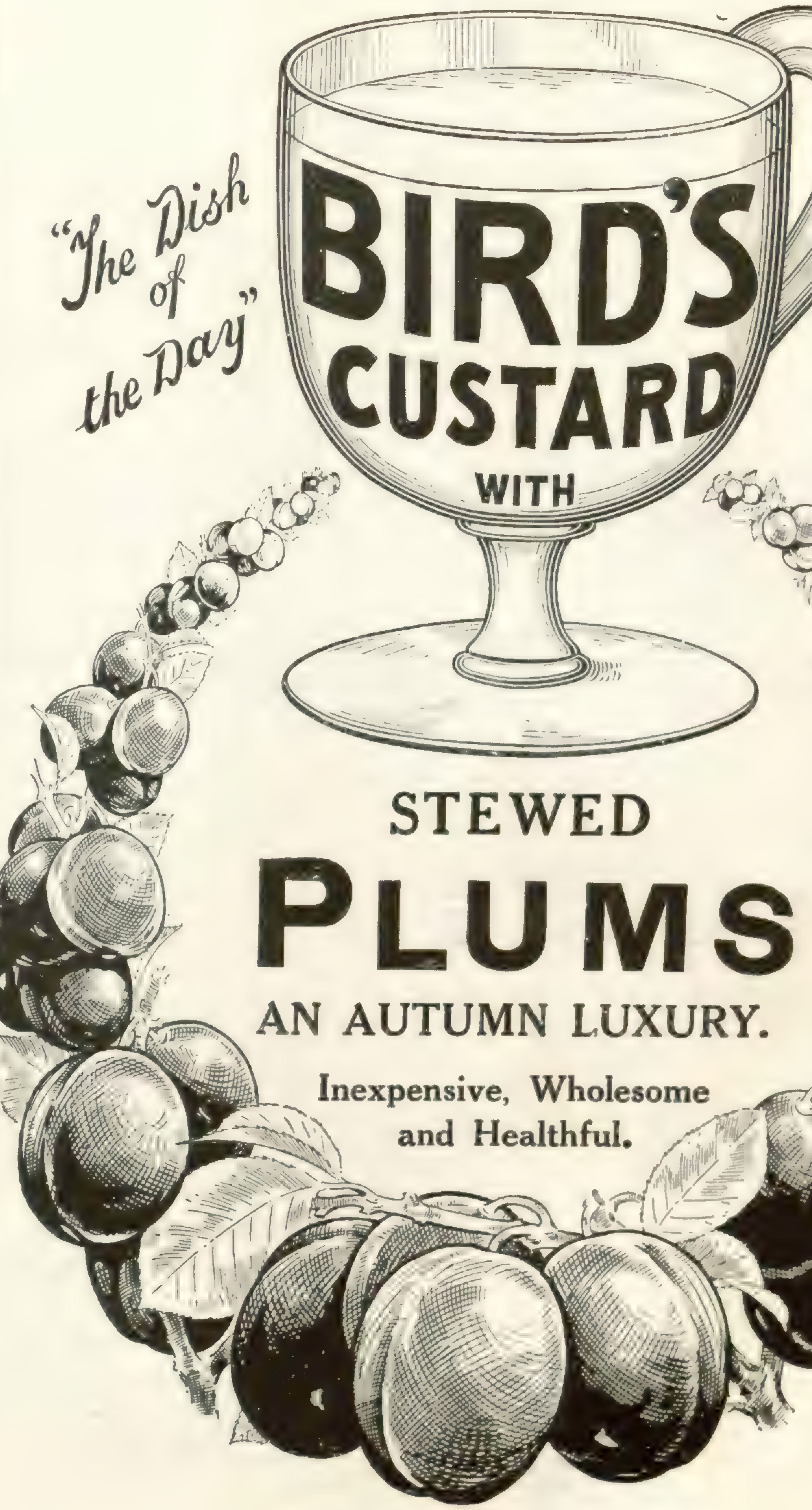
ANT. ROOZEN AND SONS, OVERVEEN, HOLLAND.—From Messrs. Mertens and Co., Cross Lane, St. Mary-at-Hill, London, E.C., the London agents of the Dutch firm, we have received a copy of their comprehensive list of Dutch and Cape bulbs, etc.

JOHN K. KING AND SONS, COGGESHALL.—Under the title of "Beautiful Heralds of Spring," the Essex firm issues an attractive catalogue of bulbs, plants, roses, and seeds.

DICKSONS, CHESTER.—Bulbs and flowering roots, and sundries, are listed in this catalogue, and the daffodil section is freely illustrated.

CHARLES TURNER, ROYAL NURSERIES, SLOUGH.—A catalogue of useful bulbs for garden and conservatory.

EDWIN MURRELL, SHREWSBURY.—A capital catalogue of roses, well arranged, descriptive, and well got up.



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ANSWERS TO CORRESPONDENTS.

NAMES OF ROSES.—R. W., Selby: The most complete list of names of roses with which we are acquainted is the one entitled "Nomenclature de tous les Noms de Roses," compiled by MM. Léon Simon and Pierre Cochet, and published at the Librairie Horticole, 84bis, Rue de Grenelle, Paris. The second edition, now before us as we write, is dated 1906, and it is just possible there is a later edition. This list consists of 178 pages, and contains no fewer than 11,016 names of roses. Of course, there are scores of synonyms, but even then a huge list remains. The class, raiser, date of introduction, and colour, follow each name.

MEADOW SAFFRON.—S. F. W., Redruth: We have on several occasions pointed out that a sure method of rapidly exterminating the meadow saffron in land where cattle, cows especially, feed, is that of removing the leaves in spring directly they appear, and burning them. The Board of Agriculture, in a recently issued leaflet, points out that: Where meadows are infested with the meadow saffron (Colchicum autumnale) in very small numbers, the corms may be dug out by hand, and the whole plant burnt. Where, however, the weeds occur in extensive patches, the best method is to pull off all leaves by hand as fast as they appear in spring, and burn them. It has been stated that if this practice is repeated for one or two seasons there is no necessity to dig up the corms, the plants being readily exterminated. The effects of heavy dressings of such soluble manures as superphosphate, sulphate of ammonia, and kainit, might be tried, both alone and in combination.

FAILURE OF FRUIT TREES.—E. N., Worksop: Deep planting is a frequent cause of failure with young fruit trees, and the only way to remedy the evil is to lift the trees directly the leaves turn colour this autumn, and replant them so that the stems stand two or three inches higher out of the ground than hitherto. In almost every case it is an easy matter to find evidence of the position of the soil level on young trees from the nursery, and every care should be taken to plant in such a way that, when the trees and soil have settled down, the trees shall not be lower in the soil than when in the nursery quarters.

POLYANTHUS FOR SPRING DISPLAY.—L. C., Retford: There is no getting away from the fact that polyanthuses enjoy liberal treatment, and only give the very best results when planted early in the autumn in deeply worked, well-manured soil, and if the upper layer of soil has plenty of leaf-mould added to it, this will be a further advantage. A point worth remembering is that in the early spring, after treading over the bed so as to make the plants firm, a good top-dressing of gritty leaf-mould will help the plants wonderfully. This should be given just as the plants appear to be restarting into growth and bloom.

SOURED SOIL.—S. E. T., Heygate: If the border is well drained, either naturally or artificially, the sourness is due to an excess of manure. We shall be better able to advise you what to do if you send us further information as to the kind of soil, position, drainage, etc. Soot fresh from the flues should not be used at once upon land fully occupied by plants.

SHORTAGE OF SWEET PEA SEED.—H. B., Bradford: We have heard a somewhat similar complaint made by those who know little or nothing about the difficulties that have attended the cultivation of sweet peas for seed this season. Observations made in many seed-growing districts prove to us that the plaint of "short crop" or "no crop" on the part of growers and seedsmen is in no sense to be represented as a desire to raise prices. There is no manner of doubt whatever that English sweet pea seed will be very scarce this year in the case of all the Spencer varieties. Some idea of the scarcity of seed may be gathered from our own experience, which is that from about fifteen hundred plants, representing, of course, a considerable number of varieties, we have saved only about a dozen pods of seeds. The old grandiflora varieties and the Unwin varieties have seeded fairly well, but the Spencers dropped their flowers wholesale and refused to set seed. The fault lies, chiefly, with the climate of the year.

POOR QUALITY OF HELIANTHUS FLOWERS.—G. E. M., Folkestone: The poor quality of the blooms, and the character of the stems and leaves, afford ample evidence that the helianthuses have been starved. It is probable that the plants have been in the same position for many years, and that tree roots have also taken possession of the land, and no manure has been given. It would not be difficult to resuscitate the plants in a year or two, but a better plan would be to buy or beg a few stools of plants that have been well cultivated, divide these, and plant them in a new site on good soil. These remarks may also apply to other herbaceous plants in your garden, because if the helianthuses have failed, it is almost certain that other things have been neglected.

INSECTS ON ROSE AND ANEMONE LEAVES.—S. E. T., Cambridge: The rose leaves give ample evidence of the work of the leaf-cutting bee (Megachile centuncularis), which is sometimes so persistent in its attentions that roses are almost defoliated by it. It takes away the portions of leaf it cuts out for nest building purposes. Catching the bees in butterfly nets and killing them; tracking them to their nests and destroying the nests; and frequent spraying of the rose foliage with clear soot and quassia solutions, all help to reduce the attack, but there is no method of wholesale destruction. The perforations in the anemone leaves suggest the work of the Antler Sawfly. The little grubs of this fly are found on the undersides of the leaf, close to the cut or perforated portions, and if white paper or cloth be placed carefully under affected plants and the leaves are briskly shaken, the grubs will fall, and may be gathered up for wholesale destruction. This work must be taken in hand directly the cutting is noticed. Earwigs would hardly do so much damage.

NAMES OF PLANTS.

L. D. J., Wicklow.—Stigmaphyllon ciliatum.

J. H., Loughborough.—Athyrium filix-fœmina.

W. S., Taunton.—1, Cypripedium A. de Lairesse; 2, Oncidium varicosum Rogersi; 3, Sternbergia lutea.

S. B., Morecombe.—1, Rubus phœnicolasius; 2, Phlomis fruticosa; 3, Iris fœtidissima; 4, Stipa pennata.

A. H., Wickham.—1, Polygonum cuspidatum; 2, Cupressus Lawsonianus; 3, Ceanothus rigidus.

F. E. J., Saffron Walden.—1, Helianthus decapetalus; 2, Chelone barbata; 3, Hippophæa rhamnoides; 4, Lilium sulphureum; 5, Pinus cembra.

T. E. M., Colchester.—1, Salix viminalis; 2, Populus tremula; 3, Cupressus obtusa; 4, a Hypericum, probably Moserianum, flower wanting; 5, Pinus Strobus; 6, Spartium junceum.

TRADE NOTE.

Messrs. Clibrans, of Altrincham, Cheshire, have been granted a Royal Warrant of Appointment as nurserymen to his Majesty the King. For some years the Messrs. Clibran have supplied plants to the Royal gardens at Sandringham and Windsor, and have executed large orders for the Crown and his Majesty's Commissioners of Woods and Forests.

M. Paderewski is evidently a successful fruit grower, for at the horticultural exhibition recently held at Geneva, he was successful in winning prizes for apples and pears.

OBITUARY.

Mr. George Stacey.

We have to record the death of one of Birmingham's well-known and highly respected gardeners in the person of Mr. George Stacey at his residence in Harborne, on the 20th inst., after several months' illness. The deceased, who was in his seventy-eighth year, was a native of Surrey. In his younger days he was intimately connected with two or three of the large London nurseries and private gardens, having served under more than one of the leading exhibiting gardeners of the period; he also assisted in laying out the grounds of the Crystal Palace, Sydenham. When, about forty years ago, the late Mr. Alfred Osler, of Chad Hill, Edgbaston, commissioned Mr. Milner to lay out the grounds of his residence, Mr. Stacey came as one of his assistants, and on the completion of the work Mr. Osler retained his services permanently as head gardener, and there he remained for about twenty years. For many years he was a successful exhibitor at the Birmingham Chrysanthemum and Fruit Society's exhibitions, and other local ones. For several years previous to his death he had served on the committee of that body, and he was a member of the Birmingham Gardeners' Mutual Improvement Association from its initiation upwards of twenty years ago.

The funeral of the deceased, which took place at the Parish Church, Harborne, was attended by several members of his family and friends, including deputations from the associations above mentioned.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1909. September 19 to September 25.	Sunshine.	Temperature of the Air.			
		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Sept. 19—Sunday	7 18	51	51	66	44
,, 20—Monday......	5 6	56	54	65	47
,, 21—Tuesday	4 0	47	47	60	39
,, 22—Wednesday.	6 24	57	54	68	47
,, 23—Thursday ...	0 30	58	57	66	56
,, 24—Friday..	6 6	61	58	66	55
,, 25—Saturday ...	1 18	58	57	64	55
Means	(total) 30 42	55	54	65	49

Date. 1909. September 19 to September 25.	Rain.	Temperature of the Soil at 9 a.m.			Lowest Temperature on Grass.
		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
Sept. 19—Sunday	—	56	57	57	38
,, 20—Monday... .	0.01	56	57	57	38
,, 21—Tuesday......	—	55	57	57	33
,, 22—Wednesday.	—	55	57	57	38
,, 23—Thursday ...	0.25	57	57	57	51
,, 24—Friday.......	0.04	57	58	57	49
,, 25—Saturday ...	0.02	57	58	57	49
Means ...	(total) 0.32	56	57	57	42

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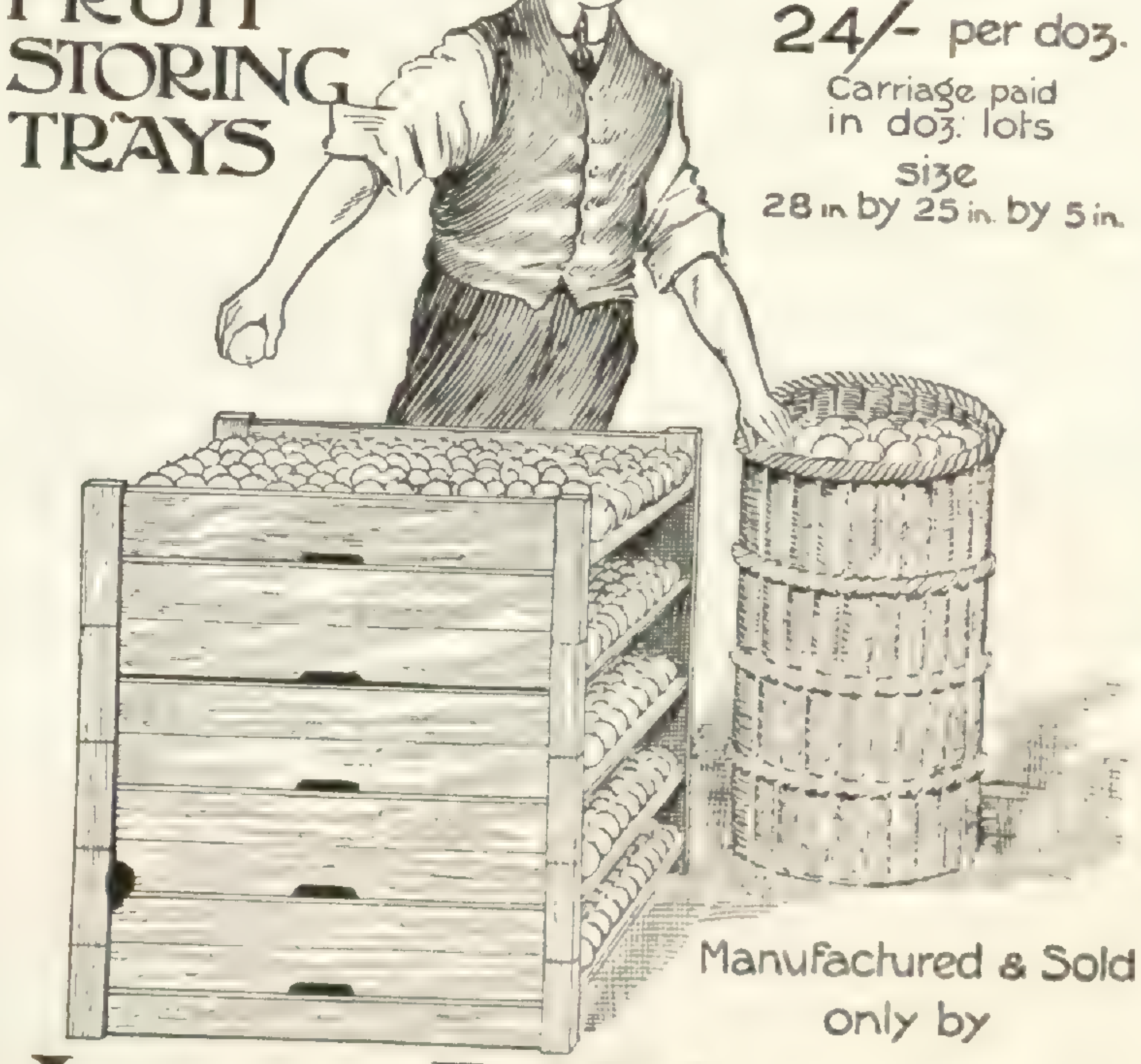

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- ORCHARD HOUSE FRUITS.
- STANDARD ROSES.
- DWARF BEDDING ROSES.
- DWARF SINGLE ROSES.
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Carnations	per doz. blms.	1 6		2 0
,,	per doz. bun.	6 0		8 0
,, Malmaisons	per doz.	5 0		7 6
Cattleyas	per doz.	12 0		14 0
Coreopsis	per doz bun.	1 6		2 0
Croton leaves	per bun.	1 0		1 6
Cypripediums	per doz. blms.	1 6		2 6
Dahlias	per doz. bun.	2 0		4 0
Eucharis	per doz.	2 6		3 6
French fern	per doz. bun.	0 6		1 0
Gaillardias	per doz bun.	1 6		2 6
Gladiolus	per doz. bun.	2 0		4 0
Gypsophila	per doz. bun.	2 0		3 0
Lilium auratum	per bun.	2 0		3 0
,, speciosum	per bun.	1 6		2 6
,, longiflorum	per bun.	2 0		3 0
Lily of the Valley	per doz.	6 0		9 0
Marguerites, white	per doz. bun.	1 6		3 0
Mignonette	per doz. bun.	2 0		3 6
Odontoglossums	per doz. blms.	2 0		2 6
Pelargoniums	per doz. bun.	4 0		6 0
Roses	per doz.	1 0		3 6
Smilax	per doz. trails	4 0		7 0
Statice	per doz. bun.	3 0		4 0
Sweet Peas	per doz. bun	2 0		4 0
Stocks	per doz. bun.	2 0		3 0
Tuberoses	per doz.	0 3		0 4
Violets	per doz. bun.	1 0		2 6

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Grapes, English	per lb.	0 8	3 0
,, Guernsey	per lb.	0 4	1 0
Lemons	per case	10 0	15 0
Melons	each	1 0	2 0
Nectarines	per doz.	3 0	12 0
Oranges, Jamaica	per case	9 0	10 6
,, Navels	per case	10 0	12 0
,, Naples	per case	9 0	11 0
,, South African	per case	5 0	6 6
Peaches	per doz.	3 0	12 0
Pears, English	per bush.	2 6	7 6
,, Williams	per ½-bush.	2 0	5 0
,, French	per crate	3 6	6 0
Pineapples	each	1 9	3 6
Plums	per ½-sieve	1 9	3 6
Walnuts	per 12lbs.	2 0	3 6

Vegetables.

Runner beans and cauliflowers are specially good. There is a good demand all round.

		s. d.		s. d.
Artichokes, Globe	per doz.	2 6	to	3 0
Beet	per bush.	1 6		2 0
Beans, Scarlet Runners	per sieve	1 6		3 0
Brussels sprouts	per bush.	2 0		3 0
Cabbage	per tally	2 6		4 0
Carrots	per doz. bun.	1 0		2 0
Cauliflowers	per tally	3 0		5 6
Cucumbers	per doz.	1 0		2 0
Endive	per doz.	1 3		1 9
Horseradish	per doz. bun.	8 0		12 0
Lettuce, Cos	per score	0 6		1 0
Mint	per doz. bun.	1 0		2 0
Mushrooms	per doz. lb.	6 0		9 0
Onions, Valencia	per case	7 0		12 0
,, English	per doz. bun.	1 6		2 0
Parsley	per doz. bun.	1 6		2 0
Spinach	per bush.	1 0		1 6
Tomatoes, English	per doz. lb.	2 0		3 0
,, Guernsey	per doz. lb.	2 0		2 6
Turnips	per doz. bun.	1 6		2 6
Vegetable Marrows	per tally	4 0		5 6

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May Queen	per cwt.	2 3		2 9
Sharpe's Express	per cwt.	2 6		2 9

FORTHCOMING ENGAGEMENTS.

MONDAY, October 4.—National Fruit Growers' Federation.

WEDNESDAY, October 6.—National Chrysanthemum Society: Conference on Chrysanthemums at Essex Hall, Strand, commencing at 3 p.m.

FRIDAY, October 8.—Carluke Chrysanthemum Show.

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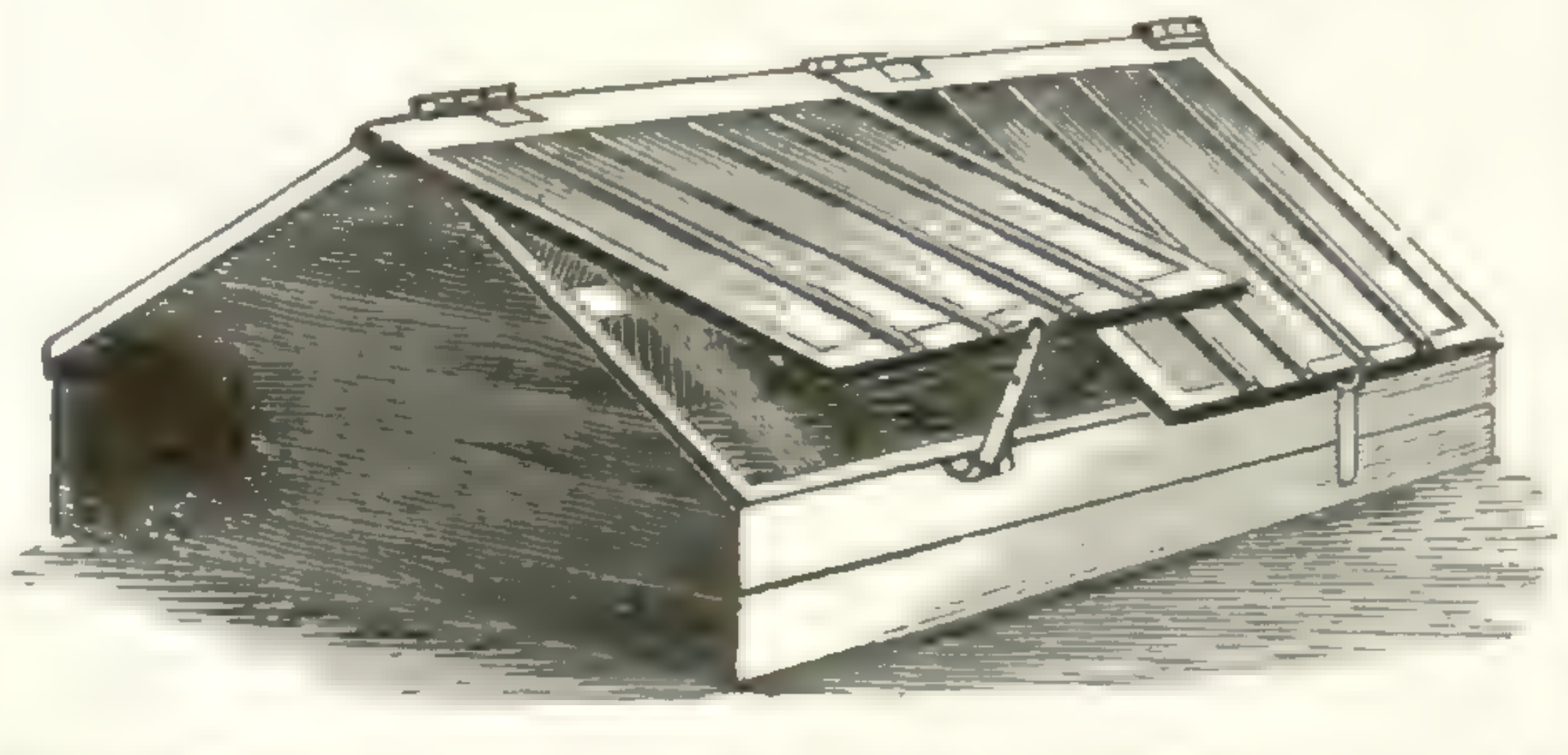

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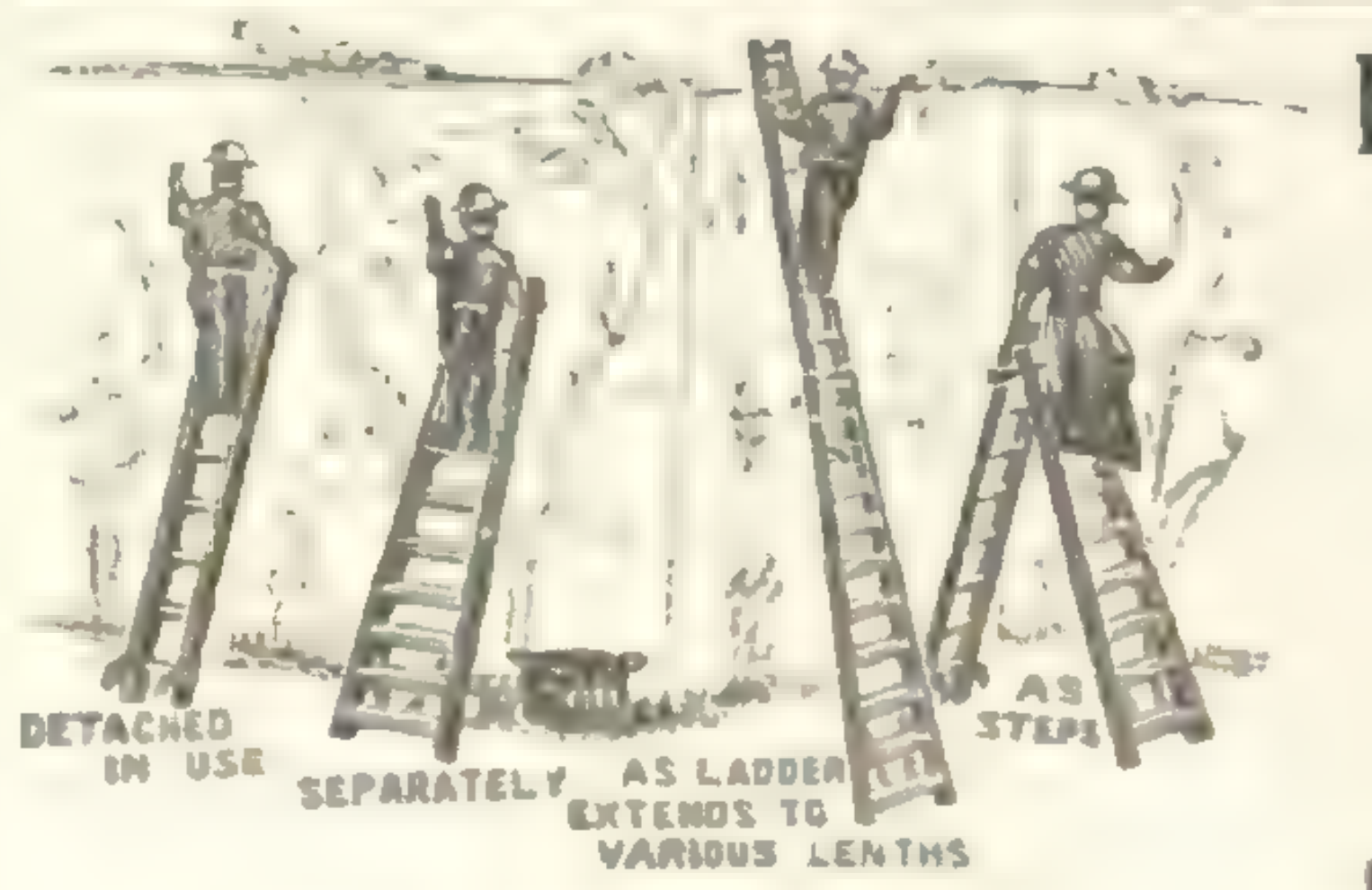

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A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

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GARDENER (Head, or good Single-handed); married, age 44; one girl, 13 years; 28 years' thorough practical experience in all branches; 20 years Head; highly recommended. F. GREENGRASS, The Lodge, Woodbery, Clay Hill, Enfield.

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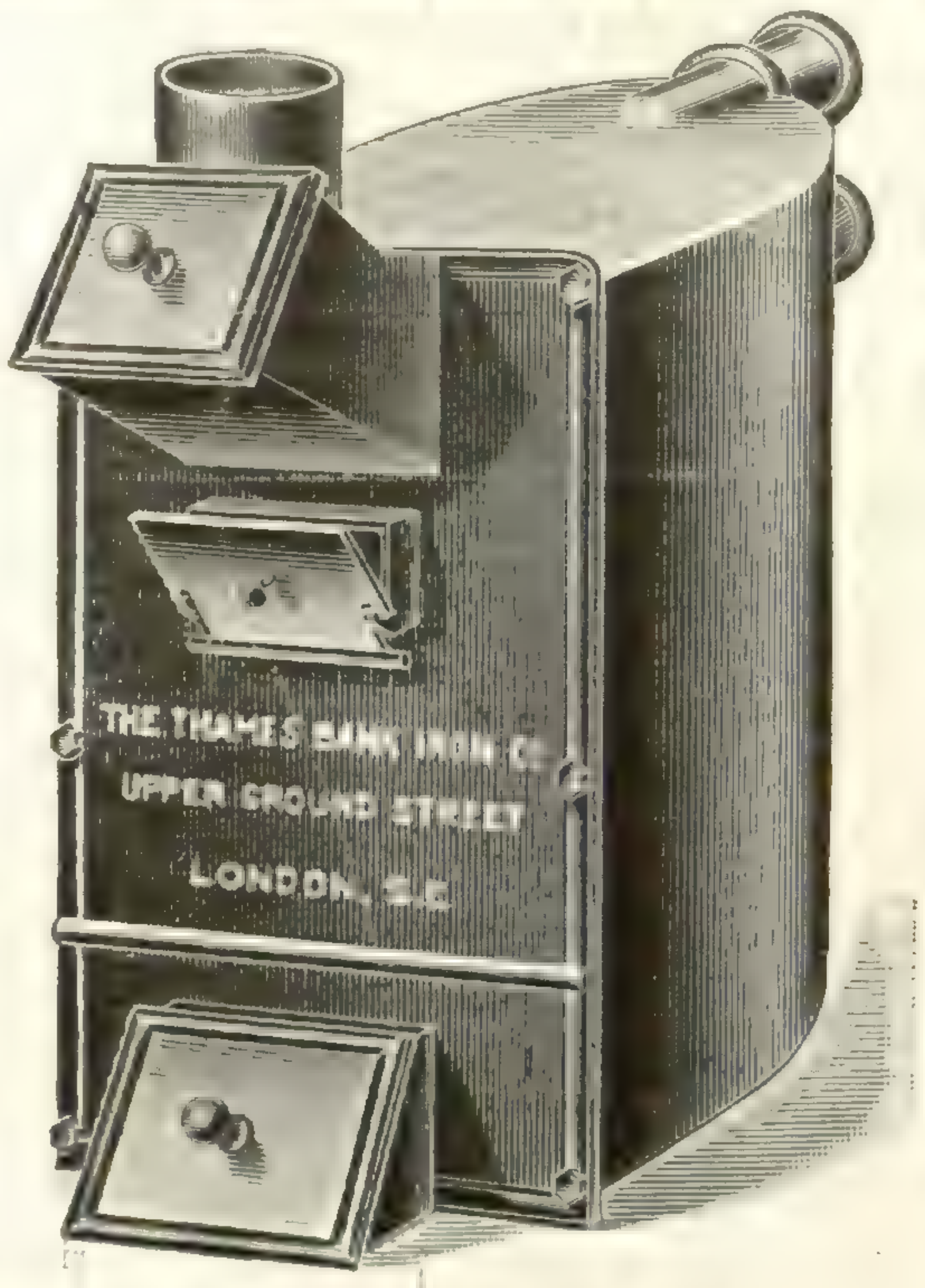
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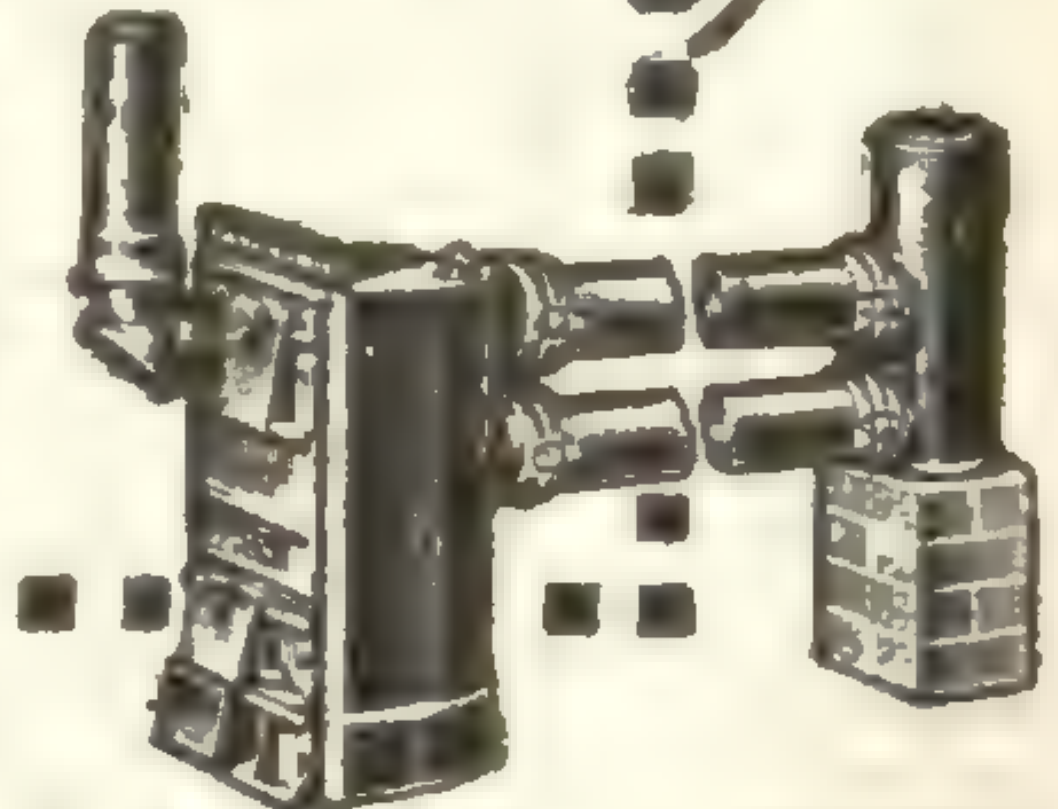

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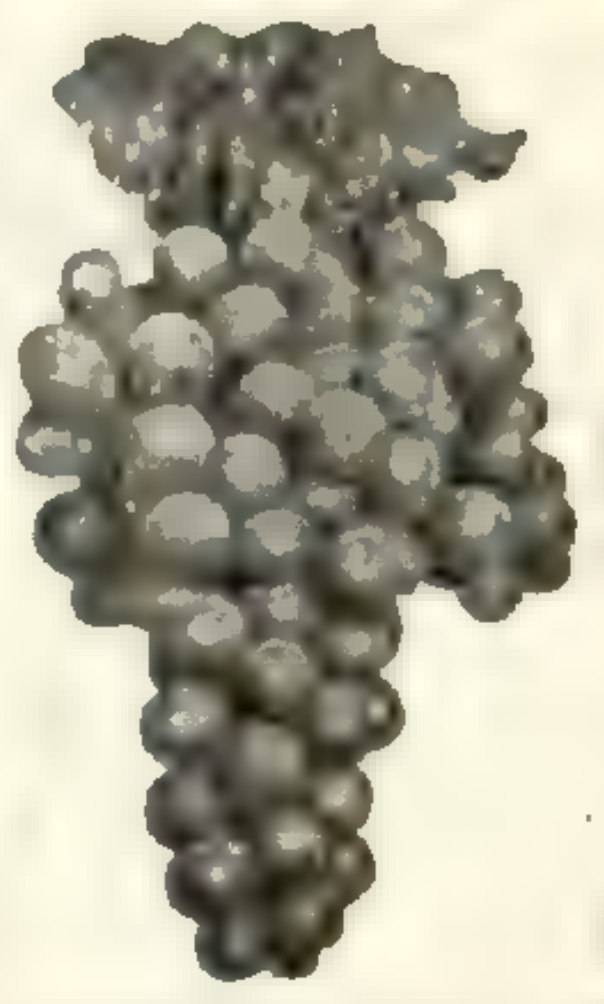

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THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Early-flowering Chrysanthemums.

Much has been said and written about the usefulness of the chrysanthemums flowering in advance of the forms of the Golden Flower that attain to their highest state of development during the month of November, and their cultivation has received consideration. The attention that has been given to them has contributed materially to an extension of their cultivation, and to a higher appreciation of their merits for yielding a supply of flowers for decorative purposes in a cut state. Notwithstanding these facts, it can hardly be said that they are cultivated to an extent their merits would warrant, or that they are, generally speaking, grown in a manner that admits of their contributing their full share to the attractions of the garden and conservatory. It may be that they have failed somewhat in their mission owing to a misconception on the part of some with regard to the place they should occupy in a well-devised scheme of garden ornamentation, and a failure to appreciate the merits of varieties for the several purposes. We now and again read of the merits of chrysanthemums that are so precocious as to be in full bloom early in August, and it is sometimes suggested that because of this early flowering propensity they should be given a prominent position in the hardy plant border. With those who hold such views we are by no means in agreement. The varieties blooming thus early are not wanting in attractiveness, but they are not equal in beauty to a considerable number of other plants suitable for the mixed border that bloom in August, and therefore they should not be allowed to usurp their place. The period during which the early-flowering chrysanthemums are of the greatest value is from the beginning of September till the end of October. The beauty of the summer flowers commences to wane from the opening days of the first of these two months, and with the aid of a good stock of well-grown plants the brightness of the flower garden may be maintained until the damp-laden atmosphere and dense fog compel the flower lover to turn to the occupants of the glass structures for the gratification of his taste. To obtain the best possible results the cultivator must adopt a practice differing materially from that usually recommended by writers on chrysanthemums and their culture. To arrange groups in the mixed border in accordance with the advice so freely given is a simple matter, and if the groups are of some size, and at no great distance from each other, the effect will be bright and satisfactory in the autumn. There is, however, a strong objection to this, and the display of chrysanthemums should not be confined to the mixed border. If there is a sufficient number of chrysanthemums to produce a rich colour effect, the borders will be shorn of much of their beauty during the summer months, because the chrysanthemum groups will be so many masses of greenery. We suggest as an alternative to the grouping of chrysanthemums in the herbaceous borders their preparation in the kitchen garden or reserve ground. This method of procedure will involve considerably more work, but where the strength is available it will have ample justification. Where it is adopted spaces that have been occupied by annuals or half-hardy subjects can, as soon as these have lost their beauty, be filled with chrysanthemums in bloom, and the borders be again made to present an attractive appearance. In like manner flower beds that are near the mansion can be cleared of their summer occupants immediately they have lost their beauty, and be refilled with chrysanthemums. Those, it need hardly be said, who may be induced to act upon our suggestion must proceed in a systematic manner, and grow the plants specially for the purpose. It would be an advantage to grow them in pots throughout the summer, as, when so grown, they make a stiff, short-jointed growth, and can be transferred to the beds and borders without disarrangement of the shoots or their losing a leaf. But—and this is important—the repotting and watering of a stock of plants large enough to produce a bright effect will entail much labour—sufficient, in fact, to prevent in many gardens chrysanthemums being utilised in the manner indicated, were there no other method of procedure by which the plants could be prepared. Fortunately, there is one which has the advantage of being simple and of entailing a comparatively small amount of work in proportion to the results obtained. This method we recommend as the one best adapted to the majority of gardens, and, as a good beginning, we would strongly advise those who are not well acquainted with varieties to at once visit nurseries and gardens in which the early-flowering chrysanthemums are made special features, and take note of the varieties that in their respective colours are remarkable for their compact habit, freedom of flowering, and effectiveness of colour. The varieties selected should possess these attributes in a marked degree, for an abundance of brightly-coloured flowers is essential, and, as so well known, it is far more difficult to remove tall spreading plants from one part of the garden to another and arrange them neatly than to transfer those having a moderately dwarf and bushy habit. For the preparation of a stock we suggest that an open position in the kitchen garden be selected, and that in the course of the winter it receive a moderate dressing of manure from the stable or farmyard, and be broken up to a depth of not less than twelve inches. On the prepared plot strong plants should be put out as early in the spring as practicable, and have their growths stopped two or three times, as may be necessary, during the earlier stages, to promote the production of lateral shoots. They must be allowed sufficient space to enjoy the full advantage of light and air, and if they are put from 18in. to 2ft. apart in rows, with a space of 3ft. between them, this condition will be complied with. The many beautiful varieties with somewhat spreading habit, and producing their blooms on long stems, if not suitable for transplanting, possess much value for the supply of cut flowers, and one or more beds, according to requirements, should be devoted to them in gardens of all classes. Beds about 6ft. wide will contain room for

MR. H. MARKHAM.

three rows of plants, and these, if the bed is from 30ft. to 40ft. in length, will yield an immense quantity of bloom, and at a time when flowers are difficult to obtain without the aid of glass. To prevent injury to the flowers from damp, fog, and frost, which in some seasons do so much damage as to render them unfit for decorative purposes, protection must be resorted to. This can be readily extemporised with the aid of a few stout poles, galvanised wire, and strong calico or light canvas. We need not say how these materials should be dealt with to give the required protection, but we would strongly advise the more general use of shelter in the case of early-flowering chrysanthemums required for furnishing supplies of cut flowers at this season of the year.

Mr. H. Markham, of Wrotham Park Gardens, High Barnet, is one of the stalwarts in the horticultural world, and a familiar figure at the leading Metropolitan exhibitions. He is a first-rate gardener, with a special leaning towards fruit culture, hardy fruits in particular, and on these subjects he is a well known authority, and deservedly holds a place on the Fruit and Vegetable Committee of the Royal Horticultural Society. Mr. Markham's early experience was gained chiefly in the North of England, at Hornsea House, Yorks; Loudbeck Park, Rotherham; Ivy Bank, Lancs ; Bodrhyddan, North Wales; and at Burghley, Stamford. Mr. Markham was for some time with the late Mr. Gilbert, at Burghley, and from thence went to Longford Castle, near Salisbury, where he stayed three years, and then, on the recommendation of Mr. H. W. Ward, he took charge of the gardens at Mereworth Castle, Maidstone, where the late Lord Falmouth took so keen an interest in choice fruits, and gave him an opportunity for getting together a splendid collection of the best varieties, peaches and nectarines being taken in hand very largely. After cultivating these fruits for thirteen years at Mereworth it was generally agreed that Mr. Markham had produced some of the finest trained trees to be found in the country. At Wrotham Park, under the Earl of Strafford, Mr. Markham is again given ample opportunity for cultivating hardy fruits to perfection. Like many other gardeners, Mr. Markham has a hobby, and his is the violin, on which instrument he is no mean performer.

Our Autumn Planting Number will, in accordance with previous announcements, be published on the 16th inst., and will contain an immense amount of information relating to the various planting operations that are carried out at this season of the year. Useful and ornamental trees and shrubs, roses, and hardy herbaceous plants will receive a full share of attention, and as the several articles have been written by well-known experts, the issue will serve as an excellent guide to both the selection and planting of the various subjects that will be dealt with. The number will be freely illustrated, and as the illustrations have been selected with due regard to their usefulness as well as to their beauty they will be found of much value in the elucidation of the text.

Exhibition of Home-bottled Fruits and Vegetables.—The annual bottled fruit shows of the Royal Horticultural Society have been increasing and improving year by year since their inauguration. This year the dates fixed are December 1 to 4, i.e., a four-day show instead of one of two days as formerly. The society has determined to do its best to popularise the making of, and the use of, bottled fruits, especially in the home, whereby so great an economy can be effected (securing the fruits when the market is low), and the table kept always supplied with wholesome fruit during the winter months. Their object is a worthy one, and gives much encouragement and instruction year by year to exhibitors, and to visitors to their show. In recent years fruit bottling has been gradually coming again to the fore, and, incidentally, it might be mentioned here that a cottage industry is being made of it, with very pronounced success, in several villages in England. The schedule for the coming show is a great advance on that of last year. Its classes for trade and amateurs are divided into: Division A.—Fruits Bottled in Pure Water; Division B.—Fruits Bottled in Syrup; Division C.—Preserved Vegetables; Division D.—Jams, Jellies, etc. The classes for amateurs are within the scope of the most unpretentious of households, the smallest class requiring only six bottles of four kinds of fruit. To the trade the society award their medals, but money prizes have been allotted for the recognition of amateurs. One important regulation of the competitions is that "Metal lids disqualify." We are glad to find that the society are thus determined to discourage metal lids, inasmuch as these have been found frequently to lead to the presense of ptomaine in the bottled productions. We warmly commend this exhibition to our readers. The secretary of the Royal Horticultural Society, Vincent Square, Westminster, will be pleased to send a syllabus of the show to any applicant. No charge whatever is made for space or tabling.

The Horticultural Club Meeting of October 11 will be the opening one of the 1909-10 session, and on this occasion, following the house dinner, Mr. H. Inigo Triggs, A.R.I.B.A., will give a lecture on "Italian Gardens."

Royal Parks in London.—We are requested to announce that the Commissioners of his Majesty's Works and Public Buildings will distribute this autumn among the working classes and the poor inhabitants of London the surplus bedding-out plants in Hyde and the Regent's Parks, and in the Pleasure Gardens, Hampton Court. If the clergy, school committees, and others interested will make application to the superintendent of the park nearest to their respective parishes, or to the superintendent of Hampton Court Gardens, they will receive early intimation of the number of plants that can be allotted to each applicant, and of the time and manner of their distribution.

"**Some Gardens of the Later Renaissance**" is the title of the lecture to be given before the Royal Horticultural Society on Tuesday next, at 3 p.m., by Mr. Thomas H. Mawson, Hon. A.R.I.B.A.

September in the North.—The weather during September, writes our Aberdeen correspondent, has been mostly quiet, cool, cloudy, and damp, with frequent drizzly rains. The most serious effect of the continuous damp weather has been to protract the harvesting operations, thus rendering the work more costly, as well as causing deterioration in the quality of the grain. The north-westerly winds accompanying the rains also beat down and twisted the heavier crops, and gave almost the whole a lean to the south; so that good work with the reaper could only be made on one side. The occasional dry afternoons experienced towards the end of the month were eagerly taken advantage of by the husbandman to get the crop into stook, though few fields were in a sufficiently dry condition for this to be done satisfactorily. The potato crop is spoken of as excellent both in yield and quality. There are heard, however, complaints of disease making its appearance. Favoured by the moist weather, turnips and mangolds have progressed well during the past month. The turnip crop is reported as especially promising, but finger-and-toe has been making its appearance in several districts. It is in a very dry September that mildew is apt to affect the leaves of this crop, but this is a disease we rarely suffer from in the North-east of Scotland, but we have had it. In England it is often much more serious. It was nearly a whole week before matters righted themselves on that occasion. The rainfall for September amounted to about 2.65in., just a trifle below the average for the last forty years.

Royal Gardeners' Orphan Fund.—The treasurer of the Royal Gardeners' Orphan Fund gratefully acknowledges the receipt of the sum of £5, left from her small estate by the late Mrs. Anne Clayton, wife of Mr. H. J. Clayton, Wharfe Bank, Ulleskelf, and formerly of Grimston Park Gardens, Tadcaster, "in remembrance of her husband's early connection with the fund."

Secretaries of Horticultural Societies are reminded that the "Gardening Year Book" is in an advanced stage of preparation, and that it is important they should return the forms sent to them some time since with as little delay as possible. The directory of "Horticultural and Botanical Societies," which forms so useful a part of the work, is annually subjected to a thorough revision to ensure it being thoroughly trustworthy, and societies of which no information has been received are consequently omitted. We shall be glad to receive notification of the formation of new societies, and the names of officers. These, as in the case of the forms, should be at once sent to the Editor of "Gardening Year Book," 148 and 149, Aldersgate Street, London.

United Horticultural Benefit and Provident Society.—The twenty-third annual dinner of this society will be held at the Waldorf Hotel, Aldwych, W.C., on Thursday, October 28, at 6.30 p.m. J. B. Slade, Esq. (of Messrs. Protheroe and Morris) has kindly consented to preside on this occasion, and the musical arrangements will be under the direction of Mr. Thomas Winter.

The Potato Crop.—In reporting on the present state of the green crops of the farm the agricultural correspondent of the "Times" writes, with reference to potatoes: "Disheartening accounts reach us concerning the health of the potato crop in Lincolnshire and adjoining counties. The crop is being harvested, but the results fall short of expectation; while, owing to the dismal conditions during the past few weeks, the quantity of marketable tubers is being further reduced by disease, which is rampant throughout the whole district. Recognising that the only chance of minimising the effects of the scourge is to harvest the crop, farmers are digging the tubers with all possible speed, though the late varieties are not yet fully matured. The value of the Bordeaux mixture as a safeguard against disease has been demonstrated this season, as the few growers who sprayed their crops while there was still no appearance of the enemy have been amply rewarded, the dressed crops having escaped attack in significant degree. The Scottish crops have not suffered so severely, and the season altogether has been more favourable north than south of the Border. The yield, however, promises to be under average, and the gross production will be less than last year, in spite of the increased area planted."

British Gardeners' Association.—A public meeting of gardeners will be held on Wednesday evening, October 13, at half-past seven o'clock, at Pitt's Restaurant, Kew Green, Surrey, when the aims and objects of the British Gardeners' Association will be explained by Mr. John Weathers, general secretary, and other members of the association. Mr. D. Campbell, head gardener at The Priory, Roehampton, will occupy the chair, and full discussion will be invited.

Perpetual Carnations in the Flower Garden.—With reference to the cultivation of perpetual carnations in open beds and borders, Mr. L. J. Lipscombe, of Sandy Bay, Hobart Town, Tasmania, writes: "In your issue of May 29 one of your correspondents refers to the cultivation of perpetual carnations out of doors. With us in Tasmania they do wonderfully well, and we obtain good blooms all the year round. Under separate cover I am sending you a photograph of a perpetual variety, Heather Keep. The bloom photographed was cut on July 21 (our shortest day) from a plant in full bloom, and it measured 4in. across, grown in the open, without any protection whatever, and this is one of the wettest winters we have had for many years." The bloom, as shown in the photograph, is quite perfect in development, and no stronger proof could be desired of the suitability of perpetual carnations for outdoor cultivation in Tasmania.

Spraying Fruit Trees.—The Rev. W. Wilks writes, calling attention to the fact that the time for winter spraying of fruit trees is at hand, and mentions that the report of the Conference on the Spraying of Fruit Trees, held under the auspices of the Royal Horticultural Society in the autumn of 1908 may now be obtained in book form. The work deals with methods of spraying for both entomological and fungoid pests, and gives much information respecting washes, spraying machinery, etc.

Rapid Growth of Mahogany in Nigeria.—Mr. H. N. Thompson, the Conservator of Forests in Southern Nigeria, refers, in a recent report, to the forest tracts of Ijaye and Ilesha; the former is known to be only sixty years old in the matter of forestation, and yet it contains splendid mahogany trees with a girth of 10ft. and over, these showing a far more rapid rate of development than is indicated by the annular rings. Mr. Thompson suggests that the mahogany may make four rings of wood growth each year, these corresponding to the four distinct seasons.

Eucryphia cordifolia, a rare Chilian shrub or small tree, does not flower with great freedom or regularity in this country, but it is extremely beautiful when producing its large pure white flowers singly, from the axils of the leaves at the ends of the growths. The deep green leaves are oblong, and with but a faint evidence of the cordate character at the base. Mr. T. H. Slade sends us a small flowering shoot from Horsham, which makes one wish E. cordifolia flowered more freely.

CHRYSANTHEMUM CONFERENCE.

◆

On Wednesday last a conference on chrysanthemums was held under the auspices of the National Chrysanthemum Society at Essex Hall, Strand, W.C., and was a decided success. Mr. Thomas Bevan, in the absence of Sir Albert Rollit, presided at the afternoon meeting, and briefly opened the proceedings. There was a really good attendance, and considerable interest was shown in the subjects brought forward. The first paper read at the afternoon meeting was on

Chrysanthemums as Annuals,

by Mr. C. H. Curtis, who expressed regret that some members who had had considerable practical experience of the subject had declined to deal with it on this occasion, because they felt it impossible to contribute a valuable or interesting paper. In other words, there appeared to be a mistake in the selection of the subject itself, and therefore he had been left to introduce it himself. It was, he said, two years ago next November that his interest in the cultivation of chrysanthemums as annuals was keenly aroused by a wonderful display made at the Reading Chrysanthemum Show, both by Messrs. Sutton and Sons, and by private growers. This display consisted of specimens and groups of elegant, highly-decorative, and very freely-bloomed plants all raised from seeds sown in the spring of that year. He also visited Messrs. Sutton and Sons' nursery, and found there a large house filled with free-flowering plants thus raised, and it had occurred to him that here was a novel, and distinct feature of chrysanthemum culture that deserved to be encouraged and made more widely known.

Mr. Curtis gave several reasons why, in his opinion, there should be a great future for this phase of culture. Firstly, it was cheap, as a packet of seed could be purchased for less than the price of a young plant of a good new variety, and whereas the one plant would yield from three to a dozen flowers, the packet of seed would give sufficient plants to fill a fair-sized conservatory. Secondly, as the seed was selected from the best single and decorative varieties, the latter including Japanese and incurved sections, the resulting plants afforded a wonderfully wide range of colour and immense variety of form, while the natural exuberance of seedlings ensured an enormous quantity of bloom eminently suitable for association with other plants and flowers, or for cutting. Thirdly, the treatment of chrysanthemums as annuals did away entirely with the tedious business of propagation by means of cuttings, and saved the labour and care and room that must necessarily be devoted to the retention of old plants and the creation of new ones from early November until January or February. At least two months of care was saved by raising plants from seeds as compared with propagation from cuttings.

Seeds sown in a temperature of about 60 degrees in January or early February gave plants that, gradually hardened off, and grown freely throughout the season, with the same care as is usually devoted to cutting-raised stock, would provide a first-rate display from the end of October right on through November, and though there would be variation in height, the average stature would be about 3ft. The treatment usually accorded to "decorative" plants was recommended, with very little, if any, disbudding.

In conclusion, Mr. Curtis pointed out that this new phase of chrysanthemum culture was not likely to supplant the present one of reproducing fixed and proved varieties from cuttings, but it offered great possibilities in the extension of chrysanthemum culture among amateurs, and by those who, having to supply flowers in quantity during November, found it difficult to keep large numbers of stock plants, and care for cuttings during the winter. He also urged the encouragement of chrysanthemums as annuals by the various chrysanthemum societies, pointing out that a properly arranged competition would soon be the means of adding a novel and interesting feature to November shows.

Mr. D. B. Crane opened the discussion, and said that he had had great success with chrysanthemums as annuals by sowing seeds in April on an old hotbed, planting the seedlings in a cold frame, and putting them out of doors in June. The result was a fine lot of excellent plants now in bloom, and likely to continue for some time. He also urged that the society should lend its encouragement to the exhibition of chrysanthemums as annuals.

Mr. P. Cragg raised the question of the value of seedling chrysanthemums for bedding purposes, and asked whether it would be possible to produce seedlings of fairly even height for the purpose. Mr. E. F. Hawes heartily supported the remarks of Mr. Curtis and Mr. Crane, and pointed out the great interest that always attaches to the raising of seedlings. He pointed out that seeds saved from dwarf-flowering kinds gave, as a rule, fairly dwarf plants, and, though it did not seem possible to secure a set of seedlings of equal height, the effect would be good.

Mr. Norman Davis said that twenty years ago he grew chrysanthemums as annuals, but the time had not then come to popularise the culture, and Mr. Wells deserved congratulations for reintroducing the culture. He was surprised to find recently that there was much more uniformity now than formerly in the height of seedlings. The culture was one well worth taking up, because of the great interest it afforded, but he thought the probabilities of finding first-rate novelties would be few.

Mr. Godfrey took the opposite view, and urged that the culture of chrysanthemums as annuals was a retrograde movement, and the phase was likely to fill one's gardens with varieties of very little more value than weeds. He thought seedling raising would prove disappointing, for from a 3ft. variety one might obtain seedlings 10ft. high. He advised culture of fixed varieties from cuttings. Mr. Oliver also gave his experience of seedlings, and said the height varied considerably, as did also the time of flowering. He felt that later on it would be possible to obtain seedlings of similar height and habit. Mr. J. H. Witty referred to the great interest that attaches to seedling raising. Mr. A. Hemsley and others also spoke.

Early Single Chrysanthemums.

Mr. W. Wells gave credit for the first early single chrysanthemums to Mr. Goacher, who raised Mabel Goacher, a variety Mr. Wells introduced. From this and a few other varieties, cross-fertilised with each other, came the race that he had endeavoured to popularise. Mr. Wells detailed the history of this family, and we hope to give the paper in full at a later date.

In the discussion that followed Mr. N. Davis objected to the idea that the treatment of chrysanthemums as annuals was new, and he pointed out that all raisers grew and flowered their plants within the same year. Mr. Crane suggested that there were really a few other early-singles when Mr. Wells started with these flowers. Mr. J. H. Dick asked if Mr. Wells had noted any early varieties that were specially hardy, and frost-resisting without any protection during winter.

In his reply Mr. Wells said that, treated as annuals, by amateurs, chrysanthemums grown like asters and stocks would often flower earlier than the asters in autumn. He objected to the observation that "chrysanthemums were annuals," and very definitely stated that he said chrysanthemums "could be treated as annuals," but not that they "were" annuals. He said early single varieties stood frost better than the other varieties. Seedling early-singles did not all show their best characters the first year, though, as a rule, they did show their general character.

A hearty vote of thanks to Mr. Curtis and Mr. Wells concluded the afternoon proceedings.

EVENING SESSION.

After an interval of an hour for tea, the evening session of the conference commenced, at six p.m., Mr. Thos. Bevan again presiding, and there was an excellent attendance of both ladies and gentlemen. The proceedings were opened with the following paper by Mr. J. B. Riding:

Late Market Chrysanthemums.

The popularity of the chrysanthemum as a winter-flowering plant has undoubtedly increased during the past ten years. This is no doubt due to the fact that the flowers last for a long period when cut, far longer than any other winter flower that we have, while at the same time they can be purchased at a price that brings them within the reach of everyone. All this has doubtless been brought about by the enormous increase in glass houses during the past decade.

Now what constitutes an ideal market variety? I should say, one that produces flowers of a clear decided colour, be it white, crimson, mauve, yellow, or bronze, for however beautiful the softer tones may be in a private collection, they are not wanted in our markets. Again, the ideal variety should have good, stiff, erect stems, should carry its foliage well, must not fade quickly, and, of necessity, must have a good constitution, while, in the section under notice, it should not produce its terminal bud flowers before the middle of December. This then constitutes an ideal market flower, but I am sorry to say we have not many varieties that come up to these requirements.

Fashion, too, has to be reckoned with; a few years ago the loose-petalled reflexed varieties were most in favour with the public, but the tendency to favour the incurved Japanese varieties has been most marked during the past few seasons, and no doubt this has been brought about chiefly by our large decorators, who have employed much bolder designs, thus creating the fashion for them; at the same time they have secured a flower that is much stouter in the petal, with the result that these last long. This, I maintain, has made it better all round, for the grower has a more substantial flower to deal with, and a better packer. The florist obtains a subject that will not bruise easily, but which keeps in good condition longer, while the purchaser obtains a more lasting flower.

A comparison of the well-known late market varieties of twenty years ago with those of the present day will show the advance that has been made. The majority of my hearers well remember the following varieties that were grown for late flowering: Meg Merrilees, Ralph Brocklebank, Ethel, Madame C. Audigeur, Princess Teck, Hero of Stoke Newington, Putney George, L. Canning, W. H. Lincoln, and similar old-time favourites. Compare these with the varieties we grow at the present day, and we cannot but admit that great strides have been made in the selection of suitable late-flowering varieties. But it does not seem to me that this advance was made before the decline of the large Japanese varieties, for while the exhibition varieties were mostly in request, new ones were tested for purely exhibition purposes, and, if found wanting, were promptly consigned to the rubbish heap. How many really good decorative varieties have been lost through this procedure it would be impossible to estimate, but there must have been dozens. I remember buying Mdlle. L. Charvet the first season it was out, but as it did not come up to exhibition standard it was thrown away after flowering. A friend of mine was much smarter, for he worked up a large stock, and was on the market first with it, and, as you know, it became popular at once, and, I hope, proved profitable. This is merely one instance, and no doubt such could be multiplied considerably.

I venture to say that the majority of new varieties are now thoroughly tested for their decorative value quite as keenly as from an exhibition point of view. I think all will readily admit that the chrysanthemum, as a decorative plant, has never been grown better in this country than we see it to-day, neither have more time, skill, or money ever been devoted to its culture, while the number grown is past calculating. We do know, however, that there are growers who handle sixty to eighty thousand plants each year in pots, to say nothing of the legion who plant chrysanthemums out by the acre, though, as far as the late-flowering varieties are concerned, this phase of their culture counts for little, for, I think it will be conceded by all growers that it is necessary to grow the late ones in pots throughout the season, at least for the production of best quality flowers. Those planted out may do for small blooms or sprays, but they cannot compete for quality with the pot-grown plants.

Cultural details in a paper like this, and before a gathering of experienced men, would be altogether out of place, so I shall confine myself to what I term the cardinal points in securing late chrysanthemums. A long season of growth is undoubtedly essential, therefore the cuttings should be rooted early in the season, as late-rooted plants mean soft sappy growth in most years, and weakly, thin-stemmed flowers that are of little use for high-class work. If the plants are pinched when about six inches high, or even less, this will lay the foundation of a plant large enough for all purposes, but this pinching should be done when the plant is quite soft so that it will break freely. Before the young plants become stunted or starved they can be placed in their flowering pots, and, assuming the pots employed are 16's, then three plants in each will produce a splendid bush the following autumn. As firm, well-ripened wood is the object of the cultivator, every means to that end should be used. Light and air are essential, and these can only be secured by allowing the plants ample room throughout the summer months, and not only during the summer, but right up to their flowering period; and when we remember that they are at least ten or twelve weeks under glass before they bloom it will be obvious how important it is that they should not be crowded.

Other cultural details may be passed over. We now find ourselves dealing with perhaps the most important point, viz., that of varieties. I give just a few of each colour, but the list could be considerably extended: Whites: Cannell's Late Prolific, Mrs. Thompson, Queen of the Exe, Princess Victoria, Heston White, Madame R. Oberthur, Snowdrift, and Mdlle. T. Panckoucke. Yellows: Golden Mrs. Thompson, Market Gold, Allman's Yellow, Mrs. G. Beech, True Gold, and Nagoya Crimson: Violet Lady Beaumont, W. A. Crossley, and Matthew Hodgson. Bronze: Tuxedo, and Lord Brooke. Pinks: A. J. Balfour, Mdlle. L. Charvet, Winter Cheer, and Framfield Pink.

The discussion was opened by Mr. Norman Davis, who urged that a variety should not be recommended for very late use unless it was proved beyond doubt that the variety naturally flowered late. Often, he contended, the horticultural Press conveyed a wrong impression, by recommending some variety that had been sent at a late date in, perhaps, an unusual season. He suggested that the work of selecting and recommending really late varieties should be relegated to the society's committee, and the combined wisdom of that body would then make the recommendations authoritative. Mr. F. Ladds asked whether the lecturer could give advice in connection with striking, housing, etc., as means of retarding the flowering period. He said he did not care whether the variety was naturally late or not, so long as, by culture, it could be flowered late. He preferred a 24-sized pot to a 16-size for late varieties; he believed in growing four plants in a pot, and securing three good flowers from each plant. Mr. Prickett made a few remarks. Mr. Tully preferred small pots, and referred to Mdlle. T. Panckoucke as a variety that needed considerably less water than others. He also condemned the wholesale recommendation of varieties for late use, simply because these had come late once in a way. He approved of Mr. Davis's suggestion for an authoritative list of late varieties. He spoke highly of Nagoya, and condemned the use of Mrs. Beech as a late variety.

Mr. Wells said it was up against the market men to test and recommend the real late varieties. The nurserymen could hardly be expected to test their new varieties on a large scale, and, also he stated that the real habit of a variety in relation to its time of flowering could not be determined until it had been grown several years. He made some interesting remarks respecting some of the very old late sorts, used in the 80's. He also thought the committee should take up the matter of late sorts, but he thought a large and independent trial was necessary. Mr. Davis contended certificates for decorative and market varieties should only be given after growing plants had been seen; he showed Mrs. Scott, and said its long neck made it a bad market variety, but Mr. Godfrey said there was no better variety for October or the growers would use another. Mr. Ladds spoke of Framfield Pink and Nagoya as first-rate and ideal market varieties. Mr. Godfrey thought highly of Heston White and Winter Cheer for late use, and said the size of the pot used must be governed by the skill of those who did the watering. He thought Queen of the Exe should be deleted from the lecturer's list of late varieties. Mr. Davis said that Mdme. Felix Perrin was sent out by Calvat, this came white, and sported a pink with him, and this pink sport was named Framfield Pink. He considered Roi des Blancs the best market white for either early, mid-season, or late use. He said Nagoya was raised in America, and sent out by him about fifteen years ago.

Mr. Riding replied to the several points raised, and said that on the test of Covent Garden Market his list of varieties would prove a really good one.

It was unfortunate that not a little cross-questioning led the discussion into by-paths, and occupied rather too much time, and it was 7.15 before the later papers could be read.

Best Chrysanthemums for Cut Flowers.

Mr. P. A. Cragg read the first paper on this subject as follows:

It was with a great deal of diffidence I undertook to read a paper on "Chrysanthemums as Cut Flowers for Market," for it is a difficult theme to handle, difficult to make it something more than a string of names, and difficult to give reliable information upon, for varieties that do well one season may often be only disappointments the next.

I will start with the early varieties, a class in which probably the greatest advance has been made in the last ten years. In order to refresh my memory I have turned up our stock books, going back for twelve years, and it is rather surprising to find that out of 75 varieties of all classes that we grew then we have now only three left.

I do not intend to mention varieties unless they are good croppers, as well as good flowers. Taking those that give good sprays and long stems, I would give the following selection: Pink Marie Masse, with its sports, Horace Martin or Elstob Yellow (the latter a slight improvement), Crimson

(Continued on page 792.)

THE BOLLWYLLER PEAR.

The wild pears offer a number of distinct and curious trees for garden decoration, and the one under notice is one of the most interesting. It was first brought to notice about 1599, and a figure and description of it appeared in 1650 in Johanne Bauhin's "Historie Plantarum," p. 59, under the name of Pyrus Polwilleriana. It has attracted the attention of scientists on many occasions since, and numerous names have been given to it, including Lazarolus Pollveri of Medicus. The two names, however, which appear to have clung most closely to it are Pyrus Bollwylleriana and P. auricularis, the latter being most frequently adopted in gardens. A very good figure of it may be seen in Decaisne's "Jardin Fruitier," fig. 31, while, in addition to other illustrations, figures 76, 77, and 78 in the "Revue Horticole" for 1885 are devoted to it.

A REMARKABLY INTERESTING GRAPE VINE (BLACK HAMBURGH) AT BIRCH HALL.

Even in its early days it was recognised as being of hybrid origin, and Bauhin describes it as being between pyri and mali. It has, however, been determined to be a hybrid between the White Beam Tree (Pyrus aria) and the Wild Pear (Pyrus communis), instead of the latter tree and the Crab Apple (Pyrus malus). It is evidently of accidental origin, and was first noted in a wild state at Bollwyller or Pollwyller, on the banks of the Rhine, on the estate of a local baron.

Left unpruned whilst young, it forms a low tree of ten to twenty feet high, with a comparatively small number of main branches thickly beset with long, spurry growths. With a little attention to pruning and training, however, during early life, a better proportioned tree is produced, which attains greater dimensions. The leaves resemble those of the pear in shape, but they have some of the silvery character of Pyrus aria, with a little of the broken leaf margin. The inflorescences are similar in shape to the flattened heads of the White Beam Tree, while the fruits are in clusters. Each fruit is pear-shaped, and one to one and a-half inches long, and an inch in diameter, bright red on the sunny side, and golden on the reverse, with a decided pear flavour. Very few good seeds are produced, but it is possible to find a few if the fruits are examined carefully. Though rarely met with in a large state, it is decidedly a tree to encourage, and is well worth planting amongst other ornamental trees. W. Dallimore.

AN INTERESTING OLD VINE

At Birch Hall, Essex, the residence of the Right Hon. James Round, there is a most interesting vine. It is a Black Hamburgh, sixty-three years of age. It completely fills a 70ft. lean-to greenhouse. This season, as in all former ones, it is in perfect health, and carrying a crop of 812 bunches. All the bunches are of good size, and the fruit is now finishing off beautifully. There is no artificial heat in the house, and the vine has never been known to be subject to blight or disease of any kind. Its origin is said to be from the same stock as the Hampton Court vine. Mr. Bishop, the gardener, takes great pleasure and interest in this remarkable vine, and we have pleasure in reproducing a photograph of it, taken a fortnight ago by Mr. F. G. Cuthbertson, of Marks Tey.

Smilax.—Young plants that may have been raised late in the season should be potted on, and placed in an intermediate house, where they can be kept growing all the winter; they will be found most useful for decoration when the earlier batches are over, and there is a general scarcity of trailing stuff.—Thomas Stevenson.

SHRUBS IN THE ROCK GARDEN.

The planting of a rock garden will give the gardener an opportunity of exercising his selective skill in the widest degree; indeed, few phases of garden decoration call for the amount of discretion and good judgment as does the planting of a typical rock garden. No two rock gardens offer the same facilities for the planter. The diverse formations, the varied aspects, the differing soils and positions, all call for extended knowledge and artistic skill, if the most is to be made of the opportunities given.

If this truism is correct as regards the acquisition and planting of rock plants, it is even more closely applicable to the use of shrubs in the rock garden, and it is to emphasise the importance of this feature that I pen these notes. It will be seen that differing formations and areas found in various rock gardens will call for different treatment as far as the furnishing is concerned, and it is in pursuit of this subject that the limitless range of rock garden shrubs is entered upon.

Bacon, in his famous series of essays, devoted one to the subject of "Gardens," and in it he speaks enthusiastically in favour of "rising mounds set about with heaths, thymes, etc.," a seeming forerunner of the low rock garden. Following this idea of the philosopher, we arrive at "the undulating mounds, broken by low ridges of rock, and intersected with winding pathways" that makes the moorland rock garden. A garden where low herbs can mingle with wild thymes, helianthemums, and ericas in gay profusion. Hardy orchids of the dry loving type can be associated, while dwarf pines, like cembra and montana, dwarf gorse of the double type, and other hard, bushy shrubs of a like nature will serve to break up any flatness in the picture.

To carry the matter further one might introduce with charming effect some of the dainty brooms (cytisus), the better kalmias, dwarf hardy rhododendrons, pernettyas, skimmias, and many allied subjects, which give one greater diversity, and add much to the effect. But if there is one feature of the rock garden which needs close attention in planting it is the highest summits of the bolder formations, and indeed the whole of such bold formations should be very carefully considered (a hurried choice is certainly not always a wise one), so it must be "care in consideration."

NEW TULIP THE PRESIDENT.
A handsome variety, awarded A.M., R.H.S., May 18, 1909. Messrs. R. Wallace and Co., Colchester. Flowers red and orange.

A very wise plan is to take the existing background into consideration. If the summits lie open, clear against the skyline, then by all means introduce a bold effective planting of dark evergreen subjects, which are shown in vivid relief against sky and cloud. The topmost ridges crowned with sombre pines, cypress, etc., will gain in height, appearance, and importance; but if the background itself be dark, such as is attained when the scenery is dominated by mighty trees in the background, then it is of the highest importance to bring light and brighter colourings into the picture.

In this we are following the wise precepts of those nature copyists the Japanese, who by their exquisite treatment of the bold rock heights, have left us indebted to their ingenuity.

Grand, bold masses of fiery red, glowing orange, bright rose, and spotless white azaleas, gleam in wondrous beauty from dark dominated rocks. Japanese maples, in all their beauty of design and magnificent colourings, contrast amazingly well with the bronze and grey boulders. Snowy deutzias and philadelphuses drape the crown of the formations with mounds of wondrous beauty if desired, and over the massive rock face one can allow a covering of Wichuraiana roses, Wistaria multijuga, cotoneasters, which, with the added grace of some of the rubus, and trailing cytisus, will beautify the rock face to a high degree.

I do not wish to particularly emphasise the planting of any special range of subjects, but rather to indicate the decorative charm of many things, and if one bears in mind the snowy grace of the olearias as they crop out from bold stone groupings, or the brightness of golden forsythias and berberis, one realises the immensity of the "subject choice" available.

If one might be permitted to speak of the diverse interest and delight of the New Zealand veronicas, the utility of the many beautiful cistus, the charm of hardy fuchsias and bamboos, the lovely daphnes, the ever useful andromedas, cydonias, Prunus triloba, and shrubby spiræas, in addition to many other fine shrubs, the reader will have no difficulty in understanding the part shrubs should play in rock garden adornment.

And if one desires to go further in the search of suitable subjects, then the whole outlook is appreciably widened. Roses like Pyrenaica and the best rugosas, the lovely Romneya Coulteri, the exquisite tree pæonies, the better ribes, Rhodora canadensis, Raphiolepis japonica, polygalas, Potentilla Friedrickseni, Limonia trifoliata, hydrangeas, hypericums, genistas, gaultherias, and a whole host of other charming shrubs may be included.

The great idea is to plant sparingly and effectively. Close planting is utter waste unless one has positions for growing specimens as they require moving. Crowding is not to be suffered, as well-grown specimens are of paramount importance in the rock garden, where of all places individuality and clearness of design must tell its own story. Soil should be thoroughly prepared before any planting is carried out, as rock garden shrubs, like all others, must have sustenance, and it is of the greatest importance to thoroughly prepare and manure the ground, as the nature of the rock garden renders it necessary, for afterwards one has to depend largely on top-dressings for conveying extra nutriment to the roots of growing plants and shrubs.

P. S. Hayward.

TULIP THE PRESIDENT.

Very few new tulips gained official recognition last season, but among the few one outstanding variety was The President. This gained an Award of Merit on May 18, when exhibited by Messrs. R. Wallace and Co., Colchester, at a meeting of the Royal Horticultural Society. The President is a fine May-flowering tulip, with large, shapely blooms of a bright red colour, beautifully suffused with orange. The basal colour is very deep and dark, and the expanded blooms are as handsome as the unexpanded ones. The President is certainly a most effective tulip, and one likely to become very popular in the near future.

NOTES ON NEW GLADIOLI.

I have this year grown a number of new varieties of gladioli here raised by Messrs. Frijlink and Zonen, Sassenheim, Holland. This firm is becoming well known as raisers of new gladioli. The beautiful and now popular variety named Hollandia was raised by them. It is doubtful if any of the new ones here described will surpass Hollandia, but they all have good points to recommend them, and some of them will, I believe, come to the front rank of public favour.

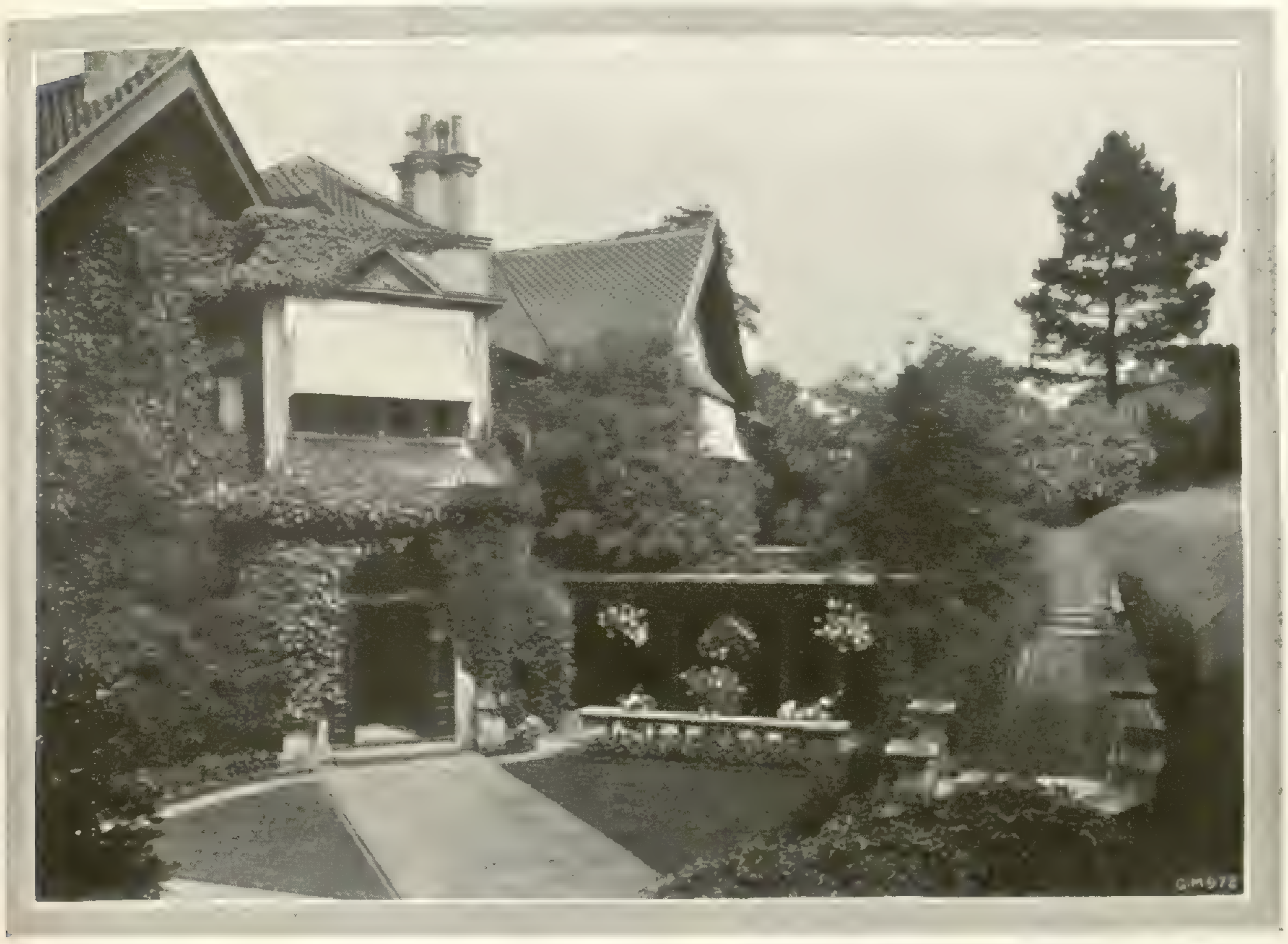
Queen of the Yellows is a particularly dainty variety. The flowers are small, but most gracefully set on the spike, and it is strongly recommended for forcing. Eureka is a seedling from the above, and is of a clear yellow shade, with a crimson blotch in the centre—rather a striking flower. Nanne has distinct traces of princeps blood in it, and is a gigantic flower of reddish-crimson. It is a very strong grower—the tallest in a border of several thousands. As an effective plant in the flower garden this is a valuable variety.

Ida is another remarkable flower, being white, with a telling crimson blotch. This is so striking that it was repeatedly singled out by visitors. Those interested in gladioli will find all the above of much merit.

Hopetoun Gardens, Thos. Hay.
South Queensferry, N.B.

KEVERSTONE, BATH.

Keverstone, the residence of T. R. Murray, Esq., is one of the prettiest residential seats in the vicinity of the ancient city of Bath. Charmingly situated on a commanding eminence, and possessing a splendid outlook over and around the city, it nestles very cosily amidst handsome sylvan surroundings, the magnificence of the trees, both deciduous and otherwise, being one of the many features of interest which it possesses. Within recent years Keverstone has undergone many improvements, more especially in the general arrangement of the extensive grounds near the mansion and in the gardens. The lawns near the house are studded with many tall and stately firs, and well grown and comely examples of pinus, cupressus, etc., while among flowering shrubs the rhododendrons are specially noticeable, the varieties being of the very best, and the specimens, which during the flowering season give the surroundings such a delightful colour effect, would be difficult to surpass. Many other notable flowering shrubs are to be seen, and on the walls of the mansion the magnificence of the magnolias is most remarkable. The flower beds near the house and in the flower gardens are always very chastely and tastefully laid out both in spring and summer. Begonias are favourite summer bedders here, and the lovely and handsome flowers speak of excellent treatment bestowed under the care of Mr. H. M. G. Robb, the head gardener.



KEVERSTONE, BATH, THE RESIDENCE OF T. R. MURRAY, ESQ.

The gardens proper are extensive, and are kept in the very pink of condition. Roses are extensively cultivated, and thrive exceedingly well, all the latest favourites of H.P., H.T., and tea sections being noticeable in the many luxuriant rose beds. The herbaceous borders make a beautiful picture, and contain many and valuable specimens of these most serviceable flowers.

Adjoining the large tennis and croquet lawns there is a lovely and extensive pergola, covered with a wealth of exceedingly fine rambler, polyantha, Wichuraiana, and other roses, vitis, ivies, ampelopsis, etc., which have been planted in a skilful way, and give most charming and picturesque effects from every point of observation. The walled garden is well stocked with fruit trees and bushes; apples, pears, and plums are largely grown, and the shapely, well-laden trees betoken careful culture. Figs also luxuriate in this favoured garden, and the quantity of fruit seen by the writer on the fig trees in the open, was quite exceptional.

The glass houses contain many treasures, and a glance is all that is necessary to see that much care is bestowed on the cultivation of the indoor plants as well as on those already referred to in the garden, and throughout the policies. Begonias and gloxinias are remarkable for their exquisite beauty, and Mr. Robb has secured cultural certificates for specimens of the latter, while the other plants, such as pelargoniums, carnations, hydrangeas, ferns, etc., are all that even the most fastidious could desire.

The fruit houses also abound with luscious specimens, specially noteworthy being the melons and tomatoes. An unusually fine lot of winter-flowering chrysanthemums is grown, and at the local shows last season the leading honours for these were easily obtained by the specimens sent from Keverstone.

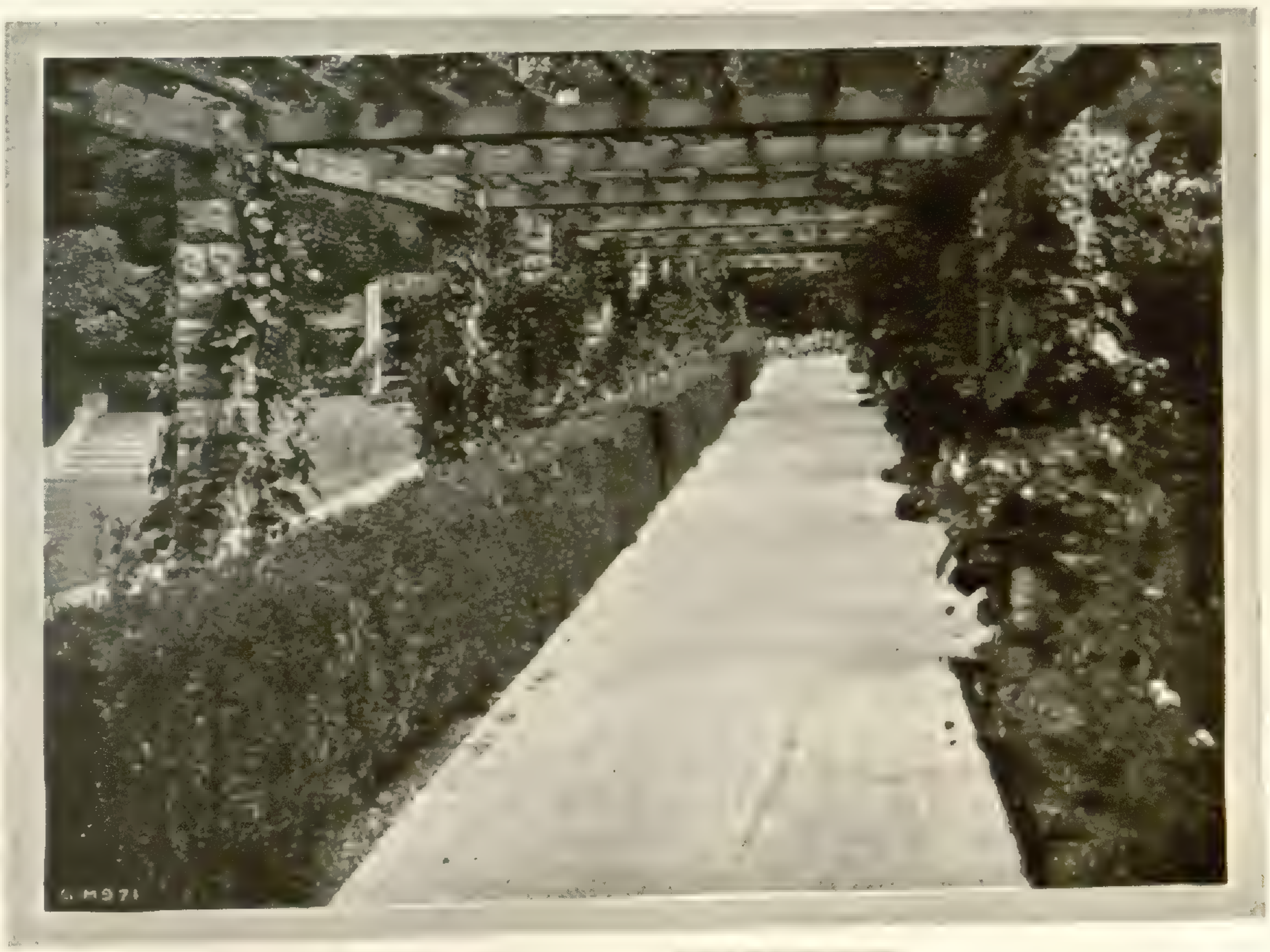
A word may also be said concerning the excellence of the vegetable garden, which, in common with the other departments, is kept in a most efficient condition: indeed, in every respect, these charming and beautiful gardens bear evidence, not only of skill and taste on the part of those in charge, but also of more than an ordinary interest on the part of Mr. and Mrs. Murray. M. H. Sinclair.

LITTLE KNOWN HARDY BULBOUS PLANTS.

The reader who is engaged in his study of the bulb catalogues is apt to pay special attention to the flowers he knows, and to pass over certain others either because he knows nothing about them or because they are more expensive than those he can purchase for a few shillings per hundred. He often forgets that these out-of-the-way flowers are very beautiful, and that his garden would gain more in interest from the possession of a single bulb of this kind than from its being the home of a clump or mass of well-known subjects. Not that I despise these, but my plea is for the inclusion in the "Paradisus" of the reader of some of the many beautiful bulbous plants known to the few who are daring enough to break away from the everyday plants, and who seek for something distinct or specially good.

Tulips.

Picking up a bulb catalogue more than usually comprehensive as a guide and a reminder of flowers I know, I am reminded first of the tulips. Passing over the "cottage garden" tulips, the species attract my notice, and one must advocate a trial of the lovely little australis or Celsiana, yellow and red, the new and fine Fosteriana, the dazzling Greigi, scarlet or yellow, but varying in beauty a good deal, the glorious Kaufmanniana, like a water lily when opened, and gorgeous in its colour in the best varieties. The scarlet linifolia is a great beauty of dwarfest



THE PERGOLA, KEVERSTONE.

habit, while the bright persica, the late Sprengeri, and the fine triphylla are all representatives of a class of flowers far from being known to the bulk of flower lovers.

Anemones.

Thence we pass to the anemones, and here one would suggest the purchase of the pretty light blue Anemone apennina fl.-pl., and a delightful variety of the single form called purpurea. In the allied but earlier A. blanda we have a capital little-known variety, called scythinica, white, with blue outside. Lovers of our wood anemones should procure A. n. Alleni, a beauty, and still scarce, and a pale yellow one is called A. intermedia, and is much the same in character.

IVY-COVERED BOWER, KEVERSTONE.

Calochorti.

The calochorti are too little known, but their permanent culture in our gardens is attended with so much disappointment that the reader is recommended to try his skill upon more amenable subjects.

Chionodoxas.

Chionodoxas should still receive a little more notice, and those little acquainted with the genus, besides those who think they know it well, should think of the white variety of C. gigantea, and the white and the rose varieties of C. Luciliæ. Another form not well known is C. Luciliæ of Boissier—a great beauty, and finer than the ordinary Luciliæ as we have known it for long. C. Tmoli or Tmolusi is still little known, although a good thing and later than most of the others.

Colchicums.

Colchicums, or meadow saffrons, afford us some good things, and truly C. Bornmuelleri is one of the finest things we can have in the autumn garden. It, and C. Sibthorpi, with the deepest coloured varieties of C. speciosum rubrum, are valuable for the same season, in addition to the spring-blooming little C. crociflorum.

Crinums.

Crinums are wonderfully hardy if planted 8in. to 12in. deep, even in cold places, and the best are C. longifolium or capense, rose or white, and C. Powelli, rose or white.

Crocuses.

Crocus species afford us some little-known flowers, but they are too numerous for our present space. One may mention the new C. caspius, autumnal blooming, and white in colour. Marathoniseus, also white, is good at the same season, and the lovely white variety of speciosus may be commended to lovers of the rare in the way of autumn bulbs. The spring species all require consideration at greater length than is now possible.

Cyclamens.

In the way of hardy cyclamens, besides the lovely little C. Coum, which cannot be said to be well known, when it comes with the first dawn of the year, we have the fine C. libanoticum, with its rosy flowers, and the new C. pseud-ibericum, crimson-violet, which flower in spring, and, for autumn we have C. cilicicum as a smaller companion to the fine C. neapolitanum, not rare but not too well known.

Erythroniums.

American erythroniums give us many lovely things far from being well known, and many go into ecstasies as they see in my garden the delightful E. Johnsoni, salmon-pink, which is one of the most beautiful of a whole galaxy of such flowers.

Fritillarias.

Fritillaria species give us some curious flowers, such as the reddish-purple pluriflora, the lovely yellow pudica, and the handsome coccinea, scarlet, as well as the uniquely green-coloured citrina. These, however, are not flowers for everyone.

Galanthuses.

In the galanthuses, or snowdrops, we have some choice things in G. Fosteri, the November-flowering G. cilicicus, and the noble G. Imperati Atkinsi, with a few others of much grace.

Gladiolus and Irises.

I think few know the pretty little hardy gladious called atroviolaceus, and in the ranks of the iris we have quite a host of flowers few people know well. Among the bulbous section one would mention Bakeriana, a lovely gem, but not too long lived in the one; Bornmuelleri or Danfordiæ, of which the same may be said; orchioides, the exquisite, but short-lived in the open Rosenbachiana, the lovely warleyensis, and the exquisite Willmottiana.

Muscaris and Narcissi.

I pass over the lilies, although there are a good many not much known, and remind readers of the rose-coloured muscari, called M. Masseyanum. In narcissi one may remind them of N. cyclamineus, as a quaint flower well worth establishing.

Alliums and Antholyzas.

Alliums give us some uncommon things, but their odour is not acceptable to some. Yet A. albo-pilosum and A. Schubertworth are among others of the race few people know. Antholyza paniculata is a noble scarlet-flowered plant in autumn, with handsome leaves, and few people are acquainted with it.

Brodiæas, etc.

Brodiæas afford us some good unknown flowers for the many, and among these are the pretty B. Howelli lilacina and the handsome B. ixioides splendens. Few know the variegated-leaved form of Bulbocodium vernum, and it is not generally known that Hyacinthus azureus is one of the earliest of hardy bulbs in the open.

Leucojums and Pancratiums.

Leucojum autumnale is one of the most delightful of little autumn bulbous flowers, and hardly anyone is aware that the fine Pancratium illyricum has been well established in the open North of the Tweed. It is very beautiful with its white flowers in summer.

The Chilian Crocus.

Still another out of many other plants must be mentioned, so great is its beauty. This is the Chilian crocus, Tecophylæa cyano-crocus, a lovely little bulb of varying shades of blue. It is a gem, but, unfortunately, subject to the attacks of slugs, and, in most places wanting the protection of a frame. Such flowers as these, hardy as they are, with the exception of the last, give special features to the garden, and make it indeed more than ever a place of pleasure. S. Arnott.

FUCHSIAS.

The great fascination of scientific fuchsia culture is known to but a few gardeners, for, though the flower continues deservedly popular, it is past the zenith of its fame; however, in the floral world new births are frequent, and this plant will have a renewed youth some day and a yet greater period of approbation. As long ago as 1876, in a volume entitled, "The Propagation and Improvement of Cultivated Plants," Mr. F. W. Burbidge wrote on this subject, averring that fuchsias are so easy to grow, so easy to fertilise artificially, and the result is known so quickly, that they are well adapted for trial by the amateur; and, if good varieties are carefully crossed, the result is sure to give some good flowers. He added, "There is yet plenty of new ground to be broken up in this genus; many of the Chilian species have not been hybridised, and the newly-introduced Fuchsia procumbens, with its upright or erect flowers and slender drooping habit, fruits freely, and will probably give a new race in the hands of the hybridiser. We have erect-flowered gloxinias, and, let us hope to see more erect-flowered varieties of fuchsias, with large flowers, since much of the beauty of the fuchsia is lost at present unless its drooping flowers are seen from below, just as used to be the case with the pendant-flowered Gloxinia speciosa."

Perhaps the lively hopes of the author raise regret in our minds to-day, for, though more than thirty years have elapsed the large blooming, erect fuchsia is not with us. Further suggestions were offered. "During the past ten or twelve years, great improvements have been effected by Mr. Banks, Mr. Cannell, and other well-known raisers. We have very fine forms with white corollas, others trumpet-shaped, and numerous double varieties, yet there is room for a gracefully habited race of the F. gracilis type, and the pretty little F. microphylla is distinct, and might be improved. Besides F. coccinea there are several other species and old varieties now at Kew, among them F. apestris, globosa, microphylla, fulgens, corymbiflora, radicans, splendens, thymifolia, and others, all valuable to the hybridiser for crossing with some of his newer forms, so as to infuse fresh life and vigour into them, and perchance obtain some novelty in form or colour at the same time. The distinct race of which F. fulgens is the type, deserve careful attention on the part of the hybridiser, since they are easily grown, and, having tuberous roots and herbaceous stems, can be stored away in sand or dryish soil just as readily as gloxinias."

It is not general now to find greenhouse pillars and roofs fully draped by fuchsias, yet where fine old tree specimens do exist their value is fully proved. The cleanliness of the plant is a great merit, and the only fault I have ever heard roof fuchsias charged with is their habit of dropping their fleshy blossoms upon the pavement which leave a stain when crushed by the foot, an evil that is easily avoided by the tidy gardener. Mr. F. W. Burbidge fully described the quickest and readiest way of increasing well-known varieties, which counsel may, I hope, induce floriculturists of all ranks to once again take up the pursuit either for fame, pleasure, or profit.

"New varieties are easily raised from seed, and as nearly all the cross-bred forms seed freely, any desirable variety may be selected as the seed parent, its flowers being emasculated as soon as the buds open, and fertilised with pollen from another good variety which has bright colour or other qualities to infuse into the seed of the female parent. The fertilisation of fuchsias is easy to effect, as the stigma is prominent, and the anthers of nearly all the species and varieties furnish a copious supply of fertile pollen grains. Many varieties, indeed, produce a copious supply of seed without any artificial fertilisation, and if a house or frame full of good varieties is grown, the bees or other insects, or the wind, do the work of the hybridist, and often very successfully. It frequently happens, however, that fuchsia seed is hollow or otherwise defective, but the good seed is readily known, after it is separated from the pulp and dried, by its being firm or plump, and of larger size than the sterile or barren seeds. When the fruits are ripe, cut them open, and lay the produce of each cross on a clean towel or linen cloth, between the folds of which rub the seeds until dry. A fine cloth is best, as the seeds are small. Sow at once in pots or pans of leaf-mould and sand, placing them on a gentle bottom-heat until germination takes place, when they should be placed on a sunny shelf in a warm pit or greenhouse until large enough to be separately potted. If well-grown seeds are sown in the autumn as soon as ripe, they bloom the following summer. Some prefer, however, to sow in the spring, which is best, unless a heated house is at command. Good fuchsia seed, saved from fine varieties, is worth £50 per ounce."

Although much has undoubtedly been done since 1876, still more remains to be accomplished. A more decided gold than Swanley Yellow, and double white salmon, and rose-pink selfs are yet absent. Why, too, should not the dark blue, mauve, or purple of some corollas be persuaded to appear also in sepals some day, or monster double blooms be coaxed to accompany variegated foliage? Finally, Mr. F. W. Burbidge remarked in his volume, "It should be generally known that fuchsias may be grafted as readily as camellias, or even more so, since stocks are to be raised in a week or ten days. Grow the stocks in heat, and take the apex of a young shoot of any desirable variety as a scion. Splice and whip grafting are the best methods; and if the operation is performed in a close case, not one in twenty will fail if young wood in an almost herbaceous state be operated on. I have grafted seedlings when only an inch or two in height on cuttings as stocks plunged in a close case, and so treated seedlings flower a month or two earlier than when left on their own roots."

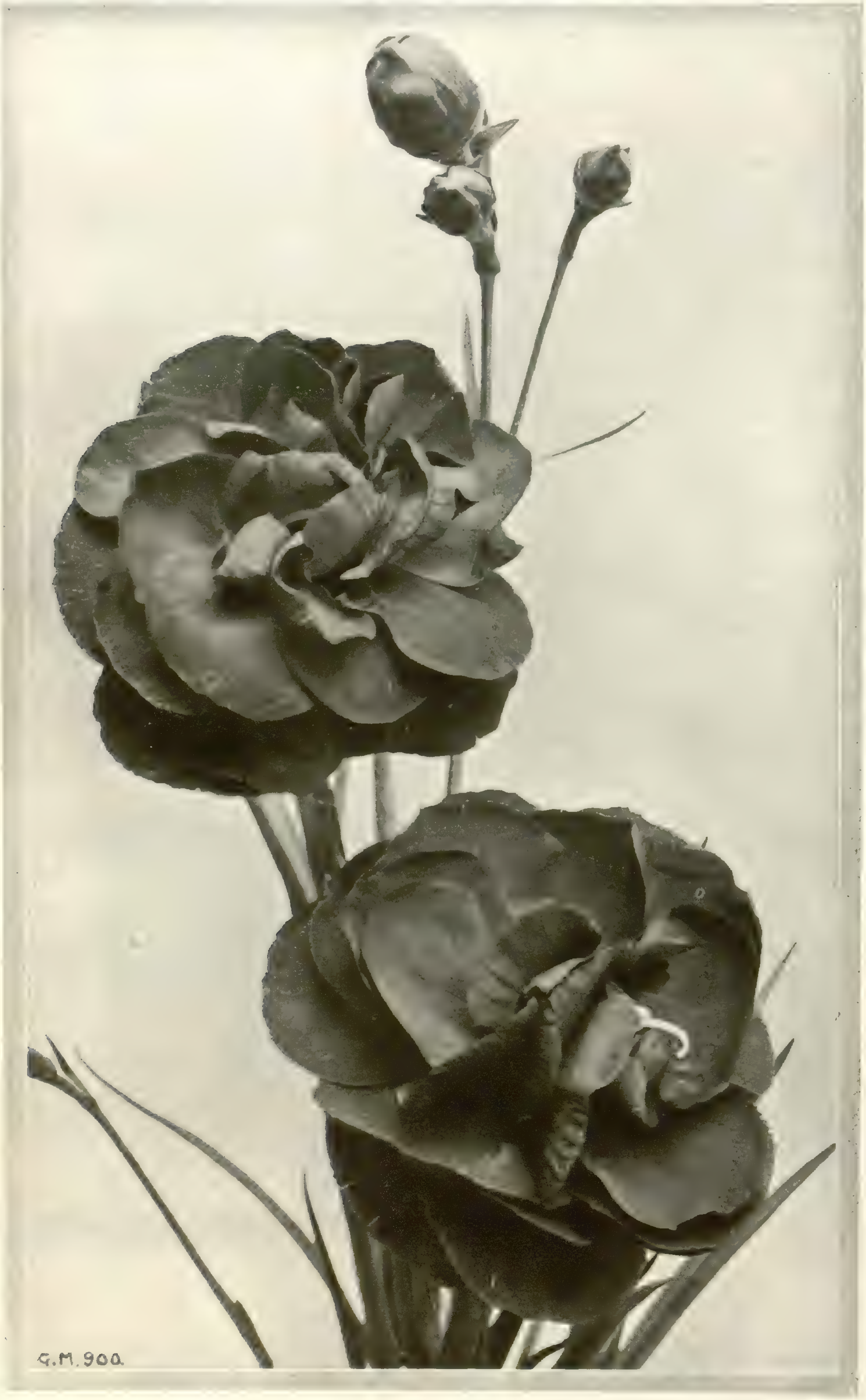
It should be realised that standard fuchsias, grown in large ornamental tubs, are admirable for decorating terrace walks or other portions of the formal garden during summer, as well as for balconies and verandahs. Weeping fuchsias can be gained by grafting F. procumbens and F. microphylla upon strong stocks.

M. H.

IN THE AVENUE, KEVERSTONE.

SELF CARNATIONS.

In referring to the carnations with self-coloured flowers one is strongly tempted to direct prominent attention to their delightful fragrance, their attractive colours, and their remarkable capabilities in flower production, but the temptation has to be resisted. It would, indeed, be superfluous to dilate upon the attributes of beauty possessed by the carnations, for they are well known and appreciated by all who take an interest in the occupants of the flower garden. They are not grown in some gardens so largely as their beauty and usefulness would warrant, and they are not always cultivated with a full measure of success; but they enjoy a high degree of popularity, and there has of late years been a material improvement in the practice adopted by the general body of cultivators.



SELF CARNATION CARDINAL.

A magnificent variety with finely-formed flowers of a rich glowing scarlet. At the exhibition of the National Carnation Society held at the Horticultural Hall in July last Mr. James Douglas was awarded the silver medal for the best carnation in the show, and the blooms illustrated were from Mr. Douglas's exhibit. They are reproduced rather below their natural size.

A long essay might be written on the cultivation of these fragrant flowers. Many, indeed, have been penned, and there can be no doubt that, if somewhat tedious, the endeavours of the writers to brush away difficulties, and place cultivators in possession of the information necessary to achieve successful results have materially assisted in bringing about the improvement that has been effected in cultural methods. Whatever may have been the effect of the lengthy dissertations on carnation culture, it may be distinctly stated that the conditions essential to success in the growth of carnations in the open borders can be described in comparatively few words. To state the case in the briefest terms, the soil must be deeply cultivated, moderately enriched with a suitable manure, and well drained; and the plants must be nicely rooted and in a healthy state when bedded out. A somewhat fuller statement of the details will be useful to those who know but little of the requirements of carnations. The soil should be sufficiently drained to allow the superfluous moisture to pass away readily, for if the soil moisture remains in a stagnant condition for any considerable period many of the roots will perish, and the plants be seriously injured. For light soils sufficient well-rotted manure to form a layer about three inches in thickness will be the best dressing. On the other hand, heavy soils should have leaf-mould, coarse grit, old mortar, and partly rotted manure spread over the surface to a depth of five or six inches. In each case the soil should be dug over to a depth of twelve inches. If it has been previously well cultivated the soil may with advantage be well broken up to a depth of eighteen inches, and the bottom spit brought to the surface.

The character of the soil must receive full consideration when the time for planting is being determined. In all ordinary good garden soils that are fairly well drained, the planting should be done in October. The plants will then become nicely rooted before the winter, and will be in the best possible condition for making a vigorous growth when the activity of vegetation is resumed in the spring. Should the soil be heavy and indifferently drained, put the plants in pots, winter them in an unheated frame, and bed out early in March. During the winter the frame must be freely ventilated except in wet or frosty weather. They should be planted about fifteen inches apart in rows, with eighteen-inch spaces between them. If they are to be grown in mixed borders arrange them in groups, each group should consist of three plants of one variety arranged in the form of a triangle, with twelve-inch sides.

The selection of varieties requires care because of the number of beautiful flowers now at the disposal of growers. There is not much risk of obtaining flowers that are indifferent in quality, but it is rather difficult to avoid having too many of a somewhat similar colour when the purchaser has but little knowledge of the many forms without some guidance from the trade grower or other experienced cultivator. The following may be suggested as especially suitable for those who require a small selection. Ann Hathaway, rich yellow; Beauty of Exmouth, pure white; Benbow, buff; Cardinal, rich glowing scarlet of perfect form. This was splendidly shown by Mr. James Douglas, of Great Bookham, at the exhibition of the National Carnation Society at Westminster in July last, and was awarded the silver medal for the best carnation in the show. Comet, rich maroon; Cupid, rose colour; Goldfinch, apricot-yellow; King Arthur, crimson; Lady Linlithgow, bright rose; Miss Schiffner, rich pink; Raby Castle, salmon-pink; and Splendour, purple. All the foregoing are of high quality, have a good constitution, and are free in blooming.

The best of the fancy varieties possess much merit, but as they do not come within the scope of these brief remarks, their consideration must for the present be deferred. **Florist.**

NEW PLANTS, ETC.

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APPLE ST. EVERARD.

This is a very fine new apple, derived from the intercrossing of Cox's Orange Pippin with Margil. The latter is fairly well known, and much resembles Ribston Pippin, while Cox's is our best dessert apple. St. Everard is a very highly flavoured, and fairly early apple, partaking very largely of the style and flavour of Cox's Orange Pippin, but with rich red colouring. The yellow flesh is juicy, sweet, and of particularly rich flavour. If the variety is as excellent in habit of growth and freedom of fruiting as it is in flavour, the popularity of St. Everard is assured. F.C.C., R.H.S., September 28. Messrs. Jas. Veitch and Sons, Chelsea.

CATTLEYA BASIL.

A finely shaped flower of considerable size, resulting from C. Enid crossed with C. Mantini. It apears to be a very strong growing variety, and it carries broad, richly-hued flowers. The sepals and petals are rich rosy purple, and the fine royal purple lip has two large golden blotches. A.M., R.H.S., September 28. Messrs. Charlesworth and Co., Haywards Heath.

CATTLEYA MRS. PITT SUPERBA.

This is a beautiful form of the hybrid from C. Harrisonæ and C. aurea. The flower is of good size, and particularly substantial, bright rose, with a great deal of bright and light yellow colouring on the lip. This latter organ has a rosy margin. A.M., R.H.S., September 28. Messrs. Charlesworth and Co., Haywards Heath.

LÆLIO-CATTLEYA PIZARRO HOLFORD'S VAR.

This is a magnificent orchid, and its parents are Lælia Jongheana and Cattleya aurea. The flower shown was of very large cattleya size with remarkably broad petals and lip. The sepals and petals are all of a rich and intense rose-purple colouring, and the lip is of similar hue with a profusion of old gold veins in the throat, and some orange shading. It is a splendid hybrid and a fragrant one. F.C.C., R.H.S., September 28. Mr. Alexander, orchid grower to Lieut.-Colonel Holford, Westonbirt, Gloucester. An illustration was given of the specimen exhibited in our issue of the 2nd inst.

CATTLEYA RHODA CONSPICUA.

In this hybrid from C. Iris and C. Hardyana, the influence of the latter is very evident—indeed, the flower may be aptly described as a C. Hardyana with cream-coloured sepals and petals. A.M., R.H.S., September 28. Messrs. Stuart Low and Co., Bush Hill Park, Enfield.

CARNATION O. P. BASSETT.

We believe this is a new American variety. It belongs to the tree or perpetual section, and produces large blooms of bright and deep scarlet hue, with fringed edges to the petals. A.M., R.H.S., September 28. Mr. A. F. Dutton, Iver, Bucks.

ROSE FLOWER OF FAIRFIELD.

Yet another addition to the list of rambling roses. It is a vigorous grower, and carries clusters of soft crimson flowers. The chief merit of the variety is said to lie in its perpetual flowering character, and it has been called a perpetual Crimson Rambler. A.M., R.H.S., September 28. Messrs. Stuart Low and Co., Enfield.

DAHLIAS.

Little Donald.—A very neat and shapely pompon dahlia of deep rich crimson colour. A.M., R.H.S.; F.C.C., N.D.S., September 28. Mr. S. Mortimer, Farnham.

PENTSTEMON MYDDLETON GEM.

A very fine and wonderfully effective pentstemon, that has the special merit of being exceptionally hardy and very profuse in flower production. It is a strong growing variety, each spike carrying a very large number of pendulous, medium sized, rich rose-red blooms. As a border plant for autumn flowering this pentstemon is deserving of the strongest recommendation. A.M., R.H.S., September 28. Messrs. R. Wallace and Co., Colchester.

VITIS WILSONÆ.

A large-leaved ornamental vine, with thick foliage, that assumes a bright crimson-purple colouring in the autumn. It is a handsome species, and should find a place in gardens for covering walls, trellises, and pergolas. A.M., R.H.S., September 28. Messrs. Jas. Veitch and Sons, Chelsea.

RAMBLING ROSE FLOWER OF FAIRFIELD.
A.M., R.H.S., September 28. Messrs. Stuart Low and Co., Enfield.
Flowers soft crimson.

RUNNER BEAN WHITE EMPEROR.

This very fine runner bean is a white-flowered Emperor, and is even more prolific than its forerunner. At the Wisley trials it has proved a first-rate variety, carrying an abundance of foot-long, fleshy, tender pods. A.M., R.H.S., September 28. Mr. Edwin Beckett, V.M.H., Aldenham House Gardens, Elstree.

STRAWBERRY AITKINS' CONTINUITY.

We could not find fruits of this variety, but we learn that the variety has large scarlet berries, is an excellent autumn fruiter, and of good flavour. A.M., R.H.S., September 28. Mr. J. Aitkins, Croydon Road, Beckenham.

CŒLOGYNE VENUSTA.

A pretty and pendulous flowered species from Yunnan, and one that promises to become popular if obtainable in quantity. The flowers are about an inch across, pale yellow, with a bright yellow disk on the white lip. The pendulous scapes are from ten to fourteen inches long, and carry as many as five-and-twenty flowers. The species was introduced by Messrs. Sander and Sons, St. Albans, and first flowered in 1904. Bot. Mag. t. 8262.

PYRUS RINGO.

This beautiful Japanese tree is probably a hybrid between P. spectabilis and some form of the common apple. It makes a small tree, and grows readily in almost any soil and situation, and bears abundance of flowers in the spring time, these being red in the bud and opening nearly white. But the greatest period of beauty is the autumn, when the abundant fruits hang thickly from the branches, and as these become bright yellow when ripe, and are an inch and a quarter long, they produce a brilliant effect. Bot. Mag. t. 8265.

GRAPES AND HOW TO GROW THEM.—An illustrated guide to propagation, culture, and management in vineries, greenhouses, and in the open air. By J. Landell, F.R.H.S. Price 1s. net, by post 1s. 2d.; cloth, 1s. 6d., by post 1s. 8d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

SEASONABLE NOTES.—The want of sunshine during the summer, and the continuation of dull weather through the later months, has naturally had the effect usually expected under such unfavourable conditions. With but very few exceptions the plants have produced green and sappy growths. It is therefore essential that those in charge should endeavour to use every means possible to aid the plants in hardening their growths before winter sets in. Only in the next two or three weeks can we with any confidence anticipate material assistance from the sun, so as little shade as possible should be used, and on every division all permanent shading should be washed off the glass.

DAMPING AND WATERING.—No inducement to commence secondary growth should be given, and one of the chief factors in retarding growth is the reduction of the moisture supply, both in watering and damping. Only sufficient is necessary to keep the pseudo-bulbs plump. I find some difficulty in getting our young men to realise how much depends on the effectual damping and ventilating of the different departments, both in the early spring and during the autumn. The work is so frequently done because we have been in the habit of doing it for months past, and insufficient thought is given to the existing conditions or the state of the weather outside. It is desirable to reach the normal temperature of the houses before damping or watering is commenced. Care should also be observed that all the necessary moisture is afforded sufficiently early in the day to permit of its evaporation before the night temperatures are reached. This can only be done by discreet use of the ventilators, and a gentle warmth in the hot-water pipes when we have several days in succession of misty or dull weather, such as we have experienced recently.

MILTONIA VEXILLARIA, and other plants that are benefited by cool house treatment during the warm months of the year, should now be transferred to their winter quarters. A cool intermediate house temperature is desirable for all such tender subjects. The low temperature, combined with the moisture necessary for the odontoglossums, is generally detrimental to their wellbeing. The Chimæra section of masdevallias and the small-growing M. Estradæ and M. simula sections, should now be suspended at the warm end of the odontoglossum house, or in a position where the normal temperature of the house is about 53 to 55 degrees. Any of the Chimæra section still flowering should be kept in an active state, but no encouragement to growth should be given to the other sections mentioned, but they must not be permitted to remain long dry, or the foliage will quickly shrivel.—H. J. CHAPMAN, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

SHADING.—All blinds may now be removed from the roofs of greenhouses and the conservatory, but they should not be stored away till they have been opened out and thoroughly dried. Particulars should be taken of those that may require renewing or mending before next season, otherwise they may be forgotten until the time for putting them up again. Any permanent shading that may have been painted or syringed on should also be removed, choosing a damp morning for the work. If time can be spared all the glass and paint outside of the greenhouses will benefit by a good wash down, as the time is fast approaching when every bit of extra light will prove of great benefit to the plants.

WATERING should at all times be carefully done, but now, with cooler weather and shorter days, the plants will require nothing like the quantity that they have been having, and it is quite wise to keep a sharp eye on those entrusted with the watering. Though the winter is fast approaching, there are still many plants growing freely, such as salvias, chrysanthemums, forward cinerarias, Coleus thyrsoideus, cyclamens, etc., that will be benefited by liquid manure, so where it is necessary use this at every watering, as there are not many plants in the greenhouses that will need water more than two or three times a week, though they require to be looked over every day.

SYRINGING must also be less heavy than it has been, and the afternoon syringing overhead may be entirely stopped, a thorough damping of the stages and floor being quite sufficient in most cases.

PELARGONIUMS.—Old plants of the show, fancy, and regal types that were cut down in August will now be breaking nicely, and before new growth is too long they should be carefully shaken out and repotted, as it is usual to pot these on once or twice during the growing season. The ball of roots may be considerably reduced, so that really good-sized plants may now go into 32-sized pots. These plants do not care for very light soil, so with good loam it is necessary to add but very little leaf-soil or sand. At the same time, pot off into 60's any cuttings that may have been put in earlier in the season, and, after potting, place in a house or pit where just a little warmth is kept in really cold weather; keep the plants damped for a few days, and they will soon lay hold of the soil, but air must be given freely in fine weather.

CINERARIAS.—If large specimens are required, no time should now be lost in putting the most forward plants into their flowering pots; if already in 32's, large 24's and 16's will be the sizes to use, and these should give very fine plants indeed. Use a fairly rich light compost, and pot rather firmly. If a house is available for them so much the better, as here, after the first few days, they may have all the air possible; if left in a pit too long at this time of the year they are apt to grow very fast and make very large leaves, which are soft, and often turn yellow, so when they have to be left in a cold frame for some time, stand them up on pots as far off the ground as possible, and give as much air as is consistent with the state of the weather.

HUMEA ELEGANS.—These plants must on no account become pot-bound, or loss of foliage will quickly result; so if they are in a fit condition pot them into 48's or 32's, whichever will carry them nicely through the winter. Treat like the cinerarias, for too close an atmosphere will produce very soft foliage, which is very difficult to keep healthy.

FREESIAS.—Early batches are now nicely in growth, and if wanted early, a few may be put on a shelf in a slightly warm house, and as growth progresses give them weak liquid manure, and stake the growths before they begin to fall, or distorted flower stems will be the result.—THOMAS STEVENSON, Woburn Place Gardens.

THE FLOWER GARDEN.

IMPROVEMENTS AND ALTERATIONS.—Where it is intended to improve or alter any part of the flower garden or pleasure grounds, or to add thereto, it is well, in order to facilitate the work, that definite plans be now settled. All trees or shrubs intended for removal should be marked by tying a piece of raffia in a prominent place. Conifers may now be removed at any time, though the early spring is preferable; but alteration in the course of paths, etc., may now be made, and the present affords a good time for relaying turf, as this will establish itself and present a good appearance through the winter months.

PREPARATION FOR SPRING BEDDING.—When it becomes necessary to remove the existing subjects, steps must be taken to prepare for a floral display in the spring. In order to secure this it will be necessary to well manure and work the ground. Apply a good dressing of farmyard manure, and thoroughly incorporate this either by deep digging or trenching. Choose a fine day for this work, and see that it is done in a clean and methodical manner. Avoid making dirty tracks upon the grass or gravel, and any beds in turf which have become unshapely should be neatly cut into shape with the edging iron before digging.

THE FRAME GROUND.—Attention must now be paid to the various occupants of the frames to keep them in a thoroughly healthy state. All stocks of cuttings should be periodically examined, and all weeds and decaying leaves be removed. The contents will be much benefited if the lights be thoroughly washed both inside and out, and removed entirely whenever the weather allows. Use great care in watering at this season, and especially in the case of plants plunged in ashes.

VIOLAS.—This is the best time to propagate violas, and where large quantities are required for bedding it is best to set aside a frame for the purpose. The cuttings at this season are much to be preferred, as they strike readily, and are not pithy. A shallow frame is the best. Prepare a good fine soil, and add to it a liberal addition of road sand. Care should be taken to keep the varieties distinct and true to name.

BORDER CARNATIONS.—Where it is customary to transfer the newly-rooted layers direct to their flowering quarters, the sooner this work is now pushed forward the better. The ground these are to occupy must, however, be well tilled, and enriched with rotten manure, and should be allowed to settle before planting takes place. It is a good plan to sever the young plants a few days previous to lifting. Rake the bed down level and remove all coarse stones, plant to a line, and make the plants firm. Keep a sharp look out for slugs, and if these are in evidence, protect with sifted cinder ashes, placing a few round the base of each plant; and, during showery weather, light dustings of soot will be found efficacious.—EDWIN BECKETT, Aldenham House Gardens.

HARDY FRUITS.

BLACKBERRIES AND LOGANBERRIES have done fairly well this season, but the fruits have not been so well flavoured as usual, owing greatly to so much wet weather and consequent absence of sunshine. As the fruit is by this time practically all gathered, cut out all the old fruiting canes, and tie in to the supports about four of the strongest of the young ones to take their place for next season's fruiting; remove any canes not required.

PICKING FRUITS of the late-keeping varieties of apples and pears will require more attention than usual, or much loss by the shrivelling of the fruit will be experienced later on. Owing to a most uncongenial season, the maturing of the fruit is much later than usual; to note one instance, Williams' Bon Chretien pear was in use this year from the middle to end of September, which is nearly a month later with us than in other seasons. Another peculiarity of this season is the irregularity of the ripening of fruits on the same tree; it is advisable, therefore, to remove only those fruits which part freely at the stalk and leave the others for a few days longer.

FRUIT ROOM.—This should be kept as cool as possible, maintaining it at an even temperature of 40 degrees. Keep the room shut up during the day, but open the ventilators at night to let in the cool air. Choice fruits of pears and apples may be laid out on a thin layer of wood wool, but for the general crop the open lattice-work staging is preferable.

GREASE BANDS.—Although it is said that spraying has done away with the necessity of using grease bands, still, I think the time taken to fix the bands round standard trees, and apply the grease, is well worth the trouble. These trees are often of good height, and it is not always convenient to have a spraying apparatus of sufficient power to reach the top of them. I am a strong advocate of spraying, but I also think it unwise to neglect any other means whereby the enemies of the fruit grower may be kept in check. For grease bands to be effective they should be placed on the trees early in October, and have fresh grease applied as often as required during the winter months. In placing bands on young standard trees having supports, one should also be placed round the stake. Place the grease-proof paper round a smooth part of the stem, and fix with a couple of ties near the edges of the paper, and apply the grease well over the centre of the bands, but do not put on sufficient to run off the paper on to the bark, but rather apply a little and often.

ROOT PRUNING, where necessary, should be undertaken as soon as the leaves have matured and began to fall. When operating on large trees it is advisable to extend the work over two seasons, doing one half this year and the other portion the following season, so as not to give the tree any serious check. In commencing the work of root pruning, dig out a circular trench round the tree about two feet deep, and from three to five feet distance from the stem, according to the size of the tree; then, with a garden fork, carefully remove the soil from the "ball," preserve all the small fibrous roots, laying them on one side until sufficient soil has been removed to expose all the coarse main roots which have penetrated down into the subsoil; these latter should be pruned back by a clean cut from the underside. When sufficient of the large roots have been severed, replace the soil and lay the remaining roots out evenly, working some fine soil amongst them and making the whole firm by well treading or ramming, finishing off by placing over the surface a mulching of some light strawy manure.—GEO. WOODGATE, Rolleston Hall Gardens.

VILLAGE FLOWER SHOWS.

In your issue of October 2, page 771, "H" asks: "Is it possible to run a village flower show successfully without giving prizes?" and then answers the question in the affirmative by giving instances. May I be permitted to add an instance also. The show I now refer to was held successfully for a number of years, but was on somewhat different lines to those quoted by "H." At the time I refer to, I was giving a course of lectures in a village, and, noting the keen attention of the audiences, and the fact that some of them brought specimens of vegetables, fruit, and flowers freely at my request and on their own account, I suggested that an evening exhibition be held in the public hall, in conjunction with a concert, and invited the members of the audience present to form a committee themselves to carry out the project. This was done the same evening, and a few copies of a written schedule issued forthwith. A charge of threepence was made, admitting the public to the show and concert, the exhibition being open to inspection one hour prior to the concert. The exhibits were arranged on tables on each side of the hall and in front of the platform.

It was agreed that the money taken at the door was to be used for paying small prizes to the winners, for the use of the hall, and any other expenses incurred. By the free consent of the exhibitors the produce was packed in hampers and sent to the local hospital. Many exhibitors brought produce to be staged as honorary exhibits only, but to be afterwards sent to the hospital. The hall was a typical village hall as regards size, but it was much too small to accommodate the visitors. The shows were held in November each year, and afforded a vast amount of pleasure to hundreds of residents and a bright hour or two for the inmates of the hospital. GEO. GARNER.

Sir Thomas Elliott, Secretary to the Board of Agriculture, has been awarded a Companionship of the order "du Merité Agricole" by the French Government.

NARCISSUS CULTURE FOR PROFIT.

(Continued from page 764.)

Harvesting.

As soon as the foliage has died down, a start must be made to raise those bulbs which it is desirable to lift. No time must be lost in this work, as in the event of showery weather fresh roots will very soon be produced, and the aim of the grower is to get his bulbs out of the ground whilst root-growth is dormant.

Many large growers use the plough for lifting as well as planting. By its use a careful and experienced ploughman and a sufficient number of pickers can lift large areas very expeditiously at a lower cost than where forks are used, while less damage is done and fewer bulbs are left in the ground. The small grower, however, must resort to the fork. The bulbs as lifted should be put in shallow trays or baskets, and, if possible, be placed in a cool, airy shed to dry. If such shelter cannot be given them, they may be allowed to lie on the ground until they become dry and clean. They must not, however, be allowed to remain too long, in case they get scorched by strong sunshine. The length of time necessary must depend upon the condition of the bulbs when lifted and the weather experienced, but once they are in a fit condition no time should be lost in getting them under cover, as if showery weather sets in root-growth will very quickly commence, and this must be prevented. All lifting should be finished by the end of July at the latest.

The weight of produce lifted must necessarily depend upon the fertility of the soil, the variety grown, and the length of time the crop has been planted; but ten to twelve tons per acre may be regarded as an average yield, or about double the weight planted.

Preparation for Market.

Various methods of marketing are employed. Bulbs may be sold as lifted, large and small together, by the cwt. or ton, and many people (especially planters) prefer to buy their bulbs in this way. Retailers, however, and wholesale dealers who supply retailers, require first or second-size, shapely bulbs only. It then becomes necessary to clean and size the produce, making four different sizes, viz., first or "heads"; seconds; thirds or "planting" size; and "chips." First-size bulbs of the popular varieties can be readily sold to bulb merchants by the 1,000, and the other sizes should be kept for planting purposes.

In growing for bulb production a more frequent course of transplanting is necessary than when bloom is the chief object, and nice, shapely bulbs, such as are wanted for shop sales, can only be obtained by regularly transplanting. When first-size bulbs are planted they multiply and give increased stock, and it is well to let such remain two or even three years undisturbed. Second-size bulbs, if carefully sized, should yield "heads" (or firsts) after one year's growth. Thirds and "chips" require two years before attaining saleable size, and then half only may be fit to be classed as "heads."

This sizing requires the exercise of some discretion, as by its careful performance much unnecessary labour may be saved. Thus the grower who sizes and plants what he hopes to lift as first-size bulbs after one year's growth incurs needless labour and expense if only fifty per cent. of the produce attains first size. A little experience, however, will suffice, and the cultivator will be able to estimate from the bulbs planted approximately what quantity of different sized produce he will have for disposal each year.

Varieties to Cultivate.

The following varieties may be recommended for the production of outside bloom and for forcing under glass. The prices given afford some indication of the average value of the different kinds, but they will naturally vary according to season and other circumstances. The demand which has arisen in recent years for flowers for house decoration has created quite a large industry in bulb forcing, and as the demand for varieties suited for this purpose is greater than for the numerous varieties grown by the bulb specialist, these are more likely to prove remunerative to the small grower. When growing for bulb production the bloom is also marketed in spring, so that profits both from bloom and bulbs are obtained.

1. Golden Spur.—A deep rich yellow trumpet. It is the first to bloom of those recommended in this leaflet, and is a variety extensively grown for forcing. Wholesale price for first-size bulbs varies from 30s. to 35s. per 1,000. All sizes as lifted from £25 to £30 per ton.

2. Incomparabilis Sir Watkin.—A large handsome flower with primrose perianth and yellow cup. A strong grower and a good forcer. Wholesale price for first-size bulbs from 25s. to 30s. per 1,000. All sizes as lifted from £20 to £25 per ton.

3. Emperor.—A large flower having a deep primrose perianth and yellow trumpet. It is a very strong grower. Wholesale price for first-size bulbs from 25s. to 30s. per 1,000. All sizes as lifted from £15 to £20 per ton.

4. Bicolor Horsefieldii.—A free flowering variety with white perianth and yellow trumpet. Wholesale price for first-size bulbs from 15s. to 25s. per 1,000. All sizes as lifted from £10 to £15 per ton.

5. Bicolor Empress.—This is a very similar variety to the preceding one, but flowers about a week later. Wholesale price for first-size bulbs, 30s. to 35s. per 1,000. All sizes as lifted, £15 to £20 per ton.

6. Barri conspicuus.—A flower with a broad yellow perianth and yellow cup edged with orange-scarlet. This variety is much admired, but unfortunately it is apt to lose its colour in bright sunshine. To obviate this it is well to plant it in partial shade. Wholesale price for first-size bulbs, 12s. to 16s. per 1,000. All sizes as lifted, £6 to £8 per ton.

7. Poeticus Ornatus.—This white narcissus is probably the most profitable variety that anyone can handle, and it is grown in large quantities for cut flowers both in the open and under glass. It blooms very freely, and, being a small bulb, can be planted closely, thus giving a much larger yield per acre than any other variety. Wholesale price for first-size bulbs, 10s. to 15s. per 1,000. All sizes as lifted, £20 to £25 per ton.

8. Bicolor Grandis.—This is a late trumpet narcissus which flowers after the majority of the others, and usually sells well as a cut flower. Wholesale price for first-size bulbs, 12s. to 15s. per 1,000. All sizes as lifted, £6 to £8 per ton.

9. Pheasant Eye.—This is grown chiefly for cut-flower purposes; like the preceding, it flowers when the majority of narcissi are past, and in some years yields the grower a good profit. In other seasons, however, prices may be lower, and as the bulb is cheap it is not advisable to plant it very extensively. Wholesale price for first-size bulbs, 5s. to 7s. 6d. per 1,000. All sizes as lifted, £3 to £5 per ton.

10. Poeticus plenus or Double White.—This is the last of all the narcissi to flower. It blooms towards the end of May, and usually realises good prices. Like the preceding, this is recommended for the value of the bloom rather than for the bulb crop, and may remain three to four years without transplanting. It also likes a rather heavier soil than the majority of narcissi, and does best when deeply planted, say, from 6in. to 8in. Wholesale price for first-size bulbs, 10s. to 12s. 6d. per 1,000. All sizes as lifted, £10 to £12 per ton.

(To be continued.)

New Park for Friern Barnet.—Mr. S. Simmonds, of Friern Park, North Finchley, has presented to the Friern Barnet District Council a cheque for £7,500 with which to pay the purchase money for the "Friary," an ancient residence and picturesque park, to be used for public recreation.

CHRYSANTHEMUM CONFERENCE.

(Continued from page 782.)

Masse, Red Masse, Mrs. Bailey, a white, and Ralph Curtis, a creamy-white. Holmes' White is a very good variety. Nina Blick, a lovely red-bronze, does well if kept well watered, but if allowed to become dry it goes dingy brown. Carrie, a good yellow, is not such a favourite as Horace Martin. Goacher's Crimson is good if cut back the last week in July. Roi des Blancs is the best of all whites for decorative purposes, although it does not grow so freely as some others. Polly is quite the best of all the earlies, in my opinion, either for garden or for cutting; it is a lovely bronze. Charles Jolly is a pink that does well if struck in the first week of April; if struck before then it comes too late. All these are September bloomers, continuing into October.

Among October-flowering varieties I would recommend the following: Tuckswood Bronze, a very good spray flower; Mrs. Cragg, old gold; Etoile d'Or, a yellow; Le Pactole, bronze; Bouquet Rose, rose; Source d'Or, and its sports; and Mrs. Scott, a white. It is better not to propagate any of these bebefore the end of March or the beginning of April, and they should not be stopped at all, or they will flower too late. These are all good varieties, and will stand a fair amount of wet.

For disbudded blooms to cut outside the following give us good results: All the Masse varieties mentioned, if cut back the last week in July, and the shoots that come up from the bottom are disbudded, will give blooms five inches across, with stems two feet long. Then the old favourites, White and Yellow Desgranges, are good doers if cuttings can be obtained of good stock; in hot, dry seasons it may be found that the stems become too hard, and that the flowers wilt when cut, but if the ends are scraped and split up a little way, and put straight into water no further trouble will be experienced. Nina Blick is specially good in wet seasons, and looks well if disbudded to three blooms on a stem. Nelly Blake, a bronze seedling from Madame Desgrange, is also good if grown well. The Source d'Or family are admirable on some soils, but do not seem to like heavy land. Sunshine, a bright yellow, is a good keeper, and throws off the rain well. Ryecroft Glory is another that crops well, although it has only a small bloom; we have cut it from outside until November.

Some varieties need protection from damp, and then they give good returns. These include Mrs. Scott, a white; Le Pactole, a large bronze, that must be put into water as soon as cut; Mrs Cragg, old gold, and Etoile d'Or, a fine yellow. Large blooms of the last three will not stand wet, although sprays which we have cut from them in the open until November do not seem to mind the wet a bit. I must remind you that the varieties I mention are only selected from those that do well with us; there are doubtless many others equally good in other districts.

I think pompons follow the earlies most naturally, so I will deal with them. We have grown a large number of varieties of this section, but have not found many that are specially good for cutting, though the following will be found good in all ways: Piercey's Seedling, a bronze, flowering in August, comes a good colour if kept moist. Madame E. Lefort, a yellow, and its bronze sport, are good, and flower in September, as do Orange Pet and Veuve Clicquot. The latter is probably the best of all, as unstopped cuttings give a good supply of long-stemmed sprays. J. B. Duvoir is a quite good pink. These are all outdoor varieties, and I am unable to recommend any of the indoor varieties, as these appear to have some faults.

I now come to the most important section, and the most difficult to select from, i.e., the ordinary Japanese and incurved varieties. Soil and atmospheric conditions make such a difference that a variety which does well on one kind of soil may be very indifferent on another. I shall only mention varieties that may be relied on to give nine to twelve good blooms per plant, with good foliage. Blooms large enough for exhibition are, I think, outside the scope of this paper, although, no doubt, some show favourites will be recognised in this list.

I have thought it best to put the varieties under their different colours, giving the months in which they flower with us, and I start with the most unsatisfactory colour, generally called pink, although I must confess I have never seen a bloom that answers to my idea of that colour. Practically the first pink that we have under glass that is at all satisfactory is the old La Triomphante, which comes in about the middle of October; although rather subject to mildew, and to damping in wet weather, it lasts well when cut, and crops well. Miss Olive Dumsday is our next, and if grown well is a lovely thing and "sells on sight"; it is a softer pink than the majority, and an excellent keeper. Mr. F. McNeice is a deep coloured bloom, with good foliage; it starts the second week in November, and is accompanied by Gracieuse, a lovely incurved Japanese which, if kept cold and grown well, is the best pink of all; soft shell-pink describes it best. I have kept it for nearly a month in water. A lovely pink for decoration is Rose Poitevine, provided a little trouble is taken to keep it in a dry, cool atmosphere; it damps badly under ordinary conditions, but is well worth a little extra trouble. It is a December variety, and comes in about the same time as Mdlle. Louise Charvet, which I have included, as it makes a good bloom, and keeps well if grown hard. The pink sport from Princess Victoria is of fair colour, and sells readily. Framfield Pink, and its sport, Winter Cheer, come in at Christmas, and will last until February. These last two must not be allowed to stand still for lack of feeding if satisfactory results are expected.

Taking the bronzes next, we have a fair but not continuous selection. In October we have to rely on the outdoor varieties. In the beginning of November we have Hortus Tolosanus, a medium sized but very bright flower. Lady Lennard follows, and carries six to eight large blooms. Mikado has a small bloom, of Japanese effect, and carries a large crop. The only December bronze that is really good is the Bronze Princess Victoria.

Reds are not numerous, and I can only recommend a few. Market Red and T. Humphreys are excellent for the end of October and the beginning of November, lasting till Exmouth Crimson starts. This last is really good, and continues until Matthew Hodgson comes along in December. In hot seasons the latter is inclined to come a brownish red, but it is very useful.

Of whites, I can recommend a greater number. Money Maker, a creamy-white with a long-stemmed full bloom, starts the first week in October, and lasts till December; it is good, but subject to mildew. Mrs. Roots, an incurved white, comes in about the end of October. Miss A. Byron, a pure white, is ready the third week in November, and is good. Mrs. J. Thompson and Mrs. Judson, both incurved; Mdlle. T. Panckoucke, a shaggy Japanese, and Princess Victoria, are all good varieties for December. Then, last of all, for districts free from fog, there are Heston White, the White Framfield, more vigorous than its parent, and a fine thing.

Then we have the yellows.

Starting with the October varieties, Yellow La Triomphante is very good; but the sport with quilled petals is better, as it keeps well, and can be cut with 4ft. stems. The next reliable variety, at the end of October, is Embleme Poitevine, which can be made to last till mid-December. It is a heavy incurved form, slightly hairy, and with good foliage. Le Peyron, an incurved, is the best of the lot at the beginning of November; a certain cropper, with good long stems. Nagoya arrives at the beginning of December, and although not carrying a large crop is good, but is very shy of cuttings. Golden Mrs. Thompson and Golden Victoria are good companions to the white forms, and carry the succession well over Christmas. The majority of these are well known in the market, and each has some little characteristic that is worth studying.

Last, but not least, there are the single varieties. These do not suit everybody, and the demand is not excessive nor the supply abundant. The doubles, as a rule, give greater returns per house. The first variety we have is Mary Richardson, a salmon-bronze, good in all ways, starting in mid-October. Following closely comes Reine des Roses, a charming soft pink, and its bronze sport. It is a little stiff, but it is the best of its colour that we have. Rosie Bell, a pink, is also good. The Pagram family, white, pink, and bronze, for early November, are exceedingly good, whether disbudded or as sprays. Gaiety is a very fine bronze, and Kitty Bourne is the best yellow I know. The following are also good: Sylvia, bronze; Mrs. Roberts, pink; Irene Cragg, the best white we have; Sir George Bullough, yellow; Delicatissima, a pinkish-fawn; and Elizabeth, Phillis, and Evelyn, pinks. For the rest of our stock I find that we rely chiefly on seedlings of my own raising.

In all these sections we have many other varieties, but each of these has some drawback, and the varieties I have mentioned are the chief money-makers. In conclusion, I hope that my paper may be found to be of some service, and that it is not altogether "an old tale."

Mr. Cragg said also that they were using the "fire pots," as used in American orchards, for the purpose of combating frost among the chrysanthemums they grow in such quantities at Heston. At present the matter was experimental, but he had good reason to hope it would prove successful.

Mr. Cragg was immediately followed by Mr. D. B. Crane, who dealt with the same subject, but from an æsthetic and decorative instead of from a market point of view. We hope to give this paper in extenso shortly.

Mr. Godfrey pointed out that Exmouth Crimson was not a good market variety. Mr. Ladds said he agreed that there was plenty of difference between Winter Cheer and Framfield Pink when both were grown alike; he also thought Scalarandis would not prove better than Nagoya. Mr. T. Williams deplored the fact that singles, pompons, and anemones could not be obtained at florists' shops. He thought Mr. Crane had done well to emphasise the value of these varieties, and said that the growers were too conservative, and would not place them on the market. Mr. Ladds said growers had to grow what the florists would sell, but he was sorry to say that the florists would not push the charming varieties Mr. Crane had referred to. Mr. Wells deplored the fact that florists and market growers did so little with the singles and pompons, although these were so delightful. Mr. Godfrey thought the growers left these varieties alone chiefly because they could not be grown successfully from a commercial point of view. Several other growers added their experience, and helped thereby to make the conference a success.

Mr. Ladds suggested that singles to match or go with the leading market Japanese varieties should be grown and marketed at the same time, so that these could be used together. By this means, he thought, the singles would sell the more readily. Mr. T. Bevan referred at some length to the decorative value of chrysanthemums, and urged the use of various sized flowers in any floral combination.

Mr. P. A. Cragg replied to various points.

Votes of thanks were accorded to the readers of papers, and to those who had organised the conference, and to Mr. Bevan for presiding.

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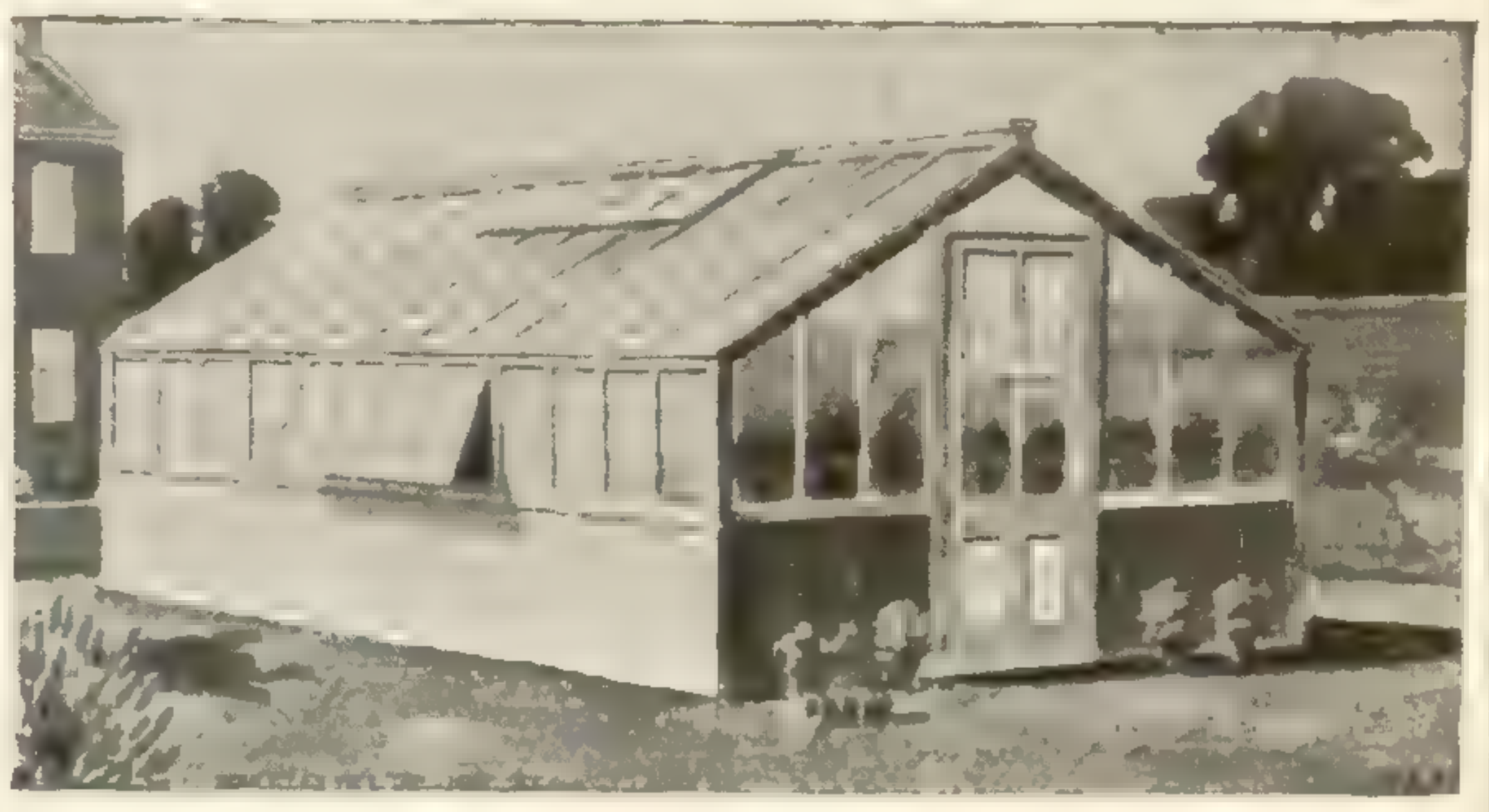

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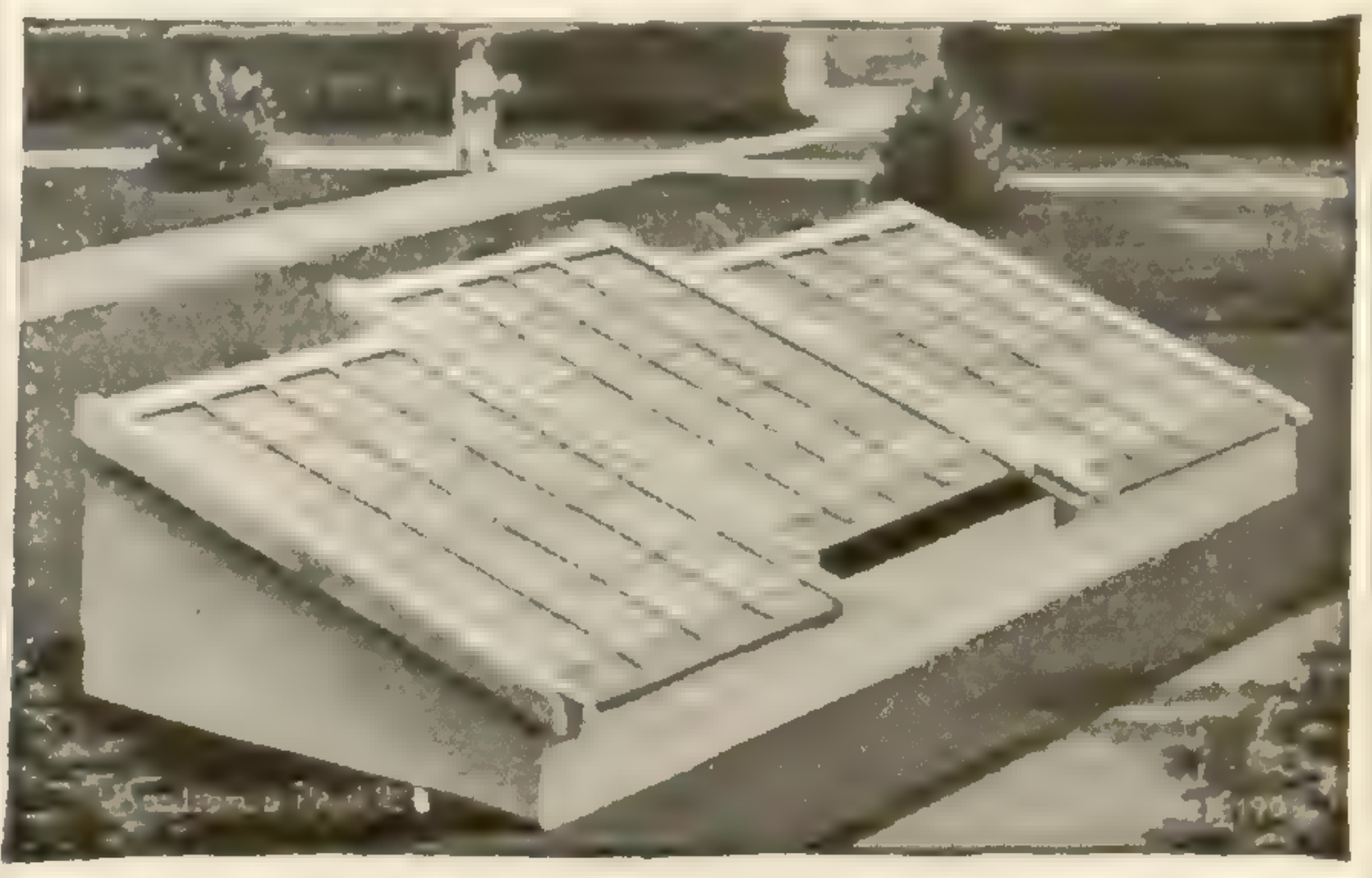

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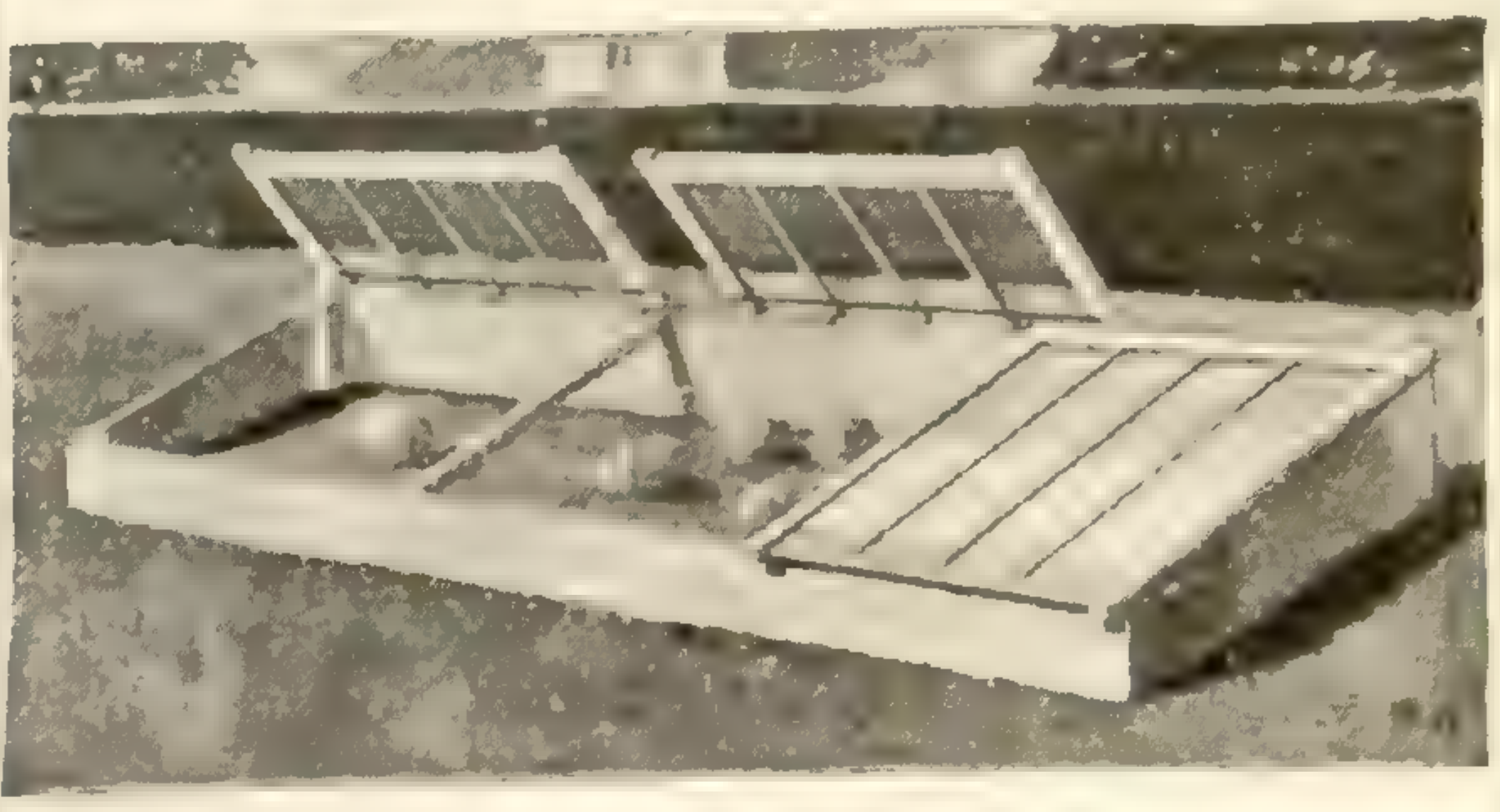

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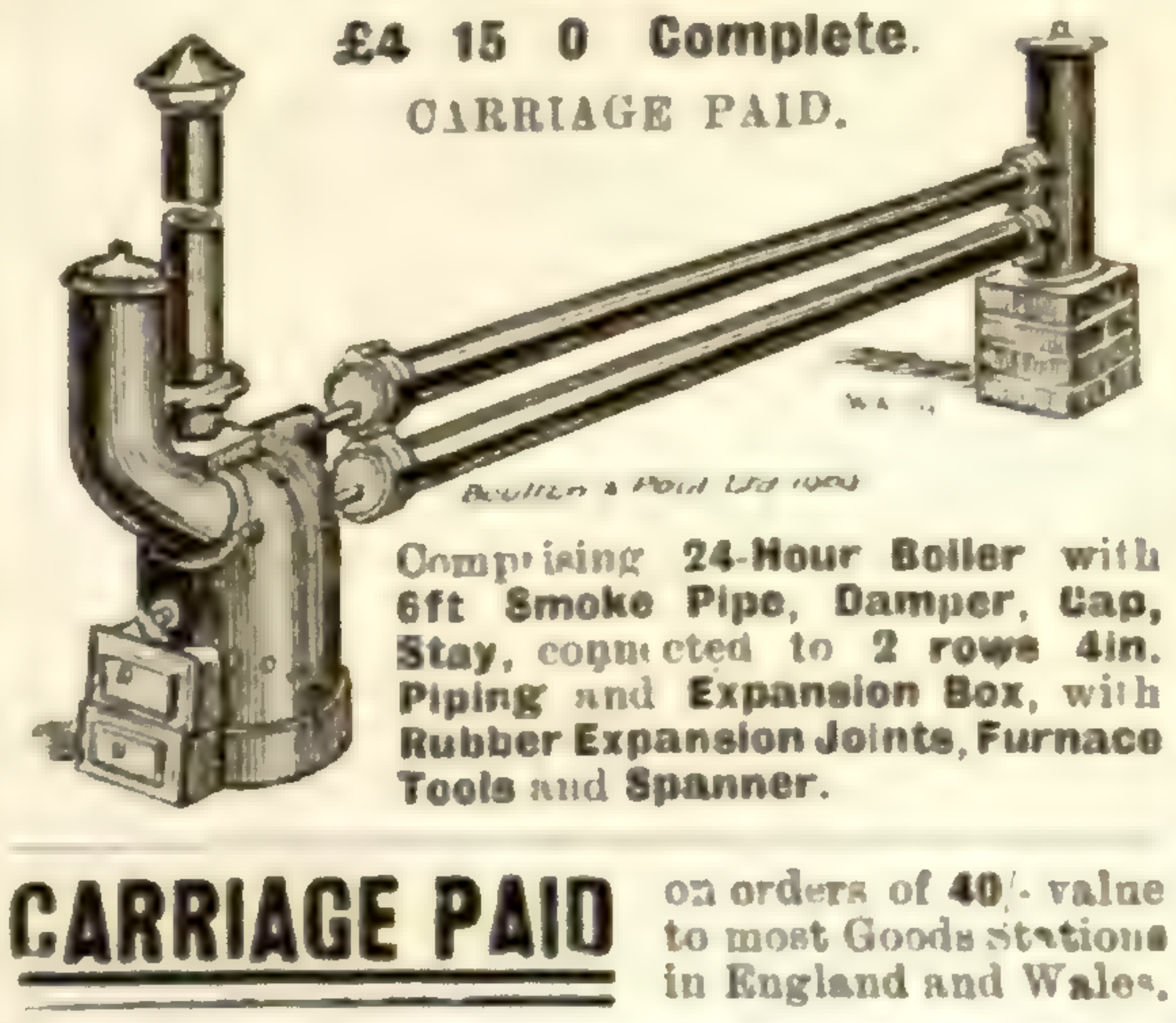

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EXHIBITIONS AND MEETINGS.

◆

National Chrysanthemum Society.

Essex Hall, Strand, W.C., was quite gay on October 6, when the usual Floral Committee meeting was developed into an exhibition, and a conference was held in conjunction with the display.

Messrs. W. Wells and Co., Merstham, put up a charming group of early-flowering chrysanthemums, setting these up in vases and stands of various sizes. The chief attractions were the tall stands of the golden Leslie, the bronze Ethel Blades, the white Roi des Blancs, the single Snowstorm, and the seedling singles. Other good things in vases were Perle Chatillonaise, Carrie, Wells' Primrose, Brightness, Nellie Riding, Firebrand, Nellie King, and Eden. This was a very bright exhibit for this time of year, and the season. (Large silver medal). Mr. J. B. Riding, Chingford, put up pæony-flowered dahlias in tall bamboo stands, associating those with sprays of Polygonum cuspidatum. In front of these he had vases of popular cactus varieties, and a small collection of early-flowering chrysanthemums in vases, these latter including Roi des Blancs, Carrie, Polly, Nina Blick, Perle Chatillonaise, Champ d'Or. (Silver medal).

A wonderfully fine exhibit of first-rate blooms, very prettily set up by Messrs. Norman Davis, Framfield, Sussex, was greatly admired. With graceful Michaelmas daisies and solidagos for a setting he put up stands of grand full-sized blooms of Tom Edwards (F.C.C.), a bold yellow incurving Japanese; Empress (F.C.C.), lemon-yellow; Mrs. J. W. Scott, Norman Davis, Exquisite, and several fine new seedlings. High quality characterised the whole display. (Silver-gilt medal). Mr. W. J. Godfrey, Exmouth, Devon, submitted a set of well-developed blooms of Ella Ainsley, Jas. Threlfall, Frank Molyneux, J. W. Molyneux, E. J. Jones, Superb, and Market Favourite, many of them novelties for the forthcoming year. (Silver medal).

A small and bright collection of early-flowering chrysanthemums was submitted by Mr. J. H. Witty, Rose Nursery, Highgate, and Mr T. Williams put up a table of floral arrangements. To both of these a vote of thanks was accorded. Mr. F. Brazier, Caterham Valley, put up a large and bright group of chrysanthemums, Michaelmas daisies, pentstemons, solidagos, etc. (Large silver medal).

Mr. Martin Silsbury, Shanklin, Isle of Wight, showed a beautiful new Japanese chrysanthemum, named White Queen (F.C.C.), with lovely cream-white drooping petals.

Good prizes were offered by Messrs. W. Wells and Co., for six bunches of single varieties, distinct, raised from seed, and here there were five competitors, these making a most interesting display. Mr. C. Payne, Sandhill Gardens, Betchworth, secured the gold medal as first prize; Mr. E. F. Hawes, Royal Botanic Gardens, second, silver-gilt medal; Mr. W. Newton, Little Heath Road, Potters Bar, third, silver medal.

Reading Gardeners' Association.

After the usual "long vacation" during the summer months, which was only broken by the pleasant meetings at Sandhurst Lodge, Sutton Place, Guildford, and Hillside, Reading, the members of this flourishing association met on Monday evening, September 27, for the inaugural meeting of the 1909 autumn session. The president (Mr. Alderman Parfitt) occupied the chair, and was supported by the vice-president (Mr. Leonard Sutton), and a very large gathering of members.

Before calling on the lecturer for the evening (Mr. H. Wilson, The Gardens, Lower Redlands, Reading), the President informed the meeting that a movement had been set on foot that the "Coming of Age" of the association, which happened this autumn, should be celebrated in a becoming manner, and he had much pleasure in proposing that the celebration took the form of a non-competitive exhibition of fruits, flowers, vegetables, etc., to be held in the Small Town Hall, Reading, on Wednesday, November 17. This proposal was seconded by Mr. Powell, supported by Mr. Tunbridge and several other members; and, after a lengthy discussion as to details, carried unanimously and with acclamation. Assistant secretaries and a sub-committee were appointed to carry out all arrangements.

The President then called on Mr. Wilson to introduce his subject, "Experiences and Observations on Fruit Growing during 1909."

In a very able paper, Mr. Wilson dealt with his subject in a most systematic fashion, first relating the many vicissitudes his various crops had experienced from vagaries of the weather and the depredations of insects, etc., during the record season of 1909; strawberries and raspberries being ruined by the continued heavy rains, while cherries and plums suffered from the persistent plague of black aphis. Peaches were a good crop, but received many checks, and for want of sun failed to ripen outside. Apples, a poor crop compared with 1908, with scab very prevalent, but pears were a fair crop though deficient in flavour.

Mr. Wilson then proceeded to detail the measures he took to combat the disadvantages encountered owing to the disastrous weather experienced, giving many useful hints which were quickly noted by many of the audience.

A brief but excellent discussion followed, among those taking part being the President, Messrs. Powell, T. Judd, Drew, Tunbridge, Exler, Martin, etc.

A splendid exhibit of apples in pots was staged by the president, while the vice-president (head gardener, Mr. F. Townsend) sent a beautiful group of Nicotiana Sutton's Hybrid. The society's certificate was awarded to Mr. G. Durrant (gardener to Miss Cripps) for a fine exhibit of Best of All and Prizewinner runner beans. Seven new members were elected. Votes of thanks to the lecturer, the president, and the exhibitors concluded the proceedings.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, Sept. 28.

Present: Mr. E. A. Bowles, M.A., F.L.S., F.E.S. (in the chair); Messrs. A. W. Hill, W. Cuthbertson, J. Fraser, J. T. Bennett-Poë, W. Hales, E. M. Holmes, R. Hooper-Pearson, and F. J. Chittenden (hon. sec.).

SOLANINE IN SOLANUM NIGRUM.—The following communication was read: Solanum nigrum is included amongst poisonous plants in works on toxicology, but cases of poisoning by it are rare, and relate chiefly to children; but its active principle, solanine, undoubtedly possesses poisonous properties in large doses. Solanine was originally discovered by Desfosses, of Besançon, in 1821, in the berries of Solanum nigrum; and to it and to atropine possessing mydriatic properties its physiological effects are believed to be due. Solanine also occurs in young sprouts of the potato, in tomatoes, and other species of solanum. S. nigrum contains about 0.3 per cent. of solanine. Mature healthy potatoes are said to contain none, but Kassner separated 30-50 milligrammes from 150 grammes of diseased potatoes. Orfila found that the extract of Solanum nigrum had a very feeble effect as a poison, but rabbits are killed by doses of 0.1 grain of solanine per kilogramme of weight of the animal. The symptoms commence in ten minutes, with apathy, low temperature, and slow breathing, and convulsions set in before death, and the pupils become dilated. Dogs are not easily affected by it, as it is usually rejected by vomiting. Blyth, in "Poisons, Their Effects and Detection," p. 398, remarks: "Poisoning in all recorded cases (i.e., in cases of accidental poisoning of human beings) has not been by the pure alkaloid solanine, but by the berries of different species of solanum. The symptoms, in about twenty cases, have varied so greatly that the most opposite phenomena have been described as the effects of poisoning." The recorded cases of poisoning by the berries of S. nigrum are not numerous, and have usually occurred in children. The death of three children is recorded by Hirtz, Gaz. Med. de Strasbourg, in 1842, and other cases by Maury, Gaz. des Hôp., 1869, J. B. Montaine, Chim. Méd., 1862, and by Manners, Ed. "Med. Jour.," 1867. The facts concerning cases of poisoning by the berries of S. nigrum require confirmation. Even the statement concerning the poisonous action of solanine and its dose need careful revision, for it is highly probable that much of the solanine used by investigators has been impure, and may have contained decomposition products, since solanine is easily split up by various re-agents. Doses of more than ¼ grain, to commence with, would be considered unsafe for medicinal purposes. An excellent summary of what is known of its physiological action will be found in Dupuy, "Des Alcaloides," pp. 503-521, and in the "United States Dispensatory," 1907 (19th ed.), pp. 1,654-5. Reference may also be made to "Kobert Lehrbuch der Intoxihationen," pp. 759 and 1,057, regarding the recorded cases of presumed poisoning by solanine in potatoes. With reference to the use of the berries of Solanum nigrum as food: first, it is quite possible that in a luxuriant cultivated form of the plant the amount of solanine might be reduced considerably, and the fruit prove edible. Secondly, the fruit, when boiled, especially in the presence of vegetable acids, might be less likely to produce unpleasant symptoms than the raw fruits, since the decomposition of solanine might take place and solanidine, which is usually set free, is reported to be non-irritant. Thirdly, the berries have no doubt been largely eaten in the United States, and so far as I am aware, no dangerous results have followed. Fourthly, some persons are unusually sensitive to the alkaloids of belladonna, and it is quite possible that cases of idiosyncrasy may occur with regard to solanine. That solanine itself can produce distinct physiological action there can be no doubt, but how far the symptoms attributed to it are due to pure solanine has not yet been proved. Fifthly, it is also possible that, as in the potato, the percentage of solanine present in Solanum nigrum may vary according to the age and condition of the fruit, whether ripe or unripe, and to other circumstances of difference in season as regards light and heat. But there is no need apparently to add a fruit of such doubtful utility and lacking good qualities to the list of much more palatable fruits already in the market.

HYBRID WILLOWS.—Mr. J. Fraser, F.L.S., showed six hybrid forms of willow, recorded in British floras and other botanical works as Salix ambigua. Most autherities are agreed that S. ambigua is a hybrid between Salix aurita and S. repens. No two of the forms are exactly alike, but four of them approach S. aurita more closely than the other parent. He explained this by the fact that the parents in the wild state are extremely variable, and consequently one might expect the hybrids to be equally variable. Two of the forms approached more nearly to S. repens in shape, variation, and character of the hairs. While the leaves of the six forms showed affinity with one or other parent, the catkins were most nearly like those of S. repens in size and other particulars. All of the above he preferred to name by using the names of the parents, namely, Salix aurita x repens. He also showed another hybrid named Salix cinerea x repens, with forms of the suppcsed parents most nearly like them.

PRUNUS SP.—Mr. A. W. Hill, F.L.S., stated that the plant shown at the last meeting under the name of Prunus Chaproni proved to be a form of P. cerasifera.

FURCATE INFLORESCENCE OF TYPHA SP.—Mr. Hooper-Pearson showed a specimen of the inflorescence of a species of Typha which had four branches of about equal size, a very unusual character in this genus.

GIANT PUFFBALL.—From C. C. Paine, Esq., of Haverstock Hill, N.W., came a specimen of the giant puffball (Lycoperdon bovista), having a circumference of 38½in.

MUSEUM PREPARATIONS.—Dr. Voelcker showed a heart set up as a museum preparation, which without dissection showed the whole of its structure. The liquid in which it was preserved was a mixture of various ethers, etc., and portions were rendered transparent owing to the refractive index of the liquid being the same as that of the material preserved. The discovery of this preservative was due to Dr. Spatterholz, and it promises to be of great use in preparing museum specimens.

FORMS OF IMPATIENS ROYLEI.—Mr. E. A. Bowles showed a white-flowered form of Impatiens Roylei, which has been called var. pallida. It is rather smaller than the type, and has paler, narrower leaves. He also showed a variegated form which had appeared in his garden. The seedling had shown the variegation, and it had been maintained throughout the life of the plant.

LINARIA MAROCCANA SPORT.—Mr. Bowles also showed a sport of Linaria maroccana with the corolla split to the base and without spurs, which had occurred in his garden. The flowers failed to produce seed, the ovary being absent.

NARCISSUS TAZETTA VAR.—He also showed leaves of a form of Narcissus tazetta which had persisted until the present time. They were quite green and healthy looking, and about 18in. in length.

TRADE NOTE.

We are informed that the partnership heretofore subsisting between Mr. Alfred Watkins and Mr. Charles David McKay, carrying on business as seed merchants as "Watkins and Simpson," at 12, Tavistock Street, Covent Garden; and 13, Exeter Street, Strand, London, has been dissolved by effluxion of time as from the 10th day of May, 1909, and that Mr. Alfred Watkins will continue the business alone as Watkins and Simpson in the same manner as heretofore.

CATALOGUES RECEIVED.

TOOGOOD AND SONS, SOUTHAMPTON.—A freely illustrated catalogue of bulbs.

HOGG AND ROBERTSON, MARY STREET, DUBLIN.—A very handy list of bulbs issued under the title of "Holland in Ireland." Home-grown tulips and daffodils are a speciality.

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52, Leadenhall Street, London, E.C., and of all Chemists.

ANSWERS TO CORRESPONDENTS.

MARKETING HARDY FERNS.—L. W., Chard: There is usually a moderate trade in hardy ferns in the spring time through the markets, but we have no knowledge of its real extent or its profitableness. If you apply to the Superintendent, Covent Garden Market, he will no doubt put you into communication with salesmen who sell hardy ferns on commission.

FAILURE WITH CRIMSON RAMBLER ROSE.—F. B., Hornchurch: You should remove all the old useless wood, and secure the strong new growths to the trellis work, so that they do not become damaged by wind and rain storms. This will give them a chance of ripening up, and they will then be the better able to bloom and resist mildew next season. It is evident that your chief trouble is mildew, and one of the means of combating this pest is good cultivation. Manurial dressings must not be forgotten, nor must good soakings of liquid manure be omitted, especially as the roots are, by reason of their position, liable to suffer from lack of moisture. Mildew usually makes its appearance in spring, just at the time the early foliage is full grown, consequently a sharp look-out must be kept for its appearance, especially as Crimson Rambler is rather predisposed to attack. If this early attack is disregarded the foundation for a severer attack as the flower buds are developing is laid. It is a good plan to spray as a preventive, and if sulphuric acid is used once a week there is little likelihood of mildew appearing. The sulphuric acid must be used at the rate of one part to each thousand parts of water. If spraying is not done until mildew is very obviously present, then it is necessary to spray three days in succession to check the disease. Another good spraying mixture is made by dissolving half an ounce of liver of sulphur (sulphide of potassium) in a gallon of water.

EMPLOYMENT AT WISLEY.—S. E. H., Leeds: The society admits young men, under 22 years of age, to study gardening at Wisley. The curriculum now includes not only practical garden work in all the main branches of horticulture, but also lectures, demonstrations, and elementary horticultural science in the laboratory, whereby a practical knowledge of simple garden chemistry, biology, etc., may be obtained. The laboratory is equipped with the best apparatus procurable for students. The training extends over a period of two years, with a progressive course for each year. Students can only enter at the end of September and at the end of March. Selected students have also the advantage of attending certain of the society's shows and lectures in London.

WOOD WITH INSECT BORINGS.—No Name or Address: We found no grubs or beetles in the specimens sent, but the damage done to the wood suggests at once the work of the Pine Weevil (Hylobius abietis), a pest that is particularly injurious to larch, spruce, and Scotch fir. It feeds on the tender bark of the young shoots, and the maggots work long tunnels in the soft wood beneath the bark, producing an abundance of "wood-meal" by their steady gnawing. Cleanliness is one of the best cures and preventives. All dead branches and bark should be removed as speedily as possible and burnt; there is no doubt that the accumulation of decaying wood and bark in and near conifer plantations is answerable for a great deal of trouble from various pests, as in these accumulations they hybernate and propagate.

THE COMMON WOOD WASP.—W. M., Welwyn: This is called the common wood wasp or common sirex, to distinguish it from the giant wood wasp (Sirex gigas). The latter has yellow bands on a blackish body, whereas S. juvencus is smaller, and of that blue-black colour suggestive of a blue-bottle fly. It is not a very common insect, but sometimes it is present in considerable numbers in and near conifer plantations, and it is capable of working a great deal of mischief. Each female is provided with a strong ovipositor, and with this the bark is easily pierced, the soft wood reached, and the eggs laid one by one. The maggots feed in the solid timber and do a great deal of damage. The late Miss Ormerod pointed out that "for general purposes, the only practical way of preventing the spread of sirex infestation appears to be timely removal of infested timber, whether in the form of standing or felled trees, or fallen trees, or infested limbs."

WHITE GROWTH ON PINE BRANCH.—J. H., Belfast: We have not received a specimen from you, and can find no trace of any package arriving either at our Kew or Aldersgate Street address. Please let us know to which address it was forwarded, and, if possible, send another specimen and particulars to the Editor, Endsleigh, Priory Park, Kew, Surrey.

NAMES OF PLANTS.

W. L. L., Derby.—1, Swainsonia galegifolia; 2, Lilium tigrinum; 3, Vitis Coignetiæ; 4, Cypripedium Roezli.

A. G. E., Bodmin.—1, Viola cornuta; 2, Sedum telephium; 3, S. Sieboldi; 4, Veronica Andersoni variegata; 5, Desfontainea spinosa; 6, Virburnum Lantana.

A. M., Barnet.—Crotons, or Codæiums, are difficult to determine from small leaves such as those sent. You had better take specimens with you when visiting a nursery and compare these with the growing plants. We do not recognise any of the varieties from the specimens sent us. No. 5 is Abutilon megapotamicum.

NAMES OF FRUITS.

M. E., St. Heliers.—1, Chaumontel; 2, Beurre Diel.

S. W., Silloth.—1, Lane's Prince Albert; 2, Gascoigne's Scarlet.

G. G., Durham.—1, Louise Bonne of Jersey; 2, Ecklinville.

P. R. J., Ross.—1, Tyler's Kernel; 2, London Pippin; 3, Souv. du Congres.

F. B. L., Hornchurch.—1, Lane's Prince Albert; 2, Dumelow's Seedling; 3, King of the Pippins; 4, Warner's King.

E. M. D., Drayton.—1, King of the Pippins; 2, Blenheim Pippin; 3, Peasgood's Nonsuch; 4, Worcester Pearmain.

W. H., Lincoln.—1, Bramley's Seedling; 2, Beurre Rance; 3, Cellini; 4, Josephine de Malines; 5, Adam's Pearmain; 6, Dutch Mignonne.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1909. SEPTEMBER 26 TO OCTOBER 2.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	TEMPERATURE OF THE AIR. At 9 a.m. Wet Bulb.	TEMPERATURE OF THE AIR. Day Highest.	TEMPERATURE OF THE AIR. Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Sept. 26—Sunday	1 36	54	53	62	53
„ 27—Monday......	4 6	48	47	58	40
„ 28—Tuesday	—	48	48	54	45
„ 29—Wednesday .	—	53	52	54	48
„ 30—Thursday ...	—	50	49	58	48
Oct. 1—Friday..	0 12	58	57	65	48
„ 2—Saturday ...	1 24	50	50	64	49
Means	(total) 7 18	52	51	59	47

DATE. 1909. SEPTEMBER 26 TO OCTOBER 2.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	TEMPERATURE OF THE SOIL AT 9 A.M. At 2 ft. deep.	TEMPERATURE OF THE SOIL AT 9 A.M. At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
Sept. 26—Sunday	0.01	58	58	57	44
„ 27—Monday...	—	56	57	57	33
„ 28—Tuesday......	0.55	56	57	57	37
„ 29—Wednesday .	0.20	55	56	57	50
„ 30—Thursday ...	0.03	55	56	56	41
Oct. 1—Friday..	0.13	54	56	56	40
„ 2—Saturday ...	0.05	56	57	56	41
Means ...	(total) 0.97	56	56	56	41

MARKETS.

◆

COVENT GARDEN.

Flowers.

Chrysanthemums from out of doors make the market gay, while carnations and roses add fragrance. There is a fair demand for the season, and supplies are ample.

		s.	d.		s.	d.
Adiantum cuneatum	per doz. bun.	5	0	to	8	0
Arums	per doz.	2	0		3	0
Asparagus	per bun.	1	0		2	0
Asters	per doz. bun.	2	0		4	0
Carnations	per doz. blms.	1	6		2	0
,, ...	per doz. bun.	6	0		8	0
,, Malmaisons	per doz.	4	0		7	6
Cattleyas	per doz.	12	0		14	0
Coreopsis	per doz. bun.	1	6		2	0
Croton leaves	per bun.	1	0		1	6
Cypripediums	per doz. blms.	1	6		2	6
Dahlias	per doz. bun.	2	0		4	0
Eucharis	per doz.	2	6		3	6
French fern	per doz. bun.	0	6		1	0
Gaillardias	per doz. bun.	1	6		2	6
Gladiolus	per doz. bun.	2	0		5	0
Gypsophila	per doz. bun.	2	0		3	0
Lapagerias	per doz.	1	0		2	0
Lavender	per doz. bun.	4	0		6	0
Lilium auratum	per bun.	2	0		3	0
,, speciosum	per bun.	1	6		2	6
,, longiflorum	per bun.	1	6		3	0
Lily of the Valley	per doz.	5	0		15	0
Marguerites, white	per doz. bun.	1	6		3	0
Mignonette	per doz. bun.	2	0		3	0
Odontoglossums	per doz. blms.	2	0		2	6
Pelargoniums	per doz. bun.	4	0		6	0
Roses	per doz.	1	0		3	6
Smilax	per doz. trails	4	0		8	0
Statice	per doz. bun.	2	0		3	0
Sweet Peas	per doz. bun.	2	0		4	0
Stocks	per doz. bun.	2	0		3	0
Tuberoses	per doz.	0	3		0	4
Violets	per doz. bun.	1	0		2	6

Fruits.

The demand is steady and supplies are but moderate.

		s.	d.		s.	d.
Apples, English	per bush.	2	0	to	8	0
,, Californian	per case	8	0		10	6
Bananas	per bun.	3	0		9	0
Damsons	per ½-sieve	1	0		2	0
Figs	per doz.	0	9		3	0
Grapes, English	per lb.	0	8		3	0
,, Guernsey	per lb.	0	4		1	0
Lemons	per case	7	6		15	0
Melons	each	0	9		3	0
Nectarines	per doz.	3	0		10	0
Oranges, Jamaica	per case	9	0		10	6
,, Navels	per case	10	0		12	0
,, Naples	per case	9	0		11	0
,, South African	per case	10	0		12	6
Peaches	per doz.	3	0		10	0
Pears, English	per bush.	1	6		6	6
,, Hazel	per ½-bush.	1	0		1	6
,, French	per crate	3	0		5	0
Pineapples	each	1	6		3	6
Plums	per ½-sieve	1	6		3	6
Walnuts	per 12lbs.	2	0		3	6

Vegetables.

Vegetables of most kinds are in ample supply, and prices are not easily maintained.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	2	6	to	3	0
Beet	per bush.	1	6		2	0
Beans, Scarlet Runners	per sieve	1	6		3	0
Brussels sprouts	per bush.	2	0		3	0
Cabbage	per tally	2	6		4	0
Carrots	per doz. bun.	1	0		2	0
Cauliflowers	per tally	3	0		5	6
Cucumbers	per doz.	1	0		2	0
Endive	per doz.	1	3		1	9
Horseradish	per doz. bun.	8	0		12	0
Lettuce, Cos	per score	0	6		1	0
Mint	per doz. bun.	1	0		2	0
Mushrooms	per doz. lb.	6	0		9	0
Onions, Valencia	per case	7	0		12	0
,, English	per doz. bun.	1	6		2	0
Parsley	per doz. bun.	1	6		2	0
Spinach	per bush.	1	0		1	6
Tomatoes, English	per doz. lb.	2	0		3	0
,, Guernsey	per doz. lb.	2	0		2	6
Turnips	per doz. bun.	1	6		2	6
Vegetable Marrows	per tally	4	0		5	6

FORTHCOMING ENGAGEMENTS.

MONDAY, October 11.—United Horticultural Benefit and Provident Society, Committee Meeting.

TUESDAY, October 12.—Royal Horticultural Society: Committees meet at 12 o'clock; Lecture at 3 p.m. on "Some Gardens of the Later Renaissance," by Mr. Thos. H. Mawson; Scientific Committee at 4 o'clock.

WEDNESDAY, October 13.—East Anglian Horticultural Club.

MONDAY, October 25.—National Chrysanthemum Society; Floral Committee at 3 p.m., and Executive Committee at 7 o'clock.

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,, Half Column	1	10	0
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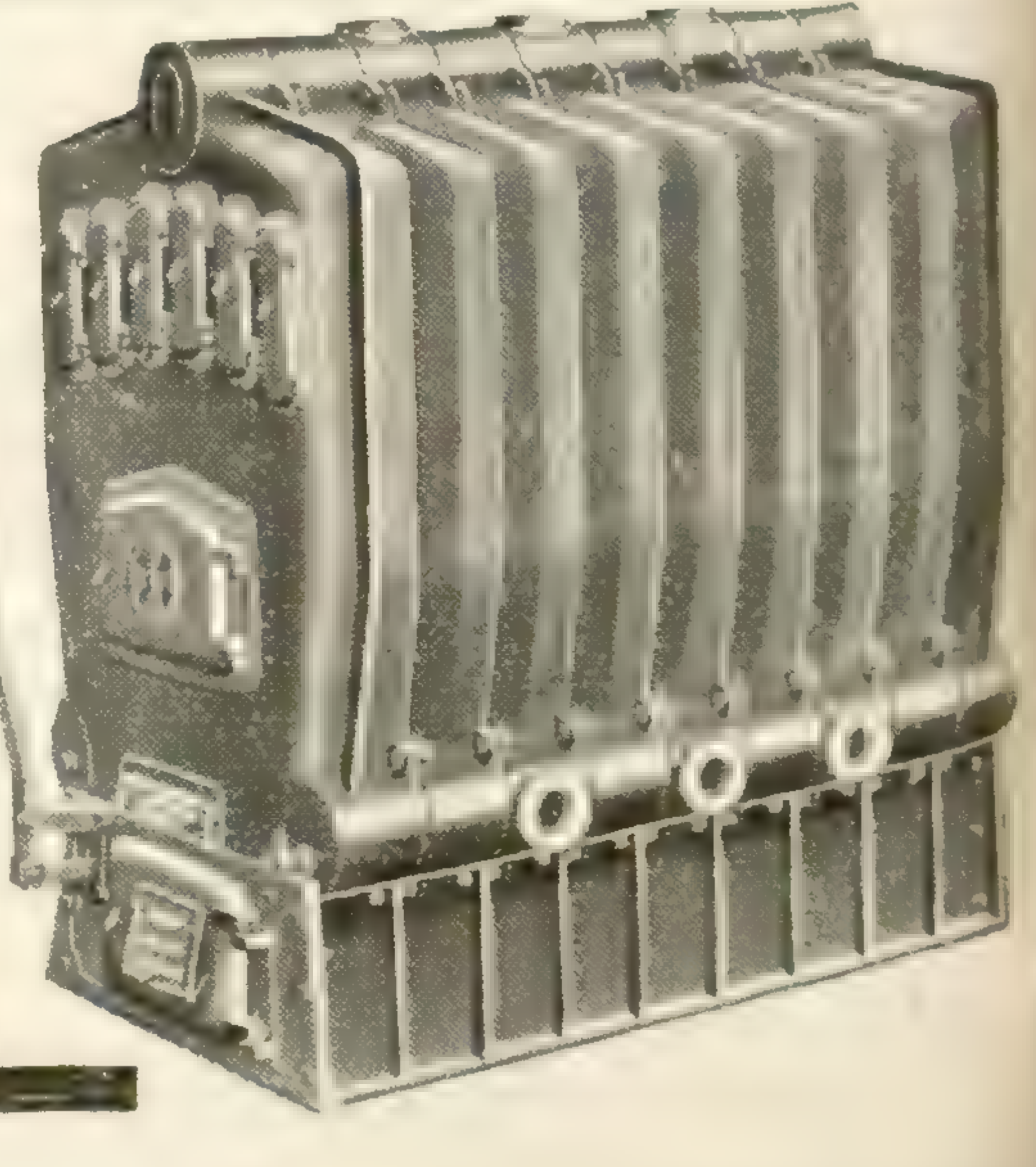

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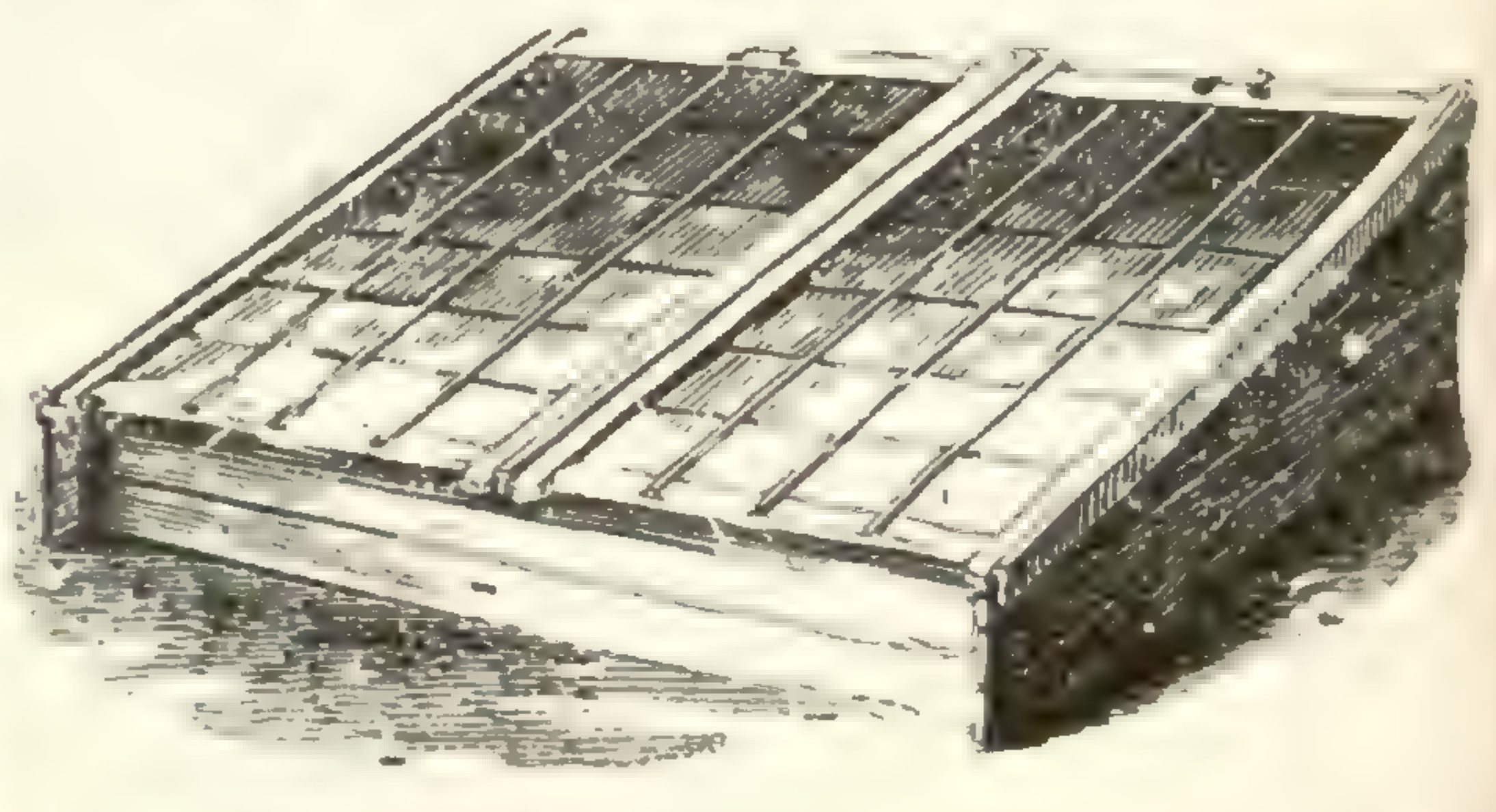

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Employment THE GARDENERS' MAGAZINE Register.

The charge for an Advertisement INCLUDES A FREE ENTRY ON THE REGISTER. Immediate Notice must be given when an engagement is secured.

A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

GARDENER (Head), married.—S. BURGESS wishes to engage with any Lady or Gentleman requiring a keen, energetic Gardener; thorough practical in all branches, the management and requirements of a good garden; winner of many prizes for fruits, plants, flowers, and vegetables; first-class characters. 104, Bower Street, Maidstone.

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GARDENER (Head, or good Single-handed); married, age 44; one girl, 13 years; 28 years' thorough practical experience in all branches; 20 years Head; highly recommended. F. GREENGRASS, The Lodge, Woodbury, Clay Hill, Enfield.

HER GRACE THE DUCHESS of DEVONSHIRE wishes to recommend J. THOMPSON to any Lady or Gentleman requiring the services of a HEAD GARDENER, where several are kept; 20 years' experience in all branches. Holker Gardens, Cark-in-Cartmel, Lancs.

GARDENER (Head Working, where one or two under are kept); life experience; excellent references; married, no family; both abstainers; age 29. E. FLETCHER, Holmbury St. Mary, Dorking.

GARDENER (Head, or good Single-handed), thoroughly experienced; all-round glass, fruit, flowers, and vegetables; excellent references as head; age 40; married; disengaged at any time; near London preferred. H. W., 32, Alexandra Road, Chislehurst, Kent.

GARDENER (Head Working) where three or more are kept; age 31; excellent references as to character and ability; disengaged. F. ALFORD, care of Mr. W. J. Read, Richmond Terrace, Winchester Street, Romsey, Hampshire.

GARDENER (Head Working).—Mr. BROWN DOUGLAS highly recommends A. WALTON, as a thoroughly practical, energetic Man; age 33, married, no family; life experience; abstainer; eight years previous; wife willing to help indoors if required. WALTON, Hillsbrow Gardens, Redhill, Surrey.

GARDENER (Head, Working). — Mr. HAINES, The Gardens, Dorencourt, Warlingham, Surrey, wishes to recommend his Foreman, FRANK DIBBIN, as above; twelve years' experience in good establishments, including Syon House, Coombe Abbey, and Burford; age 28; married when suited.

GARDENER (Head Working, where several are kept); life experience in all branches; 10 years last place; used to Growing for Exhibition choice Flowers, Fruit, and Vegetables; age 30; married when suited. H. J. KING, 1, Pretoria Cottages, West Lane, S. Hayling, Hants.

GARDENER (Head Working), age 33, married. H. MARKHAM, Gardener to The Right Hon. Viscount Enfield, will be pleased to recommend a most dependable, energetic Man of good experience to any Lady or Gentleman in want of a good Gardener. Wrotham Park Gardens, Barnet, Herts.

GARDENER (Head Working), age 50; single; well understands the cultivation of Fruit, Plants, and the general routine of a well-kept Garden. SMITH, Somerleyton Green, Lowestoft.

GARDENER (Head Working or Single-handed); life experience Inside and Out; five years last situation; good references; married when suited; age 29. N. BRACKLEY, St. Leonards, Tring, Herts.

GARDENER (Head Working), good, practical life experience in all branches, Inside and Out; early and late forcing; especially good with Melons, Violets, and Chrysanthemums; nine years with last employer as Head; can have excellent references. H. TURNER, 4, Glenton Street, Peterborough.

GARDENER (Head Working); life experience in good establishments; excellent references; thoroughly recommended by present employer; age 26; married when suited. C. PAYNE, Nazeing Park, Waltham Cross.

GARDENER (Single-handed or Head where two or three are kept); thoroughly experienced, Inside and Out; 9½ years in present Situation; good reference; age 37; married, small family. RICHARD NEWMAN, Moor Cottage, Crondall, Farnham, Surrey.

GARDENER (Single-handed); experienced Inside and Out; left through death; 11 years' good references; understands Poultry; married; age 32. ANDREWS, 33, Oxford Road, Sidcup, Kent.

GARDENER (Single-handed, or Kitchen Garden); age 26; 11 years' experience in Flowers, Fruit, and Vegetables; highly recommended. H. GAYLOR, Lythe Hill Gardens, Haslemere, Surrey.

GARDENER (Single-handed or with help); good experience; well up in Herbaceous and Kitchen Garden; good references; married; age 40. GULL, 77, North Road Avenue, Brentwood, Essex.

GARDENERS (Single-handed or with help) seeks re-engagement; experience Inside and Out; poultry, etc.; good references by me; 18 months at present place in a nursery; willing to be useful; age 25, married; 1 child, boy, 6 years. C. SMITH, 44, Ravenbourne Road, Catford, S.E.

GARDENER (good Single-handed or with help); 24 years' experience in all branches; age 38; married, no family; good reference. E. SMITH, 67, Sandringham Road, Willesden Green, N.W.

FOREMAN (Working), abstainer; 12 years' experience Propagating and Growing Softwood, Roses, Clematis, etc. Decorating, Wreath-making; good salesman. CLEMATIS, 4, Violet Terrace, Colham Green, Hillingdon.

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GARDENER (Second), where four or five are kept; 10 years' experience; 18 months as foreman; age 24; married; good references. GARDENER, 50, Chelsham Road, South Croydon, Surrey.

GARDENER (Second), seeks RE-ENGAGEMENT; 15 years' practical experience in leading places; good references; married; age 27. South preferred. GARDENER, Hill Cottage, Sunninghill, Ascot.

GARDENER seeks SITUATION, Single-handed, or Second; 11 years' experience; good references; age 25; single. A. RANDALL, 40, Victoria Place, East Street, Epsom.

GARDENER (42) seeks SITUATION, with one under, or good single-handed with help; life experience with Fruit, Flowers, Kitchen Garden; 19 years present place; leaving no fault; good references; married when suited. COVENTRY, Reading Road, Pangbourne, Berks.

GARDENER, good all-round, Inside and Out; 6 years' good character; leaving through death. F. COSSINS, Placewood, Sutton Valence, Maidstone.

JOURNEYMAN (First, Inside). — J. TAYLOR, Latchmere Gardens, can with confidence recommend Young Man as above; first-class experience gained in good establishments, including Deepdene and Worth Park. JACKSON, 110, Richmond Park Road, Kingston.

JOURNEYMAN (Second, Inside or Inside and Out), age 26, with thorough Nursery training; 12 years' experience Fruits, Chrysanthemums, Carnations, and Greenhouse Plants; highly recommended. H. SHARD, The Hough, Alderley Edge, Cheshire.

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MR. W. PALMER can with confidence recommend W. WATLING as IMPROVER; active and trustworthy; been here four years; age 18. Apply Fern Hill Gardens, Thorpe, Norwich.

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For OCTOBER 16, 1909.

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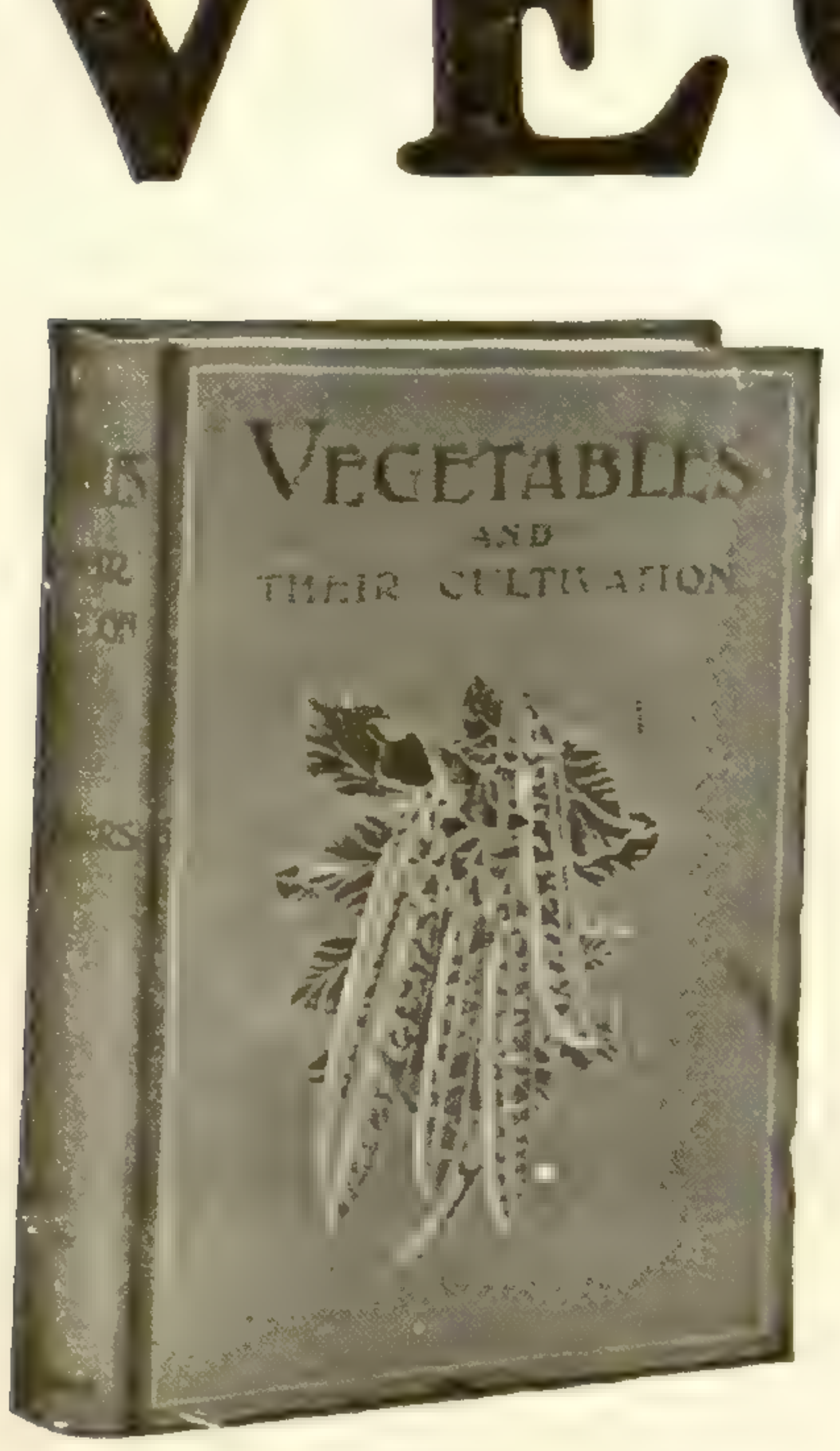

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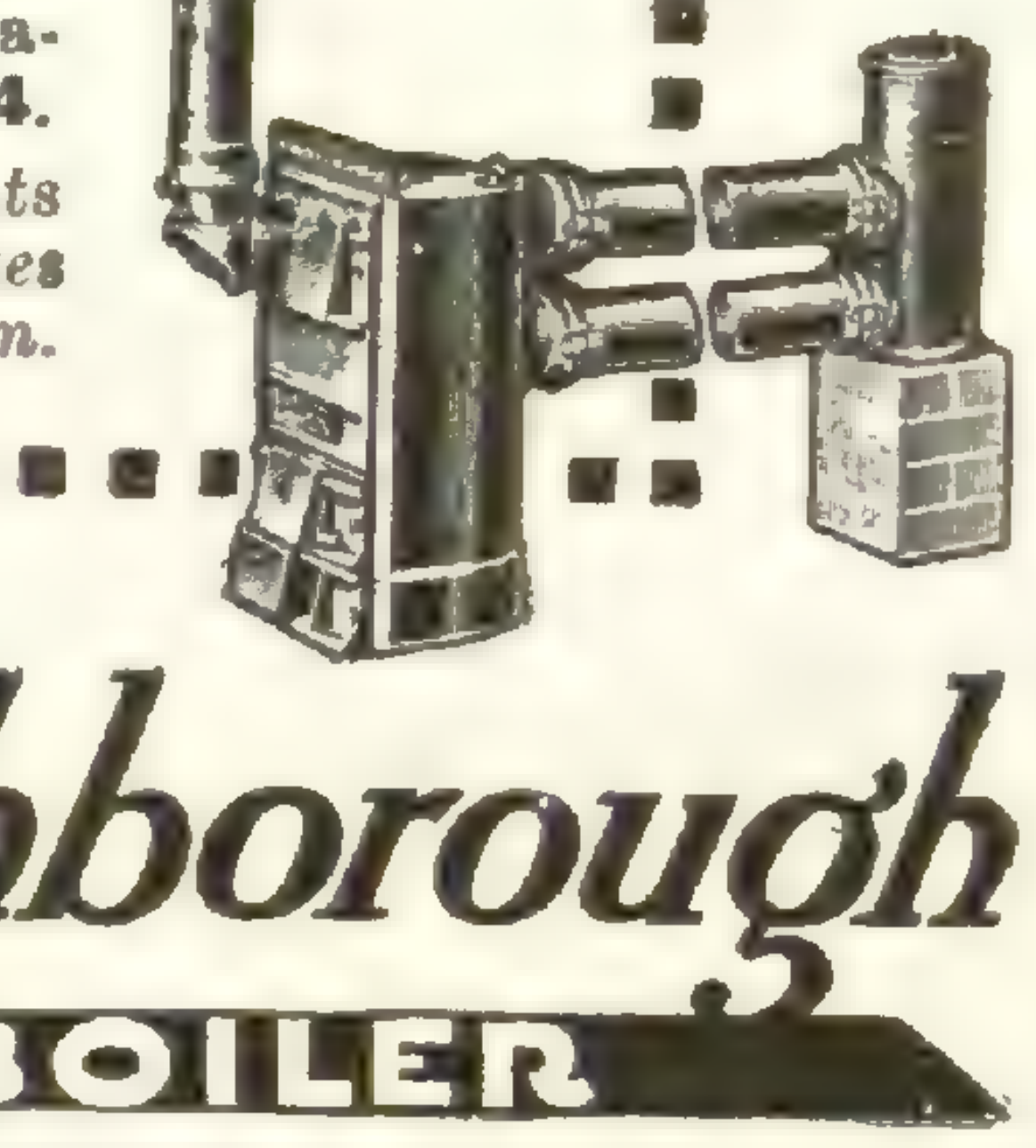

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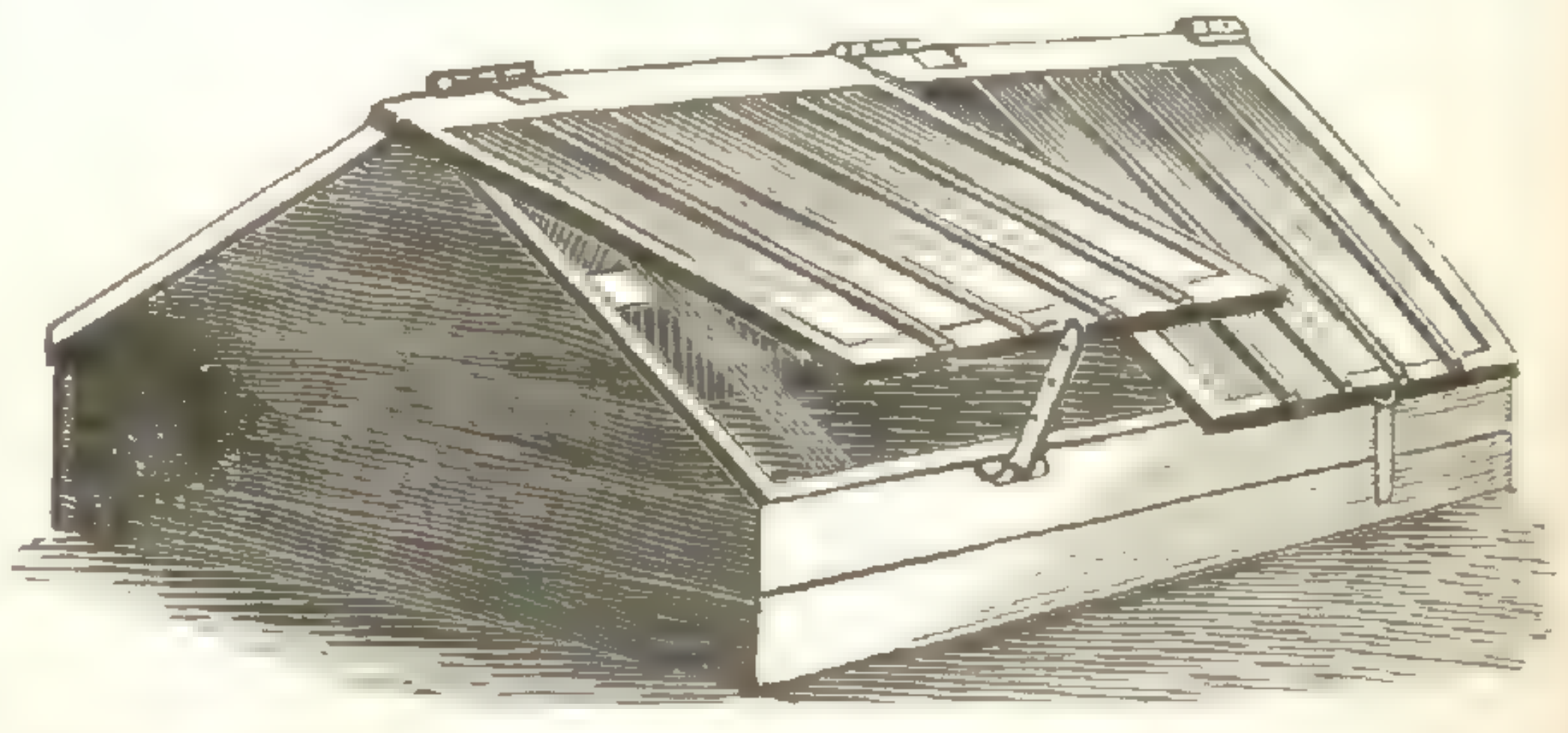

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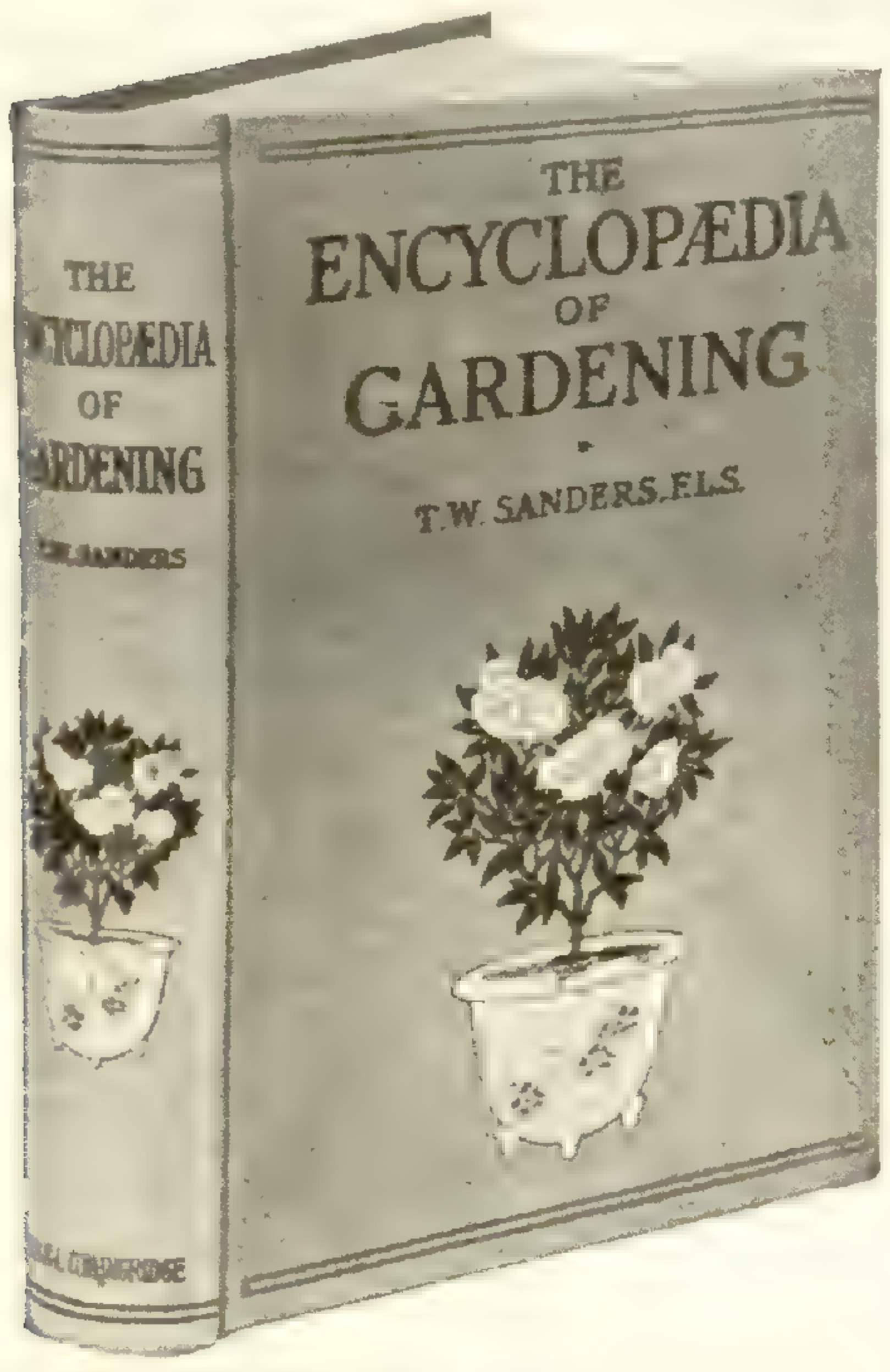

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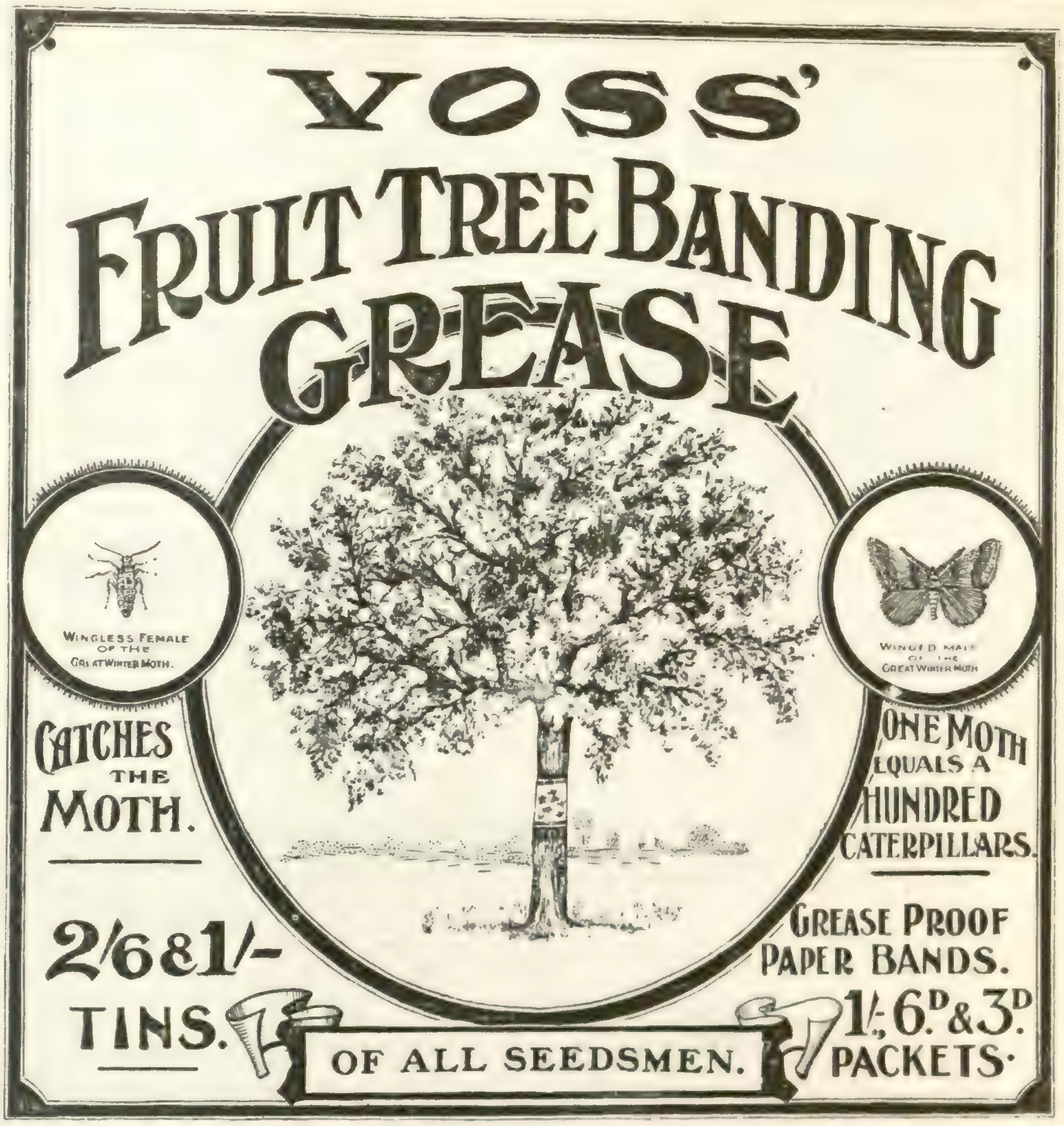
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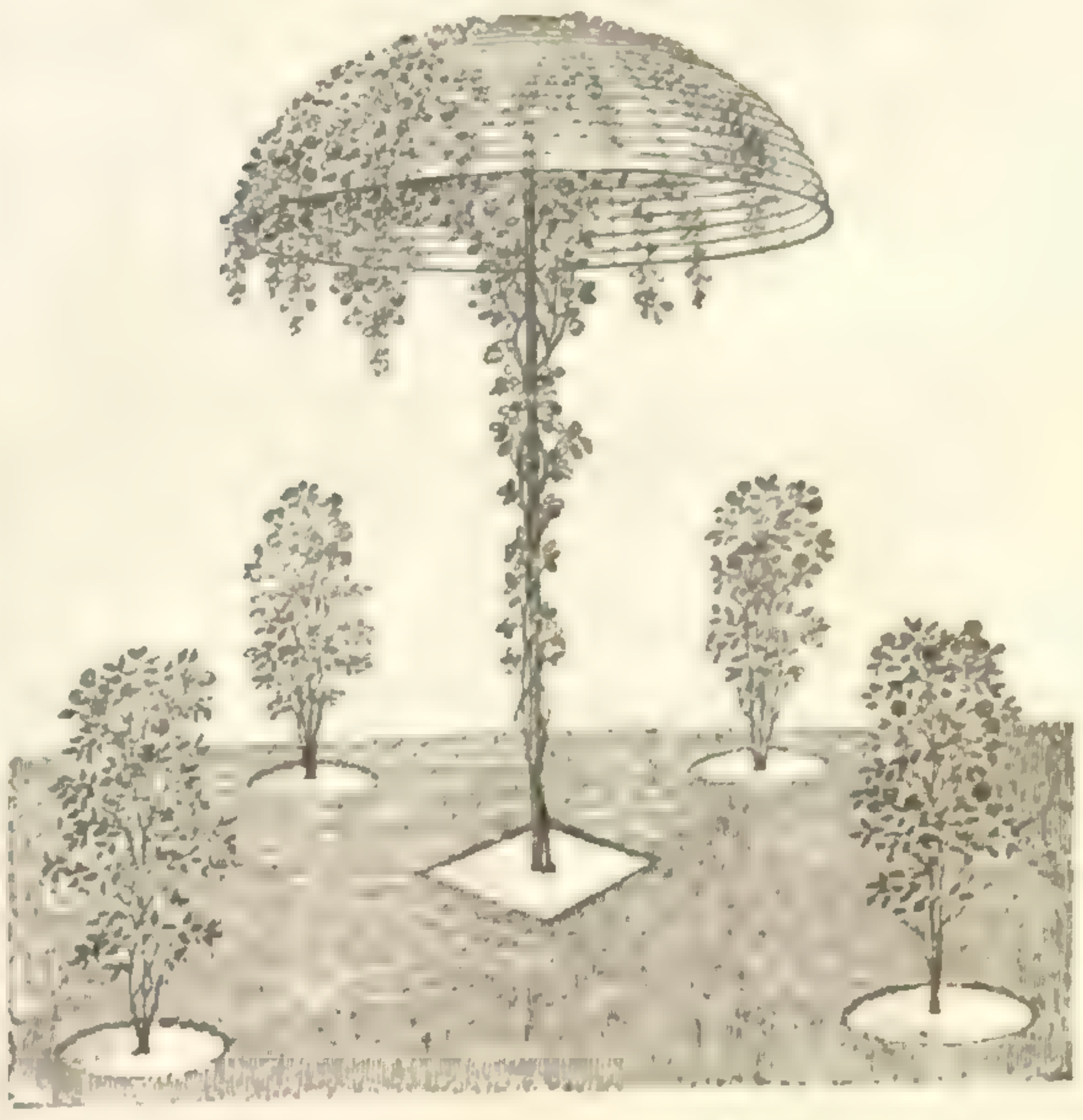

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VOL. LII.—No. 2,920. SATURDAY, OCTOBER 16, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

The Planting Season.

The season in which the more important of the planting operations that immediately concern owners of gardens, and those engaged in their management, should be carried out, has once more opened, bringing with it plenty to engage the thoughts and occupy the time of those who contemplate the making of alterations on a comparatively large scale. To achieve success in planting, whether it be of useful or ornamental trees, shrubs, or hardy border flowers, it is necessary to carefully consider well in advance the work to be carried out, that the needful preparations may be made and injurious delays and serious loss of time be avoided. The importance of an avoidance of delays cannot be too strongly insisted upon, and the necessity for having everything in readiness that the operations may be carried on with due expedition will be all the more readily appreciated when it is remembered that, owing to the variability of the British climate, the weather may put a stop to the work at any time before the month of November is far advanced. It may be an excessive rainfall, or a severe frost, and the delay caused thereby may be sufficient to prevent the work being done under the best possible conditions. Ornamental trees and shrubs, fruit trees and bushes, and hardy border plants may be, as indeed they are, planted with more or less success between the latter part of the present month and the end of February, provided the weather is open and the soil in a condition that will admit of it being readily worked. But as already pointed out, we cannot be certain of a continuance of favourable conditions for any considerable period after the autumn season has run its course. In any case, there is no period in the whole year in which planting operations can be so successfully carried out, provided the weather conditions are normal, as the second and third months of the autumn quarter. Last year the weather in October was so abnormally hot and dry that planting could not be proceeded with so early as usual; but this year the conditions are such that it may be commenced at once. One of the several reasons why trees and shrubs should be planted as early in the autumn as practicable is the relatively high temperature of the soil. This, at between two and three feet below the surface, is, in October, 60 degrees; in November 55 degrees, a decrease of 5 degrees; in December, 49 degrees; and in January, 46 degrees. In the two following months there are small increases, the earth temperature in March being 50 degrees. We need not, in giving these figures, dwell upon their significance, as it will be evident to all who have had experience in the garden that a difference of between 5 and 10 degrees in the temperature of the soil will have a material influence in promoting root production. As a matter of fact, trees planted now will be found pushing their roots freely into the new soil before the end of next month, and be so well established by the spring that they will grow away vigorously on the resumption of activity in plant growth. Early planting may be regarded as an essential point in good practice, and a thorough preparation of the soil is not less necessary. The old practice, which still obtains in some quarters, of making holes just large enough to receive the roots, should be abolished, as even in the most friable of soils the results are more or less unsatisfactory. We advise that where any considerable area has to be planted with fruit or ornamental trees, or with shrubs, that the whole area be trenched to a depth of two feet. The character of the subsoil will determine whether it should be brought to the surface or not, and unless it be in a friable condition the soil forming the bottom spit should be well broken up with a fork and allowed to remain there, and the top spit from the next trench be turned over upon it. The quarters to be devoted to fruit trees should certainly be trenched and the additional cost, as compared with simply opening out holes for the roots will be repaid a hundredfold. Where the trees and shrubs are few in number the stations should be marked, and holes opened out of a sufficient diameter to take the roots and give a little space to spare when they are spread out horizontally. The depth at which to plant is an important point, and the soil mark on the lower part of the stem will be a good guide in the case of trees received from the nursery. Trees and shrubs removed from one part of the garden to another should, as a rule, be planted at the same depth as before. To cover the roots with the finer part of the soil, and to carefully work it between them is a detail so well known that there is no occasion to do more than merely mention it in passing; but the firm treading of the soil as the holes are being filled is of far-reaching importance, and we would direct special attention to it. Soil cannot well be rammed too firmly about the roots of newly-planted trees, as so conclusively proved by the experiments made by Mr. Spencer Pickering, F.R.S., at the Woburn Experimental Fruit Farm. In these experiments the soil about a certain number of the trees was rammed until it was converted into a paste, and, to the surprise of all concerned, these made a much better growth than trees which had the soil trodden about them in the usual way. We do not suggest that the soil

[Photo: J. Bacon and Sons.

MR. ARTHUR J. ALLSOP.

should be rammed until it passes into a pasty condition; but we advise the soil being made much firmer than is usually considered necessary, and, as an encouragement to planters to act upon this advice, it may be stated there is very little danger of the soil being rammed too firm. There is one other detail of general application that should receive close attention, and that is securing newly-planted trees to stakes in such manner that they will not sway about with the wind, or have their bark injured by abrasion. There are other details of more or less importance, but our object is not to give a lengthy treatise on planting, but to direct attention to the points on which success chiefly depends.

Mr. Arthur J. Allsop, who is parks superintendent at Leeds, is one of the best-known gardeners in the broad shire of York. Mr. Allsop's earliest instruction in matters horticultural was received from his late father, then head gardener to Lord Hotham, at Dalton Hall, near Beverley. From Dalton Hall he went to Trentham, and eventually took charge of the decorating department there under Mr. P. Blair, and attended the great shows at Shrewsbury, Manchester, York, etc. At this time Mr. Allsop was yet in his teens, and he had only just reached man's estate when he was appointed head gardener to Viscount Portman, at Bryanstone, Dorset, where he prepared plans for, and undertook the laying out of the grounds around the new mansion then in course of erection. It was here that Mr. Allsop must have felt deeply grateful to his father for the care and interest taken with him when still a schoolboy, as he at that early date had to keep the trees and plants properly labelled, and measure up portions of the garden, and place these, to scale, on paper, after measurement. By the time he left school he knew more plants and more about the fundamental work of landscape gardening than most young men of twenty-one. After ten years with Lord Portman Mr. Allsop left Bryanstone with the intention of commencing business as a landscape gardener, but the post of superintendent of parks at Leeds was then vacant, and he applied for it, feeling that perhaps here was an opportunity for his taste in laying out public parks. There were two hundred applicants, and he secured the position in 1901, and has retained it ever since with great credit to himself and advantage to the town, as everyone will admit who has seen the Leeds parks in spring and summer.

Geographical Distribution of Plants.—It is with great pleasure we learn that a free course of ten lectures on the Geographical Distribution of Plants has been arranged by the University of London, and will be delivered by Professor Percy Groom, M.A., D.Sc., Assistant Professor of Botany at the Imperial College of Science and Technology, and Mr. A. W. Hill, M.A., Assistant Director, Royal Gardens, Kew. These lectures commenced on Wednesday, October 13, and will be continued on succeeding Wednesdays at 5 p.m. in the Botanical Department, Royal College of Science, South Kensington, S.W. No tickets are required.

Chrysanthemum Prospects.—Mr. W. J. Godfrey writes from Exmouth: "If one may judge at this early period, the prospect of a good chrysanthemum season is a very rosy one. Generally, the plants are stronger, cleaner, and healthier than has been the case for several seasons past. The buds are swelling freely and are of bold form, while those expanding are giving blooms, in most instances, of large size, with rich colourings in the bronze, purple, and crimson tints. Last season the buds did not swell with that freedom most growers desire, and the resulting blooms were very deficient in colour, so much so that many really good varieties came into bad repute. Damp, so far, has not been so destructive as usual. Much has tended, in recent years, to discourage even expert growers of the big exhibition Japanese blooms, and this, combined with the constant disparagement of this section by many writers in the Press has, in some measure, diminished the popularity of chrysanthemums. However, the present prospect may result in such a way that new life will be infused into the 'fancy.' Some growers insist that without 'ripened wood,' it is difficult to produce good blooms. It looks as if this idea will prove to be fallacious, for there certainly has been little or no chance of ripened growth this season."

Secretaries of Horticultural Societies are reminded that the "Gardening Year Book" is in an advanced stage of preparation, and that it is important they should return the forms sent to them some time since with as little delay as possible. The directory of "Horticultural and Botanical Societies," which forms so useful a part of the work, is annually subjected to a thorough revision to ensure it being thoroughly trustworthy, and societies from whom no information has been received are consequently omitted. We shall be glad to receive notification of the formation of new societies, and the names of officers. These, as in the case of the forms, should be at once sent to the Editor of "Gardening Year Book," 148 and 149, Aldersgate Street, E.C.

The National Sweet Pea Society will hold a two days' show in 1910, at the Royal Horticultural Hall, Westminster, and the dates fixed are Tuesday and Wednesday, July 12 and 13.

Foreign Fruit Supplies.—The total value of raw fruits imported into this country during the month of September was £765,487, as compared with £701,706 and £681,840 in the corresponding month of 1908 and 1907 respectively. There has been a falling off in apples, grapes, bananas, and cherries, but very considerable advances in plums, pears, oranges, nuts, and lemons. Apples cost us £60,559 for 104,564 cwts., as compared with £98,810 for 178,532 cwts. in September of last year. Grapes amounted to 123,587 cwts., costing £103,264, while 592,216 bunches of bananas were valued at £169,558, as against 682,276 bunches, valued at £187,828, in September of last year. We imported 30 cwts. of cherries, instead of 132 cwts., and these cost £30. It is difficult to account, in such a good plum season, for an advance of 48,747 cwts., the total amount being 92,591 cwts., valued at £65,952, the latter figures being £34,824 in advance of the cost of imported plums in September, 1908. Grapes advanced in quantity from 110,091 cwts., costing £106,652, in 1908, to 123,587 cwts., that only cost £103,214 during the recent month. Nuts showed a big advance from 48,159 cwts., valued at £87,766 in the corresponding month of last year, to the recent returns of 68,159 cwts., valued at £137,292. We imported 164,748 cwts. of pears, compared with 134,847 cwts., the values being £141,268, and £119,268 respectively. Oranges advanced in quantity from 17,335 cwts. to 28,009 cwts., and in value from £13,516 to £18,481, while lemons advanced from 45,262 cwts. to 67,119 cwts., and from £19,678 to £30,896. It is interesting to notice that in September, 1908, 54 cwts. of currants cost £66, whereas this year 32 cwts. cost £67. No strawberries or gooseberries were imported during the month, but apricots and peaches cost £486, an advance of £100, and unenumerated fruits cost £37,684, or nearly £1,300 more than in the corresponding month of 1908.

Ornamental Trees and Shrubs formed the subject of an interesting and instructive paper read before the members of the Scottish Horticultural Association at their monthly meeting, in the Goold Hall, Edinburgh, by Mr. W. Smith, of the Holyrood Gardens. In his opening remarks Mr. Smith directed attention to the beautiful trees and shrubs recently introduced from Western China, and advised planters to take full advantage of them when forming new gardens and making additions to old ones. He suggested that in all schemes of planting winter effects should receive full consideration, and that coniferous trees should be freely utilised in providing shelter for choice subjects, and shutting out unsightly objects. Mr. Smith also advised the inclusion in selections of a proper proportion of trees remarkable for the beauty of their foliage in autumn.

Flower Gardening in Battersea.—For the sixth year in succession the Battersea Borough Council, with a view to encouraging the cultivation of flowers and plants by the tenants of their houses and tenements (351 in number) on the Latchmere and Town Hall Estates, invoked the aid of the Battersea and Wandsworth Amateur Chrysanthemum and Horticultural Society in arranging, under certain conditions, competitions for the best kept outdoor and indoor flower, etc., gardens. The society willingly undertook to make the necessary arrangements, and the competitions were arranged as follows: Class A, Upstairs window sill gardens; Class B, Indoor window gardens; Class C, (a) Centre; (b) Gardens nearest houses. The total number of entries were 43. Under these conditions the society have awarded prizes and certificates as follows: Class A, 3 prizes and certificates; Class B, 3 prizes and certificates; Class C, (a) Centre gardens, 7 prizes and 11 certificates; (b) Gardens nearest houses, 7 prizes and 8 certificates. The judges appointed by the society were Mr. J. Brown, Mr. W. Flood, and Mr. S. J. Saunders. The presentation of prizes and certificates by the Mayoress (Mrs. W. Willis) took place on Thursday, October 14, in the Small Hall, Latchmere Road Baths, Battersea, at 8 o'clock, and the presentation was made the occasion of a public meeting.

Botanical Appointments.—Dr. Jessie S. Bayliss has been appointed lecturer in botany at the Birmingham University. Mr. F. T. Brooks, of Emmanuel College, and Mr. D. Thoday, of Trinity College, have been respectively appointed senior and junior demonstrator of botany at Cambridge University.

Imported Vegetables. — Our vegetable importations during the month of September were valued at £236,019, while in the corresponding month of 1908 the value was £248,505. Onions showed an advance from 819,719 bushels to 823,096 bushels, valued at £97,219 and £103,369 respectively. Potatoes amounted to 168,228 cwts., costing £21,735, as compared with 167,250 cwts., valued at £27,791 in 1908, and, as usual, France sent us the largest quantity. Tomatoes have declined from 119,224 cwts., valued at £113,729, to 108,427 cwts., valued at £103,573. Unenumerated vegetables show a decline in values from £9,766 to £7,342.

BUSH APPLE TREES.

The better acquaintance with, and the consequent extended use made of the paradise stock as a host for apple trees in gardens, has been largely responsible for the present popularity of bush-trained trees. Apart from this, the usefulness of such trees, when planted either in the open garden in plots, or upon borders bounding the vegetable quarters, alongside the pathways, is evident, while in spring the beauty of the many tinted blossoms delight the eye to a degree scarcely less than that of the crops of fruit in autumn.

Preparation for Planting.

Soil that is in good heart, or that for a number of years has produced satisfactory vegetable crops, and has received the usual dressings of manure, together with deep working annually, requires but little labour and expense to put it in fit condition for the reception of the roots of fruit trees. In the open garden trenching of the whole space to a depth of two feet, or even more, should the nature of the subsoil permit of this being done, must be practised, but in no case should a cold, inert, and previously unworked subsoil be brought to the surface, or into immediate contact with the tree roots. The breaking up of this latter, and the addition of liberal supplies of farmyard manure, together with any corrective substances that may be at hand, as leaf-mould, burnt ash, or lime rubble, will tend to improve it.

Separate stations are best prepared by marking out a space about five feet in diameter, and therefrom digging out and placing aside the surface soil, after which the lower strata may be dealt with, as already indicated. In every case it is advisable to use a portion of quite fresh soil to each tree when planting, or, if plentiful, new soil may entirely replace the old.

Planting.

This is best done in November, as early as the trees can be obtained, if transplanted from a distance, and although most of the leaves will have been shed before removal, a few still adhering to the branches is helpful to root action. In low-lying or very moist situations the stations should be raised to nearly the level of the surrounding ground. The base of the tree being placed thereon the roots may be evenly spread around at a slight incline from the main stem, all broken or damaged parts being cut away. The soil should be of a necessary degree of fineness, to enable it to be comfortably worked among the fibrous roots, until these are hidden, when that of coarser texture may be added to a depth, when finished, of at least four inches. The operation of planting should be performed when the soil is in a fairly dry state, when it may be trodden freely, and should water be thought necessary afterwards it may be applied, and a mulching of litter or long grass should be given if severe frosts follow.

Form of Tree.

The mere mention of a bush-shaped tree conveys a fair idea of what should be aimed at in the way of pruning and training. One-year-old or partly-trained trees may be employed; the former, when received from the nursery, will probably consist of a bunch of fibrous roots and a long straight stem, and as such it would be best planted, and in the following spring, before growth perceptibly commences, this stem may be reduced in length to about twelve inches, when three or more shoots will start below the point of severance. This number of shoots is sufficient to form the base of the future tree, and care should be taken that they are as evenly situated as possible, and have an outward tendency. From these other vigorous shoots will spring, some of which may point towards the centre of the tree, and such should be removed as soon as observed, and any others likely to cause undue crowding be similarly treated, thus enabling the main branches to get full benefit of sunlight and air to ensure maturity. The outline of the future tree having been thus formed, most of the pruning required can be done in summer by means of pinching the growths while yet soft, merely shortening the spurs to a few buds in the winter season.

Trained Trees.

When planting these at the outset much trouble, if such it may be described, is saved, but supports of some kind to prevent injury from wind storms may be necessary until roothold is again established. Pruning for a few seasons until the foundations of the trees are laid will require careful attention, to keep the stems and branches well furnished with fruit spurs. Some varieties lend themselves to this particular form of training more kindly than others, but being the most natural form of any there are very few that cannot be coaxed into handsome and fruitful trees without much effort. The main point in the culture of bush trees is to keep the centres clear of useless growths, and if very shapely specimens are anticipated, a few stakes and some cord to secure refractory branches to the desired positions is time and material well expended.

Culture in the Fruiting Stage.

It may be mentioned that trees of this kind that invariably fruit early, and often very freely, require somewhat different treatment in regard to manurial supplies than do others grafted upon the crab stock, the roots of which ramble far and wide in search of food supplies, which those of the paradise are, to a great extent, incapable of doing. Hence stimulants in some form should be applied, according to the seeming necessity of the case. Drainings from stables and cattle sheds, diluted if necessary, and applied to the roots at any season, but more especially during the autumn and winter months, are very beneficial, or artificial compounds given similarly during growth assists the current year's crops to maturity, while sustaining the health and vigour of the trees for the future. Adequate moisture at the roots is at all times necessary, and should a scarcity of water at any time during the growing season be probable, a mulching of stable manure three inches in thickness, placed as far around the tree as the roots extend, will considerably check evaporation, and mitigate the evils that arise from drought.

Varieties Well Suited to Bush Culture.

The following list comprises sorts that, while being the best in their respective divisions, are also compact growers, forming prolific bush trees: Dessert.—Beauty of Bath, Mr. Gladstone, Devonshire Quarrenden, Worcester Pearmain, James Grieve, King of the Pippins, Allington Pippin, Mannington Pearmain, Scarlet Nonpareil, Adam's Pearmain, Ribston Pippin, and Cox's Orange Pippin. The last two will not succeed in cold districts, but are well worthy of a trial. Culinary varieties are: Early Victoria, Pott's Seedling, Stirling Castle, Warner's King, The Queen, Loddington, Lane's Prince Albert, Bismarck, Norfolk Beauty, Queen Caroline, Bramley's Seedling, and Newton Wonder.

James Day.

Galloway House Gardens,
Wigtownshire.

CURRANTS AND GOOSEBERRIES.

These hardy fruits rank among the most wholesome and popular kinds grown, and within the last two or three decades vast improvements have been brought about both in their culture, training, and the introduction of improved varieties. So numerous are the varieties now that it is somewhat difficult to make a selection of the best kinds for each particular garden, but if the cultivator is observant he can generally discriminate before planting.

I believe some of the older varieties are still the best in a general way, but they may well be supplemented by a few of the newer introductions, but it is best not to grow too many varieties, for while some give large and fine fruit, yet one does not always procure the same bulk from a given number of trees. I am induced to make this statement as my remarks apply to the growing of these fruits for commercial purposes, or in large gardens, where quantity as well as quality is needed. When one wants exhibition fruits some of the newer varieties should be grown as well as the best of the older ones.

Any fairly good garden soil will grow currants and gooseberries, provided it be well drained; at the same time, a somewhat retentive soil is best. In dry seasons on a dry, porous soil the trees suffer considerably, and where such exists a heavy mulch of half-rotted stable or cow manure should be put on in spring, and remain throughout the summer. I am not in favour of mulching during summer on heavy soils. The necessary manure should be forked in during winter or early spring, or occasional dressings of soot and approved artificials be applied when the roots become active.

Every means should be resorted to in private gardens to maintain a supply of fruit over as long a period as possible, and to ensure this desirable end some trees must be planted in a partially shaded part of the garden, and then by selecting late varieties and covering the trees with netting before the fruit is fully ripe the crop will hang for a long time. Planting may be performed at any time after the fall of the leaf, from November and onwards. No time should be lost in preparing the ground by manuring and trenching.

Although currants and gooseberries are generally grown as bushes, with a clear stem of about six inches above the ground level, I have a great regard for the cordon system of training them, especially gooseberries for private gardens, as a far greater weight of fruit of extra fine quality can be gathered from a given area by this means than from bushes, and the trees can be easily protected from the ravages of birds. For covering walls the plants should have been specially prepared, as either single, double, or triple cordons. Single cordons may be planted one foot apart, and the others two feet and three feet respectively. Wires should be strained horizontally some six or eight inches apart, and two or three inches from the face of the wall, as this is far preferable to nailing the shoots closely to the wall.

Red currants are in great demand for tarts and preserves, especially so while raspberries are to be had for mixing with them, and when these latter are past it is seldom red currants are in request in private establishments, except for making jelly. A point to bear in mind is the need for planting a certain number of young, vigorous bushes occasionally, to replace any that are becoming worn out. When the newly-planted trees are well established and yielding fruit, grub out the worst of the older ones. This remark applies equally to all bush fruits. In gardens where sufficient space is at command it is good practice to thoroughly manure and trench a plot for a young plantation quite away from the old one, and when this is planted and in full bearing, grub out the others and consign them to the rubbish fire.

Pruning may be performed at any time after the fall of the leaf, and the main points to bear in mind are to keep the centre of each bush open for the admittance of abundance of sun and light in order to mature the wood and perfect the fruit. The leading shoots of this season's growth should be shortened to about six inches, and all lateral growths emanating from the spurs must be cut to within three or four buds of their base. White currants require exactly the same treatment. These are seldom grown in quantity, but the fruits are sometimes liked for dessert, as they are less acid than the red, and afford a useful addition and change on the table.

Good varieties are Fay's Prolific, Raby Castle, Scotch, White Dutch, and American Wonder.

Black currants are invariably grown as bushes, and the fruit used for culinary purposes only. As the fruit is borne upon the wood of the current year's growth it is obvious that the trees should be encouraged to make long and stout growths every year, and this cannot be ensured except on young, healthy bushes. Some of the older branches may be cut clean out at the base to encourage a few of the sucker-like growths springing from the stool. It will thus be seen that the methods of pruning the black currant are totally different to that practised with the red. Good varieties are Baldwin, Lee's Prolific, and Boskoop Giant.

The method most generally adopted for growing gooseberries is as bushes, and for the general crops the bush system is best. I have cultivated these very successfully as cordons on north walls, having been able to put excellent dishes of fine, full-flavoured fruit upon the table as late as the last week in October. Our plan is to shorten the current season's growths in July to within three inches of the main spur, and in winter cut back to three or four buds. The leading shoot may be left six to nine inches, according to the strength of the plant. When pruning cut out entirely all weak shoots from the base, thin out the weaker of the upper branches to admit light, and retain all leading and well-placed branches their full length.

The best varieties for cordons are Lord Derby, Crown Bob, Massington, Whinham's Industry, and Pitmaston Gage. For bushes, Crown Bob, Whinham's Industry, Langley Beauty, and Massington.

Both currants and gooseberries are subject to the ravages of several insects, viz., the caterpillars of the magpie moth, the gooseberry sawfly, aphides, and red spider. As a deterrent the trees should be occasionally well syringed before the fruit is far advanced with an approved insecticide, of which there are plenty effectual ones on the market.

When badly attacked with caterpillars hand picking must be resorted to. Immediately after pruning in winter the soil under the trees should be raked off to a depth of two inches and burnt, adding in its place some good loamy soil and decayed manure. This will effectually destroy the larvæ that secretes itself there for the winter months. Red spider and aphides can generally be kept in check by syringing with an approved insecticide alternately with clear rain water.

H. T. MARTIN.

GREASE BANDING.

The time is fast approaching when those who intend to grease band their fruit trees should commence the work, and all the things necessary—the grease and paper, raffia, paste brushes and pails, should be in readiness.

The grease used is required to remain tacky in at least a slight frost, certainly during very cold weather; to remain sticky and not run off, or harden like varnish during warm weather, such as was experienced during the autumn of 1908; and it must not easily be washed off by rain. In addition to all these, it must not contain anything injurious to the health of the trees, if, by chance, it should run off the band on to the bark.

A great many people are applying the grease directly to the bark of the trees without any grease-proof paper band, but we are sure that this is dangerous, and absolutely unnecessary, as it takes very little time, and costs little, to provide and fix the paper bands.

We once, in the very infancy of grease banding, lost many fine trees, killed by the grease which we put direct on the trees, and this proved a very deadly preparation. We use the ordinary grease-proof paper, which is sent out by the grease makers, and which comes cut into strips, six to eight inches wide, and about twenty-four to thirty inches long. Some of these it is necessary to use of whole length, some three-quarter, and some half length, while the portions cut off the middle size will often come in for the young trees which have very small stems. We cut our paper beforehand into these sizes, keeping them separate in the basket, which contains the paste pail and board, and the workers soon become skilful in judging the size of paper any tree requires.

The pasteboard is shaped at the bottom end so as to fit in a pail, and is capable of taking a piece of the paper full length. Ordinary flour paste is all that is needed in the way of adhesive compound, care being taken to mix quite cold water with the flour at first, the boiling water being stirred in afterwards; by this means the paste will be made of thick consistency and without lumps. In addition to the paste, we take the precaution of tying the top and bottom with raffia, to prevent rain getting between the tree and the paper. The band should be placed well up the trunk of the tree in the case of standards and half-standards, but below the lowest branches. Within reasonable limits the higher the band the better. We do not believe much in the danger suggested in certain quarters of moths laying on the trunk below the band if the latter be placed very high. It is important to prevent any bush fruit tree from touching the branches above the band, as there is a probability that the moths might crawl up into the tree by that means. The same is true of the stakes which are used to support the trees, and for this reason the latter should always have a little grease put round them.

We have tried several devices to prevent the grease from running off the bottom edge of the paper, and with varying success. On one occasion we twisted thick cord, of about half an inch diameter, round the bottom of the paper, no knot being used, but just a twist over and under with the end, the whole being drawn tight, and thus kept in position.

It was difficult to get the men to pull these taut enough, and the cost also of the cord, which could only be used once, was considerable, so that this scheme was finally abandoned, though we did many acres in this way one year. For the past season or two we have been forming a sort of collar round the bottom edge of the paper by creasing it in the following manner: The paper is laid on a flat table, and a girl folds over about an inch of one edge of the paper, running the flat of a knife, or a presser of some sort, along it to crease the edge. She then turns it again in the same manner, also pressing it lightly, and with a pair of scissors nicks this last edge at distances of about three inches all along, the cuts being a quarter to half an inch deep. The paper is cut into lengths, put in the baskets, and pasted on the trees in the same way as the ordinary unprepared paper, except that care must be taken to keep the folded side outside. When the raffia is tied round the necessary trouble must be taken to see that the bottom tie is just below the bottom of the cuts referred to which the scissors have made, and this will bring it about into the middle of the folded portion. Upon the careful carrying out of this depends the success of this method.

When the papers are nearly dry the cut edges are turned back, until they are nearly at right angles to the trunk of the tree, thus forming a paper shelf all round, though interrupted at every three inches or so by an opening produced by the cuts of the scissors. In practice we find that this paper trough remains fairly stiff during all the wet weather, and catches a considerable quantity of grease and oil running down the band, while the rain water flows away easily through the cuts in the edge. The grease which accumulates here remains sticky when all the rest of the surface of the band is dry and like varnish in appearance.

The grease is applied with a paint brush when the papers are quite dry, sufficient being put on to make a quite thick coat on the band; it is very short-sighted policy to stint the first coat, as this entails a large amount of work touching up, when it is ofttimes a very difficult job, owing to the papers seldom being dry enough. The grease should not come nearer than within about an inch of the bottom of the band.

During the time we have been grease banding we have used materials of varying stiffness, but, as a general rule, it has been necessary to churn up the grease first with a wooden rammer, finishing it off when in the paint pot which is used to carry it about in the plantation with an iron stirrer. A few turns with this latter tool, when the grease is in the pot, suffices to render it sufficiently soft and fluid to be easily applied with a brush, but it is necessary to stir again after about half the material has been used, for the constant drawing of the brush over the top of the grease serves to consolidate it.

Many of the greases which are upon the market are much softer and easier to use than those we formerly had to deal with, doubtless due to improvements in the machinery used for their manufacture, so that considerably less trouble is found now in making the grease fit to put on with a brush than was the case ten years ago. At the risk of seeming repetition, we would urge the absolute necessity of putting a good coat on at the first application, for never afterwards can the work be done half so successfully. It will doubtless be necessary to touch up the bands during the winter, but it is quite certain that the extent of this labour will be considerably curtailed by thoroughness at first.

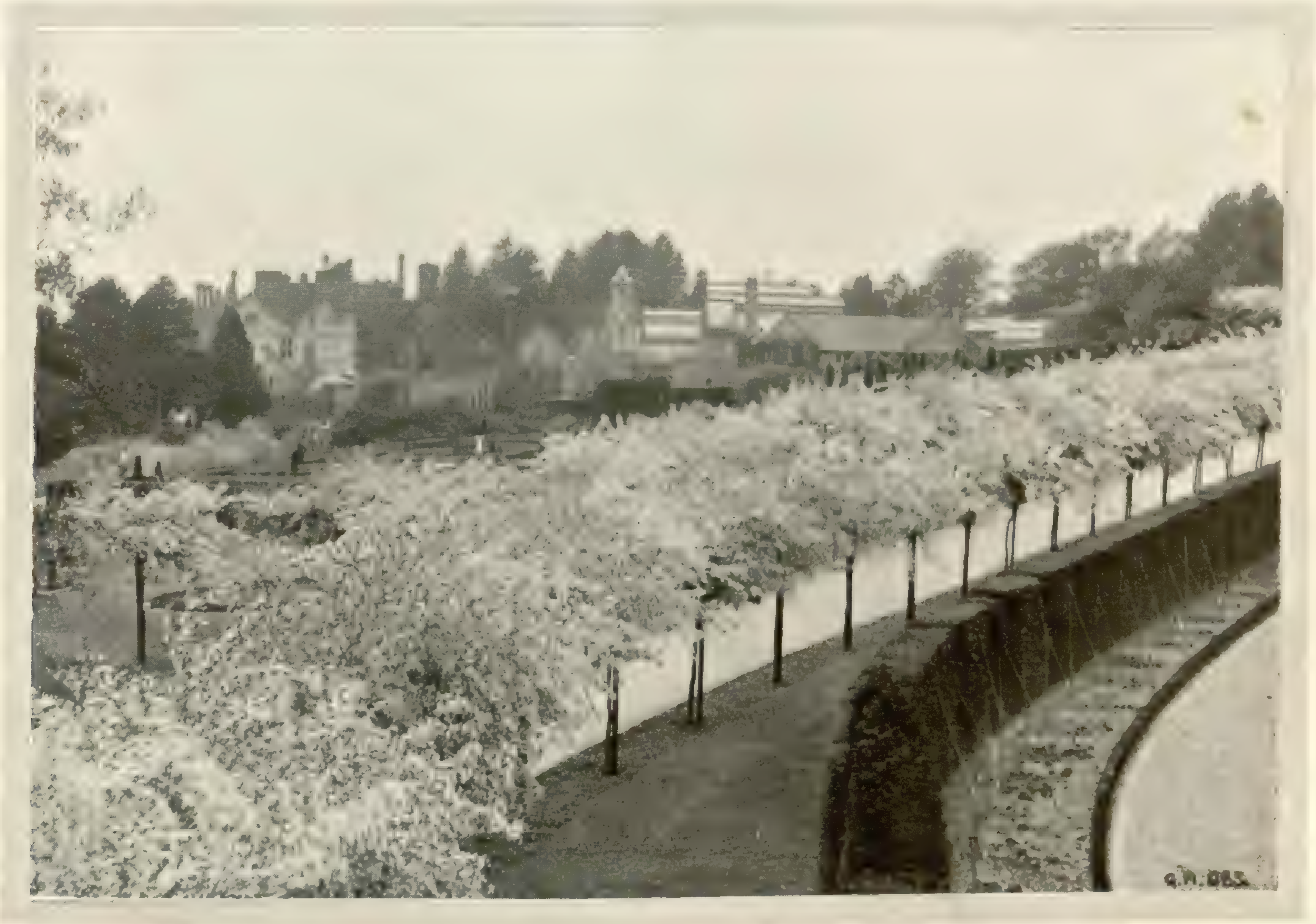
F. W. HAMMOND.

Pilgrims Hatch.

(To be continued.)

THE FLOWERING CRABS.

Few trees adapt themselves more readily to planting in various positions than do the many beautiful forms of Pyrus Malus now in cultivation. It is almost impossible to overestimate their worth, and certainly not their beauty, when, in the spring of the year, these are literally clothed with their wealth of flowers, the grandeur of which it would be difficult to surpass. Many other crabs are now producing fruit of a highly decorative character, thus considerably enhancing their value. Whether planted in the shrubberies, amongst other subjects (providing there is sufficient space for the tree to extend its long, semi-pendulous growths), or as isolated specimens on the grass or by the margins of streams or any form of water, these crabs will readily establish themselves, and develop into good specimens.



AVENUE OF PYRUS MALUS FLORIBUNDA AT PADDOCKHURST, SUSSEX.
The home of Sir Weetman D. Pearson, Bart.

At Aldenham we have several fine examples of Pyrus Malus floribunda on clean stems almost six feet high, with a spreading head of thirty to forty feet diameter, and these, when in full bloom, just as in the case of the avenue of those at Paddockhurst, create a sight which cannot fail to be appreciated.

Another feature connected with Pyrus Malus, and a valuable one, is the length of time the flowering period covers. Long before the flowers fully expand the buds, as they swell, assume a dark colour, and these, seen from a distance, are equally as pretty as the fully expanded flowers, which, when revealed, are of a more delicate colour in the interior.

P. M. floribunda atrosanguinea is a variety equally as vigorous in every way as the type, and it possesses the same character, but the flowers are of a more intense colour, being of a bright red, and perhaps in this respect, is a great improvement on the foregoing, though this is a matter of taste. The floribunda varieties produce fruit, but these are not so large or handsome as these of other kinds, though they are bright, and retained by the tree longer than is the case with many of the more showy flowering kinds.

P. Niedzwetzkyana, of more recent introduction, is a valuable addition, destined to take a foremost position amongst early-flowering trees and shrubs. The flowers are of a beautiful deep carmine colour, and the fruits almost black. P. Parkmanni is another exquisite crab, producing semi-double flowers of a rich colour, and is one which ought not to be overlooked.

P. spectabilis is another handsome flowering shrub or tree, commonly known as the Chinese crab; it produces a wealth of pink flowers in April. This forms an ideal subject for massing in the pleasure grounds, and creates a bold effect, both when in flower and later, when carrying the scarlet fruits in autumn. There are several varieties of this species, including one with double flowers, and also a white form. P. Scheideckeri is of garden origin, and the result of a cross between P. prunifolia and P. Malus floribunda. It is one of the most beautiful crabs we have, the flowers being freely produced, and of a delicate blush pink colour. It flowers early in May.

Among others which are more significant when fruiting than when in flower, perhaps the showiest and best is Beauty of Montreal, a greatly improved variety of P. baccata, the Siberian crab, which has this season carried a good crop of large highly coloured fruits, with a most agreeable flavour, so far as crabs go. The Siberian crab is itself frequently met with in gardens, and is a free and handsome fruiting tree. The Dartmouth crab is one of the oldest, and also one of the best of the ornamental fruiting class, and another variety, John Downie, is a fast-growing variety, producing very fine fruit, which is eagerly sought after for preserving, while two others I might mention are P. prunifolia fructu-luteo, and P. Ringo fastigiata bifera, which makes a fine pyramidal bush, and bears handsome double flowers and highly coloured fruits.

The best time for transplanting these crabs is the autumn, immediately the leaves have fallen. They will thrive almost anywhere, providing the ground is moderately well drained. At the time of planting, if a moderate supply of good manure be worked into the ground, this will do much to promote a free growth, and to more quickly establish the specimen.

E. Beckett.
Aldenham House Gardens, Elstree.

Pines and Abies Coning.—Doubtless many will have noticed the very large number of cones that have been produced this season, more especially on Picea nobilis. The cones on these trees are extraordinary, and large, too, from 9 to 10½in. long, and these look very handsome, especially when the sun is shining on them in the morning. Pinus strobus, Picea brachyphylla, Pinus picea, Pinus excelsa, Pinus sylvestris, Pinus muricata, P. Pallassiara, P. laricio, Abies Webbiana, A. nigra, A. excelsa, A. Nordmanniana, A. Veitchi, and Picea morindoides are all fine, and it is interesting to see how hard the small tits and other birds work to get the seeds out as soon as ripe. Their particular favourite, however, seems Pinus Pinea. The cedars are also coning very freely this season, and very handsome they look. It is sometimes said that when trees cone so freely growth is arrested, but in the cases of the trees I have quoted they are fine young healthy specimens.—W. A. Cook.

USEFUL SINGLE ROSES.

In the making of a selection of single roses of dwarf habit for garden decoration the cultivator whose knowledge of varieties is somewhat limited experiences some difficulty in the avoidance of mistakes. He will not have any trouble in obtaining a considerable number of single roses that are extremely beautiful, but he may, and probably will, include some that are of comparatively little value for the decoration of the garden, owing to the short duration of their season of flowering. There are a few of the summer-flowering varieties that are distinct in character and colour, and, moreover, so attractive when in bloom that they cannot well be excluded from a small selection, but they should form a small proportion of the number. The cultivator of single roses should endeavour to have a succession of flowers extending over as long a period as possible, and select from the hybrid teas and hybrid perpetuals.

Of especial value are the four single teas raised in Ireland, and introduced to cultivation some years since. They are, comparatively speaking, strong in growth, bloom profusely from early in the summer until the autumn is well advanced, and their large and elegant flowers are remarkably attractive. When cut at an early stage of development they are of much value for the filling of vases in the drawing-room, and for the decoration of the dinner table. With reference to their use in the dining-room, some of the most beautiful arrangements that have yet come under the notice of the writer were formed with these roses. The varieties referred to are Irish Beauty, an exquisite variety with pure white flowers having prominent yellow anthers. Irish Elegance, a highly effective variety, attractively coloured apricot-yellow and rose. Irish Glory, rose-crimson, very effective, and Irish Harmony, rich saffron-yellow, passing to cream-white, a most pleasing variety. A comparatively large bed devoted wholly to these varieties, in about equal proportions, would contribute greatly to the attractions of the gardens throughout the summer.

As a contrast to the foregoing, Cheshunt Scarlet is most desirable, for, unlike so many other of the hybrid perpetuals, it blooms freely and continuously throughout the season. The flowers are produced in good clusters, and the colour is deep rich scarlet. VIATOR.

A PORTION OF ONE OF THE HERBACEOUS BORDERS, WELBECK ABBEY,
The seat of the Duke of Portland.

DWARF BEDDING ROSES.

When planting rose beds the dwarfer growing bedding kinds must not be forgotten, for it is precisely these kinds which add refinement and finish to the rose garden. A mistake which is made in many cases is to plant beds of dwarf roses exclusively with varieties of much the same height and habit. I was much struck recently with a rose garden which, some two years ago, had been planted in this way. The colour scheme was good and effective, the varieties hardy, vigorous, and continuous blooming, and yet there was something lacking. Some experience in the arrangement of rose groups for exhibition, and also of rose gardens, enabled me to suggest the addition of some of the smaller growing kinds, and the suggestion was adopted and improved upon, with a result that is now very attractive. The existing beds were somewhat reduced in size, and smaller beds interposed at stated intervals between them. The addition of a few half-standards to each bed also helped. The new, smaller beds are either oblong, about 4ft. by 2ft., or circular, 2ft. across. The oblong beds were each planted with one variety of China or China-tea; the little round beds with pompon polyanthas. Also, round the outside of the roses in the original beds there were planted, as an edging, kinds corresponding to those in the new beds. As the result was so good, it may be useful to briefly record the names of those which were used to attain this effect.

The China variety, Madame E. Resal, the best bedding rose, was, of course, there, and her companion, Laurette Messimy. Souvenir de C. Guillot gave brightness, while Fabvier and Princesse de Sagan supplied the crimsons. The yellows presented some difficulty. Finally Queen Mab and Beryl were adopted. Queen Mab will have to come out, for it grew too tall, and it is proposed to replace it with Chin Chin, a very good new China. Beryl, on the other hand, is only partially vigorous. It may yet improve.

The above-named kinds were all more or less highly coloured, and as a relief the little round beds were planted with polyantha roses of lighter shades. These were Anna de Montravel, white; Rosalind, bright pink; Maman Levavasseur, bright pink; Eugenie Lamesch, yellow; Schneewitchen, white; and Frau C. Walter, canary and white.

It has been already said that some of the older existing beds were also edged with dwarfer kinds. One effect proved remarkable in its unexpected success, i.e., a large bed of Caroline Testout edged with Le Progres. But surely such effects may certainly be expected from the garden roses where colour, habit, and endless variety lend themselves to limitless possibilities. Only, in conclusion, let me add that small-growing kinds must be planted thickly, sometimes not more than 1ft. or 15in. apart. G. L. PAUL.

Cheshunt.

HERBACEOUS BORDERS.

It is the Editor's wish that I should say something about herbaceous borders. It is a large subject, and when he says that the article must be short there is some difficulty in making up one's mind what aspect to deal with.

Much has been written about herbaceous borders, and the most fantastic schemes expounded—I venture to say many of them not very practical. It is, however, true that in the making of a herbaceous border there is abundant scope for freshness, novelty, and effective arrangement. When one thinks of the vast number of plants now available, the ease with which they can be grown, and their comparatively small initial cost, it is safe to prophesy that this method of garden decoration will steadily increase. The true lover of herbaceous plants will always have his full pleasure out of a border which to those who aim at effect solely would be an eyesore.

The statement has been often made that a herbaceous border, to be effective, must be planted in bold groups, and that the mixed border is out of date. I know of one garden owner who was so convinced of the truth of this statement that he had it carried out in the most approved method, only to tire of it, and return to the mixed arrangement. Undoubtedly the mixed border has much to recommend it, for one of the chief charms of a herbaceous border is its infinite variety, and where the "big group" idea is carried out the variety must be greatly curtailed, as in most private gardens the space devoted to the class of plants grown in such borders is limited. The mixed border can also be made quite as effective, much freer, and more graceful than any system of grouping that I have yet seen.

I would say then to any about to plant herbaceous borders, have everything that is good and beautiful. Let your border be a treasure store of all that is worth having in hardy plants, and if effectively arranged it will be as bright and showy as the most effective bed of tender bedding plants you can possibly devise.

If there is a choice of position in the garden the border should be a winding one, and it should be fronted with a broad belt of grass, as is shown in the photo of a portion of one of the fine borders recently planted at Welbeck, and appearing in this issue. If the background should be of high trees or shrubs the position may be considered ideal. These conditions, however, in many cases, do not prevail, and one has to be content with a gravel path in front and a fence of roses or sweet peas as a background.

The soil to grow hardy plants well must be rich and of a fairly retentive character. The grower who has a light or gravelly soil will not obtain the same results as one who has a deep moist loam to deal with. The preparation of the border consists merely in trenching the ground and working in a good supply of farmyard manure. Few hardy plants object to the latter.

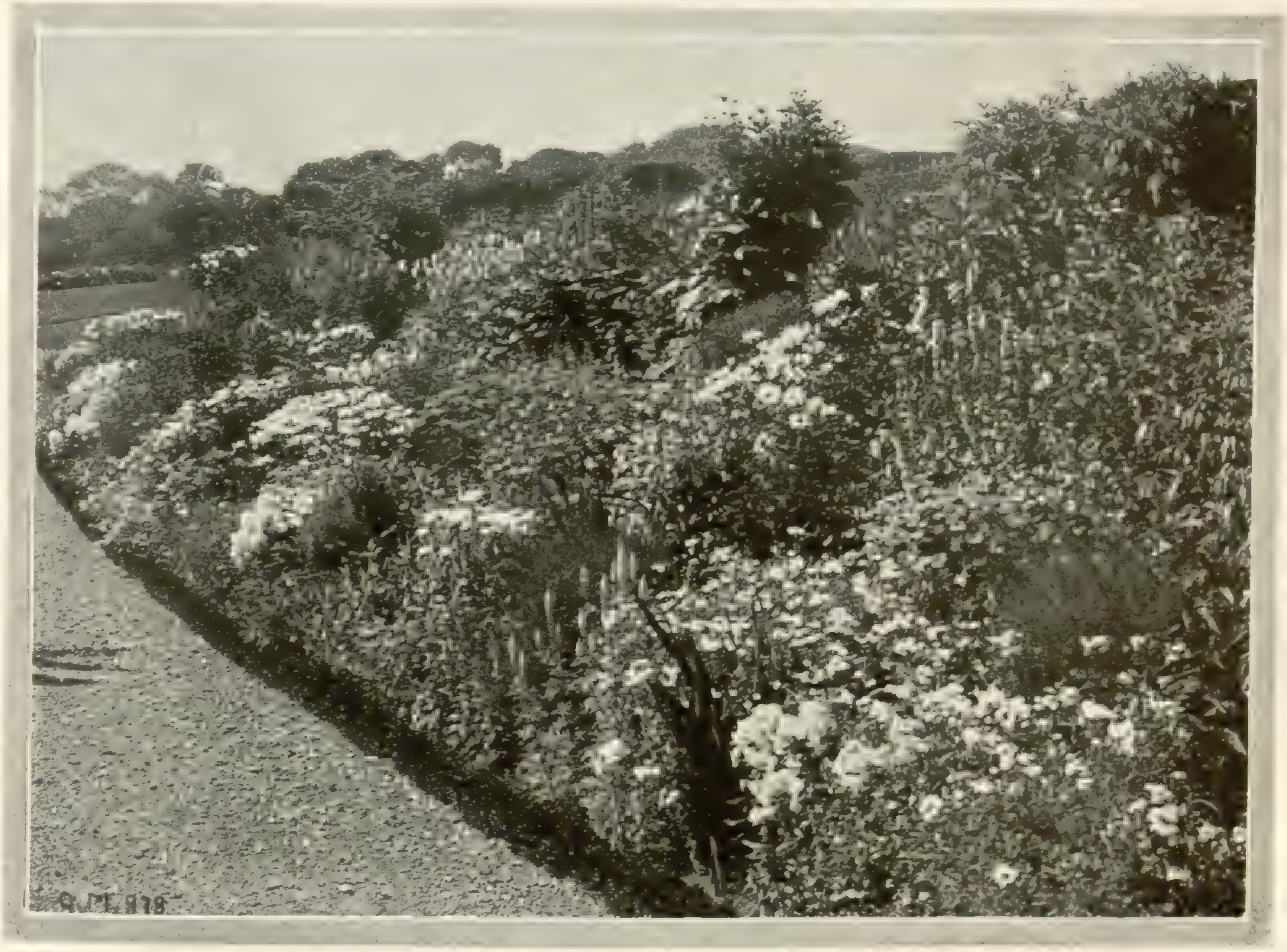
The width of the border is a question that gives rise to much difference of opinion, but there is no doubt that herbaceous borders, in a great many cases, are made too narrow. In a long stretch they may effectively be made of varying width, but where they must be all of one width I should recommend the width to be not less than sixteen feet. Then the planting of the border. The success of this will depend on the knowledge of hardy plants possessed by the planter.

It is not necessary to give a list, and there is no occasion to lay down the same rules regarding colour effects as in the case of a flower bed on a lawn, where certain combinations might not blend to please the eye. In the herbaceous border no plant stands out or is isolated from its neighbour. The whole should be a rich harmonious medley of colour. How close to plant is another question which requires consideration. While it is true that the plants should all have room to develop, the herbaceous border is always most effective when well filled up. There should be little room for the hoe, and none for the rake in a really good border.

Thos. Hay.

Hopetoun Gardens,
S. Queensberry, N.B.

[As Mr. Hay has not made any reference to the fine border devoted to hardy herbaceous plants in the gardens of Hopetoun House, it will be of interest to direct attention to the accompanying illustration of a portion of the border, as evidence of the great beauty and effectiveness of borders planted in accordance with the views expressed in the foregoing article. The photograph from which the illustration was reproduced was taken in the first week in August last, and it is not difficult to see that, contrary to the opinion of some writers, borders of hardy perennials may be made as attractive in that and the following month as at any other period during the summer.—Ed.]



A PORTION OF THE HERBACEOUS BORDER AT HOPETOUN HOUSE,
The seat of the Marchioness of Linlithgow.

September Rainfall at Leonardslee.—Mr. W. A. Cook tells us that the rainfall during September at Horsham was 3.16in. Rain fell on nineteen days, the greatest fall being on September 10 and 20, when the amount was .60 and .75in. respectively. For the nine months now ended the total rainfall is 20.06in., as against 20.93in. last year, so that the fall is still short, although this has been a wet season.

GROUPING RHODODENDRONS.

As the rhododendrons are such lovely flowering shrubs, and one section such valuable evergreens likewise, it is invidious to extol one particular group to the disparagement of another, while the same may be said of methods of planting, for each particular group, and each particular method of planting, has its own particular merits, and one could not be made to do duty for the other. In some instances vivid masses of colour formed by a large plantation of one variety call for admiration, in other cases groups of mixed varieties are thought to be very effective; and yet again, well grown isolated specimens seem peculiarly fitted to the surroundings. This being the case, each style of planting has to be studied separately, and it is well-nigh impossible to recommend one in preference to another.

The size of the garden is perhaps the best guide to the method of planting. Mixed groups are undoubtedly preferable for small gardens, for a greater variety of colour is obtainable, and the flowering season is extended over a longer period. For establishments of more pretentious dimensions, however, there is much to be said for large groups of a variety, the space around being ample to show off the boldness of each mass of colour to the best advantage. Such masses of colour owe much of their value to distance, for they exercise an alluring effect on the visitor, and, as he is irresistibly drawn nearer, he becomes more anxious to see what the plant is, while, on the other hand, if he suddenly finds himself before a large mass of brilliant colour in cramped surroundings he is inclined to think it rather out of place and vulgar. In such cases the value of the isolated plant is apparent, for, though a group of a dozen or a score might be quite out of place, there is ample room for a single specimen.

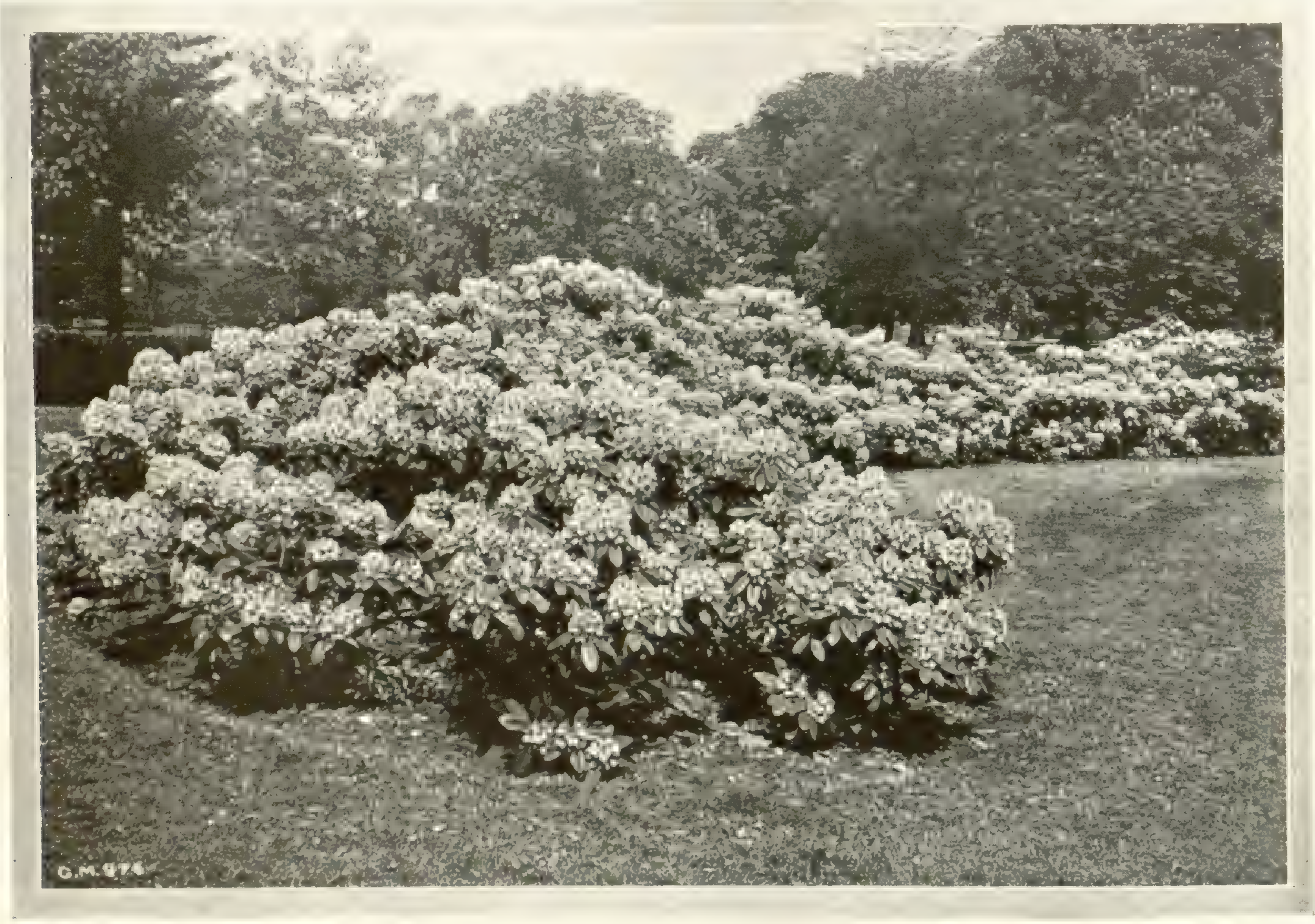
On hill sides these masses of single colours are sometimes placed to great advantage, whilst on the margins of extensive lawns, or standing well back from a carriage drive, they are commendable. A series of large beds, with considerable open spaces of closely-mown grass between, and wide avenues leading away in different directions, can be made effective, especially if the beds can be arranged on undulated ground. When planting these beds, however, care must be taken to arrange the various colours so that they do not clash with each other, for the evergreen varieties of rhododendron cannot be so easily dealt with in this respect as their deciduous relatives. Here, again, the usefulness of the single specimen comes in, for a good isolated specimen, in addition to relieving the sameness of the beds, serves as a break between colours which would not look well side by side.

For trimly-kept parts of the garden these groups have necessarily to be in the form of more or less formal shaped beds, and almost any variety can be used, providing it is not of stiff, upright habit, those in which the branches fall to the ground and clothe the bases being the best. If small examples are planted it will be necessary in a few years' time to thin them out, and a further thinning may be necessary a few years later, for a mature group is more effective when it contains a small number of well-grown plants which show some appearance of individuality, than when a greater number of plants are allowed to grow together and form a dense mass. In the event of transplanting being necessary at any period, the former plants can be lifted and used again, while in the latter case the plants are straggly and useless.

The subject of grafted and layered plants needs some consideration. In the former case a strict lookout has to be kept to provide against suckers growing and impoverishing the plant. A sucker may be easily overlooked, and do considerable damage before it is discovered, and after a few years, when its flowers make its presence conspicuous, a large gap is caused by its removal. On the other hand, layered plants are safe against any such mishap.

The selection of varieties needs care, for though the majority of the best sorts are suitable for masses, one particular sort will not do in any position. For instance, the very bright reds are not suitable for dark or dull corners, or for planting in woodland. The whites, mauves, and other subdued colours are infinitely more effective in such places. For any position that will make the plants look as if they are naturalised nothing is more serviceable than the common R. ponticum, and, left alone, with ample room for development, huge specimens are quickly formed which blossom with the greatest freedom.

For open places, such as the outskirts of lawns, the following eighteen varieties will be found first rate: Everestianum, rosy-lilac; Frederick Waterer, fiery crimson; Gomer Waterer, white, slightly flushed, fine truss; John Waterer, carmine; Kate Waterer, rosy-crimson; Lady Clementine Mitford, rose, fine truss; Lord Wolseley, scarlet; Michael Waterer, scarlet-crimson; Minnie, white, orange blotch; Mrs. Holford, salmon-pink; Doncaster, crimson, dwarf; Mrs. John Clutton, white; Mrs. William Agnew, pale rose with brighter edge; Pink Pearl, flesh pink; Queen, white; Sappho, white, black spots; Strategist, pink; Lord Palmerston, rosy-crimson. The accompanying illustration of this last-named variety gives a good idea of its suitableness for massing. It forms one of a series of beds which border the principal walk at Kew between



AN EFFECTIVE GROUP OF RHODODENDRON LORD PALMERSTON, AT KEW.
Flowers freely borne in large trusses, and of a rich shade of rose-crimson.

the main gate and the Palm House. With one exception each bed contains a single variety, and as these differ somewhat from the list already given, a list of them is appended, together with varieties used for single beds and groups in other parts of the gardens. Snowflake, white: Minnie, The Warrior, dark red; John Walter, red; Sappho, Madame Carvalho, white; Lady Clementine Mitford, Everestianum, John Waterer, James Nasmyth, lilac, dark blotch; Michael Waterer, Lord Palmerstone, fastuosum flore pleno, Mrs. Anthony Waterer, light, yellow blotch; Mrs. E. C. Stirling, white, flushed pink; James Macintosh, Mrs. Charles Sargent, light red; Charles S. Sargent, red; Mrs. William Agnew, Mrs. R. G. Shaw, Lady Grey Edgerton, Edith A. Boulton, pink (this is a Fortunei hybrid, which was raised at Kew); Johnstoni, bright red; Broughtoni, rosy-crimson; Ascot Brilliant, rich red; and Pink Pearl. All are good sorts, and should prove acquisitions in a collection.

Kew. W. Dallimore.

ORCHARD HOUSE FRUITS.

The growing interest in the cultivation of fruits in orchard houses has led me to make a few remarks relative to the means whereby we are able to obtain good crops of excellent fruit at Ferniehurst, the residence of G. C. Waud, Esq. We are, at Baildon, only two and a-half miles from the centre of Halifax, and we are in a manufacturing district, with lots of busy little towns and villages all around us. It will thus be seen that we do not start with any special advantages; indeed, the smoke and chemically-charged atmosphere must be regarded as severe handicaps, and yet our success has been wonderful.

The orchard house at Ferniehurst is made of teakwood, and is 80ft. long and 18ft. wide. It is provided with two rows of four-inch pipes along each side, and, as the illustration shows, the trees are raised from the ash-covered floor by means of a plank staging. There are three rows of fruit trees along each side of the central path. The front rows are raised a foot from the floor, the second row sixteen inches, and the two middle rows twenty inches. This is a somewhat unusual method, but it answers well in a lofty house, and has the merit of bringing the trees near the light in a smoky district. The staging is grooved, so that water passes away freely, and, though attention to watering entails a little extra labour, the trouble is amply compensated for.

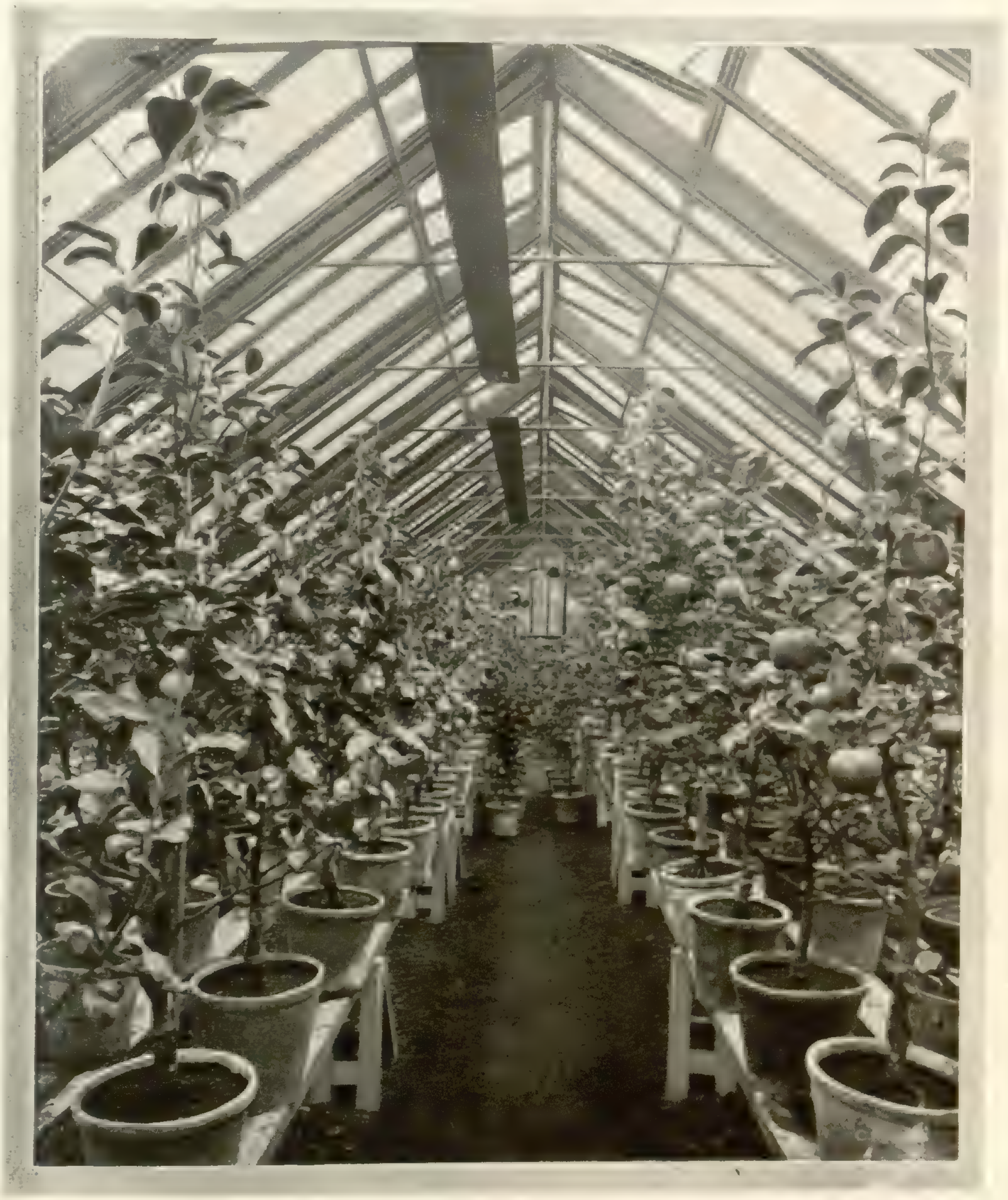
One division, 20ft. long, is set apart for peaches and nectarines that are forced in the usual way. We commence about the middle of January, and at the time the illustration was taken these had all given their crops.

The 60ft. division is kept quite cool, except in any severe weather, when a little heat is turned on. We grow apples, pears, plums, cherries, and apricots, and commence about the end of February by lightly syringing the trees once daily until the flowers begin to open. We pay close attention to fertilisation, and use a rabbit's tail to distribute the pollen. Constant and careful attention to watering is given the whole season through, and after the fruits have set the syringe is used freely.

Thinning the crop is an important item; we remove the surplus fruits a few at a time, and when those left to ripen have reached the size of a walnut we begin to feed with liquid manure twice a week, and frequently damp down the house with liquid manure. As the fruits swell up we increase the feeding, and occasionally dress the surface soil with a good artificial fertiliser. As growths develop the more vigorous ones are pinched at the sixth well-developed leaf, and all succeeding growths to the third leaf. The number of fruits per tree must be governed by its vigour and variety; from twelve to twenty-four is about the range. Each fruit must be carefully supported.

Occasional fumigation will keep aphides in check; caterpillars must be hunted after; and damping down with liquid manure will prove fatal to red spider.

After the fruits are gathered our trees are plunged out of doors in a sunny position, and well supplied with water and liquid manure to enable them to ripen up their wood and buds for another season.



ORCHARD HOUSE AT FERNIEHURST, BAILDON, YORKSHIRE,
With apple and pear trees in pots, carrying fine crops of fruit.

In September our peaches and nectarines are potted or top-dressed, as necessary, and then we follow on with the apricots, cherries, plums, and pears, finishing up with the apples early in November. The compost we use is two-thirds of good loam and one-third of decayed manure, with a little mortar rubble and bonemeal added. After the trees are potted we use the syringe freely until the leaves fall, and then we cover the pots with litter until we take the plants indoors about the middle of December.

The following are the varieties we grow: Peaches.—Diamond, Duke of York, Barrington, Crimson Galand, English Galand, Duchess of Cornwall, Gladstone, Thomas Rivers, Rivers' Early, Hales' Early, and Royal George. Nectarines.—Early Rivers, Byron, Newton, Pineapple, and Lord Napier. Apricots.—Royal and St. Ambrose. Plums.—Green Gage, Victoria, Monarch, Blue Rock, Stint, and Coe's Golden Drop. Cherries.—Knight's Early Black, Black Eagle, Elton, May Duke, Empress Eugenie, and Bigarreau Jaboulay.

Apples.—Gladstone, Beauty of Bath, Rivers' Early Peach, Lady Sudeley, Thomas Rivers, Cox's Pomona, Blenheim Orange, Ribstone Pippin, Mother, Cox's Orange Pippin, Washington, King of the Pippins, Worcester Pearmain, King of Tomkins County, Buckingham, Peasgood's Nonsuch, Allington Pippin, Gascoigne's Scarlet, and Emperor Alexander. Pears.—Jargonelle, Clapp's Favourite, Williams' Bon Chretien, Beurre d'Amanlis Souvenir du Congres, Louise Bonne of Jersey, Beurre Hardy, Marie Louise, St. Luke, Conference, Pitmaston Duchess, Doyenne du Comice, and Princess.

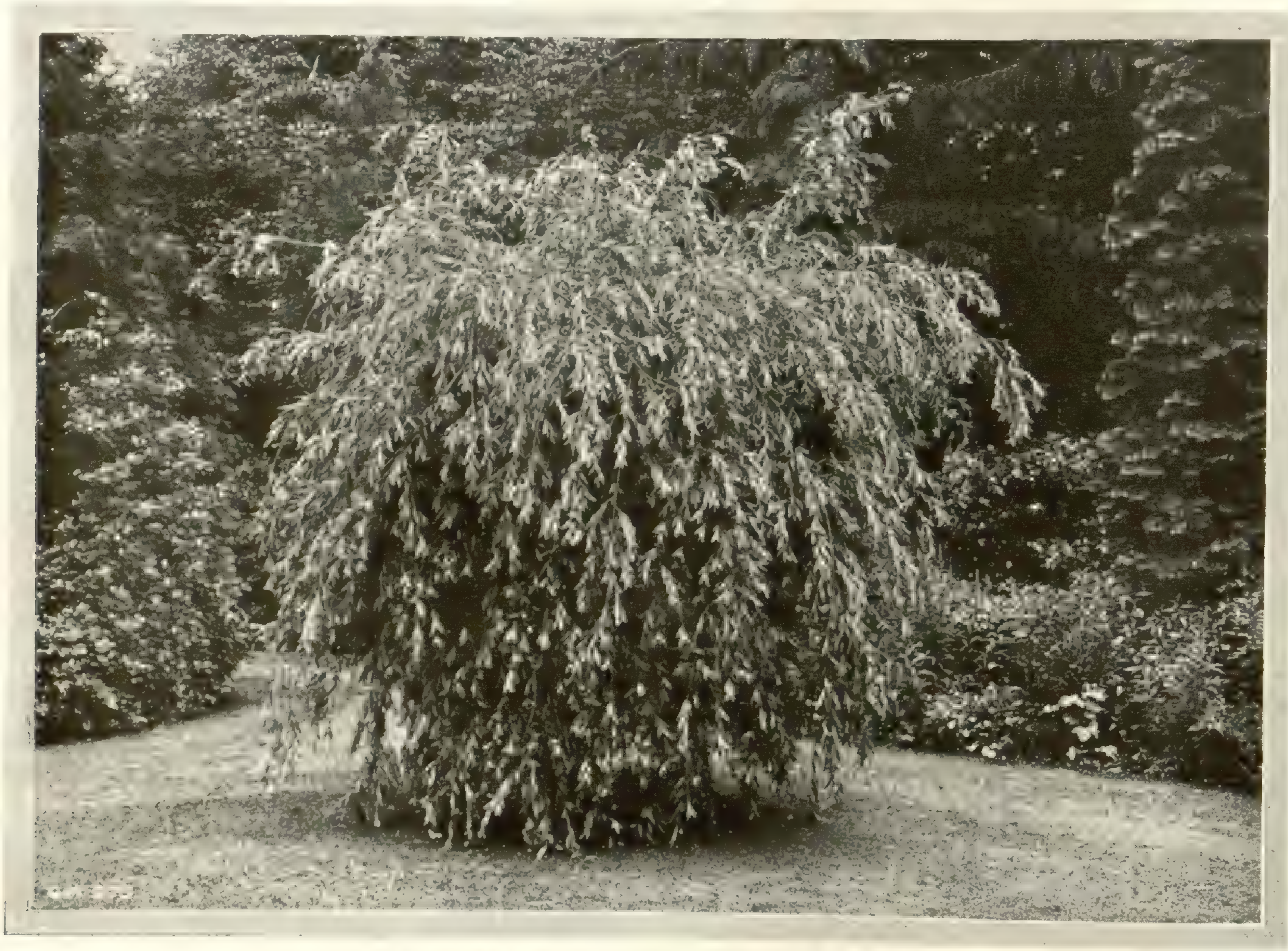
Wm. Taylor.

Ferniehurst Gardens,
Baildon, Yorks.

Roses for Town Gardens. At the next meeting of the London branch of the British Gardeners' Association, to be held at Carr's Restaurant (near the Law Courts), Strand, W.C., on Thursday, October 14, at 8 p.m., a lecture will be given by Mr. C. Hill, entitled "Roses for Town Gardens." The chair will be taken by Mr. E. F. Hawes, of the Royal Botanic Gardens, Regent's Park. All professional gardeners are invited to attend, whether members of the B.G.A. or not.

WEEPING TREES FOR THE GARDEN.

Certain of the hardy trees that have a pendulous habit of growth present so elegant an appearance when sufficiently developed to show their distinctive characteristics that some of the best should be represented in gardens large enough to allow the planter some scope for the exercise of his judgment when making a selection. Planted in positions where they can attain to a comparatively large size without the pruning-knife being used, except it may be for preserving their contour, and where their graceful habit can be seen to the best advantage, they form a distinct and attractive feature. Weeping trees must, however, be planted sparingly, and care be taken to select positions for the several kinds that appear to be specially suited for the display of their peculiarities of growth.



SALIX ALBA VITELLINA PENDULA NOVA.
A handsome specimen of this attractive Weeping Willow in the gardens of Presdales, Ware, the residence of A. G. Sandeman, Esq.

When considering the question of adding trees of pendulous habit to the garden, it is important to limit their number to the positions that appear especially adapted to weeping trees, and to the very best forms of the respective kinds. When planted in otherwise than small numbers they fail to enhance the attractions of the garden, and it may be they will be somewhat monotonous. No number can be stated as advisable, because so much depends upon the area of the garden, and the positions especially appropriate to trees of this class that it may contain; but, speaking in a general way, six or seven kinds will suffice for gardens having a considerable area. The following selection includes the best of the weeping trees, and there should be no difficulty in selecting from those enumerated the kinds most suitable for the positions that any garden may afford.

Weeping Birch.

There are several forms of the common birch (Betula alba), distinguished by their pendulous habit, and they all possess much grace and beauty. They, however, differ in relative merit, and the best for general planting is undoubtedly Young's weeping birch (B. alba pendula Youngi). This form is moderately vigorous in growth, and the long, slender shoots droop in a graceful manner, and give a well-developed specimen much the appearance of a glistening fountain. It should be given a somewhat open position, but whether in the highly-dressed grounds or in the wild garden matters not, but preferably it should be away from the water side.

Weeping Beeches.

There are two weeping beeches that deserve consideration, and these are the weeping beech (Fagus sylvatica pendula), and the purple weeping beech (F. sylvatica purpurea pendula). The first-named is a very handsome tree when fully developed, as in the case of the remarkably fine specimen, herewith illustrated, in the grounds of Eridge Castle. Beautiful as is the weeping beech when it has attained to considerable dimensions, it must be said that it is a tree for large grounds rather than for the small garden. During the earlier period of development the trees are somewhat eccentric in growth, and for some years they are more curious than beautiful, and not particularly desirable to have constantly under the eye. The purple weeping beech is somewhat similar to the other weeping form during the early period of growth, but the peculiarity is not quite so highly developed, and the rich colouring of the leaves adds so materially to its attractiveness as to render it desirable in the majority of gardens, it being equally suitable for large and moderate areas.

Weeping Ash.

The weeping form of the common ash (Fraxinus excelsior) is one of the best known and most popular of weeping trees, and the high estimation in which it is held is well deserved. It is equally suitable for dry positions in the higher parts of the garden, and for fringing the margin of a lake. In the magnificent gardens of Welbeck Abbey the weeping ash (F. excelsior pendula) is used with singularly good effect on the margin of the lake that skirts the pleasure grounds for a considerable distance. There are, perhaps, a dozen or more large, finely-developed trees, and arranged some distance apart on the margin of the lake, they contribute materially to the charm of the scene. In many cases the weeping ash fails to produce a good effect, owing to it being worked on too short a stem. For small gardens trees on 8ft. stems will be suitable, but in gardens where room enough can be given them to grow to a large size 10ft. stems will be preferable. The common ash and its varieties are the most exhausting of trees, and have the power of sending their roots surprisingly long distances in quest of nourishment; consequently, the weeping variety should not be planted near beds and borders devoted to choice plants or shrubs of moderate growth.

Weeping Cherries.

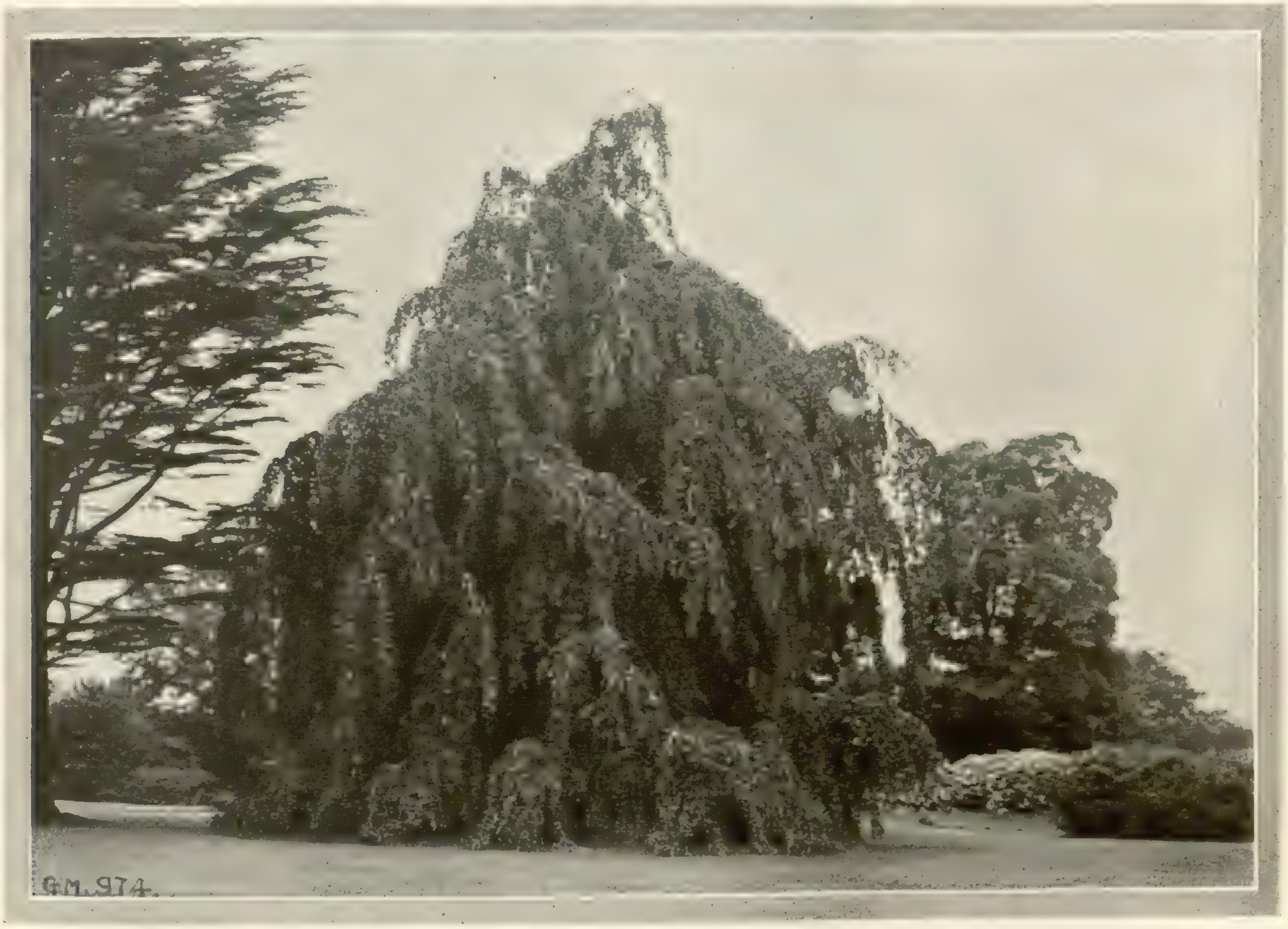
There are several weeping cherries, and, as they are rendered additionally attractive in spring by a profuse production of flowers and are of moderate stature, three may be mentioned as deserving a position in gardens with even a moderate area. These are Cerasus Avium Juliana pendula, C. Mahaleb pendula, one of the most graceful of trees; and C. sinensis pendula, a very beautiful pendulous form of the single pink Japanese cherry. These may be planted in open positions, and also in spacious borders.

Weeping Hollies.

There are several weeping hollies that deserve attention both for their attractiveness and for their small stature, the last-named characteristic rendering them of much value for planting on the lawns of gardens of the smallest size. The varieties especially desirable are Perry's weeping (Ilex aquifolium argentea pendula), a handsome form with silvery variegation; Waterer's gold weeping (I. aquifolium aurea pendula), a distinct variety with comparatively smooth leaves broadly margined with gold; and the green-leaved weeping (I. aquifolium pendula).

Weeping Aspen.

The poplars of pendulous habit of growth are not numerous, and of the few forms in cultivation the weeping aspen (Populus tremula pendula) is the one best suited for planting in gardens. It is of moderate growth, has an elegant habit, and the continuous movement of the leaves which is so striking a peculiarity of the aspen is especially attractive in the weeping form.



FAGUS SYLVATICA PENDULA.
A magnificent specimen of the Weeping Beech at Eridge Castle, the seat of the Marquis of Abergavenny.

Weeping Mountain Ash.

The common mountain ash (Pyrus Aucuparia) is a handsome tree of elegant aspect, but in gracefulness it is surpassed by the weeping mountain ash (P. Aucuparia pendula). This fine form is attractive at all times, and is especially so in the spring when in bloom, and in the autumn when the large clusters of fruit have taken on their brilliant colouring. The weeping mountain ash is of moderate growth, and well adapted to both large and small gardens.

Weeping Willows.

The willows include several weeping forms of considerable merit, and of these three may be specially recommended. The first of these is the golden weeping willow (Salix alba vitellina pendula nova), which does not appear to be very generally known, or to have obtained a place in the leading catalogues. The habit of this graceful form is admirably shown in the accompanying illustration of a well-developed specimen in the gardens of Presdales, Ware, the residence of A. G. Sandeman, Esq. As in the case of the erect form, the bark is a bright yellow, and the leaves are greyish-green, and the specimen is especially attractive when seen against the background of sombre-hued trees. It is an ideal tree for the small garden. The "weeping willow" (S. babylonica) is so well known as not to require any reference being made to it except to say that it is the best of all weeping trees for the waterside. The Kilmarnock weeping willow (S. Caprea pendula) is a handsome variety of considerable value for planting in the wild garden; and the American weeping willow (S. elegantissima) has much to recommend it for planting in small gardens. It is of comparatively low growth, and has slender shoots and narrow greyish leaves.

Weeping Wych Elm.

Several weeping elms are deserving of the attention of those who are engaged in planting on a large scale, but for the present purpose it will suffice to mention the weeping wych elm (Ulmus montana pendula), which is one of the most distinct and handsome of weeping trees. While handsome at all stages, the weeping habit is the most highly developed in the earlier stages, and trees of moderate age are decidedly the most attractive. When the trees attain to a considerable age the branches assume a more horizontal position and the leaves are much smaller. The weeping wych elm is usually seen occupying an open position, but at Thoresby, the seat of the Earl Manvers, it is assigned a secluded position and trained to resemble a low, broad tent, and the effect is remarkably good. Although of comparatively large growth the tree may, by judicious pruning, be kept to comparatively small dimensions without its graceful habit being in any way marred. G. G.

HARDY CLIMBERS.

When making a selection of climbers for pergolas, verandahs, pillars, trellises, or walls, due consideration should be given to the district, situation, position, and locality. Though soils play an important part in the growth of all plants, these, on a limited scale, can be made to suit each class of plants. The situation, too, in a measure, can be improved by the aid of shelter, but the climatic conditions cannot be altered in the least.

It is now generally understood that frosts are more prevalent in low-lying places than on higher or more elevated ground, and are more severe. Though the rainfall is not so great in flat districts, there is usually more moisture in the atmosphere, especially if the soil be of a stiff, retentive nature, therefore all these things should be taken into consideration before planting is commenced if one is to be successful. The frost is not more severe in some places in the South of Scotland than it is in the South-east of England; but though this is so, the latter district can boast of far more sunshine, especially early in the year, and the rainfall is usually considerably less. Here, though sixteen miles inland, we are only about one hundred feet above the sea level, and, as a rule, we can see the snow on the hills long after it has disappeared in the valley, and many would no doubt come to the conclusion that it was much colder on the hills; but if we take the average we shall find there is not much difference, for the nights are warmer on the hilly ground, while in the valleys the days are not so cold. I have often known a difference of from ten to fifteen degrees on the same night in different parts of this village, there being as much as six hundred feet variation in the elevation. On the higher ground such plants as Berberidopsis corallina, Carpenteria californica, Desfontania spinosa, will stand the most severe winters without the least protection, while down in the valleys such are usually killed to the ground. Therefore, in making a selection intending planters should be guided in a measure by the situation, and the position the garden is placed in.

Among climbing and trailing plants there are many very beautiful subjects, and some ought to be planted for the beauty of their foliage, others on account of their free flowering habit, and others for their fragrance, for if due attention be paid to their requirements in the way of pruning and training they are sure to give pleasure. I have purposely excluded from this list all mention of roses, for though there is an almost endless variety of these, it would be best to treat of their merits separately.

Pergolas are often made of trelliswork on each side of a path, having open work at the top. In making a selection of climbers for such places only the most hardy should be chosen, as these structures are often erected in the most exposed places, not the least consideration having been given to their position as regards suitability for plant culture; but where the situation is a sheltered one, and other things suitable, some of the choicest climbers and trailers will show themselves to advantage. It is a mistake to plant peat-loving subjects amongst those which require a rich fertile loam. Better by far keep each class separate, and those of a rampant habit ought to be kept away from those whose growth is more compact, and when two or more species are planted side by side, and these flower at the same time, the colours ought to be so arranged that they harmonise. White flowers will go with any colour, just as green leaves do, but not so pinks, blues, purples, etc.

There are many very pretty varieties of both the small and large flowered sections of clematis, and amongst the latest additions we find C. Armandi, C. montana rubens, and C. montana Wilsoni, the latter flowering quite late in the season. There are also some very fine foliaged plants amongst the recent introductions of ornamental vines, such, for example, as Vitis Thomsoni, V. megalophylla, V. Coignetiæ, and V. Thunbergi. These plants are useful for furnishing pillars where a bold effect is required, as their foliage is very telling. There are also many of the loniceras that are useful for this purpose, such as L. sempervirens, L. flexuosa, L. Hildebrandti, etc. Berberis stenophylla, with its soft drooping flowers; forsythias, Solanum jasminioides, wistarias, bignonias, and Akebia quinata are all worthy of a place. Most of these plants like a rich, well-drained soil, and if the situation is not too exposed they will grow most luxuriantly.

For low walls those kinds that do not grow so rampantly should be selected, as they will not need such constant attention in the way of pruning and training. Amongst these will be found Carpenteria californica, ceanothuses in variety, Choisya ternata, and Cratægus Lelandi. Escallonias are some of the most beautiful of plants, and as they flower for a long period they are very attractive; E. montevidensis produces terminal trusses of white flowers, while E. Langleyensis has small pink-coloured flowers dotted all over the young growths. Grevillea rosmarinifolia produces its small clusters of red-coloured flowers in early spring when but few other plants are in bloom. The common myrtle, pittosporums, photineas, Benthamia fragifera, Viburnum macrocephalum, and others are also useful for this purpose.

When choosing plants to cover tall buildings it is well to select those which cling closely to the wall, as such require less attention in the way of nailing or fastening. There is nothing more unsightly than large pieces of climbers hanging loosely from the walls. Such plants as Ampelopsis Veitchi, and some of the small-growing ivies, are very useful for this purpose.

Regarding plants for trellises, much will depend on what these structures are intended for, their height, and surroundings. If only required to hide some unsightly building a few feet high, then slow-growing trailing plants of an evergreen character will be found most useful; but if the trelliswork is erected for the purpose of training plants to for ornament, then some of the more choice species should be chosen, especially if the position is suitable, but there is no pleasure in looking at plants whose foliage has been disfigured by cold, blasting winds, or that look sickly owing to the situation being too exposed. Some people object to variegated foliaged plants, while others admire them. Among this class Euonymus radicans marginata variegata is a most useful subject. No one who has not seen it used for covering buildings could have any idea of its beauty in winter. We usually see it employed as a dwarf edging plant, but here, trained to a wall or fence, it grows to a height of ten or fifteen feet in a short time, the foliage being more than twice the usual size, and the plant in winter is covered with clusters of red berries. If the colour of the foliage is objected to in summer, then plant Tropæolum speciosum against it, as the dark green foliage of this, with its deep red flowers, will make a decided contrast. Some people have a difficulty in getting the latter to establish itself, and well they might, considering the miserable little bits often sent out in pots. If good strong roots, about the thickness of a goose quill, are procured, and these planted in a rich, moist soil, they will send up growths the first year from ten to a dozen feet long, which will flower most profusely for at least a couple of feet of their length. When once established it is difficult to get rid of, as every bit of root will grow. In addition to the plants above-named, there are many annuals suitable for covering such structures, some of which flower most profusely, but space will not admit of their consideration here.

H. C. Prinsep.

Buxted Park Gardens.

Sedum spectabile sanguinea is a deep crimson form of an old but exceedingly useful garden plant. This new-comer is likely to become indispensable in the autumn garden, as it succeeds under most trying conditions, and maintains its vigour even when battling with the hungry roots of shrubs. It throws up stout stems—a stem for every bud contained in the crown in spring—bearing thick fleshy leaves of a glaucous grey colour, so that when in bloom the contrasted colours of leaves and flowers produce a good effect. Established plants attain a height of fifteen inches, and spread out laterally for a distance of thirty inches or more. This sedum is easily increased by cuttings; old stools are broken to pieces, and each shoot inserted singly in pots, or placed in boxes of sandy soil, and kept moist, will soon form a good plant.—Thomas Smith.

STANDARD ROSES.

Given a proper selection of varieties there is no reason why roses in standard form should not be as popular as was the case thirty to forty years ago. In fact, with more care in selection, helped by the many good varieties introduced during the past two decades, this form of culture has become more promising than before. Perhaps in no case is it more necessary to bear in mind the growth and habit of any desired rose than when cultivating standards.

And what a grand choice we have. One can have them in weeping form, or as free-growing heads carried well above any flowers it may be desired to cultivate beneath. Another advantage of standards is found when growing any variety that has naturally pendant blossoms. When these are cultivated as dwarfs we seldom obtain a clean flower; even if the weather permits this, the blooms themselves are not seen to advantage. As examples, I may mention Mrs. Edward Mawley, Maman Cochet and its grand white counterpart Souvenir d'un Ami—one of our oldest favourites—Vicomtesse Folkestone, Grace Darling, and Marechal Niel. When the latter is doing well upon a standard no rose can surpass it.

But it is when we come to the newer forms of ramblers upon standards that the benefit of this stock is most evident. The drooping habit of their long branches of flowers being shown off to the best advantage. One point that can scarcely be insisted upon too strongly is the supporting of all standard stems, so as to avoid damage from wind as far as possible, and the consequent chafing of branches. There are many methods of securing these stems. Larch poles and strips of pitch pine are among the best. I do not care to have these dipped into tar or creosote, as in the case with hop poles, feeling certain more harm is thus done to the roots than most imagine. I have found ordinary galvanised gas or water pipes very useful. They are straight, strong, very durable, and have not so clumsy an appearance as larger wooden supports. With wooden stakes it so often happens the bottom rots about the time when the plants have grown well, and consequently need more support than ever, and the piping, especially when painted a drab colour, is not too conspicuous, makes the more permanent support, and can be utilised many times. Care must be taken to avoid chafing where the stem is secured. A band of leather or woollen material is preferred to hay or straw.

As a rule, standard roses are planted with an idea of occupying the same position for a considerable time, and hence it is even more necessary to thoroughly prepare the soil. Move it, no matter what its nature, to a depth of at least two feet—three feet is not too much. The class of manure to be added depends upon the natural constituents of the soil. As a general rule, it is well to take out a barrowload of this and replace with turfy loam, adding a good proportion of well-rotted manure. Let this and the loam be thoroughly incorporated, and be sure to plant firmly, and stake at once. Do not make the mistake of deep planting, thinking thus to aid in supporting the plant. I think it is even more advantageous to get in standard roses early than in the case of dwarfs.

Just a word about protection. This is not so easy as with dwarfs, and, consequently, I would avoid growing any but the hardiest varieties. But some of our best roses are tender, and thrive so much better when upon the hedge briar. In this case keep them upon the short standards, when you can protect them better. About the best plan of protection we have found is to tie some branches of fir or birch twigs among and around the heads of tender sorts. Bracken may be put in the centre if the position is very exposed. But think of this point when deciding what varieties to plant, i.e., you can have any desired colour in quite hardy form, a point of no small importance to amateurs who have but little spare time that they can devote to their garden.

Many exhibitors, especially in the case of tea-scented and hybrid tea roses, prefer growing them upon eighteen-inch to two-feet briars, the advantage being in keeping the flowers further from the ground, and avoiding rain splashes. These half-standards also produce better developed flowers than dwarfs in many cases.

[Photo: F. Mason Good.

A BEAUTIFUL GROUP OF STANDARD ROSES

In the gardens of Foxhill, Reading, the residence of Rufus Isaacs, Esq., K.C., M.P.

A few of the best ramblers or weeping roses can be selected from the following, of which I only give a brief description:

Dorothy Perkins, soft light pink, one of the very best: too well known to need more than that it is one of the most reliable. Its white counterpart makes a grand contrast, and if we plant Gardenia (a golden yellow, coming paler as it ages) in conjunction with this, a very pleasing contrast is obtained.

Delight, a newer variety, and much later in flowering than the above, bears large clusters of bright carmine flowers, white at the base, and filled with yellow stamens. A good summer and autumn flowerer: still in bloom (October).

Minnehaha is a brighter and improved form of Dorothy Perkins, and produces immense trusses of very double and rosette-formed flowers. It does not appear to give a few autumn or late summer blooms as in the case of Dorothy Perkins, but lasts well, does not fade, and is very sweet-scented.

Evangeline is one of our largest single roses, and also the hardiest. Flowers 2½ inches across, in clusters. The tips of the petals are clear carmine-pink. One of the most showy of all when grown in weeping form.

Claire Jacquier affords a clear nankeen-yellow shade, and large clusters of small shapely flowers, very showy and effective: but this is one of the tender varieties, and needs a warm corner.

Aimée Vibert scandens and Felicité Perpetué are two of the best creamy-whites. The first is more perpetual flowering than the other, but the last makes a grand show during August, just after so many of the other climbers are over.

Electra is one of the first to flower, producing its clusters of small, semi-double blossoms, that are clear yellow at first, passing away to almost milk-white.

Hiawatha is indispensable among this section. It gives large trusses of the most brilliant scarlet, with a well-pronounced yellow and white centre, and showy stamens. This rose also berries well in the autumn.

Wichuraiana Type, the white form, is grand. Although giving only a small single blossom, these are produced so freely and continuously that it forms a cascade of white for two months of the season, and this at the latter end, when most welcome.

Madame Alfred Carrière, blush, almost white, is one of the freest, as well as the sweetest scented of roses. It droops over almost as freely as Dorothy Perkins, and is also grand as a wall or pillar rose.

Rêve d'Or gives us a larger form of deep buff yellow, and is one of the hardiest. A very strong grower, and flowering best when limited to well-ripened growths of the previous season.

Trier is one of the best late bloomers, and is almost continuous. A creamy-white, with yellow anthers. Forms a grand head, but does not droop over so freely as some.

William Allen Richardson gives the best deep orange-yellow, and is exceptionally showy in standard form.

Elisa Robichon, rose, shaded pale yellow, is semi-double, an almost constant bloomer, very early, and one of the most charming miniature blossoms in the bud state.

Many more might be named, but the above give a good selection of colours, and have all been proved. The taller the stems used for these drooping roses the better the effect, and being of such vigorous growth they are able to draw sufficient nourishment through a longer stem than those of less rampant habit.

In the normal form of standard roses the stems range from three to four feet, and here many of the freer-growing hybrid teas and hybrid perpetuals are very suitable. Among the best dark crimsons are Victor Hugo, Captain Hayward, General Jacqueminot, and Fisher Holmes. In pinks we cannot miss Mrs. John Laing, Caroline Testout, Mrs. R. G. Sharman Crawford, La France, and Killarney; while for whites Frau Karl Druschki is pre-eminent. Viscountess Folkestone, Augustine Guinoisseau, and La Tosca are grand varieties as blush-whites approaching to cream. Yellows can be found in Le Progres, Madame Ravary, Souvenir de Pierre Notting, and a grand newer variety is Madame Pol Varin-Bernier, one of the sweetest roses grown.

Finally, plant early, and firmly, and never attempt to grow any but the freest and strongest habited varieties.

Uckfield. A. Piper.

SUMMER AND AUTUMN RASPBERRIES.

For use in tarts, and for preserving, the raspberry is one of the most valuable of our small fruits, and it is profitably grown in both market and private gardens. My present remarks upon it will, however, chiefly refer to preparing plantations in private gardens.

Being indigenous to Britain, its cultural requirements are comparatively simple, yet successful crops of fruit cannot be obtained unless considerable pains are taken to secure them, and it is to conditions not wholly favourable that my notes will especially apply.

Although raspberries will succeed in most soils, provided they are properly prepared, a deep, moderately light loam, situated in an open position, best suits them. In any case, the land should, if necessary, be drained, be bastard trenched at least two feet in depth, and heavily dressed with farmyard manure. Heavy or clayey land will be greatly benefited by being thoroughly dressed with charred soil from the rubbish heap, or other material of a similar character. On poor light soil the staple should receive rich additions of a cooling, substantial nature. This work should be completed while the land is tolerably dry, and in time for it to become settled before the planting season.

If not at hand, well-rooted strong young suckers should be secured from a nursery as soon as their leaves fall, and when received the roots, if dry, should be moistened, have their damaged parts removed, and, if the weather and other conditions permit, be at once planted. In arranging for planting, especially where neatness is a consideration, it is a good practice to have suitable wire trellises fixed at six feet apart across the plot to be planted, and against these the plants should be placed two feet apart. Spread the roots about three inches deep in fine soil, making this firm around them; mulch with partially decayed stable litter, and loosely secure the canes to the trellises. Towards the end of February the canes should be cut down to nine inches or one foot from the ground, and, should they be weak, still lower. This is important, in order to ensure the production of strong suckers. In subsequent years, when the plants have become established, the fruiting canes should be trained at about eight inches apart, the strongest being selected for the purpose. These remarks refer to summer fruiters.

In the case of autumn fruiting varieties, which produce their fruit upon the current year's growths, the suckers should be well thinned soon after starting into growth, the strongest being left to fruit. In February these should be cut down to the ground level.

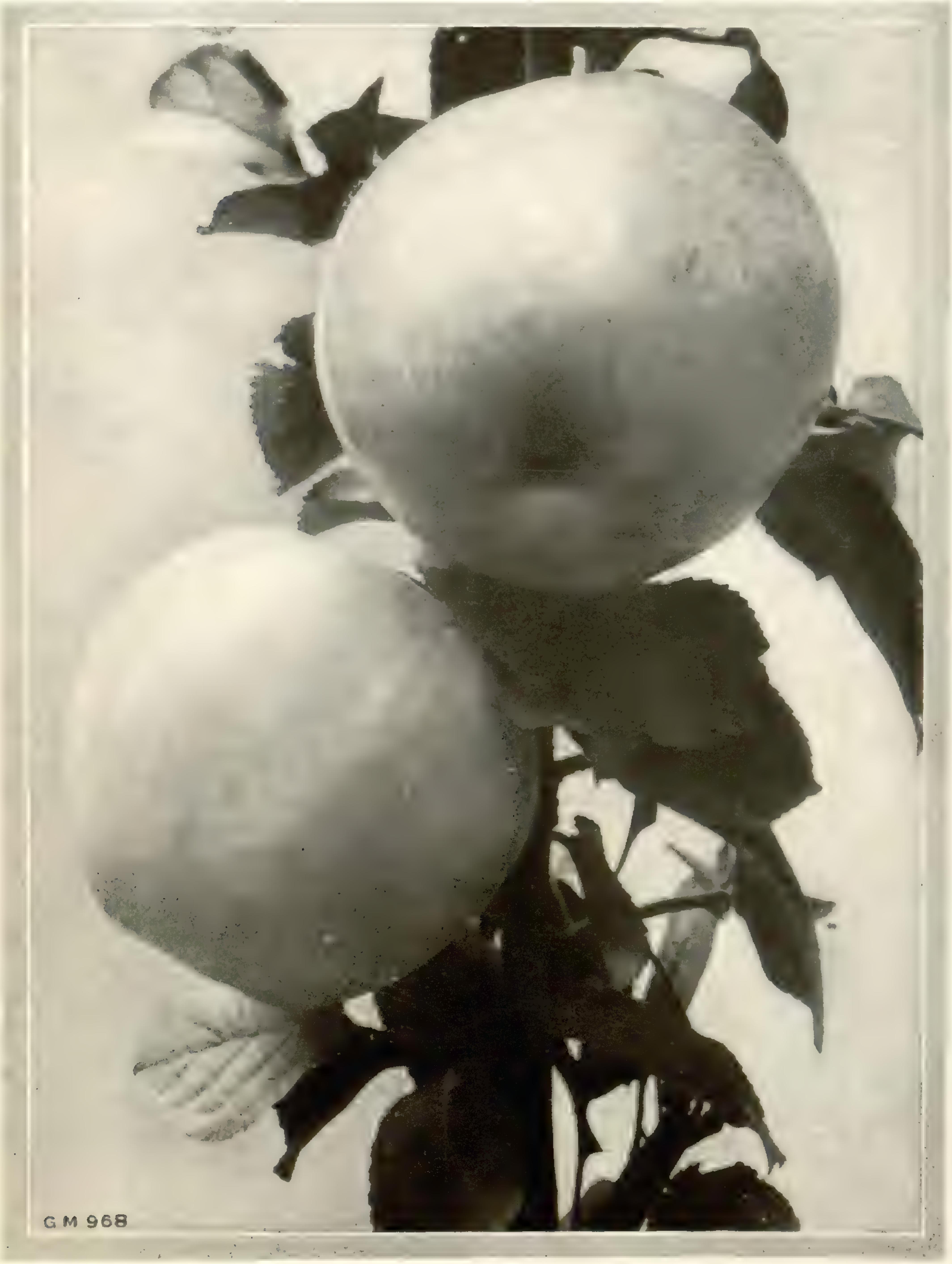
The chief points in routine management consist in keeping the ground free from weeds, and its surface, especially during spring and summer, frequently stirred with the hoe, but this should not be done sufficiently deep to injure the surface-feeding roots. In dry seasons particularly mulchings of partially decayed stable litter are of great value, and, more important still, more especially in the case of full-bearing plantations, it is to keep the roots adequately supplied with moisture in the form of diluted farmyard liquid, or, failing these, top dressings of rich farmyard manure, or of suitable artificial compounds, should be applied previous to affording copious supplies of water.

The training of the canes of summer fruiting varieties has been referred to, but it should be remarked that the suckers should be well thinned at an early stage of growth, and the old canes removed early, so that the young ones may derive the fullest benefit from sun and air. The shortening or pruning of the canes should take place at the end of February, when, more or less (according to their strength, and condition as to maturity), of their points should be cut away.

Superlative is undoubtedly the best of the summer fruiting varieties; Hornet and Baumforth's Seedling are also good. Of yellow varieties, The Guinea, or Yellow Superlative, and Yellow Antwerp can be recommended. Amongst autumn fruiters we prefer Belle de Fontenay; Yellow Four Seasons is also good, while November Abundance and The Alexandra, new autumn fruiting sorts, are said to be valuable.

T. Coomber.

The Hendre Gardens.



NEW CULINARY APPLE REV. W. WILKS.
Colour pale greenish-yellow, with brown and scarlet spots. Introduced by Messrs. Jas. Veitch and Sons, Chelsea.

NEW CULINARY APPLE REV. W. WILKS.

One of the best of the newer apples is named Rev. W. Wilks, after the able and energetic secretary of the Royal Horticultural Society. The fact that the apple bears such a title is itself a great recommendation, for the reverend gentlemen is a keen pomologist, and is hardly likely to have permitted the use of his name in this respect unless he felt quite sure the apple was an excellent one. It was on September 20, 1904, that the variety gained an Award of Merit at the hands of the Royal Horticultural Society's Fruit Committee, and since that time we have seen growing plants at Messrs. James Veitch and Sons' nurseries at Langley, where it was raised by crossing Peasgood's Nonsuch with Ribston Pippin. Rev. W. Wilks is a large apple, solid, and of conical outline. The skin is clear pale greenish-yellow, with sometimes spots of brown and scarlet, and it is greasy to the touch, reminding one in this particular of Peasgood's Nonsuch. The variety is a fine strong grower, and a remarkably free bearer right from its infancy. The flesh is white, pleasantly flavoured, and cooks beautifully; indeed, as a moderately early or midseason culinary apple the newcomer takes a very high position. Those who saw the splendidly cropped trees of this new apple at the meeting of the Royal Horticultural Society on September 28 do not need to be told that in Rev. W. Wilks the Messrs. Veitch have a first rate apple, and a sterling novelty.

PLUMS FOR THE GARDEN.

Although there are many useful varieties of dessert and cooking plums which succeed well when grown on bush or standard trees, yet the best and finest fruits are those taken from trained trees on walls or fences. At Wrotham Park we have two walls facing the east, each 80 yards long, devoted to plum culture, as well as a certain quantity of gages growing on a west aspect, all of which bear very freely in the majority of seasons. Many of the varieties are not new, but, nevertheless, are excellent.

I have for many years trained the trees fan-shape and am well satisfied with the system. Each year as the trees make fresh growth we preserve and lay in close to the wall sufficient new wood all over the trees, and it is from these young growths the second year that we invariably get the best and most fruit. This season the crop has been exceptionally heavy, and required some thinning, especially in the case of Coe's Golden Drop, which is probably the very best late dessert plum grown. We have both young and old trees, all alike bearing freely, though, owing to the wet weather we have experienced some of the largest and best fruit cracked. The fruits of this variety, when ripe and perfectly dry, if gathered and rolled up in thin tissue paper, and then placed on a dry shelf in the fruit room will keep fresh for several days, the flavour being excellent and the beautiful golden colour very pleasing.

Young trees of the Green Gage we find rather shy in bearing, and to encourage productiveness we do not prune the side shoots so severely as we do most varieties. I am not an advocate of many varieties of plums, but prefer good, useful sorts to meet the requirements and keep up the supply for some length of time. With us Washington crops freely and the fruits produced are of excellent size and flavour. This is rather strong growing, and the foliage being large, more space is required between the branches. Sometimes, when in a young stage of growth, the wood is very apt to become coarse, and root pruning or lifting and replanting is the course to adopt, but when once the tree begins to bear fruit good crops follow as a rule.

Where very choice plums are needed, Transparent Gage will prove an excellent one to grow, the fruit generally comes a fine colour and the flavour is rich and sweet. Oullin's Golden is most valuable for its earliness, pleasing golden colour, and fine flavour. Bryanston Gage crops heavily with us, and the fruit grows to a good size, and, in the majority of seasons is sweet and rich. The same remark applies to Jefferson. I have seen standards of this variety, rather old, bearing fine crops, which usually find a ready sale in the market. Kirke's does well in most parts if the roots are healthy and the soil not too heavy. Victoria, needless to say, is one of the most reliable varieties grown, as its fruits are useful for cooking, dessert, and also for jam-making.

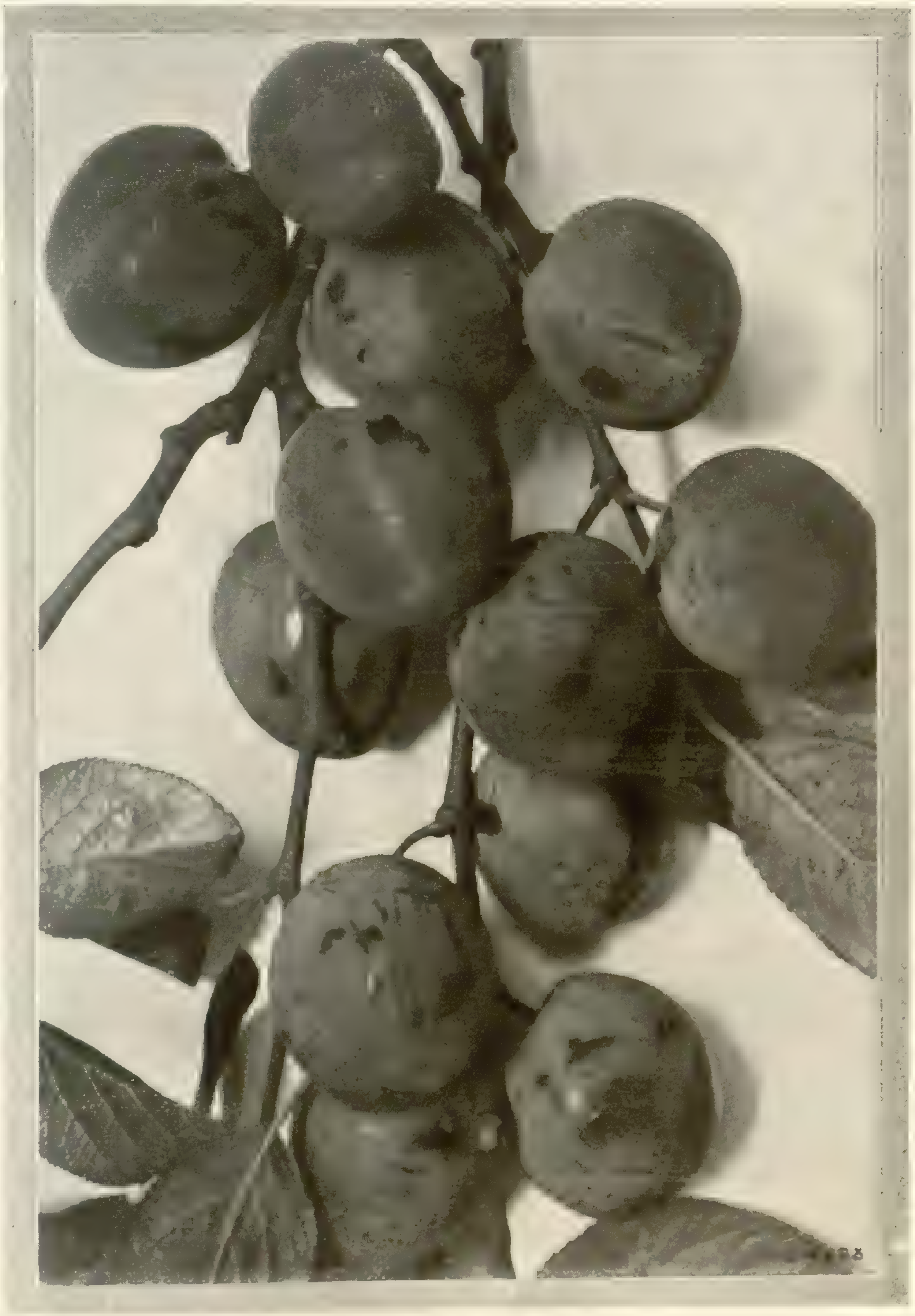
The Nectarine plum is very useful as an early variety, the flesh being exceptionally sweet, but it tightly adheres to the stone. Count Althann's Gage has a most taking appearance, is of the Transparent type, and has good flavour. Gisborne's crop heavily here on standards, and Pershore on the bush. Belgian Purple Monarch, Early Prolific, Archduke, and Pond's Seedling are all dependable varieties for culinary purposes.

Those intending to plant plums this autumn should see that the borders are well drained, and the soil of a medium texture, with plenty of lime in it. If well prepared at the first the trees ought to thrive and bear satisfactorily for many years, but a light, hungry, and gravelly soil means a very short life. Pruning in summer must receive attention, shortening the lateral growths not wanted when about ten inches long to half their length, and these at the winter pruning should be cut back to two or three eyes. During the early part of the season we were greatly troubled with aphis, and had to wash repeatedly with quassia extract, followed by a good syringing with warm water till the foliage was thoroughly freed of the insects. Mulching the roots of all trees bearing heavy crops and a heavy soaking of liquid manure two or three times will prove very helpful in swelling up the fruits and assisting the trees to build up strength for next season's bloom and crop.

H. Markham.

Wrotham Park Gardens.

Everyone interested in a garden should obtain a copy of the Alphabet of Gardening, by T. W. Sanders. Thoroughly practical information is given as to soils, manures, seed sowing, planting, potting, budding, pruning, grafting, forcing, hybridising, etc., with explanatory diagrams. Price 1s. 6d. net, by post 1s. 9d.; cloth, 2s.; by post 2s. 3d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.



RIVERS'S MONARCH PLUM.

A valuable late culinary plum, raised by Messrs. T. Rivers and Son, and equally suitable for gardens and market plantations. Fruit large, dark purplish blue.

EARLY-FLOWERING CHRYSANTHEMUMS.

Your remarks anent the position that should be accorded to early-flowering varieties deserves to be well read and acted upon. Writers on this type of chrysanthemum are all too apt to say the herbaceous border is the proper site for the early-flowering chrysanthemum. I agree with you it is not so, except in a limited manner, where single plants may be put out to fill gaps quite early in the season. I consider the advantage of the early-flowering chrysanthemum lies in its power to provide abundant means of giving huge quantities of flower for cutting rather than the decoration of the garden, as cut flowers during the month of October out of doors are becoming scarce, except for Michaelmas daisies, and many of these lack the colour obtained in chrysanthemums.

I have found that stopping the plants once was quite sufficient to give good returns, as the bulk of varieties branch freely, and give longer stems or branches surmounted with flowers more suitable for filling large vases than where the plants are pinched several times to induce them to grow bushy, as it were. Some simple means of supporting the branches upright is very important to prevent their becoming crooked, if in this way much difficulty is experienced in arranging the flowers, and thus much of an otherwise desirable effect is lost.

E. M.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

CALANTHES.—The different species and hybrids that have finished the development of their pseudo-bulbs will now be rapidly pushing their flower spikes. The foliage also will be ripening, and, as the leaves decay, they should have the dead portions cut away, so as to permit all the light possible to reach the pseudo-bulbs. It is useless to obtain gross pseudo-bulbs and huge spikes that lack substance in the individual blooms after they have become expanded. I do not know any plants that are more affected by the influence of light than calanthes. Take, for example, C. Veitchi, when grown in the neighbourhood of London, other large towns, or in smoky manufacturing districts. One generally finds the flowers of this most desirable orchid so faded in colour as to render them practically useless, and scarcely worth the trouble of cultivating. Surely this is a sufficient illustration of the practical advantages of securing as much light as possible, so that the plants may become properly matured, and display their flowers to the greatest advantage. Root moisture must be continued until the flower scapes have been removed, or the plants pass out of flower, but the moisture in the atmosphere should be reduced to the minimum. Ventilate freely whenever the outside conditions permit, but care should be observed to keep the temperature at about 65 deg. at night. This will, to some extent, prevent the flower scapes from becoming disfigured by spot. Plants that are still in full growth, and that usually flower in the New Year, should still be kept growing, but where possible they should be placed on a shelf within reasonable distance of the roof glass.

EAST INDIAN HOUSE. — In the East Indian division many of the ærides, saccolabiums, vandas, and allied genera will have matured their growths, but are actively rooting. While it is desirable that the plants should have every encouragement, up to the time that the roots become sealed over, care should be observed to keep the atmospheric moisture under proper control, so that it may easily be reduced to the lowest minimum, should this be desirable owing to the changing conditions outside. A sudden fall in temperature with the atmosphere charged heavily with moisture is one of the greatest dangers orchid cultivators have to guard against. Phalænopsis in particular are very susceptible to sudden changes, these frequently causing disfigurement, and often loss of foliage. Where phalænopsis are advancing their flower scapes they should be placed within reasonable distance of the roof glass to prevent their becoming drawn. — H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

TEMPERATURE.—After this date the temperature and supply of moisture should be gradually realised, but air and sunlight must be freely admitted as much as possible in order to make the tissues of the stems firm; and when plants are brought into a quiescent state the temperature of the warmest house need not exceed 65 degrees by night, and the cooler house 5 degrees lower. Stephanotis floribunda, when growth is completed, may be wintered in a temperature of 55 degrees, with plenty of light and little water; for successful flowering thoroughly ripened wood is most essential.

GLORIOSA SUPERBA.—When growth is completed, cut down the stems to twelve inches from the pot, and place the latter in a temperate house, keeping the soil quite dry, and the pots on their sides until spring.

ÆSCHYNANTHUSES. — These beautiful and easily-grown plants should, as soon as they show signs of going to rest, have water gradually withheld, and eventually be kept quite dry in a temperature of 55 deg. until spring. Treated in this way vigorous growth will result.

FRANCISCEAS. — Where given special treatment for the production of autumn flowers, these will now be coming into bloom, and weak doses of liquid manure at every other watering will benefit them. Just before the blooms open, fumigate the house, and cease syringing the plants. Keep them free from mealy bug, and place them in the coolest part of the stove.

ANTHURIUM SCHERZERIANUM. — Those plants which have completed their growth for the year may now be removed from the stove to an intermediate house for six or seven weeks' rest; little water will be required. If scale is in evidence, have the foliage thoroughly cleaned before growth commences.

ANTHURIUM ANDREANUM.—Specimens grown in 7-inch pots, when used amongst other plants, are very effective. They should be liberally supplied with moisture at the roots, and kept in the warmest house, when they will be found very useful for supplying fine material for winter cutting.

REARRANGEMENT. — Everything connected with the rearrangement of the plants should now be completed. Remove all stove plants from other and cooler houses, and those which have been used for furnishing the greenhouses during the summer months should be returned to their winter quarters. Arrange the stock with a view to good effects. Destroy large examples which have lost their beauty, remembering that healthy young stock has a much greater decorative value.—Wm. Fyfe, Lockinge Gardens.

FRUITS UNDER GLASS.

EARLY VINERY. — The vines may be pruned as soon as an opportunity occurs, and the house be thoroughly cleansed with some carbolic soap and paraffin. Then the vines may be taken in hand, and if they are at all unclean the loose bark should be removed, but if no mealy bug or scale be present I do not recommend this process beyond rubbing off loose or untidy pieces, but if pests do exist it is well to take off all that can be conveniently removed in order to get at every possible insect. The rods should then be subjected to a good scrubbing with warm water in which some insecticide has been mixed, and this operation should be performed several times, and finally the rods should be dressed with some approved mixture. The vines can then be slung up to the wires, and have a complete rest before being started again. The border should next be dealt with, and if no renovation is required take off an inch or two of the surface, wheel it away, and apply a like quantity of fresh, sweet soil, made firm. This done the walls should be white-washed, and in mixing a preparation for this it is well to form one that is thick enough to fill up any small crevices; to each bucket of lime-wash add a 1lb. packet of size to make it adhere properly, and mix in it also half-a-pound of petroleum, and one pound of flowers of sulphur. This is an effective mixture against pests of all kinds. Keep the ventilators open top and bottom, especially in good weather.

LATE GRAPES must be examined frequently, and any berries damping or decaying must be promptly cut out. Madresfield Court should be used as soon as possible, as this is very liable to damp quickly. Muscats should have a little heat, with the top ventilators open, and any young growths should be taken off, as there is a danger lest the young laterals that are touching the glass convey moisture to the bunches. See that all cracked glass is repaired. All late grapes should have a little heat in damp weather, with a little air on, to dispel damp. See that the border is sufficiently moist, but give water only when necessary.

POT VINES.—Where these are used for the first crop they should be pruned now. They may be kept outside for the present, but they should not be subjected to too heavy rains.

STRAWBERRIES IN POTS. — These should be placed thinly, so that the leaves have every possible chance to develop; give them the sunniest position available, as this assists the ripening of the crowns.

CUCUMBERS.—Those just beginning to bear must be kept clean by fumigating them about every ten days, and syringing each morning and early in the afternoon. Give a little top-dressing as soon as the roots come through the soil, and do not allow too many fruits, as this will weaken the plants. Plant out the batch to succeed this, providing a slight hotbed, as well as bottom heat from pipes. Winter-fruiting tomatoes should be kept in a warm and moderately dry house, and have all side growths removed.—W. A. Cook, Leonardslee Gardens.

THE KITCHEN GARDEN.

GLOBE ARTICHOKES.—These will have nearly completed their cropping by this date, and, not being quite hardy, will require some form of protection to keep them from injury during severe frost. Dry leaves packed round the stems are serviceable, but will need to be covered with straw litter to keep them in position. Where new beds are contemplated next year suckers carefully lifted now from the old stools, potted up and stored in cold frames during the winter months, will be suitable for planting out next spring.

JERUSALEM ARTICHOKES.—The tubers are about ready for use, having nearly reached their full size, so a commencement may be made in lifting a quantity for present purposes. The larger portion of the crop will be better left in the ground until the end of the present month.

LEEKS.—For ordinary culinary purposes it is not necessary to waste valuable time in papering each specimen for blanching, but the crop will be considerably improved if soil is drawn up to the plants. A dry day when the land will work kindly should be chosen for this, taking care that the hearts of the plants are not choked with dirt.

LATE CARROTS. — The sowings of the French Short Horn carrots will be giving useful roots by this time. The larger ones may be pulled and stored in sand for present consumption. The later sown and smaller roots may be left in the ground, and will still grow slowly, and come in for use in the winter. During severe frosts light coverings of straw or bracken fern is of advantage in preserving this crop.

TRENCHING.—Many quarters will by this be cleaned of their crops, and will be in readiness for preparation for trenching. The wheeling on of manure should be taken in hand as soon as convenient, and the work can be pleasantly carried out on frosty mornings, or dry days, and does not then damage the walks to anything like the same extent it would if done during wet weather. If the land is of a stiff nature, leaf-mould or burnt vegetation from the rubbish heap is of value in bringing it to a better condition, if worked in with the manure. Every kitchen gardener should be alive to the desirability of deep cultivation for most plants to obtain the best results, and, as far as the strength of the staff will allow it, should carefully attend to the matter for the next few months.

PREPARATIONS FOR FORCING.—Preserve carefully all the useful leaves that are raked up, as they are invaluable for hotbeds for forcing. Nothing provides such a desirable and prolonged heat as these, with the addition of a little sweetened stable manure. It is also a great advantage to have plenty of leaf-mould on hand. Have the glass lights repaired or painted for use as required, so that when the time arrives there is no delay. — Charles Flack, Cholmondeley Castle Gardens.

Rose Flower of Fairfield. — From experience I have a good word to say of this new rambler rose, as it is certainly of a perpetual-flowering character, and that is indeed a gain, especially in this type. When my plant opened its first flowers in the summer, I considered the colour was more bright even than the old Crimson Rambler, from which the new-comer is a seedling. As late as the first of October I had blooms on my plant, which is saying a good deal for this section.—E. M.

KENT COUNTY CHRYSANTHEMUM SOCIETY.—The 22nd GRAND ANNUAL EXHIBITION will be held at the RINK HALL, BLACKHEATH, opposite S.E. and C.R. Station, on WEDNESDAY and THURSDAY, Oct. 27 and 28th. 1909. Schedules and all particulars of the Hon. Sec., F. FOX, The Gardens, The Cedars, Lee, S.E.

NATIONAL CHRYSANTHEMUM
SOCIETY.
GREAT AUTUMN SHOW
at the
CRYSTAL PALACE,
November 3rd, 4th, and 5th, 1909.
Entries Close October 27th.
Write at once for Schedule to the Secretary, Mr. RICHARD A. WITTY, 72, Savernake Road, Gospel Oak. N.W.

YORK.
The 30th GRAND ANNUAL CHRYSANTHEMUM SHOW will be held on 17th, 18th, and 19th November. About £200 offered in Prizes. Groups, Cut Flowers, Fruits and Vegetables. (36 Japanese Cut Blooms £20 10s.) Medals for Trade Exhibits.
Entries due 10th November.
Schedules on application to the Secretary,
GEO. F. W. OMAN, A.S.A.A., 38, Petergate, York.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

◆

Royal Horticultural Society.

OCTOBER 12.

Once again a packed hall; once again a crowd of visitors; and once again a good deal of "vain repetition," and some exhibits that would have been better left at home. Fruit and vegetables were abundant and good; orchids showed up well; hardy shrubs and flowers were very much in evidence, and there was a fair show of choicer things.

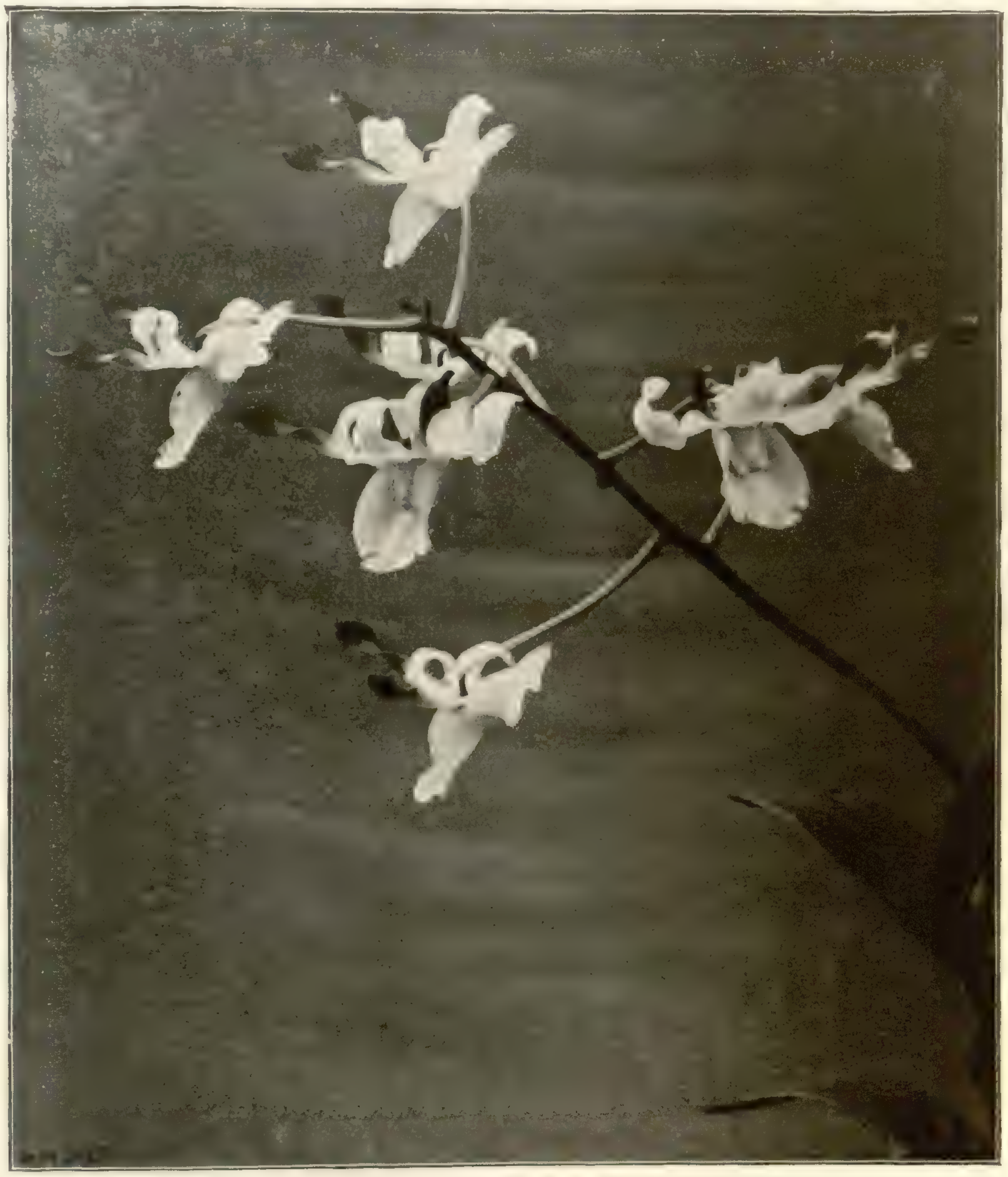
FLORAL COMMITTEE.

Messrs. Jas. Veitch and Sons, Chelsea, were large exhibitors, and one of their displays consisted of batches of Mrs. Heal and Elatior begonias, perpetual-flowering carnations, a fine lot of Nerine Fothergilli major, the blue-berried Callicarpa purpurea, and a set of beautiful greenhouse rhododendrons. The firm also set up a grand lot of magnificently-grown nepenthes, arranging these on stands over a groundwork of Asparagus plumosus. There were superb pitchers of Nepenthes, Sir W. T. Dyer, N. Tivezi, N. Burkei, N. Balfouriana, N. Curtisi, N. mixta, N. mixta sanguinea, N. Dicksoniana, N. Mastersiana, N. Hookeriana, N. Chelsoni excellens, etc. These formed a most attractive exhibit, the quaintness and bright colours of the pitchers attracting a great deal of attention. The hardy, graceful, crimson-scarlet Fuchsia macrostemma, a Chilian species, was displayed by Messrs. Jas. Veitch and Sons, Chelsea, who showed fifteen pyramidal specimens, 5ft. or 6ft. high. The flowers are small and drooping, and the whole plant very elegant.

Messrs. Gunn and Sons, Olton, made a pretty display with baskets of Viola cornuta purpurea, all splendidly flowered and of brilliant deep blue-purple colouring. Some elegant Michaelmas daisies, set up by Mr. Charles Turner, Slough, included such pretty varieties as William Marshall, May Crum, Lily Fardell, King Edward, and Mrs. Raynor. Mr. W. Leggett, West Bergholt, Colchester, had good flowers of such roses as Mildred Grant, Ulrich Brunner, F. K. Druschki, and other popular varieties. Some handsome chrysanthemums came from Mr. Martin Silsbury, Shanklin, Isle of Wight, the set including the new creamy White Queen (A.M.), a beautiful Japanese variety.

Early-flowering chrysanthemums and Michaelmas daisies formed the bulk of the display made by Messrs. Barr and Sons, Covent Garden, and with these they associated the yellow Gladiolus sulphurea, Cimicifuga racemosa, a few kniphofias and colchicums. From Mr. R. C. Notcutt, Woodbridge, came Michaelmas daisies in quantity, some dahlias, and an attractive stand of kniphofias and sprays of Cimicifuga racemosa. Mr. David Russell, Essex Nurseries, Brentwood, filled one corner of the hall with attractive conifers, etc. Messrs. Stuart Low and Co., Bush Hill Park, Enfield, brought forward a few flowering plants of the new Rose Doré perpetual-flowering carnation. New pæony-flowered dahlias were submitted by Mr. J. T. West, Brentwood, and his Liberty, Turner, Titian, Rubens, and Burne Jones were very effective.

Mr. Frank Brazier, Caterham Valley, submitted a big bank of Michaelmas daisies and early-flowering chrysanthemums, and set them up in first-rate style, with pentstemons and phloxes. Messrs. B. R. Cant and Sons, Colchester, showed autumn roses, and there were lovely flowers of Frau Karl Druschki, Corallina, Ma Capucine, Safrano, General Schablikiné, Mdme. Jean Dupuy, Mdme. Falcot, Claudius (deliciously scented), and Rose du Barri, a fine new seedling bedding rose with big reddish-rose coloured flowers. Messrs. Thomas S. Ware, Lim., Feltham, had a brilliant exhibit of tuberous begonias, the blooms all picked from the open air, from the seedling stocks, true to colour. The crimson, apricot, deep-rose, and white varieties and the crested forms were all delightful, and took us back into summer-time again.



DENDROBIUM TAURINUM COLMANI.

A distinct form of this interesting species exhibited by Sir J. Colman, Bart., at the meeting of the Royal Horticultural Society on the 12th inst., when it received an Award of Merit. Flowers white, the sepals suffused with purple, and the petals tipped with rose.

Some grand specimen ferns of huge size, shown by Mr. W. Howe, gardener to Lady Tate, Park Hill, Streatham, reminded one of the old days when specimens were much more in evidence than they are nowadays. Of special merit were the examples of Polypodium Mayi, Adiantum cardiochlæna, Dicksonia antarctica, Microlepia speluncæ, Platycerium Willincki, Davallia Mooreana, Asplenium caudatum, and Nephrolepis Amerpohli. This was a fine exhibit from a private garden. Very bright was the group of early chrysanthemums put up by Messrs. W. Wells and Co., Merstham, of Glory of Merstham, Leslie, Ethel Blades, Roi des Blancs, Nellie Riding, Wells' Scarlet, Perle Chatillonaise, and Bouquet Rose, there were very handsome bunches, but the five-gallon "packet" of early single chrysanthemum seed was the greatest wonder. In the display made by Messrs. G. and A. Clark, Dover, a large single dahlia, red, blush-tipped, named Arabic, was very showy; liliums, gladioli, Michaelmas daisies, gaillardias, pyrethrums, and Gilia coronopifolia were other effective flowers.

One of the grandest exhibits of ivies we have seen was the big one put up opposite the entrance hall by Mr. L. R. Russell, Richmond. There were standards of several sizes, low bushes and climbers, and the outstanding variety was the new climbing, variegated form of Hedera dentata. Other good things were H. arborea spectabilis aurea, H. a. macrodonta, H. a. flavescens, and the very pretty H. a. elegantissima. It was a splendid exhibit of well-grown and useful material. The beautiful bertolonias were shown in fine style by Mr. L. R. Russell, Richmond, and the exquisite veining and spotting of the leaves attracted a good deal of attention. Of Souvenir de Gand, Comte de Kerchove, Mdme. E. Pynaert, Mdme. A. Bleu, Sanderiana, and Mdme. van Houtte, with their charming silver-green and blue markings and shadings, there were fine specimens.

Michaelmas daisies were delightfully shown by Mr. H. J. Jones, Ryecroft Nursery, Lewisham, who put up pretty sprays in goodly bunches over a white-paper groundwork. A few of the very best varieties were St. Egwin, pretty rosy-lilac, very dainty; William Marshall, H. J. Jones, Thora, Grace, Miss Southall, Hilda Morris, Fairfield, and Irene. Very bold and brilliant was the large group of single, pompon, cactus, and pæony-flowered dahlias so well set up, with grasses, etc., by Messrs. Carter Page and Co., of London Wall. In the bank of hardy flowers put up by Messrs. W. Cutbush and Son, Highgate, the pentstemons were a fine feature, but liliums and Michaelmas daisies, and Potentilla Gibson's Scarlet, were well shown. The same firm brought up a beautiful lot of perpetual carnations, their collection including Afterglow, Mrs. Burnett, Enchantress, Aurora, May Bennett, Winona, and White Perfection. Varieties of veronicas, all in flower, were contributed by Messrs. H. B. May and Sons, Edmonton, and the varieties La Seduisante, Conquete, Admiration, and Diamant are fine for autumn flowering; the same firm contributed a large number of small plants of Scolopendrium vulgare crispum varieties, all very finely frilled or crisped.

Messrs. G. Bunyard and Co., Maidstone, contributed a collection of hardy flowers, their Michaelmas daisies, kniphofias, and anemones being the chief features. Mr. Clarence Elliott, Stevenage, had Michaelmas daisies in fine condition. Messrs. Frank Cant and Co., Braiswick Nursery, Colchester, put up large bunches of beautiful and fragrant roses, such varieties as Mdme. Ravary, Mdme. C. Soupert, Gustave Regis, Lyon Rose, Mons. Paul Léde, and Edu Meyer being specially good.

Single dahlias were very well shown by Messrs. J. Cheal and Sons, Crawley, the colours being particularly fine in the case of Formosa, William Parrot, Rosebank Scarlet, Miss Morland, Serita, Tommy, Columbine, Victory, and Cardinal. Messrs. Harkness and Co., Hitchin, had a lovely exhibit of roses set up in stands, vases, and boxes, and they had F. K. Druschki, Mdme. Ravary, Hugh Dickson, Mrs. J. Laing, Edu Meyer, and other varieties as abundantly as in summertime.

ORCHID COMMITTEE.

Orchids were well shown on this occasion. Messrs. Charlesworth and Co., Haywards Heath, brought up a very bright collection, in which Vanda cœrulea was prominent, associated with Odontoglossum grande, O. g. aureum, Odontioda Bradshawiæ, Dendrobium Phalænopsis, Cattleya labiata var. G. G. Whitelegg, the white Saccolabium violaceum Harrisoniæ, Cattleya Venus, Sophrocattleya Sibyl, and Odontoglossum Phœbe and O. Eleanor.

Mr. G. E. Day, gardener to H. S. Goodson, Esq., Fairlawn, Putney, showed the lovely white-petalled Cattleya Hardyana var. The Baron (F.C.C.), half a dozen flowering plants of Cypripedium Maudiæ, Odontioda Charlesworthi, Anguloa eburnea, Masdevallia chimæra, etc., etc. Messrs. Stuart Low and Co., Bush Hill Park, Enfield, set up graceful spikes of Odontoglossum Pescatorei, Oncidium varicosum and O. crispum, Cattleya Vulcan, C. Venus, Cycnoches chlorochilon, etc.

From Westonbirt Mr. Alexander brought up several good things from Lieut.-Colonel Holford's collection, the chief being Cattleya Marie Ludovic, C. Dirce, Cypripedium Cynthia Westonbirt var. (A.M.) and C. Garton Bulteel var. King Edward VII. Mons. Maurice Mertens, Mont St. Amand, Ghent, brought over a few brilliantly-marked hybrid odontoglossums. Mr. J. Collier, gardener to Sir J. Colman, Bart., Gatton Park, Reigate, showed the curious Cirrhopetalum fascinator (A.M.), Cattleya amabile illustre, Dendrobium taurinum Colmani (A.M.), and Zygocolax leopardinum Gatton Park var. Mr. W. Thompson, Walton Grange, Stone, Staffs, sent Cypripedium Daisy Barclay var. Dunhamensi and Odontoglossum exultans Christopher. Mr. Hopkins, gardener to Francis Wellesley, Esq., Westonbirt, contributed Cypripedium Charlesianum Westfield var., and Mr. F. Menteith Ogilvie, Oxford, showed the brilliant Sophro-cattleya Doris Shrubbery var. Mr. A. W. Jensen, Lindfield, Haywards Heath, had some odontoglossums on view, and Mr. Chapman, gardener to Mrs. Norman Cookson, Wylam-on-Tyne, sent up Cypripedium Fair Maude (A.M.), a handsome thing. From Baron Schroder's collection at The Dell, Egham, came the old Cattleya Lamberhurst Hybrid—a C. citrina cross.

Messrs. J. Cypher and Sons, Cheltenham, presented a goodly set of cypripediums, the batch of C. Fairrieanum being very pretty, while C. Maudiæ and C. triumphans were good. Dendrobium phalænopsis in variety, Oncidium varicosum, Cattleya Mantini, and C. M. nobilior were other attractions. The fine old Vanda Lowi, with one long spike of bloom, was the centre of interest in Messrs. F. Sander and Sons' group of orchids; Cattleya Appletoniæ, Odontoglossum Phœbe, Cœlogyne occellata, Vanda cœrulea, Miltonia vexillaria Leopoldi, and Cypripedium Actæus Bruggense were other good things.

FRUIT AND VEGETABLE COMMITTEE.

A splendid group of fine hardy fruits from Messrs. G. Bunyard and Co., Maidstone, was one of the features of the meeting. Arranged in baskets and dishes of various shapes and sizes were about a hundred and ten varieties of apples and pears. The pears were splendid, and among the fine kinds shown we noticed Verulam, Pitmaston Duchess, Beurre Alexandre Lucas, Uvedale's St. Germain, Le Lectier, Beurre Diel, Durondeau, Duchesse d'Angouleme, Marie Benoist, and Doyenne du Comice. Among the best of the apples we made special note of King of Tompkins County, Charles Ross, Emperor Alexander, Cox's Pomona, Newton Wonder, Rival, Lord Derby, Cox's Orange Pippin, King of the Pippins, Hitchin Pippin—somewhat like King of the Pippins, Grenadier, Pott's Seedling, The Houblon, Peasgood's Nonsuch, Lord Grosvenor, and Allington Pippin. There were also some excellent peaches in this collection.

Another splendid and wonderfully fine display of superbly-grown vegetables from Mr. Edwin Beckett, V.M.H., gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree, was the great feature of the show. It was an extraordinarily fine contribution even for Mr. Beckett, and, remembering the season, it is difficult to praise the exhibit too highly. The arrangement of the vegetables was also very fine, and in the matter of appearance alone the group compared quite favourably with the fruits and flowers. There were about a hundred and five dishes, and if it be possible to select out a few of the best we should name Veitch's Selected Globe, Banbury Improved, and Ailsa Craig onions; Favourite carrots; Early Giant and Veitch's Autumn Giant cauliflowers; Autocrat and Gladstone peas; The Hastings, Frogmore Selected, Ham Green Favourite, and Hackwood Park tomatoes, celeriac, mushrooms; Prize Pink, Superb White, and Standard Bearer celery; Veitch's Exhibition sprouts; Challenger and Improved Telegraph cucumbers; The Factor, Cigarette, King Edward VII., Mr. Bresee, and Chiswick Favourite potatoes. So far as we could gather, there were about thirty-two distinct kinds of vegetables in this masterly exhibit of fine vegetables, finely grown and finely shown.

Mr. William Howe, gardener to Lady Tate, Park Hill, Streatham, showed a dozen bunches of finely-finished Alicante grapes cut from a vine carrying eighty bunches. The colour and bloom were excellent. A collection of fifty dishes of clean potatoes was set up by Mr. R. W. Green, Wisbech; particularly attractive were the sets of Table Talk, Eldorado, King Edward VII., The Factor, and The Cottar. From Mr. Leopold de Rothschild's garden at Gunnersbury Park, Mr. G. Reynolds brought up a dozen fine melons—Eminence and Blenheim Orange; half a dozen Queen Pines; and eight dishes of peaches—Thomas Rivers, Golden Eagle, Gladstone, Sea Eagle, Princess of Wales, Lady Palmerston, and Albatross.

A collection of hardy fruits was submitted by Mr. R. C. Notcutt, Woodbridge, who had good samples of Warner's King, Peasgood's Nonsuch, Charles Ross, Bismarck, Cellini, Bauman's Red Reinette, Allington Pippin, and Beauty of Hants apples.

Mr. T. Pateman, gardener to M. Price, Esq., The Nolle, Welwyn, staged about three dozen dishes of high-class fruits, including grapes, peaches, melons, figs, pears, and apples; he had fine dishes of Charles Ross, Rival, and Cox's Orange Pippin apples.

Across the end of the hall the King's Acre Nursery Company, Hereford, arranged a very fine lot of picked fruit, and young fruiting trees of apples and pears. It was a fine exhibit of clean, bright fruit, and among the picked fruits we were specially interested in the baskets of Royal Jubilee, Potts' Seedling, Warner's King, Lord Gresvenor, Bramley's Seedling, Jas. Grieve, Charles Ross, Emperor Alexander, Lane's Prince Albert, Hambling's Seedling, Stirling Castle, Norfolk Beauty, Lord Derby, and Peasgood's Nonsuch apples; and Conference, Pitmaston Duchess, Beurre Bachelier, Emile d'Heyst, and Beurre Diel pears; peaches and plums were also shown.

Messrs. J. Peed and Sons, West Norwood, filled a considerable space with apples and pears displayed advantageously with small palms and vases of carnations; Gascoigne's Scarlet, The Queen, Tyler's Kernel, Golden Spire, Peasgood's Nonsuch, and Withington Fillbasket were largely represented in this exhibit. An interesting collection of beet and carrots from Messrs. G. Massey and Sons, Spalding, served to show that in these things there is a distinct need for a grouping of too-much-alike varieties. Messrs. Stuart Low and Co., Enfield, had a small collection of popular apples, set up in dishes and baskets.

Fruit trees in pots, shown by Messrs. William Paul and Son, Waltham Cross, were grandly cropped with very fine fruits. Conference, Marguerite Marillat, Durondeau, Grosse Calabash, and Beurre Clairgeau pears were especially fine, and Conference was magnificently cropped. A big exhibit of fruit from Messrs. J. Cheal and Sons, Crawley, contained fine samples of Van Mons Leon Leclerc, Glou Morceau, Doyenne du Comice, Pitmaston Duchess, Durondeau, Catillac, and the new Beurre de Naghan pears, as well as of The Queen, Peasgood's Nonsuch, Jubilee, Encore, Nanny, Charles Ross, Lord Derby, Warner's King, and Newton Wonder apples.

A large display of fruit came from the Royal Horticultural Society's Gardens at Wisley; the pears, of which there were fifty-four dishes, were rather small; but the grapes were the chief attraction, notably the bunches of Golden Queen, Alicante, Cannon Hall Muscat, Gros Colman, Mrs. Pearson, Syrian, Prince of Wales, Lady Downes, and Trebbiano.

COMPETITIVE FRUIT CLASSES.

An interesting class was the one for affiliated societies, and consisted of eighteen dishes of hardy fruits—i.e., twelve of apples and six of dessert pears. There were twelve competing societies, and the silver cup and silver-gilt Knightian Medal fell to the Royal Jersey Horticultural Society, which scored heavily on pears; they had Doyenne du Comice, Pitmaston Duchess, Glou Morceau, Beurre Superfin, and Duchess d'Angouleme very good, and a fine dish of Peasgood's Nonsuch apples. The East Anglian Horticultural Club gained the second award, and must have run the Jersey people closely. Other societies competing were Ipswich, Addlestone, Stour Valley, Ibis (Prudential Insurance), Reigate, Brentford, Newport, Gosport, Sutton (St. Barnabas), and Croydon.

Premier award for three bunches each of three varieties of grapes was won by Mr. H. H. Brown, gardener to W. G. Raphael, Esq., Castle Hill, Englefield Green, who showed Lady Downes, Muscat of Alexandria, and Alicante; Mr. J. Kidd, gardener to T. Miller, Esq., Newberries, Radlett Heath, second, with Alicante, Mrs. Pince, and Lady Downes. In other grape classes the chief prizes were won by Mr. H. Cornish, gardener to A. Benson, Esq., Upper Gatton Park, Reigate; and Mr. J. Shelton, gardener to the Dowager Lady Hillingdon, Wildernesse, Sevenoaks.

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Lady Quartus Ewart, full pure white, opens well	10/-
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Mrs. W. J. Grant, imperial pink, magnificent flower	7/-
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Without doubt the most beautiful Rose of its type in commerce. Colour: Coppery-red, shaded fawn (many expert Rosarians prefer its colour to that of the Lyon Rose); a wonderfully long pointed flower, faultless in shape and form. Has no equal as a forcing rose under glass in winter. Blooms throughout the entire season. Has a delightful sweet perfume. Award of Merit, Royal Horticultural Society, 1908. **7/6** each; **6** plants, **42/-**

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Mr. T. W. Herbert, gardener to J. T. Charlesworth, Esq., Nutfield Court, Redhill, had the best three dishes of dessert plums—Coe's Golden Drop, Transparent Gage, and Guthrie's Late Gage; Mr. J. Vert, gardener to Lord Howard de Walden, Audley End, Saffron Walden, second. Mr. Vert led for three dishes of cooking plums, with Monarch, President, and Pond's Seedling; Mr. Herbert, second.

CERTIFICATES AND AWARDS.

First-class Certificate.—To Cattleya Hardyana The Baron, from H. S. Goodson, Esq. (gardener, Mr. Day), Fairlawn, Putney.

Award of Merit.—To Chrysanthemum White Queen, from Mr. M. Silsbury, Shanklin, Isle of Wight; to Chrysanthemum Mary Turnsworth, from Messrs. J. Stredwick and Son, St. Leonards; to Michaelmas daisy Lustre, from Mr. Edwin Beckett, Aldenham House Gardens, Elstree; to Streptocarpus hybrids, from Mr. E. Beckett, Aldenham House Gardens, Elstree; to H. T. Rose Claudius, from Messrs. B. R. Cant and Sons, Colchester; to Dendrobium Taurinum Colmani, from Sir J. Colman, Bart. (gardener, Mr. J. Collier), Gatton Park, Reigate; to Cypripedium Cynthia, Westonbirt var., from Lieut.-Colonel Holford (orchid grower, Mr. H. Alexander), Westonbirt, Gloucester; to Cirrhopetalum fascinator, from Sir J. Colman, Bart.; to Cypripedium Fair Maud, from Mrs. Norman Cookson (gardener, Mr. H. J. Chapman), Oakwood, Wylam-on-Tyne.

MEDALS.

Gold.—To Messrs. Jas. Veitch and Sons, Chelsea, for nepenthes, nerines, fuchsias, etc.; to Mr. Edwin Beckett, V.M.H., gardener to the Hon. Vicary Gibbs, Aldenham House Gardens, Elstree, for vegetables; to Mr. L. R. Russell, Richmond, for ivies and bertolonias.

Silver-gilt Knightian.—To the King's Acre Nursery Company, Hereford, for fruit, and fruit trees in pots; to Messrs. J. Cheal and Sons, Crawley, for fruit; and to Messrs. G. Bunyard and Co., Maidstone.

Silver-gilt Flora.—To Mr. Howe, gardener to Lady Tate, Park Hill, Streatham, for specimen ferns.

Silver-gilt Banksian.—To Mr. Pateman, gardener to M. Price, Esq., Welwyn, Herts, for fruit; to Messrs. T. S. Ware, Lim., Feltham, for begonias, etc.; to Messrs. Carter Page and Co., London Wall, for dahlias; to Messrs. J. Cheal and Sons, Crawley, for dahlias.

Silver Knightian.—To Mr. G. Reynolds, gardener to Leopold de Rothschild, Esq., Gunnersbury Park, Acton, for choice fruits.

Silver Flora.—To Messrs. H. B. May and Sons, Edmonton, for ferns and veronicas; to Messrs. William Cutbush and Son, Highgate, for hardy flowers; to Mr. H. J. Jones, Ryecroft Nursery, Lewisham, for Michaelmas daisies; to Messrs. Frank Cant and Co., Colchester, for roses; to Messrs. Charlesworth and Co., Haywards Heath, for orchids; to Messrs. F. Sander and Sons, St. Albans, for orchids; to Messrs. Stuart Low and Co., Enfield, for orchids; and to Mr. J. Day, gardener to H. S. Goodson, Esq., Putney, for orchids.

Silver Banksian.—To Messrs. Jas. Cypher and Sons, Cheltenham, for orchids; to Mr. D. Russell, Brentwood, for conifers; to Messrs. R. Harkness and Co., Hitchin, for roses; to Mr. Howe, gardener to Lady Tate, Park Hill, Streatham, for grapes; to Messrs. J. Peed and Sons, West Norwood, for hardy fruit; and to Mr. R. W. Green, Wisbech, for potatoes.

Bronze Flora.—To Mr. Charles Turner, Slough, for Michaelmas daisies; to Mr. C. Elliott, Stevenage, for Michaelmas daisies; to Messrs. G. and A. Clark, Dover, for hardy flowers; to Mr. Frank Brazier, Caterham, for hardy flowers; to Messrs. W. Wells and Co., Merstham, for early chrysanthemums.

Bronze Banksian.—To the Misses Hopkins, Shepperton, for hardy flowers; to Messrs. Gunn and Sons, Olton, for violas; to Messrs. Barr and Sons, Covent Garden, for hardy flowers; to Mr. R. C. Notcutt, Woodbridge, for hardy flowers.

OBITUARY.

◆

MR. ROBERT GORDON RAE.

Amid every manifestation of sincere respect and regret, there were laid to rest on Tuesday, the 5th inst., the mortal remains of Mr. R. Gordon Rae, who for the long period of twenty-five years held the office of superintendent of Dundee Western Cemetery. For some considerable time past Mr. Rae had not enjoyed robust health, but he was at his post as usual on Friday, October 1. A member of an Aberdeenshire family, Mr. Rae served his apprenticeship as a gardener at Haddo House, the chief Scottish seat of the Earls of Aberdeen, during the regime of the Premier-Earl of Aberdeen. Studious and painstaking to a degree, Mr. Rae soon made a name for himself in the profession he had adopted, and, after serving at a number of gardens, he ultimately became head gardener to the Earl of Eglington, in Ayrshire.

Early in the seventies he received the appointment of superintendent of Craigton Cemetery, near Glasgow, and laid out the ground there. Mr. Rae remained there for eleven years, and fully a quarter of a century ago he went to Dundee to the position he held at the time of his death. He had a wide reputation as a cemetery architect, and, in addition to laying out the new portion of the Western Cemetery, his advice and assistance were sought in this connection over a wide area. His public position brought him into contact with all classes of the community, among whom he was highly respected, and esteemed as a quiet and gentlemanly official, with splendid qualities of head and heart. Mr. Rae, who was in his seventieth year, was predeceased many years ago by his wife, and is survived by a devoted sister (who was his housekeeper for nearly forty years), and two sons.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

TERMINATION OF ENGAGEMENT.—M. E. J., Nottingham: One month's notice, either given or received, is the usual practice in the case of terminating an engagement as head gardener.

SPLIT BEURRE RANCE PEARS.—A. C., Edgware: The cracked or split pears give ample evidence of a bad attack of a fungus known as Fusicladium pirinum, a pest that is somewhat prevalent in some parts of the country. Give the trees a thorough winter dressing later on, and at present gather up and burn the fallen leaves. In the spring, when the buds are beginning to open, spray with weak Bordeaux Mixture, following this up with another spraying just as the flowers fall away, and a third spraying as soon as the fruit crop has set.

KAINIT AND NITRATE OF SODA.—C. T. C., Winchester: Kainit should be guaranteed to contain 23 per cent. of sulphate of potash, and nitrate of soda to contain 95 per cent. pure nitrate of soda.

THE BLUE ROSE.—F. C., Tunbridge Wells: Whether this or that colour is good in the garden is so much a matter of taste that we do not care to appear dogmatic, but we cannot honestly recommend the new rose Veilchenblau for its blue colouring. We have seen it, and the curious purple-blue shade of the expanded blossoms does not greatly appeal to us, certainly it is not blue such as we have in delphiniums, gentians, etc. Do not mistake us; Veilchenblau is a very distinct pillar rose, but, as so much has been said and written about it as a "blue" rose, we fear there will be much disappointment.

MENDING A TENNIS LAWN.—B. F. H., Montgomery: Cut out the portions that have been worn bare, fork up the soil, make it firm and level, and then lay down new turves. The latter may very well be cut from a portion of the lawn where there is practically no wear, and the vacancies thus created may be made good by filling them up with rich soil, and sowing with lawn grass seed in March next. Of course, if you can obtain really good turves cheaply, it will save time and labour to secure these, and place them in the worn places. The work

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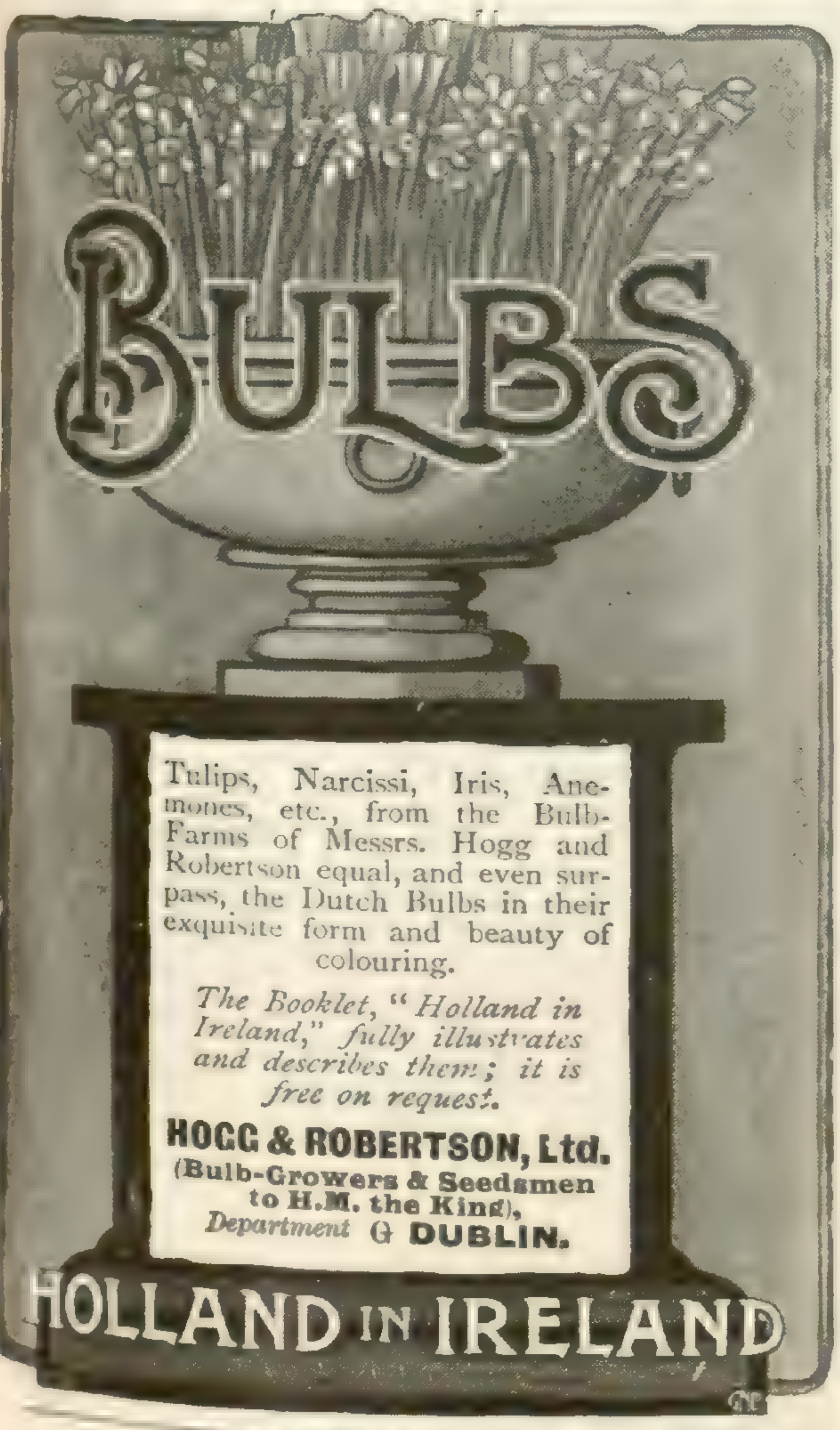

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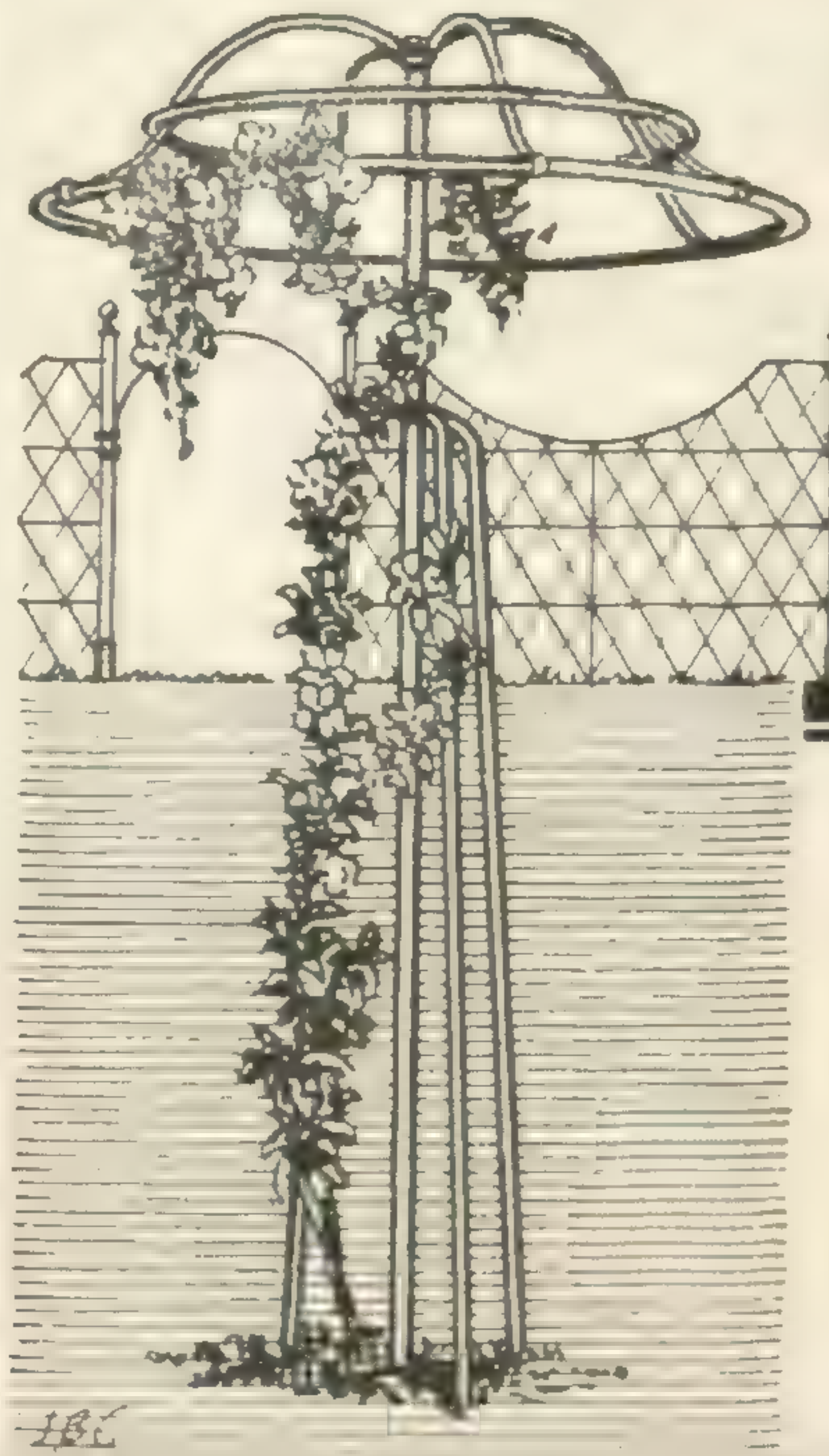
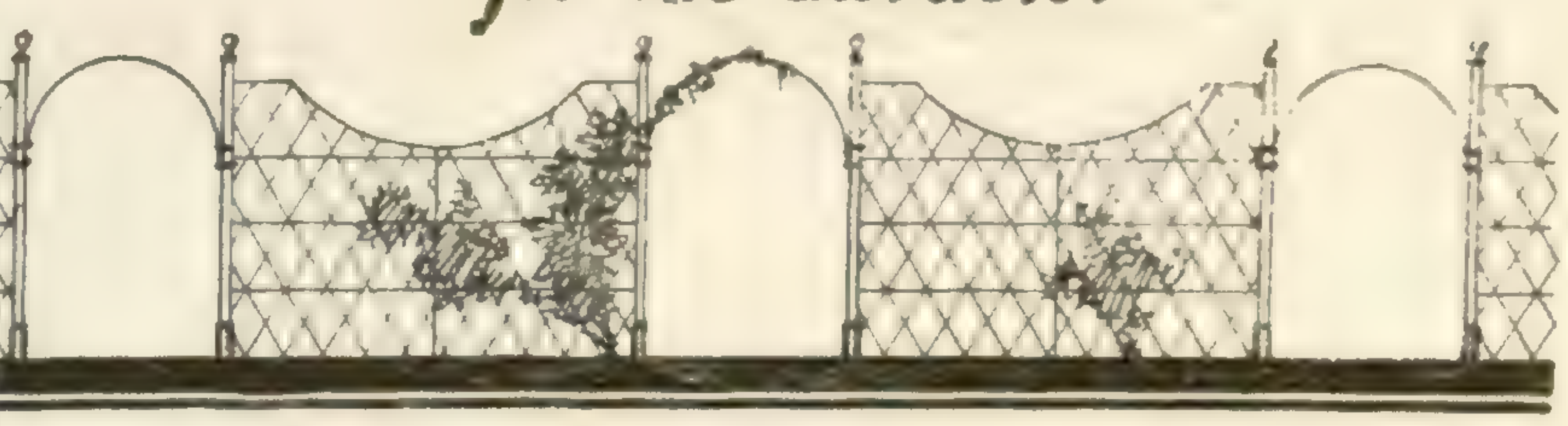

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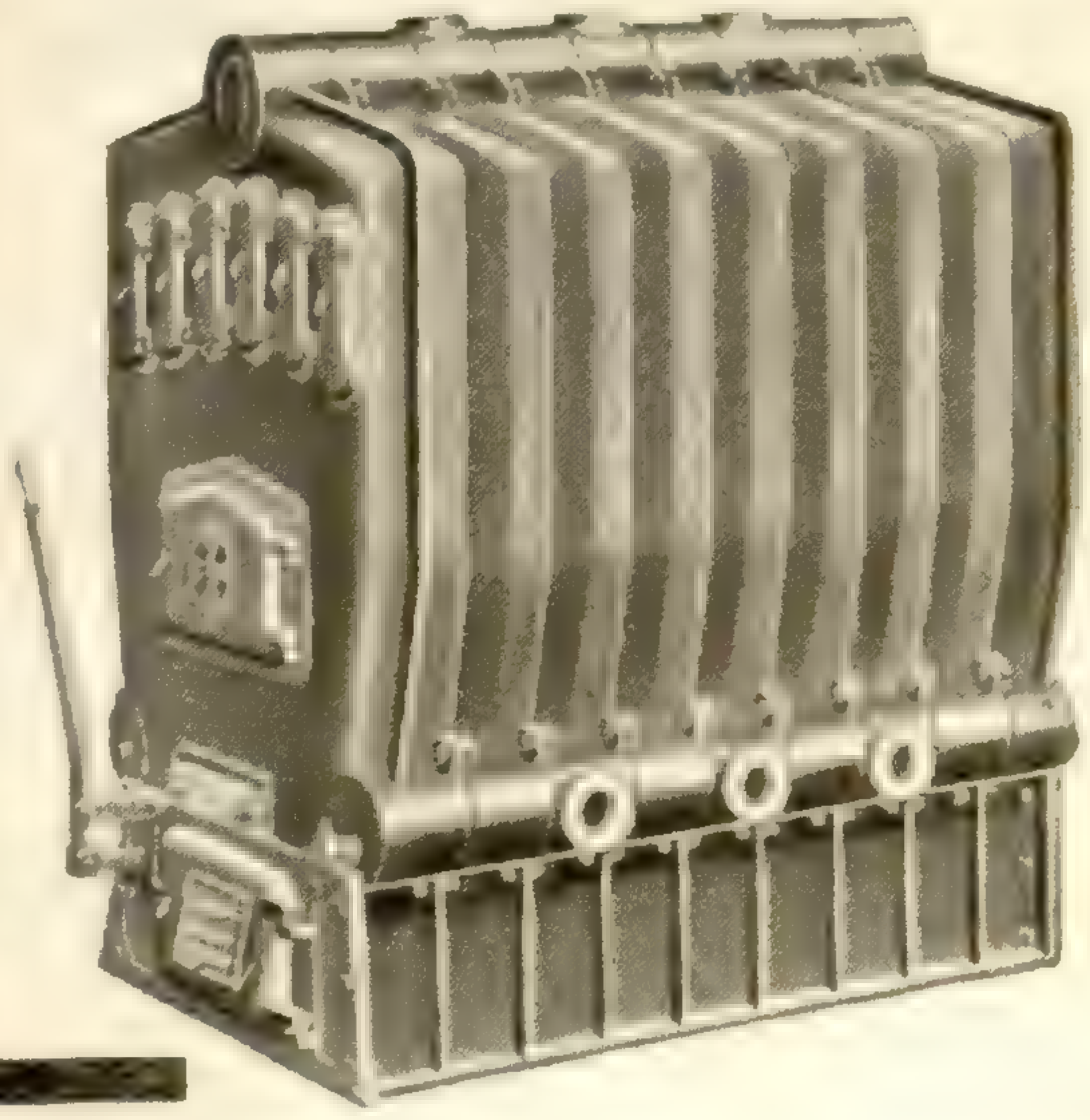

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should be done at once, and some fine soil should be worked into the joints of the turves by means of a half-worn birch broom. Beating, rolling, and sweeping must be attended to, as a firm turf is necessary to good tennis.

CORDON GOOSEBERRIES.—B. B., Tiptree: We have consistently advocated and recommended the method of cultivating gooseberries as cordons, as we know from personal experience that the method is an excellent one, because it occupies comparatively little space, and the yield is very heavy. For the present we commend to your notice the article on "Currants and Gooseberries" in this issue; if there are other points upon which you desire information, we shall be pleased to help you.

BLACK SPOTS ON CYPRIPEDIUM LEAVES.—T. E. L., Marple: Some cypripediums require much more heat than others, but as you do not give the names of the species and varieties that have spotted foliage, we cannot tell whether these would be better managed in a higher temperature or not. The conditions conducive to black spot are a saturated atmosphere, coupled with a low temperature. Try the disfigured plants in a warmer house.

MARGUERITES.—N. H. B., Bray: Unflowered growths, about four inches long, make excellent cuttings for insertion in sandy soil at the present time. These cuttings will root well in a close, cool frame, if shaded from sunshine. They should be wintered in a greenhouse. Pot up a few of the old plants for stock purposes.

DUMELOW'S SEEDLING APPLE. — H. M. G., Normanton: The history of this fine old apple shows that a farmer named Dumeller, living at Shakerstone, in Leicester, not far from Ashby-de-la-Zouch, raised it, and that the variety was largely grown in the district under the title of Dumelow's Crab. Dumelow, we may add, is a phonetic spelling of Dumeller, the latter being not pronounced as written. It appears that Mr. Richard Williams, of Turnham Green Nursery, Chiswick, received the apple from Gopsal Hall, the seat of Earl Howe, and, in 1820 he placed fruits before the Royal Horticultural Society. The popular and market name of Wellington originated with Williams, and is even now more commonly used than the correct title of Dumelow's Seedling.

NAMES OF PLANTS.

M. G., Weybridge.—1, Pinus Laricio; 2, P. cembra; 3, Abies Nordmanniana.

R. P., Sheffield.—1, Rubus phoenicolasius; 2, Kleinia repens; 3, Gerbera Jamesoni.

E. J. W., Wellington.—1, Viburnum lantana; 2, Panax Victoriæ; 3, Asparagus Sprengeri.

F. S., Bristol.—1, Begonia rex; 2, Jasminum nudiflorum; 3, Fatsia japonica; 4, Bambusa Metake.

A. O., Tonbridge.—1, Rhus cotinus; 2, Dabœcia polifolia; 3, Caryopteris mastacanthus; 4, Abelia rupestris.

F. L. C., Frodsham.—1, Amaryllis Belladonna; 2, Eccremocarpus scaber; 3, Anthurium Andreanum; 4, Polygonum cuspidatum.

A. L. B., Torquay.—1, Kalanchoe flammea; 2, Hoya carnosa; 3, Oncidium ornithorhynchum; 4, Trachelium cœruleum; 5, Solidago virgaurea; 6, Cimicifuga racemosa.

NAMES OF FRUITS.

F. F., Hull.—1, Cellini; 2, Waltham Abbey Seedling; 3, Duchess's Favourite.

A. E. W., Bletchley. — 1, Lane's Prince Albert; 2, Warner's King; 3, Bramley's Seedling.

N. F. C., Newton Abbott. — 1, Blenheim Pippin; 2, Fearn's Pippin; 3, King of the Pippins.

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		s.	d.		s.	d.
Adiantum cuneatum	per doz. bun.	5	0	to	8	0
Arums	per doz.	3	0		4	0
Asparagus	per bun.	1	0		2	0
Asters	per doz. bun.	2	0		4	0
Carnations	per doz. blms.	1	6		2	0
,,	per doz. bun.	7	0		12	0
,, Malmaisons	per doz.	4	0		7	0
Cattleyas	per doz.	12	0		14	0
Coreopsis	per doz. bun.	1	6		2	0
Croton leaves	per bun.	1	0		1	6
Cypripediums	per doz. blms.	1	6		2	6
Dahlias	per doz. bun.	2	0		4	0
Eucharis	per doz.	2	6		3	6
French fern	per doz. bun.	0	6		1	0
Gaillardias	per doz. bun.	1	6		2	6
Gardenias	per doz.	1	0		2	0
Gladiolus	per doz. bun.	2	0		5	0
Gypsophila	per doz. bun.	1	6		3	0
Lapagerias	per doz.	1	0		2	0
Lavender	per doz. bun.	4	0		6	0
Lilium auratum	per bun.	2	0		3	0
,, speciosum	per bun.	1	6		2	6
,, longiflorum	per bun.	1	6		3	0
Lily of the Valley	per doz.	5	0		15	0
Marguerites, white	per doz. bun.	1	6		3	0
Mignonette	per doz. bun.	2	0		3	0
Odontoglossums	per doz. blms.	2	0		2	6
Pelargoniums	per doz. bun.	4	0		6	0
Roses	per doz.	1	0		3	6
Smilax	per doz. trails	4	0		8	0
Statice	per doz. bun.	3	0		4	0
Tuberoses	per doz.	0	3		0	4
Violets	per doz. bun.	2	0		3	0

Fruits.

There is a good demand for all available kinds of fruits, and prices are good.

		s.	d.		s.	d.
Apples, English	per bush.	2	0	to	8	0
,, Californian	per case	8	0		10	6
,, American	per barrel	12	0		16	0
Bananas	per bun.	3	0		9	0
Damsons	per ½-sieve	1	6		2	0
Figs	per doz.	0	9		3	0
Grapes, English	per lb.	0	8		3	0
,, Guernsey	per lb.	0	4		1	0
,, Almeria	per barrel	8	0		14	0
Lemons	per case	7	6		12	0
Melons	each	0	9		3	0
Nectarines	per doz.	3	0		10	0
Oranges, Jamaica	per case	9	0		10	6
,, Navels	per case	10	0		12	0
,, Naples	per case	9	0		11	0
,, South African	per case	10	0		12	6
Peaches	per doz.	3	0		10	6
Pears, English	per bush.	1	6		6	6
,, Hazel	per ½-bush.	1	0		1	6
,, French	per crate	3	0		5	0
Pineapples	each	1	6		3	6
Plums	per ½-sieve	1	6		3	6
Walnuts	per 12lbs.	2	0		3	6

FORTHCOMING ENGAGEMENTS.

SATURDAY, October 23.—People's Palace, Mile End Road, E., Lecture by Mr. George Gordon, V.M.H., on "Spring Flowering Bulbs," illustrated with lantern slides.

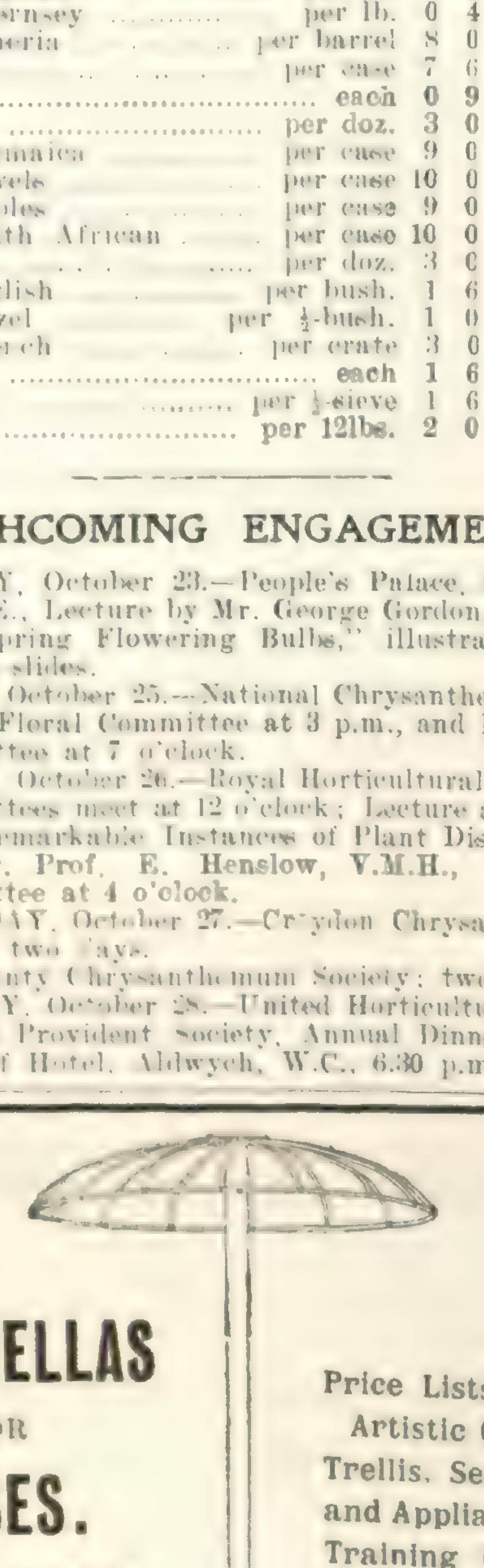
MONDAY, October 25.—National Chrysanthemum Society: Floral Committee at 3 p.m., and Executive Committee at 7 o'clock.

TUESDAY, October 26.—Royal Horticultural Society: Committees meet at 12 o'clock; Lecture at 3 p.m., on "Remarkable Instances of Plant Dispersion," by Rev. Prof. E. Henslow, V.M.H., Scientific Committee at 4 o'clock.

WEDNESDAY, October 27.—Croydon Chrysanthemum Show: two days.

Kent County Chrysanthemum Society: two days.

THURSDAY, October 28.—United Horticultural Benefit and Provident Society, Annual Dinner at the Waldorf Hotel, Aldwych, W.C., 6.30 p.m.



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100	Sir Watkin	4/-
100	Stella	1/6
100	Princeps	2/6
100	Ornatus	2/6
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100	Dbl. White Narcis	2/6
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100	Mixed Tulips	1/6
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100	Darwins to name	10/6
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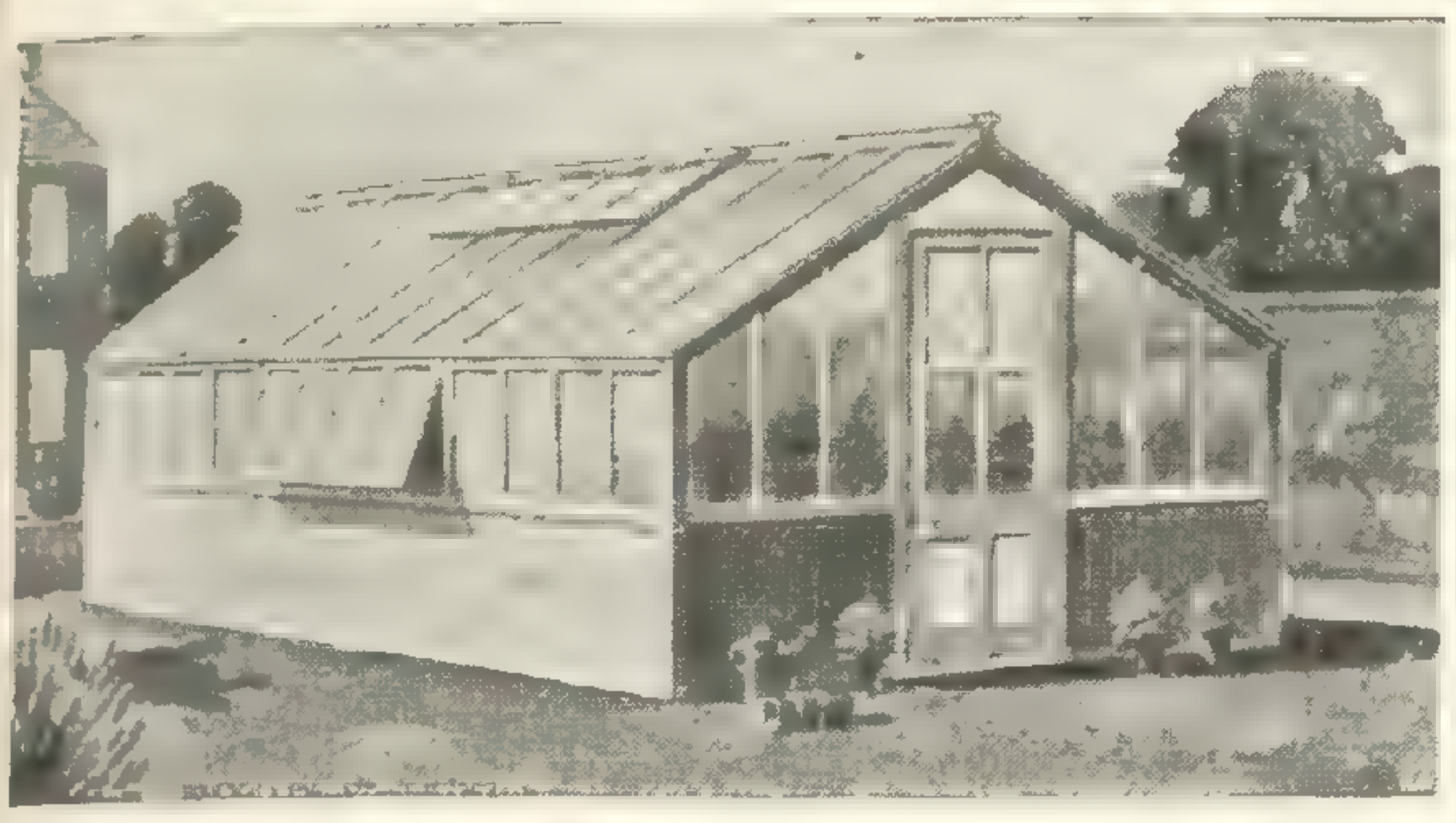

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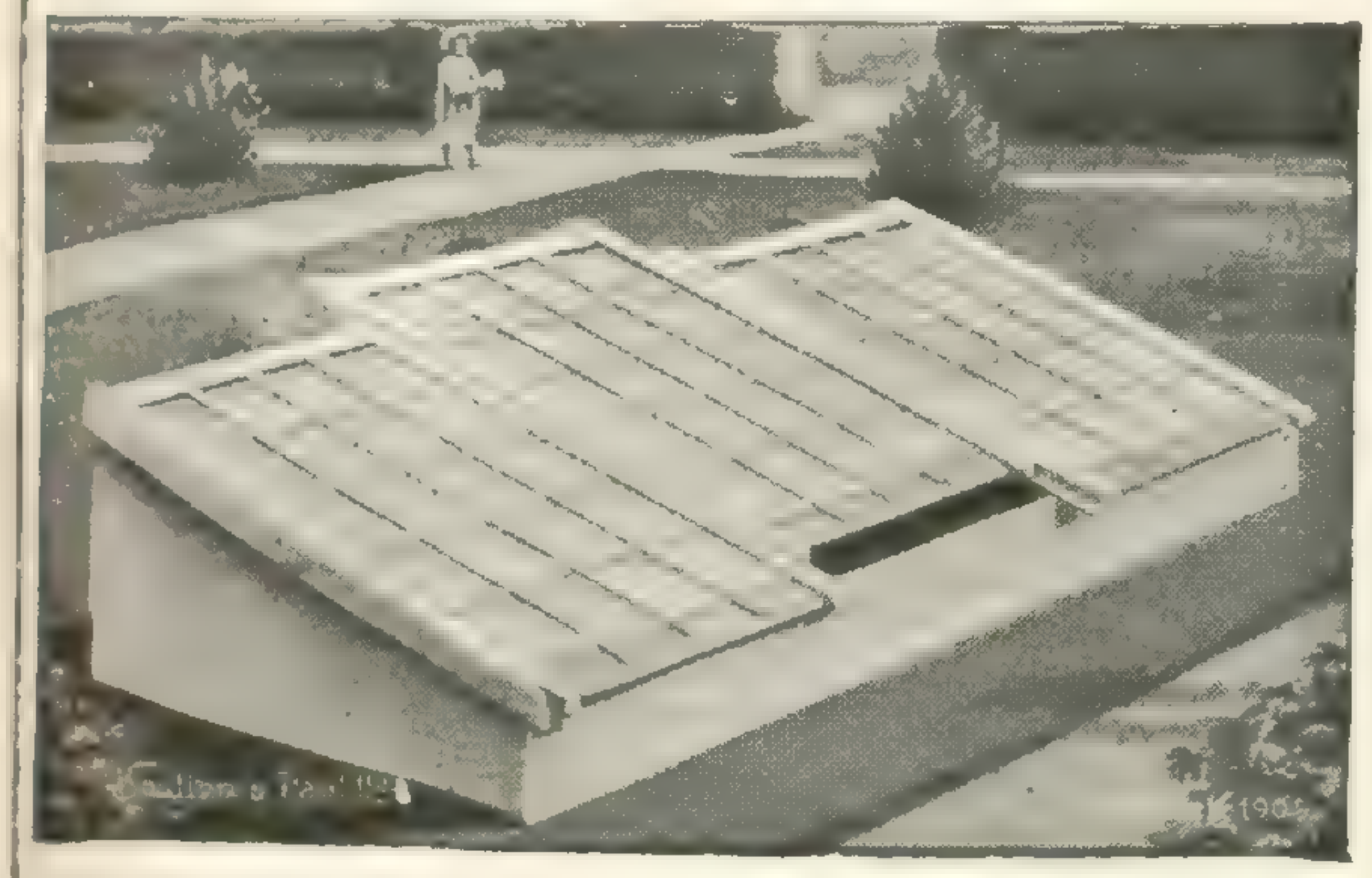

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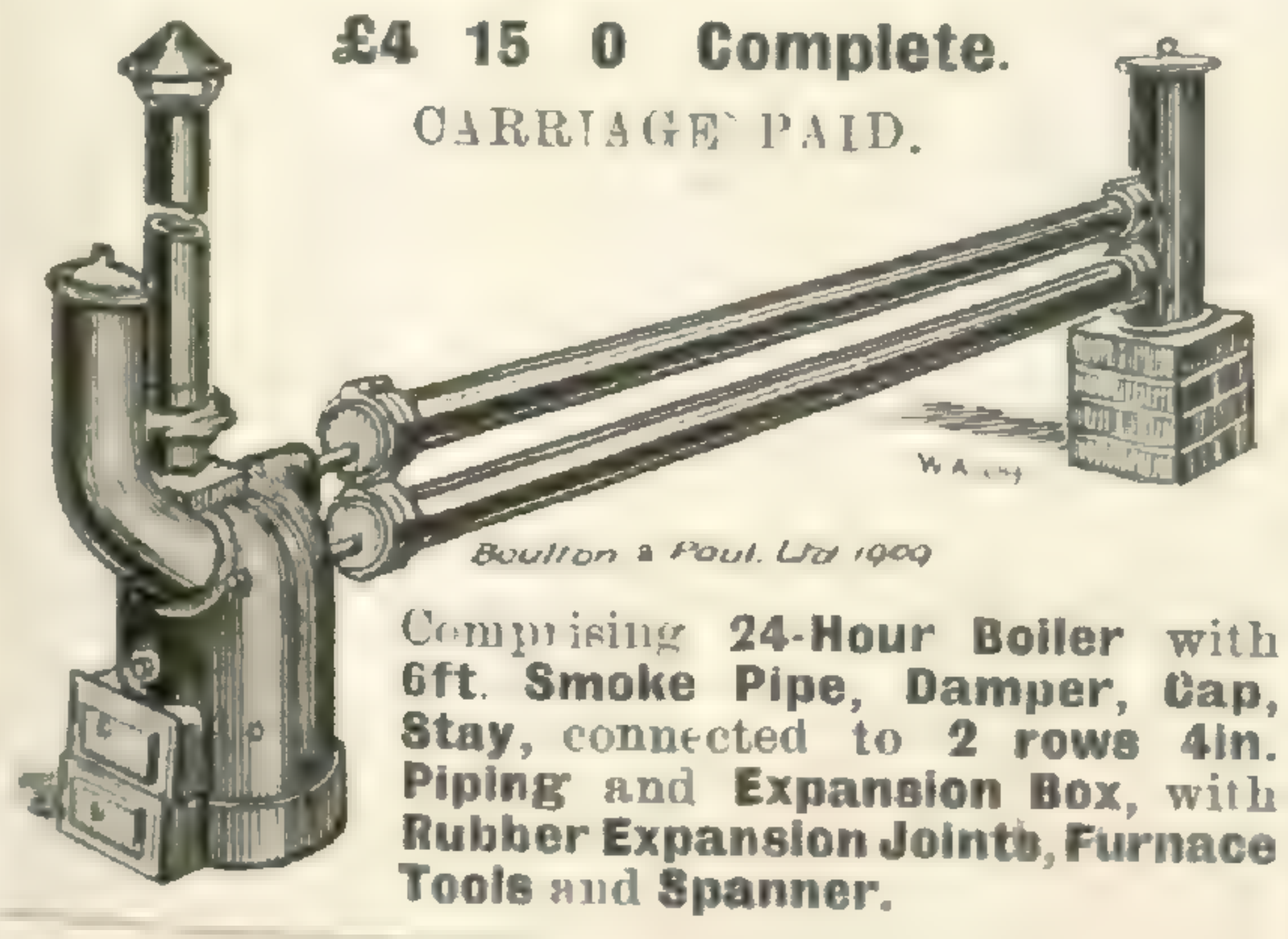

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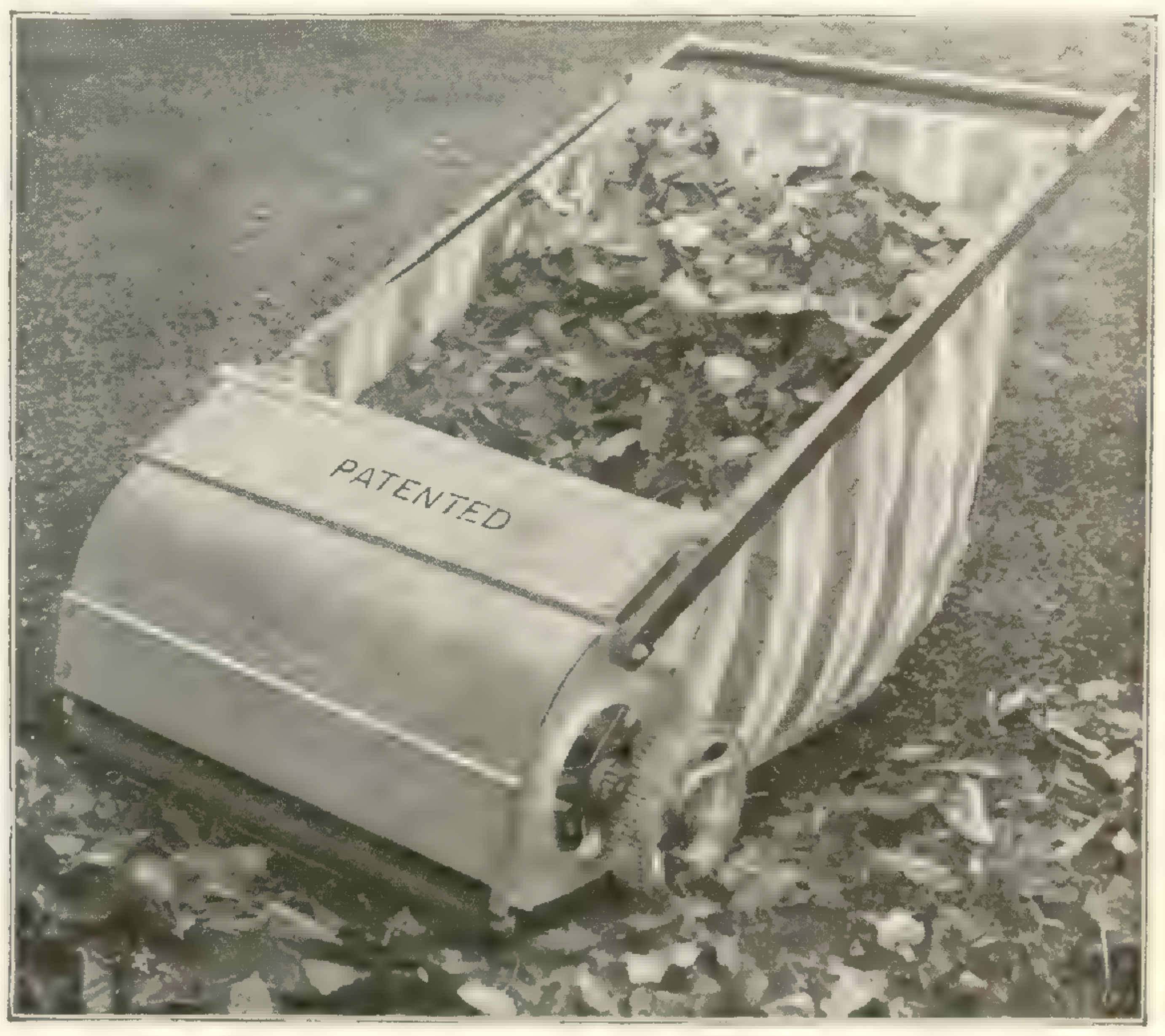

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A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

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GARDENER (Head of two or good Single-handed); good all-round experience with Vines, Cucumbers, Tomatoes, Fruit, Flowers, Lawns, and Vegetables; age 48; married, two children; excellent references. B. KILLINGWORTH, 15, Queen's Road, Upper Norwood, S.E.

GARDENER (Head, or good Single-handed); married, age 44; one girl, 13 years; 28 years' thorough practical experience in all branches; 20 years Head; highly recommended. F. GREENGRASS, The Lodge, Woodbury, Clay Hill, Enfield.

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GARDENER (Head, or good Single-handed), thoroughly experienced; all-round glass, fruit, flowers, and vegetables; excellent references as head; age 40; married; disengaged at any time; near London preferred. H. W., 32, Alexandra Road, Chislehurst, Kent.

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GARDENER (Head Working) where three or more are kept; age 31; excellent references as to character and ability; disengaged. F. ALFORD, care of Mr. W. J. Read, Richmond Terrace, Winchester Street, Romsey, Hampshire.

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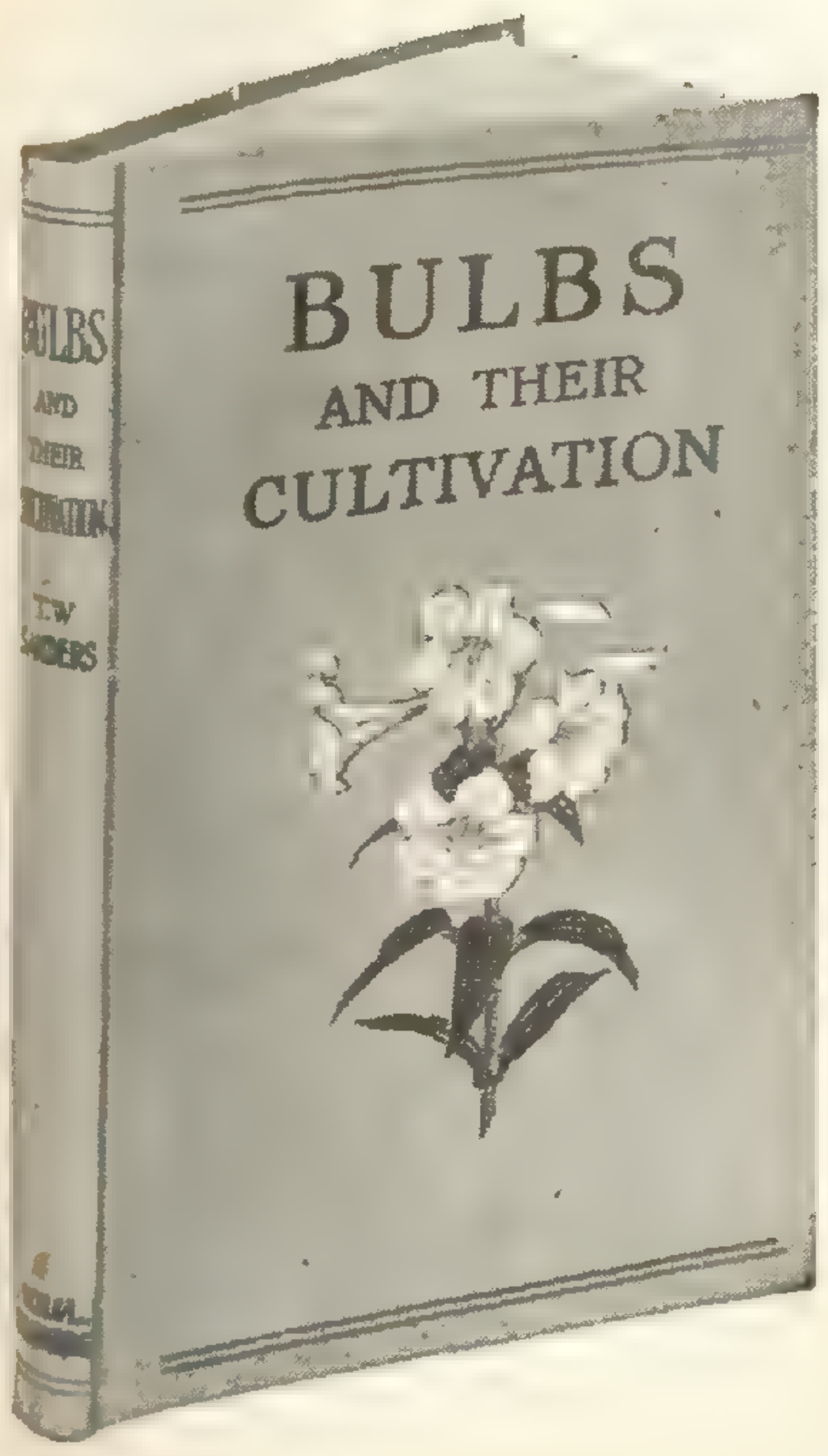

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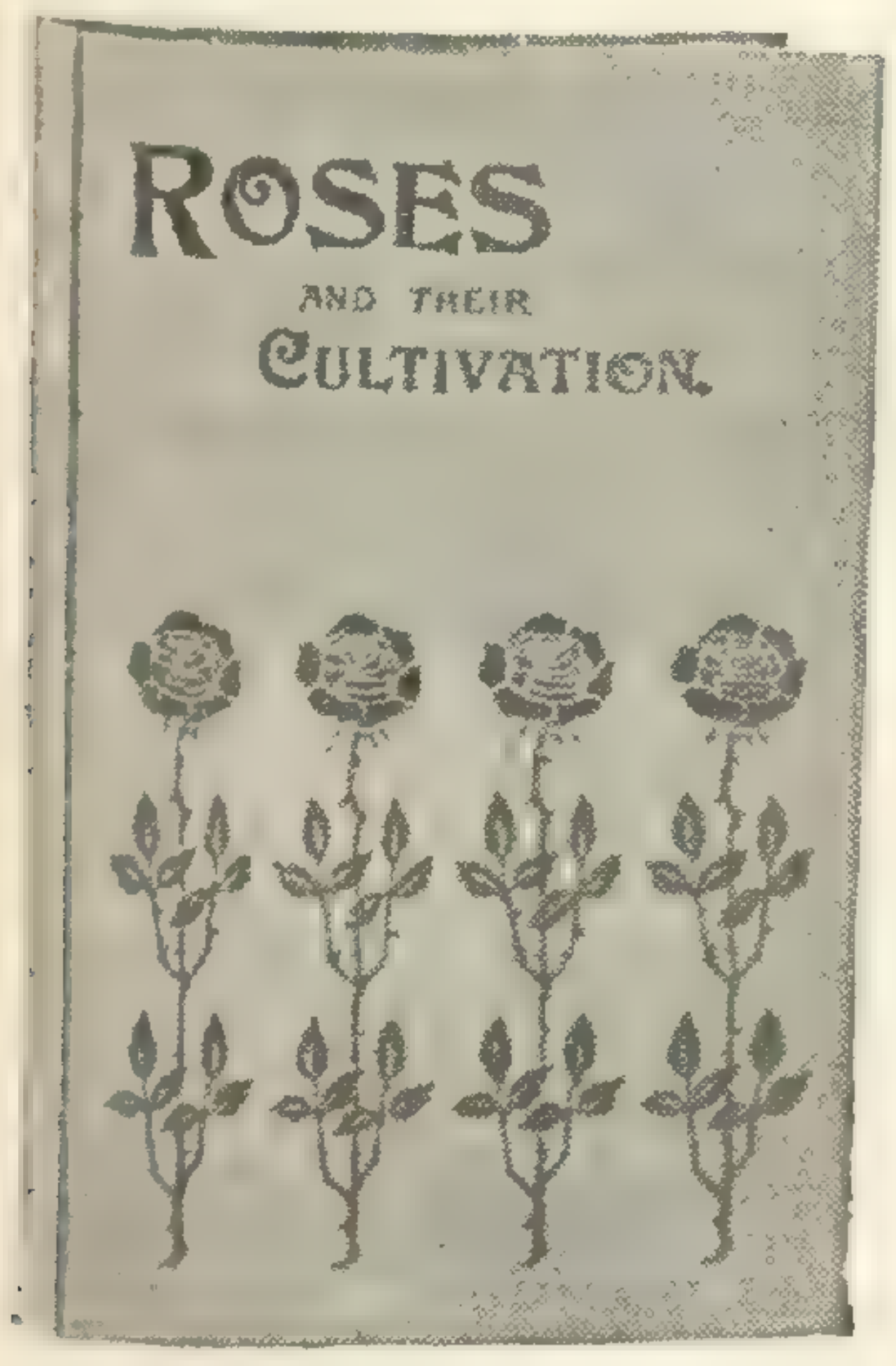

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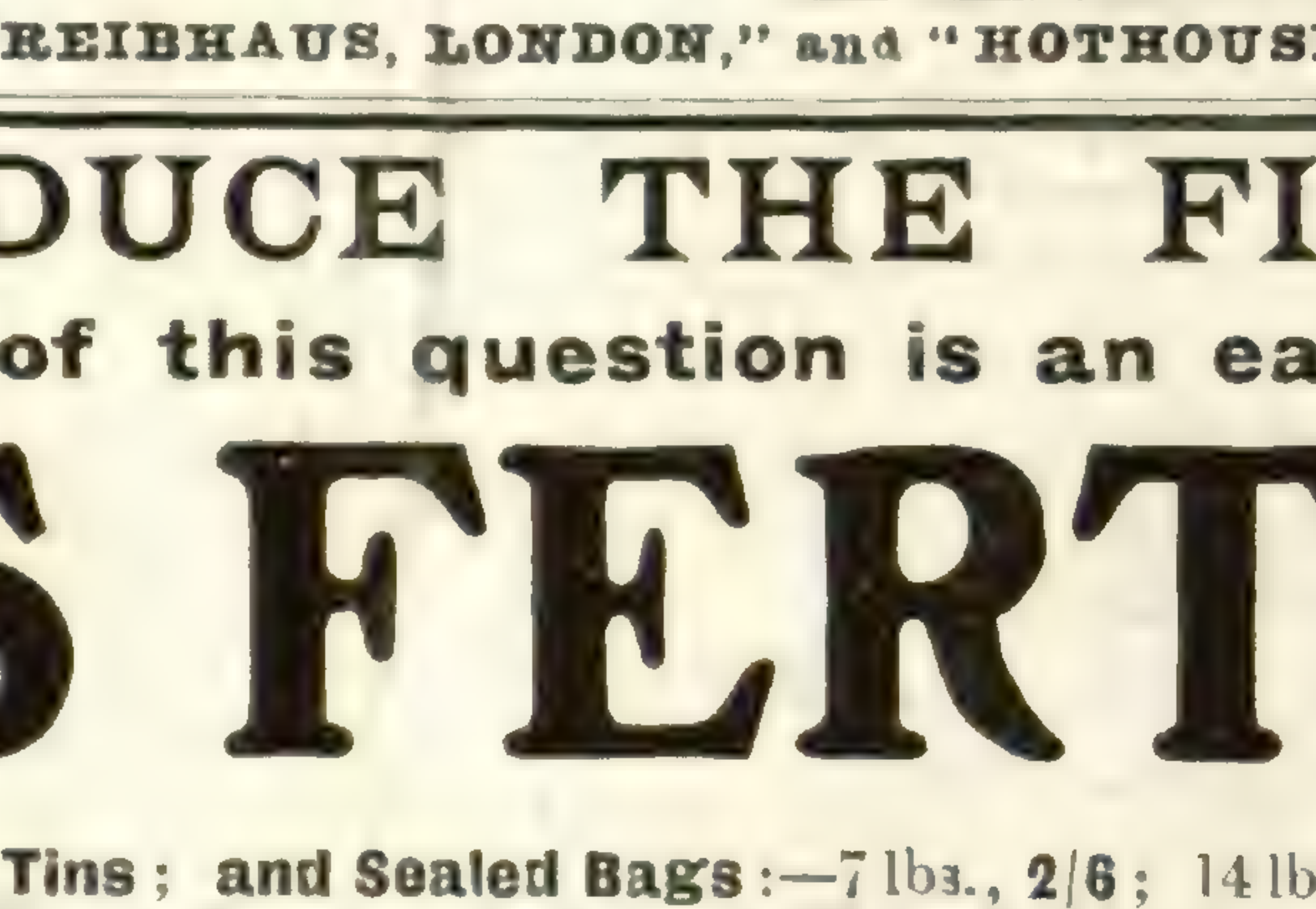

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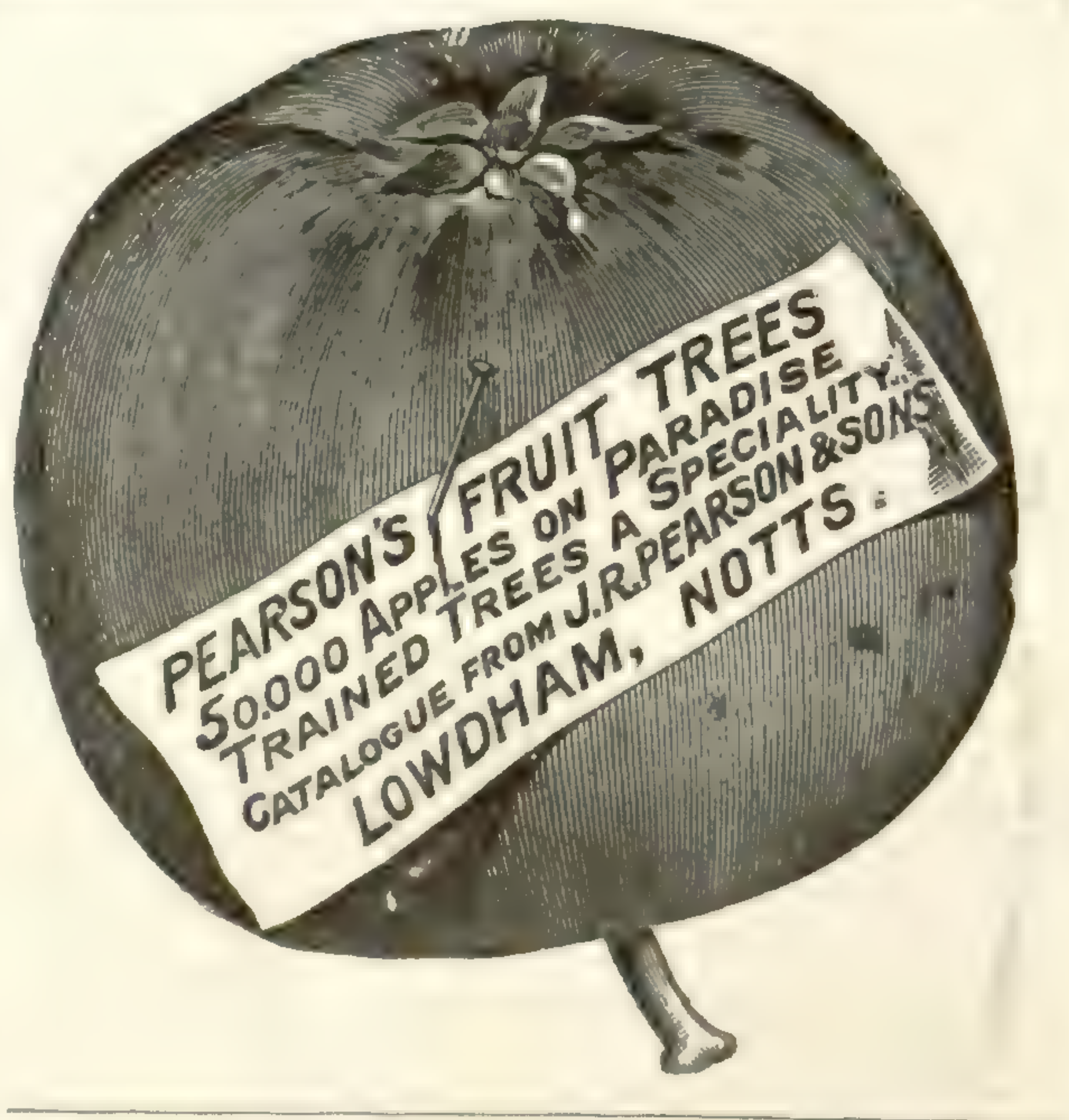
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A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

GENTLEMAN highly recommends GARDENER (Head of one or two); experienced all branches; Cows and Poultry; married; age 33; 10 years last place. G., Weald, Sevenoaks, Kent.

GARDENER (Head), married.—S. BURGESS wishes to engage with any Lady or Gentleman requiring a keen, energetic Gardener; thorough practical in all branches, the management and requirements of a good garden; winner of many prizes for fruits, plants, flowers, and vegetables; first-class characters. 104, Bower Street, Maidstone.

GARDENER (Head, where two or three are kept or good Single-handed), thoroughly experienced in all branches, Inside and Out; management of cows and poultry, if required; good references; married, two children. A. GOODFELLOW, 94, Sherrard Road, Forest Gate, Essex.

GARDENER (Head of two or good Single-handed); good all-round experience with Vines, Cucumbers, Tomatoes, Fruit, Flowers, Lawns, and Vegetables; age 48; married, two children; excellent references. B. KILLINGWORTH, 15, Queen's Road, Upper Norwood, S.E.

GARDENER (Head of one or two); leaving through death and establishment being closed; age 29; life experience; excellent references; good at Grapes, Chrysanthemums, etc. Photos of Fruit and Plants may be seen; 7 years' Head of present place; Essex preferred. R. STOCK, 45, Parsonage Street, Halstead, Essex.

JOHN CHIDLOW, Head Gardener to Mrs. Herbert Morrell, highly recommends WM. PARKS as HEAD of three or more; life experience gained in good establishments; five years here. Address Headington Hill Hall Gardens, Oxford.

GARDENER (Head, or good Single-handed); married, age 44; one girl, 13 years; 28 years' thorough practical experience in all branches; 20 years Head; highly recommended. F. GREENGRASS, The Lodge, Woodbury, Clay Hill, Enfield.

GARDENER (Head Working), age 33, married. H. MARKHAM, Gardener to The Right Hon. Viscount Enfield, will be pleased to recommend a most dependable, energetic Man of good experience to any Lady or Gentleman in want of a good Gardener. Wrotham Park Gardens, Barnet, Herts.

GARDENER (Head, or good Single-handed), thoroughly experienced; all-round glass, fruit, flowers, and vegetables; excellent references as head; age 40; married; disengaged at any time; near London preferred. H. W., 32, Alexandra Road, Chislehurst, Kent.

GARDENER (Head Working, where several are kept); life experience in all branches; 10 years last place; used to Growing for Exhibition choice Flowers, Fruit, and Vegetables; age 30; married when suited. H. J. KING, 1, Pretoria Cottages, West Lane, S. Hayling, Hants.

GARDENER (Head Working).—Mr. BROWN DOUGLAS highly recommends A. WALTON, as a thoroughly practical, energetic Man; age 33, married, no family; life experience; abstainer; eight years previous; wife willing to help indoors if required. WALTON, Hillsbrow Gardens, Redhill, Surrey.

GARDENER (Head Working, where one or two under are kept); life experience; excellent references; married, no family; both abstainers; age 29. E. FLETCHER, Holmbury St. Mary, Dorking.

GARDENER (Head Working) where three or more are kept; age 31; excellent references as to character and ability; disengaged. F. ALFORD, care of Mr. W. J. Read, Richmond Terrace, Winchester Street, Romsey, Hampshire.

GARDENER (Head Working), age 50; single; well understands the cultivation of Fruit, Plants, and the general routine of a well-kept Garden. SMITH, Somerleyton Green, Lowestoft.

GARDENER seeks SITUATION, Single-handed or with help; good experience; good references; age 28; single. E. CHANDLER, 38, Newgate Road, St. Leonards-on-Sea, Sussex.

GARDENER (Single-handed); experienced Inside and Out; left through death; 11 years' good references; understands Poultry; married; age 32. ANDREWS, 33, Oxford Road, Sidcup, Kent.

GARDENER (Single-handed or with assistance); thoroughly experienced, Inside and Out; 9½ years last situation; good reference; age 37; married; small family; disengaged. R. NEWMAN, 4, Southlea, Cliddesden, Basingstoke, Hants.

GARDENER (Single-handed), or Kitchen Garden and Pleasure Grounds; 5½ years in last place; good references; disengaged. C. KING, 2, Elliott Terrace, Eynsford, Kent.

GARDENER (Single-handed); good practical experience, Inside and Out; where there is some glass preferred; age 22; height 5ft 9in.; good references; distance no object. T. F. REED, Stonor, near Henley-on-Thames.

GARDENER seeks SITUATION, Single-handed, or Second; 11 years' experience; good references; age 25; single. A. RANDALL, 40, Victoria Place, East Street, Epsom

FOREMAN (Inside), age 30; excellent experience in Stove, Greenhouse Plants, Melons, Carnations, and Fruit Growing; excellent references. J. CHAPMAN, Goring Heath, Reading.

FOREMAN, age 27, disengaged; 11 years' experience in good places; good references from same.—X. Y. Z., 37, Stamford Road, Fulham, S.W.

FOREMAN (Inside); age 28; 14 years' practical experience in good establishments; six years as Foreman; House and Table Decorations. Bothy preferred. R. SCRIVEN, Preston Road, Yeovil.

SITUATION required as FOREMAN (Outside or Single-handed); can be well recommended; age 28; left through reduction in staff. G. BARTON, Hale, near Liverpool.

THE HONBLE. LADY LYTTELTON, Royal Hospital, Dublin, confidently recommends her late Foreman as GARDENER (Head); Nursery and Botanical experience; well versed in general routine of Nobleman's place; England preferred. EDWARD TIMMONS, as above.

GARDENER (Second), seeks RE-ENGAGEMENT; 15 years' practical experience in leading places; good references; married; age 27. South preferred. GARDENER, Hill Cottage, Sunninghill, Ascot.

GARDENER (Second, Inside and Out), age 27; 12 years' experience; good character; well recommended. A. HALL, Moor Place Gardens, Much Hadham, Herts.

GARDENER (Second).—Mr. R. ROGERS, Brookside Gardens, Headington Hill, Oxford, will be pleased to recommend, A. HEWLETT, 12 years' experience, Inside and Out; good references; married, age 30.

A DOCTOR recommends, as SECOND GARDENER on large estate in England, Young Belgian (20), just left the Ecole of Horticulture de l'Etat in Ghent, with highest diplomas, and a grant from the Government; little English. Apply to DOCTEUR VERBRUGGHEN, Gand, Belgium; or, for first informations, to MADLLE. DUPONT, Sunnyside, Stanley Street, Southsea.

GARDENER (Second, or Single-handed, or with help); age 27; life experience in all branches Inside and Out; highest references from good places; disengaged. H. LYTH, Betley, Crewe.

GARDENER (Second, Inside and Out) seeks SITUATION; 10 years good experience; 7 years in present place; good references. T. JARRATT, Waverley Road, Weybridge, Surrey.

YOUNG MAN (single) seeks SITUATION as GARDENER (Single-handed or Second), where more are kept; three years' reference. Apply W. GODDING, Sandhurst, Camberley.

GARDENER, age 28, requires SITUATION in Kitchen Garden or Pleasure Grounds; well experienced; abstainer; good references. BEESTON, care of Garner, Stratford Road, Hockley Heath, Warwickshire.

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GARDENER (42) seeks SITUATION, with one under, or good single-handed with help; life experience with Fruit, Flowers, Kitchen Garden, 19 years present place; leaving no fault; good references; married when suited. COVENTRY, Reading Road, Pangbourne, Berks.

GARDENER, good all-round, Inside and Out; 6 years' good character; leaving through death. F. COSSINS, Placewood, Sutton Valence, Maidstone.

GARDENER (Under) wants SITUATION Inside and Out; age 18; strong and active; three years' experience; good references. F. COOLING, Fulbeck, Grantham, Lincolnshire.

JOURNEYMAN (Inside), under Foreman; experience in Plant Houses, etc.; 4½ years last place; excellent reference; age 20; Bothy preferred. Apply BEATRIP, Blendon Cottage, Bexley, Kent.

UNDER-GARDENER, or GROOM, or COACHMAN; AUGUSTUS F. KIRCHER, age 25; good references, and previous experience both in garden and stables. Capt. S. G. Reid, The Elms, Yalding, Kent.

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For OCTOBER 30, 1909.

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YOUNG MAN (18) seeks SITUATION in gentleman's garden; 3 years in present situation, highly recommended. C. COLESHILL, 3, Wol[illegible] Road, Hampton Hill.

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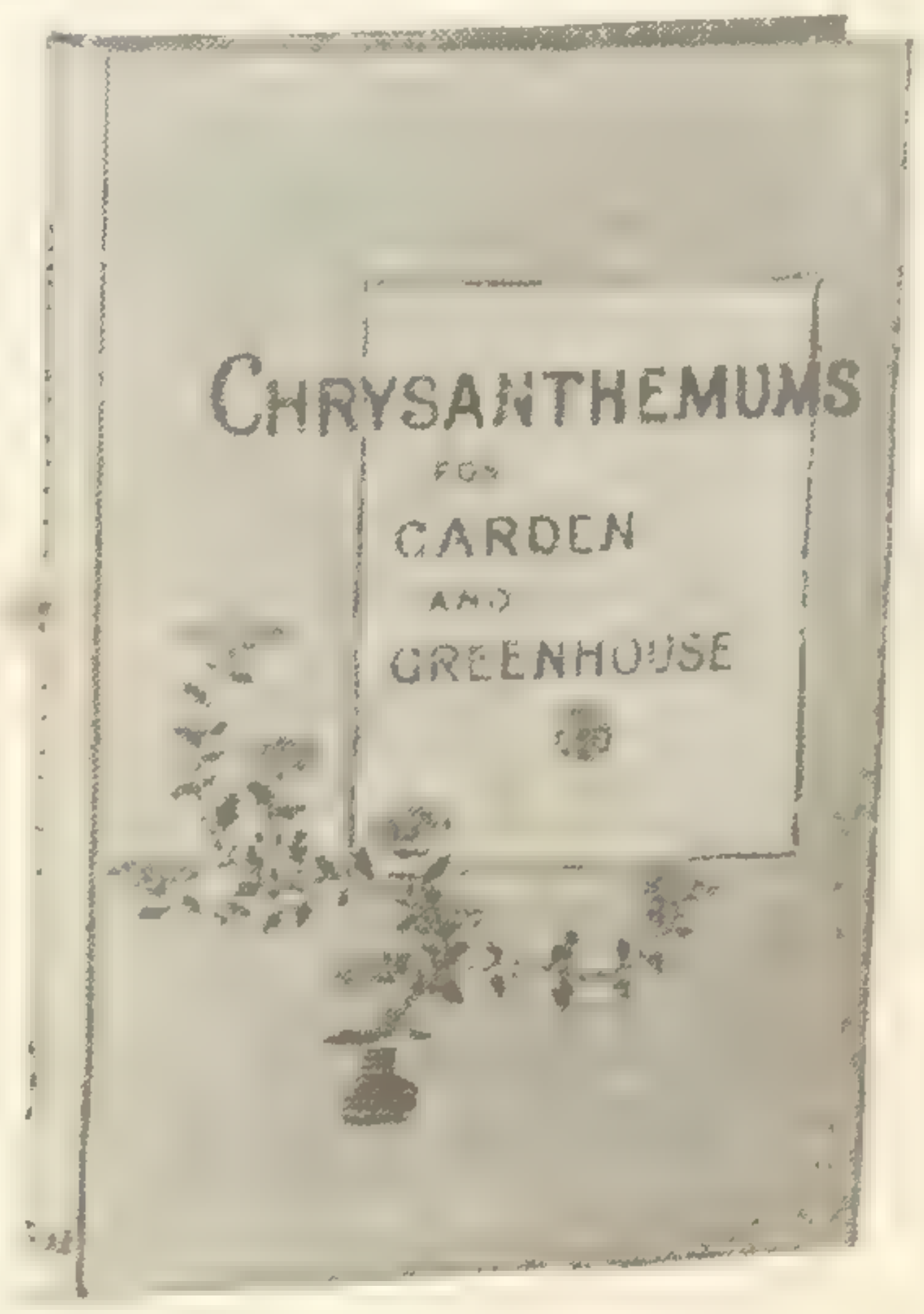

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NOVELTIES for AUTUMN 1909

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Dwarf Maidens, **7/6** each.

"The variety is **especially welcome** as it is **in season when good dessert apples are scarce.** The fruit is very pleasant to the palate, the flesh being brisk and sweet."—*The Gardeners' Chronicle*, Sept. 5th, 1908.

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ROYAL EXOTIC NURSERY
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VOL. LII.—No. 2,921. SATURDAY, OCTOBER 23, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Gardeners' Associations.

One of the most important of the educational aspects of horticulture during the past twenty years has been the continuous growth of associations, at whose gatherings gardeners have opportunities for meeting each other and discussing questions bearing on the practical and scientific sides of their work. The importance of the extension of such facilities as the gardeners' associations afford for the interchange of views upon the many matters to which gardeners have to give their attention cannot well be overestimated, and we trust this extension will continue until there are strong associations in all the principal centres of horticultural activity. It is satisfactory to know that gardeners should have so fully recognised the usefulness of these associations, as it indicates that the most experienced feel they have need to be on the alert to keep themselves well acquainted with the continuous flow of novelties, and with the changes that are continually being made in the public taste. Fully recognising the great value of associations of gardeners, we have long taken a keen interest in their work, and endeavoured in various ways to assist in rendering them thoroughly useful. For a considerable period the pleasure we had in watching the development of these associations was tinged with a feeling of regret that the large number scattered over the country were so many separate units, instead of members of a strong united body. The cause for regret has, to some extent, been removed by the opportunity that has been given them for entering into affiliation with the Royal Horticultural Society; but the results, so far, have not been such as to give complete satisfaction. It is possible that the Royal Horticultural Society has not made provisions so ample as one might wish in the way of lectures and lantern slides for the use of the associations, but we are not disposed to question the wisdom of the Society in not expending large sums of money in providing them until the number in affiliation and the demand for lectures and slides is sufficient to justify the expenditure. Whether this be the case or not, the matter is one that is really in the hands of the associations in affiliation, for if the provisions made are unequal to their requirements, they have only to make their wishes known to the council in a practical manner to obtain what they require. The annual conference affords an excellent opportunity for discussing a matter of this kind, and other points that have a direct bearing upon the work of such associations, but at the one held the other day this opportunity was practically lost. The delegates talked about the desirability of the associations in the several districts holding joint meetings for the purpose of inducing the Royal Horticultural Society to hold county exhibitions; the status of the gardener, the amateur, and cottager at competitive gatherings; the handicapping of exhibitors, and so forth. These questions would have been appropriate at a conference of horticultural societies, but at one of bodies whose work is chiefly educational, they were somewhat out of place. One of the questions discussed was quite appropriate to the occasion, and that was, "How can the meetings be made more attractive to young gardeners?" The discussion was somewhat lengthy, but it was much less useful than it might have been, owing to the speakers, with one or two exceptions, overlooking the possibility of greatly increasing the interest of the meetings. Instead of addressing themselves directly to the question, and making suggestions that would assist in the solution of the problem, they indulged in an expression of opinion that it was impossible to induce young gardeners to attend the meetings owing to their devoting so much of their attention to athletic sports. There are, of course, exceptions, but, as one of the delegates pointed out, young gardeners do not devote anything like so much time and thought to football and other sports as do young men engaged in other walks of life. We were not a little surprised to hear that so few young men attend meetings, because we have, on not a few occasions, been struck by the large number of young men in the audience. It would be well were societies that have to contend with this difficulty to carefully consider the question, not of lowering the subscription, as was suggested, but of increasing the interest and attractiveness of the meetings. There are many ways of doing this, and one that is likely to improve matters considerably would be the inclusion in the programme of papers and lectures by men from a distance who have become widely known as masters of their subjects. If some of these are of a scientific character it will be an additional attraction, and, where possible, the lectures should be illustrated by lantern slides. This will necessarily involve additional expenditure, but there should be no difficulty in providing the means wherewith to meet it where there is any considerable number of gardeners. In some cases it might be well to make a trifling increase in the subscription of or-

MR. J. B. BLACKMORE.

dinary members, in others to have a list of honorary members, and it is well worth considering whether money given in small prizes at the meetings would not be more usefully employed in giving increased interest to the programme.

Mr. J. B. Blackmore, who has achieved considerable success as a raiser of begonias, and brought the frilled single varieties to a high state of beauty and perfection, was not brought up to the business of horticulture. Born at Newton St. Loe, near Bath, Mr. Blackmore took up the profession of engineer and wheelright directly after leaving school, but from his earlier years he always found time to grow a few plants and flowers, and as a small boy he took advantage of every opportunity that served to visit and admire good gardens. About 1886 Mr. Blackmore began to grow tuberous begonias, and a few years later he had the privilege of often visiting the gardens of the Rev. E. Lascelles, rector of Newton St. Loe, who was then one of the foremost raisers of begonias, and had a grand collection, then under the charge of Mr. C. F. Langdon, who is now Mr. Blackmore's partner in business (Messrs. Blackmore and Langdon) at Twerton-on-Avon. Each year Mr. Blackmore purchased a few of the finest of Mr. Lascelles' begonias, and when the latter gave up cultivating single varieties Mr. Blackmore purchased the whole stock. From 1889 to 1901 he exhibited largely, and won the chief awards in most of the begonia classes at Weston-super-Mare, Taunton, Bath, Trowbridge, Kingswood, and Shrewsbury. It was in 1900 that Mr. Blackmore decided to give up his business and devote his whole energy to horticulture, specialising in begonias and carnations. He had already raised and improved begonias considerably, but lack of time and space limited his seedlings to about 2,000 per year. In the autumn of 1901 Mr. C. F. Langdon was taken into partnership, and since then the work of improvement has proceeded rapidly, as the displays at the Inner Temple, Holland Park, and Shrewsbury have testified. No fewer than twenty-two gold medals, besides cups and other medals, have been awarded to the Twerton Hill begonias since 1901—a good record surely.

New Apples and Pears.—The special interest attaching to the competitions to be held at the Royal Horticultural Hall on Tuesday next, lies in the fact that the eleven classes for apples and four classes for pears will all be limited to varieties of these fruits introduced to commerce since the year 1892. In such a competition as this the term "new" is comparative, but the classes should serve to show which varieties sent out during the last eighteen years have achieved some success and become popular.

Visit of Market Gardeners to Holland.—A short time since a party of market growers in the Evesham district visited the market gardening districts in Holland for the purpose of obtaining information on the methods of culture and marketing that find favour with the Dutch growers. Two or three years since a similar visit was paid to the market gardens round Paris, and, as the result, several gardens have been established on similar lines to those near that city. The visit to Holland is not regarded as so profitable as that to France, although it proved interesting and afforded information on the practice that obtains. The visitors were much struck by the fact that the use of artificial fertilisers which forms so important a feature of the practice that obtains in the Vale of Evesham, is on a very limited scale in Holland. The co-operative markets created much interest, and some members of the party returned home strongly impressed with the opinion that similar markets at Evesham and other centres where vegetable and fruit culture is carried on on a large scale, would be highly advantageous to the growers. The Dutch markets belong to the growers, and 4 per cent. on the value of the produce covers the cost of management, depreciation, and the interest on capital. At the markets the goods are displayed by porters, and any seller found offering "topped" produce has to pay a sum equal to 10 per cent. on the value to the purchaser, and also a sum to the general fund in proportion to the offence.

"**Kew Bulletin.**"—The more important of the contributions to the current issue of this publication are an illustrated article on Ecanda rubber, which is obtained from the tubers of Raphronaceme utilis; a further instalment of "Diagnoses africanæ"; notes on Cornus macrophylla and some Asiatic congeners; notes on trees in Devonshire, and descriptions of coffee diseases of the New World.

Trials at Wisley.—Trials of the following fruits, flowers, and vegetables will be conducted in the gardens of the Royal Horticultural Society during 1910-11: Strawberries, autumn fruiting (20 runners of each), early-flowering outdoor chrysanthemums (two plants of each, to be sent in April), clematis (two plants of each early in April), gladioli, early, midseason, and late (four bulbs of each early in February), rhododendrons, early, midseason, and late (two plants of each in February or March). Potatoes (each variety must be labelled as being "early," "midseason," or "late." Twenty tubers of each to be sent by February). Also experiments with "Ashleafs" of all forms (20 tubers), secured from as many varying sources as possible, under different soil and climatic conditions. Please send particulars of soil and climate. Salads, of all kinds and varieties (¼oz. of seed of each, early in February). Peas (½ pint of each, early in February). Spinach (½oz. of each, early in February). Everything sent for trial must be named, and the name and address of the sender attached. If sent by post: The Superintendent, R.H.S., Gardens, Wisley, Ripley, Surrey; if by rail: The Superintendent, R.H.S. Gardens, Wisley, Horsley Station, L. and S.W.R., with advice by post to the superintendent.

The Potato Crop of 1909.—According to the agricultural returns for the current year the area under potatoes has been 575,461 acres, or an increase of 13,000 acres, as compared with last year's acreage. This increase is almost identical with that shown in 1908, and the loss that occurred in 1907 has now been more than recovered. Potatoes suffered so severely from disease during September and the early part of the present month that the crop of tubers will, as a whole, be considerably below that anticipated towards the end of the summer.

Leeds Paxton Society.—The growers of sweet peas in various parts who so kindly helped the committee of this society with contributions of flowers on the occasion of their first show held at Headingley, Leeds, on August 7, will be pleased to learn that the exhibition resulted in a net profit of £7, in aid of the Royal Gardeners' Orphan Fund.

British Gardeners' Association.—A few evenings since a meeting of gardeners was held at the Masonic Hall, Caterham, for the purpose of considering the desirability of forming a branch of the British Gardeners' Association. About fifty were present, and the Rev. Fergus Wood, who presided, urged those present to organise themselves for the purpose of improving their position generally—improving the general level of the quality of their work, and improving their position in regard to the recognition which the public gave to their work. The meeting was addressed by Mr. E. F. Hawes, and Mr. Smart, and in the result it was decided to form a branch, with Mr. H. Groves as secretary pro. tem.

Plant Dispersion is a most fascinating study, and one that the Rev. Professor G. Henslow, V.M.H., has taken a great interest in. On Tuesday, October 26, the reverend professor will lecture on this subject under the title of "Remarkable Instances of Plant Dispersion," before the Royal Horticultural Society, at Westminster, and the lecture will commence at three o'clock.

Fertility of Soils.—To the meeting of the British Association, a paper was contributed by Mr. A. D. Hall and Dr. E. J. Russell on the "Conservation of the Fertility of Soils." The authors remarked at the outset that nitrogen was the most important of the elements of fertility in the soil, and the one most subject to change through either the natural conditions prevailing or the form of cultivation the land received. They then proceeded to point out that the various factors affecting the amount of nitrogen in the soil might be distinguished. (1) The growth of plants simply removed some of the nitrogen that had reached an available form. (2) Various bacteria were capable of bringing atmospheric nitrogen into combination and so increasing the stock of soil nitrogen. (3) Another group of bacteria, in the process of breaking down organic matter, liberated the nitrogen in the free state and so reduced the stock of soil nitrogen. (4) Natural drainage waters contained nitrates which had been derived from the soil nitrogen by bacterial oxidation. (5) The rain annually contributed a certain amount of combined nitrogen to the soil. The interplay of these factors gave rise in practice to the following types of cases: (a) The nitrogen content of land under arable cultivation declined when the produce was entirely removed and no organic nitrogen was added as manure. (b) When land rich in organic compounds of nitrogen was subjected to arable cultivation, the destructive agencies (No. 3) became very active and the land lost nitrogen rapidly. (c) When land was carrying a natural vegetation which was not removed there was a gain of nitrogen. From the practical point of view, the cultivation of successive cereal crops would rapidly reduce the stock of nitrogen originally in the soil, not only by the amounts withdrawn in the crop, but also by the oxidising actions set up in the cultivated land.

Mr. James Britten, who recently retired from the botanical department of the British Museum, after thirty-eight years' service there, was previously at the Herbarium, Kew, for two years. Mr. Britten has been preparing a catalogue of the Sloane Herbarium, and this, to be published shortly, should be of great interest, because it was the collections made by Sir Hans Sloane, of Chelsea, that laid the foundation of the British Museum.

SINGLE-FLOWERING ROSES.

The note on this subject in the issue of October 16 reminds me that thirty years ago, if one wanted single roses one had to go to the species and hybrids of species. Probably the single-flowering seedlings of hybrid perpetuals and teas were thrown away as worthless. But as these species are without exception "summer-flowering" roses, varieties that give only one crop of flowers, and were for the most part rampant growers for which a considerable amount of space was required, they were unsuitable for small gardens and ordinary rose beds.

Within the last ten years or so fashion in the rose world has changed, and the public taste lies less in the direction of form and size of the individual flower, and more in the freedom of flowering and novelty in colouring, and, except for the exhibitor of specimen blooms, form and fulness are quite secondary considerations. Time was when a rose "showed its eye," it was regarded as a defective flower; it was past its best. Now the depth and rich colouring of the anthers are good features, and we see in them not only a beauty but an indication of freshness.

Thus, single roses with bright golden anthers have been restored to popular favour, and with the demand follows the supply. No longer in our quest for single roses have we to confine our search to the species, the real single roses, having just five petals only—but we go to that "universal provider" class, the hybrid teas, and find them there. Even among the hybrid perpetuals we may find them, Maharajah, for instance, which, although strictly speaking has more than five petals, yet is very close on the border line. Maharajah is a glorious deep velvety crimson rose, to which we are indebted to Messrs. Benjamin R. Cant and Sons. It is somewhat of a single Horace Vernet, and almost as beautiful when caught right. Of strong, sturdy, upright growth, lacking perhaps in gracefulness, but nevertheless attractive on the plant. The colour is fleeting, and a few hours after cutting, as we know to our cost, the yellow shading in the red has gone, and the flower has lost its brilliancy. Another single, or almost single, is Gottfried Keller, one of the race of Austrian briars, but perpetual and an autumnal, apricot in colour, with golden-yellow centre, wood dark brown, foliage glossy and mildew proof. The flowers, in clusters, are given on the tips of long shoots; too long perhaps, for its habit is straggly and thin, and furthermore it is not quite as free in flowering as one could wish. It is, however, quite distinct, and its remarkable colouring makes it most attractive.

Another rose destined to be popular amongst lovers of single roses is the new hybrid tea, Simplicity, sent out this year by Hugh Dickson of Belfast. It is one of the few single roses that has obtained the gold medal of the National Rose Society. The colour is pure white, with rich golden anthers, petals of much substance, flowers four or fine inches across, in effect something like a water lily. It is of good constitution, a vigorous grower and very free bloomer, always in flower until quite late in the autumn.

That celebrated firm of hybridists, Alex. Dickson and Sons, of Newtownards, has given us a series of single perpetual roses, sent out with the prefix "Irish," such as Beauty, Brightness, Elegance, Harmony, Pride, Star, Glory, and Modesty. Of the set, two stand out beyond their fellows. The first and better known is Irish Glory, of good constitution, and when left alone and not hacked about by the knife, will develop into a fine bush. The flowers are silvery pink, shaded crimson, produced in clusters; a good autumnal. The second and newer rose is Irish Elegance, not perhaps so robust as the former, but time will prove. In this variety the colour is most attractive, a colour which is sure to make it popular; bronzy orange, opening out to various shades of yellow. A free-flowering rose and an excellent autumnal, as those who saw the bunches of it at the autumn rose show of the N.R.S. this year will testify.

Joseph H. Pemberton.

NERINES.

The genus nerine includes some very beautiful bulbous plants, and the varieties of more recent years have enhanced the value of these autumn-flowering subjects. True, the fact of the plants flowering before much leaf growth appears gives a bareness that detracts a little from their appearance as decorative plants, but if they are arranged in a suitable place while in bloom, a ground work of ferns will furnish the necessary greenery, and also somewhat tone down their brightness.

The spikes of flowers are of considerable value in a cut state, and may either be arranged by themselves or with flowers of lighter appearance to act as a foil to their brilliancy of colour.

The culture of nerines is not difficult, but they cannot be grown haphazard with a variety of other plants, but, like the majority of bulbous plants indigenous to South Africa, they require a growing period, gradual ripening afterwards, and, after the leaves have fallen, absolute rest in full sunshine until the flower spikes begin to appear. At this latter stage water should be very carefully given until, as growth becomes active, more liberal supplies must be afforded

Frequent repotting is not necessary, but it is essential that the bulbs when first potted be put into a good compost that will last several seasons; ample drainage, good loam, with some leaf-soil, and the addition of sand, and a little charcoal, will suit them. A top-dressing annually, after the first potting, should be given them, and this should be done before the roots become active. Occasional waterings with weak stimulants will benefit the plants while in active growth.

Varieties are now somewhat numerous, but for brilliancy of colour few equal Nerine Fothergilli major and N. sarniensis, as they are quite distinct in their colours from the later hybrids. The more recent introductions give new shades of colour, which makes them welcome, but they do not appear to possess the strength of N. Fothergilli. Among the best of these are N. rosea and N. rosea crispa, both rose colour, one a trifle deeper in colour than the other. These two are stouter in spike and flower than the others. Lady Clementina Mitford is a pleasing shade of salmon-pink, with a rosy base; O'Brieni is deep salmon, without any deeper shading; Lady Altamont is terra-cotta, shaded salmon; Miss Elwes, rosy-pink, medium spike and truss; Miss Willmott, light rose; and H. J. Elwes, blush-white, rosy base. Other varieties include F. D. Godman, Elliott's Seedling, and E. Godman. The older N. corusca and N. corusca pallida are also worthy of a place in gardens.

Nerines are not so much grown as they deserve to be, and they appear to be grown more in the county of Sussex than in other parts of the country. The writer's acquaintance of them dates back some few years, but he has never met them in such quantities as on the South Coast.

Horsham. T. H. Slade.

GREASE BANDING.

(Concluded from page 800.)

At the same time, it must not be assumed that because a good coat of grease was put on at first that no further attention is needed, and that the bands can look after themselves for the rest of the time. A constant watch must be kept, and as soon as any place appears dry then the brush must be used, and touch it up when the paper is dry enough to bear the drag of the brush. This is the real difficulty which attaches to livening the grease up, and renders it so important to minimise the labour as far as possible. One often has to wait two or three weeks during the winter until a suitable day arrives on which the work can be carried out.

In our opinion only the especial difficulty of using a brush on the damp papers can justify the use of the hands. In some quarters the advice is given to apply the grease in the first place by hand, but we consider this quite unnecessary, and very obnoxious indeed for the workers. The quantity which one gets on the hands during the course of applying it by means of brushes is very hard to get off, but it must take several days to finally get rid of the odour.

If the grease is applied before the leaves are shed from the trees an occasional inspection of the bands will be necessary, as the leaves are sometimes driven by the wind on to the grease, and so form a bridge by which it is possible for the moths to cross the danger zone.

While grease banding will cause a remarkable diminution in the number of our caterpillar enemies, it practically only accounts for two varieties, i.e., the ordinary Winter Moth (Cheimatobia brumata), and the larger Winter Moth (Hibernia defoliaria) or Mottled Umber, which is much more seldom met with on the bands. The late Miss Ormerod suggested to the writer that the Codlin Moth might be caught, but we have never succeeded in securing one, nor have we found the March Moth (Anisopteryx œscularia), which is often the culprit when the Winter Moth gets the blame, though we have kept our bands moist right into the spring on the chance of catching it. If the bands are on the trees and greased before the middle of October, that is, in general seasons, a very good time; last year the majority of the moths did not ascend till quite the end of November.

It is unwise to do the greasing any earlier than is absolutely necessary, as the heat of the days is then a shade more than it is later on, and the bands are inclined to dry, and to be ineffective just at the very time when the moths are going up the trees, and before it is considered that the bands will need touching up. At present, so far as we know, there is not in this country a grease which will stand our summer heat, and therein lies the difficulty in keeping the bands right at both ends of the grease-banding period, this is during September-October and March-April.

However, with all its drawbacks, grease banding is a very valued aid to the fruit grower, enabling him, to some extent, to combat the many pests with which his trees are beset.

F. W. Hammond.

Kniphofia John Benary.—This is quite one of the most showy of autumn-flowering plants, and certainly one of the best of the family, its bright coral-red blooms with orange-tinted buds on stems 6ft. high rendering it an object of much interest during the latter part of September and early in October, when hardy flowers are becoming scarce.—E. M.

TORCH LILIES FOR THE ROCK GARDEN.

The possession of a good rock garden often affords the inspiration, and also the means, for the cultivation of rare and choice subjects which would otherwise be missing from many gardens. The varied aspects obtainable on a fairly large rock-garden, together with the pleasant nooks under the shelter of the rocks, the warm spots which the sun haunts at every possible opportunity, and the well-drained pockets and crevices among the boulders, give an opportunity for the culture of many plants, some of which are deemed but half-hardy.

It has been borne in upon my mind that the lesser kniphofias, or torch lilies as one loves to call them, are not nearly so fully utilised for rock-garden adornment as they deserve to be. I shall refrain from mentioning the stronger growing species and varieties, as they could only be used in large rock gardens, but the smaller and lighter growing gems will be found distinctly serviceable.

Granted that one selects positions where there is a good depth of soil, and where plenty of sunshine falls, there should be little difficulty in founding successful colonies of these delightful torch lilies. The reader will bear in mind that the kniphofias are good feeders, and should provide a rooting medium of sandy-loam enriched with well-decayed manure, and also, if the district is a cold one, a little bracken over the ground in winter time will assist in fighting the frost.

To come to the all-important question of suitable species, etc., I briefly note a few forms which will be found meritorious. K. Nelsoni is probably the best known of the group. It is a prolific-flowering coral-scarlet gem from the Orange River Colony, very neat in growth and of pleasing appearance. The dainty clear yellow K. pauciflora, with its light, semi-drooping spikes of blossom is distinctly pretty, while its near relative K. breviflora, a rarity of almost similar colouring, is exceedingly graceful in formation, and provides a wealth of tiny torches from among the grassy foliage. Those superb hybrid forms, Torchlight and Goldelse, which are a very delight, are markedly noticeable each season at the Kilnfield Gardens of Messrs. Wallace and Co. Torchlight, with its sheaves of flame-tipped miniature torches, is grand for rock-garden purposes, and forms a pretty group when surrounded by low-growing alpines, etc. Its companion, Goldelse, is notable for its clear golden-yellow colouring, and is as free as the well-known K. Nelsoni.

Other good kniphofias are K. media, a light-growing species with a floriferous habit, and apricot colouring; K. citrina, rather stronger growing with narrow foliage and clear citron-yellow torches. K. rufa, a sterling species of recent introduction from the Orange River Colony; and the delightful Abyssinian rarity K. comosa, with its bright yellow spikes of blossom, which is very dwarf and free.

The seldom seen K. modesta, the white torch lily of Natal, is none too hardy, yet it merits a place in the rock garden, if only for its interest and rarity. The varieties raised from K. modesta, and some of the hardier grassy-foliaged forms, are of a hardier character, and some pleasing shades of amber, terra-cotta, etc., are being secured.

An exceptionally pleasing new hybrid from K. citrina, with blossoms of a wondrous shade of coral-red, and a dwarf, erect habit, has struck me as being well-worthy of note, and if placed in commerce should have a good future before it.

The value of these charming kniphofias throughout late summer (one might almost say from June until the end of September) in embellishing certain positions among the rocks, is certainly great, and a trial planting would almost certainly give pleasure to the grower, while at the approaches to the rock garden a grouping or two of such varieties as K. R. C. Affourtit, K. John Benary, K. Seraph, K. tricolor, and other of the stronger forms will give a grand display.

P. S. Hayward.

THE HISTORY OF THE EARLY-FLOWERING SINGLE CHRYSANTHEMUM.

The following paper was read at the Chrysanthemum Conference at Essex Hall by Mr. W. Wells:

The commencement of the early single chrysanthemum may be said to have been with the advent of Mabel Goacher, and the honour of the first-born must be given to Mr. Goacher, who has raised so many of the good early doubles.

Mabel Goacher was first introduced by me in the spring of 1902, when at Earlswood. The description which appeared in my catalogue for that year was: "Mabel Goacher, single, pure white, with blush reverse. A profuse bloomer during August and September. Were it not for the buds showing the blush reverse, it would be white enough for wreath work. This is the first early flowering single white that flowers out of doors; 1½ft."

For the first year this was catalogued with the early doubles, but very little demand was made for it. Later, it was catalogued with the November singles, when there seemed to be more demand. In 1904 I had a plant of Mabel Goacher and one each of Miss Rose and Bertha Jinks in a cold house, and cross-fertilised them. The first batch of seedlings was very disappointing, only one was considered worthy of notice. In 1905, this variety, which was eventually named Surrey, was lifted and put aside with Mabel Goacher and a seedling from Mr. Goacher. These were fertilised, and the seeds sown in the spring of 1906. From this sowing we selected about forty varieties, which appeared to be the most distinct, and gave most promise of a plentiful stock of cuttings. In the autumn of 1906 they appeared in our catalogue under the heading of "Early Flowering Singles." From that batch we held over about 100 others for trial the following season. From these forty more were selected for distribution in 1907-08.

We had no fear of the first batch being too much alike anything already in commerce, for we had the whole stock in our own hands. The following year we might easily have selected 100 sorts, but only sixteen were distributed, and each year more care will have to be exercised in selecting varieties. I willingly admit there is plenty of scope for improvement, for many of our varieties are very highly bred, as can be easily understood, for we had no course open to us but interbreeding, and this is what all stock growers try to avoid. There will be plenty of opportunities of getting wider parentage shortly, and the habit of the plants will no doubt be greatly improved.

There are several varieties sent out which can hardly be called singles, some having three or four rows of petals. No doubt I shall be called to account for calling these singles, but I must inform those exacting persons who find fault that these varieties, with their semi-doubleness, were intentionally saved for a purpose. I will mention Eva Grantham, Spitfire, Firebrand, The Navy, and Mary Richardson. Suppose we take two of the best varieties as a contrast, say, Mary Richardson and Dorando. The former has three rows of florets, the latter but a single row. Pack them for a journey in exactly the same way, and give both the same amount of rough handling. Dorando will have a few of its petals bruised, and do what you may, they will show it, for there are no reserve rows to fill up the space; while Mary Richardson has a good reserve, and can fill up gaps; also, it is not so likely to get damaged, for the extra rows of petals support the others.

It was in the autumn of 1907 we found ourselves in possession of such a vast variety that my two sons and myself discussed the question of saving seed for sale, being quite satisfied that the early-flowering chrysanthemums could be treated as annuals, and we decided that, being introducers of the varieties, we would introduce the seed, and, controlling an almost unlimited stock, we would make preparations for planting half an acre of our best and newest varieties. We secured more land, and planted 15,000 plants for the purpose. The autumn of 1908 favoured our venture, for never was a more favourable time for seeding the early singles. Every day brought millions of bees and flies of all kinds and sizes. After harvesting, threshing, and winnowing the crop, we had a splendid sample, in bulk a little over six gallons. That, I think, will be well on the road towards establishing a record.

Although the early single chrysanthemum may be readily raised from seed sown in the spring and flowered in the autumn of the same year, I do not think seedlings will ever be reliable enough to be planted in beds or lines for the same effect as so many annuals. For they cannot be produced in the separate colours; neither will they all flower at the same time. For instance, if the seed is sown at the same time, and the seedlings treated exactly alike, some plants will begin flowering in August, while others will bloom at various periods from that time till November; but, unless very hard frost or snow prevents, they will certainly flower the same year as the seed is sown.

In making a selection in future, great care must be exercised by committees of the various societies granting certificates, for the named varieties will become more bewildering than in any other class of plant with which I am acquainted. There is plenty of room for improvement to be made in colour and shape of flower, and in the habit of the plant. We are frequently receiving packages of flowers to give advice upon or to name, and it is quite natural for everyone to have a particular fancy for one's own raising. I will give a selection of twenty-five good varieties which are now in commerce, not including novelties:

Three whites: White City, Florence Gillham, and Snowstorm. Three yellows: Nellie King, Marie Corelli, and Dolly. Three pinks: Kitty Riches, Ena, and Charming. Three crimsons: Carrie Luxford, Kate Westlake, and The Carlton. Three terra-cottas: J. H. Runchman, Dr. Ingram, and Hilda's Favourite. Seven bronze, orange, and salmons: Well's Pride, Eric, Alexandra, Kate Carter, Kathleen, Mary, and Surrey. The best purple-crimson is Merstham Glory. Kitty Graham and Goldlace are also good in their shades.

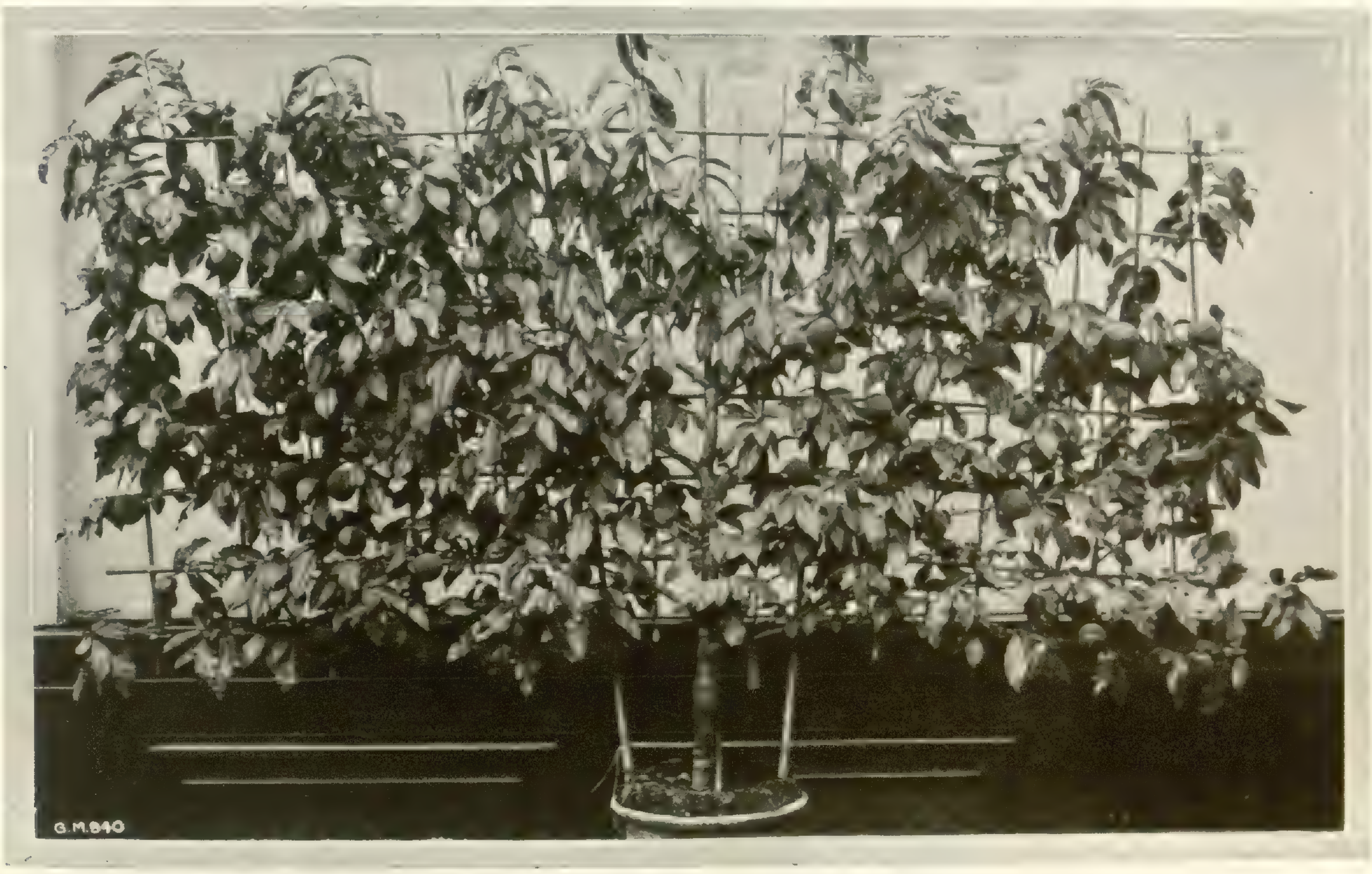
This paper deals mostly with the September varieties, but there are very many equally good October sorts. Here, especially, the flowers with only a single row will never become standard sorts, for they will not stand the weather so well.

The cultivation of the singles is the same as the doubles, except, as I have already said, being high-bred the cuttings are not produced so readily. At first they are very thin, and until they gain strength, therefore, I advise leaving them on the plant until March, when they quickly take root and grow away. Instead of planting them 18in. apart, as with the doubles, they might easily be put 15in. one from the other. They commence flowering in July, but I advise picking off the early buds, for the hot sun (if we get any) in August will burn the flowers, and they will not be as bright in colour as the later flowers will be on the same plant.

LIMING THE SOIL.

Lime is absolutely indispensable to the growth of all garden plants, yet it is required in comparatively small amounts, because what is necessary for the soil is not so much the chemical substance lime, but a base, or, in other words, something which is capable of combining with the acids produced naturally or artificially in the soil. In quicklime, or slaked lime, this base is found, and in nothing else, for it must be remembered that lime is not a plant food in itself, it must combine with some dormant plant food already in the soil, which it sets free and renders soluble and available for plants to take up.

Lime is comparatively abundant in the leaves of all green plants, but in the matured wood of fruit trees it may vary from 2 to 15 per cent. of the mineral substances, while 1,000lb. of ripe fruit will never contain more than from 2lb. to 3lb. of lime. Lack of lime in plant development is first indicated by stunted growth, and the production of small, yellow coloured leaves.



PEACH THOMAS RIVERS.

A finely-trained specimen, in a 15-inch pot, carrying about 50 fruits; grown by the King's Acre Nursery Company, Hereford.

The precise use of lime to plants is unknown, but, as already stated, it is indispensable, and cannot be replaced in the food of plants which contain chlorophyll (leaf green) by any other substance. In the absence of lime, the starch contained in the leaves is with difficulty changed into sugar, possibly owing to the failure of the nucleus of the plant cells to manufacture diastase, the ferment necessary for transforming starch to sugar in plant nutrition. Lime also greatly contributes to the building up of the tissues of the growing plants in the form of organic matter.

Uses of Lime in the Soil.

Lime, however, performs other functions in the soil than the supply of plant food. One of the most important of these is, as I have already stated, the neutralising of acidity, which is especially abundant in old and rich garden soils which have been heavily dressed with farmyard or stable manure, or even with leaf-mould. For such a purpose lime is the most suitable material, because of its comparative cheapness, and of its importance as a constituent of living plant tissues. This means that some excess of available lime in the soil is necessary over and above the bare needs of the growing crop for tissue building.

Another function performed by lime is the liberation of plant food from otherwise locked up or dormant compounds in the soil. If a little freshly burned lime be mixed with strong manure, such as chicken manure, guano, or fresh stable manure, an odour of ammonia will become apparent. This means that the lime is entering into chemical union with certain ingredients of the manures, and in doing so is liberating other elements which pass off in the form of ammonia gas.

If lime be mixed with the soil a similar action will take place; the lime will unite with the decaying vegetable matter or humus contained in the soil, liberating nitrogen in the form of ammonia.

If a crop is growing upon the soil it may absorb a part of the escaping ammonia, and a larger yield will result; but this larger yield is produced at the expense of the soil's store of plant food, and if these stores are not maintained by liberal manuring the soil will eventually fail to respond to applications of lime, because all the material in the soil upon which lime can act has been destroyed, leaving the soil poorer than if no lime had been used. Hence the old adage, "Lime without manure makes both garden and gardener poor."

Lime Improves the Working of the Soil.

For the reason stated above it has been found better to apply small quantities of lime at frequent intervals rather than large quantities at one dressing. An application of 5cwt. per acre twice in the year is better than large dressings from 10cwt. to 20cwt. per acre applied all at once.

A third function of lime is the amelioration of the texture of the soil. When heavy, plastic clay is wet, pressed into a cake, and then dried, it becomes almost brick-like in appearance; but if a small portion of quicklime be incorporated with the clay before manipulation it will crumble easily between the fingers after drying. For this purpose quicklime, or, possibly, better still, ground burnt lime unslaked, may be very usefully employed on many of the more refractory clay soils, using it at the rate of one ton per acre.

Clays thus treated will become much more friable, will respond more readily to cultivation and manuring, and will not become so caked after rain. The effect of such an application of lime will last for a number of years. It will be easily understood that the opening of the soil by a dressing of lime will facilitate the action of air, rain, and other agencies by which the plant food of the soil is made available to plants. Loose, sandy soils may also be improved by liming, the lime rendering them more compact and more retentive of moisture.

J. J. Willis.

Harpenden.

A FINELY-TRAINED POT PEACH TREE.

On several occasions this season some exceptionally well-trained fruit trees have been exhibited by the King's Acre Nursery Company, Hereford, and these have attracted a great deal of attention. It is not a common practice to grow trained peach or other trees in pots for early fruiting, as, in a general way, a pyramidal or slender bushy habit is found more useful and convenient. But these trained trees, as shown at Shrewsbury, at Westminster, and elsewhere, have carried heavy crops of good fruits, and thoroughly justified their existence. The specimen peach tree illustrated was the centrepiece of a fine gold-medal display arranged at the Royal Horticultural Hall, Westminster, on August 31 last. It was in a 15-inch pot and carried about fifty fruits; the variety was Thomas Rivers.

HINTS FOR SPRING BEDDING

Spring flowering plants provide a direct evidence of Nature's re-awakening and appeal to us in a very different way to the thousand and one subjects and the galaxy of beauty which prevails at a later date and on throughout the summer. Happily in both private and public gardens and parks the harbingers of spring are now found in immense numbers, and additional developments are noted each season.

It is interesting to notice that combinations of bulbous and other spring-flowering plants are now freely represented in most gardens, and although many kinds are capable of producing a fine effect alone, a combination seems to be a step in the right direction. I was much impressed with the beauty and brilliance of a large bed last spring where the double white arabis made a dense and snowy white carpet, and Tulip Imperator rubrorum was thinly disposed over it. A flat appearance and absence of brightness was noted where Hyacinth Lord Macaulay and double white primroses were brought together, and Gigantea, or Robert Steiger hyacinths may be suggested as better. Very fine must be written against well-flowered plants of Dicentra spectabilis over Myosotis Royal Blue, which was carried to the extreme edge of the large oblong bed. To produce a succession of bloom and to remain bright and effective until the time has arrived for the summer bedders to be placed in position, a carpet of polyanthuses with Tulips Proserpine Titian and elegans alba thinly interspersed between them will do all that is required.

Irregular groups of Tulip Bacchus of very irregular outline, associated with a dwarf golden wallflower, struck a rich note, and yet another fine arrangement was Hyacinth King of the Blues and Narcissus Horsfieldi, the surface of the soil being hidden by a mass of crimson daisies. How wonderfully effective are comparatively dwarf bushes, or plants, of the double cherry, when seen rising above dark or rose-coloured hyacinths, or Tulips Crimson King, Purple Crown, or Thomas Moore. Pyrus Malus floribunda clothes itself in beauty and loveliness in spring and is simply invaluable with bedding arrangements, or for playing a part in conjunction with bulbous plants, etc., in rendering the borders attractive. As seen employed in a western garden last spring, plants two and a-half feet in height, and literally smothered in bloom, were arranged three feet apart over a very large bed, and upwards of a dozen varieties of hyacinths and tulips, in various shades of rose and blush white, were arranged underneath, while a carpet of double rose silene completed a soft and very pleasing picture.

PÆONY-FLOWERED DAHLIA KING LEOPOLD.

A handsome variety with large bright yellow flowers, which has been admirably shown by Messrs. T. S. Ware, Lim., at the Royal Horticultural Society's Meetings this season.

Tulip La Reve, which boasts an art shade, is a fitting companion to Wallflower Eastern Queen, that is of the softest and most refined shade of yellow. A wide belt of Daisy The Bride, and a carpet of myosotis, with Tulip Vuurbaak between them, cannot fail to please, while one may have a glowing picture when bronzy golden wallflowers and Tulip Vermilion Brilliant are massed together. Tulip Ophir d'Or forms a very fine bed alone, and the same applies to white Joost van Vondel (a great beauty), Cottage Maid, Keiserskroon, Fabiola, Prince of Austria, and Thomas Moore. Mon Tresor is a splendid tulip in yellow colouring, and may well be planted with Aubrietia Leichtlini.

In the arrangement of bulbs in borders there is much to recommend in the formation of large colonies and bold masses. A wide border which attracted my attention a few years ago consisted of more or less extensive groups of all the leading varieties of hyacinths, which were outlined and surrounded by the white Tulip Comte. de Mirabeau, and a strikingly effective display was produced. To create a picturesque effect there is nothing to surpass masses of spring-flowering plants, set down in irregular fashion regardless of distance or what may be termed "the right spot" in the borders, the intervening spaces being furnished with a mixture of hyacinths, narcissi, and tulips thrown carelessly upon the ground and planted where they lie. In this case a few shrubs, which are either attractive by reason of their flowers or foliage, will enhance the effect.

The tulip species and May-flowering kinds which until recent years were employed exclusively for border decoration, are now being utilised as bedders, and I hardly think we have anything to compare with them for elegance, brilliance, and general excellence amongst bulbous plants. The only disadvantage is they occupy the beds until a late date, and in order that they may not unduly interfere with the summer bedding arrangement they should be planted in beds that are intended for very tender subjects.

Bermondsey. WALTER H. AGGETT.

FINE GOOSEBERRIES.

Berry's Early Kent.

This is a grand variety to grow either for market or home use. It is a good early fruit, firm, and of agreeable flavour. The bush grows very strongly, ripens its wood satisfactorily, and bears freely. I have grown this variety for several years, and found that, if the bushes were fairly hard pruned in the autumn, and then protected from the ravages of birds, they bore immense crops of very large fruits, much finer than those from bushes which were pruned in the spring. The berries are solid, and do not readily crush when ripe.

Langley Beauty.

The flavour of the berries of Langley Beauty is delicious. The fruits are large, and borne on upright-growing branches. If care be taken in the matter of pruning, so as to cut back to leading buds that point outwards and upwards, few branches will grow near the border soil; thus the fruits are not soiled through being splashed in rainy weather. The fruits are hairy, fairly transparent, and dull yellow in colour.

Langley Gage.

The berries of this variety are not large, but they are borne on the bushes in large numbers, are transparent, and of delicious flavour. These are three varieties that should be added to every collection.

G. B.

OUTDOOR PEACHES AT ALDENHAM.

Those who have had an opportunity of inspecting Aldenham House Gardens recently could not fail to be struck with the appearance of the peaches and nectarines planted so recently as three years' since at the foot of a wall with a western exposure. Such an example of a wall covered in so brief a space of time as is here to be found should encourage the few sceptics who still remain, and who argue that the British climate renders the success of peach culture in the open quite a matter of chance, if not an utter impossibility.

When folk deprive the trees of reasonable light and sunshine by the growth of tall herbaceous plants within two feet of the wall, and when broccoli and cauliflower are allowed to impoverish the soil within two feet of the peach tree stems, there is small chance of success. None of these things prevail at Aldenham, where the border in front of the peach trees is occupied with a marvellous batch of seedling pentstemons growing to within a yard of the trees. The branches thus obtain the fullest amount of sunlight and air, and as pentstemons are not voracious feeders, the peach-tree roots do not suffer in any way. Although the trees have been planted but three years, the twelve-foot wall is now quite covered; standard-trained trees were employed for the higher portion, with dwarf, fan-trained specimens for the lower part. On some of the trees I noticed current year's shoots were four feet long, and not of a soft, sappy character, but hardy and tough, a shade thicker than the proverbial cedar pencil perhaps, but not excessively vigorous. The foliage was of that thick leathery character, which, with a full supply of chlorophyll, betokens perfect health. The error which is so common in many trees is not committed here. I mean that of overcrowding the shoots. Reasonable space is allowed for a full development of leaf, and plump buds follow with the maturity of the shoots.

Formerly the wall was occupied by apricots, and when the change to peaches and nectarines was desired, the soil was removed to a width of six feet, and a depth of two feet, and in its place fresh turf, etc., was put on a well-drained base. The varieties of peaches named were at the time of my visit, at the end of September, carrying crops of well-coloured fruit, as many as six-dozen on a tree: Grosse Mignonne, Dymond, Bel'egarde, Barrington, Violette Hative, Royal George, Princess of Wales, and Goshawk. Early Alexander and Hale's Early were naturally not carrying fruit. Of nectarines, Rivers' Orange, Spencer, Lord Napier, and Dryden, were noteworthy.

E. Molyneux.

AN ATTRACTIVE GROUP OF EREMURI

In the gardens of Ashbourne, County Cork, the residence of R. H. Beamish, Esq. We published an account with illustrations of these highly interesting and beautiful gardens in our issue of the 2nd inst.

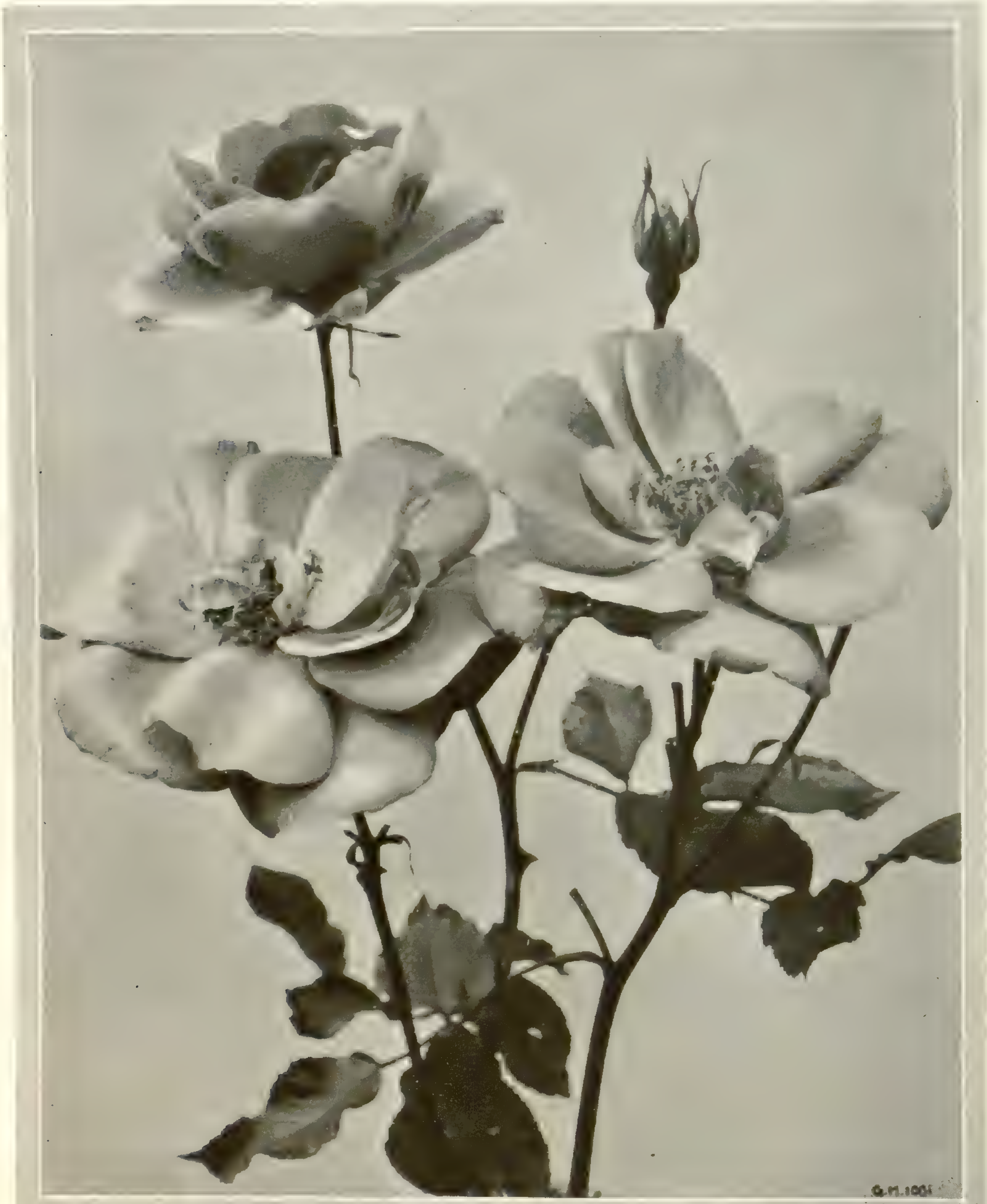
THE PRAIRIE CONE-FLOWER.

The cone-flowers embrace a number of beautiful and distinct garden plants, the central disc in the form of a cone giving them an appearance which distinguishes them largely from the other yellow composites of autumn, when they bloom. Some of them have the cone of a deep black or brown colour, which gives distinction to the blooms.

The species under notice, Lepachys columnaris, which is now recognised to belong to a different genus from the rudbeckias, which constitute the best-known cone-flowers of the garden, has not the colouring of the cone so fine as some of these, as it is grey, rather than brown, black, or green, but it makes up for this by its greater length. With its narrow drooping ray petals of yellow it has a character of its own, seldom seen in the occupants of the hardy flower garden. The plant itself is not tall, the height being only from one to two and a-half feet, but it is ornamental, with its thickish, pinnately-divided leaves on the upper part of the stems and its long-coned yellow flowers, the cone itself being three or four times as long as it is thick at the base, and tapering away to the point.

The fly in the ointment as concerns Lepachys columnaris is that it is none too hardy, and often proves too short-lived to give entire satisfaction to its owner. In some gardens, indeed, it is best treated as a biennial, sowing the seeds annually for the next year's bloom. But in its native habitats, and in warm districts in this country it is a true perennial, save, it may be, when it flowers so freely that it exhausts itself, and the plant becomes weakened, and fails to recover its vigour.

It is possible that the plants which have succumbed to our winters have come from the southern habitats of the plant, as it is a perennial in some of the coldest parts of the Western United States and Canada. It blooms with us from June to August and September. S. Arnott.



NEW H.T. ROSE DU BARRI.
A beautiful semi-double hybrid tea raised by Messrs. B. R. Cant and Sons, and of great promise as a bedding rose. The flowers are of large size, and a rich rose colour.

A NEW BEDDING ROSE.

A new seedling hybrid tea rose shown at the meeting of the Royal Horticultural Society on October 12, by Messrs. B. R. Cant and Sons, Colchester, the raisers, attracted a very great deal of attention. It is a large semi-double rose, very free, and we are told its habit is excellent for bedding purposes. So brilliant is the rich rose colouring of this variety that we anticipate it will have to be given a bed entirely to itself, or be planted as a distinct group. The variety is named Rose du Barri. The flowers open wide and are then about four inches across, so that a bed or large group of plants in full bloom should produce a wondrously fine effect. We look forward with pleasurable anticipation to such a display.

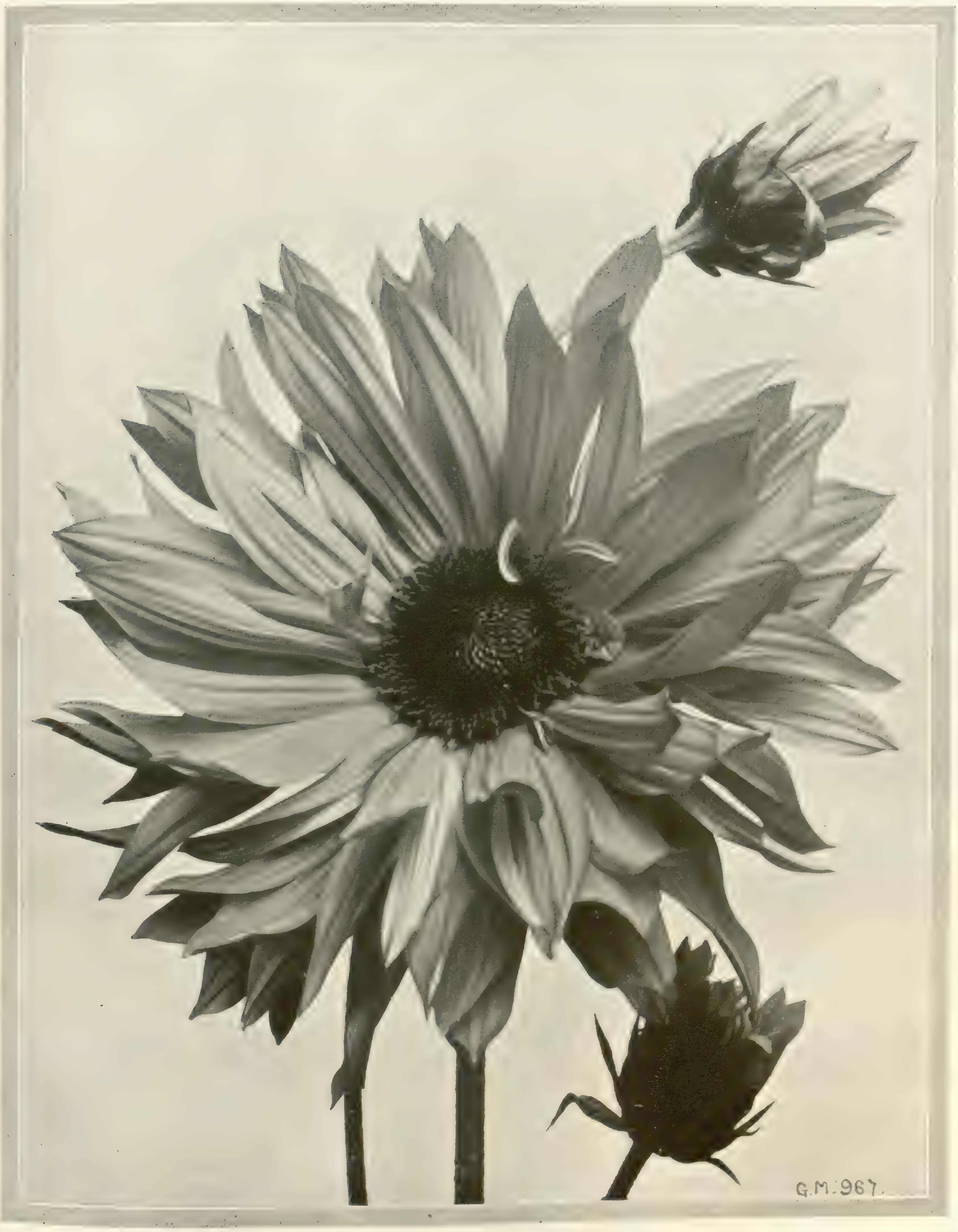
GOLDEN FLOWERS OF AUTUMN.

There is no dearth of hardy plants with golden flowers that bloom during the autumn months, and when a selection is made with a full knowledge of the characteristics of the several kinds, and the plants selected judiciously used, they contribute immensely to the attractions of beds and borders devoted to hardy perennials. This is a fact that may be regarded with some satisfaction, for at no season of the year are golden flowers more highly appreciated, and certainly at no time do great breadths of gold appear to greater advantage than when seen under the soft rays of the sun peculiar to the season which forms the connecting link between the summer and winter months. This being the case plants with flowers of varying shades of yellow should be freely used; but they must not be overdone, and due care must be exercised to ensure the selection being free from kinds that are otherwise than highly meritorious. There are, it should be remembered, a goodly number of second-rate kinds, and as it is important they should have no place in borders devoted to choice subjects, a brief reference to some of the best can hardly fail to prove useful. In these notes no attempt will be made to include all the good things, and no mention will be made of the chrysanthemums which include some of the best of the yellow flowers of the season, as they are now being dealt with in these pages somewhat fully.

The species and varieties of Anthemis include several that are of much value in the production of colour effects from July onwards. The most noteworthy of these are the varieties of A. tinctoria, known as grandiflora and Kelwayi. Both are free in blooming and bright in colour, and attain a height ranging between two and three feet. Of the two the last named is of special merit, and one of the most useful of the many fine plants introduced by Messrs. Kelway and Son. To have anthemises at their best the plants should be lifted and replanted every second year or so, and have the advantage of a moderately rich root run.

The Coreopsis are remarkable for the freedom with which they bloom, and the long period over which their flowering season extends. If but one representative of the genus is required, C. grandiflora should have the preference. It has an average height of three feet, and produces a profusion of large flowers of a bright lemon-yellow colour. From July until October it blooms freely, producing a fine effect, and the flowers are useful for the filling of vases in the house. C. auriculata and C. verticillata are two attractive species that deserve attention where large borders have to be filled. Their flowering season, although hardly so long as that of the first named, extends over a period of three months. Their heights range from thirty to thirty-six inches, and the soil best suited to their requirements is sandy loam.

From the Heleniums may be selected several possessing much merit. These have the advantage of being compact in growth and of moderate height, and when they are lifted and divided every second or third year and given a rather rich soil, they will bloom profusely for at least two months and produce a rich effect. H. autumnale and its variety superbum attain a height of about four feet, have deep yellow flowers, and are most useful for the second and third rows. H. Golden Gem, is a comparatively new form, attaining a height of about two feet and bearing deep golden-yellow flowers. H. pumilum is rather



HELIANTHUS SPARSIFOLIUS.

A remarkably distinct and handsome sunflower, attaining a height of eight or more feet, and bearing large golden-yellow semi-double flowers. The flower illustrated was supplied by Mr. Charles Turner, Slough.

dwarfer than the last named, has a compact habit, and is admirably adapted for positions along the front of borders. The flowers are plentifully produced, they are rather large in size, and of a rich yellow hue.

In selecting from the Helianthuses considerable care is necessary because a large proportion of the kinds, while interesting and attractive, are for various reasons not suitable for the majority of gardens. Those of special merit are H. multiflorus grandiplenus, a handsome double form, and H. multiflorus simplex a fine single variety, which grow to a height of about four feet and bloom freely and continuously, their deep yellow flowers producing a rich effect; H. Miss Mellish, one of the most elegant and effective of the autumn sunflowers, and H. sparsifolius, which has a strong resemblance to the form immediately preceding it, but taller in growth and later in blooming. The plants attain to a height of about eight feet, are graceful in habit and the flowers are of large size and have two rows of ray florets. We saw this form in especially fine condition a short time since in the nurseries of Mr. Charles Turner, at Slough, where it was producing a fine effect, and the bloom herewith illustrated was from one of Mr. Turner's plants. It is important in the case of sunflowers with the habit of H. multiflorus to lift and divide them every two or three years, and to thin the growths after they have occupied the same position more than twelve months. The plants of Miss Mellish and sparsifolius should also be severely thinned, as it is only when they have room for their development that the plants appear to full advantage. The soil for all the kinds should be moderately rich, for, although sunflowers will exist in the poorest of soil, they will not grow or bloom satisfactorily.

Rudbeckias differ considerably in character, and include some kinds that are indispensable. One of the very best of those with yellow flowers is R. Newmani, a distinct species attaining a height of about two feet, elegant in aspect and producing a profusion of orange-yellow flowers. R. californica, an erect-growing species, attaining a height of about four feet, and bearing bright yellow flowers on long erect stems, has much to recommend it; one of much value is R. lacinata plenus, a distinct variety bearing a profusion of deep orange-yellow double flowers, and growing to a height of about six feet. R. maxima is tall and bears bright yellow flowers, and should be selected where a form of taller growth than those previously mentioned is required.

The Golden Rods or Solidagos are late in flowering and attractive in colouring, but it is important not to plant them too liberally. It is desirable to lift and replant them every second or third year, and to severely thin the growths early in the summer when they have not been replanted in the spring previous. Special attention may well be directed to the fact that when allowed to grow in large masses until long after they have exhausted the soil, they present anything but a satisfactory appearance. S. canadensis, S. Shorti, and S. serotina lepida are all of much merit, they have yellow flowers, and range in height from four to five feet, the exact height depending upon the soil and the length of time they have occupied the same position.

G. G.

For pretty gardens and lovely flowers read The Flower Garden, by T. W. Sanders, F.L.S. An up-to-date work on the formation, planting, and management of the garden, with description and cultivation of flowers and plants adapted for outdoor culture. Price 7s. 6d. net, by post, in box, 8s., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London

NEW PLANTS, ETC.

CYPRIPEDIUM CYNTHIA WESTONBIRT VAR.

A fine bold cypripedium, derived from C. Charlesianum and C. Charlesworthi. It is a strong grower, and has large blooms, with a spreading, flattish dorsal sepal. This latter is white, but has a median purple band, and is heavily shaded with green and brown, and marked with dark purple on the lower half. The petals and lip are green, heavily shaded with brown. A.M., R.H.S., October 12. Lieut.-Colonel Holford (grower, Mr. H. Alexander), Westonbirt, Tetbury, Gloucester.

CATTLEYA HARDYANA THE BARON.

This beautiful variety has pure white sepals and petals, and a bold and handsome lip of rich purple colouring, with gold veins and golden blotches on either side of the throat. The flower shown was of fine size and excellent form. F.C.C., R.H.S., October 12. H. S. Goodson, Esq. (gardener, Mr. G. Day), Fairlawn, Putney.

CIRRHOPETALUM FASCINATOR.

A very distinct and interesting orchid producing but one flower on a scape. The flowers are green and purple, with fringed petals, and a very long narrow lip, extending about five inches. A.M., R.H.S., October 12. Sir J. Colman, Bart. (gardener, Mr. J. Collier), Gatton Park, Reigate.

CYPRIPEDIUM FAIR MAUDE.

The name given to this beautiful hybrid has been suggested by the names of the parents, i.e., C. Fairrieanum and C. Maudiæ. In this cypripedium there is evidence of a reversion from the albino to the typical C. Lawrenceanum, the albino form having been one parent of C. Maudiæ. In C. Fair Maude the boldness of the flower suggests C. Lawrenceanum, and so does the colour, and no one would have been surprised had C. Fairrieanum and C. Lawrenceanum been the parents. The flower stands up well, and has a broad dorsal sepal, coloured bright rose and purple on a white ground; petals deflexed and slightly curled at the tips, green and rose. A.M., R.H.S., October 12. Mrs. Norman Cookson (gardener, Mr. H. J. Chapman), Oakwood, Wylam-on-Tyne.

DENDROBIUM TAURINUM COLMANI.

An interesting and by no means easily managed orchid is the typical D. Taurinum, but the varietal form figured in our previous issue is more attractive than the species. It has the same formation and the twisted petals, but the colouring is white, shaded with dull rose and green. A.M., R.H.S., October 12. Sir J. Colman, Bart.

STREPTOCARPUS ALDENHAM HOUSE STRAIN.

This is a fine strain of the large, long-tubed varieties, the flowers being of large size and good shape, and borne on stout stalks. The plants are free flowering, and show a great variety of shades of colour, rose, pink, blue, and purple predominating. A.M., R.H.S., October 12. Hon. Vicary Gibbs (gardener, Mr. Edwin Beckett), Aldenham House, Elstree.

ROSE CLAUDIUS

A beautiful hybrid tea rose of great substance. The colour is deep rose-red, with carmine shading. The variety is particularly fine in the matter of fragrance. This variety received a gold medal on the occasion of the N.R.S. autumn show, and was then figured in our columns. A.M., R.H.S., October 12. Messrs. B. R. Cant and Sons, Colchester.

ASTER LUSTRE.

This free-flowering and attractive variety is one of the new double-flowering race, as it has a multiplicity of narrow florets that almost obliterate the disc. The colour is bright rosy-lilac. A.M., R.H.S., October 12. Mr. Edwin Beckett, Aldenham House Gardens, Elstree.

CHRYSANTHEMUMS.

White Queen.—A beautiful creamy-white Japanese chrysanthemum, with broad drooping florets. A charming variety of great elegance and refinement. F.C.C., N.C.S., October 6; A.M., R.H.S., October 12. Mr. Martin Silsbury, Shanklin, Isle of Wight.

Empress.—A large, loosely incurving Japanese variety of pale lemon yellow shade. A fine exhibition variety. F.C.C., N.C.S., October 6. Mr. Norman Davis, Framfield, Sussex.

Tom Edwards.—This big incurving Japanese variety is of rich deep yellow colour; it has broad petals, and makes up a grand exhibition bloom. F.C.C., R.H.S., October 6. Mr. Norman Davis, Framfield.

Mary Farnsworth.—A large and beautiful Japanese variety of distinct colour. It has long florets that are slightly upturned at the tip. The colour is pink, shading to golden-yellow. The variety ought to become a favourite front row bloom at exhibitions. A.M., R.H.S., October 12. Messrs. J. Stredwick and Son, St. Leonards.

RUBUS CANADENSIS.

A native of Eastern North America, this hardy bramble is one of the most distinct and attractive recently brought into cultivation. The growth resembles that of the raspberry, the sturdy canes rising to a height of 6ft. or 7ft. The neat leaves are trifoliate or quinfoliate, and glabrous on both surfaces; the flowers are often more than an inch across, white, with purple anthers, and these are followed by deep red or black fruits. Bot. Mag. t. 8264.

ALOE RUBROLUTEA.

An attractive species from German South-West Africa, and one that, when in flower, reaches a height of from 3ft. to 8ft. The first plant to flower in Europe was one sent by Mr. Dinter from Windhoek, to Sir T. Hanbury, at La Mortola, where it flowered in 1907. The inflorescence is a much-branched panicle composed of erect racemes of red flowers, the latter showing yellow tips to the segments as they expand. Bot. Mag. t. 8263.

MAHONIA ARGUTA.

Of doubtful hardiness, this species of mahonia is supposed to come from Central America. As it appears to need the shelter of a cool house during winter, it is hardly likely to become a popular garden shrub. The compound leaves have spiny-toothed leaflets, and the lax, branched panicles carry pale yellow flowers. The fruits are small blue berries. Bot. Mag. t. 8266.

CARALLUMA NEBROWNI.

This stapelia-like plant is a succulent species from German South-west Africa, from whence it was introduced by Mr. Dinter, who sent it to La Mostola, where it first flowered in 1907. The starry flowers are red-purple on the outside, and deep crimson, flecked with yellow inside. We wonder whether this species is named after Mr. N. E. Brown, of the Kew Herbarium? If so his name has been strangely perverted, and a precedent made for quaint mixtures of initials and surname; what is to prevent such titles as Epidendrum Rarolfei, Fieu-Wbottinghemsleyi, or Puccinia Gmassiei? Bot. Mag., t. 8,267.

CYCNOCHES DENSIFLORUM.

This interesting and showy Colombian species has long, pendulous racemes of greenish-yellow, purple-spotted male flowers, and short racemes of large, fleshy, pale green female flowers. The plant was collected by Mr. J. Birchenall near the River Opon, and sent, among others, to Messrs. Hugh Low and Co., from whom it was obtained by the Rev. J. C. B. Fletcher, Mundham, Chichester, with whom it flowered in November, 1908. Bot. Mag., t. 8,268.

ERLANGEA TOMENTOSA.

We referred to this plant some time ago as a new and useful subject for greenhouse and conservatory decoration during winter. It comes from Tropical East Africa, but apparently from some elevation, as it succeeds under cultivation when treated like winter-flowering eupatoriums. It has much the appearance of a eupatorium, but the flower heads are lilac-coloured, borne in loose corymbose panicles. Bot. Mag., t. 8,269.

SPIRÆA HENRYI.

This deciduous shrub is from Central China, and was discovered by Dr. Henry, at Hupeh, in 1885, but was introduced through Messrs. J. Veitch and Sons, through their collector, Mr. E. H. Wilson, who found it in 1900. It has proved quite hardy at Kew. As it flowers on the growths of the previous year, pruning, or thinning out of the growths should be done directly after flowering, which takes place in June. The long branches produce a short cluster of white flowers from almost every leaf axil, thus making beautiful long sprays of bloom. S. Henryi is easily propagated from cuttings of half-ripened wood. Bot. Mag., t. 8,270.

CLASSIFICATION OF SWEET PEAS FOR 1910.

The following is an up-to-date selection of varieties in commerce, drawn up by the Floral Committee of the National Sweet Pea Society. An asterisk denotes a variety that is not waved.

White.—Etta Dyke, Nora Unwin, *Dorothy Eckford. Crimson and Scarlet—The King, *King Edward, *Queen Alexandra. Rose and Carmine—John Ingman, Marjorie Willis, *Prince of Wales. Yellow and Buff—Clara Curtis, *James Grieve. Blue—A. J. Cook, *Lord Nelson. Blush—Mrs. Hardcastle Sykes. Cerise—Chrissie Unwin, *Coccinea. Pink—Countess Spencer, *Prima Donna. Cream-Pink—Constance Oliver, Mrs. H. Bell, *Queen of Spain. Orange Shades—Helen Lewis, St. George, *Miss Willmott. Lavender—Frank Dolby, Mrs. C. Foster, *Lady G. Hamilton. Violet and Purple—Rosie Adams, *Duke of Westminster. Magenta—Menie Christie. Mauve—The Marquis, *Mrs. Walter Wright. Maroon and Bronze—*Black Knight, *Hannah Dale. Picotee-Edged—Elsie Herbert, Mrs. C. W. Breadmore. Striped and Flaked (Red and Rose)—Aurora Spencer, Yankee, *Jessie Cuthbertson. Striped and Flaked (Purple and Blue)—*Prince Olaf. Fancy—*Sybil Eckford. Bicolor—Mrs. Andrew Ireland, *Jeannie Gordon. Marbled—*Helen Pierce.

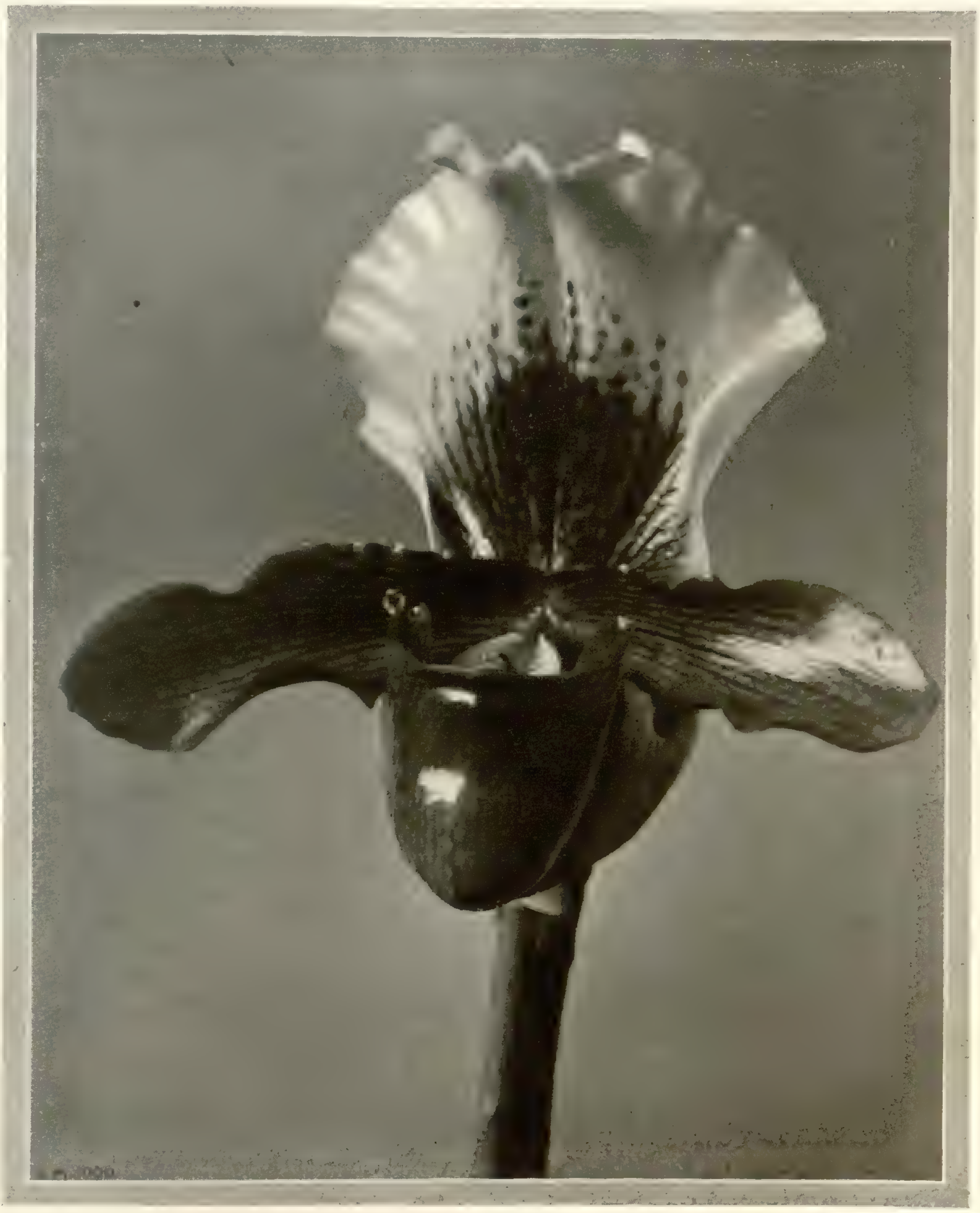
Too-much-Alike Varieties.

The following varieties have been bracketed as too much alike. "Not more than one of the grouped varieties shall be shown on the same stand at any exhibition of the National Sweet Pea Society."

White—Etta Dyke, Paradise White, Purity, Snowflake, White Spencer, White Waved. Crimson and Scarlet—Miss E. F. Drayson, Queen Alexandra, Scarlet (Baker's); Dodwell F. Browne, King Alfonso, King Edward Spencer, Paradise Crimson, Rosie Gilbert, Sunproof Crimson, Sunproof King Alfonso (Dobbie's), The King. Rose and Carmine—Albert Gilbert, Lady Farren, Marjorie Willis, Rosalind, Splendour Spencer; E. J. Castle, George Herbert, John Ingman, Mrs. W. King, Paradise Carmine, Phyllis Unwin, Rosie Sydenham, Rosy Morn, Spencer Carmine. Yellow and Buff—Harold, James Grieve, Mrs. Collier, Mrs. A. Malcolm, Yellow Hammer; Clara Curtis, Paradise Cream, Primrose Paradise, Primrose Spencer, Primrose Waved, Princess Juliana, Waved Cream (Malcolm's); Blue—Flora Norton, Miss Philbrick; Anglian Blue. Flora Norton Spencer, Kathleen McGowan, Zephyr; Mid-Blue, Zoe. Blush—Beauty (Bolton's), Bobby K., Countess of Northbrook, Florence Morse Spencer, Lorna Doone. Mrs. Hardcastle Sykes, Princess Victoria; Blush Spencer, Lady Althorp, Mrs. T. G. Baker, Paradise Regained, Sankey Spencer; Constance Oliver, Doris Usher, Nell Gwynne. Pink—Countess Spencer, Enchantress, Paradise, Pink Pearl. Cream Pink—A. B. Bantock, Earl of Plymouth, Holdfast Belle, Kitty Lea, Mrs. Hugh Dickson, Mrs. Henry Bell, Mrs. Routzahn Spencer, Queen (Sutton's), Romani Ronni. Orange—Dazzler, Edna Unwin, Gordon Ankentell, Ruby, St. George; Earl Spencer, Nancy Perkin. Lavender—Giant Lavender (Stark), Lady Grizel Hamilton, Lavender George Herbert, Masterpiece, Mrs. Charles Foster, Mrs. Walter Carter; Countess of Radnor, Lady Grisel Spencer. Magenta—Menie Christie, Mrs. Charles Mander. Mauve—Ida Townsend, Tennant Spencer, The Marquis. Maroon and Bronze—Anna Lumley, Black Knight Spencer, Douglas Unwin, Maroon Paradise, May Gerhold, Nubian, Othello Spencer. Picotee-Edged—Dainty Spencer, Distinction, Elsie Herbert, E. J. Deal, Lady Althorp Improved, Winifred Deal; Mrs. Townsend, Phenomenal; Evelyn Hemus, Mabel Cole, Mrs. C. W. Breadmore. Striped and Flaked (Purple and Blue)—Hester, Marbled Blue; President, Senator Spencer.

Varieties to be Excluded from Future Trials.

Her Majesty, Splendour, Duke of Sutherland, Monarch, Lottie Eckford, Maid of Honour, Ivy Miller, Stanley, Boreatton, Lord Rosebery, Cyril Breadmore, Mrs. Felton, Dora Cowper, Devonshire Cream, Ceres, Yellow Dorothy Eckford, Captain of the Blues, Boiton's Blue, New Countess, Princess May, Modesty, Duchess of Sutherland, Sensation, Countess of Aberdeen, Miss Bostock, Pride of St. Albans, Olive Bolton, Codsall Rose, Gorgeous, Miss B. Whiley, Mildred Ward, Countess of Latham, Coral Gem, Pink Gem, Vera Jeffrey.



CYPRIPEDIUM CYNTHIA WESTONBIRT VARIETY.

A handsome hybrid exhibited by Lieut.-Colonel Holford at R.H.S. Meeting, October 12, when it received an Award of Merit. Flowers white, purple, green, and brown.

THE BIRCH HALL VINE.

In looking at the excellent illustration on page 783 I cannot but notice how fine are the berries on each visible bunch, and what a remarkable crop the old vine is carrying. I dare say many others have come to the same conclusion as myself, that the cause of such a success is the abundance of light the shoots and leaves obtain owing to the thin training that has been adopted. In this way every leaf obtains its full share of sunlight, and thus fully does its share in feeding the plant. This is a practice not always rigidly followed in vine culture, especially by the amateur, in whose vinery can too often be seen a thick mass of weakly shoots, each striving to rob the other of what little sunlight is obtainable from above. Many gardeners, too, are guilty of overcrowding the growth of their vines, forgetting that one perfect leaf is worth much more than half a dozen that are not able to perform their allotted functions. I have seen shoots—laterals—allowed to grow 6ft. long before they were removed, owing to neglect in removing them when they were a few inches long. All such mistakes have an injurious effect upon the future of the grape crop. No vine can be treated long in such a manner without exhibiting disastrous results, all too often put down to old age, the structures, or an indifferent site, and so on.

E. Molyneux.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

AUTUMN-FLOWERING CATTLEYAS.—A few years ago the choice of winter and autumn-flowering cattleyas was very limited, indeed it was practically confined to C. labiata, C. Dowiana, and C. Bowringiana, with C. exoniensis as the only hybrid. At the present time, though the species have not been added to, an endless number of hybrids have been introduced, so that there is ample choice, and the cycle of the year has been completed, and cattleya flowers may, with a good selection of varieties, be had at practically all seasons. It is the autumn and winter-flowering kinds I would especially draw attention to, for it is at these seasons the private gardens are expected to yield of their best. Unfortunately, the mistaken impression is still abroad that orchid growing is an expensive luxury, and until we can get this error removed I am afraid very little advance will be made in considering orchids as really useful decorative subjects. People are, however, beginning to realise that after all orchids are plants, and not something half beast and half plant. In dealing with the autumn-flowering cattleyas and their allies we find these are the most tractable members of the genera to cultivate.

HYBRIDS.—The hybrids that have been derived from the use of C. Bowringiana are, with very few exceptions, robust growers, and when the plants are well grown they are not only suitable subjects for decorative purposes as plants, but the pyramidal racemes of flowers are exceedingly useful, and more durable than most cut flowers at this season of the year. The hybrids that are derived from L. Perrini and L. crispa are also worthy of recognition; the flowers of the former are rather small but are very useful for cutting. There are also the larger flowered kinds derived from C. labiata and C. Dowiana. C. Hardiana, C. Keincotiana, C. Fabia, C. Lord Rothschild, and many of the secondary hybrids give a considerable variation, and as most of these are now plentiful, they are procurable for a reasonable outlay.

REPOTTING.—Many of the autumn-flowering cattleyas commence rooting immediately the pseudo-bulbs reach maturity, but where plants are about to flower, they should not be disturbed for repotting until after flowering is over. If the roots have become advanced to any great extent care will be required to prevent them becoming broken or injured in the process of repotting. Ample drainage must be given, as they are all practically summer-growing kinds, and thus require liberal root moisture during the active season of growth. The compost should also be of a lasting nature.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

CONSERVATORY. — This should now be gay with some of the earlier large-flowering chrysanthemums, Salvia splendens grandiflora, etc., etc., and every effort should be made to keep the atmosphere as dry as possible so as to prolong the flowering period of these plants. Up to the time of writing it has been a very difficult matter to keep anything in a dry state, whether inside or out, without keeping the pipes very hot. The rains and lack of sun have tended to make all classes of plants sappy, thus minimising their keeping qualities when in flower.

FIRING, ETC.—Those in charge of the stoking now will be well advised to pay close attention to their work at nights, as at any time we may expect fairly severe frosts. Where the glass is rather extensive and worked from one large boiler it is a very easy matter to turn a little heat on quite late at night if frost threatens, but in smaller establishments where there are several quite small boilers, then the matter has to be taken in hand earlier in the evening, or sitting up all night will be the result. All mats and other coverings should be kept in readiness to save running about for them just at the moment they are wanted, and at all times endeavour to keep them dry, as then they keep out twice as much frost as when wet.

ROSES.—Anyone contemplating buying roses (for pot culture) from the open ground would do well to obtain them at once, and after reducing the top growth somewhat, and shortening the strong roots, these should be potted in fairly rich loam, and plunged as advised a few weeks back for those already established in pots. They should be worked on the manetti stock, and a few really good varieties are: General Jacqueminot, Captain Hayward, Mrs. J. Laing, Frau Karl Druschki, Mrs. W. J. Grant, Kaiserin A. Victoria, Caroline Testout, and Madame Abel Chatenay. These are all well proved varieties. A few newer ones that I have found do well in pots are Madame Maurice de Luze, Mrs. Aaron Ward, Queen of Spain, Elizabeth Barnes, and Molly Sharman Crawford, while the following climbers can be successfully lifted and flowered in pots: Dorothy Perkins, Hiawatha, Electra, Tausendschon, and Blush Rambler.

BEGONIA GLOIRE DE LORRAINE, and any of the other types that are becoming well advanced in flower, should be kept in a less humid atmosphere, given plenty of air in bright weather to well harden the blooms and prevent the tendency to drop which often appears if the house is kept too close after the plants begin to flower freely. Later batches of these plants should be staked and tied as they require it, and if in fairly small pots they should be kept well fed with liquid manure.

FINE FOLIAGE BEGONIAS, Gloire de Sceaux, etc., should not be kept too moist overhead, only syringing them very occasionally on really fine days, though they must be kept well damped between the pots, or red spider and thrips may put in an appearance.

VIOLETS that have been planted in frames should be given all the light and air possible on fine days, never shutting the lights up quite tight even at night. All dead and decaying leaves must be regularly picked off, as well as all runners, and to prevent any undue damping, watering should only be done during a spell of really fine weather, and after this date very little will be needed till the turn of the year.

VIOLETS IN POTS should, when possible, be placed on a shelf in a cool house, and must on no account become dry at the roots or red-spider will attack them; if left in frames stand them up on pots to allow air to circulate around them as well as to keep the foliage near the light.

BATCHES OF LILIES, such as L. longiflorum and L. speciosum, that are being pushed forward with a view of having them in bloom by Christmas, must be given an even night temperature of about 50 to 55 deg., rising 10 deg. during the day with the sun. A little encouragement must also be given them in the way of weak liquid manure. —Thomas Stevenson, Woburn Place Gardens.

THE FLOWER GARDEN.

BAMBOOS.—Although during the winter of 1908-9 many bamboos suffered badly, this exception should not deter anyone from planting, as no plants give a greater and more beautiful effect in the garden. Choose a site where the position is somewhat sheltered from the north and east, and prepare the ground for planting by digging out holes sufficiently large, and filling up with some good fibrous soil, which should also contain sufficient grit to render it porous. The present is a suitable time to plant bamboos, especially pot-grown stock. The kinds and varieties one has to select from are numerous, but care should be taken in planting to place these in the right position, according to their heights, as many soon attain large dimensions when established. One of the hardiest with us is Bambusa fastuosa, a rapid grower and a delightful acquisition; Arundinaria Hindsi is also worth including, while a few others I might mention are Bambusa Metake, A. anceps, Arundinaria Fortunei (dwarf), A. nitida (tall and gracefully arching), Bambusa pygmæa (very dwarf, free, and hardy); Phyllostachys aurea, P. viridi-glaucescens, and P. nigra are each tall-growing, and all are of the hardiest constitution.

HEATHS.—Few plants are more highly esteemed in gardens or more interesting than the above, especially when grown in large masses; and, by careful selection of varieties, it is possible to have some of them in flower the whole season through. The present is a suitable time for making preparations for planting, and where the soil is of a heavy nature steps must be taken to improve it by adding a liberal quantity of suitable material, such as well-decayed leaves and turfy loam or peat. This will be found to suit them admirably. They may be planted with advantage in the foreground of the shrubberies, and they thrive exceptionally well where rhododendrons and other hard-wooded subjects grow, while their evergreen habit renders them at all seasons attractive. The many beautiful forms of the common heather, or ling, should always be included, as these are of the hardiest. Others I may mention include Erica cinerea, E. cinerea alba, E. vagans (the Cornish heather), and its white variety; while E. mediterranea, with its several varieties, is a robust, bushy-growing species.

SEASONABLE WORK.—No time must now be lost in removing all half-hardy subjects to their winter quarters, such as specimen bays, aloes, hydrangeas, cordylines, agapanthuses, etc., where these are grown in large pots or tubs for standing on the terraces, and other places in close proximity to the mansion. They will require but little water to keep them in a healthy state during the winter months. Attend to the final clipping of all hedges, so that they may present a neat appearance until active growth commences in the spring. Lift and dry dahlias, cannas, gladioli, etc., when cut down by frost, and keep them in cool, dry storage for the winter, where frost can be excluded. Continue to clear unsightly and decaying growths from the borders, and remove all weeds. Any vacant spaces which have been occupied by batches of annuals may be filled up with spring-flowering plants.—E. Beckett, Aldenham House Gardens.

HARDY FRUITS.

RENEWING WALL TREES.—Preparations for this work should be commenced at once, and be completed by the time the new trees are ready for planting. Trees growing against walls are expected to continue for many years in health and fruitfulness, and to ensure this as far as possible, some little extra care should be taken in preparing the position and soil before the new trees are planted. In many gardens, where the subsoil is of a gravelly nature, ample drainage is secured, but on stiff land with a clayey subsoil, artificial drainage must be provided. This may be accomplished by digging out a drain two and a-half or three feet deep, according to the nature of the soil, and running parallel with the wall, and from six to eight feet from it, laying in some three-inch land drain pipes, afterwards covering them with six inches of rubble, such as broken bricks, or the coarser portion of the cinder heap. A slight fall in the drain is necessary, and a clear outlet must be maintained.

WHEN PREPARING THE POSITIONS for the trees, dig out a space four feet square and two feet three inches deep, wheeling the soil on to another part of the garden, and then make the bottom of the hole firm with a rammer. A good practice which is often followed is to lay some flat pieces of stone over the bottom to prevent the roots penetrating downwards into the subsoil. Flat stones are not always at hand for this purpose, but a capital substitute is called cinder concrete, made by mixing some fine cinders, from which the finest of the ashes has been eliminated, with some Portland cement, using these at the rate of five parts of the former to one of the latter. Mixed with water, and laid over the bottom of the hole about three inches thick, with a slight fall from the wall, this will soon set, and become an impenetrable barrier against the roots.

SOIL.—In some districts the natural soil contains all the necessary constituents essential to the healthy growth and fruitfulness of the several kinds of fruit, while in other places, more or less of loam, mortar rubble, etc., must be incorporated before satisfactory results can be obtained. Where the soil is found to be of a clayey and retentive nature it is advisable to wheel away the whole of it from the position in which it is intended to plant fresh trees, and substitute a more suitable compost. This may be made up by thoroughly mixing some good turfy loam three parts, some well-broken up mortar rubble one part, and one part of thoroughly decomposed manure, adding a sixth part of wood ashes. This should be well mixed by turning over the heap three or four times, and should be kept under cover, or otherwise protected from the wet until wanted for use; the soil being then in a fairly dry state, the trees may be made firm in their new positions by treading or beating with a wooden rammer.

PLANTING.—To carry out this work successfully, the roots must not be kept out of the ground for an hour longer than can possibly be avoided; it is therefore necessary that everything should be in readiness for the work by the time the trees arrive from the nursery. Standard trees require to be supported, and the stakes for this purpose should be fixed in position before planting, thus preventing damage to the roots, which often takes place when the stakes are driven in afterwards. Trees which have been several days on the journey should be unpacked on arrival, and have their roots placed in a tank of water for a short time to freshen them up previous to planting.—GEO. WOOLGATE, Rolleston Hall Gardens.

THE COPPED HALL GRAPE STORING BOTTLE.

At this season of the year, when the chrysanthemums need so much room indoors, the question of cutting the grapes so as to render the vineries available for the Autumn Queen is one that has to be considered. Then again, later still, there are the late grapes to be cut and bottled, so that the vines may be rested and vineries cleared. If there is a proper grape room, or even a good shed or cupboard that serves the purpose, the task of putting the charcoal in the old beer bottle, and adding just enough water to feed the inserted stem that carries the bunch, occupies a good deal of time, and the work of fixing the rounded bottles so that they do not suddenly roll or tip up is also a serious item. But perhaps the greatest trouble after that of adjustment is to keep the water at a suitable level in the bottles without wetting the grapes. It is just here that everyone who has bottled grapes must have wished for a bottle specially adapted to the purpose, and one that could be supplied with water without removing the grapes. Such a bottle has been now invented, and tested at Copped Hall, Essex, and is being placed on the market by Messrs. W. Wood and Sons, of Wood Green, N., under the designation of the "Copped Hall Grape Storing Bottle." Imagine a modern baby's feeding bottle, with squared sides and base, and an elongated upturned business end, and with an opening in the flat top side. You have then some sort of an idea of what the new grape bottle is like. The neck holds the stem of the bunch securely, and as the aperture is higher than the round opening in the upper side of the bottle, it is not possible for water to run over and into the bunch, so long as the bottle is kept level. The opening offers a means of adding water without disturbing the bunch. The flat sides ensure stability, and a narrow lath tacked along over the bases of a row of bottles would prevent any possibility of capsizing, no matter how heavy the bunches.

NARCISSUS CULTURE FOR PROFIT.

(Concluded from page 791.)

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Cost of Cultivation.

As the annual rental and cost of labour differ considerably in different localities, it is impossible to give an estimate suited to all conditions; but as nearly as possible the expenses in the Fenland is £150 5s. per acre, which in some details are probably lower than those incurred in other parts of the country.

The planter is strongly recommended when purchasing to buy either "planting size" or bulbs as lifted at so much per ton, instead of securing first-size bulbs. As previously stated, the latter, when planted, will yield "stock,"—that is, they split up and increase in quantity, and this necessitates waiting for three or even four years before a profitable crop of first-size bulbs can again be secured. If bulbs are purchased "as lifted," and divided into four sizes, as already described, all of them can be planted. The second-size bulbs will produce "heads" the first year, the third size and "chips" will yield a large percentage of "heads" the following year, whilst the third season, by lifting those planted as "heads" three years previously, a large yield of planting stock will be secured. This gives a much quicker return on capital than is possible when first-size bulbs only are planted, and the initial outlay is also less.

Value of Produce.

This will vary according to the varieties grown, the quantity and quality of bulbs planted, the length of time they have been allowed to remain in the ground, and, lastly, the suitability of the land for bulb culture. As the several varieties differ so much in value, the best method of arriving at an estimate will be by percentage increase on cost of "seed" bulbs. Bulbs planted one year will increase from 30 to 50 per cent. in value; those planted two years from 75 to 100 per cent. In addition, there is the cut bloom which must be taken into consideration, and this may be expected to add from £15 to £20 per acre to the returns.

II.—CULTIVATION FOR BLOOM.

The chief difference in cultivation when growing for cut flowers is that less frequent lifting and replanting is necessary. The bulbs may remain two or three years—some few varieties even longer—and increase their yield annually. As a rule, however, after remaining three years, a shift is desirable, as the bulbs then become crowded and too small to bloom satisfactorily, while the land also becomes exhausted. The labour required for keeping the land free from weeds is the same as when growing for bulbs, but the annual cost of lifting, cleaning, sizing, and replanting is saved.

Marketing the Blooms.

Gathering and Bunching.—As the blooms expand they must be gathered and marketed whilst fresh. An effort should be made to have the bloom fit for market earlier than would be the case if left to take its natural course. This can be accomplished by pulling the flowers when in the bud state and opening them in water under glass, or by erecting a temporary covering of glass over the growing plants. The grower without glass is at a great disadvantage, and glass is absolutely necessary to obtain the best results, as without a greenhouse the grower is at the mercy of the elements at a time when much rough and stormy weather is frequently experienced. The cultivator with glass at his disposal can gather the flowers in the bud state, open them in water, and thus ensure all his blooms reaching the market clean and in good condition.

To avoid glutted markets, it is sometimes desirable to prolong the bloom for a few days; this is done by placing the buds in water in a cool, shaded shed. The best receptacles in which to place the blooms are narrow troughs or boxes divided into several sections, each about four inches wide.

In the Fen district the work of gathering and bunching is generally done by women and boys. The gathering should be done by boys whenever possible, as the women's skirts cause considerable damage among the growing blooms. As the bloom is gathered it is placed upright in boxes or baskets, then taken to the bunching room, where it is tied into bunches of twelve blooms each by the women workers. The aim of the buncher is to have all the blooms facing one way without presenting a crowded appearance, and the addition of a little narcissus foliage to each bunch is a considerable improvement. Foliage, however, must not be indiscriminately cut from the growing crop. Only a leaf or two should be selected from each plant; or a cheap vigorous variety, such as single Incomparabilis, may be grown purposely for the supply of foliage. The bloom when cut is benefited by having one night in water before being packed, and, in any case, it should certainly have an hour or two in water before being put into the boxes. The flowers then reach their destination in a much fresher condition than if cut and packed forthwith.

Packing.—Most commission salesmen supply boxes, and into these a certain number of bunches are put. All boxes should be papered, allowing sufficient paper to project over the sides and ends to cover the blooms completely when packed. The boxes should not be unduly crowded, as a lesser number of bunches nicely tied and carefully packed will realise more than an increased number of bunches crowded into a similar box. A small label stating the contents of the box should be tacked outside each, and the boxes then tied in bundles of two or three together. The work of gathering, bunching, and packing is generally done by the piece or per gross, and the cost will vary according to the rate of pay in the district, condition of crop, etc. From 1s. to 1s. 3d. per gross bunches is stated to be an average price.

The important points are to get the stems as long as possible, to stand them in water before packing, to bunch and pack them carefully, and not to overcrowd the boxes.

Value of the Crop.

Market prices vary considerably, and it is impossible to estimate these accurately; 9d. to 1s. per dozen bunches may be taken as an average, although the small cultivator will find that where special attention is paid to careful picking, packing, and grading, rather higher prices will be obtained. It is in these details that the small grower scores an advantage over the large establishments, where the flowers are apt to be handled with a certain amount of carelessness. The estimated income for three years in Fenland is £356 5s. per acre, and the estimated expenditure £291 4s. 6d., thus yielding a profit of £65 0s. 6d. for the three years, or an annual profit per acre of £21 13s. 6d.

In estimating the quantity of blooms obtainable from an acre considerable latitude must again be given, as the crop will vary according to varieties, good or indifferent culture, etc.; 200,000 blooms may be taken as an average yield per acre for the varieties specified, with the exception of Ornatus, which may be trusted to give two or three times that quantity.

Prizes for Amaryllis.—The council of the Royal Horticultural Society offer, subject to their general rules, the following prizes presented to them by Messrs. R. P. Ker and Sons, of Liverpool. Twelve pots of amaryllis (hippeastrums), each pot must contain one bulb only, and not more than one pot of any one variety can be included, size of pots optional. Prizes, £3, £2, and £1. The prizes will be competed for at the bulb show in March next, and the competition will be open to amateurs only.

EXHIBITIONS AND MEETINGS.

Conference of Gardeners' Associations.

A conference of Gardeners' Associations in affiliation with the Royal Horticultural Society was held in the lecture room of the Horticultural Hall on Tuesday, the 12th inst., with Mr. H. B. May in the chair. There was a large attendance of delegates, and much interest was taken in the proceedings.

The Chairman, in opening the proceedings, expressed the pleasure he felt in presiding over so large and representative a gathering, and tendered on behalf of the council of the Royal Horticultural Society a hearty welcome.

The first item on the programme was the suggestion from the Radlett Gardeners' Mutual Improvement Society, "that affiliated societies should organise meetings at a convenient centre in their respective counties prior to these annual conferences, to consider and formulate subjects for discussion thereat." The delegate of the Radlett society in submitting the suggestion, said it was desirable that the Royal Horticultural Society should organise such meetings in the counties throughout the United Kingdom, with a view to the holding of county shows. He felt that, if this was done, it would be possible to hold shows of considerable importance in the various counties. After some discussion, in which a number of delegates took part, the Chairman pointed out that such meetings should be organised by the societies themselves, and not by the Royal Horticultural Society. The initiative must come from those who were conversant with the local conditions, and then the central society would be prepared to assist with advice as far as practicable. As worded, he saw no objection to the suggestion, and on it being put to the meeting it was unanimously accepted.

The second matter on the agenda was a proposal to handicap those taking part in horticultural competitions. This proposal was made by the St. Barnabas Sutton Society, and it was submitted by Mr. Jay, who briefly referred to the advantages which, in the opinion of his society, would result from placing all on equal terms. This proposal failed to meet with any favour from the delegates, and the meeting passed on to consider the question, "Is it possible for the Royal Horticultural Society to obtain books for daughter societies at cheap rates?" The Chairman said there was no occasion to discuss the question, because he was in a position to at once say that the society was not able to obtain books otherwise than at the ordinary prices, less the usual discount.

The Croydon Horticultural Association submitted the following questions: "How can meetings be made more attractive and helpful to young men?" "What are societies doing to educate horticulturally the older schoolboys and the ex-schoolboys, and what can they do towards that end?" In submitting the first question, the delegate from Croydon said that at present the interest taken by young men in the meetings of the society was less than should be the case. The information to be gained at such meetings was of greater value to young men who were being trained than to head gardeners. An endeavour had been made to interest young men by offering prizes for essays, in which the competition was limited to them, but the results had not been satisfactory. A rather long discussion followed, and the opinion was freely expressed that young men devoted too much attention to football and other sports. One delegate said he did not find young gardeners take so much interest in sports as to allow them to interfere with their training and work. His men were certainly not unreasonable in asking for leave to attend sports. He thought much might be done in improving the attendance of young men by gardeners showing more interest in them, and as far as possible inducing them to attend the meetings. One speaker pointed out that the desirability of making the meetings more interesting and attractive had been overlooked, and he made several suggestions for their improvement. In the discussion on the second question some interesting particulars were given with regard to what had been done at Egham and Preston in encouraging a taste for the cultivation of flowers among children attending the schools.

There was some discussion on the question of "What constitutes a professional gardener, an amateur, and cottage gardener?" and the meeting was brought to a close with a vote of thanks to the chairman.

Aberdeen Natural History Society.

PARTNERSHIPS IN NATURE.

Dr. James W. H. Trail, Professor of Botany in the University of Aberdeen, delivered, on 8th inst., in the Botany Classroom, Aberdeen University, the first of a series of lectures which will constitute a feature in the ensuing session of the Aberdeen Natural History and Scientific Society. There was a crowded attendance, and Mr. Reay, president of the society, occupied the chair.

Professor Trail, in his introductory remarks, said one was familiar with the contest between various forms of plants and animals, each striving for its own place, for room to live in the world, but that evening he wished to take up a subject not less interesting and not less important in its way —not the struggle but the mutual help different forms of animals and plants gave to one another. It had not been left to the human race to discover that it was better to get on in life by helping one another, for many forms of animals, and even some forms of plants, had wrought that out in a practical manner, and had succeeded in making life what it could be to them by mutual help instead of struggle. Between plants and animals of different kinds there were often a good many points of contact. In some cases they were in direct conflict with one another; in others, they were in indirect conflict; but sometimes they were closely associated, as, for instance, in the forms that lived on and drew nourishment from one another. This relationship differed markedly from parasitism, in which only the one benefited and the other was injured, often very seriously, or might even be destroyed. The Doctor then proceeded to show on the screen a large number of plants where the partnership was mutually beneficial, where the partnership was not hurtful, and where it was necessary from the beginning.

Partnerships were formed between animals of distinct species, or between animals and plants, or between plants, usually of very different kinds. Those partnerships varied much from one another in kind, in importance to the well-being, or even to the life, of the partners, and in duration, some being very brief, others extending over long periods. Among the simplest types of partnerships was the habit of many animals of the same kind to associate themselves for mutual protection, or to capture their prey —wild horses, wolves, etc.—and many plants grew in crowded masses that crushed out and excluded other species. Numerous partnerships between animals of different species were well known, such as between hermit crabs and some sea anemones, and between certain ants and aphides, which they sought out and protected on their food plants, sometimes binding coverings of earth over them, and carrying the aphides to new situations suitable for their welfare. In this case the ants were repaid for their care of the aphides by a sweet fluid emitted by these insects. Partnerships between plants and animals were numerous, such as that involved in the transference of pollen from stamens to stigmas in many flowers whose structure was such as to supply nectar or pollen to certain kinds of winged insects fitted to carry pollen to stigmas in other flowers of the same species, and to exclude such "unbidden guests" as would consume the bait and leave the work undone. Other examples of partnerships of great importance to some animals and plants were seen in the methods of the distribution of seeds through the bodies usually of birds. The young plant in the seed was protected from injury by a strong covering, while the inducement to swallow the seed was offered in a fleshy pulp that was produced as the seed approached ripeness, and, when the little plant was fit to be removed from the parent, the enlarged part was rendered attractive by rapid storage of sugars and pleasant flavour, and usually by colours in marked contrast to the green of the leaves.

The parts thus altered to serve as the bait were very different in different plants, as, for example, an outer seed-coat where the seed was exposed to view (yew, nutmeg, etc.), the whole inner layers of the seed vessel (grape), or its middle layer (cherry and plum), the fruit-stalk bearing seed-like seed vessels on its surface (strawberry, casheu), or in its cup-shaped tube (rose-hip), the seed vessels sunk in and grown to the hollowed fleshy fruit-stalk (apple, gooseberry), the sepals of the mulberry, the stalk bearing many small flowers (fig), or the bracts (pineapple). It had recently been observed that ants did much to disperse the seeds of many plants, the attraction for them being fleshy swellings on the surface of seeds, or of small seed-like fruits. Those swellings contained substances used by ants for food, and the insects carried the seeds or fruits considerable distances, leaving the embryos unharmed by the removal of the parts gnawed away by the ants. Protection against injuries was gained by many plants by their being the homes of ants, which, running all over parts of them, were ready at all times to defend them against all enemies. Many bushes and trees in the tropics were thus protected, the ants dwelling in hollow stems or leaf-stalks, or in curious outgrowths from, or inflation of, leaves or stipules. Another mode of partnership between ants and plants was afforded by the "ant gardens" studied recently in the western tropics. Those consisted of various species of herbs or small shrubs growing from the nests of several kinds of ants upon the trunks of trees, often at many feet from the ground, yet built of earth carried up from the soil by the ants. The plants on those nests grew from seeds which there was reason to believe must often, perhaps in most cases, be brought by the ants, as most of the species scarcely seemed to grow elsewhere than on those nests, which they protected from being injured by the heavy tropical rain.

A curious example of mutual benefit was found in the growth of algæ cells in the substance of the coarse hairs on the backs of sloths, colouring them dull green, and rendering the animals much less conspicuous to their foes among the branches and leaves of the trees on which the sloths lived.

Professor Trail concluded his lecture by referring to partnerships between plants of widely different types, and peculiarly well-shown certain green plants and fungi. The storage of food in tubers of orchids, and probably many other plants, appeared to be due to fungi existing within the plant's tissues. Bacteria in tubers on roots of leguminosæ received shelter and stimulus from the root, and repaid the plant by supplying much food to it, fixing nitrogen from the air, and thus enabling the peas, clovers, and such like plants to enrich poor soils. Lichens, unlike true fungi, which were for the most part very short lived, were of extremely slow growth, and of very long duration. Their structure revealed a web of long tubes, as in fungi, woven around green or brown cells, identical in aspect with cells of algæ. Those two kinds of cells were not formed from one another. The lichen was formed by the partnership of fungus and algæ, the fungus protecting the algæ from drought and exposure, and the algæ producing the food required by both.

A most hearty and enthusiastic vote of thanks was accorded Dr. Trail for his lecture.

BRADFORD CHRYSANTHEMUM EXHIBITION in ST. GEORGE'S HALL, on FRIDAY and SATURDAY, November 12th and 13th.
£27 for 24 Japanese (on Boards).
Prize Money for Open Competition again Increased.
Entries Close November 6th.
Schedules with entry form post free from H. SPENCER, Hon. Secretary, Horton Park, Bradford.

BRISTOL CHRYSANTHEMUM SOCIETY.

46th EXHIBITION, NOVEMBER 3rd and 4th.

Schedules and particulars from all Nurserymen and Florists, or the Secretary, W. ELLIS GROVES, c/o Messrs. Garaway and Co., Durdham Down Nurseries, Bristol.

BUXTON AND DISTRICT CHRYSANTHEMUM SHOW,
WEDNESDAY, November 17th, 1909.
For Schedule and List of Prizes, address—
S. SHUFFLEBOTHAM, Secretary, 12, Eagle Parade, Buxton.

DEVIZES CHRYSANTHEMUM SHOW will be held in the CORN EXCHANGE, DEVIZES, on TUESDAY, Nov. 16th, 1909.
For 36 Blooms, Incurved (not less than 18 varieties), prizes, 120s., 100s., and 60s.
For 36 Blooms, Japanese (not less than 18 varieties), prizes, Cup, 70s., and 40s.
For Schedules, apply to A. J. RANDELL, Hon. Secretary, Exchange Place, Devizes.

HUDDERSFIELD AND DISTRICT CHRYSANTHEMUM SOCIETY.
The EIGHTEENTH EXHIBITION of the above society will be held in the TOWN HALL, HUDDERSFIELD, on FRIDAY and SATURDAY, November 12th and 13th, 1909. Schedules and Entry Forms may be obtained on application to JOHN BELL, Hon. Sec., Marsh, Huddersfield.

NATIONAL CHRYSANTHEMUM SOCIETY.
GREAT AUTUMN SHOW
at the
CRYSTAL PALACE,
November 3rd, 4th, and 5th, 1909.
Entries Close October 27th.
Write at once for Schedule to the Secretary, Mr. RICHARD A. WITTY, 72, Savernake Road, Gospel Oak, N.W.

SOUTH SHIELDS AND NORTHERN COUNTIES CHRYSANTHEMUM SOCIETY.
ANNUAL EXHIBITION in the ROYAL ASSEMBLY HALL, SOUTH SHIELDS, on WEDNESDAY and THURSDAY, 10th and 11th November, 1909.
£200 IN PRIZES. Seven Silver Cups, Medals, etc.
First Prize for 36 Japanese, £10.
Entries close November 5th.
Schedules and all particulars from ALLEN PURVIS, Albany Chambers, 63, King Street, South Shields; or J. ERNEST STOUT, Commercial Chambers, South Shields.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

Vegetable Show at Leamington.

The sixth annual show of vegetables held by Messrs. Rogers and Co., Lim., of Leamington, took place on Saturday, the 9th inst., and proved to be one of the finest and most interesting exhibitions of vegetables ever held in the country. Valuable prizes were offered, no less than £200 being divided among eight classes, which brought together many of our best exhibitors from all parts. For a collection of nine kinds of vegetables (potatoes excluded), Mr J. Hudson, Hinckley Road, Leicester, was a magnificent first, and not only was every dish of high class, but the staging was perfect; he put up celery, leeks, cauliflowers, onions, parsnips, beet, turnips, Brussels sprouts, and tomatoes. Mr. S. Cole, Althorp Gardens, Northampton, was a close second, his leeks, celery, carrots, and parsnips being very fine; Mr. E. Avery, The Gardens, Loudwater Park, Rickmansworth, third; and Mr. T. Folkes, The Gardens, Gaddesden Place, Hemel Hempstead, fourth. Four prizes were offered, viz., £20, £15, £10, and £5.

In another class for a collection of eight kinds, potatoes excluded, open to amateurs and allotment-holders, there were no less than fifty-one competitors, who made a marvellous display, and one cannot do full justice to such a fine competition. It must suffice to say it was quite the best class it has been our pleasure to see. Ten prizes were offered in this class, £15 being the first. So close were the leading exhibits that only the smallest margin divided the first four. After most careful judging, Mr. T. Jones, Bryn Penylan, Ruabon, was placed first, closely followed by Mr. T. H. Pugh, 12, Stone Street, Newtown (Mont.), Mr. W. H. Jones, 13, Brych Street, Newtown (Mont.), and Mr. W. Folkes, Ampthill, Beds. Each of these exhibitors had evidently put forth his full strength, and it was a grand contest. Other successful exhibitors were Mr. W. Coleman, Buckingham; Mr. Douglas Garratt, Frome; Mr. W. H. Leeson, Leicester; Mr. Jackson, Leicester; Mr. J. White, Bampton; Mr. J. Phillips, Derby; Mr. John Thompson, Stafford; and Mr. W. Kingston, Towcester, who were placed in the order of their names.

In the open class for three onions, £50 was offered in eight prizes, £15 being the first, and, needless to say, this had the effect of bringing together a very fine lot. Leamington Giant, a very fine strain, was the variety asked for. In this and a smaller class no fewer than 1,767 bulbs were arranged. The first prize was won by Mr. S. J. Baker, The Gardens, Weir House, Exeter, with splendidly-finished specimens, very large and shapely; Mr. T. Avery second with some remarkable bulbs, but not quite so well-finished; Mr. G. Hall, Simla Gardens, Paignton, S. Devon, third; Mr. C. Liddiard, Chilton Foliat, Hungerford, Berks, fourth; Mr. S. Gordon, Monreith Gardens, Whauphill, Wigtownshire, fifth; W. R. Baker, The Gardens, Hoopern House, Exeter, sixth; Mr. R. Mairs, The Gardens, Shobrook Park, Crediton, Devon, seventh; and Mr. H. Folkes, eighth. In the class for amateur and cottagers, six prizes were offered, and here again the competition was remarkable, both in number and quality. Mr. T. Jones again occupied the premier position with very handsome and well-finished specimens; Mr. C. Liddiard, second; Mr. Kingston, third; Mr. D. Garratt, fourth; Mr. J. Thompson, fifth; and Mr. H. Keep, Aldermaston, Berks, sixth.

In the class for three sticks of celery, there were fifty competitors; forty-eight for six beet, forty-seven for six leeks, and thirty-six for carrots. The leeks and celery were especially fine, but carrots, except in a few cases, were below the average.

The exhibition proved a great source of attraction, and the large Winter Hall in which it was held was crowded.

Royal Scottish Arboricultural Society.

(ABERDEEN BRANCH.)

A meeting of the members of this branch was held in the University Buildings, Aberdeen, on Saturday, 16th inst. Mr. Sydney J. Gammell, of Drumtochty and Countesswells, presided over a good attendance. The Chairman announced the appointment of a secretary and treasurer in the person of Mr. George D. Massie, solicitor, Aberdeen, and the branch unanimously confirmed the appointment.

Mr. W. Dawson, lecturer in forestry at the Aberdeen University, the interim secretary, intimated that at the next meeting of the society, on December 11, Sir John Fleming would give a lecture, and his subject would be, "When Afforestation Comes." Mr. Alexander Robson, Aberdeen, thought the subject to be dealt with by such an authority as Sir John Fleming—(Sir John is the head of a great firm of wood merchants in Aberdeen and Dundee, and also has large interests in Norway)—was worthy of a large audience. He therefore moved, "That it be in the option of the society to admit strangers to any lecture likely to be of special public interest, and that such lectures be advertised at the society's expense." This was duly seconded. The Chairman, in supporting the motion, felt it would be an advantage to popularise the society among people who were not already members of it, but who might be willing to join. The motion was unanimously adopted. Mr. Dawson was heartily thanked for the admirable way in which he had carried out the duties of interim secretary.

Following the business meeting, Dr. James W. H. Trail, professor of botany at the University of Aberdeen, gave a lecture on "The Origin and Growth of the Woody Stem." The learned doctor dealt with the structure of stems, and explained how stems increased in length and in diameter. The lecturer also traced the relationship between the structure of herbaceous stems and woody stems, using illustrations of such plants as potato, clover, monkshood, etc. He further explained the fall of the leaf, showing that it was due to a layer of cork being built across the stalk. The structure of coniferous timber was also explained, and the lecture throughout, which was of much interest, was illustrated by a large number of lantern slides and by slides shown by the projection-microscope. Hearty thanks to Dr. Trail closed a very instructive meeting.

British Gardeners' Association.

LONDON BRANCH.

The monthly meeting of the above branch was held at Carr's Restaurant on October 14, Mr. E. F. Hawes in the chair.

The formal business being concluded, the progress of the sub-committee which is collecting information for the purpose of putting into practical form the proposals of Mr. North, discussed at last month's meeting, was reported.

Mr. Frogbrook and Mr. North both testified to the many inequalities which have been brought to light as a result of the committee's investigations into the hours of labour and rates of pay of gardeners employed by the municipal authorities. The chairman then read a circular letter, drawn up by the executive council, which is to be sent to all prospective candidates for the forthcoming borough and county council elections. The object of the circular is to ascertain the views of candidates with regard to a programme submitted. A standard rate of pay for gardeners, with 30s. as a minimum, is one of the chief objects aimed at. The chairman also drew attention to the manner in which the interests of horticulture had been neglected by the State, and he proposed giving a paper at the next meeting dealing with this question. The proposal was unanimously agreed to. The amalgamation of the Richmond branch with the London branch was next discussed. Mr. Tidy, who represented the Richmond branch, said it was the unanimous wish of the members of his branch to unite with the London branch on the grounds that the two branches were so close together that it was incurring needless expense to hold meetings at both places. Mr. Frogbrook objected to this proposal. He believed a number of branches were advantageous for recruiting purposes, and that some members of the Richmond branch might not wish to incur the expense of coming to London. The chairman pointed out that the matter had already been fully discussed at Richmond, and that it was proposed to open another branch in some good centre a little further out, possibly at Twickenham. The matter was eventually referred to the Executive Council.

Owing to indisposition, Mr. A. C. Hill, head gardener to Sir Edward Poynter, Bart., Kensington, was unable to be present to read his paper on "Roses for Town Gardens," and the paper was read by the chairman. Mr. Hill has been a successful grower and exhibitor of roses for the past fourteen years, and he dealt with the subject of rose-growing in London in a most comprehensive and practical manner. The discussion which followed was opened by Mr. Frogbrook, who gave some interesting details of his experience. Mr. Morrell outlined the system of rose-growing so successfully carried out in Hyde Park.

A vote of thanks to Mr. Hill for his valuable paper was proposed by Mr. Bryan, seconded by Mr. Gibson, and carried with applause.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, OCTOBER 12.

Present: Mr. E. A. Bowles, M.A., F.L.S., F.E.S. (in the chair); Dr. A. B. Rendle, Messrs. E. M. Holmes, J. T. Bennett Poë, W. Fawcett, A. Worsley, J. Fraser, J. W. Odell, and F. J. Chittenden (hon. secretary).

FASCIATION IN TROPÆOLUM.—Mr. J. W. Odell showed a specimen of Tropæolum tuberosum with a very broadly fasciated stem. He found that when grown in heavy soil this plant very frequently shows fasciation.

EUCALYPTUS WITH INTUMESCENCE.—Mr. Worsley showed leaves of young plants of Eucalyptus pulverulenta having small wart-like growths upon the surface. This condition somewhat resembles that shown by vines at times, and is due to excess of moisture in the air.

DATURA STRAMONIUM.—Mr. E. M. Holmes showed a plant of the Thorn-apple with slightly pubescent foliage, which had been attacked by aphides in great numbers, so that the fruit had, owing to their presence, assumed a very unusual appearance.

SPIRALLY-TWISTED GENTIAN, ETC.—Mr. Chittenden showed a stem of Gentiana asclepiadea, from Wisley, very strongly spirally twisted, and bearing the very numerous leaves in a loose spiral round the stem. He also showed regular flowers from the apex of the stem of pentstemon, similar in character to those often formed in the peloric foxglove. The flowers usually had two or three ovaries, and twice or thrice the usual number of stamens.

MALFORMATION IN RUBUS.—Mr. J. Fraser, F.L.S., referred to a specimen of Rubus rhamnifolius which he had exhibited last year with a shortened inflorescence, and which had died since. He showed further specimens from other bushes, however, and remarked upon them as follows:—(1) Rubus rhamnifolius plants dying owing to some injury caused to the roots. The flower branches or panicles are exceedingly short, and throwing out roots at the base or at the top bud in an endeavour to form new stools there. (2) R. carpinifolius in the same condition. These conditions may possibly be due to the attack of nematode worms. (3) R. nitidus var. opacus. Flowering stems dying like the previous two. The terminal flower buds have been galled by Phytoptus sp., and the flowers have been arrested in growth, whilst the sepals have undergone phyllody. The short flowering branches have very much reduced reflexed leaves, the petioles of which are filled with starch granules in excess, and the inflorescence in a condition to form new rooting stools. (4) R. mucronatus var. nudicaulis, with patches of dense, velvety hairs on the stems and leaves caused by Phytoptus sp.

CARBOLIC ACID AS A FUNGICIDE.—A letter was read from Mr. Kitley, of the Oldfield Nurseries, Bath, recounting the results of experiments carried out with tomatoes in which the fungi causing "sleepy disease" and other diseases were prevented from developing by watering the soil with a solution of one teaspoonful of carbolic acid to four gallons of water at intervals.

Reading Gardeners' Association.

The second fortnightly meeting of this session was held in the Abbey Hall, on October 11, when, notwithstanding the very wet evening, a large assemblage of members attended, Mr. A. F. Bailey (chairman) presiding. The Chairman drew attention to the large poster displayed in the hall, and informed the members that arrangements for the exhibition to be held in the Small Town Hall, Reading, on Wednesday, November 17, were being energetically pushed forward. The hon. secretary now had tickets ready for disposal, and he (the chairman) hoped the members would make speedy application for any tickets they might require.

The lecturer for the evening was Mr. J. Goatley, head gardener to Lord Northcliffe, Sutton Place, Guildford, and his subject, "Herbaceous Borders." It will be remembered that when, in July last, by kind permission of Lord Northcliffe, the association visited Sutton Place, it was the herbaceous borders and extensive wild garden that so delighted the members of the association. Having, therefore, already had an ocular demonstration of the lecturer's skill in the laying out and treatment of borders, it was only to be expected that he would be listened to with much attention.

In a brief notice such as this, it is impossible to deal with the extensive subject which was handled in such a masterly manner by Mr. Goatley, but suffice to say that excellent advice was given on position, preparation, time of planting, harmonious blending of colours, avoidance of formalism, the dangers of overcrowding, the necessity of careful and proper labelling, etc., etc. The lecturer also admonished his audience against the allurements of cheap plants, purchase "absolutely the best obtainable" being his motto. To young gardeners he advised the noting in a book such particulars as the height, duration, time of flowering, and other features of any perennials which might come under their care. This information would prove invaluable in after years.

Mr. Goatley is a strong advocate of the planting of bulbs in the herbaceous border, by this means, he suggested, the flowering period is extended for quite two months. Aconites, leucojums, galanthus, crocuses, chionodoxas, early narcissi, tulips, hyacinths, being followed by later flowering narcissi, Darwin and May-flowering tulips, and liliums. In conclusion, Mr. Goatley referred to the splendid herbaceous border it had been his privilege to inspect during the past summer when visiting the Royal Gardens at Frogmore.

A most interesting and educational discussion followed, sustained by Messrs. Tunbridge, W. J. Townsend, Stanton, Hinton, Exler, T. Judd, E. J. Dore, J. Wynn, Alexander, and others.

A nice assortment of perennial asters, and a fine collection of peaches and plums was exhibited by Mr. R. A. Hatton, head gardener to Sir E. Ridley, Bill Hill, Wokingham. The fruit being awarded a certificate for cultural merit. Mr. F. Townsend, head gardener to the vice-president, staged a very beautiful group of Primula obconica, and Mr. A. Giles, gardener to H. W. Dunlop, Esq., Earley, exhibited a nice box of cactus dahlias; these two exhibits were not entered for certificates.

Several new members were elected. Votes of thanks to the lecturer and the exhibitors concluded the meeting.

Birmingham Gardeners' Association.

OCTOBER 11.

The autumn session of this association was inaugurated by the newly-appointed president, Professor G. S. West, professor of botany at the University, Birmingham. His address was on "Deserts and Desert Plants," and it was illustrated by lantern slides. Mr. Thomas Humphreys, curator, Botanical Gardens, Edgbaston, occupied the chair, and there was an unusually good attendance of the members. The Professor apologised for the necessarily condensed nature of his wide subject. The geographical features of the vast extent of the deserts of the world were firstly described and illustrated, followed by a few succinct observations pertaining to the flora indigenous to the zones of each desert land. A hearty vote of thanks was tendered to the Professor for his lucid and interesting dissertation. A brief discussion followed.

Mr. C. R. Bick, Bickenhill Nursery, Acocks Green, brought a plant of Burbank's Wonderberry laden with its black-coloured fruit, which, however, did not commend itself to the gastronomic tendencies of the company.

Several young gardeners were elected as members of the association.

Bristol Gardeners' Association.

A very successful meeting was held at St. John's Parish Rooms, when Dr. Shingleton Smith presided over the largest attendance of the session. Mr. J. C. House, Westbury-on-Trym, gave a lecture upon "The Hardy Flower Garden All the Year Round."

The lecturer gave very clearly the definition of the two words "perennial" and "herbaceous." The early autumn months Mr. House recommended as the most suitable for planting a new border, and early winter for renovating old borders. Geometrical lines, he said, should be avoided, but at the same time there might be a kind of regularity. Planting was best done in groups, blending the shades of colour. The lecturer also gave an outline of a colour scheme, naming scarlet for the centre, the other shades gradually leading up to that colour, such as purple, followed with cream and white, and then orange. Mr. House directed special attention to planting small examples rather than large clumps, and said that a small piece of Michaelmas daisy turned out of a thumb pot would make a plant three feet high and through in one season. Delphiniums and pyrethrums were named as being unsafe to plant between September and February, but most other subjects, including moon daisies, asters, helianthus, eryngiums, poppies, and aconitum might be planted with safety in the winter months, leaving all tender subjects till the spring.

Mr. House staged a splendid bank of herbaceous flowers, for whch he was awarded a special certificate. Mr. Binfield was first, and Mr. Curtis second for three bunches of hardy flowers. Mr. Curtis had three points, and Messrs. Gosling and Venn two each for orchids. Three new members were elected.

A largely attended meeting was held on October 14, at St. John's Parish Rooms, presided over by Dr. Shaw. The lecturer was Mr. Shackleton, of Forde Abbey, Chard, who gave a capital discourse upon "Sweet Peas." Position, the lecturer said, is the first matter to be considered, choosing one, if possible, that is partly shaded from mid-day sun. Sweet peas delight in a fairly heavy loam, and in preparing the ground the manure should be selected according to the soil, a light soil requiring heavy manure, and one that is heavy should have manure that will lighten it. Trench the ground deeply, placing the animal manure in layers, and mixing as the work proceeds, dissolved bones, soot, and superphosphates. The best time to sow is mid-February, using five-inch pots, and putting five or six seeds in each. Place the pots in a cold frame. Mr. Shackleton advised planting in clumps as preferable to lines, being less formal and more pleasing in effect. An ordinary drain-pipe placed in the centre of each clump, he said, was very useful to convey water to the roots. As a stimulant sulphate of ammonia may be applied at intervals during the season, watering freely. When gathering the flowers cut with a slight upward movement. The "curl" may be banished by cutting down the plants affected, which will make new breaks.

For two dishes of apples Mr. Binfield was first, Mr. Scott second. For orchids Messrs. Gosling and Curtis were allowed three points each, and Mr. Woodward two points. Mr. House showed some splendid spikes of Tritomas Star of Baden Baden and speciosa (true), and Cimicifuga simplex. Votes of thanks to lecturer and chairman closed an interesting meeting.

Swanage Horticultural Society.

The fifth balance-sheet of this society presented at the recent annual meeting, shows that a balance of £12 3s. 3d. remains in hand, making a profit of £11 on the year's working. Liberal subscriptions, donations, and special prizes, and a £26 gate have gone far to secure this success. The prospects for 1910 are excellent, and sweet peas will be made a great feature at the annual exhibition to be held next August Bank Holiday.

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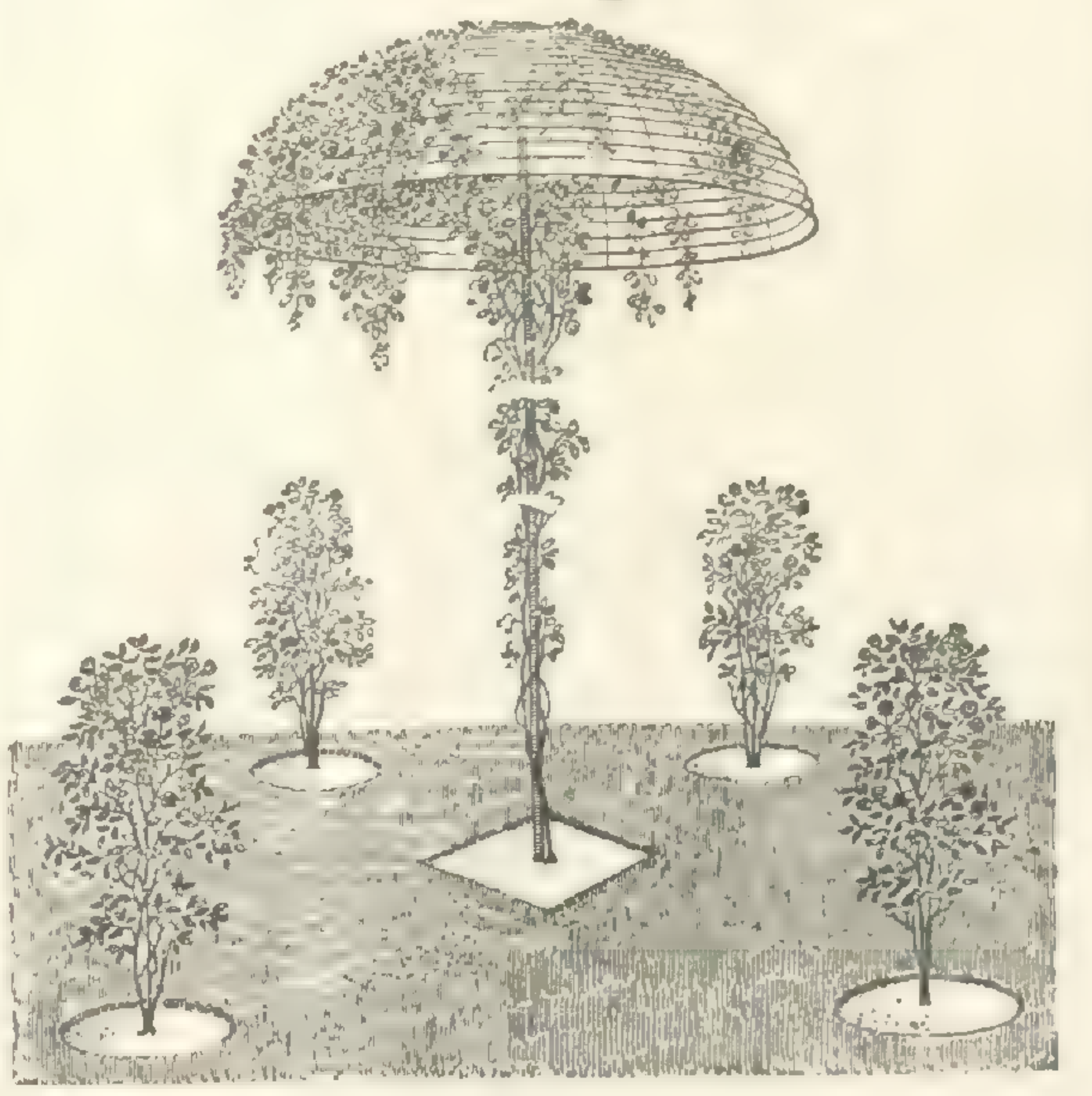

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Bournemouth Gardeners' Association.

At the recent fortnightly meeting of this association a most interesting and instructive lecture on "Tea Planting and Manufacture in Assam" was given by Mr. G. C. Kentish, of Parkstone, Dorset. Numerous views of the various processes through which the tea is put before it is shipped to this and other countries were thrown on a screen. The lecture was given in such a clear manner, and the details so simply and concisely described, that the members present could almost imagine that they were actually at the scene of operations.

Mr. Kentish is a large tea planter in Assam, and was, of course, able to deal with the subject in a masterly manner. He described the jungle which exists and must be cleared away before any tea plantation can be formed. A view of a jungle was shown on the screen. The whole of the large trees and dense undergrowth must be cut down, and, after a period of several months, burned before the ground can be broken and made ready for the tea plants. All this work, and that necessary to the cultivation and manufacture of the tea leaves, is done by coolies. Continuing, the lecturer said that the tea plant grows to a height of about 10ft., but it is cut down so that it resembles a black currant bush, as grown in England. The plant flowers in October, and the seed ripens the following October. The leaves are fit to gather the third year after the bush is cut down. The leaves average about six inches in length in Assam, but the China tea leaves are less than two inches long.

Only the two top leaves and the point bud are gathered from each branch; the bud is covered with fine golden hairs. These buds are duly separated, and make the fine tea known as Golden Pekoe. Green tea is not oxidised, but black tea is. Younger shoots grow from the branches lower down after the gathering of the extreme ends of the branches, and, in due time, these lateral shoots bear leaves fit to gather. The leaves are placed on bamboo frames to dry in immense sheds, through which a strong current of air is driven by means of huge fans. The leaves are further dried on a furnace, where they are browned, but not burned; this causes the leaves to curl when a temperature of about 300 degrees is used. If the leaves are dried and browned to the required degree, they readily unfurl themselves, as we see them do in our teapots.

Mr. Kentish gave many more interesting details in connection with the treatment of the tea plants and their leaves before we receive them at our tables, and at the close of his lecture answered many questions put to him by the members present, who all greatly enjoyed his lecture. A very hearty vote of thanks was accorded him, and one to Mr. Garner, who presided, brought the meeting to a close.

Beckenham Horticultural Society.

The first lecture of the winter session was given on Friday, the 8th inst., by Mr. George Bunyard, V.M.H., his subject being "Flowering Trees and Shrubs." The president of the society, the Rev. Canon Arnott, occupied the chair, and there was a good attendance.

The lecturer made a strong appeal for a more extended use of the beautiful flowering trees and shrubs now to be obtained, as he considered these were very much neglected. Mr. Bunyard drew attention to a great many species and varieties that, perhaps, were not so well known as they deserved to be, such as the wych hazels, Garrya elliptica, Prunus Davidiana, the double-flowered peaches, Magnolia conspicua, Laburnum Vossi, etc., etc. Berried plants were also given attention, and many beautiful trees and shrubs for autumn leaf-colour, notably the Scarlet Oak, Berberis Thunbergii, Rhus cotinus, etc., etc. Some few roses were dealt with. The new Lyon rose was given an excellent character, especially for remaining fresh a long time after cutting. The lecturer said that planting of many of the flowering shrubs should be done in a bold way, and three or five in a clump would be most effective. If the soil is very poor a little well-pulverised manure might be added. With reference to Rhododendron Pink Pearl, it was considered a good plan to lift and replant it every year; Mrs. Sterling was cited as a good companion to Pink Pearl.

Cut specimens of many beautiful things were furnished by Mr. Bunyard for purposes of illustration, and were carefully examined after the lecture. A very hearty vote of thanks was accorded Mr. Bunyard, who, in turn, moved a like compliment to the president. Mr. Bunyard presented to the library a copy of his recently-published book on "Flowering Trees and Shrubs." Mr. Leech, of Wood Hall Gardens, Dulwich, also presented a work on "Mendelism," and hearty thanks were accorded for these gifts.

Mr. Abrahams was awarded a certificate for a collection of tomatoes.

On Friday, the 15th inst., H. Sherley-Price, M.I.M.E., M.I.E.E., Vice-President of the Society (the Rev. Stewart-Fleming in the chair) gave a lecture on the "Cocoanut Palm and its Products Illustrated." There was a good attendance, including some ladies, and a number of the more advanced boys of the Council's schools had the privilege of attending, and availed themselves of it.

The platform presented quite a museum, so numerous were the items. Pretty well everything connected with the cocoanut industry was here to be seen, and the method of production in many cases explained by the aid of diagrams, which the lecturer had very kindly prepared for the purpose. Some most exquisite ornaments—i.e., goblets, bowls, cups, etc., in their mountings of precious metals—were much admired. The lecturer stated that probably no other tree contributed so much for utility and food to humanity as the cocoanut tree (Cocos nucifera), which is not to be confounded with Theobroma cacao, from whence our breakfast beverage comes. The lecturer gave figures of the total imports to this country for 1908, which were:—Coir fibre, 18,280cwt., value £9,057; coir yarn, 322,344cwt., value £273,754; nuts, 366,972cwt., value £48,353; oil, 758,412cwt., value, £1,081,146. At the close of this most instructive address, Mr. Sherley-Price was heartily applauded. Votes of thanks were given both lecturer and chairman.

Mr. Webster contributed a collection of clean, unblemished fruit, grapes, pears, and apples, with a dish of the brightly-coloured Dartmouth crab, and was awarded a special certificate. Mr. Chandler contributed a dozen vases of early chrysanthemums, and a certificate was awarded in this case.

East Anglian Horticultural Club.

At the October meeting of this club the members were all congratulating Mr. Lewis Smith (Shotesham) and Mr. Frank Neave (Lingwood) upon the success they had brought back from the R.H.S. meeting. The members had responded loyally to the appeal of the committee for fruit for exhibition, and the fact that the "East Anglians" were top in all England, and came next to salubrious Jersey, speaks well for the district as a fruit-growing centre. Mr. Smith gave a good report of the several exhibits, and the representatives of other societies which he came in contact with. The exhibit was placed upon the tables at the meeting for those members to see who desired it.

After this question had been disposed of the President alluded to the decease of Mr. T. G. Bishop, who was manager at Messrs. Daniels Bros.' Nursery. Mr. Bishop took a great interest in the club's work, and had contributed some most educational papers. A vote of sympathy with the widow was passed. Mr. Edward Peake introduced the names of a few members of the botanical section, who would contribute short papers. Mr. Goude discoursed upon Begonia Gloire de Lorraine. Mr. H. Perry dealt with the way plants breathe and feed. Mr. W. Shoesmith treated ably on the bog plants grown at Cringleford, and Mr. C. Burtenshaw gave the way to form a rock garden. Mr. W. Shoesmith (Cringleford) had the honour of being the first holder of the Dawson Paul Challenge Cup, which covers a series of three exhibits (spring, summer, and autumn) he also had the best orchid at the meeting. There were many fine examples of fruit. Mr. G. Moore, Hethersett, had some fine beautifully-coloured Worcester Pearmains; Mr. W. Laws, Eaton, had a bright display of early-flowering chrysanthemums. Pot plants were a good class, while vegetables in sprouts, carrots, and beet were well represented.

Dundee Horticultural Society.

The report which the committee had to submit to the members assembled in annual meeting was by no means of a cheerful character. The treasurer's report, submitted by Mr. J. S. Ritchie, showed that the income for the current year amounted to £1,138 17s. 5d., and of this sum £14 6s. was received as subscriptions, and the sum of £765 1s. 10d. was taken at the gate. The expenditure amounted to £1,181 8s. 10d., less £27 16s. overpaid for music, and it included £183 19s. 6d. paid for military display, and £161 19s. for music. Although the weather was exceptionally fine, the amount received at the gate was not sufficient to justify so large an outlay. The actual balance on the year's work was, according to Ex-Bailie Mitchell, who presided, £5. At the election of officers Ex-Bailie Mitchell was elected president, in succession to Mr. J. Scott Gray, who retired this year. Mr. W. F. Hill was re-elected secretary, Mr. Ritchie re-elected treasurer, and Mr. William Steele again appointed show manager.

United Horticultural Benefit and Provident Society.

The quarterly meeting of this society was held at the Horticultural Hall, Vincent Square, Westminster, S.W., on Monday evening, October 11, Mr. C. H. Curtis in the chair. The death certificate of Mr. James Swingler was produced, and the amount standing to his credit, viz., £30 4s. 1d., was granted to his widow. The deceased was a lapsed member since 1892. The sick pay for the month was £34 10s. The usual quarterly grants from the benevolent fund were passed for payment.

The annual dinner will be held at the Waldorf Hotel on the 28th inst., at 6.30 p.m., when it is hoped that as many members and friends as possible will attend. J. B. Slade, Esq. (of Messrs. Protheroe and Morris) will presido.

CATALOGUES RECEIVED.

GEO. BUNYARD AND CO., MAIDSTONE.—Fruit trees occupy the major part of this catalogue, and besides descriptions of the best varieties of the various kinds, there are notes upon common fruit tree diseases and pests, and the best remedies for them. Roses are also listed.

H. CANNELL AND SONS, SWANLEY, KENT.—A comprehensive list of bulbs and flowering roots, together with lists of strawberries, violets, roses, etc.

R. H. BATH, LIM., WISBECH.—In this bulb and rose catalogue the bulbs occupy the most space. The choicer varieties of tulips and daffodils are described and offered, as well as the popular varieties.

JAS. BACKHOUSE AND SON, LIM., YORK.—This catalogue of roses is beautifully illustrated, well arranged, and has a capital index.

JAS. VEITCH AND SONS, CHELSEA.—A handy illustrated and well-indexed catalogue of roses.

R. WALLACE AND CO., COLCHESTER.—This useful catalogue gives special attention to liliums, tulips, montbretias, and choice hardy plants. Many novelties are described, and the new Lilium tenuifolium Golden Gleam is illustrated.

CHAS. BLICK, WARREN NURSERIES, HAYES.—Mr. Blick's first catalogue of carnations is a descriptive one, and of interest because of the novelties in yellow-ground and other sections it includes.

LITTLE AND BALLANTYNE, CARLISLE.—Bulbs, fruit trees, hardy perennials, and roses are listed in this autumn catalogue.

JOHN R. BOX, DERBY ROAD, CROYDON.—A catalogue of Dutch, French, and English bulbs and flower roots for autumn planting.

PERNET-DUCHER, VENISSIEUX LES LYON, FRANCE.—A descriptive catalogue of roses, in English, with coloured plate of the new H.T. rose, Entente Cordiale.

ANSWERS TO CORRESPONDENTS.

CHRYSANTHEMUMS AND DAHLIAS.—A. L., Fairlie: We shall be better able to help you if you tell us for what special purpose you propose to grow the chrysanthemums and dahlias.

PLANTS FOR ROOMS.—S. E. B., Leytonstone: A few of those plants that have been found especially valuable for use in dwelling rooms are Aspidistra lurida, A. l. variegata, Araucaria excelsa, Aralia Sieboldi, and A. S. variegata, Ficus elastica and its variegated form, Dracæna indivisa, D. australis, D. Eckhautei, Chamærops Fortunei, C. humilis, Corypha australis, Phœnix rupicola, Kentia Belmoreana, and K. Forsteriana.

MOSS AND LICHEN ON APPLE TREES.—A. L., Fairlie: The best method of cleaning fruit trees that are infested with lichen and mossy growth is to spray them with a caustic solution while they are leafless and before the buds commence to swell in spring. The mixture is made by using ½lb. of sulphate of iron, ¼lb. lime, 2lb. caustic soda, 5 pints paraffin, and water to make up 10 gallons of mixture. Dissolve the iron sulphate in about eight gallons of water, then add the lime, previously slaking it, making it into milk, and straining. When these have been mixed, add the paraffin and churn well, and finally add the caustic soda. The paraffin is useful in killing any scale insects there may be on the trees, and the sulphate of iron serves to emulsify the paraffin. This is one of the Woburn washes, and has been proved to be an excellent and safe mixture.

CHOICE DELPHINIUMS.—D. P. L., Leicester: Take advantage of the first opportunity that serves to lift and pot up the choice varieties of delphiniums, and plunge these in ashes in a cold frame, where, given plenty of air on all favourable occasions, they will keep safe through the winter. In early spring, when growth commences, part up the roots, and pot each portion that can be separated with some roots attached. Keep these a little closer for a while, then ventilate freely again, and put out the plants where they are to grow and flower, in April or May.

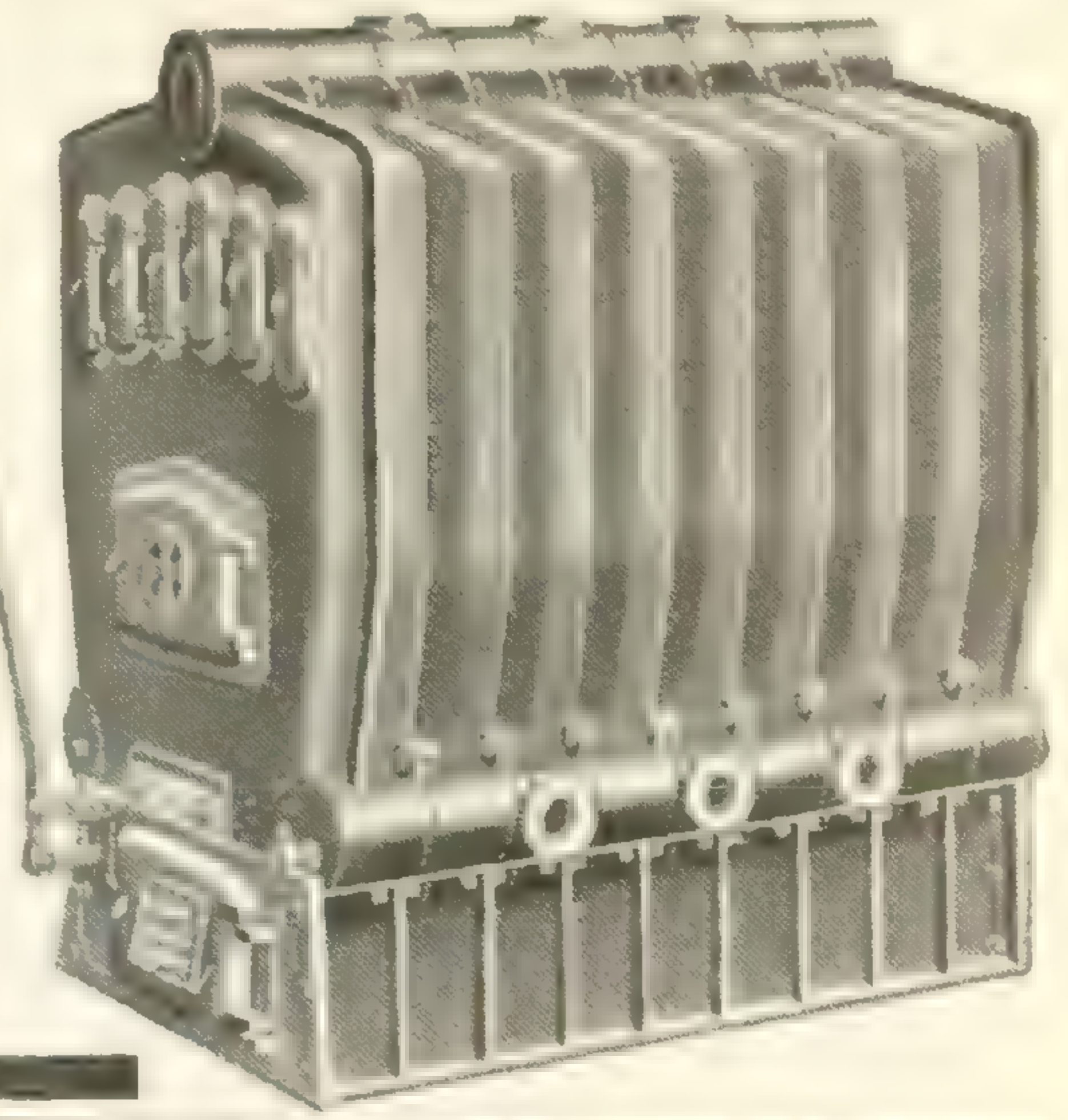
ANCHUSA ITALICA.—T. J. C., Tavistock: The finer varieties of Anchusa italica may be readily multiplied by means of root cuttings. The latter may be made now, and should be prepared like seakale thongs, only in shorter pieces. Roots may be lifted at once, potted up, and placed in a cold frame. Great care must be taken to keep slugs and snails away from the stock when growth starts.

BEST VARIETY OF CHRYSANTHEMUM MAXIMUM.—A. W., Alnwick: There are several very fine varieties of Chrysanthemum maximum offered by hardy plant specialists, but which is the very best is somewhat a matter of personal taste. The variety King Edward VII. is a very useful one, and we do not know another that combines so many good points. It grows very freely, and blooms profusely over a long season.

HARDY PERENNIALS.—A. E. N., Diss: A well-arranged, freely illustrated, and useful book on the subject is "Easily Grown Hardy Perennials." This may be obtained post free for 5s. 6d. from Messrs. W. H. and L. Collingridge, 148 and 149, Aldersgate Street, E.C.

HOLLYHOCKS FROM SEED.—G. P., Reading: There are at least two methods of raising hollyhocks from seeds, and one is to sow the seeds as soon as ripe in pots or pans, and place these in a cold frame, or to sow the seeds in gentle heat in early March, prick out and harden off the seedlings, and plant them out as soon as large enough to care for themselves.

ORANGE-BUFF SWEET PEAS.—F. T. E., Chester: Sweet peas of somewhat similar colour to Henry Eckford are Earl Spencer and Nancy Perkin, but these are both waved varieties, and are very similar. Whether they are to be distributed this season or not we cannot say. They are not listed in any catalogues we have received. Of more bril-



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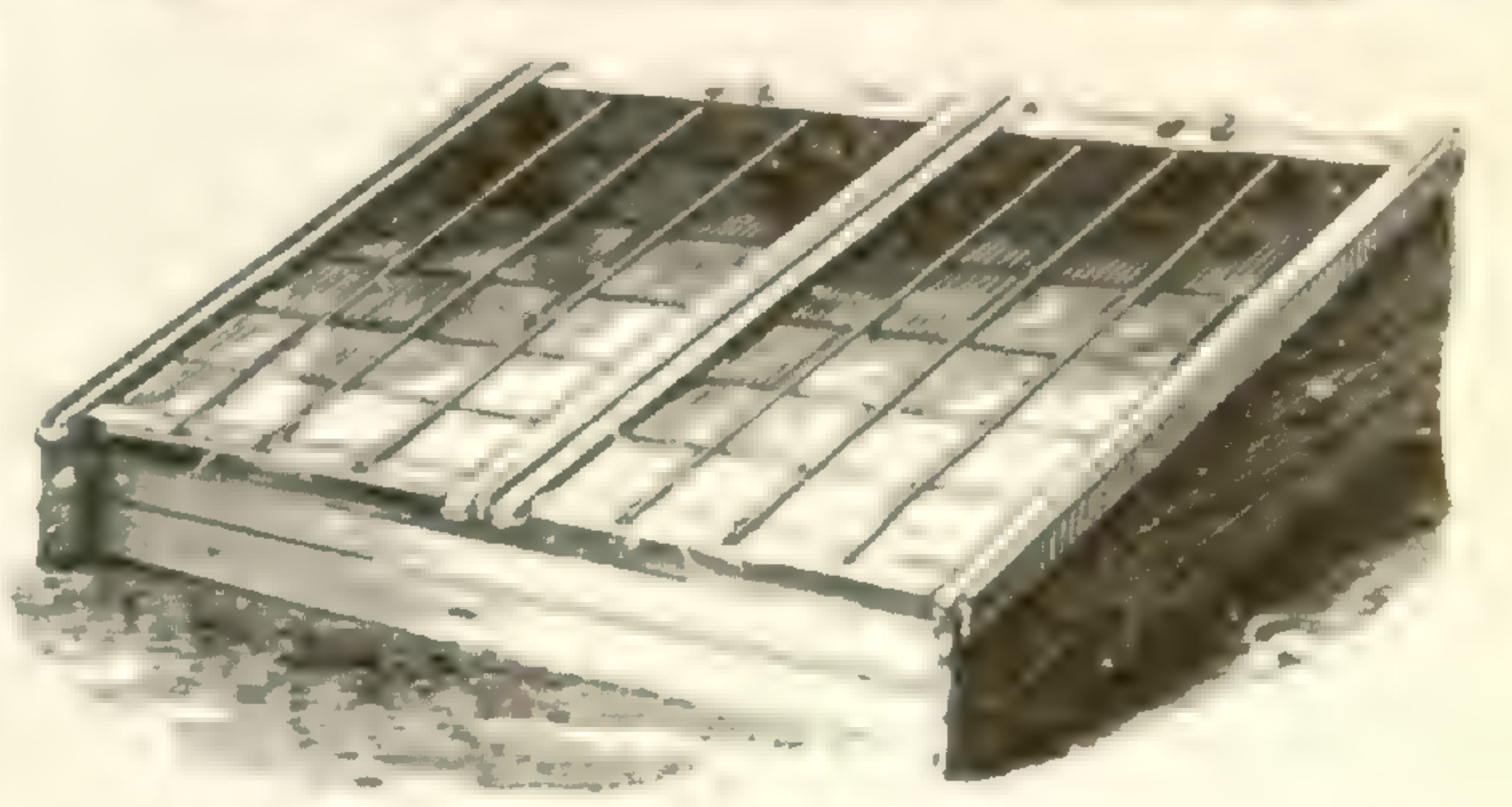

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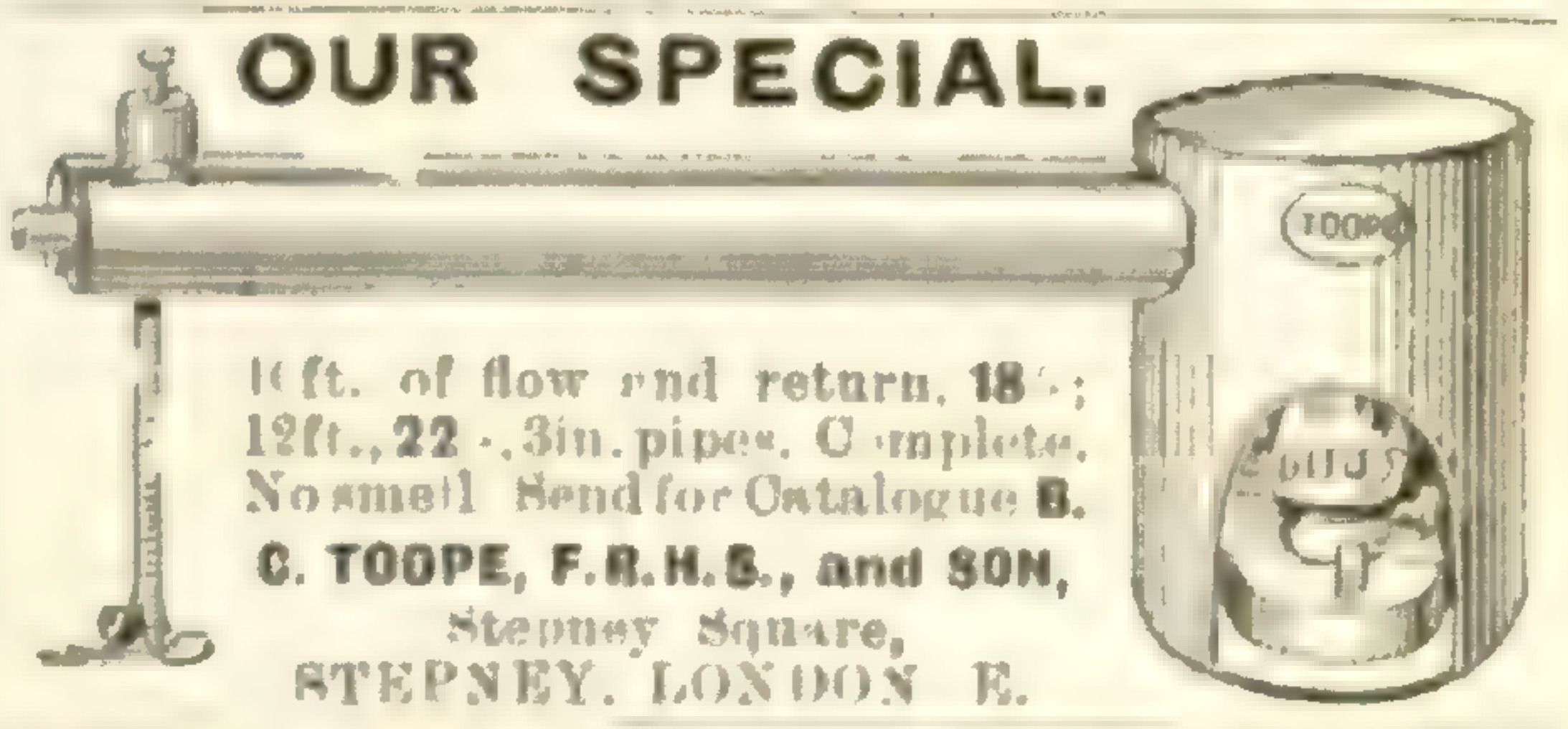

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liant colouring than either is Orange King, a variety raised by Messrs. Bide and Son, of Farnham, but as seen in the Reading trials this year, it was not fixed. We believe it will not be sent out this season, but it certainly is a variety to be obtained as soon as possible.

MUSCAT GRAPES.—B. L. W., Maidenhead: Fire heat must certainly be used in the vinery where Muscat grapes are hanging, both for finishing up the bunches and ripening the wood. At the same time the ventilators should be freely used on all favourable occasions, leaving a little top ventilation on at night, but closing the front ventilators, because, in a low-lying district like yours a great deal of damp would enter the house through them. A minimum night temperature of 50 degrees should be maintained.

NAMES OF PLANTS.

R. T., Boston.—1, Calceolaria Burbidgei; 2, Fuchsia triphylla.

M. R. E., Redcar.—1, Pyrus Aria; 2, Abies Douglasi; 3, Euonymus radicans.

O. F. J., Weston-super-Mare.—1, Helenium pumilum; 2, H. striatum; 3, Helianthus decapetalus; 4, Aster vimineus; 5, A. puniceus.

G. B., Chichester.—1, Cypripedium Spicerianum; 2, C. œnanthum superbum; 3, Dendrobium Phalænopsis; 4, D. formosum giganteum; 5, Oncidium varicosum.

NAMES OF FRUITS.

J. J., Devonport.—1, Beurre Superfin; 2, Beurre Diel.

E. C., Wellingborough.—1, Smart's Prince Arthur; 2, Hollandbury.

F. H. C., Oswestry.—1, King of the Pippins; 2, Court of Wick; 3, Beurre Rance.

T. P., Chelmsford.—1, Ribston Pippin; 2, Mère de Ménage; 3, King of Tomkin's County.

M. C., Huntingdon.—1, Margil; 2, Blenheim Pippin; 3, Chelmsford Wonder; 4, Claygate Pearmain.

H. T. J., Hitchin.—1, Alfriston; 2, Bramley's Seedling; 3, Worcester Pearmain; 4, Lane's Prince Albert.

TRADE NOTES.

We understand that the partnership hitherto existing between William Bull and Edward Bull, trading as William Bull and Sons, new plant, orchid, seed, and bulb merchants, at King's Road, Chelsea, has been dissolved by mutual consent, owing to the ill-health of Mr. William Bull, and the business will in future be carried on by Mr. Edward Bull, solely, under the same name as heretofore.

We are informed that, owing to the partnership lately existing between Mr. C. D. McKay and Mr. Alfred Watkins having expired, Mr. McKay has transferred his energies to Messrs. Cooper, Taber, and Co., Lim., and become a shareholder in that company.

Secretaries of Horticultural Societies are reminded that the "Gardening Year Book" is in an advanced stage of preparation, and that it is important they should return the forms sent to them some time since with as little delay as possible. The directory of "Horticultural and Botanical Societies," which forms so useful a part of the work, is annually subjected to a thorough revision to ensure it being thoroughly trustworthy, and societies from whom no information has been received are consequently omitted. We shall be glad to receive notification of the formation of new societies, and the names of officers. These, as in the case of the forms, should be at once sent to the Editor of "Gardening Year Book," 148 and 149, Aldersgate Street, E.C.

MARKETS.

◆

COVENT GARDEN.

Flowers.

Outdoor supplies are now small, and the first sharp frost will end them. Prices are firm, and the demand good.

		s. d.		s. d.
Adiantum cuneatum	per doz. bun.	5 0	to	9 0
Arums	per doz.	3 0		4 0
Asparagus	per bun.	1 0		2 0
Asters	per doz. bun.	2 0		4 0
Carnations	per doz. blms.	1 6		2 0
,,	per doz. bun.	6 0		12 0
,, Malmaisons	per doz.	6 0		8 0
Cattleyas	per doz.	12 0		14 0
Crysanthemums	per doz. bun.	2 0		5 0
Coreopsis	per doz. bun.	1 6		2 0
Croton leaves	per bun.	1 0		1 6
Cypripediums	per doz. blms.	2 0		4 0
Dahlias	per doz. bun.	2 0		4 0
Eucharis	per doz.	2 6		3 0
French fern	per doz. bun.	0 6		1 0
Gardenias	per doz.	1 6		2 0
Gypsophila	per doz. bun.	1 6		6 0
Lapagerias	per doz.	1 0		2 0
Lavender	per doz. bun.	4 0		6 0
Lilium auratum	per bun.	2 0		3 0
,, speciosum	per bun.	1 6		2 6
,, longiflorum	per bun.	2 0		3 0
Lily of the Valley	per doz.	5 0		15 0
Marguerites, white	per doz. bun.	1 6		3 0
Mignonette	per doz. bun.	2 0		3 0
Odontoglossums	per doz. blms.	2 0		2 6
Pelargoniums	per doz. bun.	4 0		6 0
Roses	per doz.	1 0		3 6
Smilax	per doz. trails	4 0		8 0
Statice	per doz. bun.	3 0		4 0
Tuberoses	per doz.	0 3		0 4
Violets	per doz. bun.	2 0		3 0

Fruits.

There is an excellent demand to meet a steady supply.

		s. d.		s. d.
Apples, English	per bush.	2 0	to	6 0
,, Californian	per case	8 0		9 6
,, American	per barrel	12 0		16 0
Bananas	per bun.	3 0		9 0
Damsons	per ½-sieve	1 0		2 6
Figs	per doz.	0 9		3 0
Grapes, English	per lb.	0 8		3 0
,, Guernsey	per lb.	0 4		1 0
,, Almeria	per barrel	8 0		14 0
Lemons	per case	10 0		24 0
Melons, Valencia	per case	3 6		6 0
Nectarines	per doz.	3 0		10 0
Oranges, Jamaica	per case	9 0		10 6
,, Navels	per case	10 0		12 0
,, Naples	per case	9 0		11 0
,, South African	per case	10 0		12 6
Peaches	per doz.	3 0		10 6
Pears, English	per bush.	2 0		8 0
,, French	per crate	3 0		10 6
Pineapples	each	1 6		3 6
Plums	per ½-sieve	2 0		3 6
Walnuts	per 12lbs.	2 0		3 6

Vegetables.

Greenstuffs, beans, and cauliflowers are still plentiful and cheap. Trade is moderate.

		s. d.		s. d.
Artichokes, Globe	per doz.	2 6	to	3 0
Beet	per bush.	1 6		2 0
Beans, Scarlet Runners	per sieve	2 0		3 0
Brussels sprouts	per bush.	2 0		3 0
Cabbage	per tally	2 6		3 6
Carrots	per doz. bun.	1 0		2 0
Cauliflowers	per tally	3 0		6 0
Cucumbers	per doz.	1 0		2 0
Endive	per doz.	1 3		1 9
Horseradish	per doz. bun.	8 0		12 0
Lettuce	per score	1 0		2 0
Mint	per doz. bun.	1 0		2 0
Mushrooms	per doz. lb.	6 0		9 0
Onions, Valencia	per case	7 0		12 0
,, English	per doz. bun.	1 6		2 0
Parsley	per doz. bun.	1 6		2 0
Spinach	per bush.	1 0		1 9
Tomatoes, English	per doz. lb.	1 6		3 0
,, Guernsey	per doz. lb.	2 0		2 6
Turnips	per doz. bun.	2 0		3 0
Vegetable Marrows	per tally	4 0		6 0

FORTHCOMING ENGAGEMENTS.

SATURDAY, October 23.—People's Palace, Mile End Road, E., Lecture by Mr. George Gordon, V.M.H., on "Spring Flowering Bulbs," illustrated with lantern slides.

MONDAY, October 25.—National Chrysanthemum Society; Floral Committee at 3 p.m., and Executive Committee at 7 o'clock.

TUESDAY, October 26.—Royal Horticultural Society; Committees meet at 12 o'clock; Lecture at 3 p.m., on "Remarkable Instances of Plant Dispersion," by Rev. Prof. E. Henslow, V.M.H., Scientific Committee at 4 o'clock.

WEDNESDAY, October 27.—Croydon Chrysanthemum Show; two days.

Kent County Chrysanthemum Society; two days.

Highgate Chrysanthemum Show; two days.

THURSDAY, October 28.—United Horticultural Benefit and Provident Society, Annual Dinner at the Waldorf Hotel, Aldwych, W.C., 6.30 p.m.

TUESDAY, November 2.—Brighton Chrysanthemum Show; two days.

Plymouth Chrysanthemum Show; two days.

WEDNESDAY, November 3.—National Chrysanthemum Society; three days.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE.	SUNSHINE.	TEMPERATURE OF THE AIR.			
1909. OCTOBER 10 TO OCTOBER 16.		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Oct. 10—Sunday	0 5	57	55	60	50
,, 11—Monday	4 40	60	57	64	55
,, 12—Tuesday	5 50	56	53	62	42
,, 13—Wednesday	1 5	59	56	61	54
,, 14—Thursday	9 5	52	49	61	40
,, 15—Friday	—	57	56	60	52
,, 16—Saturday	—	60	59	61	57
Means	(total) 2 58	57	55	61	50

DATE.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M.			LOWEST TEMPERATURE ON GRASS.
1909. OCTOBER 10 TO OCTOBER 16.		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
Oct. 10—Sunday	0.13	55	56	56	47
,, 11—Monday	0.18	56	56	56	54
,, 12—Tuesday	0 02	55	56	56	40
,, 13—Wednesday	0·19	56	56	56	50
,, 14—Thursday	0.01	53	56	56	31
,, 15—Friday	0·08	54	55	56	47
,, 16—Saturday	0.18	56	55	56	55
Means	(total) 0.79	55	56	56	47

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		s. d.		s. d.
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Blacklands	per cwt.	2 0		2 3
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Kents	per cwt.	2 6		3 0
Lincolns	per cwt.	2 0		2 6
May Queen	per cwt.	2 6		3 0
Puritans	per cwt.	2 6		3 0
Sharpe's Express	per cwt.	2 6		3 0

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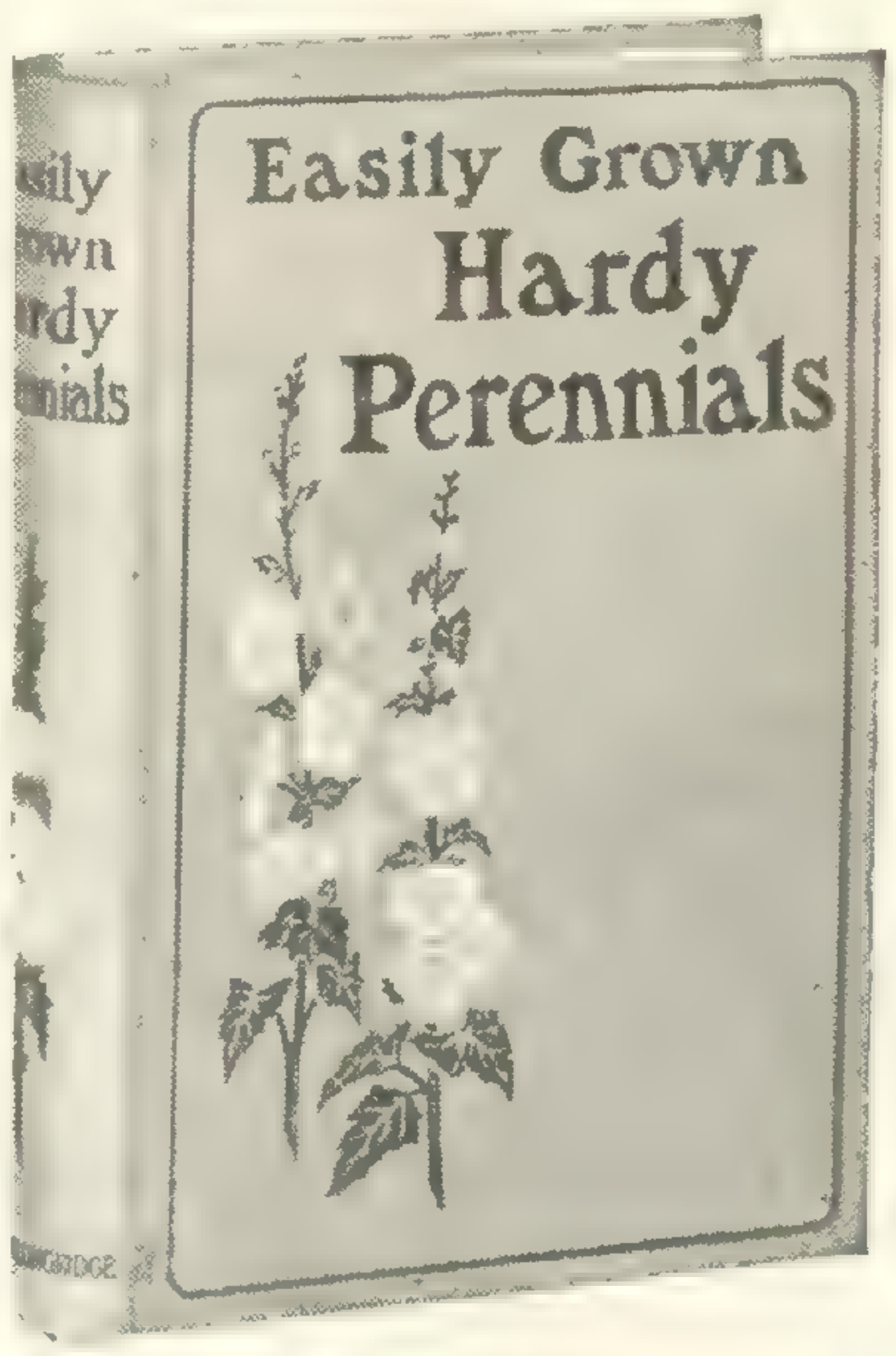

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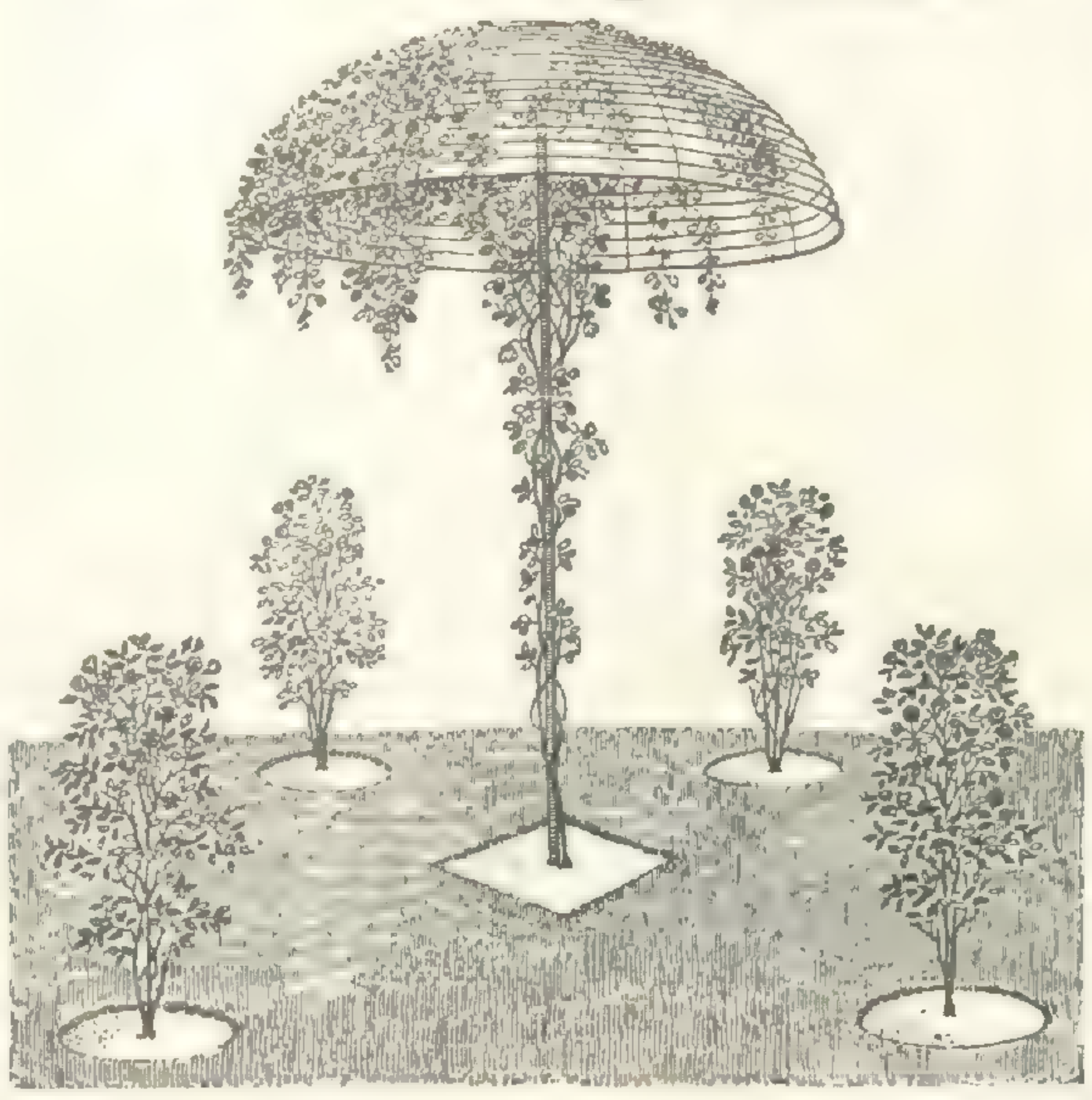

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VOL. LII.—No. 2,922. SATURDAY, OCTOBER 30, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Dressed Flowers.

At a recent meeting of the Royal Horticultural Society's Floral Committee the question of the propriety of dressing flowers, that is, of manipulating their petals so as, in the grower's opinion, to display them to the best advantage, came prominently to the fore. The unanimous opinion was in favour of disqualification for awards of such blooms, and a resolution was formulated and passed without a dissentient that the practice should involve such disqualification in the future. As a practical result, a certain number of exhibits, more or less meritorious in other respects, were passed over, and we certainly think justifiably, since flowers should be judged by their natural form and not by the results of purely artificial treatment. The verdict is the more justifiable since a First Class Certificate or an Award of Merit from the society stamps the plant concerned as worthy of popular culture, and it is clear that considerable disappointment to the purchaser, on the strength of that award, is likely to result if he grows the plant naturally, only to find, perhaps, that the chief charm of its flower is due to manipulation and correction of possible faults. A rose, for instance, in the bud, may promise exceedingly well, but as it develops, the outer petals lose their colour before the inner ones are perfect. To choose such a half-opened flower and open it out by hand to represent a mature bloom is therefore misleading, since naturally no such perfect bloom would appear upon the plant. In point of fact, every flower should be passed over which is not presented for the judges' opinion upon purely natural and spontaneous lines. Much has been done in this direction, but not enough. Chrysanthemums still come forward whose huge blooms are supported beneath by wire rings, which, in some cases, transform a loose, pendulous mass of petals into a compact and more handsome one, which the amateur, unacquainted with such dodges, would never obtain. Carnations, whose calyces are addicted to splitting, the petals thus losing their symmetrical arrangement, are cunningly aided by rubber rings, and so on. In the dahlia, too, the cactus section especially, the flowers are exhibited in deftly arranged groups, with wired stalks, that alter the habit of the flower, which in this case, as is well known, is only too apt to modestly hide its blushes, of whatever hue those blushes may happen to be, under the foliage, so that the effect in the garden is terribly handicapped thereby. The Royal Horticultural Society, happily, is doing much to remedy these misleading factors by insisting upon trials in the open at Wisley, but there are many other and minor societies who would do well to make rules, to ensure, as far as possible, that their prizes and recommendations are based upon genuine merit and not such fictitious merit as is involved in dressed flowers and artificial supports. Our floral wealth nowadays is so great that we can afford to be dainty, and it is so abundantly proved that the selective cultivator can eliminate faults by careful selection, that it is wise to discourage those who, instead of doing this, endeavour to steal a march upon the public by leaving the faults alone and covering them by artifice. That this cannot be done with impunity affords an additional proof of the value of experienced committees, who, by virtue of their experience, recognise at a glance that an ostensibly perfect bloom is inherently defective, and owes its chief charm to manipulation or adventitious aids. That for the purposes of public exhibition supports of various kinds may be mechanically essential must be granted, but these should certainly be eliminated when it is a question of judging the flowers purely per se.

MR. WILLIAM FYFE.

Mr. William Fyfe, whose portrait is given herewith, has accomplished such splendid work in the course of his active career as to obtain a foremost position in the front rank of practical horticulturists, and to be recognised as one of the leading authorities on matters that belong to the garden. Some seventeen or eighteen years have elapsed since Mr. Fyfe was appointed by the late Lord Wantage to the charge of the gardens of Lockinge Park, and during this period he has, by means of his cultural skill and great administrative ability, very materially enhanced the reputation they have for so long enjoyed. In mentioning this, it is interesting to recall the fact that he had occupied a prominent position in the Lockinge Park gardens before he assumed charge of them; for, previous to his making a name for himself at Ditton and doing excellent work at Overstone Park, he was general foreman. During the period he was engaged in the duties of that position the Lockinge Park melon, which has enjoyed a high degree of popularity extending over a quite exceptional period was raised and distributed. The fact that Mr. Fyfe was appointed to the position of head of the gardening staff some years after his leaving to fill responsible positions elsewhere, is evidence that in the discharge of his duties he made a very favourable impression upon his employers during the first period of his being in the gardens of this historic Berkshire estate. During the time Mr. Fyfe has been in charge of the gardening establishment the whole of the departments have been so well maintained that it would be difficult to mention one that might be referred to as of exceptional excellence in comparison with the others. For many years Mr. Fyfe was a remarkably successful exhibitor of vegetables, and was a formidable competitor in many a hard-fought contest for the premier position in the great classes for them. We need not recapitulate Mr. Fyfe's successes as an exhibitor of vegetables, but it may be said that by the manner in which he staged his collections he did much to bring about a great and salutary reform in the method of presenting the products of the kitchen garden to public notice. Mr. Fyfe has been not less successful as a cultivator and exhibitor of fruits than of vegetables, and throughout the occupancy of his present position the vineries at Lockinge Park have been regarded by practical horticulturists as one of the great attractions of the gardens. As a plantsman Mr. Fyfe has achieved high distinction, and as a cultivator of Fortune's Yellow rose he has not, so far as we are aware, an equal. For a very considerable period Mr. Fyfe has been a member of the Royal Horticultural Society's Fruit Committee, and was a member of the committee that organised the dinner of gardeners on the occasion of the vegetable exhibition and conference at the Chiswick Gardens just prior to their being given up by the Royal Horticultural Society.

Mr. J. W. Gallagher, who was appointed mycologist to the Agricultural Department of the Federated Malay States in 1907, has, we learn from the "Kew Bulletin," been appointed director of the department, in succession to Mr. J. B. Carruthers, who has recently been transferred to Trinidad.

Modifications of Colours in Plants.—Professor H. Kraemer, in reviewing the work that has been accomplished in the control of colour in plants, referred to the factors which influence the colour in flowers and gave the results of his own experiments, which were begun in the autumn of 1904, and have been continued up to the present time. Various soils were experimented with, including an artificial soil, and sand to which a special nutrient was added. The chemicals used to modify the colour principles were supplied to the plants in the form of solutions of varying strength, or added to the soil in the solid form, solution gradually taking place. Probably the most striking result obtained by the use of chemicals was the production of a red colour in the petals of the white rose, Kaiserin Victoria. The red occurred in the basal portion of the petals, and was produced in the flowers of plants which were supplied with potassium hydrate, potassium carbonate, calcium hydrate, and lead acetate. Blue flowers were produced by the red-flowering form hydrangea (H. Otaksa), growing in both sand and garden soil, when supplied with potassium and aluminium sulphate, aluminium sulphate, and calcium hydrate.

The National Chrysanthemum Society will hold its annual exhibition at the Crystal Palace, Sydenham, during the ensuing week, and the opening day will be on Wednesday, November 3. As chrysanthemums are opening well, and give promise of being of high quality, the exhibition should be one of the finest November shows the society has held for some years past.

Presentation of Fruit to the Lord Mayor.—On the 20th inst. the customary presentation of fruit to the Lord Mayor was made by the Fruiterers' Company. In asking the Lord Mayor to accept the fruit the Master, Dr. Orwin, said the function indicated a friendly settlement of a long-standing dispute between the officers of the Corporation and those connected with the Fruiterers' Company. Subsequently the Master, Wardens, and Court of the Fruiterers' Company were entertained at dinner by the Lord Mayor and Lady Mayoress.

Secretaries of Horticultural Societies are reminded that the "Gardening Year Book" is in an advanced stage of preparation, and that it is important they should return the forms sent to them some time since with as little delay as possible. The directory of "Horticultural and Botanical Societies," which forms so useful a part of the work, is annually subjected to a thorough revision to ensure it being thoroughly trustworthy, and societies from whom no information has been received are consequently omitted. We shall be glad to receive notification of the formation of new societies, and the names of officers. These, as in the case of the forms, should be at once sent to the Editor of "Gardening Year Book," 148 and 149, Aldersgate Street, E.C.

Young Gardeners' Essays.—In view of the discussion at the recent conference of Gardeners' Mutual Improvement Associations, on the desirability of encouraging young gardeners to take an active part in the work of these organisations, the reading of papers by young members of the Croydon Gardeners' Association is of much interest. In the preparation of their programme for the current session the committee of this association invited the younger members to send in essays on horticultural topics, to be read at the meeting held on October 19. Mr. P. Rintoul, of the Falkland Park Gardens, and Mr. E. Strudwick responded thereto. The first-named selected for the subject of his essay "Perpetual Flowering or Tree Carnations," and the latter "Begonia Gloire de Lorraine." Both essays were well written, and the advice they contained was such as to show that the writers were well acquainted with the cultural requirements of the respective subjects. Many societies annually give awards for essays written by the younger members, and it would probably be well were the number of societies who do so greatly augmented.

The Crystal Palace Company.—In a communication having reference to the forthcoming exhibition of the National Chrysanthemum Society, Mr. E. T. Husey, the receiver, writes: "I have read paragraphs and letters in many newspapers regarding the winding-up order made by Mr. Justice Swinfen Eady, and I should be obliged if you would allow me to inform the public by means of this letter that the order only refers to the Crystal Palace Company, and does not affect the Crystal Palace itself, or me, its receiver. I should like, further, to state that it is intended that the business of the Palace will go on as before; in fact, I am at this moment in negotiation with influential people, with the object of holding at the Palace next year a function of world-wide interest."

Ancient British Oak Stake.—To the many examples of oak of historical interest already contained in the museums in the Royal Gardens, Kew, has been added one other of local interest, through the generosity of Mr. Montagu Sharp, in the form of an ancient British stake, extracted from the bed of the Thames at Brentford. This stake is described as follows by the donor in "Archæological Journal" for March, 1906: "It is part of an oak sapling, is 3ft. long and 15in. in circumference, roughly pointed at the lower end, and black as ink. There is little sign of decay, though, in the process of drying, through exposure to the air, rifts or splits down the way of grain have appeared. The remainder of the sapling, which stood in and above the water, has, of course, long ago decayed or been broken off, but the stump owes its preservation to having been buried in the bed of the river. Its upper end, which projected a couple of inches above the bed, is frayed from contact with the dredger, or keels of passing vessels, and the action of river drift. The condition of some of the other stumps is not so good, it varies very much; the cores, however, are fairly sound and hard."

Wages of Gardeners in Public Parks.—Mr. J. Weathers, F.R.H.S., secretary of the British Gardeners' Association, of which the Earl of Plymouth is the president, has sent the following letter to candidates for election on borough councils: "I am directed by the executive council of the British Gardeners' Association to ask if you will be good enough to express an opinion in favour of qualified gardeners, as represented by members of this association, receiving a minimum wage of 30s. per week, when employed by Borough Councils and other public bodies. May I draw your attention to the fact that in raising and cultivating the large numbers and varieties of plants, flowers, trees, and shrubs which beautify our parks and open spaces, and contribute so largely to the health, recreation, and education of borough and town residents, great and constant care and skill are necessary to maintain the high standard of excellence that has been achieved in public gardening. To obtain this requisite skill and cultural knowledge, gardeners have to undergo several years of practical training and study. For this reason they not unnaturally consider themselves entitled to better remuneration than the unskilled labourers who sweep the streets. May I hope that you are prepared to assist in obtaining for the gardener a just and reasonable recognition of his labours? If so, perhaps you will kindly fill up the enclosed form, and favour me with its return at your early convenience, so that it may be possible to report your answer to our members in due course."

Burpee's New Californian Seed Ranch.—So many people in the United Kingdom know something about the big wholesale seedsmen, Messrs. Atlee Burpee and Co., Philadelphia, U.S.A., and not a few have the pleasure of knowing Mr. Atlee Burpee personally, as he has on several occasions visited this country at sweet pea time. It will be, therefore, a matter of interest to all these to know that the firm has recently purchased a forty-acre farm near Lompoc, Santa Barbara, California, where they will grow some of their stock seeds, and make various experiments. Mr. Edwin Lonsdale, who has for some time had charge of the Girard College grounds at Philadelphia, will take charge of the new ranch, and his training at Girard, and his official association with the Society of American Florists and the Florists' Club of Philadelphia, eminently fit him for the work. The latter will also include the oversight of the large acreage of seed crops grown in various parts of California on contract for the Burpee Company.

NATURALISING BULBS.

No one will dispute, I think, the assertion that many species of bulbous plants present a much more artistic effect when seen growing in more or less extensive colonies in the grass, wild garden, woodland, orchard, etc., than when arranged in formal flower beds and borders.

Happily, this delightful method of plant cultivation is extending rapidly, and this is due in great measure to the example set in various parts of the country by those who are responsible for the maintenance of our public parks and gardens.

I am afraid that many amateurs are deterred from entering upon this work through writers advising the thorough preparation of the soil, the removal of the turf, the addition of manure, deep digging, followed by planting the bulbs, and the return of the turf to its original position. Those who can afford to employ a gardener simply give the order if they wish the work carried out, but, on the other hand, the prospect of so much hard work is not looked upon with favour, and the idea is frequently abandoned.

Experiments made by myself in a Surrey garden some years ago went to show that elaborate preparations are quite unnecessary. Two plots of grass land were planted with narcissi, scillas, aconites, etc. One plot was treated as prescribed above, while the other was planted in this way: Sharp pointed trowels were driven into the soil four inches deep, the turf being only partially lifted and held in position until the bulbs were inserted and it was then replaced. On the completion of the planting the horse-roller was passed over the plot, followed by a top-dressing of short stable manure. The plots were treated alike with phosphates when the bulbs were seen pushing through the grass early in the spring, and there was no appreciable difference in the results. Further, the No. 2 plot developed with equal rapidity in subsequent years.

In addition to paddocks, orchards, and woodlands, raised portions under trees in the dressed garden, grass banks, hedgerows, etc., all offer suitable sites for substantial colonies, and it is superfluous to point out that formality must be avoided in their arrangement, or that the more irregular their outline the more beautiful the effect. The grass is the proper home of the daffodil, and it is impossible to produce an incongruous effect in it, plant them where we will. Varieties that I have found to behave splendidly under these conditions are pallidus præcox, Barri conspicuus, Horsfieldi, Golden Spur, obvallaris, and princeps. The last-named is sold at a very cheap rate, and gives us a mass of bloom at a very early date. The old double and single forms cannot be ignored, and somehow they appeal to us in a different way to their modern and more aggressive brethren.

I have not been able to admire tulips in the grass or wild garden, and possibly I may be told I have a perverted taste. The charm and beauty of the crocuses is enhanced when ground of an undulating character is selected for their home. The winter aconite (Eranthus hyemalis), fritillarias, snowflakes, Milla uniflora, erythroniums, muscaris, and chionodoxas may be pressed into service. Especially desirable is the delightful Scilla siberica, which supplies us with the richest of blue carpets over many weeks in spring. Nowhere have I seen such splendid colonies as those which exist under giant trees in the Royal Gardens, Kew. With regard to snowdrops we have nothing to compare with the old forms in freedom of flowering, and they should be grown on a liberal scale in every garden. To those who do not possess woodlands and orchards, I would suggest that semi-wild spots can be created where vegetation of diverse character is allowed to grow more or less naturally.

With respect to the time to plant, it may be said that from the end of September to the middle of November is a most suitable period, and planting is a very easy and pleasant process when done immediately after heavy rains have fallen.

WALTER H. AGGETT.

NEW PLANTS, ETC.

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CHRYSANTHEMUMS.

Favourite.—This promises to make a very useful Japanese variety. It has broad reflexing florets that turn up a little at the tips. The colour is a very distinct and beautiful shade of old gold. No doubt this will be seen in even better form than was shown on this occasion. Commendation, N.C.S., October 25. Mr. W. J. Godfrey, Exmouth.

Shanklin Sunshine.—A large reflexing Japanese variety, with fairly broad bright yellow florets. The blooms are large, deep, and shapely. F.C.C., N.C.S., October 25. Mr. Martin Silsbury, Shanklin, Isle of Wight.

Mr. Thornton.—A charming and graceful Japanese variety, with long, drooping florets of a delicate creamy-white shade. A splendid exhibition flower of large size and much refinement. F.C.C., N.C.S., October 25; A.M., R.H.S., October 26. Mr. Henry Perkins, Henley-on-Thames.

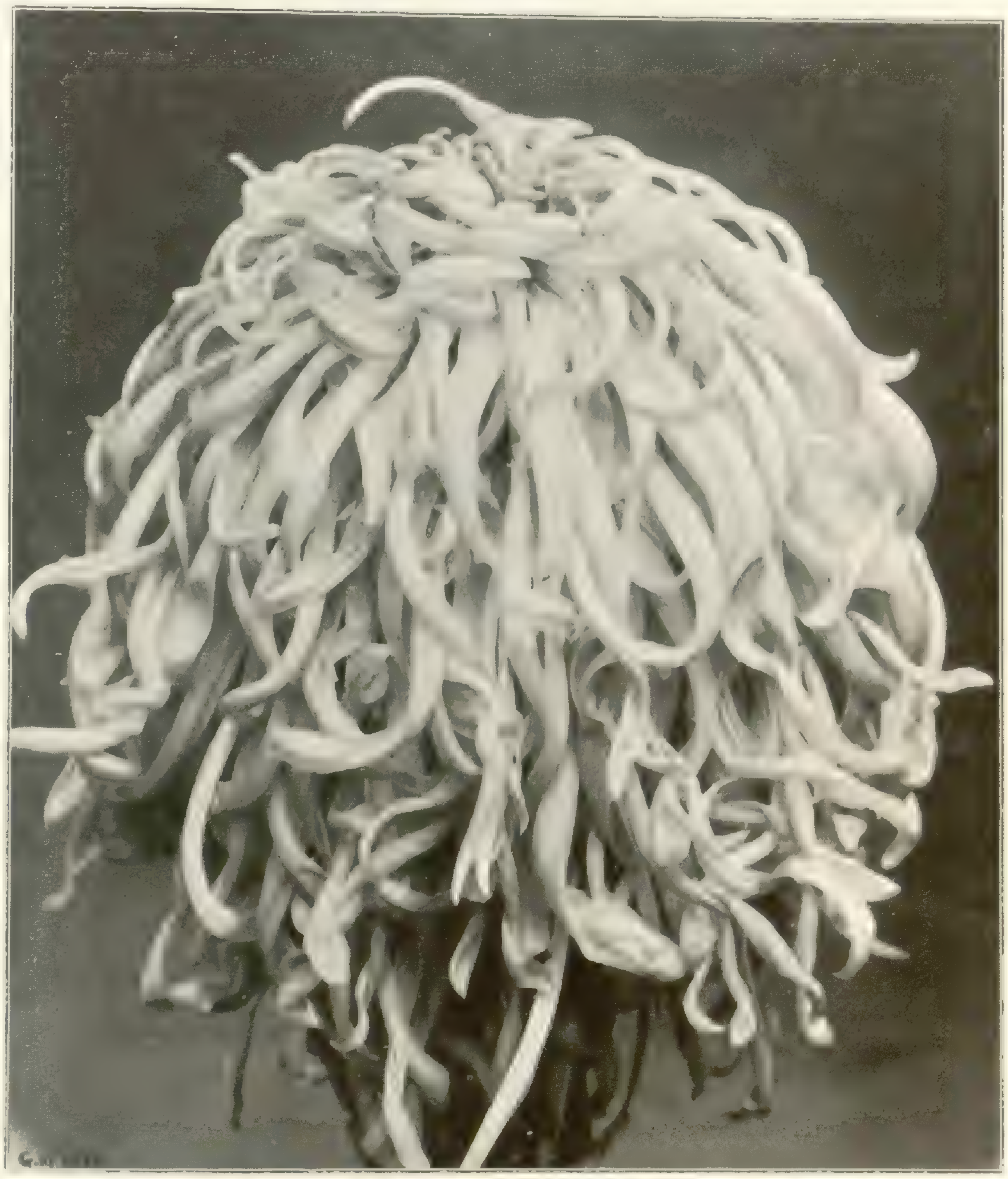
Miss Lily Hail.—A bold incurving Japanese variety with very broad petals. These are rosy on the inner surface, but the reverse, silvery-lilac colour, is the one most in evidence. A good exhibition variety. Commendation, N.C.S., October 25. Mr. Norman Davis, Framfield.

David Ingamells.—A grand reflexed Japanese variety that makes up a firm, long-keeping flower. The colour is rich golden-yellow, and the bloom, if rather short petalled, is full-sized, deep, and refined. F.C.C., N.C.S., October 25. Mr. Norman Davis.

Henry Poulton.—A long-petalled Japanese variety, with a dull bronzy-gold reverse that is, however, brighter in the case of the centre florets. The beauty of the flower lies in its rich crimson colouring, the shade being very effective. Commendation, N.C.S., October 25. Mr. Norman Davis.

Rufus.—A very large Japanese single variety, very elegant, and of great decorative value. The colour is golden-yellow, the outer half of the florets being heavily shaded with bright chestnut-red. Commendation, N.C.S., October 25. Mr. W. J. Godfrey, Exmouth.

Miss Mary Pope.—A delightful soft pink single variety, producing an abundance of extremely pretty flowers in free sprays. Both in daylight and by artificial light it is one of the prettiest of singles, and one that is sure to become a favourite with ladies and florists. F.C.C., N.C.S., October 25. Mr. W. J. Godfrey, Exmouth.



NEW JAPANESE CHRYSANTHEMUM MR. THORNTON.

A distinct variety, with finely formed cream-white flowers, raised by Mr. H. Perkins, Henley-on-Thames. F.C.C., N.C.S., October 25; A.M., R.H.S., October 26.

AGAVE WRIGHTI.

A low-growing species, with long tapering, spine-tipped leaves, and a spike, 10ft. high, of green and white flowers. Bot. Mag., t. 8,271.

THE BEST CHRYSANTHEMUMS FROM AN ÆSTHETIC POINT OF VIEW.

The following is the paper read by Mr. D. B. Crane at the Chrysanthemum Conference held by the National Chrysanthemum Society at Essex Hall.

There are certain essentials that are necessary in the chrysanthemum from a commercial point of view that are quite unnecessary when regarded from the point of view of a private grower. Mr. Percy A. Cragg has told us what these essentials are, and it is a good thing, perhaps, that we can take a broader and more comprehensive view of this excellent autumn-flowering subject when determining what should be grown in order that we may obtain the greatest pleasure and satisfaction to ourselves.

The grower must not confine his attention exclusively to the Japanese varieties, as this would be severely reducing the limit of his supplies, and would also exclude from his use many of the most beautiful chrysanthemums that are to be found in our gardens. The superabundance of good Japanese kinds begins to pall on one as the season advances, therefore the possession of a number of good things of other types provides a welcome relief.

New forms and colours in the Japanese section should always be welcomed, and even if these new sorts are not good self-coloured flowers, but represent new tones, either tinted or flushed, or overlaid, or suffused with novel shades on pleasing ground colours, they should not be discarded, but be received with pleasure, because they enable the floral artist to create some novel colour effect. The more formal incurved chrysanthemums are seldom met with in gardens, and yet their unique globular blooms should be cultivated if only for contrasting purposes. The type of incurved to which I refer are the members of the "Rundle" family. What more exquisite and refined chrysanthemums are there than these dainty little incurved blossoms? Twenty years ago these small-flowered incurved chrysanthemums were grown in most gardens, and I am at a loss to understand the reason for their exclusion from the majority of private collections to-day. Chrysanthemum specialists would promote their own well-being and add very considerably to the pleasure of private growers, were they to give us a few more such beautiful incurved varieties, equal in every respect to the "Rundle" family. From my own point of view the big, unwieldy exhibition incurved blooms have little value for the private grower.

What of the anemone-flowered chrysanthemums? These types of the "Autumn Queen" are being relegated to less conspicuous positions at most of our leading exhibitions throughout the country, and there are many chrysanthemum shows where there is not a sufficient representation of these quaint and curious decorative flowers. This is a fact to be deplored, because they are essentially decorative, and embrace in an ordinary selection grace and beauty of form of the most refined character. We are so accustomed to see the anemone-flowered kinds represented by large, disbudded blooms, that few growers are aware of the beauty of these varieties when grown in a free manner, and the sprays partially disbudded. The large-flowered anemones are most attractive, but the Japanese anemones are quite fascinating because of their curious and quaint forms. The section little heard of nowadays is the anemone-pompons. Formerly they were grown quite freely by both private growers and exhibitors, and only those who have seen a bush-like plant bearing a large number of dainty blossoms have the faintest idea how beautiful are they, especially when gathered in sprays that have been not too severely disbudded. If, as the outcome of this conference, renewed interest in the anemone-flowered chrysanthemums could be enlisted, the present proceedings would be amply justified.

Of the reflexed kinds, little that is favourable can be said. The infinite variety available in other sections has naturally ousted them from their once popular position. Except for the brilliant scarlet-crimson "Cullingfordi" or the golden-yellow "Golden Elsie" there is little that is attractive in the type.

The single-flowered chrysanthemums have come to stay, and this is quite easy to understand when we remember the charming varieties that are now available for all. I think I am safe in stating that in no section of the chrysanthemums has there been greater development than in the single-flowered section. Some years ago the N.C.S. divided the singles into two sections, viz., large-flowered, and small-flowered. Very few varieties were small enough to come within the small-flowered measurement of two inches, and, in consequence, additions to this section are very few indeed. The majority of the newer introductions measure from three to four inches across, and with blossoms of this size, either individually or in sprays, it is possible to make very beautiful floral pictures. Market growers tell me that the "eye" or disc of most of the single flowers is too large, and that you see little in them but this offensive over-large "eye." There may be some reason for this statement in regard to some of the flowers, but, generally speaking, such a charge is hardly fair to these beautiful flowers. What is necessàry, however, is that the disc should be bright, and in this way more useful for contrasting with the ray florets of the flower. There are plenty of varieties that have dull and dirty looking discs, and it is these that should be avoided and preference given to brighter-looking flowers. We can pick and choose nowadays, as there is a plethora of good things. Some growers will insist upon recognising only those flowers having flat petals, that are neatly disposed round the disc. This is the florist's ideal, and does not always coincide with the floral artist's ideas. What is the objection to flowers having fluted or grooved florets? I see none. Some of the blossoms are very dainty, and those with grooved florets particularly so. They have a quite cactus-like appearance. When gathered in beautiful sprays these flowers will make a very charming decoration.

The pompons are seldom spoken of in appreciative terms at these times. They are flowers that some growers are disposed to say are only "suitable for the little amateur." This is quite a mistaken idea, except that the "little amateur" has the advantage. A wise selection of these compact little flowers, that are invariably borne in profusion on plants with a good habit, is calculated to add very considerably to the charms of the long range of decorative chrysanthemums. What is prettier in the late autumn than the chaste and beautiful varieties Snowdrop and Primrose League? In some of the North London shows the pompons are shown as well as we have ever seen them, and they make a delightful break away from the large flowers of the Japanese and incurved sorts.

A section that is seldom referred to by writers and others is that confined to what are generally called the Spidery chrysanthemums. This includes beautiful little flowers that are also known as thread-petalled, boutonnière and æsthetic chrysanthemums. Several of these varieties bearing dainty little blossoms deserve extended culture. Their value also lies in the fact that most of them come into flower later than the majority of the mid-season kinds. For late November and December uses they have an especial value.

Essentials in the æsthetic or more beautiful chrysanthemums are the following: The plants should be free-flowering, and possess a good bushy habit and sound constitution. Preference should be given to varieties that develop their blossoms on long, erect footstalks, so that disbudding should be unnecessary. Colour should be distinct, bright, and pleasing. The blooms need not necessarily be self-coloured, as there are so many uses to which flowers of varied tones of colour can be put. Small to medium-sized blooms are to be preferred, as many of the numerous receptacles of the home could not possibly accommodate the large blooms of the market-growers. It is for this reason that the pompons, anemone-pompons, singles, and spidery chrysanthemums have a value that the larger flowers do not possess. Decorative chrysanthemums resulting from a terminal bud selection are much to be preferred. Their colour is invariably brighter and better, and the flowers seldom damp in the manner that blossoms do from a crown bud selection. In the case of plants that have to be disbudded in order to obtain the best results, it is well not to observe a too rigid system of disbudding, as much of the grace and beauty of the flowers is thereby lost.

In the foregoing remarks sufficient has been said respecting the points of merit of the smaller-flowered types of the chrysanthemum. Given ordinary good culture, there is not the slightest doubt that plants of these types will give a yield of beautiful blossoms that would come as a pleasant surprise to many. It is difficult to understand why market growers refrain from cultivating these interesting representatives of the Autumn Queen, and the only reason that can be attributed for this apparent lack of interest is that commercially they are not a success. I am confident, however, were they taken in hand in practical fashion, and the different types used in decorations at some of the leading society functions, that a taste would be created for them and a demand made for continuous or more frequent supplies as a consequence.

At this point it may be well to call attention to some of the more conspicuous examples of the better, though, perhaps, smaller-flowered decorative chrysanthemums that merit recognition.

Beginning with the early-flowering Japanese or decorative varieties, good examples of yellows are Carrie, bright yellow; Clara, deep canary yellow; and Maggie, fine rich yellow, the latter so pretty in sprays. Of white varieties there are several very chaste and beautiful, notable examples being Roi de Blancs, Doris Peto, and Mychett White. These are varied in their form and character, each having a beauty peculiarly its own. Of crimson kinds there are several good things, the better varieties being Ethel Blades, bright chestnut; Goacher's Crimson, rich crimson; Wells' Scarlet, brilliant scarlet terra-cotta; and Howard H. Crane, a good bright chestnut variety for October flowering. Flowers of bronze and terra-cotta colour are well represented by Rosie, bronzy terra-cotta; Nina Blick, bright reddish-bronze (this should be disbudded); and Mr. A. Willis, tinted red on yellow ground. Of orange shades there are many excellent sorts. Some of the better kinds are Diana, deep bronzy orange; Polly, deep orange and yellow; and Harrie, bronzy orange on gold ground. Pink varieties are very pretty, those worthy of note being Normandie, delicate pink; Provence, bright pink, tipped gold; and Merstham Pink, pearl pink, tipped gold. Rose-coloured kinds are seen in excellent form in Pride of Keston, deep rose, with silvery reverse; Mignon (Nonin), delicate rosy mauve; and Fée Parisienne, deep mauve. Claret is the best of the claret shades of colour, and is a very effective variety. Varieties representing colours other than those already mentioned, and worthy of especial mention are Fée Japonaise, creamy white, very dainty; Perle Chatillonaise, creamy white, tinted blush, and its recent sport, J. Bannister, reddish copper on lemon-yellow ground—the two last-mentioned varieties should be disbudded. Cactus, a pretty little fiery terra-cotta flower; Ethel, primrose with cerise colouring at base of florets; and Norbert Puvrez, golden salmon, very early, make a representative collection.

(To be continued.)

CHRYSANTHEMUMS.—For full instructions on the Culture of Early-flowering Chrysanthemums in beds or borders for garden or greenhouse decoration, read the Second Edition of CHRYSANTHEMUMS FOR GARDEN AND GREENHOUSE, by D. B. Crane, price 2s. 6d. net; or by post, 2s. 10d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

PLUM ENEMIES.

There are two very serious enemies to which plums are subject in a particularly virulent form this year, and these have damaged and depleted the already scanty crop of plums in many quarters. I refer to the Mealy Plum Aphis (Hyalopterus pruni), which I have never known so abundant and destructive as in the present season, and to the brown rot of plums (Monilia fructigena), of which the same remark may be made, large bunches of infected fruit being frequently met with on certain varieties in many orchards, covered with their countless myriads of spores, constituting not only a serious loss in themselves, but a more serious menace to the trees and crop for another year.

[Photo: Mrs. Aubrey Le Blond.

WATER VISTA IN THE GARDEN OF VILLA D'ESTE, TIVOLI.

Mealy Aphis.

This aphis made its appearance this year during the second week in July, being a little later than usual, owing doubtless, to the wet, inclement weather. In colour the insects are pale green and covered over with a whitish meal, looking, when present in large numbers, as if the leaf had been dredged over with greenish flour. They attack the underside of the leaves of the plum trees. Generally the young and tender leaves at the tips of the shoots are the most affected, being, I suppose, more easily pierced by the mouth of the insect and probably also because they are more full of sap. The leaves are not curled by the attack as a general rule, though they seem to have been much more distorted this year than usual, so that it is comparatively easy to get a spray fluid to reach the insects.

As I mentioned, the leaves seem more curled this year, and I have searched many of such curled leaves to see if they have been rendered so by the attack of the leaf curling aphis (Aphis pruni), but have failed to find any trace of the latter, so I have been forced to the conclusion that the Mealy aphis has been the culprit.

The extremely low temperature we have been lately experiencing may be a contributory factor, however, by retarding the quick growth of the leaves, which might enable them to grow out to nearly their proper size and condition.

When once a leaf is infected, the aphides are produced at a tremendous rate by means of the viviparous females which for a time are wingless; afterwards winged ones appear, probably when the food supply on a particular leaf or shoot is becoming short, and they need to seek fresh supplies.

It is not by reason of the damage to the leaf, however, that this pest is generally serious, though that has had its evil consequences this season in the wholesale dying back of the young wood; but, because of the honey dew it exudes in large quantities, covering the lower leaves and the fruit, and forming a convenient medium for the soot fungus to render the fruit very dirty and unsightly. This not only makes the fruit look very bad, but it must have a very injurious effect on the general health of the tree where many leaves are coated with this filthy mess, as the stoma of the leaves are quite choked up, suspending the transpiratory processes which are so necessary to the well-being of the leaf and therefore of the tree.

As previously stated, it is comparatively easy to get a spray fluid to reach the aphides on the flat underside of the leaf, but considerable force must be used and great care also observed as the mealy covering of the insects seems to shed the liquid and so prevent the whole surface from being thoroughly wetted. I have repeatedly stood and watched while large quantities of wash have been thrown in an apparently efficient manner, so that one would have been positive all the leaves were thoroughly saturated, and I have been surprised at the numbers of places on the leaves which escaped the fluid. Of course, this may be partly due to the fact that one leaf, driven by the power of the jet against another, to some extent shields the latter from the effect of the spray.

Mr. Theobald mentions that it is most difficult to kill this pest with paraffin emulsion, and almost impossible with quassia and soft soap. He speaks of the addition of liver of sulphur as successful. I wanted to make quite sure of killing the aphides, and also to avoid injuring the fruit which was still on the trees, so I did not use the paraffin emulsion, but added liver of sulphur to an ordinary soft soap and quassia wash, at the rate of 4lb. per 100 gallons of wash.

This composition proved thoroughly successful, making a fine job of clearing out the pest, and not in any way injuring either fruit or leaves.

I have since been informed by a friend that he used Woburn tobacco for this infection, and was thoroughly rewarded, clearing the trees of the aphides. I did not hear the strength used, but I presume it would be that recommended for apple sucker, viz., 1lb. to 100 gallons of wash.

It is of paramount importance to attack the aphides on their first appearance before they have time to gain a stronghold in the tree, and before honeydew is deposited on the lower leaves, as no amount of spraying afterwards will clean this stuff off, either from them or from the fruit, which is therefore ruined in appearance if not in reality.

In early autumn these aphides suddenly migrate to some other host plant, entirely leaving the plum trees for that other host whatever it may be. All that is now to be seen of them on the leaves as I examined them a day or two ago (that is to say, on those trees which were not sprayed) is the skins of those which have perished by the ravages of the minute parasite which attacks them in common with most other aphides. In addition to these skins, curious black marks will often be seen on the leaves, a sign of the presence at some time of a curious slug-like larva, belonging, I believe, to one of the lace-wing flies, which has destroyed the aphides from off the leaf.

These curious little insects have been very plentiful this season, and have done an immense amount of good in clearing the aphides out of black currants as well as plums and apples. The same may be said also of the lady birds, which have been of great value owing to their great numbers, and the fact that both in the larval and in the adult state they are very voracious feeders on all kinds of aphides. Notwithstanding these natural enemies, however, the mealy aphis increases at such an enormous rate that it is not safe to leave matters to take their own course, and so spraying must be done to hold the pest at all in check.

Victorias are about the worst infected by this plague, though Czars seem to have it very badly, and Early Rivers in some plantations has been bad with us, and so to some extent has Pond's Seedling. Naturally, with a bad infestation on these varieties, most of the other sorts have now and then isolated shoots affected, but, as a general rule, nothing more. One fact has struck me very forcibly: almost all the young trees in the nursery, making vigorous growth, often four to five feet in length, have been badly attacked by this mealy aphis, and the shoots have been killed in some cases to the extent of a foot in length from the tip.

It may be many years before we again experience such a disastrous season from a climatic point of view, a season especially favouring the attacks of all pests and detrimental to the health of the tree, but if we should happen to have again a serious infestation of this mealy aphis, it is satisfactory to know that, taken in time, it is so easily disposed of in the manner I have described in this short article.

Pilgrim's Hatch. F. W. HAMMOND.

(To be continued.)

Gerbera Jamesoni.—This fine Transvaal daisy thrives remarkably well if planted at the foot of the front wall of a pit or forcing house, with a southern or south-west aspect. A row of it planted in such a position, and in fairly good soil, will, when established, surprise many with the quantity of flowers the plants produce. The flower stems will attain a height of two to three feet, and the blooms lend themselves readily to decorative purposes. The flowers have also good lasting properties in the cut state, and also on the plants, and they possess a shade of colour quite their own. The beautiful hybrids which have been shown at the various meetings of the R.H.S. promise a great future for these plants, and given such a position as described they should come into favour for cut flowers. Frequent waterings during summer, when the growth is being made, and the protection of the low walls of the pits will carry them safely through the season, and should severe weather or excessive wet prevail, the plants, when in such a position, can easily be protected.—T. H. SLADE.

GARDEN FLOWERS.

Now that the planting season is with us it is time that growers of hardy flowers, and especially those who are about to prepare new borders, should take into consideration what plants may be added to their stock during the present time.

It is almost unnecessary to speak of the flowers which are to be seen every day, or to refer to such well known subjects as the delphiniums, phloxes, helianthuses of the more common types, the pentstemons, or other popular plants, of which there are so many fine varieties. These have their values in the border, and are really indispensable. It is, however, more profitable just now to allude to others, which, while known to specialists, are not so commonly cultivated, and might be included with advantage to the average garden of the present day.

Among the flowers which are not too well known may be ranked the adonises, although A. vernalis is fairly plentiful. The fine A. amurensis, a very early bloomer, and the later A. pyrenaica, will give a variety in point of time, although yielding flowers of the same shade for spring decoration. Attention may also be called to a fine variety of Anthericum liliastrum, called A. l. giganteum, a beautiful plant fully three feet high, with large white flowers. Then the tall Artemisia lactiflora is proving a good hardy autumnal blooming plant, with its branching heads of creamy-white.

The reader's notice may also be called to the new varieties of Aster amellus, one of the finest of the hardy starworts. Quite a number of good varieties are in commerce now, and they are not enumerated for want of space, although they cannot be passed unnoticed. A. Beauty of Colwall has been noticed before in these columns, and it ought to be secured because of its double lavender flowers. Astilbe Davidi is coming to be so well known that it appears well nigh unnecessary to mention it now. Yet there are many who do not know its long reddish-purple spikes of flower. Give it a moist position, and it will surprise those who have not seen it before.

A lovely hardy calceolaria, few as yet grow, although it has been worthily praised before now, is C. Golden Glory, which is superb in the front row of the border, with its handsome golden flowers all summer and autumn.

Among campanulas there are now quite a host of good varieties of C. persicifolia, such as dumosa and Moerheimi; while, among the dwarfer members, carpatica White Star, and the miniature C. Stansfieldi are worth noting by all. Of Chrysanthemum maximum varieties there are many fine forms. King Edward VII. remains one of the finest of its class, but Gladys Mawson, another of more recent introduction, seems to surpass any of the others I have seen. Following these in alphabetical order one may refer to the noble cimicifuga, of which americana, davurica, japonica, and racemosa are charming things, with their panicles of white flowers. Corydalis nobilis, albeit not by any means new, is a plant to be remembered by those planting at this time as a front or second row plant.

Then one might say a word on behalf of the yellow Delphinium sulphureum, a distinct and pretty thing in the border, although not so imposing in its beauty as the hybrid flowers of the larkspur race. Dictamnus caucasicus, a finer thing than D. Fraxinella, is not new, but it so far surpasses the old Fraxinella that it is worthy of a reminder when we come to plant our borders.

Erigeron speciosus major, a starwort-like plant of much beauty, is another good border flower which wants still to be more known.

Then the eremuri would call for a column to themselves, and, omitting some which are very expensive, we may remind planters of E. Bungei praecox, yellow; E. Himrob, pink; E. Olgæ, white and pink; together with the noble E. Elwesianus, a variety of robustus. E. Shelfordi, coppery-yellow and bronze, and some other new ones, may also be added if funds will allow. These are all noble flowers, much easier to cultivate in the border than was at first supposed.

A very handsome hardy geranium, although a little tender in some places, is G. Traversi, with rosy flowers and a great beauty for near the front of a warm border.

A truly handsome helenium, by name Riverton Gem, should be remembered as a great improvement upon H. autumnale striatum, as it was called when introduced. It has deep coloured, distinct looking flowers. Hemerocallis Dr. Regel is a fine member of a class of plants now more than ever popular. Its fine apricot flowers in autumn give it much value.

Incarvillea grandiflora has proved so good that it will deserve notice now, although not new. The flowers, on a dwarfer plant, are much finer than those of I. Delavayi. Attention may be called to the various coloured perennial lupines now in commerce. Of all the pinks I have seen I yet prefer that called Moerheimi. But for their biennial habit the different species of meconopsis would be universally popular, but those who can ought nevertheless to secure the yellow M. integrifolia, and the better known blue one, Wallichi.

Perennial poppies of the P. orientale class are favourites, and my own preference among the pink ones is that called Jenny Mawson, which few people have as yet seen in growth. The GARDENERS' MAGAZINE has so lately described some of the new hardy primulas that it is superfluous to say much about them, save that P. Forresti and P. Littoniana promise to be real acquisitions to our garden flowers, and should be generally planted.

Of new and good saxifrages there is no end, and soon the raisers may cease naming varieties of the mossy section. Among the others S. Stribyni and S. thessalica are good species for the rock garden, but only suitable for the front of a choice border. Senecios are growing in number, but S. clivorum and the taller S. tanguticus are good things in their own way, as also is the fine S. Wilsoni.

One of the best of recent introductions among hardy flowers has been Stenanthium robustum, which gives fine plumes three feet or so high, of a beautiful white, passing off to rose. This is proving hardy well to the north, and is a charming thing indeed. Although not very new, the handsome early variety of Stokesia cyanea, called præcox, is proving a boon to admirers of the stokesia in late districts. It is fine of a truth with its handsome purple-blue flowers. Thalictrum Delavayi, which has been grown for three or four years at least, is a good meadow rue, with violet-rose flowers and maidenhair fern-like leaves.

Such are a few of the many plants which at the present time deserve the notice of the planter who is not content with the policy of keeping in the old rut, and who strives by adding something not met with every day to give his garden some features which will appeal to those who come to enjoy its beauties and its novelties.

S. ARNOTT.

GREENHOUSE CLIMBERS AT KEW.

It is now generally recognised that a good selection of suitable climbers plays a very important part in the embellishment of the greenhouse or conservatory. A fault of some climbers is that they are of exceedingly vigorous growth, so that owing to the pruning necessary to keep them within reasonable bounds in a house of limited extent they produce a large amount of foliage and comparatively few flowers.

At Kew, in No. 4 greenhouse, the selection of climbers, or rather of roof and rafter plants, is a very judicious one, so that at nearly all seasons there is an attractive display of flowers above the head of the spectator, as well as on the floor and stages of the structure. By the end of September some are, of course, past their best, but the following are all very beautiful, and, at least in some cases, they bid fair to keep up a good display for a long time yet.

The porcelain blue flowers of Cape Leadwort (Plumbago capensis) are freely borne for such a lengthened period, and their delightful colour is so much admired by everyone that it must on no account be omitted from any list of roof plants for the greenhouse, however rigid the selection may be. P. capensis alba, the white variety of the preceding, is of more recent introduction than the type, but owing to there being far more white than blue flowers in the greenhouse, it is never likely to become as popular as the older form. In growth, freedom of flowering, and all particulars except the colour of the blossoms, the white variety of Plumbago capensis is a counterpart of the typical kind.

Fuchsia General Roberts, though well suited for growing into specimens, also makes an exceptionally good roof plant, the large, bold flowers being freely produced, and as they hang suspended by particularly long stalks they are seen to very great advantage. In this the sepals are a kind of carmine red, with a purplish corolla. Fuchsia Monarch is somewhat like the preceding in habit and other particulars, but in colour the flowers are more of a self red. Fuchsia simplicicaulis is a Peruvian species of loose, rambling habit of growth, which is seen at its very best when trained to a roof. The flowers, borne in much elongated clusters, are themselves of considerable length, while their colour is reddish-carmine.

Lonicera sempervirens minor, a North American honeysuckle, when treated as a greenhouse climber, continues to bear its clusters of scarlet and yellow flowers throughout the summer and well on into the autumn. It can be readily kept within reasonable bounds. Lonicera Etrusca superba is a vigorous grower, which needs considerable space for its development. It is the strongest growing of the climbers here referred to. The flowers are yellowish.

The Abutilon Boule de Neige, concerning whose early history I can find nothing, except that it was distributed by M. Lemoine, of Nancy, in the early seventies, is bearing a great number of its white, bell-shaped blossoms, as, indeed, it has been doing for months. Abutilon Golden Fleece, as implied by the varietal name, has yellow flowers, and it therefore makes a good companion to Boule de Neige.

Time was when Bougainvillea glabra was regarded as a stove plant, but it is now recognised that it is more satisfactory in the greenhouse. In a lower temperature and well exposed to sunshine and air, the showy bracts are much richer in colour than when they develop in a warmer and more shady structure.

Tibouchina semi-deandra, also know as Lasiandra macrantha and Pleroma macrantha, is another native of Brazil, and the preceding remarks as to the cultural requirements of the bougainvilleas will apply with equal force to it. Trained to the end of the greenhouse, and thus forming a screen plant, this tibouchina is plentifully sprinkled with its large rich violet-purple blossoms. The typical form is the best for treating in this manner, for there is a dwarfer variety, known as floribunda, which flowers more freely as small plants, but is not so well adapted for training to roof or rafter.

Manettia bicolor is as prolific in names as the last, for it is also known as Manettia luteo rubra and Manettia inflata. It is an old plant in gardens, having been sent home by William Lobb in the early forties when travelling in South America for the Messrs. Veitch. For many years it was treated as a stove plant, but of late it is often given greenhouse treatment, and succeeds perfectly in this way. The small tubular flowers, vermilion-scarlet and yellow in colour, are borne for months together.

Begonia fuchsioides was first introduced from New Granada to Kew in 1847, having been sent home by the collector Purdie. It is very beautiful when secured to a tall stake or trained up a rafter in a small house. The small rich scarlet flowers are borne in drooping panicles. Altogether this begonia forms a very graceful specimen, but the present-day fancy being for large flowers, it is not met with as frequently as it was years ago.

Lantana salviæfolia is the same thing as Lantana delicatissima of parks and gardens. It is a delightful pillar and roof plant for the greenhouse, and is in this way at its very best at Kew, where it has been much admired for some years. K.

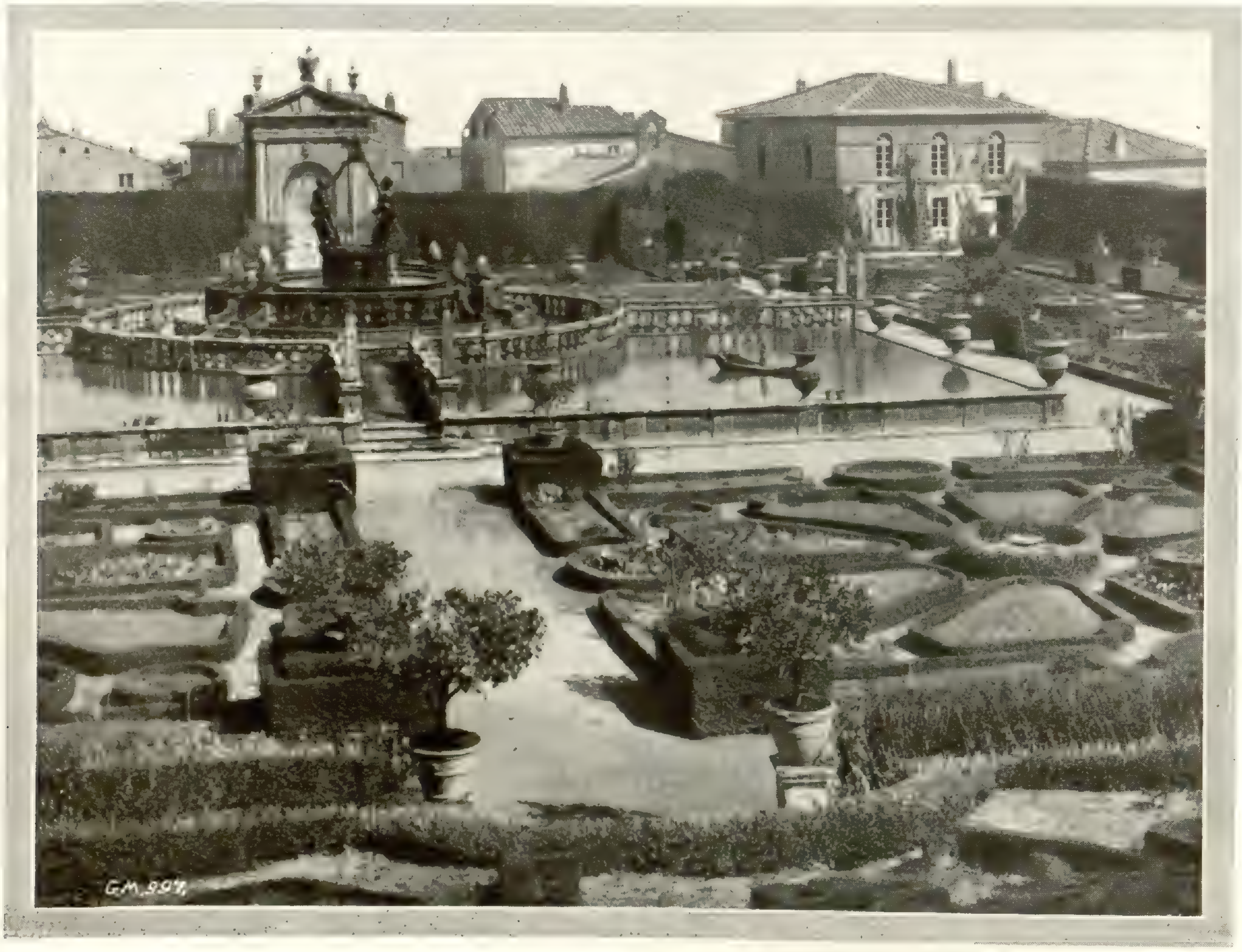
[Photo: Mrs. Aubrey Le Blond.

NEW WATER GARDEN AT THE VILLA GAMBERAIA, SETTIGNANO.

LAWNS.—Those who desire to make a new lawn or bowling green, or to renovate and maintain existing ones in good condition, can have no better guide than "LAWNS AND GREENS," by T. W. Sanders, price 1s. net, by post 1s. 2d.; bound in cloth 1s. 6d., by post 1s. 9d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

ITALIAN GARDENS.

The wonderful gardens of Italy are of such world-wide renown that a lecture upon them by such an authority as Mr. H. Inigo Triggs was heartily welcomed by the members and guests of the Horticultural Club at the opening dinner of the season in the Hotel Windsor on the 12th inst. Sir J. T. D. Llewelyn, the president, being unavoidably absent, Mr. E. White took the chair, and a good audience was present. Mr. Triggs, as the author of the recently issued splendid folio work, "The Art of Garden Design in Italy," in which country he has spent a long period, was naturally not only in a position to deal fully with the subject by his intimate personal knowledge, but was also able to bring the manifold beautiful features of Italian architecture, as applied to open-air gardens, home to his hearers by a series of magnificent lantern slides, reproducing some of the best illustrations in his book.



[Photo: Mrs. Aubrey Le Blond.

PARTERRE IN THE DUKE OF GENTI'S GARDEN, NEAR VITERBO,
With the famous fountain Il Triboli in the centre.

He started by pointing out that these gardens, many of them dating from the fifteenth and sixteenth centuries, were regarded from a very different point of view to that of the present-day garden lover, with whom the plants are the main objects of interest. The Italian gardens were designed practically as architectural extensions on ornamental and artistic lines of the design of the house itself, as was clearly seen by the plans which from time to time were thrown on the screen. In harmony with this idea, the vegetation introduced was mostly trimmed and formalised to fit, topiarian work being regarded as one of the chief functions of the gardener, while the backgrounds of foliage were often Stone pines, and cypresses of more or less rigid and stiff outline.

Free growing, clinging and rambling plants, which nowadays form so great a feature, and add so much to the beauty of our British gardens, would have hidden too much of that architecture which was made the principal feature, and it must not be forgotten that at that date most of these remained to be introduced to the horticultural world. In this particular respect the Italians have, perhaps, been wise to maintain the first principles of the great artists and architects who were called in by the Popes, cardinals, and nobles to carry out their designs, as it would seem, absolutely regardless of expense, the result being that in nearly all cases, the traveller is privileged to see these miracles of art much as they were at their completion.

The chief illustrations were derived from the renowned gardens of the Vatican, the Quirinal, and the Villa Papa Giulio at Rome, the Bobola Gardens, the Villa Campi, and Villa de Castillo, at Florence, the Isola Bella on Lago Maggiore, Villa Imperiali Sampierdarena, the Villa d'Este, Tivoli, and others, which presented the most beautiful effects of combined landscape and architectural design.

In some cases these gardens have become by foreign alliances modified, in the sense that the formal parterres have been devoted to floriculture on modern lines with charming effect. An instance of this is seen in the sixteenth century Villa Gamberaia at Settignano, a view of which is given. Here Princess Ghyka became the owner in 1895, and by her taste has formed a most beautiful combination of well-designed architecture, enhanced by the beauties of judiciously chosen flowers and foliage.

The Villa d'Este, Tivoli, erected in 1549 by Ippolito d'Este, Cardinal of Ferrara, presents a number of beautiful effects, one of which, a water vista, is herewith illustrated. As an example of the lavish way in which money and labour was expended, it may be mentioned that the water supply here was obtained by diverting part of the River Anio, while the greater part of the adjacent village was swept away to make room for the gardens. The villa itself was never completed, being only intended for a temporary summer residence. The gardens, the joint design of Pirro Legorio, Giacomo della Porta, and the famous hydraulic engineer, Orazio Olivieri, present not merely a series of enchanting views, but a number of quaint devices in the shape of a hydraulic organ, aviaries with artificially moved birds, and so on. A view is also given at the Villa Campi at Florence, designed on simpler lines, the dominating feature in these gardens being a fine avenue of tall steeple-like cypresses. The garden, as is shown in the illustration, is now much neglected, but still very beautiful. We also give an illustration from a photograph taken in the garden of the Duke of Genti, a fine specimen of the formal garden associated with artistic balustrades, temples, fountains, and statuary. The gardens of Isola Bella or the Beautiful Island on Lago Maggiore are simply exquisite, both in themselves and their surroundings, while the statuary, fountains, and architectural masterpieces combine to form innumerable pictures which must be seen to be appreciated. At Villa Gori Siena, topiary work appears in the curious form of a holly tunnel, practically an avenue of large hollies trimmed exteriorly to form a semi-cylindrical mass and interiorly to form a tunnel. Elsewhere in the gardens a raised plateau forms the platform of a theatre, the side wings and back of which are formed of high, flatly trimmed trees, set diagonally at such an angle to the spectators as to permit the actors to make their entrances and exits in the orthodox fashion.

Mr. Triggs deprecates the introduction of the Italian style here in view of the different views entertained as to what constitutes a garden proper, though the study of it is salutary when, as in Italy, it is a question of harmonising architectural adjuncts outside the house with those of the house itself. The Italian style, however, he considered, had much to recommend it in the design of large squares in towns, and would, he felt, be far better than the indifferent borders devoted to hardy perennials, many of which were unable to flourish under the conditions that usually obtain in towns. In conclusion, he pointed out that we had every reason in this country to be pleased with the innumerable lovely gardens scattered over the country, constituting an inexhaustible fund of blended sylvan and architectural charm such as no other country in the world can boast of. In Italy the gardens may be magnificent, but probably those of note do not exceed about two hundred in number all told.

Chas. T. Druery, V.M.H., F.L.S.

[Photo: Mrs. Aubrey Le Blond.

PARTERRE OF THE GARDEN OF VILLA CAMPI, FLORENCE.

Black Bryony (Tamus communis).—Though a native British plant—the only representative of the Yam family—that should not disqualify this handsome plant for a place in the wild garden if there is a suitable place for it to run about. Its shining heart-shaped leaves, which turn a dark purple in the autumn, while the stem is almost encased in scarlet berries, make it by no means an unattractive plant. In these days of good farming, when all hedges are kept vigorously trimmed, it is seldom seen in the country, though at one time common, especially on chalky soils.—Alger Petts.

UNCOMMON CLIMBING ROSES.

Varieties of roses possessing points of excellence are always welcome to the rose grower when they belong to that class known as uncommon, yet desirable, whether they are new or old. The following I know from experience are of much merit. Eliza Robichon (Barbier 1903) belongs to the Wichuraiana type, and is remarkable like all varieties of that section for its free and compact growth. The blooms are semi-double, freely produced, and in colour are rose, shaded yellow.

Rubin (J. C. Schmidt, 1900) belongs to the polyantha type, is free in growth, flowers abundantly, and the blooms last a long time in a fresh condition. The colour is a rich deep crimson, flushed rose, and the plant is especially neat in growth and flower formation.

Wedding Bells (Walsh, 1904), also a polyantha, is shell pink, the base of petals white. With age the blooms change to a rosy hue. Semi-double, very free, and of good growth.

The Wallflower (Paul and Son, 1901), quite one of the best of pillar roses, is soft rosy-crimson, bearing huge trusses of large blooms, very distinct and effective. Rêve d'Or (Ducher, 1869) is too much neglected. For a south wall, screen, or as a pillar, it is unsurpassed for quick growth, and gives its deep chrome-yellow blossoms in profusion.

Tea Rambler (Paul and Son, 1902).—A beautiful variety, coppery-pink, with a salmon flush, is exceptionally free flowering, the brightly coloured blooms forming wreaths of the most delightful character.

Banksiæflora has buff-yellow flowers, changing to white with age; the blooms are semi-double, produced in clusters the whole of the summer, and it has especially sweet fragrance.

Reine Olga de Wurtemberg, a showy variety, commences to flower early, and continues for a long time, in fact, right into the autumn, which is an advantage. The clusters of rosy-crimson blossoms are very attractive.

Climbing La France is so little cultivated that its merits deserve to be more widely known. The blooms are equal in point of quality to those produced by plants of the original dwarf type.

Bar le Duc (Soupert et Notting, 1907).—This polyantha variety promises to become popular. It is distinct from any climbing rose that I know, both in habit of growth and in its formation of the bunches of flowers as well as in the individual blossoms. The interior of the petals is a bright brick crimson, paling with age, yet always attractive. The medium-sized blooms are produced in rather thin clusters. The habit of growth is vigorous, and the foliage ample.

Madame Alice Garnier is a polyantha variety that was sent out in 1907, and in habit of growth, colour of its leaves, and form of flowering it much resembles the Wichuraiana type. With me it promises to make a capital pillar rose. The buds are pink with a yellowish ground, and as the flowers expand the colour is pink, suffused yellow or primrose; quite full in the centre, making a cushionlike bloom. I note some catalogues describe the flowers as small. I do not agree with this, as with me they measure three inches in diameter.

E. Molyneux.

Swanmore Park.

DARLEY DALE NURSERIES.

This notice of a famous and extensive nursery might well have been entitled "A Trip to Siberia," because the largest of the several nursery branches belonging to Messrs. James Smith and Sons, of Darley Dale, near Matlock, is called the Siberia Nursery. The name is thoroughly deserved, for the land is at an elevation of about 1,100 feet, in one of the finest parts of the beautiful Peak district. There can be no question as to the hardiness of the stock grown at Siberia and the other branches in this hilly country, and it is equally certain that wherever the stock goes it will do well under reasonable treatment.

The firm has no fewer than fourteen branches in and round Darley Dale, and Siberia, the largest, is about 100 acres in extent. There are the Home, Siberia North, Canada, Butcher's Lane, Station, Church Town, Hall Moor, Bent, Hill Top, Wheatley Roundhills, Willsitch, and Hall Dale nurseries, and the total area under nursery stock is about 250 acres. It is a very difficult matter to obtain land in the neighbourhood, and so areas of varying size have been taken as they fell vacant and the continuous advance of the business made extension necessary.

A BRAKE OF WHITE HEATHER (ERICA VAGANS ALBA MULTIFLORA) AT THE DARLEY DALE NURSERIES.

It was in 1827 that the firm of Messrs. James Smith and Sons was founded at Darley Dale, but for two generations previous to this the same family had conducted business as nurserymen at Matlock Moor and Ashover, the present proprietors' grandfather transferring the business from Ashover to Darley Dale in 1827. Mr. James Smith, who now so ably conducts the business, has abundant energy, good business ability, and a wide knowledge of the nursery trade. Formerly it was necessary to ride round on horseback to keep an oversight of the many and widespread branch nurseries, but Mr. J. Smith was quick to see the advantage of an automobile, and now the tour is made in a motor, and valuable time is saved. All the packing is done in a splendidly equipped and huge shed near the offices of the firm, and everything is done to expedite the work, which from now onwards is very heavy, both in respect of home and foreign orders.

Hardy ornamental trees and shrubs, roses, forest trees, and herbaceous plants are the subjects to be found in the Darley Dale Nurseries. There is no "inside stuff," but all possible skill and every bit of energy goes to the task of making the various stocks the finest it is possible to produce. Cleanliness is a first principle at Darley Dale. Quarters are not cleaned up because they have become weedy and untidy—they are never allowed to become dirty, and it matters little at what season you visit the nurseries you will find lads and men hoeing, if the weather serves. A visit to such a nursery is enjoyable, for the proprietor has not to be continually making excuses for the weediness of one quarter, or the unpruned and untied stocks in another.

Although all the stock is wondrously clean and healthy, and possesses a sturdy vigour not often seen, there are certain subjects in which the firm specialises, and the chief of these are hardy heaths, rhododendrons, and forest trees. If for no other purpose alone a visit to Darley Dale to see the hardy heaths would be time well spent. Half a million plants, in about fifty species and varieties are available for sale, but the cultivation of these beautiful shrubs is far more extensive than these figures imply. One of the "side lines" of the firm is the sale of white heather, and it is an open secret that a considerable portion of the tons of bloom that are despatched each year goes to Scotland, and is sold there as white Scotch heather. These heaths grow remarkably well, and several acres are filled with them in the Siberia Nursery, while smaller areas are to be found in the other branches, so that the season of bloom is greatly extended. There is a difference of from ten to fourteen days in the time of flowering between the same varieties at the Home Nurseries and at Siberia. The deep-coloured Erica mediterranea hybrida, and such fine white varieties of Erica vulgaris as alba, Hammondi, pilosa, Serlei, and tomentosa are superb as seen in great breadths in full bloom. E. vulgaris Alporti, deep crimson; the pretty golden-leaved E. v. aurea; and the very showy copper-tinted E. v. cuprea, are also fine, the two last being very effective at all seasons. At Darley Dale there are hardy heaths in bloom almost the whole year through, the spring-flowering varieties of E. carnea and E. mediterranea carrying on the season until the E. vagans varieties begin, and these, in turn, are followed by the many forms, white and coloured, of E. vulgaris, which continue to the end of October.

Rhododendrons are another special feature, and there are very many acres of them, all low bushes. One remarkable thing about the Darley Dale Nurseries is that there does not appear to be any old plants. Everything is regularly transplanted, and as the young stock becomes saleable it rarely lacks customers. The common R. ponticum, in various sizes, is grown by hundreds of thousands for covert planting, and the great seed beds and beds of tiny seedlings are of great interest. The choice named varieties of rhododendrons are well represented, the collection extending to about a hundred and fifty of the best, and the stock comprising some 300,000 plants. Such varieties as R. alba splendens, R. caucasicum album, R. Cunninghami, and R. Jacksoni are very largely grown for forcing. Of the two new pink varieties, Pink Pearl and Strategist, there are excellent stocks. Both Ghent, mollis, and pontic azaleas thrive here, and notwithstanding the comparatively sunless season, they, as well as the rhododendrons, have set their bloom buds well. All the peat-loving plants do well at Darley Dale, and besides those already referred to there are the gaultherias, menziesias, empetrums, ledums, andromedas, and kalmias in great abundance, while one part of the upland nursery is fragrant with Sweet Gale.

Many folks take special pains with and care of the choicer plants, but show a weakness in dealing with the commoner ones. Not so at Darley Dale. The privets show how careful the firm is to sustain its high reputation, for one may examine minutely the great blocks of these hedge and covert plants and find that all are excellent, shrubby from the base, and very sturdy. The same remarks apply to the Caucasian, colchican, round-leaved, large-leaved, and Portugal laurels; all are sturdy, branched from the base, and covered with intense green leaves. The growths are not long and rank, but comparatively short, stout, and close-jointed.

Coniferous trees and shrubs are grown by the million. Larch, Scots fir, Corsican, Douglas, Weymouth, and Stone pines, and Norway spruce are cultivated in bewildering numbers, and suggest that there are some folks, at any rate, who are undertaking the work of afforestation and estate planting. All kinds of forest trees are largely grown, and the great quarters of oak, chestnut, birch, ash, alder, elms, lime, maple, poplar, and sycamore are of surprising extent and quality. The stocks of ornamental trees and shrubs afford ample evidence of the great demand there now is for these beautiful subjects. Some of the most striking plants at Darley Dale are the coloured conifers, notably Cupressus Lawsoniana argentea, the silvery C. L. Darleyensis, C. L. aurea-variegata, C. L. lutea, and the very deep golden C. L. lutea Smithi, Abies excelsa lutea, A. Parryana glauca, Juniperus chinensis aurea, J. japonica aurea, Pinus Cembra aurea—raised at Darley Dale, the scarce P. sylvestris aurea, as well as the delightful gold and silver retinosporas, thuias, and yews. Numbers of these grown on the slopes of the home nursery provide a fine piece of colour in the landscape of the dale. Turning for a moment to ornamental deciduous trees, one is struck by the beauty of the golden and scarlet oaks, the golden Populus Van Geerti aurea, the home-raised fern-leaved and golden varieties of the mountain ash, the purple beeches, Cornus Spathei aurea, the coloured maples, and the various willows that have bark of striking colour. Willows, by the way, are grown largely in a boggy part of the Siberia Nursery especially for the supply of withes for packing purposes.

Of the large stocks of all the best varieties of hollies it would be an easy matter to write at length, but the euonymuses and ivies would be quarrelling for similar reference, and the berberis and box would call for detailed accounts, so it must suffice to say that these are all finely represented and in great variety.

The flowering trees and shrubs stocked at Darley Dale would provide plenty of material for an extended notice. Stoutly staked and in the highest nursery there are standards of all the loveliest of the fine flowering pears, apples, cherries, plums, and laburnums. These should thrive anywhere, for they are brought up to stand the mountain cold and the hill-top gales, and they are hardy enough to face any local conditions in this country. The guelder roses and the shrubby veronicas call for special mention, while the lilacs and the spiræas are both largely and well grown, and there are excellent collections of the best varieties. And so one might continue through the whole catalogue of trees and shrubs grown at the Darley Dale Nurseries, for it is the boast of the firm, and no idle one, that everything catalogued is grown at one or other of their branches.

The stock books are kept in remarkably strict fashion, and the proprietor is able at a glance to tell whether he has millions or only one plant of any given subject, and in which branch or branches it is to be found. This is very necessary in the case of a widespread establishment, not only for the purpose of supply, but also for the purpose of saving unnecessary running about from one place to another when a varied order has to be filled. Great care is taken in the preparation of the ground for the various kinds of plants, and in the successional cropping of the various areas. Some parts of these mountain nurseries formerly proved difficult to manage, but as the increasing demand made the use of every square yard of space imperative, the present proprietor had the soil analysed, and so found out why the land was unfit, or in what it was deficient. The remedy was applied, and now these awkward plots yield their quota of useful plants.

In conclusion, we may point out that the stock of 30,000 roses at Darley Dale is growing at an elevation of 800ft. above sea level, and that the area devoted to select varieties of hardy fruits is at a similar altitude. Finally, though the nursery is somewhat off the beaten track of business life, it is in the midst of exquisite scenery and historic associations. There is a hearty welcome for all who come, and a day among the hills and in the clear bracing air of upland and dale, coupled with the inspection of fine stock grown in a remarkable nursery, will not readily be forgotten.

ROSES AND ORNAMENTAL TREES IN MESSRS. JAMES SMITH AND SONS' WHEATLEY NURSERY, DARLEY DALE.

AMONG THE CHOICE RHODODENDRONS AT MESSRS. JAMES SMITH AND SONS' WHEATLEY NURSERY.

"CHRYSANTHEMUMS AND HOW TO GROW THEM FOR EXHIBITION," by J. B. Wroe. Sixth Edition, revised to January, 1909, and including the new varieties.—Full details on timing and stopping for Northern, Southern, and Midland growers, selections of the best varieties, illustrated instructions on taking the buds, cuttings, staging, etc. Prices 1s. net, by post 1s. 2d.; cloth, 1s. 6d., by post 1s. 8d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

INBREEDING OF CUCUMBERS.

We gather from "The Weekly Florists' Review" that sensational results from inbreeding of cucumbers under glass were recently made public by Professor W. J. Green, of the Ohio Agricultural Experiment Station.

Nearly 100 growers were present, representing half-a-dozen States, and all paid close attention to Professor Green's modest explanation of the manner in which he has secured results of great value to the greenhouse interests by taking a course directly the opposite to the established method of procedure in matters of selection for improving varieties of vegetables.

The advice has been to avoid inbreeding, and to seek crosses with plants of similar variety grown some distance away. This did not give the results that Professor Green sought, in his efforts to improve the variety of White Spine cucumbers grown in hothouses, so he tried the plan of keeping the product of certain promising vines pure by pollenising from blossoms on the same vine. This he accomplished by keeping the blossoms covered before and after artificial pollenising, to avoid a cross from near-by vines of less purity of strain.

As a result of his experiments, Professor Green stated that he believes that scarcely a variety of cucumber on the market to-day is pure, but that all are crosses more or less detrimental to the quality of fruit. The "bad blood" in the ordinary hothouse cucumbers shows in the vines producing fruits badly bloated in the centre, crooked fruits which must be sold as seconds and culls, and cucumbers almost as round as balls, which are often thrown away.

Straight cucumbers, small at the stem end, of uniform size the whole length, of a delicate dark green colour, wholly ideal in every way, will be the rule, and not the exception, if Professor Green succeeds in his experiment, which so far has been a perfect success.

He first took one vine and was careful to keep the variety pure. Seeds from this vine were planted in a house by itself, so that bees could not get in with pollen from ordinary vines. The result was twenty-four vines in full fruitage, all producing the perfected variety of cucumbers. Samples were exhibited at the Cleveland Convention of Greenhouse Vegetable Growers, and were looked upon with envious eyes by many of the growers, few of whom have been able to grow fall cucumbers in paying quantities.

The spring and early summer crop of cucumbers is the life-saver of the average "greenhouser" who depends entirely on vegetables for his income. Lettuce and tomatoes just about pay expenses, and a full crop is absolutely necessary to make the year a profitable one.

The selling value of this crop is much lessened by the large number of poor fruits produced, especially toward the end of the season. Anything which will improve the quality of the product will prove a little gold mine to growers, and that is why they paid such close attention to Professor Green's story of his experiments.

Professor Green stated informally that he believes many other varieties of greenhouse vegetables can be got back to purer and better strains by judicious inbreeding.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

SEEDLING ODONTOGLOSSUMS. — The raising of odontoglossums from seed has become fairly general in gardens, so much so that it is necessary to include this branch under the general notes. Plants that are reaching their flowering stage, and are requiring more root room should be attended to as soon as the new roots are being emitted from the base of the newly-developing growth. I would lay particular stress on this point, because it is, in my opinion, the best stage at which to attend to any repotting, for the plants are then best able to become re-established, and there is the least possible likelihood of injury. Where good lasting compost is used at every potting, and the roots have become well established, it is not desirable to disturb the roots more than is absolutely necessary. Select a pot of suitable size, and shift the plants on in the usual way, first removing any algæ or decaying moss on the surface of the old compost. See that ample drainage is used, and the pots thoroughly clean. The period between seed germination and the appearance of the first pseudo-bulb is a time of slow progress. It usually takes two years, and the first year is an anxious time for the grower, but as soon as the first three or four leaves have developed more advance is made. I find that by treating the seedling odontoglossums as seedlings are usually treated in other genera of plants, i.e., give the plants a shift as soon as they have rooted through the compost to the edge of the pots, that greater progress is made than is the case where they are not so liberally treated.

SMALL SEEDLINGS.—Those small seedlings that require potting should be attended to without delay, as this gives them an opportunity of becoming re-established before much artificial heat has to be used. The plants should be given a position within reasonable distance of the roof glass. Care must be observed to shade any newly-potted plants from strong light until they have become rooted into the new compost. Carefully spray overhead once or twice a day whenever the outside conditions permit. The smallest seedlings must be kept in a light position during the winter months, and the temperature should be a few degrees warmer than in the ordinary odontoglossum house. Ripe seed may be sown, but it is advisable that only a portion of the seed from the capsule should be sown now. The remainder may be sown after the turn of the days.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

GENERAL REMARKS.—In the short, dull days from now to the New Year great care must be taken in watering. With plenty of moisture in the atmosphere stove plants will exist at this season with but very little water at the roots. Flowering plants, if possible, should be separated from foliage plants at this season, because the moisture necessary in the atmosphere for the latter is undesirable for the other. Regularly feed all winter-flowering plants until they are coming into bloom, as, the pots being full of roots, this assistance is necessary to develop the flowers.

FERNS.—The majority of ferns will now have ceased growth, and it will be necessary to keep the atmosphere drier, and to give less water at the roots, yet they ought not to be allowed to become dry. Adiantums that were closely cut down and have been resting somewhat may now be started into growth by putting them in an intermediate house, and when growth has become active give weak liquid manure. Place adiantums for cutting in a cool position, in full light, and afford a fair amount of fresh air. Examine specimen plants regularly for decayed fronds, or they soon are spoiled by damp if allowed to remain. Water early in the day. The warm fernery may be kept at a temperature of 60 to 65 degrees during the day, but on cold nights 55 degrees will suffice. Kinds susceptible to damp, such as gymnogrammas, northochlænas, and cheilanthuses, should be placed in a position free from damp.

EUPHORBIA JACQUINÆFLORA.—This plant requires light, heat, and careful watering at this season, for during the short, dark days it is very liable to die if kept constantly wet at the roots.

ACHIMENES.—These are among the prettiest of our tender summer-flowering plants, and although included in the stove list, they do not exactly require stove heat for their successful culture. One of the principal points to consider is that the roots are tender, and require a soil light in texture for them to penetrate easily. As the flowers will now be over, gradually decrease the supply of water until the foliage has practically died away; then store the pots full of soil and tubers, just as they are, in some cool house, from which frost can be excluded. They will need no more attention until spring. They are easily propagated by seeds, shoots, or leaf cuttings, and by division of the tubercles, as each scale will produce a plant.—Wm. Fyfe, Lockinge Park Gardens.

FRUITS UNDER GLASS.

PEACHES AND NECTARINES.—As the foliage will now have fallen from trees in the early and second houses, these may be pruned, and, if it is necessary, root prune also. This latter is most important if the growth has been rank, and the trees perhaps not so fruitful as they might be, and may prove the very thing to restore fertility. If the trees have been root pruned in the past it will be necessary to commence with the trench about a foot beyond where the roots were pruned before, when it will be soon seen whether any large roots have got away. In any case, it will be advisable to work down to the bottom of the border, all around the tree, and sever any gross roots with a sharp knife. When returning the soil mix up a little fresh material, and add a little burnt earth or brick rubbish to it, as this assists very materially in keeping the soil sweet. The soil should be well rammed, and if dry be given a good watering. Root pruning gives an excellent opportunity always of ascertaining the general condition of the border, and should be dealt with accordingly. The branches should be cleaned of all old ties. Cut out as much of the old wood as possible, leaving the young shoots which have been tied in during the current season. Thin these latter as necessary, retaining all the ripest and straightest growths to be tied in for next season's crop. The wood should then be well sprayed with some insecticide, taking care that every portion receives the spray. It is not often mealy bug is found on well-developed trees, but if any be present some stronger measures must be taken to ensure its complete eradication. If scale be present use a small brush and some strong insecticide to remove it. When the trellis, roof, and walls have been cleaned the tying and training of the branches may be done. Tie the main branches in position with stout tar string, and the smaller branches with twisted matting; the branches should be tied in as regularly as is possible, and not nearer than four inches apart, better if five or six inches. Tie just tight enough to keep in position, and use small bamboo rods or tar string running the opposite way to the wires for the support of the shoots that come halfway between the wires. After this is done the border should be cleaned, and a light top-dressing of loam and some approved fertiliser be given, and the house will be ready for starting at the appointed time.

PLANTING NEW HOUSES AND VARIETIES.—As in the case with vines, so with peaches, the borders are often made too large at first, and this should be guarded against, especially when imported soil is used, as this makes a great difference to the cost. Draining is essential, especially on heavy land. The surrounding land may have been drained, but not to such an extent as may be neecssary for indoor culture. The borders should be well made, and if really good loam from an old pasture be obtainable no manure will be necessary, but a goodly proportion of lime rubble should be added. The loam should be chopped up, and the finer portions be placed immediately around the roots when planting. Good healthy trees should be procured, absolutely free from gumming or any other evils, and they should be planted about the same depth as they have been in the nursery. The following are sterling peaches: Hales' Early, Grosse Mignonne, Dymond, Violet Hative, and Early Rivers. Nectarines: Early Rivers, Lord Napier, Elruge, and Cardinal. These are suitable for a good-sized early house, while for a later house Pine Apple, Violette Hative, Humboldt, and Victoria nectarines, and Dymond, Alexandra, Noblesse, Barrington, Princess of Wales, Crimson Galande peaches will afford a good succession.

TOMATOES.—Keep these growing in a dry, warm, and airy house. Pollenate the flowers as they open, and do not allow the soil to become dry or the flowers will drop.

STRAWBERRIES IN POTS. — These should be placed in cold frames or turned on their sides, as we are having more rain than is good for them. Look out for worms, as these are apt to destroy many roots if left undisturbed, but if the pots have been standing on a hard base this trouble will have been avoided.

CUCUMBERS.—The temperature should not be allowed to go higher than 75 degrees, nor lower than 65 degrees. Keep the growths well tied in, and cut the fruits as fast as they become ready, standing their stalks in saucers of water to keep them fresh and crisp. Fumigate both these and tomatoes at least once every fortnight, as it is better to give a mild fumigation to keep down aphis than to give a heavy one to get rid of it.—W. A. Cook, Leonardslee Gardens.

THE KITCHEN GARDEN.

MUSHROOMS.—The earliest beds that were made up and spawned in the mushroom house are now giving good supplies. To keep these going satisfactorily a pure and humid atmosphere is essential. Carefully syringe the walls and pathways of the house twice each day, and use any means of retaining moisture without making the surface of the beds wet, otherwise damping may be serious. Collect manure and prepare it for successional beds. So much depends upon their condition as to the length of their bearing properties, but, in any case, it is not safe to depend on inside beds over a month's duration of heavy cropping, that provision of new beds should be made accordingly.

ASPARAGUS BEDS.—Growth will be sufficiently matured for cutting down. Have the stems and weeds cleared away during a dry day, and put the beds in order for the winter. I do not recommend the addition of rotten manure now, especially on cold clayey land. Where this vegetable is expected during winter a commencement may be made for forcing a batch over a mild hotbed in a compost of sandy soil. Do not allow the roots to in any way suffer from want of moisture or failure will be the result. Preserve a genial humid atmosphere and a temperature of about 60 degrees, admitting a little air on warm days.

SEAKALE.—Select some of the most matured crowns, and place ten or twelve in a large pot in a sandy compost, and put them in the warmest part of the mushroom house. The early crowns are often slow in commencing growth, but frequent waterings with warm water and daily syringing will excite them.

RHUBARB.—As fruit becomes scarce a call will be made for rhubarb, so choose some of the earliest crowns, lift them, and introduce them to heat. If a mild hotbed can be arranged in a pit for this first batch it will be advantageous. Failing this, plant the crowns in the mushroom house and treat them as recommended for seakale. Have a number of roots lifted and exposed to the weather, as this will have a tendency to make them respond more readily to forcing, and will provide a successional supply to the above.

SALADS.—The provision of salads will be more difficult during the next few months. Chicory is one of the plants to be relied upon, and a quantity of roots may be lifted now and potted up, placing five or six in a ten-inch pot, and putting some in heat, but where light is excluded. Endive is also of great importance, and a useful method in dealing with this salading is to plant it out in shallow boxes, similar to those used for potato sets, as these can be placed in heat as required, and moved about at will according to demand. Lettuce will require to be blanched carefully. Six-inch pots placed over them as they stand is convenient, but if hard weather sets in it is better to treat them similarly to endive by placing them in a dark position inside. Make frequent sowings of mustard and cress.

PARSLEY.—The continuous wet and sunless time has prevented parsley from building up suitable growth to stand severe frosty weather. See that the stock of this important herb is in accordance with the possible requirements by having reserve stocks placed in frames or pits that can be effectively protected if necessary, or if scarcity follows.—CHARLES FLACK, Cholmondely Castle Gardens.

OLD VERSUS YOUNG VINES.

It has been my privilege to see the splendid vines at Swanmore Park, and I can fully bear out all that Mr. Molyneux says in respect to their fine, healthy condition, and his remarks respecting the utility of old vines when well cared for. I used to greatly admire the excellent bunches of Madresfield Court and Muscat of Alexandria grown by Mr. Molyneux. There were four points in each bunch that always arrested my attention, namely, size of bunch, size of berry, good form, and high finish. For more than ten years I had charge of the gardens at Cadlands Park, and when I entered on my duties there I found that preparations had been made to replace the old vines in two houses with young ones. One house contained Muscats; the rods were not very handsome to look at, and the laterals were rather weakly. The flowering stage was approaching, and as the bunches looked promising, I determined to give the old vines a few years' trial. Results well warranted the course taken. The vines were gently forced and their strength gradually increased. The bunches were of good size, the berries large, and the latter always coloured well by the end of August. In a few instances I took up young rods to replace the old ones, but the average annual crop from each vine, which had rods about 16ft. long, weighed nearly thirty pounds. At the end of the ten years, when I relinquished my charge, the vines were in every way more satisfactory than when I first took them in hand. Mr. Molyneux once saw these Muscats, and I believe his remark was, "these vines prove that the finest bunches are not always borne on the biggest wood." The bunches were certainly not borne on other than very medium strength wood, but it always matured grandly, and was studded with plump buds.

Many tons of chalk in large lumps had been put under the borders, and nearly all the soil was imported from the Isle of Wight. As surface roots were scarce, I covered the borders with a layer of fibrous turves of medium thickness, and so quickly secured a net-work of small roots under them. Half of the border was inside and half outside. The vines are a little more than thirty years old. I, too, always prune back the leading rod of a young vine to about 2ft. from its base every year until the top of the house is reached. I am now treating two vineries in this way. I like to see the bottom part of the rod thicker than the middle portion. GEO. GARNER.

BOLTON.
The 23rd GREAT EXHIBITION OF CHRYSANTHEMUMS, ORCHIDS, FRUIT, etc., November 19th and 20th in the ALBERT HALL.
Upwards of £160 Cash Prizes, 3 Silver Cups, R.H.S. Medals (affiliated societys), and valuable Orchids. Special Cash Prizes for Roman Hyacinths offered by several Nurserymen.
Entries close Nov. 13th.
Schedules on application to the Secretary, GEORGE CORBETT, Heaton Grange, Bolton.

BROMLEY AND DISTRICT CHRYSANTHEMUM SOCIETY.
THE 28TH ANNUAL EXHIBITION
Will be held in the
GRAND HALL, BROMLEY,
On WEDNESDAY and THURSDAY, Nov. 10th, and 11th, 1909.
Entries close November 6th.
Schedules, etc., of the Hon. Sec.,
R. S. PATTERSON,
The Gardens,
Bromley Palace, Kent.

BUXTON AND DISTRICT CHRYSANTHEMUM SHOW,
WEDNESDAY, November 10th, 1909.
For Schedule and List of Prizes, address—
S. SHUFFLEBOTHAM, Secretary, 12, Eagle Parade, Buxton.

SCOTTISH HORTICULTURAL ASSOCIATION.

CHRYSANTHEMUM EXHIBITION.

The Association will hold its next Great Chrysanthemum Exhibition in the WAVERLEY MARKET, EDINBURGH, on the 18th, 19th, and 20th November, 1909.

Copies of the Prize List, which contains all particulars as to Prizes, conditions of competition, etc., may be obtained on application to the Secretary,
A. D. RICHARDSON,
19, Waverley Market, Edinburgh.
Entries close on 10th November.

BRADFORD CHRYSANTHEMUM EXHIBITION in ST. GEORGE'S HALL, on FRIDAY and SATURDAY, November 12th and 13th.
£27 for 24 Japanese (on Boards).
Prize Money for Open Competition again Increased.
Entries Close November 6th.
Schedules with entry form post free from H. SPENCER, Hon. Secretary, Horton Park, Bradford.

LOWER MARKET,
EXETER.

DEVON AND EXETER HORTICULTURAL SOCIETY'S
FLOWER, FRUIT, ETC., SHOW,
THURSDAY and FRIDAY,
November 11th and 12th.
SILVER CHALLENGE CUP, VALUE £30, FOR CUT BLOOMS. SPECIAL PRIZES for CIDER APPLES.
ENTRIES CLOSE 6th NOVEMBER, 1909.
Schedules, etc., from A. HAROLD WARD, Hon. Secretary, 9, Bedford Circus, Exeter.

HUDDERSFIELD AND DISTRICT CHRYSANTHEMUM SOCIETY.
The EIGHTEENTH EXHIBITION of the above Society will be held in the TOWN HALL, HUDDERSFIELD, on FRIDAY and SATURDAY, November 12th and 13th, 1909. Schedules and Entry Forms may be obtained on application to JOHN BELL, Hon. Sec., Marsh, Huddersfield.

SHEFFIELD CHRYSANTHEMUM SOCIETY'S GREAT ANNUAL SHOW.
CORN EXCHANGE, SHEFFIELD,
FRIDAY and SATURDAY, Nov. 12th and 13th.
UPWARDS OF £200 IN PRIZES.
Schedules and particulars free on application to Secretary.
C. COOK, City Road, Sheffield.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

On Tuesday, October 26, the Royal Horticultural Hall was once again well filled with exhibits. Hardy flowers and dahlias were plentiful, and had just missed the frost of the early morning. Orchids made a good display, and fruit was fairly well shown; while perennial asters and begonias were leading features.

FLORAL COMMITTEE.

A wonderful exhibit of Michaelmas daisies made right across the end of the hall by Mr. Edwin Beckett, V.M.H., gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree, was a fine feature of the meeting. Mr. Beckett put up big arrangements of each variety, so as to show the habit and freedom of flowering, and in this way the flowers appealed to the visitors. It goes without saying that the daisies were finely grown as well as very finely staged. The greater number of the varieties were small-flowered and of particularly graceful habit, and many were Aldenham-raised kinds. A few that were especially pretty were Desire, Bianca, white (A.M.), Ringdove, Amity, Simplicity, Maidenhood, White Diana, Grey Dawn, Star Shower, and Comeliness; a large flowered variety named Climax was also wonderfully fine.

A brilliant exhibit of the very useful winter-flowering begonias that have resulted from the use of B. socotrana as a parent was made by Messrs. James Veitch and Sons, Chelsea. This firm filled a whole table with plants of their own raising and growing, and these were beautifully flowered. B. Mrs. Heal was the brightest of the lot, and was smothered with large single carmine blooms; B. Julius, B. Elatior, B. Winter Perfection, B. Success, B. Ensign, and the compact B. Ideala. Mrs. Stewart Mackenzie, Haywards Heath, showed some finely-grown and freely-flowered winter-flowering begonias, B. Ideala being especially good. Mr. A. L. Gwillim, Cambria Nursery, New Eltham, brought up some exquisite double and frilled begonia blooms, arranging these on flat boards.

Michaelmas daisies and early-flowering chrysanthemums made a good show, as set up by Messrs. Barr and Sons, Covent Garden, with Crocus asturicus, Cimicifuga simplex, kniphofias, vallotas, and the climbing Aconitum volubile, with deep purple blue flowers. Messrs. H. Cannell and Sons, Swanley, brought up a collection of winter-flowering begonias, the chief kinds being B. Dregei, B. Vesuvé, B. Coralle, B. Ruby, and B. Pink Gem. Mr. G. Mallett, Cheddar, submitted a vase of finely developed spikes of Lilium sulphureum cut from the open field.

Mr. W. Leggett, West Bergholt, Colchester, had a set of fragrant rose blooms, practically the last of the season. Mr. G. Reuthe, Keston, showed some very pretty nerines, herbaceous lobelias, and perennial asters. The useful and ever-blooming Viola cornuta purpurea was again well shown by Messrs. Gunn and Sons, Olton, who also put up some fine vases of early-flowering chrysanthemums, Roi des Jaunes, Market White, Cranford White, and Ethel Blades standing out conspicuously. Begonia Ideala was magnificently shown by Mr. A. V. Coombe, gardener to Lady de Ramsey, Norwich; there were six plants, each about 2ft. through, and rather more in height, and grandly bloomed.

Begonia blooms from the open ground—the last for the season, for a frost on Tuesday morning put an end to them—were delightful, as shown by Messrs. Thomas S. Ware, Feltham; these were on boards, backed by Michaelmas daisies; the colours were superb. A bold group of chrysanthemums was put up opposite the entrance by Messrs. Wells and Co., Merstham. It consisted of big Japanese blooms. decorative varieties, and baskets and bowls of the later of the early-flowering varieties. Mrs. R. Luxford (A.M)., Keith Luxford, Frank Payne, and Alice Lemon were conspicuous large Japanese varieties, but the single yellow Altrincham Yellow (A.M.) was the great attraction of the group.

Messrs. J. Cheal and Sons, Crawley, managed to get in with dahlias before the frost, and they made a pretty final display of single varieties of these autumn flowers.

showing the leading sorts, and putting these up in triangular bunches. The same firm displayed an attractive collection of sprays of shrubs with coloured and otherwise ornamental foliage. The pæony-flowered dahlias from Messrs. Bakers, Wolverhampton, made a brave bit of colour, and among the many varieties Lady Savile, Faust, Pius X., Codsall Gem, Mrs. J. Chamberlain, The Warrior, and Mrs. A. Worsley were very showy. Succulents and various alpine shrubs were exhibited in a rock garden by Messrs. J. Peed and Son, West Norwood.

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, again showed Michaelmas daisies well, and also had a very bright lot of early chrysanthemums and some large Japanese blooms of Sir Frank Crisp, Master James, F. W. Lever, and others, a very pretty exhibit. Gleichenias were very well shown by Messrs. J. Hill and Son, Barrowfield Nursery, Edmonton, who filled the side of one table with these graceful ferns of G. flabellata, G. dichotoma, G. longipinnata, and G. Mendeli; there were specimens of considerable size and great beauty. Messrs. Ambrose Palmer and Co., Mount Street, Grosvenor Square, had a mixed display of chrysanthemums and fruit.

Messrs. W. Cutbush and Son, Highgate, presented a group of cut perpetual carnations, their best varieties being Beacon, White Enchantress, Mrs. Burnett, The President, White Perfection, Mikado, Aurora, and the large maroon-coloured Lady Nora Brassey. Messrs. Stuart Low and Co., Bush Hill Park, Enfield, displayed Otaheite oranges, a fine batch of the graceful Phœnix Roebelini, and a few perpetual flowering carnations, the latter including the new scarlet D. P. Bassett. A batch of Lomaria spicant serratum varieties, very useful and pretty was brought up by Messrs. H. B. May and Sons, Edmonton, who also again exhibited standards and bush plants of named varieties of veronicas.

A bold group of Michaelmas daisies, physalis, pentstemons, and solidagos was put up in good style by Messrs. W. Cutbush and Son, Highgate. Mr. F. Brazier half-filled one of the annexes with a splendid display of big bunches of early chrysanthemums, pentstemons, phloxes, and Michaelmas daisies; the vases and plants of Savoie, a new and delightful white (faintly blush tinted) October chrysanthemum was a special feature of this display; it is a very elegant, free-flowering, and useful plant.

ORCHID COMMITTEE.

A glorious exhibit of finely grown orchids was contributed by Lieut.-Colonel Holford, Westonbirt, Tetbury, Gloucester, and beautifully set up by Mr. H. Alexander, the able grower. All along the background Oncidium varicosum Rogersi was freely used, the long arching sprays of golden blossoms serving to show up the grand lot of cattleyas that made up the bulk of the display. The group demonstrated the beauty and value of the fine hybrid Cattleya Fabia (labiata and aurea), for of this grand orchid there were sixty splendid specimens carrying a total of about three hundred mauve and purple and gold flowers. Altogether there were about two hundred plants in this exhibit, and a hundred and thirty were cattleya species and hybrids, and these, including C. Fabia, gave a hundred and seventy-five spikes, and rather over six hundred flowers. Beautiful orchids included with those already noted were Cattleya fulvescens Westonbirt var., C. Undine, C. Mrs. Pitt, C. labiata G. C. Whitelegge, C. Mantini, Lælio-cattleya Arethusa, L.-c. Priam, Brasso-cattleya Digbyana-gigas with two big blooms; the lovely Cymbidium erythrostylum, Cypripedium Hera Euryades, C. Hitchinsiæ Holford's var., the pale yellow C. Rossetti, C. triumphans magnificum, C. Chas. Rickman magnificum, and the beautiful C. Niobe Westonbirt var.

Messrs. Stuart Low and Co., Bush Hill Park, Enfield, had in their group of orchids such interesting things as Bulbophyllum Godseffianum, Cypripedium Mdme. George Truffaut, Odontoglossum blandum, O. Uro Skinneri album, Cirrhopetalum appendiculatum, Grobya galeata, Cycnoches chlorochilon Oncidium Lanceanum, etc. Messrs. Jas. Veitch and Sons, Chelsea, had a bright exhibit of orchids, consisting largely of Cattleya labiata and Odontoglossum grande. Cattleya Bowringiana and Cypripedium Fairrieanum were also well represented, and examples of Brasso-cattleya Digbyano-gigas, Cypripedium elatior (Leeanum and Baron Schroder), C. Thalia, and C. insigne Sanderæ.

Messrs. Jas. Cypher and Sons, Cheltenham, contributed a useful lot of cypripediums associated with Dendrobium phalænopsis, oncidiums, and cattleyas. Among the former we noted C. Niobe superba, C. Maudiæ, C. Fairrieanum in considerable numbers, C. Triumphans, C. Minos Veitchi, C. Milo Westonbirt var., C. nitens magnificum, and C. insigne Harefield Hall. Mr. Edward V. Low, Vale Bridge, Haywards Heath, showed a few very choice orchids, the white forms of Cattleya labiata being prominent, notably C. l. Redleyensis, C. l. G. G. Whitelegge, C. l. Daphne, C. l. alba var. Purity, C. l. R. I. Measures, and Cypripedium Olivia.

Mr. G. F. Day, gardener to H. S. Goodson, Esq., Fairlawn, Putney, put up a large group of orchids, and set up the plants ligntly and to good advantage, though a few more ferns to hide the pots would have been an improvement. In this display were Cattleya Mantini, C. Bowringiana, C. labiata, C. gigas, Odontoglossum crispum, O. grande, the lovely Odontioda Charlesworthi, Cypripedium Maudiæ, and C. Fairrieanum. In the group of orchids submitted by Messrs. Sander and Sons, St. Albans, we noted a fine Vanda cærulea, Dendrobium formosum giganteum, white and coloured forms of Cattleya labiata, Lycaste macrophylla, Anguloa uniflora, Cattleya Klondyke (Harrisonæ and Marriottiana), and C. Empress Frederick var. Sanderæ, the latter a lovely white-petalled variety.

Epidendrum vitellinum majus made a brilliant centre to Messrs. Charlesworth and Co.'s group of orchids, and round this useful orchid were grouped Odontoglossum crispum, O. Lambeauianum, the bright Odontioda Bradshawiæ, Cypripedium Madame Alfred Bleu, C. Jeanette, C. Arthurianum, C. purpurata, Miltonia vexillaria Leopoldi, and Cattleya Empress Frederick gigantea.

M. Mertens, Mont St. Amand, Ghent, brought over some pretty hybrid odontoglossums, all unnamed, as usual. Cymbidium Gammieanum, a natural hybrid, with spikes of greenish-buff flowers, was shown by Major G. C. Robertson, Widmerpool Hall, Notts, and this secured a Cultural Commendation.

Some very fine plants of Cattleya Bowringiana, carrying beautiful spikes of richly-hued flowers, were shown by Messrs. J. and A. A. McBean, Cooksbridge, Sussex, who also showed some cypripediums, odontoglossums, and Cattleya Portia Perfection. Cattleya Fabia Blenheim var. was shown by the Duke of Marlborough; this is a light form. Mr. W. Hopkins, gardener to Francis Wellesley, Esq., Woking, exhibited several pretty white forms of Cattleya labiata, The Empress being very pure.

Mr. A. Young, gardener to E. R. Ashton, Esq., Broadlands, Camden Park, Tunbridge Wells, put up a very pretty exhibit of orchids, and his plants were well displayed. Among other good things thus shown were Cattleya Bowringiana, C. labiata, C. Iris, Odontoglossum grande, Oncidium varicosum Rogersi, Vanda cærulea, various odontoglossums, Epidendrum vitellinum majus, and some masdevallias. This was an excellent "first" display.

FRUIT AND VEGETABLE COMMITTEE.

Messrs. Laxton Brothers, Bedford, had an extensive exhibit of fruit, and their display was well arranged. Prominent among the many kinds on view were Allington Pippin, Queen, Charles Ross, Blenheim Pippin, Newton Wonder, Emperor Alexander, and Golden Spire apples, and Conference and Beurre Superfin pears. Mr. J. Aikman Paton, Soulscut, Castle Kennedy, N.B., brought up hybrids of Solanum tuberosa and S. Commersoni, these being in flower, and bearing violet-hued flowers. The cross had white tubers. So far this cross has been quite immune from disease.

An interesting collection of onions was submitted by Messrs. G. Massey and Sons, Spalding, the leading varieties being Record, Ailsa Craig, Golden Globe, and Cranston's Excelsior. From the Horticultural College, Swanley, Kent, came a collection of apples, including popular culinary and dessert varieties.

Mr. A. E. Humphreys Owen, Glansevern, Berrier, R.S.O., was awarded a silver Banksian medal for a dozen dishes of apples. Mr. G. Kelf, gardener to M. Drummond, Esq., Welwyn, showed about three dozen dishes of apples, and the same number of pears; the former were somewhat small, but many of the pears were quite good. Messrs. W. Seabrook and Sons, Chelmsford, put up a very fine collection of well-grown apples and pears, the former being represented by excellent samples of Lord Derby, Ribston Pippin, Queen, Ecklinville, Mother, Royal Jubilee, Chelmsford Wonder, Bismarck, Blenheim Pippin, Emperor Alexander, May Queen, New Hawthornden, Peasgood's Nonsuch, and Allington Pippin.

Mr. Henry Whiteley, St. Marychurch, Torquay, submitted a collection of about one hundred varieties of apples, these including about twenty of the newer sorts. Wolfe River apple, from Vancouver, was shown, and there were good dishes of Bramley's Seedling, Peasgood's Nonsuch, Royal Jubilee, Emperor Alexander, Crimson Bramley's (very bright), Hambling's Seedling, James Grieve, Charles Ross, Houblon, Rival, Langley Pippin, and Adam's Pearmain.

In the competitive classes Mr. J. G. Williams, Pendley Manor, Tring, was placed first for six dishes of the newer apples, leading with Norfolk Beauty, Charles Ross, Christmas Pearmain, Rival, Baron Wolsey, Hambling's Seedling; Mr. W. H. Bacon, gardener to Sir Marcus Samuel, Maidstone, second; and Mr. H. Whiteley, third. Mr. Crump, Madresfield Court Gardens, Malvern, led for one dish of new cooking apples with King Edward VII.; Mr. J. Mayne, Bicton, second, with the same variety. For one dish of a dessert variety Mr. Bacon led with Charles Ross, Mr. Crump second with Wm. Crump (Cox's Orange and Worcester Pearmain). Mr. Bacon led with one dessert pear with St. Luke, and Mr. J. G. Williams was second with Princess. For three dishes of new pears, Mr. A. R. Allan, gardener to Lord Hillingdon, Hillingdon Court, Uxbridge, scored with St. Luke, Le Lectier, and Charles Ernest, all in good condition; Mr. W. H. Bacon second.

AWARDS.

Award of Merit.—To Chrysanthemums Mrs. R. Luxford and Altrincham Yellow, from Messrs. W. Wells and Co., Merstham.

To Chrysanthemum Mr. Thornton, from Mr. H. Perkins, Henley-on-Thames.

To Perpetual Carnation May Day, from Messrs. J. Peed and Son, Norwood; Messrs. Bath, Lim., Wisbech; and Messrs. Stuart Low and Co., Bush Hill Park, Enfield.

To Perennial Aster Bianca, from Mr. Edwin Beckett, V.M.H., Aldenham House Gardens, Elstree.

To Columnea magnifica, from Sir Trevor Lawrence, Bart (Mr. Bain, gardener), Burford Lodge, Dorking.

To Cypripedium Elatior Rex, from Messrs. James Veitch and Sons, Chelsea.

To Cypripedium Beacon magnificum, from Lieut.-Colonel Holford (Mr. Alexander, grower), Westonbirt, Gloucester.

MEDALS.

Gold.—To Lieut.-Colonel Holford, Westonbirt, Gloucester, for orchids.

Silver-gilt Flora.—To Hon. Vicary Gibbs, Aldenham House, Elstree, for Michaelmas daisies; to Messrs. J. Hill and Sons, Edmonton, for ferns; to Messrs. J. Veitch and Sons, Chelsea, for winter-flowering begonias; to Mr. C. Ashton, Tunbridge Wells, for orchids; to H. S. Goodson, Esq., Fairlawn, Putney, for orchids.

Silver-gilt Banksian.—To Messrs. Seabrook and Sons, Chelmsford, for apples and pears: to Messrs. W. Wells and Co., Merstham, for chrysanthemums.

Silver Flora.—To Messrs. Sander and Sons, St. Albans, for orchids; to Mr. E. V. Low, Haywards Heath, for orchids; to Messrs. Cypher and Sons, Cheltenham, for orchids; to Messrs. James Veitch and Sons, Chelsea, for orchids; to Mr. F. Brazier, Caterham, for asters and chrysanthemums; to Messrs. W. Cutbush and Son, Highgate, for carnations and hardy flowers; to Mr. H. J. Jones, Lewisham, for asters and chrysanthemums; to Messrs. H. B. May and Sons, Edmonton, for ferns and veronicas; to Messrs. T. S. Ware, Lim., Feltham, for begonias.

Silver Knightian.—To Messrs. Laxton Brothers, Bedford, for fruit; to Mr. H. Whiteley, Torquay, for apples.

Silver Banksian.—To Messrs. G. Massey and Son, Spalding, for onions; to Mr. A. C. Humphreys-Owen, Glansevern, Berrier, R.S.O., for apples; to Messrs. S. Low and Co., Enfield, for orchids; to Messrs. Charlesworth and Co., Haywards Heath, for orchids; to Messrs. J. and A. A. McBean, Cooksbridge, for orchids; to Messrs. Bakers, Wolverhampton, for dahlias; to Messrs. J. Cheal and Sons, Crawley, for dahlias and autumn-coloured foliage; to Messrs. Gunn and Son, Olton, for chrysanthemums; to Mr. L. R. Russell, Richmond, for berried plants; to Mr. D. Russell, Brentwood, for hollies, etc.

Royal Horticultural Society, Ireland.

The winter show of the Royal Horticultural Society of Ireland, which consisted principally of fruit, vegetables, and chrysanthemums, was held at Balls Bridge, in the buildings of the Royal Dublin Society,on the 20th and 22nd inst. On the day of opening the weather left nothing to be desired, but, considering the very high character and great variety of the various exhibits, and the excellent arrangements made in connection with the whole exhibition, one would expect to see the hall thronged to excess. However, the attendance was comparatively good, and it must be said that the competitions in the various classes for fruit and vegetables were exceedingly good in the great majority of cases. The main hall of the building presented a very attractive appearance, with the contributions to the fruit classes arranged in the middle, and the collections furnished by the various nurserymen on the sides.

With chrysanthemums the time was rather between seasons, as late-flowering varieties were scarcely at their best, and the finest of the early outdoor kinds were over; yet in some classes exceedingly good blooms were to be seen. J. Jameson, Esq., J.P., of Malahide, was most successful, winning first prize in five classes. The blooms from this exhibitor included examples of Mrs. A. T. Millar, a splendid white, and Mrs. N. Davis, Mrs. L. Thorn, Algernon Davis, Mrs. W. Knox, Melchet Beauty, and Reginald Vallis. The challenge cup presented by Messrs. Hopkins and Hopkins for twelve vases of early-flowering varieties was won by Mrs. Mead Coffey, of Blackrock. Other winners in these classes were Mr. W. Ross, Mr. F. V. Westby, Mrs. Redmond, and Miss J. Field. The competition in the class for twelve vases of hardy cut flowers was of particular interest, as the flowers staged afforded an indication of the flowers to be had from the open quarters during this dull season. The first prize was awarded to Mr. E. Lee, the second going to Captain Riall. In this competition were violets, roses, asters, chrsyanthemums, ceanothus, Senecio pulcher, Solanum jasminoides, and bright scarlet berries of Skimmia japonica, etc.

The collections of eighteen dishes of apples, on decorated tables, proved an attractive and very pretty feature. The competition was a very keen one, there being seven entries, and Mr. J. Jameson, J.P., was awarded the first prize for grand fruit embellished with ampelopsis trails and smilax, and small pots of crotons and ferns intermingled. Mr. Michael Hennerty was a close second. The class for collections of twelve dishes of cooking apples was a good one, magnificent fruit being included in most of the entries. In this class the Earl of Bessborough occupied the post of honour; Clara Lady Fitzgerald was second; and Mr. W. Coffey, third. Remarkable among the dishes staged by the first prize winner were those of Lane's Prince Albert, of grand colour and size; Blenheim Pippin, Peasgood's Nonsuch, and Hambling Seedling. In the second prize lot were Warner's King, Royal Jubilee, Cox's Pomona, Mère de Ménage, Annie Elizabeth, etc., of wonderful size and uniformity, while in the lot gaining third was perhaps the grandest and largest dish of apples in the show, the variety being Peasgood's Nonsuch.

In the classes for separate dishes of cooking apples the entries were numerous, and many of the competitions were particularly keen. The entries in the classes for Warner's King, Peasgood's Nonsuch, The Queen, Bismarck, Lane's Prince Albert, and Bramley's were particularly good, the number averaging about fifteen in each. Indeed, in some of these competitions one would consider all the fruit shown to be of first-class merit, notably so in The Queen and Newton Wonder classes. Among the dessert varieties James Grieve showed up well, and was a large class; Charles Ross proved itself another ideal exhibition apple, with an ideal form and rich colour. Perhaps better samples of Worcester Pearmain may have been seen before in Dublin, but Allington Pippin, Lady Sudeley, and American Mother looked grandly finished. The principal winners in these classes for a dish of cooking and dessert apples were Mrs. Goodbody, Major J. C. Hickman, Mr. E. Bewley, Mr. D. M'Carthy, the Right. Hon. Lord Plunket, Sir R. Palmer, Clara Lady Fitzgerald, etc.

The competition for the prizes for pears was also well in keeping with the great excellence of the other features of the show. Mrs. Goodbody was here again successful in gaining first for a dish of Conference of fine quality. For a dish of Pitmaston Duchess the Rev. Robert Bradshaw was awarded first in a class in which twenty-two dishes of splendid fruit made a formidable array against him. Mr. E. Dolier gained first for a dish of Louise Bonne of Jersey, and for Doyenne du Comice the Earl of Meath carried away premier honours. For cooking pears C. M. Doyne was awarded first for fine fruits of Catillac. Other winners in classes for pears were Sir E. Cochrane and E. Bewley. Grapes were well shown by Mr. F. V. Westby and Mr. Ernest Bewley, both of whom were awarded first prizes.

In the competition for packing fruit for market the various lots of apples were generally neatly put up, and the quality of fruit was uniformly even and good. This competition showed general improvement on other times. The principal winner was Mr. Fitz W. A. Scott, who was awarded four first prizes.

There were many medals and awards to nursery exhibits, and others. Gold medals to Messrs. A. Dickson and Sons, and to Messrs. Ramsay and Son, while Messrs. Browett, Edmandson Brothers, and S. A. Jones obtained silver medals.

National Chrysanthemum Society.

There was a well-attended meeting of the Floral Committee at Essex Hall on Monday, October 25, and there was a quite good display of flowers, and a fair number of novelties.

Mr. Norman Davis, Framfield, submitted a number of good flowers, his Miss Lily Hall, Henry Poulton, and the golden David Ingamells being the finest. Mr. G. Carpenter, Byfleet, Surrey, sent a few pretty flowers, his Mrs. J. C. Stoop, creamy-white, being very graceful. Mr. Silsbury, Isle of Wight, showed Shanklin Sunshine and Brilliant, the former a good yellow. Messrs. J. Stredwick and Son, St. Leonards, brought up a few blooms, their Mary Farnworth again attracting attention. Mr. Henry Perkins, Henley, gained a F.C.C. for the graceful creamy-white Mr. Thornton. Messrs. Wells and Co., Merstham, and Mr. W. J. Godfrey, Exmouth, both displayed flowers, and the latter scored with two single varieties, Rufus and Miss Mary Pope.

Mr. J. Lawrence, Shoreham; Mr. G. Mileham, Leatherhead; and Mr. D. B. Crane, Highgate, each showed single varieties, and several of these the committee desired to see again. Mr. H. Redden, Manor House Gardens, West Wickham, showed some single and some decorative varieties, and Mr. W. Seward, Hanwell, had a richly coloured crimson Japanese variety named Arthur Slade.

At the meeting of the Executive Committee, held at Carr's Restaurant, in the evening, Mr. Thomas Bevan presided. The Secretary reported a balance of about £90 in hand. Mr. C. H. Curtis formally reported the holding of the conference at Essex Hall early in October, and the success of the meeting, both as regards papers read, discussion, and display of flowers. The Secretary stated that the cost of the conference was a little over £8. It was reported that the Market Show Committee, now disbanded, had handed over the balance it had in hand to the general funds, for the purpose of providing a class or classes for market flowers. It was agreed that the Dean Memorial Medal be awarded at the November show for the best competitive exhibit of Japanese flowers. Five new members were elected.

National Vegetable Society.

OCTOBER 26.

A committee meeting of this society was held on the 26th inst., in one of the committee rooms of the Royal Horticultural Society, Mr. A. Dean, V.M.H., in the chair. Messrs. George Gordon, V.M.H., R. Hooper Pearson, J. Harrison Dick, E. Beckett, V.M.H., C. Foster, S. Mortimer, G. Hobday, F. Harvey, G. Wythes, V.M.H., treasurer, and E. G. Quick, secretary. Several important letters were read from various sources, and the Chairman reported as to the grant of the R.H.S. hall for the proposed show, and a long discussion arose as to the dates and other matters. These were not finally settled. It was announced that some excellent offers of prizes had been received from leading seed merchants, and in most cases accepted by the committee, and terms arranged, an important item being that representatives of the firms or donors of special prizes from seedsmen should be asked to be present at the staging. Mr. G. Gordon pointed out the importance of exhibitors being members of the society, as they would then greatly assist its work. Another matter decided was an entrance fee for small exhibits or classes, grouped together, although there was a general feeling that the society should endeavour to greatly increase its members, and by so doing obtain more support from those interested in this important branch of horticulture. The Treasurer reported as to the state of the funds, and several members were elected.

Beckenham Horticultural Society.

On Friday, the 22nd inst., Mr. E. H. Jenkins, of the Queen's Road Nursery, Hampton Hill, Kingston, lectured to a well-filled room on "Herbaceous Plants," Mr. V. B. Chalk presiding. The lecturer said he did not propose to deal with the making and planting of borders, but rather to take various plants as types of others, and speak more fully upon them. This he did most lucidly. The Christmas rose, Helleborus niger, was often to be seen in a debilitated condition, and was said to be impatient of removal, this being the outcome of taking the work in hand at a wrong time. If these plants were lifted in September, and divided almost into single crowns, they would do splendidly, but if manipulated in the springtime, as is sometimes recommended, they would not be a success. The lecturer cited the late Mr. Brocklebank, near Manchester, who lifted and divided into single crowns every two years, and probably no one grew them to such perfection. A sharp cutting instrument should not be used for dividing for fear of cutting the cross roots, but the best way was to take two small forks and insert them back to back and wrench them asunder in that way. The section known as the Lenten roses may be treated from September to March and April, their root system differing from the aforesaid section. With regard to pæonies, September was given as the best month for transplanting them. The best time to deal with the flag irises (Iris germanica) is March and April; these should be denuded of a good deal of the back growth, and several of the young leads placed together for a clump.

The Anemone japonica, phloxes, delphiniums, and pyrethrums were instructively treated. At the close Mr. Jenkins was very heartily applauded, and a vote of thanks accorded him.

Mr. V. B. Chalk exhibited from his farm a very fine sample (half-bushel) of Dalmeny Acme potatoes, which have turned out ten tons per acre, and no disease. A special certificate was awarded to Mr. Chalk.

Bournemouth Gardeners' Society.

A concert in aid of the Royal Gardeners' Orphan Fund is always included in the half-yearly programme of meetings of the above society, and this was given on October 19, when all the artistes gave their services free. The different items made up a long programme, both ladies and gentlemen giving solos, which were greatly appreciated and vigorously encored. The conjuring tricks and character songs were highly amusing and much applauded.

In the interval a collection was made on behalf of the funds of this most deserving cause, and two pounds nineteen shillings and sevenpence was collected. No charge is made for admission.

J. H. Ralph Smythe, Esq., J.P., the president, was chairman. and very ably conducted the proceedings. He made an eloquent appeal to those present to support the Royal Gardeners' Orphan Fund according to their ability, and remarked that, though gardening was considered to be a very healthy occupation, gardeners were only human after all, and they succumbed to diseases and old age like other persons, and some were, moreover, taken when comparatively young, leaving behind them their widows and young children, often enough quite unprovided for. Then, said Mr. Smythe, this society steps in and takes the place of the father to the children, as far as it possibly can do so. In further remarks, the Chairman intimated that two children from the immediate neighbourhood of Bournemouth were, at the present time, receiving assistance from the fund.

In addition to the gardeners' wives and friends, there was a good attendance of the public. On the motion of the chairman, a very hearty vote of thanks was accorded the ladies and gentlemen who gave their services so ably and so freely.

Birmingham Gardeners.

OCTOBER 18.

Mr. J. Udale, Instructor in Horticulture to the Worcestershire Education Committee, gave a lecture on the result of ten years' experiments with hardy fruits and vegetables in the County Experimental Garden, Droitwich, before a large and appreciative assembly of the members. By the use of carefully compiled proportions of various inorganic and organic manures, extending over a series of years, Mr. Udale was able to demonstrate the comparative values of the respective applications in the cultivation of certain kinds of vegetables, potatoes especially. The lecture was illustrated by lantern slides. Similar illustrations and statistics were also given regarding the pruning and non-pruning of apples, pears, and plums, with the resultant crops. At the conclusion of Mr. Udale's remarks, the Chairman (Mr. T. Humphreys), in a few eulogistic terms, testified to the value of the practical details so lucidly given by the lecturer, and not for the first time, on the cultivation of fruits and vegetables before the society. Mr. Udale readily endorsed a suggestion that the members visit the experimental garden at Droitwich next year in the blossoming and autumn seasons.

ROYAL HORTICULTURAL SOCIETY'S SCHOOL OF HORTICULTURE.

In view of the wide interest of the general public in the Royal Horticultural Society's School of Horticulture at Wisley (near Weybridge), where both the science and practice of gardening are taught to thirty young men almost entirely at the society's expense, the following list of successes gained this summer by the second-year students will be of interest to your readers:

Diploma Examination (in order of merit).—A. W. Simmonds (diploma and demonstratorship of £40 for one year); W. G. Kent (diploma and prize); J. Ridley (diploma and prize); H. W. Abbiss (diploma and prize); G. A. S. Brookes (diploma); S. B. Gorringe (diploma); H. L. Robson (diploma); N. A. Phillips (diploma).

Nicholson Prize for Observation.—A. W. Simmonds.

General Examination.—J. W. McCaig (scholarship of £25 per annum for two years, silver-gilt medal, certificate, and prize); W. Miles (certificate and prize); W. G. Kent (certificate and prize); H. L. Robson (certificate and prize); A. W. Simmonds (certificate and prize); and twelve other certificates.

In the unavoidable absence of the president, these awards were distributed a few days ago by Harry J. Veitch, Esq., V.M.H., who was accompanied by other members of the council, together with the Right Hon. Arthur C. Dyke Acland, ex-Minister of Education, who gave a short address. Mr. James Hudson, V.M.H., also gave advice arising from a life-long experience as a practical and scientific gardener. It is also worthy of note that Mr. Seaton, after a three years' course, was this summer appointed by the British Columbia Government to superintend one of their public parks, at a commencing salary of £200 a year. W. Wilks, Secretary, R.H.S.

OBITUARY.

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MR. DAVID THOMSON, V.M.H.

It is with much regret that we have to record the death of Mr. David Thomson, V.M.H., which occurred at his residence, at Eskbank, on the 22nd inst., in his 86th year. Mr. Thomson obtained prominence in horticultural circles when gardener at Archerfield, East Lothian, the seat of Mrs. N. Hamilton Ogilvy. Here he displayed his remarkable skill in the cultivation of fruit and vegetables, and his great taste in flower garden arrangement. At this time also he evidenced his ability as a writer on horticultural topics. In taking charge of the gardens of Drumlanrig, one of the seats of the Duke of Buccleuch, Mr. Thomson had increased opportunities for the display of his great and varied talents, and possessing much energy he made the most of them. Fruits and vegetables were grown to the highest degree of excellence, the flower garden acquired fame throughout the United Kingdom, and the cultivation of stove and greenhouse plants and of orchids was carried on on a large scale, and with quite exceptional success. Mr. Thomson was a contributor to the horticultural journals, the author of several books, and for some time the editor of the monthly known as "The Gardener." Mr. Thomson was one of the original recipients of the Victoria Medal of Honour in Horticulture, and he was awarded the Neill Prize and the Veitch Memorial Medal. Mr. Thomson retired from the management of the Drumlanrig gardens twelve years ago, and has since resided at Eskbank, near Dalkeith, and until the close of his life continued to take a keen interest in the art of which he was so great an ornament.

NOTES OF OBSERVATION.

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Narcissus Macleaii. — One hears but little nowadays of this small hybrid daffodil, and it seems almost forgotten in the passion for the newer varieties which are now so numerous. Yet those who like a type not met with every day, and yet not so expensive as most of the new flowers, might think of this interesting little plant, which was first received in this country by Mr. Alexander Macleay, as far back as 1819, when it came from France. It has been well described as "a charming little characteristic daffodil," and it may be selected as one of a representative collection, especially of one comprising the best of the dwarf narcissi. Its height is given as some four inches, but I have had it a little more, but never more than six, so far as I can recollect, in the course of over twenty years' experience of it. It has rather small flowers, with a yellow, goblet-shaped cup, and white perianth segments. For rockwork it is admirable, and in the border is suitable for planting near the margin, while it looks exceedingly well in the grass also. Its price is moderate, somewhere about threepence each, but the wonder is that one which has been grown so long is not still cheaper. It appears to require no special soil.—S. Arnott.

Apple Norfolk Beauty. — One more season is proving this apple to be what it is claimed to be, a constant cropper. It cannot be said that the present is a good apple year, varieties like Warner's King, that promised so well early in the season, have failed to swell to their full size, and in many cases are badly marked with apple scab. Not so Norfolk Beauty, the fruit may not be quite so large as it is in some seasons, but it is quite clean; at least, that is my experience. A well-known nurseryman, who said last year he could not get the trees to fruit in a young state, and was slightly sceptical of its freedom in this respect, saw the original tree at Gunton Park this year in September, and was much impressed with its crop of clean, handsome fruit. I at once, on seeing this apple growing, said it would in time supersede Warner's King, and I am certain the day is not far distant when this will be so. The habit of growth is desirable, vigorous, yet not too robust. If not pruned too hard, and the branches allowed plenty of space, full crops of fruit will be assured. Its cooking qualities are beyond question, and are such that it is an apple that requires no sugar to make it palatable. —E. Molyneux.

Arabis albida nana compacta.—This is an excellent variety of the white Rock Cress for many purposes in the garden, as its growth is compact and convenient for such uses as bedding edgings or for groups where plants of close, compact growth are required. It flowers very freely, and a single plant will soon form a neat, rounded mass of white, not more than six or eight inches in height. It is not so suitable for covering large stones or for places where a trailing growth is required, but there are few who cannot find some use for this neat little white-flowering variety. It appears to come wonderfully true from seeds, as the seedlings of last year which are in bloom here are remarkably uniform in height and in freedom of flower. One of my friends having a long knowledge of plants informs me that it closely resembles the plant grown long ago as A. alpina. It is, of course, distinct from the present-day A. alpina, of which the double arabis, now so popular, may be taken as the favourite form. It will grow in any soil, but flowers with more freedom in a dry one, and in full sun.—S. Arnott.

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ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the **Gardeners' Magazine**, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the **Gardeners' Magazine**, "Endeleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the **Gardeners' Magazine**. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

WINTER DRESSING FOR VINE RODS.—A. H. P., Newnham: You should thoroughly clean the rods of loose bark, but do not scrape or otherwise injure them. After this give them a thorough washing with a warm and fairly strong soft-soap solution, and if insect pests have been prevalent then apply a dressing of one of the insecticides or compounds advertised for the purpose. We have not much faith in the old method of plastering the rods with a mixture of clay, cow manure, and sulphur, and we believe that the recipes containing tar, turpentine, and paraffin are dangerous in the hands of all except the most experienced and careful people, and therefore their use is attended with considerable risk.

COX'S APPLES.—H. T., Salisbury: Cox's Orange Pippin and Cox's Pomona apples were both raised by a Mr. Cox, who, after following the business of brewer at Bermondsey for many years, retired to Lawn Cottage, Colnbrook, near Slough, Bucks, and devoted the remainder of his life to gardening pursuits. It was here that he raised the two apples named, in 1830, and both are said to have been raised from pips of Ribston Pippin. In 1836 Mr. Cox gave the varieties to Messrs. E Small and Son, nurserymen, of Colnbrook, and they were distributed by that firm in 1840. It is interesting to remember that in the earlier days of its cultivation, while the value of the variety for dessert purposes was recognised, Cox's Orange Pippin was strongly recommended as a culinary variety when grown on the crab stock. We may add that this fine apple did not obtain much popularity until the late Mr. Charles Turner entered business as a nurseryman at Slough, and pushed its sale, and made its good qualities known.

SEEDLING GLADIOLI.—C. R., Swanage: Place the seed vessels on paper spread over the stage of a greenhouse, giving them a dry and sunny position. Here the seeds will finish ripening, and when they are quite ripe keep them in a cool, dry cupboard until the spring, when, early in March they should be sown in gentle heat. Move the seedlings to cooler quarters as soon as they are well up, and so gradually harden them that during summer and autumn the pans may be stood out of doors. Thin sowing is essential, and if the seeds are placed an inch apart each way there will be room for the seedlings to develop. Small corms will be produced by the end of the autumn, and these must be ripened and stored ready for planting out the following March in nursery beds.

QUASSIA SOLUTION FOR USE UNDER GLASS.—J. B. J., Everton: Where a considerable number of plants have to be dealt with under glass, and especially where climbers have become infested, the following quassia solution is a capital one for getting rid of aphis, etc. Soak half a pound of quassia chips in two gallons of cold water all night, and then bring the whole to the boil, and allow it to boil for ten minutes, strain the liquid, and while it is still hot add half a pound of soft soap, and thoroughly stir. Use the mixture while warm, and about a quarter of an hour after it has been used vigorously syringe the plants treated with clean tepid water.

RED SPIDER ON PEACHES.—A. H. P., Newnham: The same mixture would do for peaches, and no doubt for cucumbers also, but we have not tried it for the latter. It would be an easy matter to test it upon one or two infested leaves, and carefully watch the results.

RAISING FIGS FROM CUTTINGS.—L. G. W., Olney: For the production of a batch of young fig trees from cuttings, the latter should be taken early in the spring and consist of well ripened shoots. The cuttings should be from three to four inches long, the lower part to be cut off horizontally immediately below a joint, and the upper part in a slanting direction just above a joint. Insert singly in three-inch pots filled with fibrous loam, to which moderate proportions of leaf-mould and sand have been added, and place them in a pit or house where they will have the assistance of a temperature of about 65 degrees. If the pots can be stood upon or plunged in a hotbed the rooting process will be accelerated. As soon as they are well rooted shift into five or six-inch pots, and give them a light and rather airy position, and supply liberally with water. By the end of the year they will range from twelve to fifteen inches high, and in the following spring shift into pots one size larger, and cut them back to within ten or twelve inches of the base. The shoots produced from the upper buds will form the framework of the plants, and if more than three are produced reduce to that number, selecting those near the top to be retained. During the summer pinch out the points of the young shoots when five or six inches long, and repeat the pinching during the summer, as may be rendered desirable by the progress of the growths that are produced by the shoots that have been stopped. It will in most cases be necessary to repot the plants in the course of the summer, using pots one size larger. The following season these young figs may be treated as regular stock, and they will produce good fruits.

NAMES OF PLANTS.

Under this heading we can only undertake to name species and well marked varieties of plants, and not florists' flowers. Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one correspondent.

F. C. J., Shanklin.—Helleborus corsicus.

R. R. W., Bexley.—1, Ruscus aculeatus; 2, R. racemosus.

G. B., Bath. — 1, Aster puniceus; 2, A. Nova-Angliæ pulchellus; 3, A. diffusus horizontalis.

F. Y., Chippenham.—1, Colchicum autumnale; 2, Kerria japonica; 3, Cypripedium œnanthum superbum; 4, C. Euryades.

E. E. M., Bedford.—1, Cupressus Lawsonianus; 2, Cedrus atlantica glauca; 3, Funkia Sieboldi; 4, Gnaphalium lanatum.

H. B. S., Taunton.—1, Cratægus Lelandi; 2, Euonymus japonicus; 3, a weigela; 4, a philadelphus—send these latter when in flower next year.

NAMES OF FRUITS.

When sending fruits for naming will our readers be good enough to send good specimens, as without these it is not possible to accurately determine the varieties. Pack firmly, using light tin or wood boxes, and send not more than six varieties at once. Label each specimen and enclose letter with the fruit, whether a separate notification is sent or not. Address the packages to the Editor, **Gardeners' Magazine**, as advised in the notice at the head of "Answers to Correspondents."

G. W., Newbury.—Beurre Superfin.

C. K., Burlish.—1, Ashmead's Kernel; 2, Catshead; 3, Grenadier; 4, Haggerstone Pippin; 5, rotten; 6, Thompson's.

G. E. W., Amersham.—1, Duchesse d'Angoulême; 2, Marie Louise; 3, Easter Beurre; 4, Beurre Clairgeau; 5, Clapp's Favourite; 6, Doyenne du Comice; 7, not recognised; 8, Souvenir du Congres.

G. B., Dublin.—1, Rotten, unrecognisable; 2, Fondante d'Automne; 5, Baron de Mello; 7, Durondeau; 8, Beurre Bosc.

J. T., Suffolk.—1, Green Chisel; 2, Gold Medal; 3, Grenadier; 4, Blenheim Pippin; 5, Dutch Mignonne; 6, Emperor Alexander.

A. W., Cardiff.—1, Winter Majetin; 2, Golden Noble; 3, Kerry Pippin; 4, Blenheim Pippin; 5, Adam's Pearmain; 6, Duchess' Favourite.

W. E. T. C., Taunton.—1, Pitmaston Duchess; 2, Queen; 3, Hawthornden; 4, not recognised; 5, Devonshire Striped; 6, Curry Codlin; 7, Incomparable Red.

B. R., Bawtry.—1, Duchesse d'Angoulême; 2, Figue de Naples; 3, Marie Louise; 4, rotten; 5, Braddick's Nonpareil; 6, Hollandbury; 7, Fondante d'Automne.

H. G., Barrow-in-Furness.—You have a long way exceeded the number of specimens that should be sent for naming at any one time, i.e., six., and we suggest you send a contribution to the Gardeners' Orphan Fund as a recognition of services rendered. 1, King of the Pippins; 2, Kerry Pippin; 7, Baron de Mello; 8, Durondeau; 9, Doyenne du Comice; 10, Cadie's Everlasting; 11, Zephirin Gregoire; 13, Emile d'Heyst; 14, Winter Majetin; 15, Beurre Gris d'Hiver; 16, probably Flemish Beauty; 17, Clapp's Favourite; 21, Hormead's Pearmain; 22, not recognised; 25, Colonel Vaughan; 27, Scarlet Nonpareil; 31, Colmar; 34, Directeur Alphand.

WINTER JASMINE.

Jasminum nudiflorum is often referred to as one of our old English flowers, but the jasmine mentioned by old writers, whether of romance, poetry, or horticulture, is the white jasmine, which was introduced into this country from the East—Persia or North-West India—about the middle of the sixteenth century. The yellow, Winter Jasmine, was one of the numerous plants introduced from China in the middle of the last century, and it may be reckoned one of the most popular of those introductions. Its method of cultivation needs no description, as it will grow in any soil or position, and I obtain my most abundant supply of winter blossom from a wall which scarcely sees the sun even at midsummer. It is therefore very valuable for planting against walls where few other things will thrive. For cutting for the winter it is specially appreciated by those who have a limited supply of flowers under glass, or none at all, as its slender sprays may be cut from late in November till March, shoots picked with the buds just beginning to show colour, or even before, opening well in water in a warm room and lasting for a fortnight. Though sharp frost will destroy all the open blossoms, as well as those just ready to open, a fresh lot will come out during a genial period of weather afterwards. The cutting of its slender branches is a good form of pruning, but it needs a little more than this when it has filled its allotted space, for if the long, flexible branches, whether they have flowered or not, are cut back to two or three buds or shoots in the early spring, the number of long flowering shoots for next winter will be increased, while the shrub will be kept in bounds and will not get so untidy as it often does. Its blossom looks best in the winter when it is grown in connection with some evergreen to serve as a foil. Apart from a wall it looks well running over ivy-covered stumps, rose pergolas, etc. The flowering shoots should not be nailed or tied in, as when in flower they look so much better growing free.

The Winter Jasmine is one of the most easily propagated of all shrubs, sprays or branches allowed to fall to the ground often taking root before we are aware of it.

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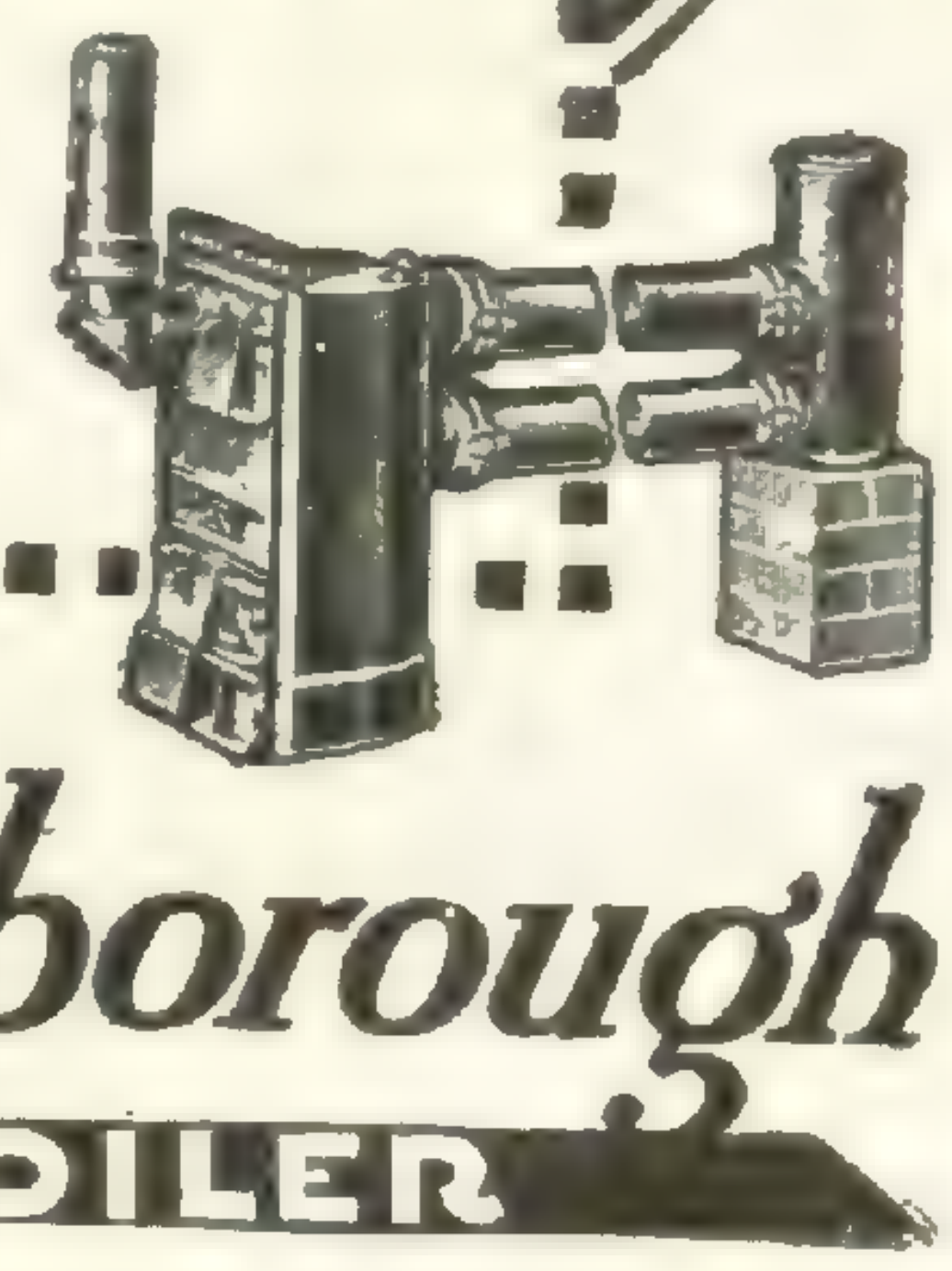

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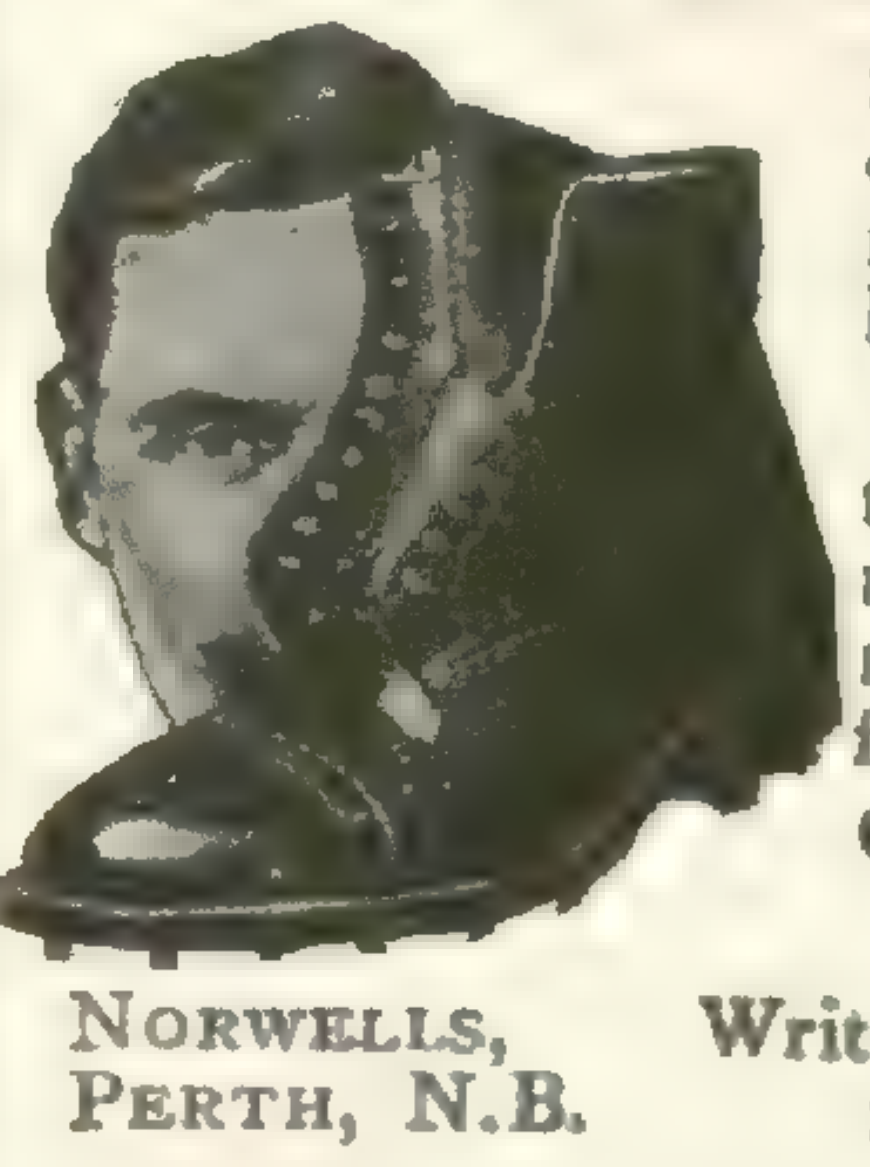

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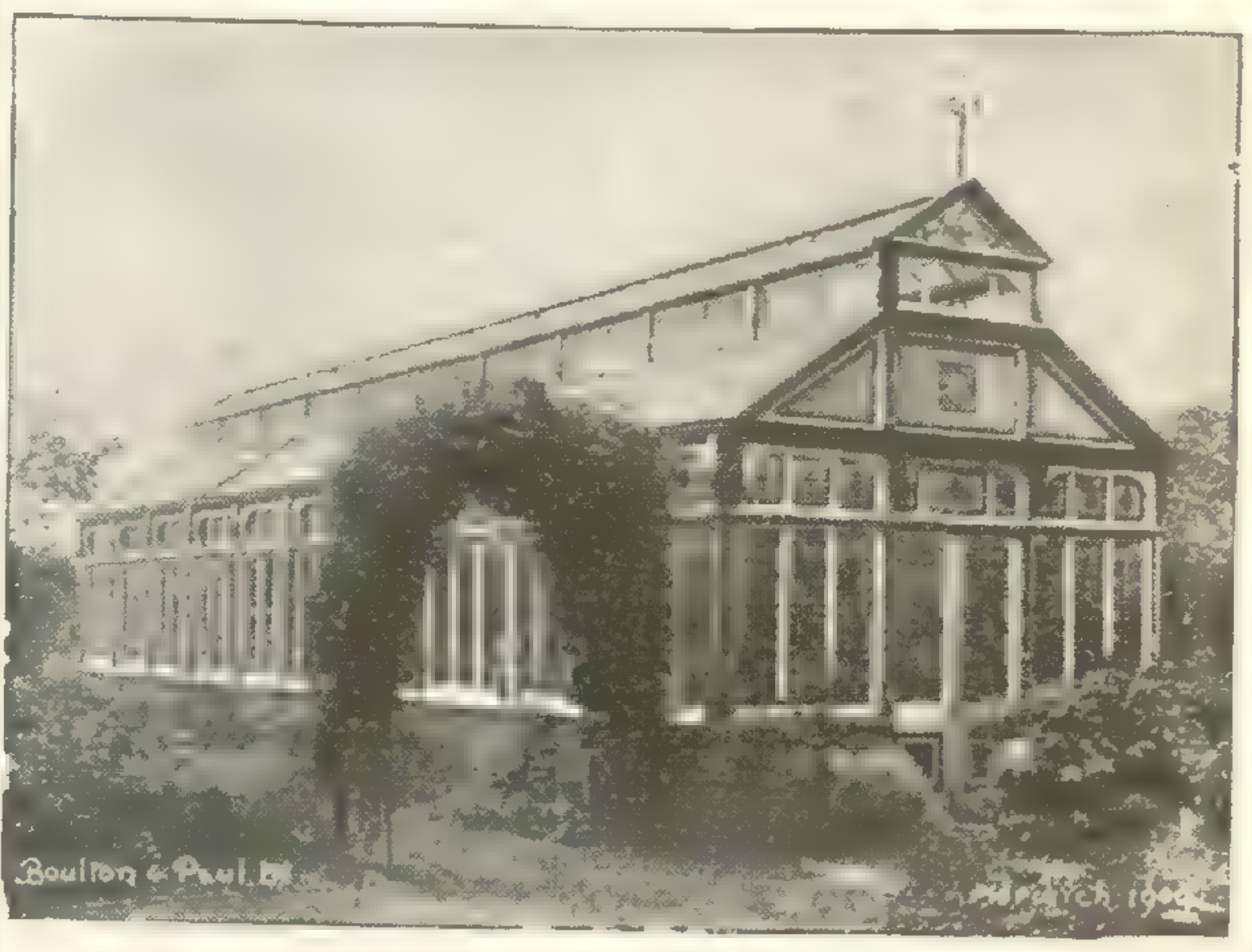

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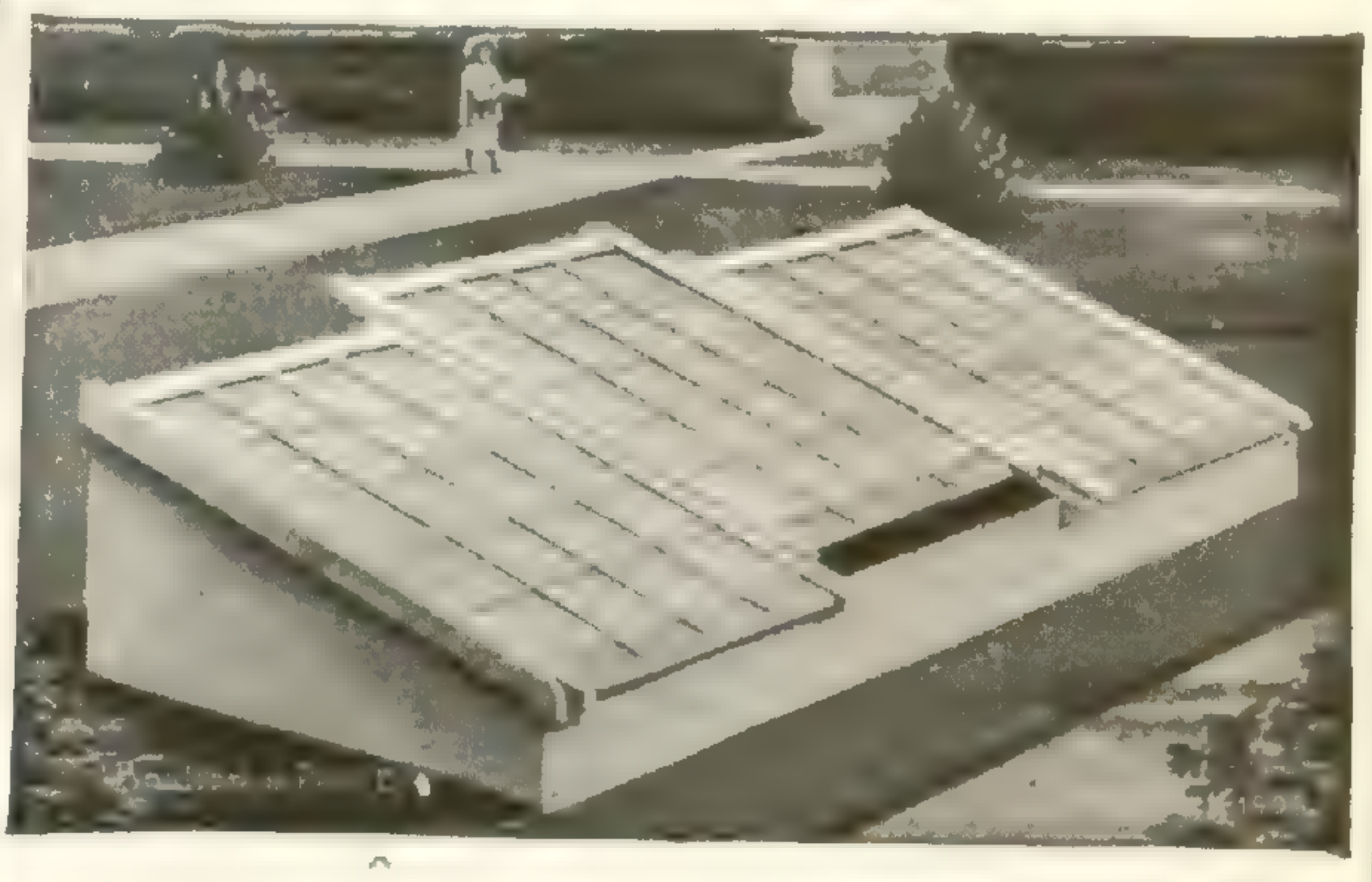

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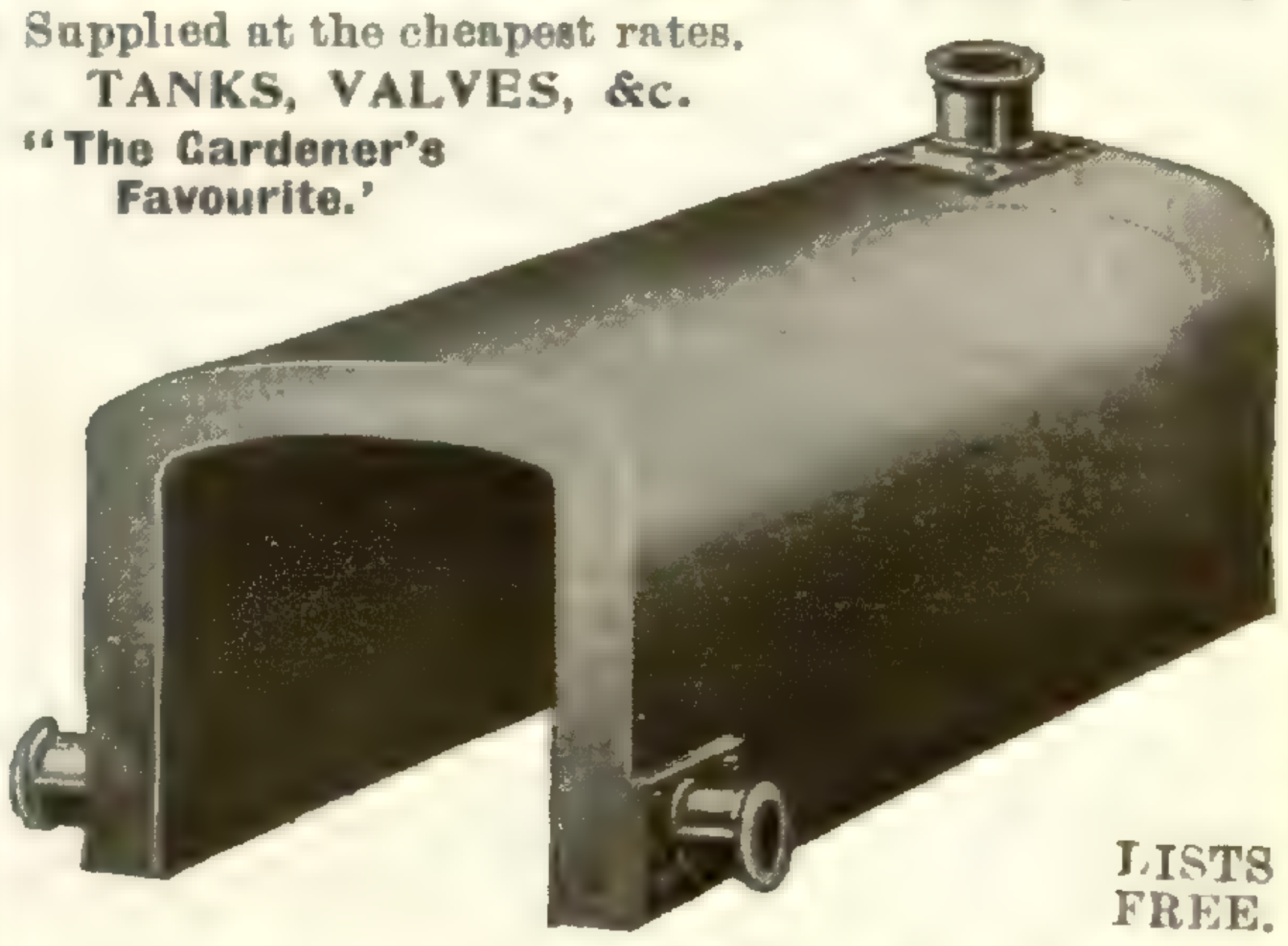

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MARKETS.

◆

COVENT GARDEN.

Flowers.

The frosts and gales of the past week have put an end to outdoor flowers, consequently prices for choice subjects are firmer.

		s.	d.		s.	d.
Adiantum cuneatum	per doz. bun.	5	0	to	9	0
Arums	per doz.	3	0		4	0
Asparagus	per bun.	1	0		2	0
Carnations	per doz. blms.	1	6		3	0
,,	per doz. bun.	6	0		12	0
,, Malmaisons	per doz.	6	0		9	0
Cattleyas	per doz.	12	0		14	0
Crysanthemums	per doz. bun.	2	0		5	0
Croton leaves	per bun.	1	0		1	6
Cypripediums	per doz. blms.	2	0		4	0
Eucharis	per doz.	2	6		3	0
French fern	per doz. bun.	0	6		1	0
Gardenias	per doz.	1	6		2	0
Lapagerias	per doz.	1	0		2	6
Lavender	per doz. bun.	4	0		6	0
Lilium auratum	per bun.	2	0		3	0
,, speciosum	per bun.	1	6		2	6
,, longiflorum	per bun.	2	0		3	0
Lily of the Valley	per doz.	5	0		15	0
Marguerites, white	per doz. bun.	1	6		3	0
Mignonette	per doz. bun.	2	0		3	0
Odontoglossums	per doz. blms.	2	0		2	6
Pelargoniums	per doz. bun.	4	0		6	0
Roses	per doz.	1	0		3	6
Smilax	per doz. trails	4	0		8	0
Statice	per doz. bun.	3	0		4	0
Tuberoses	per doz.	0	3		0	4
Violets	per doz. bun.	2	0		3	0

Fruits.

Both supply and demand are now steady.

		s.	d.		s.	d.
Apples, English	per bush.	2	0	to	6	0
,, Californian	per case	8	0		9	6
,, Cox's Orange	per ½-sieve	3	0		10	0
,, American	per barrel	12	0		16	0
,, Nova Scotian	per barrel	14	0		21	0
Bananas	per bun.	3	0		9	0
Cobnuts	per 12lb.	3	6		4	6
Damsons	per ½-sieve	1	0		2	6
Figs	per doz.	0	9		3	0
Grapes, English	per lb.	0	8		3	0
,, Guernsey	per lb.	0	5		1	0
,, Almeria	per barrel	8	0		14	0
Lemons	per case	10	0		24	0
Melons, Valencia	per case	3	6		6	0
Oranges, Jamaica	per case	9	0		10	6
,, Navels	per case	10	0		12	6
,, Naples	per case	9	0		11	0
Pears, English	per bush.	2	0		8	0
,, French Duchesse	per crate	6	0		10	6
Pineapples	each	1	6		3	6
Plums	per ½-sieve	2	0		3	6
Walnuts	per 12lbs.	2	0		3	6

Vegetables.

Prices are firmer and supplies moderate.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	2	6	to	3	0
Beet	per bush.	1	6		2	0
Brussels sprouts	per bush.	2	0		3	0
Cabbage	per tally	2	6		4	6
Carrots	per doz. bun.	1	0		2	0
Cauliflowers	per tally	4	0		7	6
Celery	per bun.	0	9		1	6
Cucumbers	per doz.	1	0		2	0
Endive	per doz.	1	3		1	9
Horseradish	per doz. bun.	8	0		12	0
Lettuce	per score	1	0		2	0
Mint	per doz. bun.	1	0		2	0
Mushrooms	per doz. lb.	6	0		9	0
Onions, Valencia	per case	7	0		12	0
,, English	per doz. bun.	1	6		2	0
Parsley	per doz. bun.	1	6		2	0
Parsnips	per bag	2	6		3	0
Spinach	per bush.	1	0		1	9
Tomatoes, English	per doz. lb.	1	6		3	6
,, Guernsey	per doz. lb.	2	6		3	6
Turnips	per doz. bun.	2	0		3	0
Vegetable Marrows	per tally	4	0		6	0

LONDON POTATO MARKETS.

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		s.	d.		s.	d.
Bedfords	per cwt.	2	3	to	3	0
Blacklands	per cwt.	2	0		2	3
Essex Kidneys	per cwt.	2	0		2	9
Kents	per cwt.	2	6		3	0
Lincolns	per cwt.	2	0		2	6
May Queen	per cwt.	2	9		3	0
Puritans	per cwt.	2	9		3	3
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METEOROLOGICAL OBSERVATIONS.

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Height above Sea-level, 150 feet.

DATE.	SUNSHINE.	TEMPERATURE OF THE AIR.			
1909. OCTOBER 17 TO OCTOBER 23.		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Oct. 17—Sunday	3 0	60	59	61	59
,, 18—Monday	0 18	60	57	61	53
,, 19—Tuesday	4 12	54	53	63	52
,, 20—Wednesday	—	58	55	59	53
,, 21—Thursday	7 24	54	51	59	50
,, 22—Friday	0 48	52	50	59	45
,, 23—Saturday	1 30	59	57	61	53
Means	(total) 17 12	57	54	61	52

DATE.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M.			LOWEST TEMPERATURE ON GRASS.
1909. OCTOBER 17 TO OCTOBER 23.		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
Oct. 17—Sunday	0.06	57	56	55	58
,, 18—Monday	—	56	56	55	48
,, 19—Tuesday	trace	56	56	56	45
,, 20—Wednesday	0·17	55	56	56	49
,, 21—Thursday	trace	55	56	56	46
,, 22—Friday	trace	53	56	56	41
,, 23—Saturday	0.13	55	55	56	52
Means	(total) 0.36	55	56	56	48

FORTHCOMING ENGAGEMENTS.

TUESDAY, November 2.—Brighton Chrysanthemum Show; two days.
Plymouth Chrysanthemum Show; two days.
WEDNESDAY, November 3.—National Chrysanthemum Society; three days.
Cambridge Horticultural Society; two days.
Portsmouth Chrysanthemum Show; three days.
Liverpool Chrysanthemum Show; two days.
Cardiff Chrysanthemum Show; two days.
Bath Chrysanthemum Show; two days.
Doncaster Chrysanthemum Show; two days.
THURSDAY, November 4.—Forest Gate Chrysanthemum Show; three days.
Linnean Society Meeting.
Torquay Chrysanthemum Show.
Bedford Chrysanthemum Show.
Newport Chrysanthemum Society.
FRIDAY, November 5.—Windsor Chrysanthemum Society.
SATURDAY, November 6.—French Horticultural Society of London.
MONDAY, November 8.—United Horticultural Benefit and Provident Society.
TUESDAY, November 9. — Royal Horticultural Society; committees meet at 12 o'clock; lecture at 3 p.m. on "Some Beautiful Shrubs," by Mr. Edwin Beckett, V.M.H.; Scientific Committee at 4 o'clock.
Ulster Chrysanthemum Show; two days.
Southampton Chrysanthemum Show; two days.
Farnham Chrysanthemum Show; two days.
WEDNESDAY, November 10.—East Anglian Horticultural Club.
Bromley Chrysanthemum Society; two days.
Buxton Chrysanthemum Society.
South Shields Chrysanthemum Show; two days.
THURSDAY, November 11.—Hitchin Chrysanthemum Society.
Exeter and Devon Horticultural Society; two days.

CATALOGUES RECEIVED.

CHAS. TURNER, ROYAL NURSERIES, SLOUGH. —A list of such good old florists' flowers as auriculas, carnations, picotees, cloves, and pinks. A catalogue of roses is to hand from the same nurseryman.

B. S. WILLIAMS AND SON, UPPER HOLLOWAY, N.—From this firm we have received an illustrated bulb list in which collections are made a speciality.

JOHN JEFFERIES AND SON, LIM., CIRENCESTER.—In this bulb catalogue considerable space is devoted to gladioli and liliums, but the more popular daffodils, etc., are not overlooked.

G. COOLING AND SONS, BATH.—Rather more than half this catalogue is devoted to roses, and the rest to fruit trees and ornamental shrubs.

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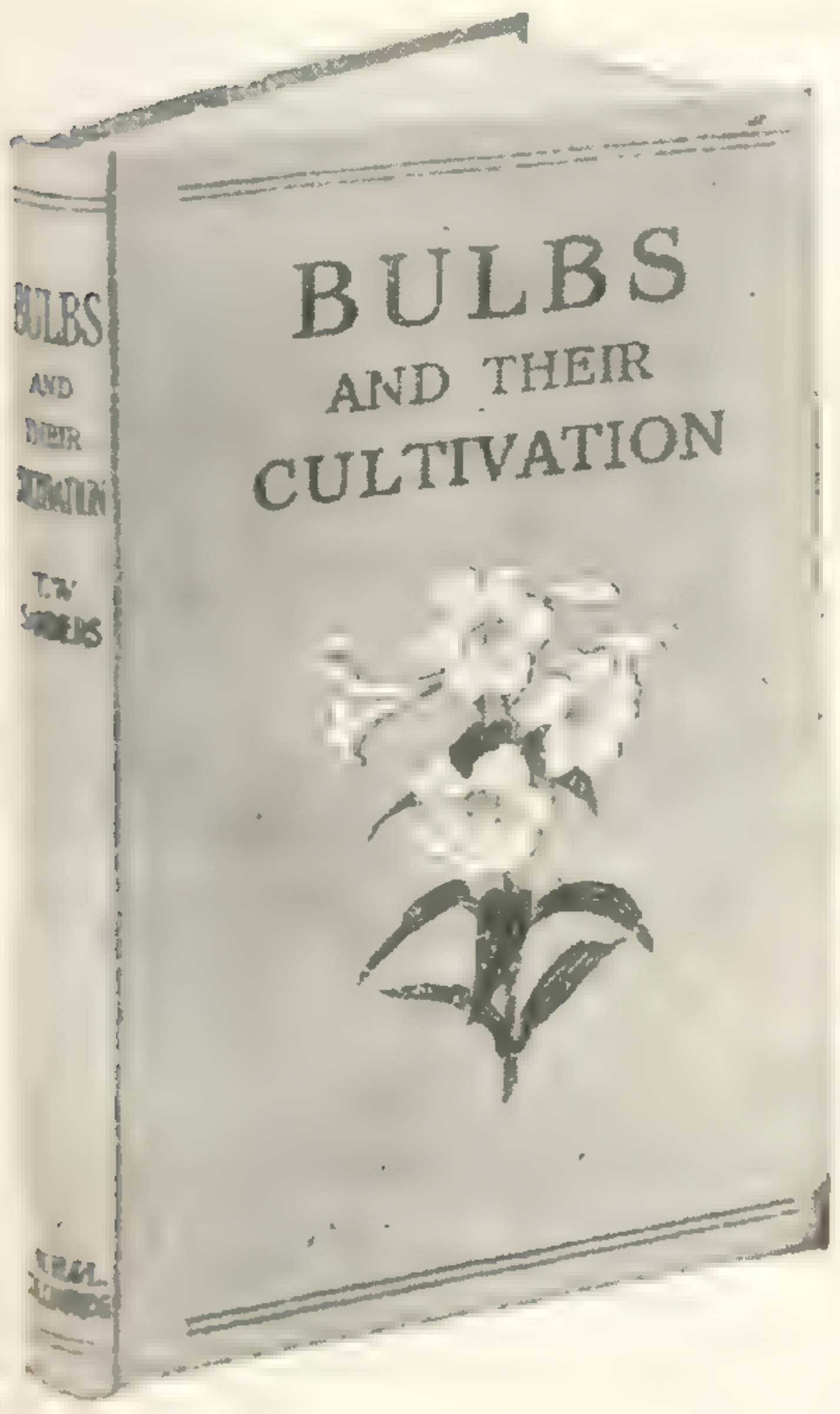

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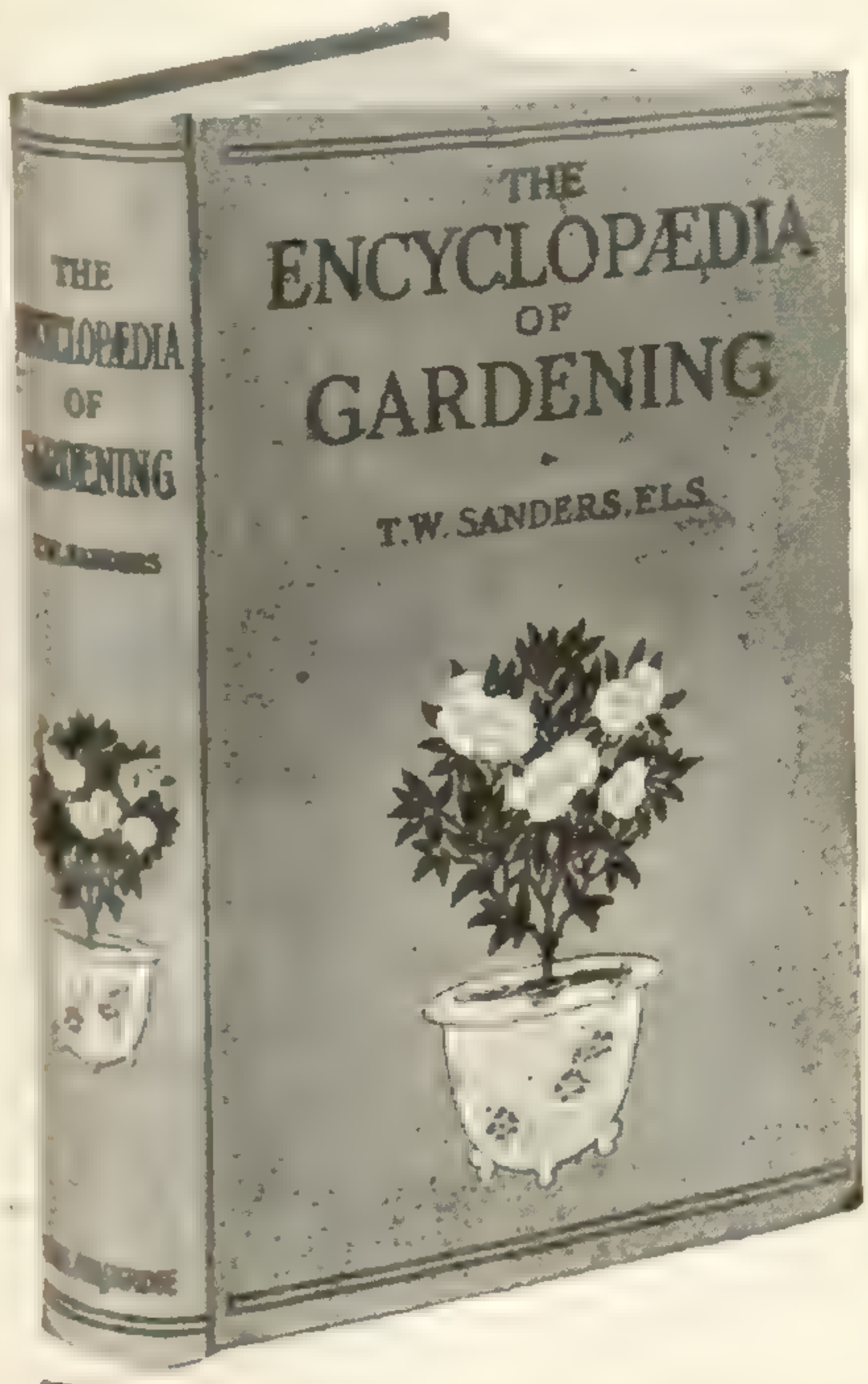

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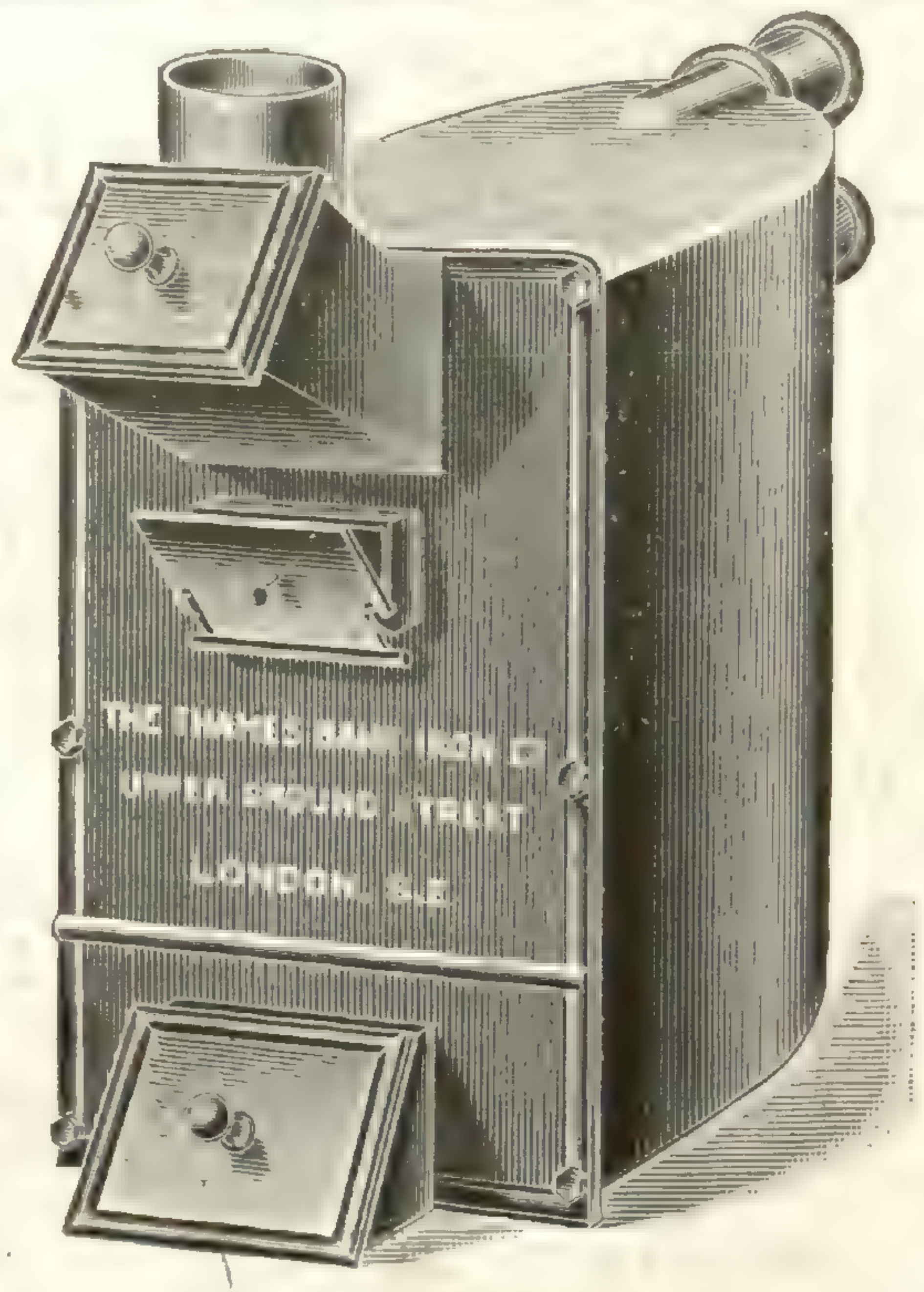

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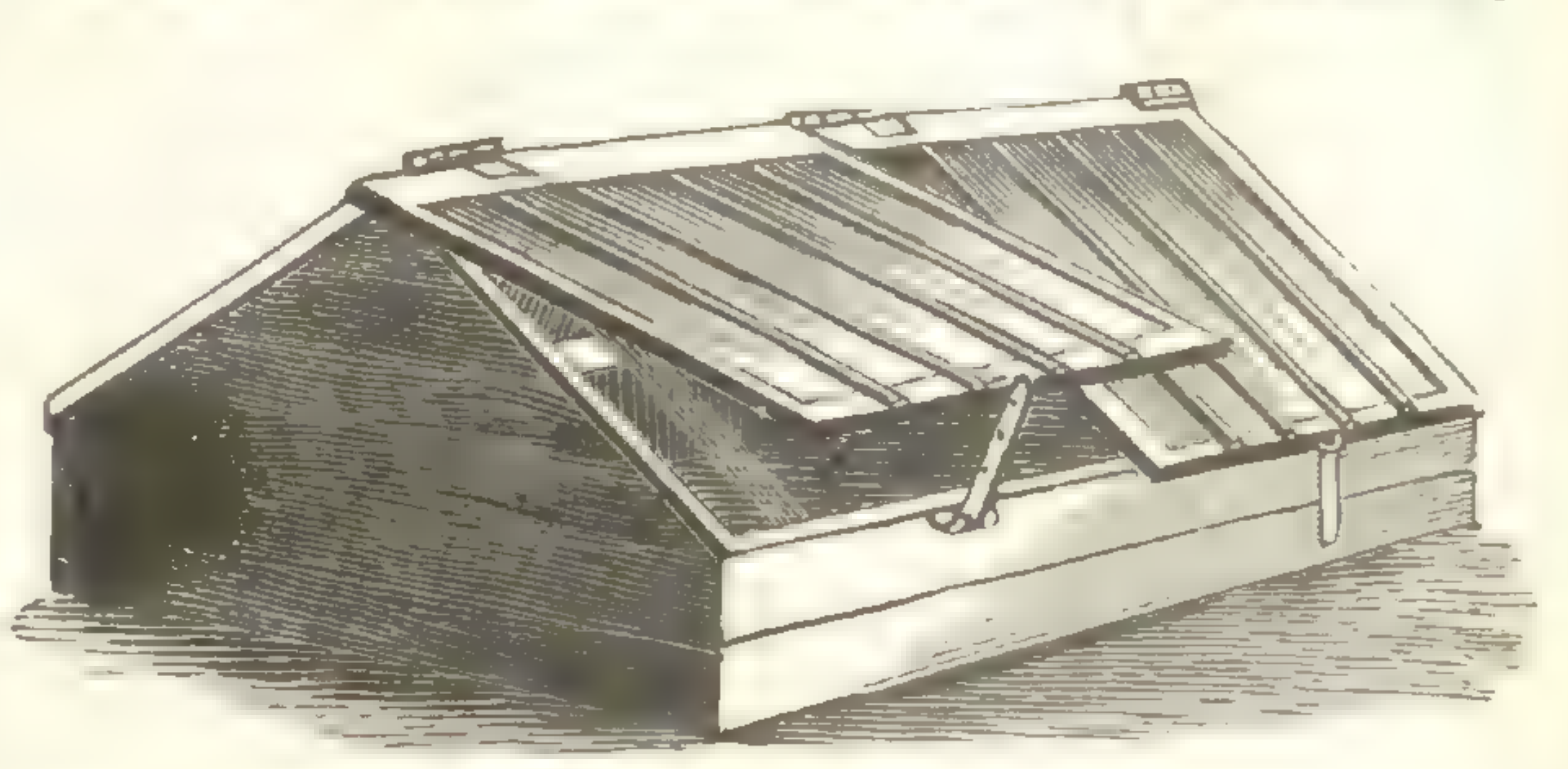

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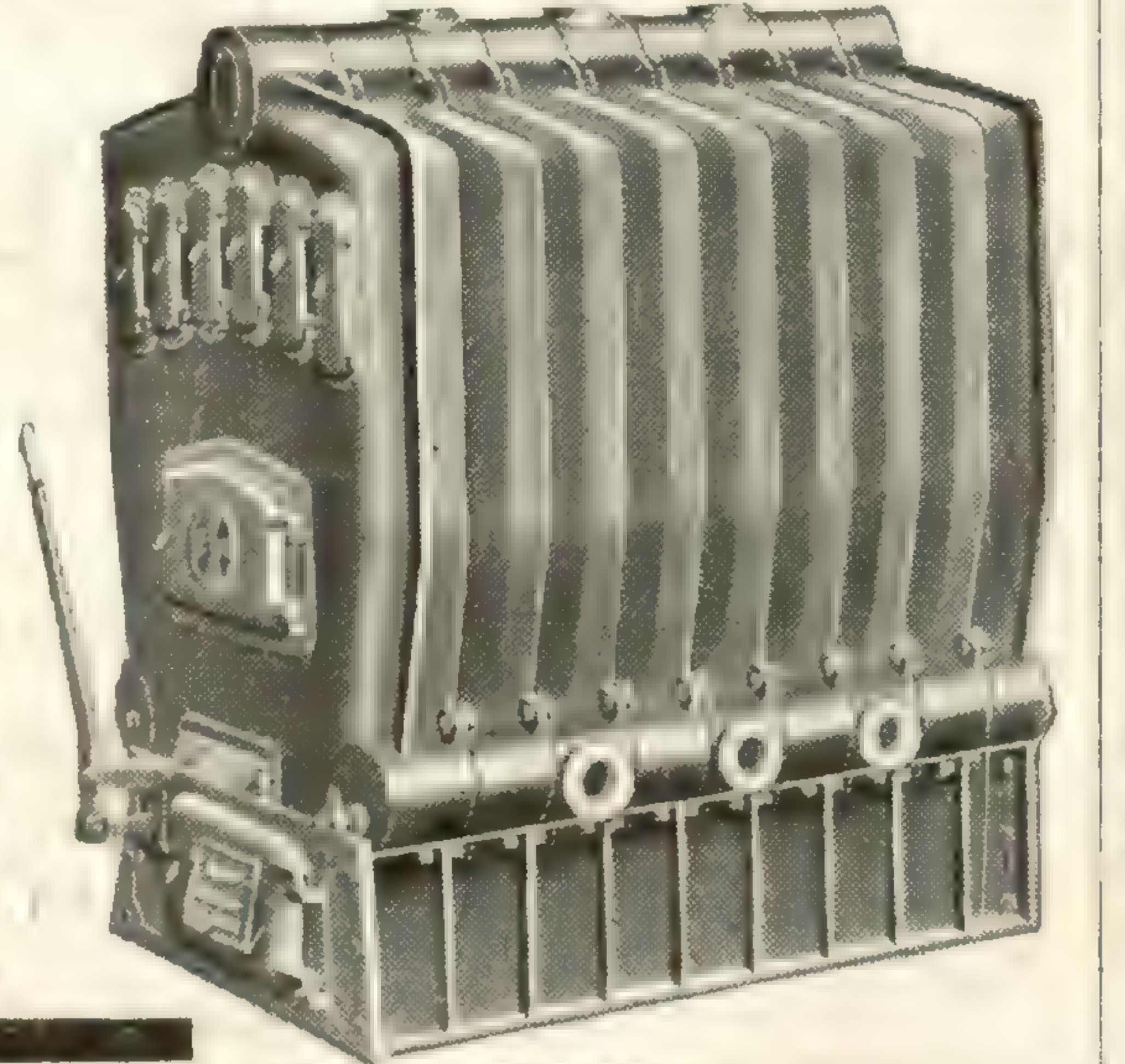

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Strong and extra strong Canes for Planting out, **5/-** and **7/6** each.

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Strong Bushes, **3/6, 5/-**, and **7/6** each.

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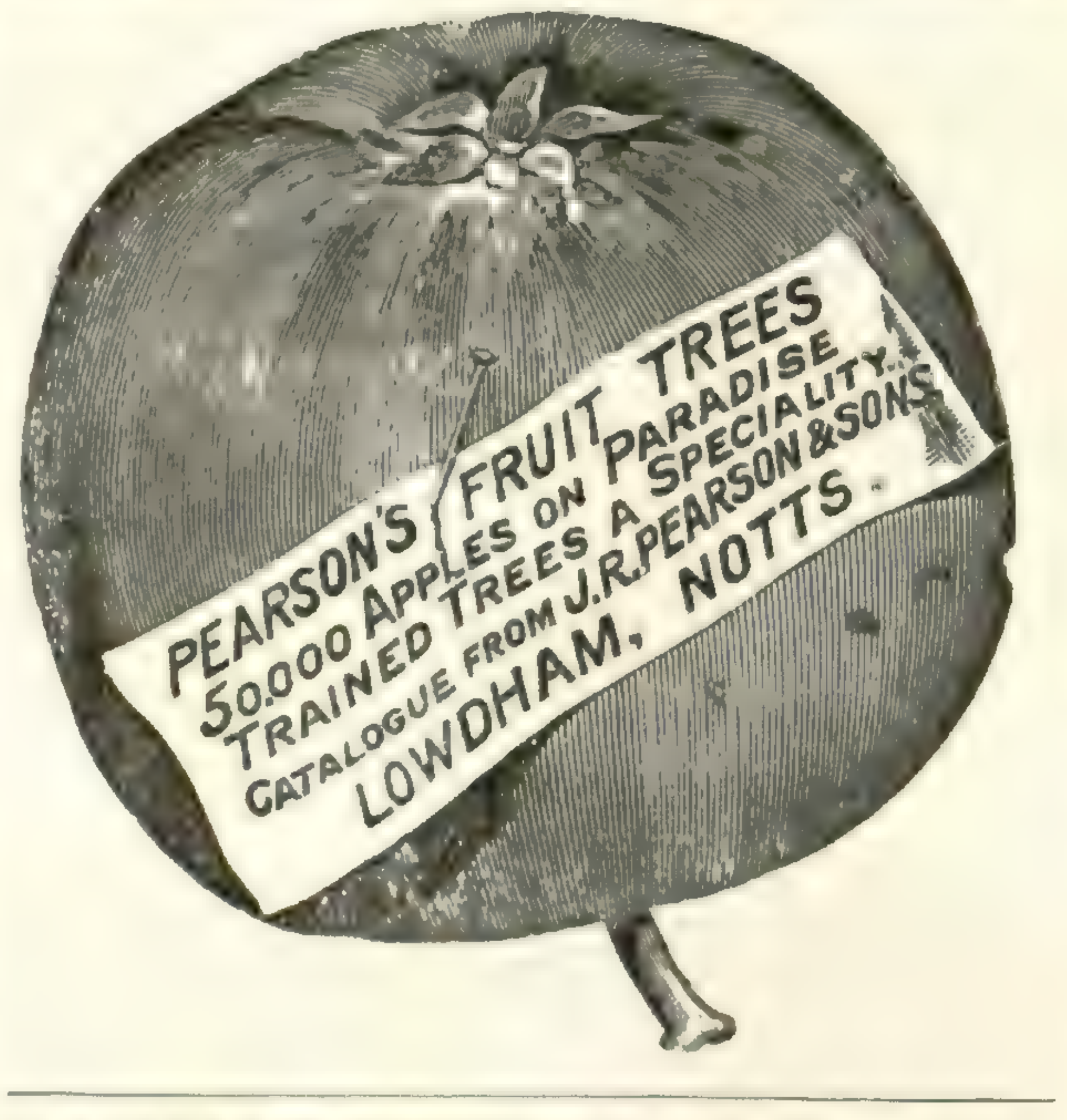
STERLING VALUE is what you get in Ellison's reliable Bulbs. They represent the best value you can possibly have, or I should not offer them on approval, cg. paid. Ctg. of over 300 varieties, free.—ELLISON, 57, West Bromwich.

GARDENERS WANTED to send for particulars of my R.H.S. Correspondence Course. Results unapproached. Success certain. Medal 3 times in 4 years. MEDALLIST, "Ferndale," Pinfold Street, Darlaston.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Finest quality, from **6s.** per dozen.

The Best are the Cheapest.

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Is one of the Secrets of Success.

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The following decorative kinds are in fine condition, in Bud or Bloom :—

ONCIDIUM Varicosum, **5/-, 7/6, 10/6** each.
DENDROBIUM formosum Giganteum, **3/6, 5/-, 7/6** each.
" Phalænopsis Schroderianum, **5/-, 7/6, 10/6** each.
ODONTOGLOSSUM GRANDE, 3/6, 5/-, 7/6 each.
CATTLEYA Harrisonæ, **5/-, 7/6, 10/6** each.
" Pretty Hybrids of sorts, **8/6, 10/6** each.
CYPRIPEDIUMS in variety, **5/-, 7/6, 10/6** each.
CYCNOCHES Chlorochilon (Swan Orchid) **10/6** each.

Send for our New Pocket Illustrated Orchid Catalogue.

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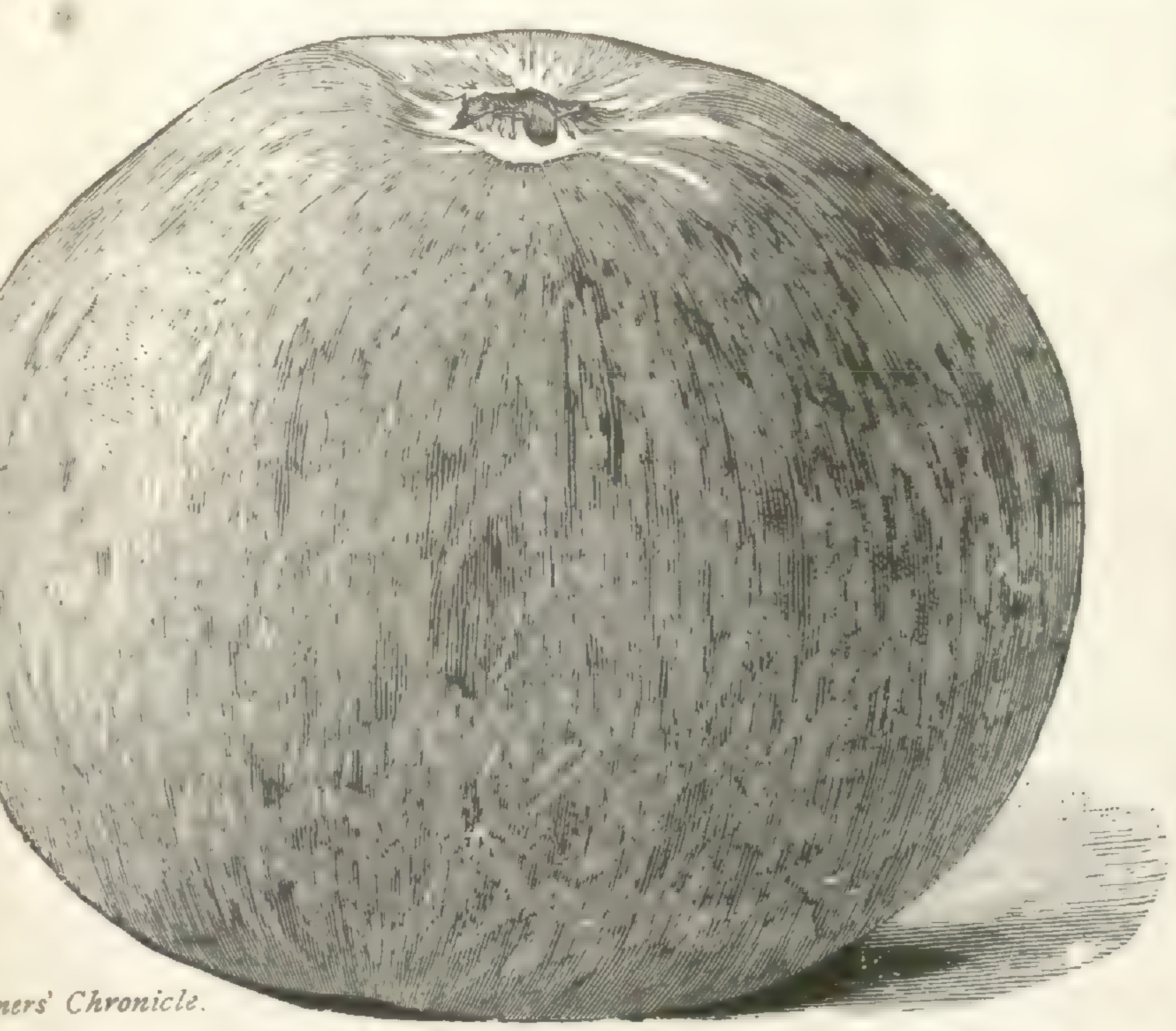
HORNE'S GREAT SALE.



Gardeners' Chronicle.

CLIFFE, near Rochester, KENT.

MESSRS. PROTHEROE & MORRIS are instructed by W. HORNE & SONS to hold A GREAT SALE OF FRUIT TREES on the Premises, PERRY HILL, CLIFFE, near ROCHESTER, KENT, adjoining Cliffe Station, South Eastern and Chatham Railway, on

Wednesday, November 10th, 1909,

200,000

FRUIT TREES and BUSHES

OF ALL KINDS, INCLUDING

10,000 Maiden Apples, on English Paradise; the following popular kinds are included:—

Rev. W. Wilks, James Grieve, Ben's Red, Charles Ross, Cox's Orange, Allington's Pippin, Hector Macdonald, Bramley Seedling, Lord Derby, Worcester Pearmain, Ecklinville Seedling, Newton Wonder, Norfolk Beauty, Blenheim Orange, Warner's King, Edward VII., Rival, Quarrenden, Lane's Prince Albert.

Also a very fine lot of 30,000 Pyramid Apples, two and three year on English Paradise, including:—

Worcester Pearmain, Cox's Orange Pippin, James Grieve, Allington Pippin, Bramley Seedling, Warner's King, Houblon, Charles Ross, Peasgood Nonsuch, Beauty of Bath, Lane's Prince Albert, and many others.

About 30,000 Half-standard Apples on Crab Stock, two and three year:—

Worcester Pearmain, Cox's Orange Pippin, Bramley Seedling, Newton Wonder, Allington Pippin, Lord Derby, Blenheim Orange, James Grieve, Lane's Prince Albert, and many others.

Standard Apples; the following popular kinds are included:—

Cox's Orange Pippin, Worcester Pearmain, James Grieve, Ecklinville, Allington Pippin, Blenheim Orange, Devonshire Quarrenden, Bramley Seedling.

About 10,000 Pears on Quince, and Pears in all ages, and Plums; about 10,000 Black Currants, 10,000 Gooseberries, 5,000 Red Currants, 10,000 Raspberries; several thousand Cabbage and Strawberry Plants, several Tons Scotch Seed Potatoes, Loganberry from layers.

FREE LUNCHEON AT 11. **SALE AT 11.30.**

NOTICE.—The Auctioneers desire to call the attention of Fruit Growers, Market Gardeners, and intending Planters to this important Sale. It is seldom such an opportunity offers itself for securing new and rare kinds of Fruit Trees, etc., in such large quantities. All are well grown and healthy. They are without doubt the finest lot of Fruit Trees ever yet offered at Cliffe. Fourteen days will be allowed to clear and settle accounts. Messrs. Horne & Sons will lift and cart all lots and put them on rail after the sale free of charge. Catalogues free of Messrs. Horne & Sons, Cliffe, near Rochester, and of the **Auctioneers, 67 & 68, Cheapside, London, E.C.**

Sales by Auction.

DUTCH BULBS

10,000 Lots Sold Weekly.

SALES EVERY DAY
(Saturdays excepted).
at 10.30 o'clock at
PROTHEROE & MORRIS'
Central Sale Rooms,
67 & 68, CHEAPSIDE, LONDON, E.C.
Est. 77 Years. *Catalogues Free.*

SALES NEXT WEEK.

MONDAY next, Nov. 8th, at 1 o'clock.—A splendid consignment of 2,760 cases JAPANESE LILIUMS in variety, also thousands of Narcissus, Tulips, Crocus, Hyacinths, Iris, etc., Japanese Iris, Hemerocallis, etc.

WEDNESDAY next, Nov. 10th, at 1.30 o'clock.—3,500 ROSES, standard, dwarf, climbing, etc.

At 5 o'clock.—425 Azaleas, indica, mollis, etc., 50 Camellias, 100 Rhododendrons, also 100 lots of Ornamental and Decorative Palms and Plants, standard and other Bays.

FRIDAY next, Nov. 12th, at 12.45 o'clock.—Importations of CATTLEYA AUREA and TRICOPILIA HENNISIANA, collected by Mr. E. Kromer; also 250 lots of established Orchids from other sources; Orchids in flower and bud.

MESSRS. PROTHEROE and MORRIS will SELL the above BY AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C. On view morning of sale, and catalogues had.

WILLIS'S ROOMS, KING ST., ST. JAMES'S SQUARE, S.W.

MESSRS. ROBINSON, FISHER & CO., will SELL on

THURSDAY, NOV. 11, at 1 o'clock,

An Important Collection of

MARBLE GARDEN ORNAMENTS,

including **Two Sets of Terminal Figures, "The Seasons," Eleven Fountains, Sundials, Beautiful Seats and Fonts, Busts, Jardinieres, Vases, Pompeian and Roman Tables, &c.,** mostly copies of those in the celebrated museums and gardens of Europe.

The collection will be on view three days prior to sale, and illustrated catalogues may be had.

BULBS, ROSE TREES, SHRUBS.

Every MONDAY, WEDNESDAY, & THURSDAY, AT 12.30,

STEVENS' AUCTION ROOMS (Est. 150 Years).

38, KING ST., COVENT GARDEN, LONDON.

CATALOGUES ON APPLICATION.

TO LET OR FOR SALE, THE BROOKFIELDS NURSERY, MILL ROAD, CAMBRIDGE; 6-roomed House, 9 Greenhouses; area about 1½ acres. Main road. Rent £70; price £1,200. Full particulars of C. E. GRAY and SON, Auctioneers, etc., 29, St. Andrew's Street, Cambridge.

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100 NURSERIES, MARKET GARDENS, FLORIST AND SEED BUSINESSES TO BE DISPOSED OF.

MESSRS. PROTHEROE and MORRIS'S HORTICULTURAL REGISTER contains full particulars of the above, and can be obtained gratis at 67 and 68, Cheapside, E.C.

WALLFLOWER PLANTS, strong, bushy: Blood Red, Harbinger, Golden King, Cloth of Gold, Primrose Dame, Vulcan, 1s. 6d. 100; 10s. 1,000, on rail. C. HIGHT, Cranleigh, Surrey.

CABBAGE PLANTS, strong, autumn-sown: Enfield Market, Ellam's Dwarf, Wheeler's Imperial, First and Best, Early Offenham, Red Pickling, 3s. 1,000, on rail; 1s. 100; post free. C. HIGHT, Cranleigh, Surrey.

SNOWDROPS, Crocus, Ixias, Ranunculus, Grape Hyacinths, Oxalis, Tritelias, 1s. 100; Scillas, Chinodoxas, Sparaxis, 1s. 3d. 100; Tulips, Narcissus, Anemones, Leucojums, Blue Bells, 1s. 6d. 100, all flowering size.—ELLISON, 57, West Bromwich.

WANTED sufficient four-year-old WHITETHORN QUICKS, to plant 14 or 15 miles of one hedge, transplanted 2 years. Send particulars and other information to Box 930, Office of this Journal.

TROPÆOLUM SPECIOSUM (with cultural directions) also well-rooted ground Ivy. 12 strong roots, each 1s. 3d., free. HARDY, Stranocum, Co. Antrim.

FLOWER POTS, 192 FOR 7s. 6d. Seed Pans, Saucers, Rhubarb and Seakale Pots, etc., etc.

List Free Immediate Dispatch. No Waiting.

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CARNATION PLANTING SEASON.

NOW IS THE TIME TO PLANT CARNATIONS,

Either in Outdoor Beds, or in Pots for Wintering.

We offer good, strong, well-rooted Layers in 12 Choice named varieties, either

SELFS, FANCIES, and YELLOW-GROUND PICOTEES,

Or 4 of each sort for **5/-** post free. 12 Newer varieties, **7/6**

Splendid strong **Clumps of Violets**, in all best varieties, **4/-** per dozen. Comte de Brazza, **5/-** per dozen.

List of Named Sorts free on application.

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Twerton Hill Nursery, BATH.

SUTTON & CO.,

Shipping, Insurance & Forwarding Agents

Give special attention to the forwarding of Plants, Trees, and Shrubs to all Foreign Parts. Phylloxera Certificates secured when necessary.

700 BRANCHES IN THE UNITED KINGDOM.

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The undersigned begs to announce to the Public that he is in a position to supply, wholesale or retail, **Burma Orchids** of 50 varieties at a moderate price. Further particulars on application.—**J. C. PRAZER, Orchid Collector. KALEWA, BURMA.**

AMARYLLIS, AMARYLLIS, AMARYLLIS (Hippeastrums).—Special offer, 1s., 1s. 6d., 2s. each; 10s., 15s., 20s. dozen. Many when in bloom will be worth 5s. to 10s. each.

ELLISON, F.R.H.S., 57, West Bromwich.

DAFFODILS.—20,000 large and small bulbs in 30 named varieties, mixed, and seedlings, price 20s. per 1,000 to clear. HEAD GARDENER, East Lodge, Enfield Chase, Middlesex.

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Employment THE GARDENERS' MAGAZINE Register.

The charge for an Advertisement INCLUDES A FREE ENTRY ON THE REGISTER. Immediate Notice must be given when an engagement is secured.

A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

GARDENER (Head).—Advertiser seeks RE-ENGAGEMENT in first-class establishment, where several are employed; life experience, and thoroughly practical in all branches; five years as head in last situation; can be strongly recommended. Apply DUNKLEY, The Gardens, Mill House, Bourne End, Bucks.

GARDENER (Head), married.—S. BURGESS wishes to engage with any Lady or Gentleman requiring a keen, energetic Gardener; thorough practical in all branches, the management and requirements of a good garden; winner of many prizes for fruits, plants, flowers, and vegetables; first-class characters. 104, Bower Street, Maidstone.

GARDENER (Head); thoroughly understands the formation of New or Remodelling of Old Gardens, Rosaries, Rockeries, Fruits, Indoors and Out, Tennis Grounds, etc.; 30 years' experience; highest references; married, no family. GEORGE ROBARTS, 13, Wades Grove, Winchmore Hill, N.

GARDENER (Head of one or two); leaving through death and establishment being closed; age 29; life experience; excellent references; good at Grapes, Chrysanthemums, etc. Photos of Fruit and Plants may be seen; 7 years' Head of present place; Essex preferred. R. STOCK, 45, Parsonage Street, Halstead, Essex.

GARDENER (Head, where three or more are kept); seven years present place; married; age 30; one child. A. KEMP, Pickforde, Ticehurst, Sussex.

GARDENER (Head of two or good Single-handed); good all-round experience with Vines, Cucumbers, Tomatoes, Fruit, Flowers, Lawns, and Vegetables; age 48; married, two children; excellent references. B. KILLINGWORTH, 15, Queen's Road, Upper Norwood, S.E.

HER GRACE THE DUCHESS of DEVONSHIRE wishes to recommend J. THOMPSON to any Lady or Gentleman requiring the services of a HEAD GARDENER, where several are kept; 20 years' experience in all branches. Holker Gardens, Cark-in-Cartmel, Lancs.

MR. D. W. FRESHFIELD wishes to recommend his HEAD GARDENER to any Lady or Gentleman requiring the services of a competent Man, who has been at Kidbrooke for 11 years; life experience in Gardening in all its branches, both Inside and Out; place being sold cause of leaving; married. E. G. WHEELER, The Gardens, Kidbrooke Park, Forest Row, Sussex.

GARDENER (Head Working). — Sir RICHARD TEMPLE can with every confidence recommend A. TAYLOR as a thorough, practical, trustworthy, and energetic all-round Man; understands electric plant; one child (13). TAYLOR, 4, Orchard Street, Bath Road, Worcester.

GARDENER (Head Working), very good with Plants and Fruit under glass, and the general routine, Inside and Out; best references for ability and character; nearly six years last place; age 33; single. PARTRIDGE, 20, The Hoo, near Wellington, Salop.

GARDENER (Head Working), age 33, married. H. MARKHAM, Gardener to The Right Hon. Viscount Enfield, will be pleased to recommend a most dependable, energetic Man of good experience to any Lady or Gentleman in want of a good Gardener. Wrotham Park Gardens, Barnet, Herts.

GARDENER (Head Working), age 50; single; well understands the cultivation of Fruit, Plants, and the general routine of a well-kept Garden. SMITH, Somerleyton Green, Lowestoft.

GARDENER (Head Working) where three or more are kept; age 31; excellent references as to character and ability; disengaged. F. ALFORD, care of Mr. W. J. Read, Richmond Terrace, Winchester Street, Romsey, Hampshire.

GARDENER (Head Working).—Thorough practical experience in all branches of the profession, Inside and Outside; good references; marmied, no family. W. S., 16, Warwick Place, Maidstone, Kent.

GARDENER (Head Working, where several are kept); life experience in all branches; 10 years last place; used to Growing for Exhibition choice Flowers, Fruit, and Vegetables; age 30; married when suited. H. J. KING, 1, Pretoria Cottages, West Lane, S. Hayling, Hants.

GARDENER (Head Working or Single-handed) seeks SITUATION; age 28; married; life experience in all branches Inside and Out; excellent references. HOWARD, Bintry, East Dereham, Norfolk.

GARDENER (Head Working or good Single-handed with help); life experience Inside and Out; 8½ years' excellent reference; disengaged; age 40; married, one boy, age 14. H. BULLEN, Ark Cottages, Barns Green, Horsham.

H. TUBB, Esq., Chesterton Lodge, Bicester, wishes to highly recommend ERNEST LANGDON, age 30, as GARDENER (Head Working, where four or more are kept); has been five years with him as Foreman; good general knowledge of his profession; married when suited.

GARDENER (Head or Single-handed); married; age 42; one boy (14); life experience Inside and Out; good references; disengaged. BASS, 7, Silver Street, Ely, Cambs.

AS GARDENER (Single-handed, with help), experienced Fruit, Flowers, Vegetables, and Lawns (inside and out); age 26; married when suited; thoroughly recommended by present employer. J. CLARKE, Eastcourt Gardens, Malmesbury, Wilts.

GARDENER (Single-handed or with help); 16 years' experience in all branches; good knowledge of Vines, Peaches, Melons, and Cucumbers; good reference; age 31; married, no family. Apply M. PENFOLD, Shawfield Farm Cottage, Ash, Surrey.

GARDENER (Single-handed or with assistance); thoroughly experienced, Inside and Out; 9½ years last situation; good reference; age 37; married; small family; disengaged. R. NEWMAN, 4, Southlea, Cliddesden, Basingstoke, Hants.

GARDENER seeks SITUATION as Single-handed; age 32; married, no children; leaving through death. CATLEY, The Lodge, Beddington Place, near Croydon.

FOREMAN (Inside); age 28; 14 years' practical experience in good establishments; six years as Foreman; House and Table Decorations. Bothy preferred. R. SCRIVEN, Preston Road, Yeovil.

MANAGER or FOREMAN; market or retail; 24 years' experience. Cucumbers, Tomatoes, Ferns, Palms, Bedding, Soft-wooded Stuff, Arums, Chrysanthemums, Bulb Forcing; also French Garden System, if required; can take entire management; married; abstainer; good references; last ten years Managing Foreman. FOSTER, Brookmons Park, Bell Bar, Hatfield, Herts.

MANAGER or FOREMAN (Working); thoroughly experienced Inside and Out; Growing Cucumbers, Tomatoes, Grapes, Chrysanthemums, Ferns, Mushrooms, Bedding Stuff, etc.; first-class references; married; age 30. G. HOWE, Chapel Lane, Stanstead Abbotts, Ware, Herts.

A DOCTOR recommends, as SECOND GARDENER on large estate in England, Young Belgian (20), just left the Ecole of Horticulture de l'Etat in Ghent, with highest diplomas, and a grant from the Government; little English. Apply to DOCTEUR VERBRUGGHEN, Gand, Belgium; or, for first informations, to MADLLE. DUPONT, Sunnyside, Stanley Street, Southsea.

GARDENER (Second, or Single-handed); experienced Inside and Out; 3½ years Second present situation; age 30; married. J. NETLEY, Peaslake, Gomshall, Surrey.

GARDENER (Second, Inside and Out) seeks SITUATION; 10 years good experience; 7 years in present place; good references. T. JARRATT, Waverley Road, Weybridge, Surrey.

GARDENER (Second).—Young Man seeks SITUATION; age 24; 10 years' experience Inside and Out; good references. M. HEIGHES, The Stables, The Firs, Esher, Surrey.

GARDENER (42) seeks SITUATION, with one under, or good single-handed with help; life experience with Fruit, Flowers, Kitchen Garden; 19 years present place; leaving no fault; good references; married when suited. COVENTRY, Reading Road, Pangbourne, Berks.

GARDENER, single, requires SITUATION, Kitchen Garden, or Kitchen Garden and Pleasure Grounds; used to scythe and machines; 12 years' experience; abstainer; good refs.; age 30. H. DAVIS, 42, West Street, Lilley, Luton, Beds.

A GENTLEMAN can with every confidence recommend his GARDENER; skilful cultivator, Glass and Vegetables; thoroughly competent and trustworthy; Medallist; married. FRANCIS ALLEN, Duppas Hill, Croydon.

GENTLEMAN wishes to recommend YOUNG MAN as UNDER GARDENER; 19 months in present situation; age 20. F. MITCHINSON, 89, Church Road, Hendon, Middlesex.

MR. CHAPLIN, Normanton Gardens, Stamford, highly recommends D. HANN as JOURNEYMAN (Inside); 8 years' experience Fruit, Plants, Chrysanthemums, Decorating; age 23. Address Hewood, Chard, Somerset.

MR. MASON, Melton Park Gardens, Doncaster, confidently recommends E. NORTH as JOURNEYMAN (Inside and Out); five years' experience; age 21; leaving through reduction in staff.

W. BLAND, Gardener to Mrs. Brookes, The Gardens, Kingsgate, Broadstairs, can with confidence recommend H. LAWRENCE as JOURNEYMAN in the Houses; age 25; four years here.

A. H. DICKS, Parkhurst, Great Barr, wishes to recommend J. MARSH for General Work; 4½ years' experience; age 21. 65, Emery Street, Walsall.

GARDEN LABOURER wants SITUATION; married, no family; good experience of outside work, both kitchen garden and pleasure grounds; good scythe and spade hand; good reference. LING, Epperstone Road, Lowdham, Notts.

GARDENER recommends strong YOUNG MAN as General, Inside and Out; bothy preferred; 2½ years present place; age 20. J. KEITH, Gladstone Cots., Lower Road, Sunninghill.

SITUATION COUPON

To the Advertisement Manager of "The Gardeners' Magazine,"
148 & 149, Aldersgate Street, London, E.C.

For NOVEMBER 13, 1909.

Please Repeat my Advertisement.

Name..

Address..

....

Date..............................

THIS COUPON, duly filled up, should be forwarded not later than Tuesday for the next issue.

Situations Wanted—*continued.*

YOUNG MAN, age 24, requires SITUATION as UNDER GARDENER; 8 years' experience Inside and Out; good references. A. BISHOP, 164, Bollo Bridge Road, Acton, Middx.

ELECTRICIAN.—Charge of Plant wanted; thoroughly understands Accumulators, having worked at E.P.S. five years; can do all repairs; will fill up time as Estate Carpenter, Painting, Glazing, and be generally useful; eight years in present situation. H. NICHOLLS, Letchmore Heath, near Watford, Herts.

LAD (18) seeks SITUATION in Garden, where several are kept; some experience; three years' good character; Bothy preferred. F. PASSINGHAM, Middle Farm, Durley, Bishop's Waltham, Hants.

PROPAGATOR and GROWER (33), Soft-wooded and bedding plants, Forcing Bulbs, etc., Carnations, Mals., Trees; borders a speciality; good references. J. R., 31, Harrington, Upper Clapton, London, N.E.

SALESMAN or FOREMAN (Working) of a Market Garden; 10 years' experience; thorough knowledge of Covent Garden; age 24. Apply S. L., 3, Oak Villas, Mortlake.

SITUATION required, pleasure grounds or otherwise; used to horse machine, scythe, etc.; married; age 27; 10 years' experience; good refs. E. HUMPHREY, The Gardens, Upper Gatton Park, Merstham, Surrey.

YOUNG MAN, married, no children, seeks SITUATION as PAINTER, GLAZIER, and GARDENER on Estate; good references. RUST, 13, Charnwood Terrace, Bernard Street, Carrington, Notts.

YOUNG MAN (18) seeks SITUATION in gentleman's garden; 3 years in present situation; highly recommended. C COLESHILL, 3, Wolsey Road, Hampton Hill.

YOUTH, Respectable (strong), seeks SITUATION on mixed farm, holding, or garden; live in; good home essential; quick to learn. No previous practical experience. Small wage to start. A. L., 24, Reynolds Road, Peckham Rye.

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WEED DESTROYERS
(POISON).
Sales larger than those of any other Weed Destroyer.
Strongest manufactured.
Most permanent in effect.
Used regularly in the Royal Gardens, Public Parks, Cemeteries, &c., and in many thousands of largest and best kept Estates throughout the United Kingdom.
SPECIAL CONCENTRATED STRENGTH (1 to 80), 3 gall. drums, **14 6**; 6 gall. drums, **£1 8s.**; 12 galls. (in two 6 gall. drums), **£2 7s. 6d.**; 24 galls. (in four 6 gall. drums), **£4 10s.**
DOUBLE STRENGTH (1 to 50), 3 gall. drums, **10/-**; 6 gall. drums, **18/-**; 12 gall. barrels, **£1 14s.**; 20 gall. barrels, **£2 10s.**; 40 gall. barrels, **£4 15s.**
Drums and Barrels charged and returnable.
PATENT POWDER (1 to 25). 5 tins, **8 9**; 8 tins, **12/6**; 12 tins, **17,6**; 20 tins, **£1 8s.**; 40 tins, **£2 10s.**; 80 tins, **£4 17s. 6d.**
BENTLEY'S
COMPOUND QUASSIA EXTRACT
(THE ORIGINAL)!
The PERFECT Insecticide for destroying GREEN-WHITE and BLACK FLY, CELERY, CARROT, TURNIP and ONION FLY, CATERPILLAR, &c.
Each gallon makes from 80 to 100 gallons ready for use.
20 galls. ... **3/4** per gall.
10 galls. ... **3/5** per gall.
5 galls. ... **3 6** per gall.
In 5 gall. drums, charged half-cost, 9d. each, not returnable.
1 gall., **4/-**; ½ gall., **2/4**; 1 quart, **1 5**.
Carriage paid on 7,6 orders and upwards.
WHOLESALE MANUFACTURERS:
JOSEPH BENTLEY, LTD.,
Chemical Works,
Barrow-on-Humber, HULL.

BROOKLANDS NURSERY.
Specially Choice Hybrid Rhododendrons on own Roots.
JAS. HATHERALL, Brooklands Nursery, WEYBRIDGE.

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110 ACRES,
FRUIT TREES,
ORNAMENTAL TREES,
SHRUBS OF ALL KINDS.
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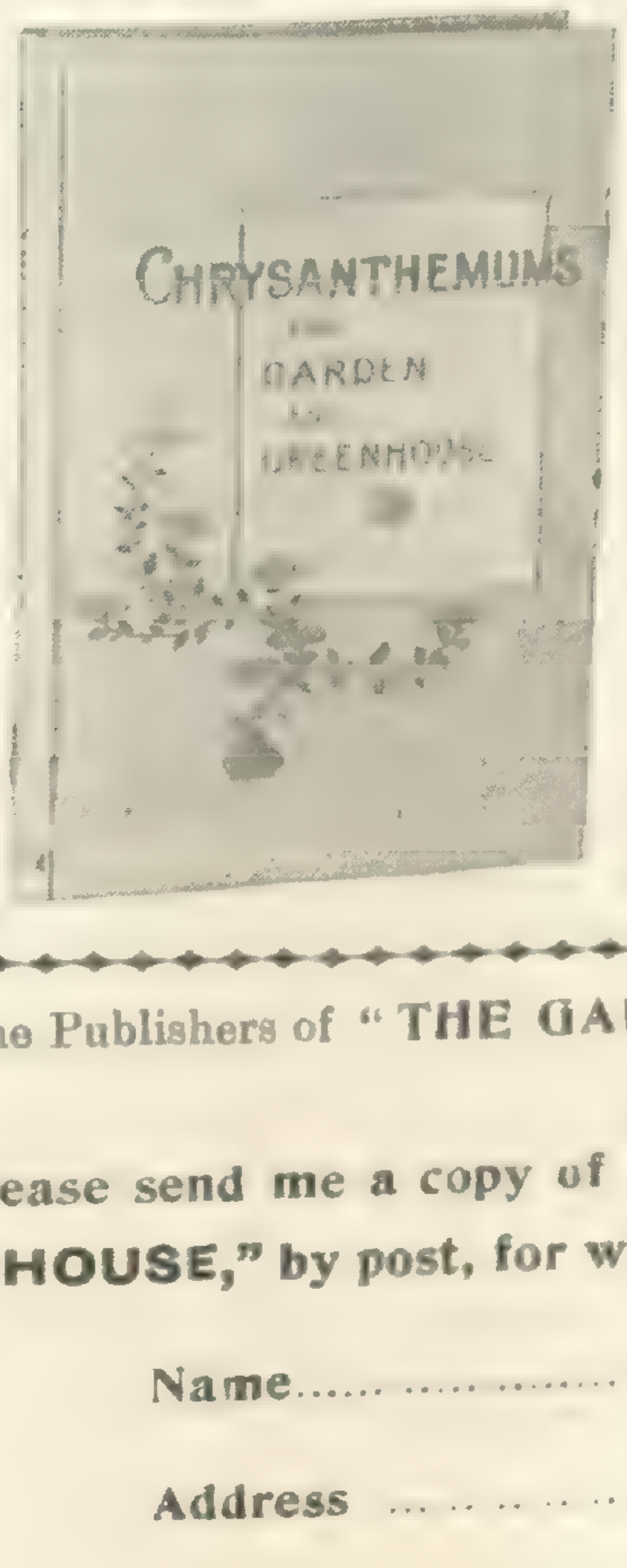

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VOL. LII.—No. 2,923. SATURDAY, NOVEMBER 6, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

The Rose Tribe.

Few people probably, when enjoying the fragrance of the rose and recognising it as the veritable Queen of Flowers, or when viewing it at our rose exhibitions in all its multiplicity of form and tints and habits, as ramblers, standards, or bushes, are aware that even this wealth of beauty is but one phase of many of the great family to which the rose belongs. In that particular phase, indeed, actual utility plays no part save in the way of decoration, while probably no other plant family in the world has been so lavish in providing luscious fruits, and thus contributing to the pleasures of the palate as well as those of the eye and nose. To justify this we have but to mention that all the wonderful varieties of apples, pears, quinces, medlars, peaches, nectarines, almonds, apricots, plums, cherries, strawberries, raspberries, and blackberries are really roses pure and simple, as an examination of any of their flowers easily shows. The essential difference is that in all these cases we see the hard, leathery seed vessel of the Queen of Flowers, modified and associated with attractive pulp, constituting the fruit, as it is popularly termed, though in point of fact, it is the unattractive seed, the pip, the stone, or the superposed dots of the strawberry section which is really the fruit proper. What we enjoy are mere secondary adjuncts designed to assist dispersion of this precious seed by inducing voracious birds or other animals to devour them and eventually scatter the indigestible seeds far and wide. Much as we may marvel at the beautiful diversity which the selective cultivator has brought about in the rose of our exhibitions through hybridisation and cross-fertilisation, there is still more reason for wondering admiration in the great changes which evolution has effected in the form of the seed, and the mode in which the environing husk has been varied. In the apple and pear tribe we have a number of smooth leather-coated seeds or "pips," embedded in the centre and surrounded by a hard internal skin, the "core." In the peaches, plums, and cherries we find this transformed into a single hard-shelled nut-like seed, the stone, and in the strawberry we find an entirely different arrangement of a mass of luscious pulp in the surface of which there is embedded in shallow cavities large numbers of hard little grains which are the seeds proper. Without examination of the flower no one examining these widely different fruits could imagine that they all belonged to one and the same order, and yet they do so undoubtedly. Incidentally, it may be mentioned that in Rosa rugosa, the Japanese rose of our gardens, we see a sort of link between the rose proper and the apple, the fruit being very apple-like, rosy cheeked, soft pulped, and edible, the hard rough seeds, such as we find in the hips and haws of our hedges, remaining, however, unaltered and quite unlike the smooth pips of the apple. The allusion to hips and haws is justified by the fact that these, too, are really rose fruits or seed vessels, since outside the recognised roses and the fruits we have mentioned, the great rose family embraces all the hawthorns, blackthorns, whitethorns, and pyracanthas, which beautify the landscape late in the spring with their floral snowdrifts, or in their varietal forms, red, crimson,single and double,ornament our parks and gardens with brilliant masses of colour of various intensities. Pick but a single flower of any of these, magnify it a few times, and it is indistinguishable from its larger sisters of the regal type. Lower down in grade, but beautiful enough to justify their association, we have as other members of the tribe the spiræas, geums, potentillas, rubus, etc., while the lovely wild rose, vulgarly called the dog rose, gives us the family type in all its unsophisticated beauty all over the country. Many species of the rose tribe grow in the tropics, and are not so familiar as those named, which form but a small quota of the 82 genera and about 1,000 species which constitute the family as a whole. A chapter, and a long one, might be added concerning the wonderful chemical products of this family, from attar of roses to the deadliest of poisons, prussic acid, to say nothing of the infinite number of subtle flavourings in the fruits, but space precludes more than a mere allusion to this phase of this wonderful tribe.

MR. J. H. WITTY.

Mr. J. H. Witty, a genial and handsome man, and "bearded like the pard," is well known in horticultural circles as a great lover of chrysanthemums and the capable superintendent of one of the big Metropolitan cemeteries. Mr. Witty is a Yorkshireman, and served his apprenticeship at Dixon's Nursery at Beverley, and from thence went to Clumber, the Duke of Newcastle's seat at Worksop. London soon attracted him, however, and he became employed at Videon's nursery at Maida Vale. Presently he took charge of the decorating, etc., at Grosvenor House, the town residence of the Duke of Westminster. His next appointment was to the charge of the gardens, etc., at Stafford House, the residence of the Duke of Sutherland, where the King, then Prince of Wales, was staying during repairs to Marlborough House. His love for floral decorating and "furnishing" next led him to Messrs. Wimsett's nursery at Chelsea, and while with this firm he had plenty of opportunity for adding to his knowledge in this particular direction. About this time Mr. Rogers was making Battersea Park famous for its summer bedding, especially the carpet bedding, and so to Battersea Park Mr. Witty went for further and new experiences, and stayed four years, until he was appointed gardener and deputy-superintendent of Highgate Cemetery, a position he most satisfactorily filled for eleven years. He was next employed as superintendent of Nunhead Cemetery, and during his twelve years' stay there he won golden opinions from all with whom he had to do. Since 1901 Mr. Witty has been superintendent of the Highgate Cemetery, and he obtained some notoriety in connection with the famous Druce case, as it was his business to open the vault, produce the body for the experts' examination, and return it to its resting-place. Mr. Witty had some curious and interesting chrysanthemums a few years ago, and he has interested himself in lobelias and fuchsias. For very many years he has been a prominent member of the Executive and Floral Committees of the National Chrysanthemum Society, and he was for several years vice-chairman of the General Committee. He was one of the founders of the Highgate Chrysanthemum Society, and also instituted the Brookfield Horticultural Society at Highgate. Mr. Witty has associated himself with the British Gardeners' Association, and is a member of the Council of that body; he is also a member of the committee of the Royal Gardeners' Orphan Fund. Quite recently Mr. Witty has blossomed out in a new direction, for in connection with the Highgate Cemetery he now controls a market and nursery establishment at Swain's Lane and Townsend Yard, Highgate, where tomatoes, cucumbers, sweet peas, and chrysanthemums are the chief subjects grown.

Black Scab of Potatoes.—In reply to a question in the House of Commons on Monday with reference to the disease of black scab in potatoes, Captain Norton said: The disease is unfortunately very prevalent in allotments and cottage gardens in Cheshire, North Shropshire, Staffordshire, South Lancashire, and parts of Warwickshire, Derbyshire, and Notts. It has been found in certain parts of Fife, but to a much smaller extent. A few isolated cases have been reported from other parts of the country. In none of the districts named does the disease exist except to a very small extent in fields under rotation. We hope that our information as to the results of the investigations which have been instituted will be available in the course of the present week, and they will be at once communicated to every occupier of premises on which the disease is known to exist.

French Horticulture.—In view of the important position to which horticulture has attained in France a Technical Commission of Horticulture has been created by decree of the President. The duties of this Commission will be to deal with all questions relating to plant improvement, cultural methods, and the transport and marketing of produce at home and abroad. The Commission will consist of thirty members, and will include the president of the National Horticultural Society of France and the director of the National School of Horticulture at Versailles.

"**British Fern Gazette**" is the title of the new quarterly publication of the British Pteridological Society, and under the editorship of Mr. C. T. Druery, V.M.H., it should prove most useful to the members of that body. At the annual meeting of this society at Kendal in August last, a resolution was passed that a quarterly publication should be established and issued dealing with British species, particularly from the varietal point of view. The object of this society has been the encouragement of the cultivation of the finer forms, but as its records simply embraced reports of annual meetings, with only occasional additional contributions of papers by its members, it was felt that its utility was too circumscribed, and that in view of the greatly increased popularity of the varietal forms as decorative plants, it was essential to arrange for greater publicity. The contents of the issue now before us includes articles on the life history of ferns, fern collecting, and wild sports of British ferns, and, as the whole of the letterpress is from the pen of Mr. Druery, it is not necessary to say that the pages contain much to interest. We are promised articles by several of the leading authorities in the next issue. The annual subscription of five shillings to the society includes the four issues of the publication. For the information of those who may wish to communicate with the editor, we would mention that Mr. Druery's address is Stanwix-bank, Shaa Road, Acton, W.

Supervision of Trees in Kensington.—For the third consecutive year the Metropolitan Public Gardens Association have been appointed by the Royal Borough of Kensington to supervise the pruning and lopping of trees in the public thoroughfares of the borough during the winter season.

Exeter Gardeners' Association.—At the annual meeting of the Exeter Gardeners' Association, it was announced that the committee had decided to discontinue the award of money prizes at the fortnightly meetings, but to give awards of merit instead. The "question nights," had, it was reported, proved most attractive to members, for the discussion on the various points raised by the questions had been very instructive. The society was successful in bringing its year's work to a close with a balance in hand. Mr. W. B. Heberden and Mr. P. C. M. Veitch were re-elected president and vice-president, and Mr. Chorley and Mr. Mackay were reappointed secretary and treasurer respectively.

Warley Garden in Spring and Summer. — Mr. Bernard Quaritch, Grafton Street, London, W., announces for publication a series of forty-one views of Miss Willmott's interesting garden at Great Warley. The illustrations are from photographs taken by Miss Willmott, and have been reproduced in collotype; and the work will form a handsome folio. Early in December is mentioned as the time of its issue.

National Carnation and Picotee Society.—We are informed by Mr. Henwood, the hon. secretary, that at a committee meeting held an Saturday, October 30, it was unanimously decided that the show for 1910 be held at the Royal Horticultural Hall on Tuesday, July 26, and that the schedule remain as for 1909, with the addition of a class open to amateurs only, for twelve distinct varieties of selfs, fancies, and yellow ground picotees. The first prize will be the Martin Smith Memorial Challenge Cup and Medal, the challenge cup to be held for the year.

National Auricula and Primula Society.—A committee meeting of this society was held on Saturday, October 30, when it was resolved to hold the show for 1910 on Tuesday, May 3, in conjunction with the Royal Horticultural Society's exhibition.

The Colonisation of a River Bank.—At the meeting of the Royal Horticultural Society's Scientific Committee, Mr. J. Fraser made some remarks concerning the colonisation of the bank of the river Thames. A piece of the bank had fallen away, and this year upon the newly-bared earth the following plants had appeared. The first two are exceedingly uncommon colonists of such places. Platanus acerifolia, or London Plane; Coronilla varia; seedlings of Salix alba, fragilis, caprea, cinerea, viminalis; Alnus rotundifolia, Mill; A. glutinosa, Gærtn; Radiculas, Nasturtium aquaticum, sylvestris, palustris, amphibia; Melilotus altissima and indica; Solanum Dulcamara and nigrum; Mentha aquatica subglabra and arvensis; Polygonums, Convolvulus and Persicaria; Parietaria officinalis, Angelica sylvestris, Lycopus europæus, Sambucus nigra, Senecio aquaticus, Scrophularia aquatica, Œnanthe crocata, Lythrum Salicaria, and Barbarea vulgaris.

"**Some Beautiful Shrubs**" is the title of a lecture to be given by Mr. E. Beckett, V.M.H., at the meeting of the Royal Horticultural Society on Tuesday next. The lecture will be illustrated by lantern slides, and will commence at 3 p.m.

Smoke and Sunlight.—In their paper on "Air Pollution by Smoke," read at the Health Congress at Leeds, Professor J. B. Cohen and Mr. A. G. Ruston gave some very interesting particulars relating to the effect of suspended impurities in the air in diminishing the amount of sunlight in Leeds. In 1907 the number of hours of bright sunshine was 1,167 hours in the town, while four miles north-west it reached 1,402 hours. With reference to the amount of daylight the investigations showed that over a period of four winter months the smoke in an industrial centre absorbed one-quarter of the sunlight, as compared with a station one mile away. During the month of June last the amount of daylight in the centre of the town often fell to one-half as compared with Garforth, several miles beyond its boundaries.

British Gardeners' Association.—On Friday next, the 12th inst., Mr. E. F. Hawes will deliver an address in the Temperance Hall, Leicester, at 7 p.m., on the "Aims and Objects of the British Gardeners' Association." Mr. W. H. Divers, of Belvoir Castle Gardens, will preside.

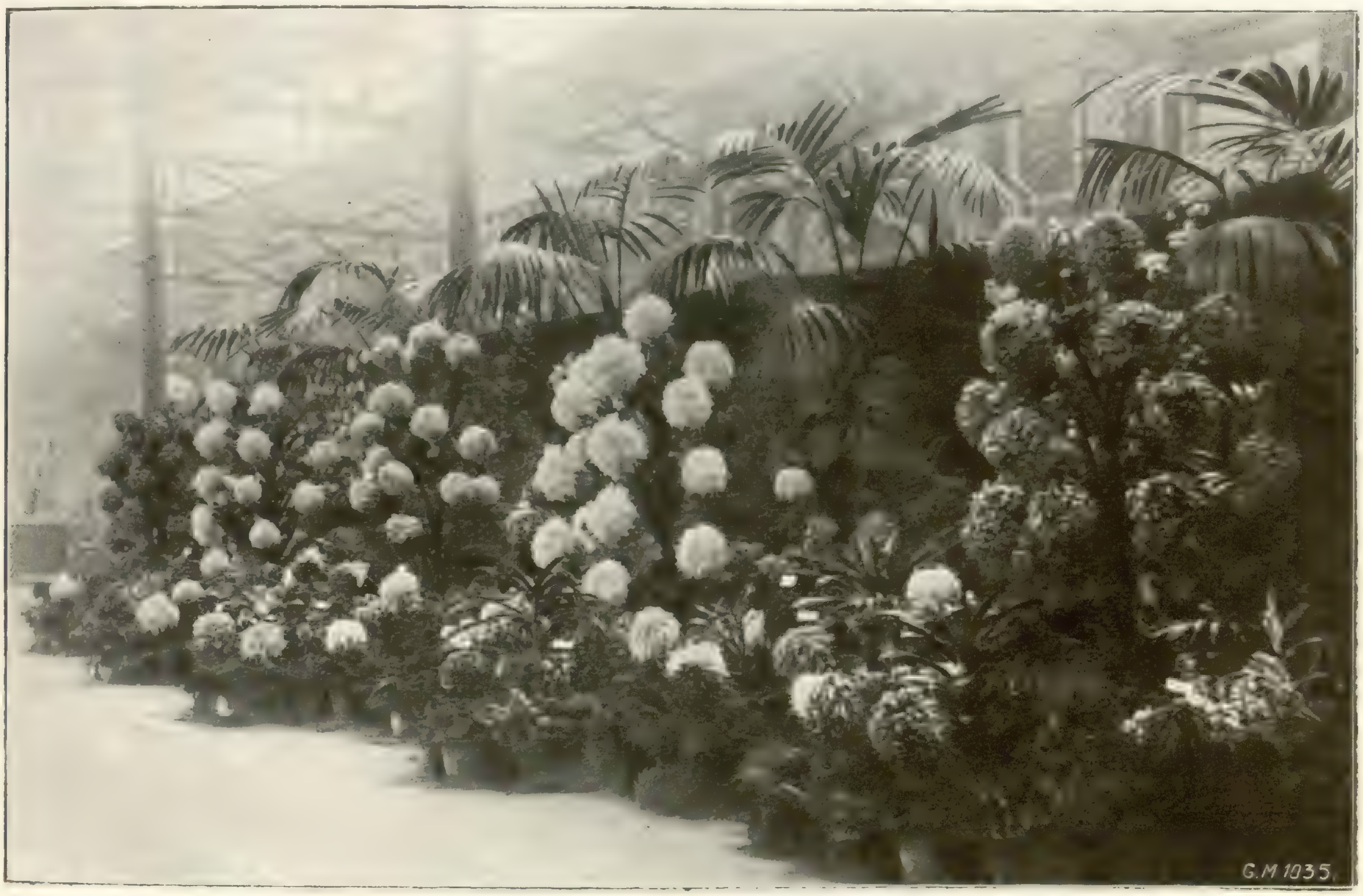
Aldgate's Old Fig Tree.—In an interesting note on the Aldgate Ward School the "City Press" makes the following reference to the old fig tree that for so long a period was a characteristic feature of the school building: "Aldgate is scarcely an Arcady, but there is something arcadian in Aldgate sitting under its own fig tree. The tree (unfortunately there was no vine to keep it company), under which Aldgateians sat and meditated, long grew in front of the ward school in Jewry Street —how long nobody knew. It was generally believed that the tree had a past—quite a respectable one, of course. Indeed, it was somehow understood that it was one of the trees that adorned the grounds of the ancient abbey of Holy Trinity, which for many centuries held religious sway in the Aldgate neighbourhood. The ward seminary was erected on a part of the site of the abbey and its gardens, and when the school was built, the tree was evidently allowed to remain. Certainly it formed a beautiful adjunct to the building. The school, a picturesque old-world structure, has been demolished to provide space for an extension of the Sir John Cass Foundation, and the old fig tree has disappeared no one knows where. Its loss will be regretted by many. Luckily, however, it has left a successor. Two or three years ago Mr. A. M. Sly, then one of the churchwardens of St. Katharine Cree, took a cutting from the tree, and planted it in the churchyard of that parish, where it is in a flourishing state, though we fear the offspring can never become so interesting or so hallowed as its poor old parent."

NATIONAL CHRYSANTHEMUM SOCIETY.

The exhibition held at the Crystal Palace on November 3, 4, and 5, suffered somewhat from being spread out rather too much through the transepts of the great building. The competition was very fair, and there were some excellent blooms in the Japanese classes. Fruits were scarcely up to the average, but vegetables were remarkably good, and the trade displays were a great success. The members of the society rallied round the executive, and this year a large number of the leading growers gave their services free as judges. Mr. R. H. Witty, the secretary, and Mr. Caselton, each rendered most efficient service, and in a pleasant manner also.

LUNCHEON.

The official luncheon over which the president Sir Albert Rollit, presided, was well attended by the officers and members of the society and the Crystal Palace authorities.



G.M 1035

MR. NORMAN DAVIS'S LARGE GOLD MEDAL EXHIBIT OF CHRYSANTHEMUMS
At the National Chrysanthemum Society's Show, Crystal Palace, November 3, 4, and 5.

In proposing "The Judges," Sir Albert made an excellent speech, pointing out the great work the N.C.S. had performed in improving and extending the cultivation of chrysanthemums. He showed how the judgment of new varieties, and the awards made by the society, and the proper allotment of prizes by competent judges had given the society a prominent and dignified position in the horticultural world, and so long as such awards were made with care and impartiality the future of the society, as the premier one in the cult of the chrysanthemum was assured. Sir Albert referred to the long association of the society with the Crystal Palace, and expressed a hope that such associations would long continue, as there was no place so well suited to a big show as the Crystal Palace. He referred to the show, and pointed out that, though the amateurs' classes, especially the smaller ones, were not well filled, there was a grand display in the leading open classes, and Japanese blooms were rarely better seen, while the displays of chrysanthemums, and Messrs. Cannell's exhibit of British fruit were worthy of the exhibitors and the society.

Messrs. D. B. Crane and R. Felton responded for "The Judges," and in response to the toast of "The Exhibitors," Mr. Robt. Cannell and Mr. P. Ladds responded, the former making a brief and humorous speech. Mr. Norman Davis proposed "The Crystal Palace Company," to which Mr. Starr and Mr. Caselton responded. "The President," proposed by Mr. T. Bevan, brought the brief and pleasant proceedings to a close.

GROUPS.

In the class for a floral display of chrysanthemums and suitable foliage plants there was, unfortunately, only one competitor—Mr. W. Howe, gardener to Lady Tate, Park Hill, Streatham, who was awarded first prize for his effective display, made on a space of 200 sq. feet. Mr. Howe's conical arrangement of Japanese and decorative chrysanthemums was relieved by crotons, palms, dracænas, etc., and encircled by suitable foliage plants, and small vases of single and Japanese blooms.

In the class for a display of cut blooms made by affiliated societies, there was but one entry, and this, from the Dulwich Society, was awarded the first prize and challenge trophy. The members of this society put up a few good Japanese varieties, but a good many poor ones also; their decorative and single varieties were good, and the arrangement pleasing.

VASE CLASS.

The premier place for a dozen vases of Japanese blooms, three blooms of each variety, was secured by Mr. W. Iggulden, Frome, Somerset, who led with excellent specimens of C. H. Totty, Mdme. G. Rivol, Lady Talbot, Mrs. Norman Davis, Gladys Blackburne, William Gee, Mdme. Paolo Radaelli, F. S. Vallis, Reg. Vallis, Mrs. A. T. Miller, Frank Payne, and the new golden-yellow Mrs. Wm. Iggulden; the second prize fell to Mr. G. Hall, gardener to the Executors of Lady Ashburton, Melchet Court, Romsey, who had Algernon Davis, Edith Smith, Mrs. A. T. Miller, F. S. Vallis, and Annie Hamilton in good form; Mr. W. Higgs, gardener to J. B. Hankey, Esq., Feltham Park, Leatherhead, third; and Mr. A. Smith, gardener to Mdme. Stuart, Convent Gardens, Roehampton, fourth.

JAPANESE BLOOMS.

There was a fine competition in the class for forty-eight Japanese blooms distinct, and here the Holmes Cup was won by a newcomer, Mr. T. Waller, gardener to A. C. Hammersley, Esq., Abney House, Bourne End, who had a glorious lot of flowers, his finest being Mrs. Crossley, F. S. Vallis, Miss Alice Edwards, Mary Inglis, H. Perkins, Mildred Ware, Valerie Greenham, Miss Faith Moore, Mrs. A. T. Miller, Norman Davis, Rev. R. D. Eves, G. Terry, Lady Talbot, Pres. Viger, and Mrs. G. Mileham. To this fine stand the Dean Memorial Medal was also awarded. Mr. T. Stevenson, gardener to E. Mocatta, Esq., Woburn Place, Addlestone, was a fine second, with Lady Talbot, Miss Thorne, Jas. Lock, Miss M. Hankey, Sir F. Crisp, T. Stevenson, and F. S. Vallis in grand condition; Mr. G. Hall third, and Mr. W. Mease, gardener to A. Tate, Esq., Downside, Leatherhead, fourth.

In Messrs. Wells' class for six Japanese blooms of recent introduction Mr. W. Mease led with Merstham Blush, Pockett's Emperor, Rose Pockett, C. H. Totty, Leslie Morrison, and Mrs. L. Thorn; Mr. G. Hunt, gardener to Pantia Ralli, Esq., Ashtead Park, Epsom, second.

Mr. T. Waller continued his successes in the class for two dozen Japanese blooms, and won with good bright colours, showing Mrs.

A. Etherington, Madame G. Rivol, Mrs. A. T. Miller, F. S. Vallis, Edith Smith, President Viger, and Bessie Godfrey. Mr. T. Stevenson was again a capital second, and he had lovely crimson and yellow varieties; Mr. W. Rigby, gardener to the Rev. A. C. Cooper-Marsdin, Wickham Road, Beckenham, third. Mr. W. Rigby led in the class for a dozen Japanese, and he had Mrs. Penford, Bessie Godfrey, and Lady Talbot in good form; Mr. J. Kirkwood, gardener to E. Wormald, Esq., Grass Farm House, Finchley, second, and Mr. W. Mease, third; seven entries.

INCURVED BLOOMS.

There was only one exhibit of thirty-six incurved blooms distinct, and this was from Mr. W. Higgs, who secured first prize with blooms that were not up to his usual form, being rather rough. His best were Topaze Orientale, G. F. Evans, Embleme Poitevine, Clara Wells, Lady Isabel, C. H. Curtis, Buttercup, Mrs. Hankey, and H. H. Thorp. Mr. Higgs again holds the Holmes Cup.

Mr. Higgs scored for a dozen vases of incurved blooms, three flowers in a vase, with fine specimens of Buttercup, Mrs. B. Hankey, Mrs. G. Denyer, H. W. Thorp, Miss E. Holden, Topaze Orientale, Nellie Southam, Romance, Mrs. J. Hygate, Embleme Poitevine, Lady Isabel, and Clara Wells; only one exhibitor.

Mr. W. Mease led for twelve incurved blooms, winning with shapely flowers of G. F. Evans, Mrs. Bryce, Buttercup, etc.; Mr. W. Higgs second, and Mr. J. A. Humphries, gardener to J. L. Burgess, Esq., Hill House, Maisey Hampton, third. For six flowers of one incurved variety, Mr. Higgs scored with H. W. Thorp; Mr. G. Hunt second with Clara Wells; Mr. G. Mileham third with Buttercup.

DECORATIVE EXHIBITS.

Mr. T. W. Stone, gardener to W. H. Stone, Esq., Donnington, Sydenham, scored for a table decoration with bronze and golden flowers; Mrs. A. Robinson, Norhyrst, Park Hill, Carshalton, second; and Mrs. A. D. Ruff, Sharnbrook, Beds, third. In another table decoration class Mrs. Brewster, St. Peters, Canterbury, gained the premier award with white flowers.

Mr. J. A. Humphries led for a vase of pompons and foliage; Mr. T. G. Oliver, Tollington Park, scored for a vase of singles and spidery varieties; and Miss J. Martin, Lancaster Road, Norwood, led for a vase of berries and autumn foliage with a grand exhibit of gladwyns, honesty, privet, physalis, and oak and bracken foliage. Mrs. Brewster was second, and Mr. Humphries third in the latter class.

Mr. J. W. Harrison, gardener to R. Girvan, Esq., Laurie Park Gardens, Sydenham, scored for a large vase of single chrysanthemums. Mr. W. Iggulden led for a vase of five large Japanese blooms with a grand display of Mdme. P. Radaelli; Mr. G. Mileham second with J. Lock; and Mr. Fairweather third with Reg. Vallis. For a vase of yellow Japanese blooms Mr. D. Fairweather was a capital first with F. S. Vallis, and for a vase of white Japanese varieties the chief award fell to Mr. Broom for Mrs. A. T. Miller.

OTHER CLASSES.

Mr. J. A. Humphries annexed the premier award for six vases of market chrysanthemums with fine sets of Soleil d'Octobre, Crimson Source d'Or, Caprice du Printemps, Chas. Davies, Moneymaker, and Viviand Morel. Mr. J. Broom, gardener to Miss Langworthy, Gays House, Holyport, scored for reflexed varieties, and was followed by Mr. J. A. Humphries. Mr. A. C. Horton, gardener to J. L. Boyd, Esq., North Frith, Tonbridge, had easily the best two dozen large anemone blooms in vases, and he showed Sir W. Raleigh, Owen's Perfection, John Bunyan, and Ernest Cooper in good condition; Mr. Henderson, gardener to C. Douglas Clark, Esq., Eccles Hill, Bromley, second, and Mr. J. Humphries third.

Mr. A. C. Horton also led for a dozen large-flowered anemone blooms, and was followed in order by Mr. J. A. Humphries and Mr. A. Henderson. For large-flowered Japanese anemones Mr. A. C. Horton was again successful, and showed those varieties capitally; Mr. J. Humphries second.

Mr. F. Fitzwater gardener to F. Beaby, Esq., Bushey Lodge, Teddington, had the best six vases of pompons, and his varieties were Mdlle. Elise Dordon, Mdlle. Marthe, Prince of Orange, Wm. Sabey, W. Westlake, and Comte de Morney; Mr. J. A. Humphries second. Anemone pompons were best shown by Mr. F. Fitzwater, and singles (a dozen vases) by Mr. F. Brazier, whose best were Brazier's Beauty, Mary Richardson, Chas. Graves, and Nellie Riding. Mr. Fairweather, gardener to the Marquis Conyngham, Bifrons, Canterbury, was second for singles. Mr. T. Stevenson was first, Mr. J. A. Humphries second, and Mr. Brazier third for six vases of singles.

AMATEURS.

Mr. W. Rigby led in the amateurs' section for eighteen Japanese blooms, with Mr. Dennis, gardener to A. Grove, Esq., M.P., Pollard's Park, Chalfont St. Giles, second; Mr. E. Houlton, Croxted House, Dulwich; Mr. C. Fox, Richmond Lodge, Eridge Road, Tunbridge Wells; Mr. W. Gooding, Four Elms, Edenbridge; Mr. E. Wildman, Gordon Avenue, St. Margarets; and Mr. C. Gooch, gardener to T. Wickham Jones, Esq., Frocester Lodge, S. Norwood; were the leading prize winners in the other amateur classes.

FRUITS AND VEGETABLES.

Mr. A. C. Horton was awarded first place for three bunches of black grapes, for Mrs. Pince, finely coloured; Mr. W. Lintott, Marden Park Gardens, Caterham, second, with Alicante; and Mr. W. Howe third with the latter variety. Mr, Horton scored for dessert pears, and Mr. J. Clement, gardener to W. E. Allen, Esq., Commonwood House, Chippenham, had the best apples.

In Messrs. Webb's classes for vegetables, eight kinds, Mr. E. Beckett, gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree, was a fine first with grand onions, tomatoes, leeks, potatoes, sprouts, carrots, and celery; Mr. A. Basile, gardener to Rev. O. Turner, Woburn Park, Weybridge, second; and Mr. W. Waterton gardener to R. H. Comyns, Esq., Heath Farm House, Watford, third.

Mr Robert Sydenham offered numerous prizes for vegetables, and in his class for eight kinds of vegetables Mr. Silas Cole, gardener to Earl Spencer, Althorp Park, Northampton, won the chief award with wonderful Lyon leeks, St. Valery carrots, Wroxton sprouts, Ailsa Craig onions, Autumn Giant cauliflowers, Hollow Crown parsnips, and Clayworth Prize celery, and potatoes; Mr. Basile a good second, and Mr. T. Avery, gardener to J. Kerr, Esq., Loudwater Park, Rickmansworth, third.

In the single dish classes Mr. Avery led for onions; Mr. Cole for leeks; Mr. Bedford, The Braes, Berkhamsted, for beet; Mr. Cole for parsnips; Mr. Basile for sprouts; Mr. Cole for celery; Mr. Basile for red cabbage and for savoys, and also for cauliflowers.

NON-COMPETITIVE.

The non-competitive exhibits once again were a fine feature of the show, and we deeply regret that the severe pressure on our space prevents us from dealing with these in anything like the detail their merits deserve.

Prominent in front of the big orchestra was the large exhibit put up in very artistic manner by Mr. H. J. Jones, Ryecroft Nursery, Lewisham. This display consisted of big bouquets of big blooms of Mrs. A. T. Miller, Mrs. T. Thorn, Reginald Vallis, Master David, Sir F. Crisp, and Buttercup, these being very striking. Singles and decorative varieties were very pleasingly grouped in baskets, vases, etc., and formed the front of a very elegant display. Mr. Philip Ladds, Bexley, had a fine exhibit of small market-grown plants of chrysanthemums, heaths, etc., surmounted by large stands and vases of reflexed, Japanese, and incurved blooms. Messrs. Hobbies Lim., Dereham, contributed a display of late roses, and though the blooms were small, their delicious fragrance was delightful.

Mr. Norman Davis,. Framfield, Sussex, once again put up a delightful exhibit, and his large stand of splendid blooms of Mrs. A. T. Miller, Miss Lilian Hall, Mrs. N. Davis, and the golden Lady Edward Letchworth contained some of the best flowers in the show. In the front there were excellent examples of Algernon Davis, W. Dixon, G. J. Bruzard, J. Lock, etc., and singles were used with ferns and palms to make up a very attractive and artistic display. The Agent-General for British Columbia, Salisbury House, Finsbury Circus, E.C., put up a fine lot of Columbian fruit, the samples of Rome Beauty, Golden Russet, Grime's Golden, Jonathan, and King of Tompkins County apples being particularly good.

Messrs. H. Cannell and Sons, Swanley, had a very good group of apples, pears, and plums, the colour of some of the specimens being especially good. The same firm put up a large exhibit of chrysanthemums and zonal pelargoniums, but the feature of the group consisted of a very fine lot of flowers of single varieties, notably The Lion, Miss Eastwood, Red Start, E. Hottel, Mrs. Maconochie, Frances Mountstephen, and Miss Nellie Curtis. Messrs. J. Peed and Son, West Norwood, had three exhibits, one of perpetual carnations, one of hardy fruits, and a large circular group of chrysanthemums and foliage plants.

Mr. W. J. Godfrey brought up from Exmouth a number of good things, including such Japanese varieties as Laura Hill, Acquisition, G. J. Champion, J. W. Molyneux, Lady Talbot, Frank Molyneux—very showy, May Donellan, and Mrs. A. Arnold, among many others of merit. Messrs. W. Wells and Co., Merstham, had a display of chrysanthemums, showing the plants in bloom; single and decorative varieties were a fine feature, but the feature of the group was the assemblage of blooms of the new pink Japanese variety, Alice Lemon. Messrs. H. Scott and Sons, Woodside, S.E., contributed an interesting exhibit of rustic work, pergolas, garden seats, and sundries. Mr. G. W. Riley, Herne Hill, showed greenhouses, garden seats, arches, etc. Mr. J. Hawes, Clapton, exhibited his patent watercans. Messrs. Pattison and Co., Streatham, S.W., showed their patent horse boots. Mr. Williams, Oxford Road, Ealing, submitted rustic table decorations.

Messrs. Butler Brothers, Burr Farm Nurseries, Bexley, had a very fine lot of market-grown chrysanthemums, all beautifully grown, each dwarf plant carrying from six to nine pretty flowers, all in 48-sized pots. Mr. F. Brazier, Caterham, set up single and decorative chrysanthemums and Michaelmas daisies. Messrs. J. Laing and Sons, Forest Hill, contributed tuberous begonias. Mr. H. W. Thorp, Durrington, Worthing, had Japanese and incurved blooms set up, for the most part in rigid lines.

MEDALS.

Special Gold Medal. — The gold medal offered by Messrs. Clay and Sons for the best non-competitive exhibit in the show, was awarded to Mr. H. J. Jones, Lewisham.

Large Gold.—Mr. Norman Davis, Framfield; and Mr. H. J. Jones, Lewisham.

Gold.—Messrs. W. Wells and Co., Merstham; Mr. W. J. Godfrey, Exmouth; Messrs. H. Cannell and Sons, Swanley (chrysanthemums); and Mr. P. Ladds, Bexley.

Silver-gilt.—Messrs. Butler Brothers, Burr Farm Nursery; Messrs. H. Cannell and Sons, Swanley (fruit); Messrs. H. Scott and Sons (sundries); and Messrs. Hobbies, Lim. (roses).

Large Silver.—Mr. Thorpe, Durrington, Worthing; Messrs. J. Peed and Sons, for fruit and for chrysanthemums; Mr. Riley, Herne Hill (sundries).

Silver.—Mr. F. Brazier, Caterham; and Messrs. J. Peed and Sons, carnations.

CULINARY PEAS.

Knowing how rapidly varieties of culinary peas increase, and also that the more they increase the greater is the difficulty of making a selection of the best, I grew thirty-eight varieties on a plot of newly trenched, heavily manured, stiff soil this year quite in the open, without any protection whatever, for the purpose of testing sturdiness of growth, freedom of production, size of pod, together with the number of peas in each pod, and, above all, the flavour.

I did not grow them with the view of testing earliness, neither did I treat them from an exhibition point of view. Abundant space was given each variety both between the rows and in the rows. Naturally those who require exhibition peas adopt different methods, but by no means all who require peas are exhibitors, and therefore these look upon the culture from a different point of view.

Sowing commenced in the open during the first week in April, and was continued at brief intervals, and as each variety became fit for use its value was noted, with the following result: Dwarf Triumph (Toogood and Sons) is a second early variety, growing 3ft. high; it bears a heavy crop of short pods, which give eight full-sized peas; a capital variety for a limited space. Dr. McLean is also a second early, of well-known quality, and one which, in the rage for huge pods, may be overlooked. This variety bore a heavy crop of short pods, containing as many as nine peas of excellent flavour. Thomas Laxton, 3ft. high, is a useful short-podded variety, bearing a heavy crop, but in dry weather it is quickly over. Dr. Kitchen (Toogood) is 3ft. high; a useful maincrop marrowfat variety, producing an abundance of medium-sized pods well filled with finely flavoured peas.

Harvestman (Carter and Co.) is 5ft. high, and freely produces its medium-sized, exceedingly well filled pods. It is of remarkable flavour, and I look upon this pea as an acquisition. Evergreen Delicatesse (Carter and Co.) grows 2½ft. high, and is an extraordinary variety, because the short, freely-produced pods contain nine peas of first-class flavour. Snowdrop (Carter and Co.) is a 4ft. pea, and a really good early variety, giving short pods of the Ne Plus Ultra type; of robust growth and capital quality. Newtonian (Dickson's), 4ft. high, is a quite good mid-season variety, carrying a full crop of pods with extra large peas of a deep green colour and high flavour. Distinction (Daniels), 4ft., bears slightly curved pods, which contain ten peas. Kaiser (Webb), 3½ft., is quite one of the best peas grown, it bears heavy crops of slightly curved pods which contain nine peas of the finest flavour. Stourbridge Marrow (Webb), 6ft., gives extra large peas of excellent flavour, and, as a tall growing variety, is very good.

Matchless Marrowfat (Sutton), 3ft., is a great favourite for general crop; the freely-borne pods are quite straight, dark green in colour, and are well filled with highly-flavoured peas. Ideal (Sutton), 3½ft., produces its pods freely in pairs, each containing eight or nine full-sized peas of the best flavour. Prodigy (Veitch), 7ft., is a green wrinkled marrow of robust growth; the pods contain nine peas of fine quality; good for general crop. Autocrat (Veitch), 4ft., as a late pea, is not excelled by any variety for freedom of growth and crop of well-filled pods. Alderman, 7ft., bears a heavy crop of excellent pods, each containing ten peas. As a general crop variety, this pea is quite one of the best. The Gladstone, 4ft., as a late pea, is difficult to excel; it bears an abundance of large pods, which contain ten peas of good flavour.

Quite Content (Beckett), 6ft., is much the best of the large-podded varieties, giving straight deep-green pods that are usually well filled with large peas of indisputable flavour. As an exhibition pea this variety stands at the head of all. Duke of Albany is still unrivalled as a general variety for both exhibition and home use. Goldfinder, 6ft., is a pea not nearly well enough known, although quite old, originating in Devonshire and first brought to notice by Messrs. R. Veitch and Sons. As a general utility pea, it is unrivalled for crop, quality, and the manner in which it resists mildew; it can be grown early or late and deserves to be widely known.

Swanmore Park. E. Molyneux.

A USEFUL LATE CULINARY PEA, THE GLADSTONE.

The pods are shown about two-thirds the size they attain under good garden culture.

GARDENING SOCIETIES AND THE RISING GENERATION

The fact that gardening is now a recognised subject for instruction in elementary schools proves that education authorities realise the value of such teaching, not with the object of making professional gardeners of the boys so much as to give them at an impressionable age a taste for horticulture that it is hoped will grow and expand after school days are over. It is only those people who are averse to education of any kind that criticise this modern departure, which would merit its introduction if it did nothing more than encourage lads to be handy and useful; and so excellent are the results up to now that the village school without its garden attached will soon be an exception. As a hobby and an occupation for spare time there is so much to be said for gardening that it at once becomes a fit and proper subject in any school curriculum, and, apart from its value as a manual process, more than one enlightened teacher has shown how a garden can be used to give life and reality to other lessons in the school.

So far so good, but boys leave school at an early age, and it is only in the last year or two that they take an active part in the gardening, which is necessarily of an elementary character. It is not to be expected that every boy member of a school gardening class has a particular bent for horticulture, or even a liking for it, but some, perhaps the majority, have, and the question is what is being done to continue the horticultural education begun at school? A very important epoch in the life of a lad is the period from when he leaves the elementary school until he begins to realise the responsibilities of manhood. Perhaps he wants looking after more in this period than in any other during his career, and the use he makes of his teens makes all the difference to what he eventually becomes. In these days of education the facilities for self-improvement are numerous, and no man has an excuse for growing up ignorant, but there is a tendency on the part of a good many lads to think that, when they have passed out of the elementary school they have done with education, and have no need to learn anything more. This is unfortunate, and all the influence of parents and employers should be brought to bear on youths with the object of inducing them to take advantage of the opportunities placed before them. I say this in all sincerity, for there is hardly a grown-up man to-day who does not wish he had learnt more when he was a youth, and it is impossible to fix old heads on young shoulders.

What are the facilities for the youths of this generation to acquire knowledge in horticulture after the schoolmaster has done with them? I do not refer here alone to those who follow gardening as an occupation, but others to whom gardening may be a recreation and a joy, and who will be better men and better citizens if they have a knowledge of and a taste for horticulture.

As a means to the end in view evening school gardens have been tried in a number of counties, but for some reason or other it cannot be said that they have been highly successful. In fact, I question whether there is any county where they are on the increase, and in some where they did flourish for a time they have decreased with the wearing away of the novelty. Whether it was through the lack of local interest or the want of funds, or whether there was something wanting in the methods of teaching are open questions; but the fact remains that evening school gardens have not developed as it was expected they would at the outset, and in a good many villages the experiment has been given up as a failure.

What are local gardening societies doing in the way of educating the youths and encouraging them to take a living interest in horticulture? This was one of the questions submitted at the recent conference of gardeners' associations, and I doubt if there was any one of greater importance, though I do not see from the report of the proceedings that the discussion supplied much in the way of an answer to the question. It is gratifying to realise that many gardening associations have a distinct educational side, and, through monthly meetings and other means they are doing a good deal in the way of imparting knowledge to their members, but it seems as if even the most advanced of these societies are in need of something in the way of a juvenile branch to attract the lads, and "grow them on," to use a technical phrase, with the hope that in later years, as men, they will help to swell the ranks of the association, and make it more powerful.

To give an idea of what I mean, I may mention the case of a village I know where a few enthusiastic persons started, several years ago, a children's gardening society. By interesting the parents they have induced the latter to give the boys and girls plots of ground for the cultivation of vegetables and flowers. Seeds are supplied to the youngsters by the society, the plots are inspected from time to time throughout the season, an annual show of the children's produce is held, and, during the winter, when active operations are impossible, weekly meetings are held, and the lads are entertained in an interesting way with simple lessons on gardening, botany, and nature study. I cannot help thinking that if this kind of thing were more general it would supply a satisfactory answer to the question asked at the conference, "What are societies doing to educate, horticulturally, the older schoolboys and ex-schoolboys, and what can they do towards that end?"

Going further, it must be admitted that many horticultural societies, particularly in rural districts, have no educational side whatever, apart from the annual exhibition. Certain funds are collected, an annual show is held, a certain amount of prize money is distributed, there are the usual side shows and amusements, and the society disbands, as it were, until the time comes to again call the general meeting and arrangements are made for the next show. What is done for the rising generation at these shows generally consists of providing a class for wild flowers for the children; and more often than not the beautiful things from the woods and hedgerows are bundled together in ugly bunches, and it is doubtful whether half the juvenile exhibitors could tell you even the common names of a quarter of the flowers they show. In a good many cases, I am afraid, village shows are merely a monopoly. A few exhibitors, who are perhaps the best gardeners, or who may have some advantages not enjoyed by their fellows, take all the prizes, and the whole institution stagnates for the want of life and vigour. It can hardly be otherwise if a society exists for nothing more than the mere holding of an annual flower show and fête, and the distribution of so much prize money. It is a pity that it should be so, because the possibilities of even village societies in the way of education are great, and one would like to see every gardening association with a juvenile department that could receive the lads from the village school, and carry on the horticultural education begun in the latter institution.

H.

Fuchsias.—If cuttings were put in early in September they should be nicely rooted by now, and if they are required to make specimen plants next season, either for the conservatory or flower garden, no time should be lost in getting them potted off singly, as they make much better plants thus treated than when left in store pots all the winter. A light compost should be used; pot fairly firm, and afterwards place in a pit or house, where a temperature of about 50 degrees is maintained. The old plants will now be shedding their foliage, and any dark shed quite free from frost will do to store them in for the winter.—Thomas Stevenson, Woburn Place Gardens.

THE MYSTERY OF COLOUR.

"Colour is food for the eye," as an eminent scientist has said, "without which the vision would so weary that the brain would become a prey to melancholy, and even bodily health decay." Indeed, many doctors state that we have not yet sufficiently learned or appreciated the medical value of hues; experiments have been tried now and again, but on no vast scale, and have gone to prove that red, yellow, green, violet, and blue, as well as white and black, have a real influence upon both mind and body.

To the gardener there is practical as well as poetic interest in all this; it is not too much to say that by the right use of flower colours he can add to the cheerfulness and well-being of the occupants of the home. Naturally, the beds and borders immediately before and behind the house are the most important in this respect, but the whole of the pleasure grounds should possess healthful influence, and distant masses of brilliance, if sufficiently large, are certain of effect as seen from the building.

Many English residences, small as well as large, are grey or white, and, if these have on either side a north aspect, the absence of sunshine upon them leaves a sad note in the landscape; to plant dark evergreens by such homes, and then have few gay-coloured flowering plants, and those few dotted about so that they give no display, is to make the scene additionally mournful, and miss a fine opportunity, for white walls and deep green foliage are the perfect background for gold and vermilion, or carmine and purple blossoms.

Scarlet is, no doubt, the most valuable hue, but it is infinitely improved by being associated with a great deal of orange and of gold, the absence of sunshine scarcely proving noticeable where the two latter are represented in sufficient quantity. Crimson is much less advisable, unless it is largely accompanied by purple and mauve, which lead the warm tone down to white, grey, or cream. A Crimson Rambler on a grey house does not materially enliven it therefore, but the scarlet of the geranium certainly achieves wonders; there is great need of a scarlet-blooming climber sufficiently hardy for north or north-east walls; the gorgeous Flame Flower, Tropæolum speciosum, should always be trained up painted wire netting, but is so uncertain that it may die, or prove flowerless.

Last year a noteworthy experiment was tried upon a north front of a dull grey house; this was the partial covering of the walls with a trellis painted vermilion. When yellow variegated euonymus had partly clothed the base, and the white rose Aimée Vibert had mounted above it, the effect was altogether admirable. A few golden privets were induced to thrive in a side border facing west, and scarlet geraniums, orange and yellow day lilies, and montbretias were lavishly employed in the beds, aided by golden calceolarias and pansies. Tropæolum speciosum flourished on the east side of an outstanding rustic porch, where it received shelter, and amber-tiled window boxes, filled with fuchsias helped in the whole result.

There are other houses that suffer from an excess of colour. We are all familiar with the crude appearance of some of the red bricks and roofing tiles used in the building of modern villas; until the walls are well covered by verdure they stand out as crude, eye-scorching objects in the summer landscape. Quantities of evergreen shrubs should be planted near these dwellings, especial colour value being yielded by the blush-white rhododendrons. The pale pink, blue-shaded, of the hydrangea, is also, strange to say, one of the loveliest softening effects against the brick, but this plant is only suitable for warm localities and aspects; blush pæonies, or the yellow and rose pæonies that look a soft flesh shade when viewed as a mass, are also excellent, while there are some blush, pale salmon, and lemon hollyhocks that can be cordially recommended. Though the show is rarely to be seen, the front beds and borders before new red brick houses should be given up to salmon, blush, apricot, and cream flowers as much as possible, mingled with plenty of silver and cream variegated foliage. Creamy-white roses, especially those with evergreen leaves, are the best climbers; Clematises montana and vitalba, white wistaria, and Solanum jasminoides can be highly recommended.

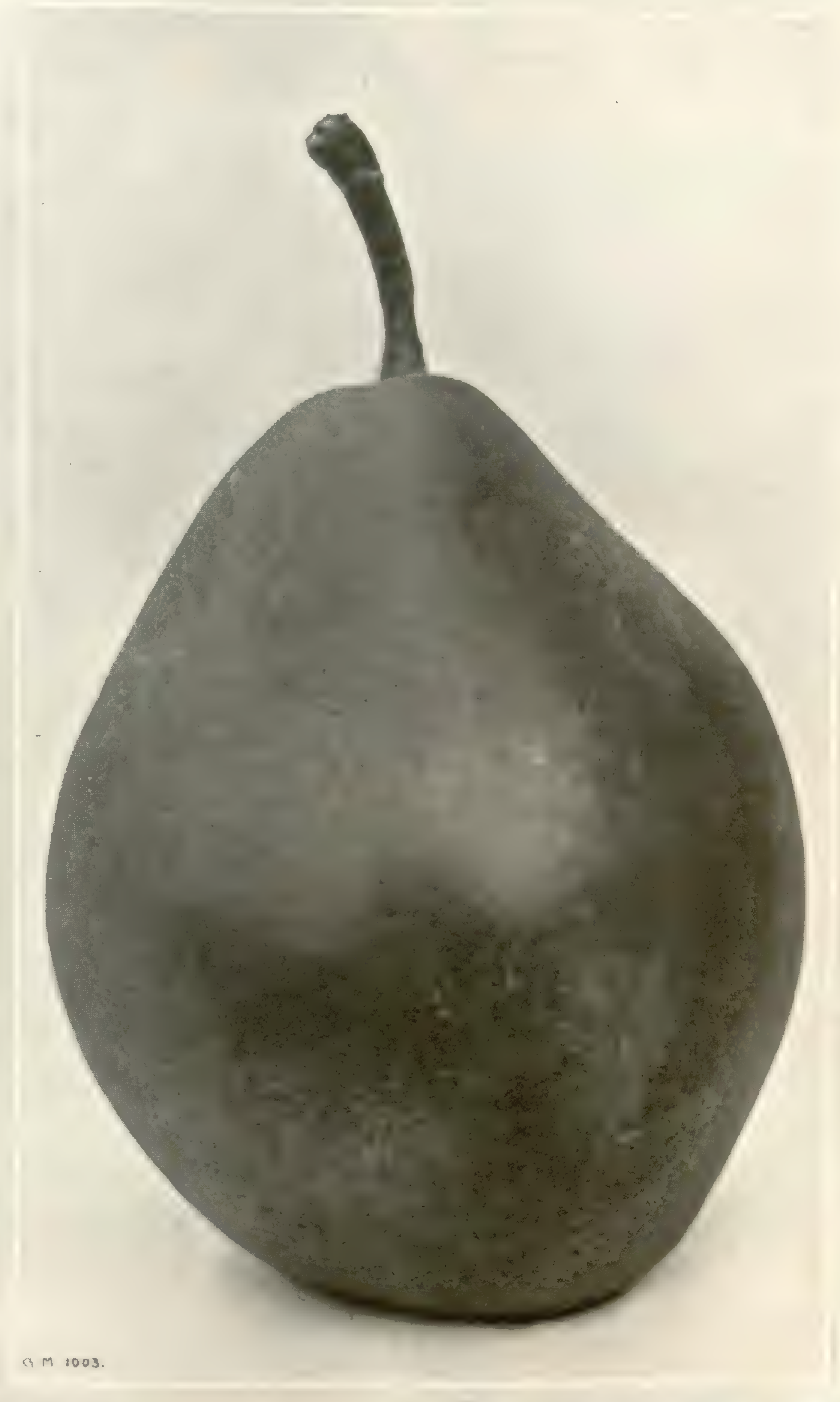
Perhaps it is when we try to place blue in the garden that the mystery of colour is most clearly evidenced; we imagine that on a green lawn it will look inharmonious, but, no, the verdant hue of the turf has a great deal of blue in its composition, especially when moisture-laden, and the deeper green of evergreen shrubs seems to pass the shade on into the delphinium masses. When used near scarlet, whether of bricks or blossoms, Royal blue needs to be accompanied by cream and apricot, that soft tint which is unlike orange; for example, a border of cornflowers and lobelia will be charming in front of a red house only if there is a background of cream and buff-apricot roses. So-called orange day lilies are dull enough in tone to be useful companions for this bright blue.

A white house with only lemon-yellow and amber flowers and dark evergreens and crimson-tinted shrubs and climbers about it will be charming either in sun or shade: the common Berberis aquifolium is one of the most useful of all subjects, because it offers yellow blossom and red-tinted leaves later; the trees near should be Prunus Pissardi, copper beech, and laburnums, gorse and broom will form a satisfactory portion of the undergrowth; maroon hollyhocks will offer a striking summer mass. Dahlias of the same tint, also chrysanthemums, can be relied on to supplement the colour of sunflowers, heleniums, and rudbeckias later. It should always be remembered that the mystery of hues, warm and cold, in sun and in shade, is a great subject worthy of zealous study.

M. H.

PEAR ST. LUKE.

This very fine October pear has been remarkably well shown recently, and has fully justified the high reputation already gained. On Tuesday, October 26, it figured at Westminster in the classes for newer pears, and, as shown by Mr. A. Allan, gardener to Lord Hillingdon, Uxbridge, in his first prize set of three dishes, and by Mr. W. H. Bacon, gardener to Sir Marcus Samuel, The Mote, Maidstone, as the first prize single dish of dessert pears, it proved a great attraction. The variety was raised some years ago by Messrs. T. Rivers and Son, and it yearly grows more popular. Messrs. G. Bunyard and Co., Maidstone, exhibited it finely at a meeting of the Royal Horticultural Society held early in October, and it is one of their fruits we now illustrate. The Maidstone firm describe St. Luke as "very large, of rich mellow flavour, melting and good, and handsome russety fruit."



DESSERT PEAR ST. LUKE.

A typical fruit selected from the fine collection of apples and pears exhibited by Messrs. G. Bunyard and Co., Lim., at a recent meeting of the Royal Horticultural Society.

ROSA RUGOSA.

During autumn the various species of Rosa are conspicuous by reason of their bright-coloured fruits, and of the many in cultivation perhaps none are more attractive than the Japanese R. rugosa and its several varieties and hybrids. In all cases the fruits are highly coloured, but they differ in shape, for, whilst those of the type are round, smooth, and apple-shaped, those of some of the hybrids are considerably narrower and longer, whilst some are hairy. The colour is a bright coral red, and the larger fruits of the type are an inch and a-half in diameter. The outer fleshy portion contains a great deal more pulp than the fruits of most species, and in some parts of the continent this pulp has been used for making jelly, which is said to be very palatable.

Rosa rugosa is an excellent shrub for gardens or for cover planting, whilst it forms a very useful informal hedge. The flowers are large and showy, and the ripe fruits are attractive in autumn.

The hybrids raised between R. rugosa and various garden roses are also very floriferous, and are first rate shrubbery plants. They also have the advantage of being hardier than the ordinary garden roses of the tea, hybrid tea, and H.P. classes, and can be grown in countries which are too cold for those sorts. Two of the best of these hybrids are the semi-double white, Blanc Double de Coubert, and the semi-double red, Mrs. Anthony Waterer. The latter claims General Jacqueminot for its second parent, and much of the rich colour of that variety is noticeable in the partly-opened buds of Mrs. A. Waterer.

W. Dallimore.

NEW PLANTS, ETC.

COLUMNEA MAGNIFICA.

This should prove a useful and popular plant, especially with amateurs who possess a cool greenhouse. It is a gesneraceous plant, and as shown was rather over a foot high, and the growths carried an abundance of axillary, tubular flowers of deep and brilliant orange colour. The mouth of each flower is very interesting, as several of the lobes combine to form a sort of hood, while three other lobes form a lip, the central one being more defined than the others. It is a very showy species, and deserving of extended cultivation. A.M., R.H.S., October 26. Sir Trevor Lawrence, Bart. (gardener, Mr. Bain), Burford Lodge, Dorking.

SINGLE CHRYSANTHEMUM ALTRINCHAM YELLOW.
A.M., R.H.S., Oct. 26, Messrs. W. Wells and Co., Merstham. Flowers deep soft yellow.

CHRYSANTHEMUMS.

Altrincham Yellow. — A large-flowered single variety, very free flowering, and elegant. The colour is deep soft yellow. Equally valuable for conservatory decoration and the supply of cut flowers. A.M., R.H.S., October 26. Messrs. W. Wells and Co., Merstham.

Mrs. R. Luxford.—A medium-sized Japanese variety, with long drooping and curling florets of a bright chestnut-red colour, with golden reverse. The variety is a very handsome one. A.M., R.H.S., October 26. Messrs. W. Wells and Co., Merstham.

CYPRIPEDIUM BEACON MAGNIFICUM.

An effective hybrid between C. J. Howes and C. nitens-Leeanum. It is somewhat like C. Charlesianum. The dorsal sepal is bright green over the lower half, and white above, the green area being also spotted with dark purple-brown. The petals and lip are light greenish-yellow, with purple-brown shading. A.M., R.H.S., October 26. Lieut.-Colonel Holford (grower, Mr. H. Alexander), Westonbirt, Tetbury.

CYPRIPEDIUM ELATIOR REX.

A very pretty secondary hybrid from C. Leeanum and C. Baron Schroder. It has a flower of particularly fine form, and excellent substance. The broad dorsal sepal is pure white, with a green, purple spotted base. The broad petals and the lip are soft greenish-yellow, shaded with purple and brown. We understand this hybrid has now passed into Mr. Francis Wellesley's collection at Westfield, Woking. A.M., R.H.S., October 26. Messrs. James Veitch and Sons, Chelsea.

CARNATION MAY DAY.

There is every reason to believe that this new rich pink carnation will become as popular as Mrs. T. W. Lawson and Enchantress. It is a good grower, and flowers freely, and its flowers are of better form than is the case of many of the perpetual varieties. A.M., R.H.S., October 26. Messrs. R. H. Bath, Lim., Wisbech; Messrs. J. Peed and Son, West Norwood; Messrs. Stuart Low and Co. Enfield.

ASTER BIANCA.

This graceful seedling, from the perennial Aster diffusus horizontalis, has larger flowers than the type, and these are quite white, and about half an inch across. The growth is spreading, the sprays extending horizontally. A.M., R.H.S., October 26. Hon. Vicary Gibbs (gardener, Mr. E. Beckett), Aldenham House, Elstree.

APHELANDRA TETRAGONA.

A bold and effective tropical shrub from South America. It was originally called Justicia tetragona, and then Justicia cristata, but is now referred to aphelandra. A two-year-old plant that flowered at Kew in May, 1908, bore, on one growth nearly 4ft. high, thirteen spikes of brilliant red-pink flowers. These spikes varied from four to seven inches in length. The flowers are tubular, and double-lipped, the lower lip being recurved and almost an inch long. A showy stove plant, with large ovate-lanceolate leaves. Bot. Mag., t. 8,272.

MEGACLENIUM PURPUREORACHIS.

An extraordinary orchid found by Mr. Louis Gentil on the Upper Lomami, a tributary of the River Congo, in 1903. It was not known as a flowering plant until 1908, when a specimen bloomed at Glasnevin. Subsequently it was flowered at Burford Lodge, and exhibited by Sir Trevor Lawrence, Bart., at a meeting of the Royal Horticultural Society held in April, 1909. The small velvety brown flowers are not especially attractive, but the rachis on which they appear is broad, undulate, flattened, and spirally twisted, dull yellow, freely marked with purple. Bot. Mag., t. 8,273.

EUPHORBIA LEDIENI.

A freely-branched succulent plant from South Africa. It was first given specific rank in 1907, but appears to have been in cultivation since 1866, and has been at Kew since 1868. It has stout, grooved stems and branches, stout spikes in pairs, and little clusters of small yellow flowers. Bot. Mag., t. 8,275.

PELIOSANTHES VIOLACEA VAR. CLARKEI.

A graceful orchid-like plant from South-eastern Asia. The plant has a short rootstock, from which the foot-long leaves rise singly. The spikes of semi-pendulous purple flowers also rise independently from the underground leaf stalk. Bot. Mag., t. 8,276.

LÆLIO-CATTLEYA CANHAMIANA.

Hybrids between lælias and cattleyas are now quite numerous, but, notwithstanding their increase, there are few that can compare with, not to say improve upon, the fine old Lælio-cattleya Canhamiana. It first appeared about 1885, and was raised at Messrs. J. Veitch and Sons' Chelsea Nursery. The parentage was not recorded, but the presumption that Lælia purpurata and Cattleya Mossiæ were the parents has long since been verified. In those days Mr. Canham was orchid foreman at Chelsea, and Reichenbach described the hybrid as a lælia. In more recent years the hybrid has been repeatedly raised in various establishments, and when the finest varieties of the parental species have been used, then the result has been a distinct improvement on the original. Messrs. Charlesworth and Co., Haywards Heath, have raised some very beautiful varieties of this hybrid by using one of the white forms of Cattleya Mossiæ as a parent. In the illustration given herewith one of these fine white petalled varieties is figured; it is L.-c. Canhamiana alba, and as in the case of L.-c. Canhamiana albida and L.-c. Canhamiana Rex, the parents were Lælia purpurata alba and Cattleya Mossiæ Reineckiana. This beautiful variety has white sepals and petals, and a purple, gold-marked white-fringed lip.

ROSE GOSSIP.

Among the recent introductions there are two of the newer climbers that have been exceptionally good lately. Flowers of Fairfield may justly be called a perpetual Crimson Rambler, while Delight is a great advance upon Hiawatha here, also much later and apparently more perpetual than most of the hybrid Wichuraianas. This is really good and I can recommend it with confidence.

I cannot induce Florence Pemberton to nearly approach the form I have often seen. But there are many roses that seem made for a certain district; just the same as some seasons suit a variety much better than others. Some old favourites that have been pleasing this season may interest your readers. I have had Marguerite de St. Amand good; of course, smaller than the present day roses, but still perfect in shape. Elie Morel and President Willermoz are a couple of old pinks that are very early and opened well during the cold weather at the end of June. Abbé Brameral and Géant des Battailes have been very glowing. Jean Lambert has produced a few of the best flowers I have seen. What a glowing rose this was considered over twenty years ago. I do not find it in the most complete German catalogues now. Emilie Hausburg has produced a few of its exquisitely-shaped flowers. Souvenir de Marie Zazaya, a rose of 1904, reminds me very much of this old favourite; but the newer variety is an advance in every way, and a much more vigorous grower. The other day I saw a fine plant of Sombreuil (1851) in the corner of an old garden. I could only discover that "it had always been there." With us this rose came too early, and the buds do not expand properly, so that it was a surprise to find it had opened so well during the present chilly season. Souvenir de Charles Montault is another that was doing well in this garden, and so was Lord Raglan. Guilletta—I am not sure of the spelling of this—was one mass of flower, resembling smaller and paler blossoms of Mrs. Paul.

It has been my pleasure during this season to look over several beds of roses that were removed from around an old house last winter. Coarse, bramble-like stumps many of them were, but the owner kept them out of sentiment, and many favourites were brought to mind. All were upon their own roots; indeed, I doubt if foster stocks were used at all when they were propagated. I would like to note here that old standards and dwarfs taken up carefully, trimmed rather hard, both root and wood, will often break into astonishing vigour when put upon fresh soil. Of course, we gradually weed out older and sometimes inferior varieties to make room for the newer introductions. Still I do not think we transplant our older plants often enough for their good.

Now for a word or two about the grand newer roses of the last five years. Lyon needs no more praise except to say that it improves upon acquaintance. In Mrs. Arthur Goodwin we have another of the Soleil d'Or seedlings that has come very well here. It lacks nothing in habit of growth and freedom in flowering. The flowers are not nearly so large as Lyon, but are deeper in respect to the coral-orange and shrimp-pink shade. This is particularly sweet scented. So, too, is Dr. O'Donel Browne, a deep cherry-red crimson, of very large size, and splendid habit. Grace Molyneux is most pleasing in its creamy-white and soft saffron-pink shadings. It is also very floriferous and sweet scented. Not so large and double as might be wished, but one that promises to open well, and be a good autumnal rose.

Among the Wichuraianas there are several grand additions, and these hardy roses have been most pleasing this season. Several crosses between Souvenir de Catherine Guillot, Laurette Messimy, and

LÆLIO-CATTLEYA CANHAMIANA ALBA.

Flowers white, purple, and gold; as shown by Messrs. Charlesworth and Co., Haywards Heath.

Eugène Resal are particularly prominent. I intend to watch these closely and note those which flower more or less continuously. For the autumn Joseph Billiard should be in every collection; it has a large single bloom upon small trusses, and is a glowing orange-crimson, with yellow centre and showy stamens. Crepuscule, one of the newer Noisettes, is grand; a deep buff-orange, very clear, hardy, and a continuous bloomer. S.

HARDY FLOWERS IN SHRUBBERIES.

During September and October many pleasure gardens are not so beautiful, attractive, and interesting as they might be for want of a little forethought, a little money, and a little judicious arrangement of the materials within our reach. The autumnal tints met with in azaleas, acers, cherries, birch, deciduous berberis, etc., are no doubt pleasing in their way, but they incline us to thoughts of the approach of winter, of frost, snow, rain, wind, and do not give us the appetising interest we feel in connection with full blown and expanding blossoms of a more or less telling colour at this period of the year.

These facts were forcibly pressed upon my notice lately on visiting a small but well-kept place where flowering trees and shrubs, herbaceous and alpine plants, and bulbs are utilised to great advantage in maintaining a succession of flowers throughout the year. At the time of my visit the shrubbery beds and borders were gay with Lilium tigrinum, L. speciosum album, and L. s. rubrum, gladioli, asters, sunflowers, hollyhocks, all of which are grown in fair-sized groups. Perhaps the most telling plant was Lilium tigrinum, with its orange-scarlet flowers, borne on stout stems about 4ft. in height. This lilium is one of the easiest to cultivate, and is exceedingly cheap; good-sized bulbs costing about 10s. per 100. It is effective in the distance, beautiful under close inspection, and unequalled for an autumn display of colour. With all these points in its favour it is passing strange it is not more frequently met with? As it grows equally well in both heavy clay and sandy peat, and anything between these two extremes, no special preparation of the soil is necessary for its growth. In making a plantation of this, or any other strong growing lilium, the aim should be to secure a mass of colour, and in order to obtain this, clumps of from 12 to 24 bulbs at a foot apart, should be put in now, or as early as possible, and covered with about four inches of soil.

The different forms of L. speciosum are also admirably adapted for shrubbery beds and borders, and in peaty soils do remarkably well, affording a wealth of variously coloured flowers in autumn. Among the asters (Michaelmas daisies) I like A. Robert Parker, A. cordifolius elegans, A. c. Photograph, A. acris. A. diffusus horizontalis, and A. ericoides Clio for grouping among shrubs. A. Robert Parker attains a height of about 5ft.; A. cordifolius elegans and Photograph, about 4ft.; A. diffusus horizontalis and A. ericoides Clio, about 3ft.; and A. acris, 2ft.

The introduction of these bulbs and herbaceous plants in good sized groups in shrubbery beds and borders, would be a desirable change to the monotonous effect of many old-fashioned shrubberies met with in various parts of the country, and would give life and colour to the surroundings during a rather dull period of the year, as well as afford material to cut from for house decoration. Pedestrian.

THE BEST CHRYSANTHEMUMS FROM AN ÆSTHETIC POINT OF VIEW.

(Concluded from page 842.)

The better early-flowering pompons for cut flower purposes are: Veuve Clicquot, brick-red and yellow, beautiful form; Orange Pet, gold-shaded orange, very free-flowering; Mignon, a miniature-flowered yellow kind, extremely free and pretty; Little Bob, crimson brown, small, and very decorative; Reggie, cream; White Lady, blush white; Lyon, rosy purple; Anastasia, a miniature-flowered light purple kind; Golden Beauty, golden-yellow, beautiful form; and Mr. Selly, rosy pink.

Of early-flowering singles there is now an abundant supply. A dozen varieties worthy of recognition are Jessie Wallace, old rose and salmon; Surrey, salmon cerise, lovely under artificial light; Pathfinder, bronzy buff, beautiful in sprays; Dr. Ingram, terra-cotta, of good form; Eric, bronze on yellow ground; Firebrand, bright chestnut, has long stalks; Spitfire, a flower with several rows of florets, bright fiery crimson, shading to red with gold points to florets; Nellie Riding, reddish-bronze, shaded gold; Kathleen, golden-salmon, beautiful under artificial light; Pride of Merstham, reddish-purple, useful for its colour; Kate Carter, a large salmon-coloured flower, faintly shaded chestnut with yellow zone round disc; and Jeanette, a pretty blush.

Mid-season or late October and November-flowering decorative chrysanthemums embrace a very large number of charming varieties, and to make selections of the better kinds renders the task a somewhat difficult one. Nevertheless, I am pleased to select from among the many noteworthy varieties the following:

Japanese kinds should be represented by Gladys Roult, a very pretty snow-white kind; Kathleen Thompson, rich chestnut, tipped gold; Market Red, bright red; Mr. W. Hubert, pretty salmon-pink; Source d'Or, rich terra-cotta; Lizzie Adcock, golden-yellow sport from the last-named; Maxim, bright, reddish-crimson; Moneymaker, white; Phœbus, rich golden-yellow; Felton's Favourite, beautiful white; R. F. Felton, richest golden-yellow; and Noreen Jay, brilliant crimson-scarlet.

Incurved varieties that are worthy of inclusion in this list are: Mrs. Geo. Rundle, pure white, small, but charming for decorative work; Mr. Geo. Glenny, primrose-yellow; and Mrs. Dixon, golden-yellow, all three members of one family.

Reflexed are best seen in Golden Elsie, rich yellow, very free; and Cullingfordi, a well-known late November variety of a brilliant scarlet-crimson colour.

Japanese anemones and large-flowered anemone chrysanthemums should be given especial attention, and the following varieties are useful for cut flowers when the plants are grown in a free manner: Madame Robt. Owen, pure white; Mrs. Caterer, a chaste white kind, very free; Sir Walter Raleigh, pale blush centre, tipped gold; J. Thorpe, jun., rich golden-yellow; Descartes, bright crimson-red; Gluck, orange-yellow; Owen's Perfection, lilac, tinged gold, guard petals bright lilac; Kathleen May, rich glowing crimson, a beautiful decorative variety; John Bunyan, very fine rich yellow variety; and W. W. Astor, blush guard florets, disc yellow, shaded rose.

Anemone pompons should be encouraged, a few of the better kinds being Marie Stuart, blush, sulphur centre; Emily Rowbottom, blush white sport from the first-mentioned, beautiful in sprays; Firefly, small scarlet-red flowers, very free; Antonius, bright yellow; Calliope, ruby red; and Gem of Earlswood, rosy blush, citron-yellow disc.

Single-flowered chrysanthemums to bloom in November make a goodly list in themselves. We have a preference for the following large-flowered kinds; Edith Pagram, rich pink; White Edith Pagram, white and bronze; Edith Pagram, reddish-bronze. These three kinds are members of the same family as the name suggests. Other kinds are Felicity, pure ivory-white; Pink Felicity, a lovely bright pink variety, possessing exquisite form; Mary Richardson, reddish terra-cotta; Metta, deep magenta red with white zone round disc; Miss Irene Cragg, white, a beautiful variety; Sylvia Slade, lake with white zone round disc, beautiful in sprays; Reginald, bright lemon-yellow of good form, evolved on long footstalks; and Merstham Jewel, bright bronzy-red with effective yellow disc, beautiful when partially disbudded.

Of the small-flowered singles a few of the better kinds should be mentioned, notably Mary Anderson, pale blush; Mrs. J. Ferguson, pink; and Miss Annie Holden, pale-yellow, all members of one family, and of beautiful form; Emily Wells, clear pink; Gretchen, pure white with green eye, a dainty little thing; Little Nell, pure white, free, erect stems; Treasure, bright yellow, small flowers, late November; Terra-Cotta, bright terra-cotta; and Lily Riddle, scarlet terra-cotta, flowering in late October.

The better pompons for November displays should include such sorts as Florence Carr, a lovely deep bronze flower of good form; Katie Mannings, charming rosy bronze; Mdlle. Elise Dordan, silvery-pink, so well-known to all growers; Model of Perfection, rose lilac; Snowdrop, pure white; Primrose League, pale yellow sport from the last-named; Eynsford Gem, purple rose; and Rosinante, blush rose, which should be disbudded; it is extremely free-flowering.

The list would not be complete without a few of the spidery kinds, and the better varieties in this section are undoubtedly Cheveaux d'Or, golden-yellow, very fine; Jessie Madeline, Cole, soft canary-yellow; rather large flowers; Mr. W. Filkins, golden-yellow, very dainty; Mrs. Jas. Carter, a thread-petalled yellow kind; Sam Caswell, a lilac pink flower of similar form; Mrs. W. Butters, a fluffy white flower; and King of Plumes, deep golden-yellow, the largest of the type.

Really late kinds are comparatively few, Japanese sorts should include Heston White, white; Allman's Yellow, yellow; Negoya, yellow; Framfield Pink, pink; Tuxedo, bronze; True Gold, rich yellow, stiff stems; Mdlle. L. Charvet, light pink; and Western King, a glistening white. Good decorative singles are represented by Thirza Cherry, soft blush mauve, long tubular florets; Aurora Boreale, orange, shaded crimson; Framfield Beauty, deep rich velvety crimson; Nora Davies, reddish terra-cotta; G. W. Forbes, rich crimson amaranth; J. T. Angus, rosy cerise of medium size; Robert Morgan, an intense rosy amaranth of large size; and Wyndham, a good pure white kind.

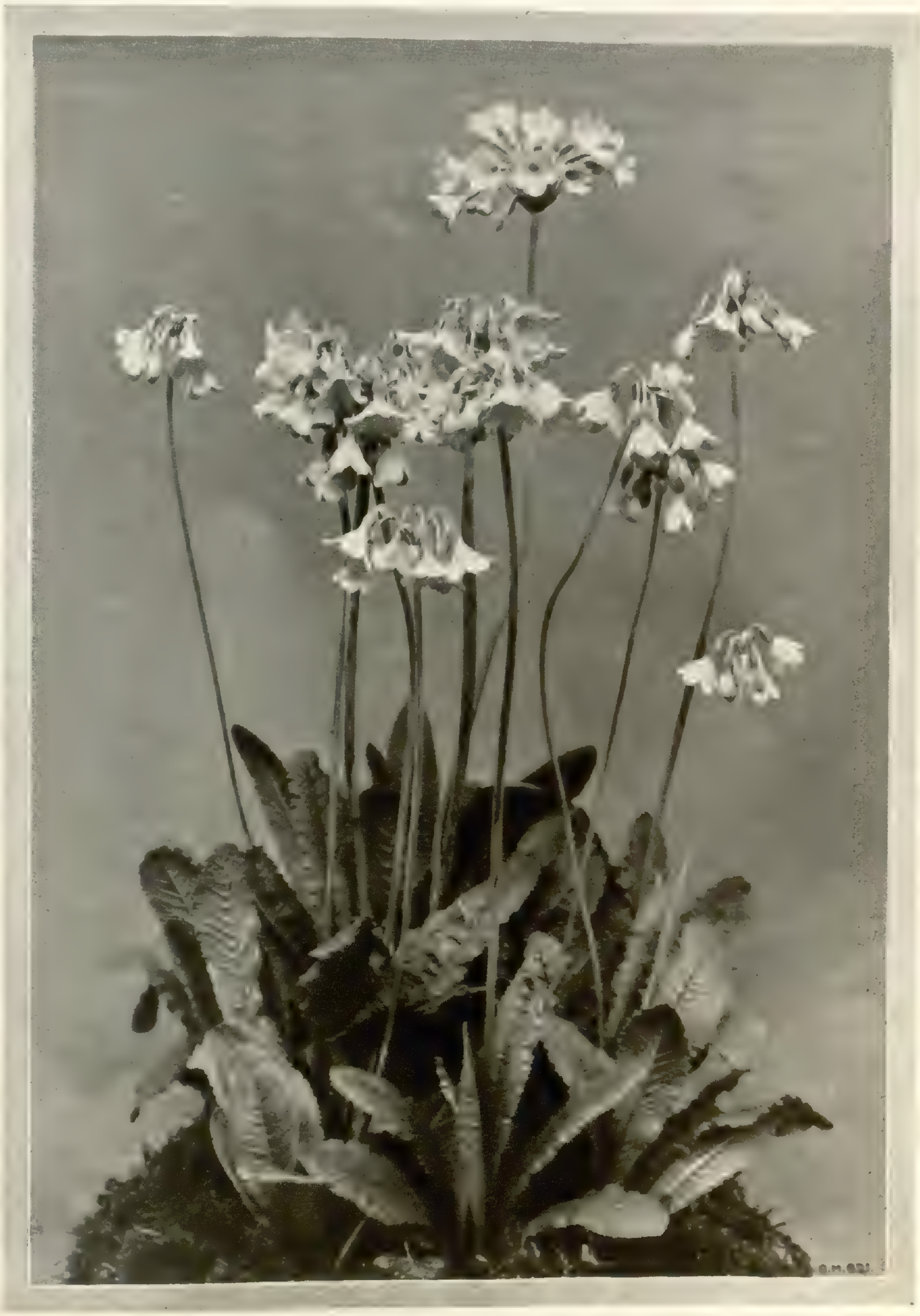
These somewhat lengthy lists should provide food for reflection for those who wish to maintain a supply of beautiful chrysanthemums over a long period. The newer varieties should be enquired after, and they should supersede the old and less interesting kinds from time to time, as occasion offers.

COTONEASTER FRANCHETI.

This is one of the more recently introduced species of cotoneaster, as it was received from Yunnan but a few years ago. It has, however, already found for itself a place in our gardens, for it is of fine decorative appearance by reason of its bright red fruits. It attains a height of four or five feet, and bears oval leaves three-quarters of an inch or an inch in length, which are hairy or pubescent on the under surface. The flowers are white, and borne during May and June, while the ripe fruits are red and at their best during late August and September. It thrives in loamy soil, and is adapted for planting either singly or several plants together as a group in the shrubbery. Cuttings of half ripe wood may be rooted in summer or young plants may be raised from seeds which mature freely. W. D.

PRIMULA SIKKIMENSIS.

Found in the Sikkim Himalaya and introduced in 1850, the delightful Primula sikkimensis is one of the most distinct and elegant of the many members of a large family. The drooping pale yellow flowers, borne in umbels on slender scapes, always arrest attention by reason of their elegance and beauty. Not only is it a charming hardy plant for the rock garden and for moist sheltered places, but it is very useful when grown in pots in a frame or cool house for conservatory decoration early in the summer. It thrives best in peaty soil, and is seen at its best when grown in colonies in such soil, in a shaded position near the margin of a lake, pond, or stream. In some gardens it does not last long, and in such cases it is desirable to treat the plant as a biennial, and raise a new stock each year. P. sikkimensis is quite easy to propagate either by division or from seeds. The latter are best sown as soon as ripe in a cold frame, while division is best carried out in the spring time just as the new leaves begin to push forth. Where it does really well P. sikkimensis will often produce umbels containing from forty to sixty flowers, and it is then particularly fine. Our illustration shows a well-grown specimen exhibited in the spring by Mr. G. Reuthe, Keston.



PRIMULA SIKKIMENSIS.
— Flowers pale yellow.

HARDY ORNAMENTAL VINES.

During recent years a decided impetus has been given to the cultivation of hardy vines, due in great part to the introduction of new species and varieties, which exhibit many diverse forms of leafage, and in the autumn the majority of them take on very rich colours.

It is in this latter respect that the potentiality of ornamental vines for garden decoration chiefly lies. Throughout the summer months they present a pleasing and interesting appearance, chiefly owing to their different shapes and varying shades of green, but with the approach of autumn the leaf-colouring undergoes a marked development, the normal green becomes suffused with shades of purple, orange, pink, red, crimson, or violet, or these in many combinations often in one and the same species. This galaxy of colouring is most pleasing where the various kinds are allowed to interlace with each other.

In order to secure these autumn tints to the full, it is necessary to plant the vines in positions where they secure the fullest sunlight, and no objects must be allowed to shade them at any season, and if it is possible to plant so that the beholder may view the leaves with the sunlight passing through them; with these conditions their lustrous colours are most fully revealed. Probably these conditions are more readily fulfilled upon the pergola than under any other system of planting. Lightness and grace characterise the growth of each, and it is upon such a structure that their individuality is most clearly shown, and in view of the interest taken at present in all hardy subjects, the distinctive character of the vine pergola as an adjunct to the autumn garden is one that readily appeals to all.

The best rooting medium is ordinary garden soil to which a moderate dressing of well-decayed farmyard manure is added; in practice, the aim of the cultivator is to lay a good foundation and to cover the structure as soon as possible, this being soon secured by planting in rich soil, while the development of the autumn colours is favourably influenced in future years by a judicious process of semi-starvation. A porous soil is that in which vines succeed best, and as several of the following kinds are not over hardy, the addition of a liberal drainage material is recommended where soils are inclined to heaviness. The best season for planting vines in the open is late in spring and early in the autumn, and as the plants are usually supplied in pots they may be safely planted at any time from April to November.

The following kinds embrace those in general cultivation: Vitis bipinnata, a small-leaved species having slender shoots and deep three-cleft leaves; the normal colour is bronzy-green, which deepens along the margin to reddish-crimson in autumn. V. heterophylla dissecta, leaves small, deeply five cleft and much cut, bright green, changing to yellow and orange in autumn. V. Henryi, leaves five-parted, small, coloured purplish-red, with silver midribs; the growths are slender, and it is most distinct. V. melagophylla has large compound leaves of a bright green colour, upon slender, reddish footstalks; a graceful and fast-growing vine. V. Thomsoni has its leaves five-cleft, as in V. Henryi; in colour pale green, changing to pink and reddish-crimson in autumn. It is only a moderate grower.

Of the large-leaved kinds V. æstivalis is characterised by having the underside of the young leaves covered with silvery tomentum, the upper surface being coloured pink and pale green; the mature leaf resembles those of V. vinifera, in having five irregular lobes. V. vinifera purpurea has five-lobed leaves that are toothed; the leaf colouring is rich bronzy purple. V. armata has medium size leaves, heart shaped, bronzy-green, changing to crimson in autumn; the leaf-stalks are covered with small prickle-like structures. V. amurensis produces large, rounded leaves, which change to rich shades of pink and yellow in autumn. V. Coignettiæ differs from the latter in being more heart-shaped, while the autumn colours are most rich and varied. V. Coignettiæ purpurea is a very richly coloured form, in which violet-crimson predominates. V. Thunbergi and V. Coignettiæ are the two largest- leaved species of hardy vines, and both are rampant growers when established; the autumn tints of V. Thunbergi are bright scarlet and crimson.

Thomas Smith.

Walmsgate Gardens.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

THE COOL HOUSE.—Since the introduction of so many useful garden-raised hybrid odontoglossums, it naturally follows that we have a wider range of plants flowering during the winter months of the year, and as they are practically all more vigorous in constitution than even the most easily grown species, little difficulty is found in their successful cultivation, which fact should ultimately lead to their general use. The plants that are now pushing up their flower scapes must be carefully protected from slugs and snails; these pests are frequently introduced in the egg stage with the sphagnum moss and potting compost, when the plants are repotted, and they are capable of doing a considerable amount of damage to the tender flower scapes. It is a good plan to wrap a small piece of cotton wool around the base of the flower scape or round the base of the leaf where the flower scape is advancing. This is not claimed as a sure preventive, but cotton wool forms an obstacle which the slugs find difficult to surmount. Some lettuce leaves, bran, or brewer's grains placed on pieces of glass or broken crocks, and laid about the stages form good feeding grounds, where, with the aid of a light at night, slugs are easily caught and destroyed.

FLOWERING PLANTS.—Plants that are pushing up their flower scapes at the present time, and during the winter, should be placed in a position where they may obtain all the available light. One frequently hears complaints about odontoglossum flowers lacking in texture, and not lasting when cut for decorative purposes. There can be no doubt that the cause is due to the pseudo-bulbs not being properly ripened. It is only natural where growths are obtained which a few years ago would have been considered impossible in size and substance, that to induce a corresponding return for such advancement we must procure proper maturity. I have experienced the difficulties of growing orchids in town localities and districts where the light for the next few months is more or less obscured, and I am in sympathy with those who so work. It is far better to remove flower scapes from odontoglossums if they are likely to expand in the depth of winter, where the conditions are unfavourable, and where the flowers produced during this period cannot even under the most favourable outside conditions give satisfaction.

HEAT AND MOISTURE.—Care must also be taken to prevent sudden fluctuations of temperature, as the sudden changes of the outside temperature naturally affect the inside conditions. Damping the floors and stages should not be done unless the normal temperature of the house has been reached. No hard and fast lines as to how often during the day a house should be damped can be laid down, because the conditions under which plants are grown are so varied, and outside conditions change so quickly.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

WINTER-FLOWERING CARNATIONS.—These will now be throwing up their flower stems pretty freely, consequently they must be given regular attention as to tying. The flower stems should be loosely slung to a central stake, and at the same time any loose growths should receive support. Some varieties that are particularly susceptible to rust should be isolated from the rest, and have all affected parts carefully cut away, afterwards spraying them over with some fungicide; this method will in time free the plants from their very undesirable pest. Liquid manure may be given whenever watering is necessary, though just now they will not require a great deal unless they happen to be near the hot-water pipes. Ventilate freely on all fine days, and keep up a night temperature of from 50 degrees to 55 degrees, according to the state of the weather outside.

CHRYSANTHEMUMS.—These are now making a good show, and the large-flowering ones must be carefully examined and have all damped petals removed, or the loss of good flowers will follow; keep the houses as dry and cool as is consistent with the weather outside, so as to prolong the flowering season as far as possible. Up to the time of writing there has been no frost to damage anything outside, consequently many of the late-flowering decorative varieties have been standing in the open, but as room permits they should now be removed indoors, giving them all the room possible. Some of the varieties, such as K. Thompson, Princess Victoria, Dazzler, J. W. Crossley, Winter Cheer, etc., may with advantage be disbudded to one bloom on a stem, and these will give some good-sized blooms for decoration when the bulk of the large-flowering varieties are over. Do not stint liquid manure for these late batches, as many of them will be quite two months before they are well into bloom; the clear water will be the best for those that are now opening.

CYCLAMEN AND PRIMULAS.—Plants that have been growing in frames will do better if removed to a shelf or stage in a cool greenhouse; remove any dead or decaying foliage, and see that all pots are cleaned as they go in. If the primulas are showing signs of blooming they may be placed in a slightly warmer house than the cyclamen. Primula obconica I have found does better if given even a slightly warmer temperature than Primula sinensis. The new and popular P. kewensis, being very nearly hardy, does best if placed in a house where fire heat is only given during very severe weather.

BULBS.—Some of the earlier bulbs, such as Roman hyacinths, Paper White and Van Sion narcissi, and Van Thol tulips, that were potted up very early, should now be advanced enough in root growth to warrant their being removed to a house or warm pit for gentle forcing; it is advisable to bring them along gently at first, giving more heat as the flower buds appear.

AZALEA INDICA, ERICAS, ETC.—These have been quite safe in some sheltered spot out of doors or under temporary shelters, but provision must now be made for them in a cool greenhouse; very little fire heat is necessary for these subjects, in fact, they greatly resent a really dry atmosphere, so unless they are wanted early a house with a north aspect will suit them well. One or two of the early-flowering azaleas, such as Deutche Pearl, Fielder's White, and indica alba, may be introduced into a slightly warmer house, where they can be syringed overhead, when they will soon come into flower, and provide bloom for cutting or useful plants for conservatory decoration.—T. Stevenson, Woburn Place Gardens.

THE FLOWER GARDEN.

SPRING BEDDING.—Although up to the time of writing frost has not occurred to necessarily compel the removal of the plants that have done duty through the summer months, it is now advisable to clear the beds and replant with spring flowers, thus enabling the plants to become well established before winter. All plants of the latter, such as myosotis, wallflowers, arabis, etc., should be lifted with nice balls of soil, and planted with a trowel, the holes being made sufficiently large to receive them without difficulty; make the soil firm in the process of planting. These will require planting fairly close without being crowded, and in many cases bulbs should be arranged with them to stand out and relieve the flatness and contribute to the colour effect. For this purpose there are many good tulips belonging to the early-flowering section which produce fine self-coloured flowers on long stalks, and these should be planted as early as possible after the other subjects. This should be done by means of a large dibber, and holes should be made about four inches deep, and planted about ten inches apart each way, and the bulbs should be lightly covered with fine soil. Hyacinths are perhaps the most effective when in flower, and, whether massed in one colour, or planted to form a design, as illustrated in the London Parks, make bold displays. These require a good soil, well drained, to be satisfactory, and the bulbs should be buried five to six inches deep, and eight to nine inches each way. Many of the tulips make striking beds when planted by themselves, especially the double-flowering varieties and those with variegated foliage. Polyanthuses should also be included; these give abundance of flowers, which last over a considerable period, and a good strain should always be grown which produces the best and largest flowers. These in all cases should be eagerly sought after, as many are distinct improvements on the older existing varieties.

PLANTING.—For displaying many of the hardy climbers there is no better method than training them up substantial poles. Not only do these show them off to their best advantage, but also make a striking change when placed about the shrubberies. The present is a suitable time for fixing the poles in position and planting the subjects to cover them. The best poles to use are larch, and for larger climbing subjects, such as many of the rambling roses, Clematis Jackmani, etc., should be at least ten to twelve feet out of the ground, and additional support given them by means of struts, which also break the formality, and enable more growth to be used without overcrowding. The ground should be well worked, and some good turfy loam and road scrapings added. There are many plants to choose from suitable for this purpose, including roses, vines, honeysuckles, Clematis Jackmani, which produces a wealth of flower when the roses are past, C. orientalis tangutica, a yellow flowering species, and a decided acquisition; the coccinea hybrids, as Countess of Onslow, Duchess of Albany, and Akebia quinata. Several of the newer introductions from Western China, as Actinidia chinensis and others, should be included. Many good rubus, including Ichangensis, Lambertiana, Parkeri; loniceras, Polygonum multiflorum, and some of the beautiful vines, are also most desirable.—E. Beckett, Aldenham House Gardens.

HARDY FRUITS.

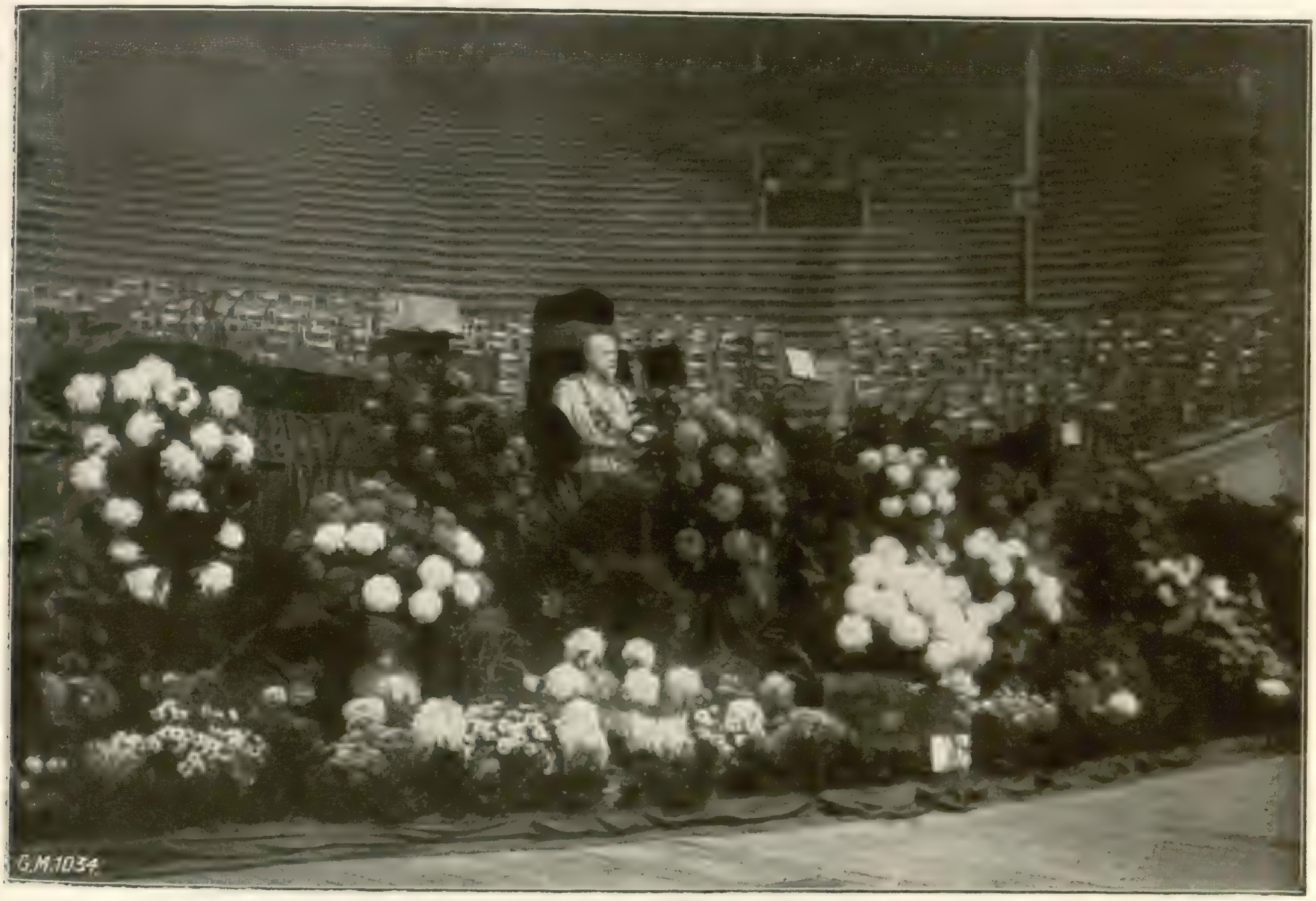
RED AND WHITE CURRANT CUTTINGS may be prepared and inserted in nursery beds as soon as the leaves have fallen. Select sufficient clean healthy shoots of the varieties found most suitable, and of this season's growth, from twelve to fifteen inches in length. Make a clean horizontal cut through the base of the cutting, immediately below a bud, cut out the bud at the point, reserve the next three, and rub out the remainder.

BLACK CURRANTS.—Cuttings of these may be treated in a similar manner if single stemmed bushes are required, but usually the cuttings are inserted without removing any of the buds, with the exception of the one at the point, thus encouraging the production of strong growths from the base, which are found very useful to replace the older branches as they become worn out. A border in a fairly open position should be chosen, and where the soil has been well manured for a previous crop. The cuttings may be inserted in rows one foot apart, eight inches between each cutting, and about six inches deep. Cut out with a spade a small trench six inches deep in which to place the cuttings; keep the latter in an upright position, and if the soil should be of a retentive nature a little sand sprinkled about the base of the cuttings will help the formation of roots. Make each cutting firm by treading.

GOOSEBERRY CUTTINGS may be prepared as advised for red and white currants; some of the buds are very small, and require close attention to remove them all from the lower portion of the cutting; remember that suckers on gooseberry bushes are most undesirable. One-year-old bushes which have made some healthy growth, and are found to be well rooted, should be removed from the nursery bed and planted in an open position two feet apart each way. The weaker plants are best left where they are for another season.

VARIETIES.—Cherry, La Versaillaise, Red Dutch, and Warner's Grape are useful varieties of red currants, while White Dutch Cut-leaved and Leviathan are both good white currants. Of the black varieties we find Boskoop Giant, Black Naples, and Lee's Prolific the most satisfactory. It is almost impossible to make a selection of gooseberries owing to the large number catalogued, but the twelve here enumerated comprise useful kinds for either kitchen or dessert purposes. Red: Whinham's Industry, Lancashire Lad, and Crown Bob; white: Whitesmith, Antagonist, and Careless; yellow: Mount Pleasant, Gunner, and Gipsy Queen; green: Overall, Keepsake, and Thumper.

RASPBERRIES.—The trenching, manuring, and preparation of the new quarter for these has been much delayed by a continuance of wet weather, and although it is not advisable to get on the ground while it is in such a saturated condition, still every opportunity should be taken when the soil is at all workable to have everything ready by the time the young canes are fit for planting. Stakes, posts, and wires, or iron hurdles, which are to be used for support, are best fixed before planting, that there may be no disturbance of the roots afterwards. In old quarters, after the old canes have been cut away, and sufficient of the new ones tied in to replace them, examine the rows for any vacancies which may have occurred during the past season, and make these good with plants that have been growing in the nursery bed for a year. As soon as the leaves have fallen gather them up, with any weeds that may be seen, and dust the whole of the surface with some freshly slaked lime, afterwards mulching the alleys with a good dressing of farmyard manure. The winter's rain will carry the manurial properties down to the roots.



MR. H. J. JONES'S LARGE GOLD MEDAL EXHIBIT OF CHRYSANTHEMUMS
At the National Chrysanthemum Society's Show, Crystal Palace, November 3, 4, and 5.

AMERICAN BLIGHT.—As the leaves fall from the apple trees, the presence of this pest is most easily discernible. The woolly covering under which the aphis protects itself is practically impervious to all kinds of spray fluids, but I have found that an ordinary paraffin emulsion, applied at this season of the year by a forcible garden engine, is one of the best remedies for keeping this destructive pest in check, and it should not be neglected wherever this pest is found.—Geo. Woodgate, Rolleston Hall Gardens.

THE ADVANCE OF FORESTRY

In his opening lecture before the class of forestry in the Aberdeen University, Mr. William Dawson, M.A., lecturer on the subject, said:

Within the last twelve months forestry matters have indeed made a great advance, and at last there is a likelihood of this long-neglected industry so developing as to occupy its proper position. The period of national indifference is past, and the true significance of forestry as a national question is becoming more generally understood. The forest appeals to all classes, and all sides of the question are being brought forward, but it must be understood that the production of timber is a business. An industrial nation is dependent on a sufficient supply of wood, for all industrial activity requires its use. We have all the elements necessary for successful timber production in our country, yet we have been content to buy from other producers and let our own resources remain undeveloped. Common sense tells us that is bad business. In Scotland we are faced with the startling fact that 65 per cent. of our land surface is neither town land, nor agricultural land, nor is it woodland. There is no doubt that several million acres of this is absolute forest land—that is, land which will realise its fullest use under trees. Thus we have at least one source of national wealth still waiting development.

Increased activity in forestry will lead to the development of many other industries. It is, indeed, such a fitting complement to agriculture that it would help to bring the ideal of small holdings nearer realisation. In Germany three-fourths of the forest workers follow some other occupation, many being small holders who look to the forest to supply them with work for regular periods of the year. Decades of neglect cannot be remedied at once, for from the nature of forestry there is every need of caution. We cannot, however, be accused of rashness in the matter, for while every civilised country has been advancing and developing, founding schools of forestry, and carrying out investigations and experiments, we have been more or less passive; but now there is a likelihood of active steps being taken to improve matters. In the Development Bill, at present under discussion, there is the clause: "Forestry, including the purchase and planting of land, the conducting of inquiries, experiments, and research for the purpose of promoting forestry and the teaching of methods of afforestation." These proposals are wise and considerate, and will go far to set matters right. Then, again, illustrative of the changed attitude of our legislators towards forestry, we find in the Finance Bill a substantial concession as to the payment of death duties on the value of forests. It is proposed that, on forests which are being managed on approved sylvicultural lines, the payment of the duties on the value of the woods may be deferred till the timber is mature and its value realised. This, too, is a great advance, and should help matters greatly. The way for greater developments is now paved. There are still many directions in which advance can be made. The industry can become a big one, and there is need for increased facilities for providing for education in work which is really highly specialised, demanding a wide range of knowledge. The present activity of forest owners ought to be encouraged, and they could be substantially helped by the provision of increased facilities for education.

BIRMINGHAM GREAT CHRYSANTHEMUM SHOW, BINGLEY HALL, TUESDAY, WEDNESDAY, and THURSDAY, Nov. 9th, 10th, and 11th. Secretary, ALFD. NOAKES, 148, Bristol Street, Birmingham.

BRADFORD CHRYSANTHEMUM EXHIBITION in ST. GEORGE'S HALL, on FRIDAY and SATURDAY, November 12th and 13th.
£27 for 24 Japanese (on Boards).
Prize Money for Open Competition again Increased.
Entries Close November 6th.
Schedules with entry form post free from H. SPENCER, Hon. Secretary, Horton Park, Bradford.

LOWER MARKET,
EXETER.

DEVON AND EXETER HORTICULTURAL SOCIETY'S
FLOWER, FRUIT, ETC., SHOW,
THURSDAY and FRIDAY,
November 11th and 12th.
SILVER CHALLENGE CUP, VALUE £30, FOR CUT BLOOMS. SPECIAL PRIZES for CIDER APPLES.
ENTRIES CLOSE 6th NOVEMBER, 1909.
Schedules, etc., from A. HAROLD WARD, Hon. Secretary, 9, Bedford Circus, Exeter.

SHEFFIELD CHRYSANTHEMUM SOCIETY'S GREAT ANNUAL SHOW.
CORN EXCHANGE, SHEFFIELD,
FRIDAY and SATURDAY, Nov. 12th and 13th.
UPWARDS OF £200 IN PRIZES.
Schedules and particulars free on application to Secretary.
C. COOK, City Road, Sheffield.

EXHIBITIONS AND MEETINGS.

United Horticultural Benefit and Provident Society.

The twenty-third annual dinner of this excellent institution was held at the Waldorf Hotel on Thursday, October 28, under the genial presidency of Mr. J. B. Slade, of Messrs. Protheroe and Morris. The attendance was scarcely so large as usual, and this was no doubt due largely to the cold, wet, and windy weather that prevailed throughout the afternoon and evening. It is, however, a matter of regret to find that nurserymen and seedsmen do not attend this function, and thus show their interest in and sympathy with the work of the society in the way they formerly did. Some who used to attend regularly have reached an age when evening meetings are not tempting, but there are others and younger men who might well come, especially as the society is not a charitable institution ever seeking for additions to its funds.

The dining-room was beautifully decorated by Mr. Bedford, of Gunnersbury House Gardens, with plants and flowers supplied by various friends, and the ample dessert was also largely supplied by members and friends.

After dinner, and the usual loyal toasts, the Chairman proposed "Continued Success to the United Horticultural Benefit and Provident Society," and in so doing pointed out the great value of the various benefit societies, as these inculcated thrift. Such societies had done a great deal of good to the community at large, but among them all, and he had studied the matter carefully, he could not find one so excellent in every respect as the one those present were nearly all members of. He thought the U.H.B.P. should appeal strongly to those who had the interests of the community at heart, and especially the interests of those engaged in horticultural pursuits. The great difficulty lay in securing young members, and he considered the lesson of early thriftiness needed to be taught in the present day. In the case of the U.H.B.P. it was found that many gardeners put off joining until it was too late, or joined other and less helpful societies. He pointed out how the Sick Fund, Benevolent Fund, and Convalescent Fund assisted sick and disabled members, and how, after all expenses were met each year, a balance was placed to the credit of each member, and grew into a considerable sum, with the added interest, in the course of years, and was available for use in old age, or went to the representative of the member in case of death.

Mr. Slade thought the society, considering its limited field of operations, had done well. It was worked with extreme economy, and thus ought to appeal to those in good circumstances who were interested in and derived pleasure and profit from horticulture. He found there were about fifty honorary members, but considered this number a very small one, and he promised to join independently of his firm. Finally, Mr. Slade urged all present to do their level best to make the society better known, to secure new honorary and benefit members, and so ensure the continued success of the society.

Mr. C. H. Curtis, chairman of committee, responded, and heartily thanked Mr. Slade for his presence, his interest, and his able speech. He pointed out that there were now about 1,300 members, and invested funds to the extent of about £35,000. He praised the keenness of the members of committee, and stated that up to date this year 60 new members had joined the society. The committee would be glad to enrol new honorary members, because they felt that nurserymen and seedsmen attached to the society in this way would naturally bring its benefits before their employees. Mr. Curtis quoted several cases (without mentioning names), in which the society had been able to very materially assist distressed members, apart from sick pay, thus proving the immense value of the benevolent fund.

Mr. J. Harrison Dick proposed "The Honorary and Life Members." He thanked those who had for so long assisted the society as honorary or life members, and pointed out that their donations almost amounted to one-half of the payments made by the Benevolent Fund. They did not seek charity, but felt that such names as those already on the list served to hall-mark the society as an excellent one, and give it added dignity. He hoped other nurserymen and seedsmen, especially the younger members of the various firms, would attach themselves to the society, become familiar with its working, and do their best to extend its usefulness among their workmen. Mr. T. A. Cox, of Messrs. Hurst and Son, briefly responded.

Mr. Riley Scott, who proposed "The Visitors," expressed the hope that those who were present as visitors would, after hearing the chairman's speech, become either honorary or benefit members. Mr. Scott made one of the hits of the evening by observing "we have an old age pension scheme of our own, it is not State aided, and we've got the money to pay with." Mr. A. Dawkins (Messrs. J. Veitch and Sons) responded in humorous vein, and told a number of witty stories, in each case making the moral of the story apply to the society.

"The Press" was very neatly proposed by Mr. E. F. Hawes, who showed that the influence of the Horticultural Press had always been on the side of the society, and had been the means of increasing its membership and usefulness. Mr. George Gordon, V.M.H. (Editor GARDENERS' MAGAZINE), responded briefly, and expressed the pleasure the members of the Press always felt in being able to help such a deserving institution. Mr. Harvey ("Garden" staff) also responded in a sympathetic manner.

Mr. Frogbrook proposed "The Chairman," and the toast was very heartily received, and accorded musical honours. In responding to the toast, the Chairman suggested that when the next annual report was sent to members, it should include a slip with space for name and address, and a strong appeal to each member to secure at least one new member next year. He expressed his great pleasure at having been invited to preside, the more so as this was the first time a member of his firm had ever been invited to preside over a similar function. He took a keen interest in horticultural matters, apart from business, especially in school gardens and allotments, and he promised to do all he possibly could to make the society better known among those with whom he came into contact. He also ventured to hope that in the years to come the committee might some day invite him to again preside, so greatly had he enjoyed the evening, and so delighted was he with the work of the society.

The Chairman then proposed hearty thanks to Mr. T. Winter for superintending the musical arrangements; to Mr. Winter's friends of the Waverley Glee Party for giving their services, and providing such an excellent musical programme; to those who had so kindly provided fruits, flowers, and plants; to Mr. Bedford for decorating the room; and concluded with "Good Health" to the secretary, Mr. W. Collins. Brief responses followed, and "Auld Lang Syne" brought a very pleasant evening to a close.

Hereford Fruit and Chrysanthemum Society.

OCTOBER 27 and 28.

This society held its annual show in the Shire Hall, Hereford, and apples and pears, which were surprisingly good considering the season, formed, as is usual at Hereford, the most important feature. Groups of plants, floral designs, grapes, vegetables, agricultural roots, and grain also contributed largely in making the show instructive and interesting. Chrysanthemums seldom take a prominent position at Hereford, and upon this occasion the exhibits of them were confined to vase classes.

FRUIT.

Collections of fruit, six kinds.—Only three exhibitors staged in this class, the best coming from Mr. Sykes, gardener to Colonel Henry, of Haffield, who had good Gros Maroc and Muscat of Alexandria grapes, splendid Doyenne du Comice pears, a fine Green Emerald melon, Late Admirable peaches, and good Cox's Orange Pippin apples; Mr. R. Currie, gardener to Rev. G. H. Devonport, was second. In the class for white grapes, three bunches, there were four competitors, and of these Mr. Currie and Mr. Sykes took the first and second prizes in the order named, each staging fair examples of Muscat of Alexandria. In a class for Gros Colmar, Mr. C. Liddle, gardener to Sir J. Cotterell, of Garnons, was a good first with grand perfectly finished bunches, followed by Mr. H. Parrott, gardener to A. W. Foster, Esq., Brockhampton Court, Ross; two other exhibits were staged. For any other black variety Mr. Nunn, gardener to Mrs. Woodhouse, scored with fairly good bunches of Alicante, Mr. J. Jones, gardener to Mrs. Hill, being a close second with the same variety; Mr. Sykes third with Gros Maroc.

The class for fifty dishes of apples, distinct, not more than twelve fruits or less than five to a dish, brought three collections, the chief of which was from Mr. Whiting of Credenhill, who showed a splendidly finished and otherwise excellent collection, in which the most popular varieties were represented. Amongst the best dishes were found Allington Pippin, Cox's Orange Pippin, King of the Pippins, Houblon, Charles Ross, Rival, Barnack Beauty, Lord Hindlip, Pickering's Seedling, King's Acre Pippin, Rosemary Russet, James Grieve, Swedish Reinette, Ribston Pippin, Mrs. Barron, King Edward VII., Newton Wonder, Washington, Warner's King, Gloria Mundi, Stirling Castle, Beauty of Kent, Queen Caroline, Tibbet's Pearmain, Blenheim Pippin, Chelmsford Wonder, Emperor Alexander, and Hambling's Seedling. Messrs. Pewtress Brothers, Tillington Nurseries, were second; Mr. J. Lee also staged a good collection, but was disqualified owing to his having accidentally mixed Mabbot's Pearmain with American Mother in one of his dishes; a special prize was deservedly awarded. In the class for thirty dishes Mr. J. Jones, gardener to Mrs. Hill, Moreton Court, staged a good collection, chiefly of culinary kinds, and was assigned the premier position. Mr. Taylor, gardener to J. Riley, Esq., Patley Court, was second.

In the class for eight dishes, dessert, there were nine exhibitors, Mr. R. Currie taking the lead with capital fruits of Ribston, Cox's, King, and Allington Pippins, Egremont Russet, American Mother, Wealthy, and Adam's Pearmain; Mr. Holder, gardener to A. G. Burney, Esq., The Weir, Hereford, second; and Mr. Sykes, third. For twelve dishes of culinary varieties Mr. Talbot, gardener to Sir G. Cornwall, Moccas Court, was first, and in the class for eight culinary and four dessert, open only to tenant farmers and amateurs, Mr. Bott, Brunton, secured the leading position. In a class for three varieties of apples of recent introduction Mr. J. Jones took leading honours with excellent dishes of Houblon, Charles Ross, and Rival; Mr. Whiting being a close second.

In competition for the prizes for a decorative group of fruit, fresh or preserved, arranged in a space of 50 square feet, only two lots were staged. Messrs. Pewtress Brothers were first with some fifty varieties of apples and pears, well arranged in boxes and baskets, relieved with small decorative plants; the King's Acre Nursery Company, who put up a splendid lot of bottled fruits, were second.

For a collection of pears, not less than twelve varieties, there were five entries, and Mr. Currie led with a fine set, including Doyenne du Comice, Beurre Bosc, Glou Morceau, Beurre Diel, Easter Beurre, Marie Louise, Le Lectier, and Beurre Superfin; Mr. H. Parrott, gardener to A. W. Foster, Esq., second. For eight varieties, dessert, the leading exhibitor was Mr. Poston, gardener to Rev. Prebendary Brierly, of Bridstow. His set were Emile d'Heyst, Madame Treyve, Beurre Alexander Lucas, Doyenne du Comice, Durondeau, Beurre Bachelier, Marie Louise, and Pitmaston Duchess; Mr. Sykes was placed second, and Mr. Williams third.

In the class for bottled fruits, twelve bottles, two excellent exhibits were staged, Miss Powell, Billingham Court, being first, and the Hon. Mrs. Wilmot, second, and in a similar class for jams or jellies Mrs. Blashill led, followed by Mrs. H. Betteridge, Stretton Court.

The best dish of pears in the show was Doyenne du Comice, from Mr. Currie; best dish of dessert apples, Cox's Orange Pippin, from Mr. Thoms; best dish of culinary apples, Peasgood's Nonsuch, from Mr. Nelme.

VEGETABLES.

For a collection of ten kinds of vegetables, for which Mr. J. Wilson, Commercial Street, Hereford, provided the prizes, there were seven entries, all good. The best collection was that from Mr. Holder, gardener to A. G. Burney, Esq., The Weir; Mr. Stainsbury was placed second, and Mr. Young third. For six kinds, for which Messrs. Sutton and Sons, Reading, offered prizes, Mr. Davies, gardener to W. C. King, Esq., was first, and Mr. Stainsbury second. Mr. Liddle was first for tomatoes, and Mr. Caddick second; ten lots were staged.

NON-COMPETITIVE EXHIBITS.

These contributed in a great measure to the attractions of the show. The King's Acre Nursery Company made the largest display. They staged upwards of 100 distinct varieties of apples in splendid condition, together with pears. This firm also staged floral devices and cut flowers arranged in vases in great beauty. Mr. Wilson, Commercial Street, Hereford, also staged a large stand of wreaths, bouquets, and other floral decorations in variety arranged with excellent taste.

Farnham Horticultural Society.

Under the auspices of this society a lantern lecture on "Vegetables, Old and New," was delivered at Farnham, Surrey, on Monday, October 25, by Mr. W. F. Giles, of Messrs. Sutton and Sons, Reading. The lecture attracted over 100 persons, and was a great success. At the close numerous questions were asked and answered, and on the motion of Mr. C. Moore, F.R.H.S., a vote of thanks was heartily accorded to Mr. Giles for his most able and interesting address.

Brighton.

Held, as usual, in the Dome and Corn Exchange, the Brighton Society's exhibition, on November 2 and 3, has to be written down as something of a failure as compared with previous efforts. Making all due allowance for the season, we find it difficult to account for the falling off in competition and quality. Directly the Corn Exchange was entered the fact that the show was a poor one was apparent. It will be a thousand pities if Brighton Chrysanthemum Show becomes comparable to an exhibition held in a small country town. Those who believe chrysanthemum shows are declining would find an excellent argument at Brighton. Flowers were of moderate quality as a whole, groups were poor, plants were fairly good, and fruits and vegetables were pretty well up to the standard of recent years.

CUT BLOOMS.

In the open class for three dozen Japanese blooms, in not less than twenty-four varieties, there were only two competitors, the silver cup offered by the president, J. Colman, Esq., being won by Mr. Chas. Hack, gardener to Mrs. L. C. Joad, Patching, Worthing, who had medium sized, bright examples of Master James, Mrs. Knox, Algernon Davis, Mrs. F. M. Vallis, Bessie Godfrey, Sir Frank Crisp, Norman Davis, Reginald Vallis, etc.; Mr. J. E. Hickson, gardener to the Rev. F. S. Sclater, Newick Park, Lewes, second. Messrs. J. Stredwick and Son, St. Leonards, led for twenty-five Japanese blooms, set up in five vases, and their best specimens were of Master James, Lady Letchworth, Exquisite, Mrs. G. Mileham, Mdme. Rivol, Lady Crisp, and Emperor; second prize fell to Mr. J. E. Hickson; only two competitors.

Mr. J. Harris, gardener to Colonel C. P. Henty, Avisford, Arundel, had the best twelve Japanese blooms, his set consisting of J. Lock, Splendour, W. Jinks, Mrs. N. Davis, Exquisite, Mrs. C. Penford, R. Vallis, Mrs. Knox, J. W. Molyneux, George Terry, W. Beadle, and Mrs. Marsham; Mr. Chas. Earl, gardener to O. E. Avigdor-Goldsmid, Esq., Somerhill, Tonbridge, second; and Mr. W. Humphery, gardener to F. W. Franks, Esq., Loampits, Tonbridge, third. There were seven entrants in this class.

Mr. J. Harris scored for six Japanese with Reg. Vallis, Mrs. Knox, Marquise Venosta, Mrs. N. Davis, W. Beadle, and Mrs. Marsham; Mr. Chas. Earl second; Mr. W. Humpherys third; and Mr. G. Best, gardener to H. S. Johnson, Esq., Seldenville, Worthing, fourth; eight entries. For six Japanese blooms, one variety, Mr. A. H. Geall, gardener to Miss Smith, Miramichi, Withdene, was a good first with finely-coloured Reginald Vallis; Mr. C. Hack second with Mrs. A. T. Miller; and Mr. E. Jones, gardener to H. Young, Esq., Withdean Grange, Brighton, third.

Apparently there was only one entry of twelve incurved blooms, distinct, and to this, from Mr. M. Tourle, gardener to E. Lake Walker, Esq., Horsted Place, Uckfield, a second prize was awarded, as the blooms were very rough. Mr. Harris scored for six blooms, and gained first prize with fair examples of Mr. Hygate, Embleme Poitevine, Mrs. B. Hankey, Clara Wells, Romance, and Godfrey's Eclipse; Mr. M. Tourle, second; and Mr. A. Emery, gardener to H. Oakey, Esq., Avoca, Eastbourne, third. Mr. Geall led for six incurved blooms, one variety, with Buttercup, not yet at their best; Mr. A. Sayers, gardener to S. Copestake, Esq., Adelaide Crescent, Hove, second, with Embleme Poitevine; and Mr. M. Tourle third.

Mr. T. Brackley, led for six Japanese blooms in one vase, and had a fine Mrs. A. T. Miller in his set; Mr. A. Emery second, and Mr. J. C. Reeves, gardener to Captain H. Acton Blake, Pucks Croft, Rusper, third. Mr. Emery led for a dozen Japanese blooms, in two vases, and was followed in order by Mr. J. C. Reeves, and Mr. C. Marshall, gardener to D. F. S. Smith, Esq., Parklands, Burgess Hill. These last two classes were for single-handed gardeners.

Mr. C. Earl was a capital first for nine Japanese blooms in one vase, showing grand flowers of popular varieties; Mr. E. Jones second, and Mr. T. Rush, Hassocks, third; six entries. For three vases of Japanese blooms, Mr. A. Bish, gardener to Miss E. FitzHugh, North Acres, Streat, led with Bessie Godfrey, Reginald Vallis, and a white variety unnamed; Mr. T. Rush second, and Mr. E. Putland, gardener to G. A. Hammond, Esq., Cambrian House, Burgess Hill, third.

Pompon varieties were not particularly well shown, but Mr. W. G. Pelley, Adavale, Chesswood Road, Worthing, led for three vases, and was followed in order by Mr. G. H. Bennett, gardener to P. H. Bayer, Esq., Hatch Beauchamp, Withdean, and Mr. G. Norman, gardener to A. Morris, Esq., The Garden House, Upper Drive, Hove. Three vases of singles proved a much better class, and here Mr. T. Brackley, gardener to Mrs. Brigden, Oaklands, Hassocks, was an easy first with large, finely developed, and well-arranged blooms of Edith Pagram, Bronze Pagram, and White Pagram; Mr. G. Best second, and Mr. G. Funnell, Mount Zion Place, Brighton, third.

In the amateurs' division there were some good blooms, notably those shown by Mr. C. Fox, Eridge Road, Tunbridge Wells, and Mr. Alfred Jeal, Montreal Road, Brighton. Mr. Fox showed remarkably well, winning firsts in the vase class, and for a dozen Japanese, and securing the amateurs' trophy, which he now holds, having won it three years in succession. He had a fine stand of blooms, and good examples of Mrs. G. Milcham, Bessie Godfrey, Mrs. Penford, and Mrs. Norman Davis.

GROUPS AND PLANTS.

There were only two groups of chrysanthemums and foliage plants, and neither of these was up to the high standard of former displays. Each group was conical, arranged within a circle 8ft. 6in. in diameter. Mr. G. Chandler, gardener to S. Witting, Esq., Hollingbury Copse, Brighton, was placed first, and Mr. G. H. Bennett second. For a table of plants and flowers, the only exhibit was from Messrs. G. Miles and Son, Victoria Nursery, Dyke Road, Brighton, who had a pretty arrangement of white, bronze, crimson, and yellow flowers, associated with ferns and crotons—first prize.

Mr. W. Hill, gardener to G. W. Ryder, Esq., Broad Hill, Keymer, secured first prize for a collection of orchids, and he put up a very bright display of well-grown Calanthe Veitchi, together with Cypripedium Spicerianum, and Odontoglossum grande.

In the amateurs' class for a group of chrysanthemums Mr. G. Funnell was first with a creditable arrangement of rather small flowers; Mr. T. Wells, The Bugle Inn, St. Martin's Street, Brighton, second. For a mantelpiece and fireplace decoration of chrysanthemums Messrs. G. Miles and Son were a good first with a bright and tasteful arrangement of bronze, white, and yellow blooms, associated with ferns, crotons, and asparagus. Mrs. H. J. Brill, Southdown Avenue, Preston Park, was second, and Miss Mabel Howell, Tower Lodge, Queen's Road, Brighton, was first for a similar decoration in the ladies' class.

Mr. G. Lambert, Bognor Road, Chichester, was an excellent first for six bush chrysanthemums, winning with finely grown plants carrying good flowers; Godfrey's King, Kimberley, and Merstham Yellow were very good; Mr. A. Sayers second, and Mr. G. H. Bennett, third. Mr. G. H. Bennett led for six bush plants of single varieties; Mr. Edward Jones second, and Mr. G. Best, gardener to H. S. Johnson, Esq., Seldenville, Worthing, third.

Mr. E. Jones was awarded second place for a dozen solanums, and Mr. Chandler a second for six specimens. Mr. J. Hill led for a dozen Chinese primulas, and Mr. C. Moppett, gardener to A. Carey, Esq., Downside, Roedean, was second. Mr. C. Moppett secured chief place for six Begonia Gloire de Lorraine, and Mr. J. E. Hickson had the best dozen plants of this begonia, and Mr. Chandler was a good second.

Mrs. Rapley, Warblington, Havant, had the best table decoration, in gold and bronze flowers; Miss S. Cheesman, Islingword Road, second; and Mrs. Brackley, Hassocks, third, with golden-yellow flowers.

FRUITS AND VEGETABLES.

Mr. A. Kemp, gardener to C. R. Scrase Dickens, Esq., Coolhurst, Brighton, was placed first for three bunches of black grapes, Mrs. Pince's Muscat, but two of the bunches had many red berries; Mr. H. Cook, gardener to A. D. Macnell, Esq., Malling Deanery, Lewes, second; and Mr. S. Woolgar, Ivy Arches Nursery, Worthing, third. Mr. C. Earl had the best white grapes, and was followed in order by Mr. J. Muddell and Mr. A. Kemp.

Mr. Bennett had the best dish of dessert apples, Cox's Orange Pippin. Mr. E. Jones scored for four dishes of dessert apples, Mr. Parsons, Lewes, coming second, and Mr. A. Kemp, third. Mr. W. J. Finck, gardener to F. A. White, Esq., Oakleigh, East Grinsted, had the finest set of four dishes of dessert pears, winning with fine fruits of Fondante de Thirriot, Pitmaston Duchess, Beurre Diel, and Doyenne du Comice; Mr. J. E. Hickson, second, and Mr. E. Jones third. Mr. W. J. Finch, East Grinstead, had the best dish of stewing pears, General Todleben.

Mr. W. Cornish, gardener to W. R. Hammond, Esq., Grovelands, Burgess Hill, won first prize for nine kinds of vegetables, and had good carrots, beet, turnips, and parsnips; Mr. W. Monton, gardener to Mrs. Mashiter, The Grange, Hurstpierpoint, second; and Mr. J. C. Reeves, third; the prizes were offered in this class by Messrs. J. Cheal and Sons. Mr. G. Crove, Grantham Road, Brighton; Mr. R. Moore, New Road, Lewes; Mr. W. J. Finch, East Grinstead (onions); and Mr. M. Tourle were other leading prize winners in the vegetable classes. Potatoes were especially good, Mr. J. Harris scoring.

NON-COMPETITIVE.

Non-competitive displays included a collection of fruits and autumn foliage from Messrs. J. Cheal and Son, Crawley; new single and Japanese chrysanthemums from Messrs. W. Wells and Co., Merstham; alpines from Mr. J. Box, Lindfield; fruits and flowers from Mr. F. Woollard, Lewes Road, Brighton; violets in variety from Mr. W. Brown, Mayfield; a fine collection of apples, pears, and grapes set up by Mr. E. Neal, gardener to J. A. Nix, Esq., Tilgate, Crawley; a bold display of cyclamen, chrysanthemums, cypripediums, lily of the valley, rose wreaths, and orchid bouquets from Messrs. W. Miles and Co., Church Road, Hove; and a collection of apples, pears, and grapes from the same firm; charming odontoglossums, cypripediums, and cattleyas from Messrs. J. and A. A. McBean, Cooksbridge; a group of Cattleya labiata, Vanda cærulea, and odontoglossums from Mr. J. H. Hill, Vale Bridge Nurseries, Burgess Hill; a display of sundries by Messrs. Tilley Brothers, London Road; some very fine apples and pears from the Barnham Nurseries, Hassocks; and some well-grown onions set up by Mr. J. Hill, gardener to E. Moreau, Esq., Fairlie Place, Surrenden Road, Preston.

Oxfordshire Chysanthemum Society.

OCTOBER 28.

This society held its forty-seventh annual exhibition on the above date in the Town Hall, Oxford, and an excellent representative display was produced. The date was much too early for chrysanthemums, but the committee were compelled to accept the last Thursday in October or abandon their show, as no other hall in the city is capacious enough to accommodate the large display of fruit and vegetables usually staged in competition. To add to this inconvenience the season has been late in developing the blooms. To summarise, there were five groups of plants, about 300 specimen blooms, some 360 dishes of apples and pears (twelve apples and nine pears to a dish), and fully 120 dishes of vegetables in the competition.

PLANTS.

Bush chrysanthemums were limited to one second-prize set of six, the growers in the district not being able to have their plants in bloom; but there were some fairly good double and single primulas, and very fine examples of Gloire de Lorraine begonia, cut violets, table plants, and violets in pots; for the latter, Messrs. Gardner, Son, and Adams, Kidlington, received the premier award for six varieties, and also staged fifty pots, as an extra.

The groups in competition, arranged on 48 feet, were a good average for quality, Mr. J. Holton, gardener to Rev. the Provost of Worcester College, occupied the post of honour; the second prize going to Mr. S. Mold (a working cooper), whose arrangement was not so well finished. The arrangements of winter-flowering and fine-foliage plants were very showy, but would have been more effective on a low stage instead of the floor; Mr. D. Curtis, Iffley Road Nursery, Oxford, had the first prize, and in his group was a most beautiful example of nephrolepis; and in the second set, arranged by Mr. W. Brown, gardener to Earl of Abingdon, Wytham Abbey, were attractive specimens of a large-leaved alocasia, and some neat examples of Cattleya labiata, C. Bowringiana, Odontoglossum crispum, and O. grande; the winter-flowering begonias, bouvardias, etc., were freely used with small chrysanthemums and fine-foliage plants. The largest group was "non-competitive," covered 160 feet super., and was arranged by Mr. J. S. Chidlow, gardener to Mrs. Herbert Monell, Headington Hill Hall. It had a remarkably fine spreading Kentia Belmoreana at the back, its elegant leaves spreading over a line of chrysanthemums, each plant having three massive spherical blooms; others were used as dot plants encircled with highly-coloured crotons, acalpyhas, the interspaces filled with neat palms and ferns, and various flowering plants.

CUT FLOWERS.

The cut flowers were, as was expected, but a small number compared with past seasons. Mr. J. M. Bush, gardener to F. J. Myers, Esq., Charlton Lodge, Banbury, was strong with Japanese, and obtained the premier for twenty-four varieties, and also the silver challenge bowl and £2 for nine triplets. His flowers were generally of full size and fresh. Mr. J. L. Burgess, Maisey Hampton, Gloucester, second. In the cup class Mr. Bush's nine triplets were remarkably fine specimens; Mr. W. Brown was second, with Mr. D. J. MacFarlayne, gardener to Harvey du Cros, Esq., Howbery Park, Wallingford, third. In the class for twelve incurved, Mr. G. Phillips, gardener to Vernon J. Watney, Esq., Cornbury Park, Charlbury, put up a very nice stand; while for six incurved of one variety, Mr. Burgess was first with Embleme Poitevine; and Mr. E. Lazenby, gardener to W. H. Fox, Esq., Bradwell Grove, Burford, second with Mrs. J. P. Bryce; and Mr. Phillips third for a grand six of Buttercup. For six blooms of a Japanese white, Mr. S. Brown, Aynho Park Gardens, Banbury, Mr. MacFarlayne and Mr. Burgess took the cards with Mrs. A. T. Miller. For six yellow, Messrs. Bush, MacFarlayne, and Lazenby divided the honours with Lady Talbot first and third, and Bessie Godfrey second. For six, not white or yellow, the cards fell to Messrs. S. Brown, E. Lazenby, and J. L. Burgess, for Sappho, President Viger, and Reginald Vallis. Mr. Burgess was the only exhibitor of a dozen triplet pompons and six bunches of singles, both sections he grows well.

Table decorations were elegant, and baskets of chrysanthemums were attractive. Mr. W. T. Mattock, Barton End Nursery, Headington, was first for cut blooms of violets, and for violets in pots Mr. T. Sirman, Stanton Harcourt, was first.

FRUIT AND VEGETABLES.

A very high quality was manifest in the fruit classes, proving to demonstration that the soil and climate of Oxon can and does produce good fruit and vegetables. Twenty-three classes were set apart for fruit, and among other exhibitors Mr. H. Smart, The Market, Oxford, obtained premier honours for a set of dessert on 24 feet, twelve dishes of apples and six dishes of pears; he also made a display of fruit consisting of forty-eight dishes in variety. Mr. S. Brown led with Muscat of Alexandria and Alicante in the grape classes, staging splendidly finished clusters; Mr. W. Brown was first for a set of nine dishes of apples; Mr. John Potter, gardener to Rev. C. de Lubat, Wytham Rectory, led for six dishes of dessert and culinary apples; Mr. C. Bodimeade, gardener to Sir W. Markby, Headington Hill, presented the best dish of Blenheim Pippin; Mr. Lazenby led for three dishes of pears; and Mr. A. Whitehead, gardener to Dr. Neil, The Warneford, Oxford, had the first prize three dishes of apples, one dish of dessert pears, and one dish judged by weight. Amateur growers staged a large quantity of fruit. Mr. W. F. Cross, 263, Iffley Road, Oxford, scoring firsts for triple dishes of apples and pears; the largest apples in the show were Peasgood's Nonsuch, and the pears Pitmaston Duchess, both staged by Mr. Whitehead. The Kidlington growers did well. Vegetables are always a great feature at Oxford; the cards for nine dishes falling to Mr. R. Wadham, gardener to Mrs. Bradshaw, The Grange, Steeple Aston; Mr. J. Holton; and Mr. A. E. Kirtland, Bletchington.

NON-COMPETITIVE.

In addition to the large groups, and the show of violets, the other non-competitive exhibits included a large display of roses artistically arranged by Mr. John Mattock, New Headington Rose Farms; a choice display of carnations by Mr. John Johnson, The Nurseries, Garsington; fifty dishes of apples and pears from Messrs. R. Tucker and Sons, Brookside Nurseries, Headington Hill; and displays of floral devices by Messrs. West and Sons, The Market, Oxford; and Messrs. Field and Jacob, Headington and The Market. To the last-named firm a gold medal award was made. Messrs. West and Sons, who secured a silver-gilt medal, had a large bell of early-flowering chrysanthemums, and an areoplane of white chrysanthemums. The other exhibitors of extras each received gold medal awards.

The weather was so cold, damp, and dull as to seriously affect the attendance. This was the forty-second show managed by Mr. W. Greenaway, the secretary.

Cambridge Horticultural Society.

NOVEMBER 3 and 4.

This long-established and admirably-managed society held its autumn show on Wednesday and Thursday last, and the plants, cut flowers, fruit, table decorations, and vegetables exhibited in the seventy odd classes filled the Corn Exchange to its utmost capacity, and produced a display remarkable alike for its interest and attractiveness. At the Cambridge shows liberal encouragement is given to fruits and vegetables, and as these are invariably contributed in large quantities and in excellent condition, visitors have an opportunity of seeing the useful products of the garden as well as those grown for ornament at their best. Indeed, in few districts are fruits and vegetables so well grown as in that of which Cambridge is the centre. It may also be said that the details of the exhibition are carried out with quite exceptional success by Mr. Arthur Matthew, the honorary secretary, and Mr. F. E. Fordham, the assistant secretary.

CUT BLOOMS OF CHRYSANTHEMUMS.

Sixteen classes were provided for cut blooms of chrysanthemums, and the most important of these was that for thirty-six Japanese varieties. In this class there was a spirited contest, and the first place was occupied by Mr. George Barker, gardener to Miss M. W. Gibson, who had blooms remarkable for their large size, freshness, and finish. The varieties especially well represented in the collection included Valerie Greenham, Lady Talbot, George Mileham,

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In the class for twenty-four incurved, there had to be not less than eighteen varieties, and not more than two blooms of any one variety. The award of the first prize was made in favour of Mr. G. Barker, who had a collection in which the blooms of W. E. Wright, Clara Wells, W. Biddle, Mrs. J. Wynn, Romance, Lady Isabel, Louise Giles, Mrs. J. C. Boyce, and Exquisite were especially well represented.

The open class for six vases of Japanese, distinct varieties, three blooms of one variety in each vase, was well filled, and the splendid array of finely-developed blooms proved immensely attractive. Mr. G. Barker was successful in occupying the first place with blooms of exceptional quality, and Mr. R. Smith was a good second with blooms of a high order of merit. The varieties in the first prize set included Mdme. G. Rivol, Beatrice May, F. W. Lever, and Lady Talbot. The exhibitors in the classes for six vases of incurved varieties were free from any restriction with regard to distinctness of varieties or the number of the blooms in a vase. The premier award was made in favour of Mr. T. Todd, gardener to W. A. Briscoe, Esq., who staged one of the finest sets of incurved blooms in vases that has yet been placed on the exhibition table. The whole of the blooms were perfect, and the six vases were regarded as one of the finest exhibits in the classes for cut blooms. Mrs. G. Barker, who was second, staged neat, well-finished blooms.

The most important of the classes in the members' division was that for twenty-four blooms of Japanese, and, as became its importance, there was a brisk contest for the first place, the blooms being on the whole of splendid quality. The premier position was worthily occupied by Mr. T. Todd, who had blooms remarkable for their freshness and finish. Mr. H. Edwards was second, and also showed well. In the classes for twelve, six, and three blooms of Japanese and incurved, the principal prizes were awarded to Mr. Hall, gardener to J. J. Briscoe, Esq., Mr. R. Smith, Mr. H. Edwards, and Mr. E. Dyson, gardener to W. P. Neal, Esq. In this division there were four vase classes, two for six vases, and the same number for three vases. There was a strong competition for the prizes for six vases of decorative chrysanthemums, and Mr. Hurrell, Harlston, was first with a highly effective set, the blooms being of superb quality. Messrs. E. H. Warren and Son followed for second place with large and attractive vases. Mr. Armand Lelliott was third with effective arrangements. Interesting and attractive also were the contributions to the class for three vases of single varieties, and the premier position was occupied by Mr. R. Smith, whose blooms were of high quality and tastefully arranged. Mr. W. Dobbs was a capital second with a pleasing set, in which Mary Richardson was splendidly represented.

GROUPS.

The competition in the class for groups of chrysanthemums arranged for effect was stronger than has been the case at Cambridge for many years, and the seven or eight groups formed a magnificent feature. Mr. A. Dyson was successful in occupying the post of honour with a bold arrangement remarkable for the high quality of the blooms and the taste evinced in their disposition. Mr. J. Wright, gardener to Arthur Matthew, Esq., was a close second with a group of much merit, and Mr. H. Edwards was a good third.

In the several classes for specimen chrysanthemums, which were considerably above the average, the most successful exhibitors were Mr. G. Willers, Mr. J. Hutchinson, Mr. J. Wright, and Mr. E. Dyson.

FRUIT.

Apples, pears, and grapes were largely shown, and the quality was high throughout. The chief class provided for the first-named fruits was that for twelve dishes, six cooking and six dessert. Here Mr. Armand Lelliott was a capital first with an excellent collection, comprising especially fine examples of Allington Pippin, Blenheim Pippin, Cox's Orange Pippin, Cox's Pomona, Worcester Pearmain, and New Hawthornden.

In the class for six dishes of apples, comprising dessert and cooking in equal numbers, the awards were made to Alderman R. Stephenson, who had especially fine examples of King of the Pippins, Bramley's Seedling, and Warner's King. Mr. Armand Lelliott was a close second. The best three dishes of dessert apples were those staged by Mr. T. Todd; and Mr. A. Lelliott and Mr. J. H. Ridgewell were second and third, the fruit being good throughout. In the corresponding class for cooking apples the awards were made in favour of Mr. T. Todd, Messrs. E. Warren and Son, and Mr. R. Smith.

The two basket classes for apples were of much interest, and in the competition for the prizes for a basket containing 20lb. of cooking apples, one variety, Mr. J. Dyer, gardener to C. F. Townley, Esq., was first with Peasgood's Nonsuch, and Alderman Stephenson and Mr. U. Neaves were second and third. In the corresponding class for dessert apples, the premier position was occupied by Alderman R. Stephenson with Cox's Orange in splendid condition. Excellent baskets were also contributed by Mr. Lelliott and Mr. U. Neaves, who were second and third, both staging Cox's Orange Pippin.

In competition for the prizes for six dishes of pears, Mr. T. Todd was first with finely finished examples of Pitmaston Duchess, Marie Louise, Doyenne du Comice, and Beurre Superfin. Mr. T. W. Birkinshaw and Mr. W. Dobbs, who were second and third respectively, also staged meritorious collections. The best three dishes of pears were those from Messrs. E. H. Warren and Son, Mr. F. Ginn, and Mr. H. Neave.

For two bunches of Muscat of Alexandria grapes the successful competitors were Mr. T. W. Birkinshaw, who had large, finely-finished clusters, Mr. A. Pepper, and Mr. Kirkpatrick. In the class for two bunches of any other white variety the premier award was made in favour of Mr. T. W. Birkinshaw, who staged Foster's Seedling. The successful competitors for the prizes for Alicante were Mr. J. Kirkland, Mr. R. Smith, and Mr. Kirkpatrick, all of whom had excellent clusters. For any other black grape Mr. T. W. Birkinshaw was first with Lady Downes, and Mr. J. Kirkland was second.

VEGETABLES.

Vegetables were plentiful and of high quality, and formed an instructive feature by no means wanting in attractiveness. There were three classes for vegetables, and in that for nine kinds, in which the prizes were provided by the society, Mr. A. Pepper obtained the premier position, and Mr. F. J. Cook, gardener to the Hon. Mrs. Thornton, and Mr. J. Kirkland were second and third.

The prizes offered by Messrs. Sutton and Sons for a collection of six kinds were keenly contested, and in the result the awards were made in favour of Mr. A. Pepper, Mr. J. Kirkland, and Mr. F. Cook.

Messrs. Webb and Sons' class for six kinds was a strong one, and the successful competitors were Mr. A. Pepper, gardener to A. Hurrell, Esq., Mr. T. W. Birkinshaw, and Mr. J. Kirkpatrick, gardener to P. L. Hudson, Esq., in the order of their names.

Potatoes were, as usual, admirably represented, and in the great class for twelve dishes, distinct varieties, Mr. J. H. Ridgewell was successful in occupying the post of honour with splendidly-grown tubers. Conspicuous in the collection was a fine dish of Cambridge Kidney, a new early variety of much value. For six dishes Mr. Todd was the winner of the first prize, and for three dishes Mr. Pepper obtained premier honours.

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APPLE FARMING.—F. C., York: You should endeavour to obtain employment in one of the many establishments where apple culture is carried on extensively and on purely commercial lines. With your present experience, and the experience you would gain during a year's work in a fruit farm, you should be in a fair way to start business yourself with a prospect of success, provided the land is well selected, and you have some capital. Messrs. T. Rivers and Son, Sawbridgeworth, are large growers, as well as nurserymen; Mr. Hammond, Pilgrim's Hatch, Brentwood; Mr. Basham, Bassaleg, Newport, Mon.; Mr. C. Lee-Campbell, Glewston Court, Ross; and Mr. Woods, Crockenhill, Kent, are some who might help you, and these are only a few that occur to us as we write.

MICHAELMAS DAISIES.—E. K., Keighley: The varieties Beauty of Colwall (double), Wm. Marshall, Finchley White, May Crum, St. Egwin, and Climax are all excellent. The first-named is especially useful, and the last, Climax, has particularly large and bright. To those you already have you may well add Edwin Beckett, Diana, and Cordifolius elegans, all very graceful varieties.

LAWN GRASS SEEDS.—O. S., Yorks: Maintaining the following proportions (the figures represent lbs.), a good mixture for fine lawn grass on good medium soil would be: Cynosurus cristatus, 5; Festuca ovina tenuifolia, 4; F. duriuscula, 3; F. rubra, 5; Lolium perenne Suttoni, 15; Poa pratensis, 6; and P. nemoralis sempervirens, 5. If clovers are not objected to, add Trifolium repens perenne, 6; and T. minus, 3. Where the lawn will be subjected to very hard wear, such as tennis or croquet, add a larger amount of Festuca rubra, and reduce the other kinds in proportion.

LIVER OF SULPHUR.—M. J., Warwick: It is most probable that the mixture failed to be effective because the liver of sulphur (sulphide of potassium) had lost its value owing to exposure. Exposure in this case does not mean leaving the sulphur fully exposed to the air, but enclosing it in a receptacle that is by no means air-tight. It is bad practice to store liver of sulphur in quantity, but when it is stored it should be put in air-tight glass-stoppered bottles.

COLD FRAME.—T. C.: We are not sure whether we rightly interpret your letter, but if you want to know how to provide a hard base for the frame, whereon to stand plants in pots, there is no difficulty. Set the frame on a course of bricks set firmly in the soil; then take out two or three inches of soil inside the frame and put in its place a three-inch layer of small cinders, making these quite firm, and surfacing them with a little finer material. Dust the cinders with soot before putting the plants in position.

PUBLIC PARKS AND GARDENS.—G. B., Exeter: The only list of public parks and gardens, their area and superintendents, that can be considered complete is the one published in the "Gardening Year Book," published at the GARDENERS' MAGAZINE Office, 148 and 149, Aldersgate Street, E.C., post free 1s. 2d. The new edition for 1910 is now in course of preparation.

R.H.S. VEGETABLE SHOW IN 1910.—M. B., Basingstoke: There is, at the time of writing, a rumour abroad that the Royal Horticultural Society proposes to hold a big exhibition of vegetables in the autumn of 1910, but we have no official information on the matter either confirming or refuting the rumour—indeed, we have not asked for confirmation or refutation of the rumour. It seems scarcely likely that the R.H.S. will hold such an exhibition, in view of the fact that the Royal Horticultural Hall has been granted to the National Vegetable Society for a similar purpose in September, 1910. We

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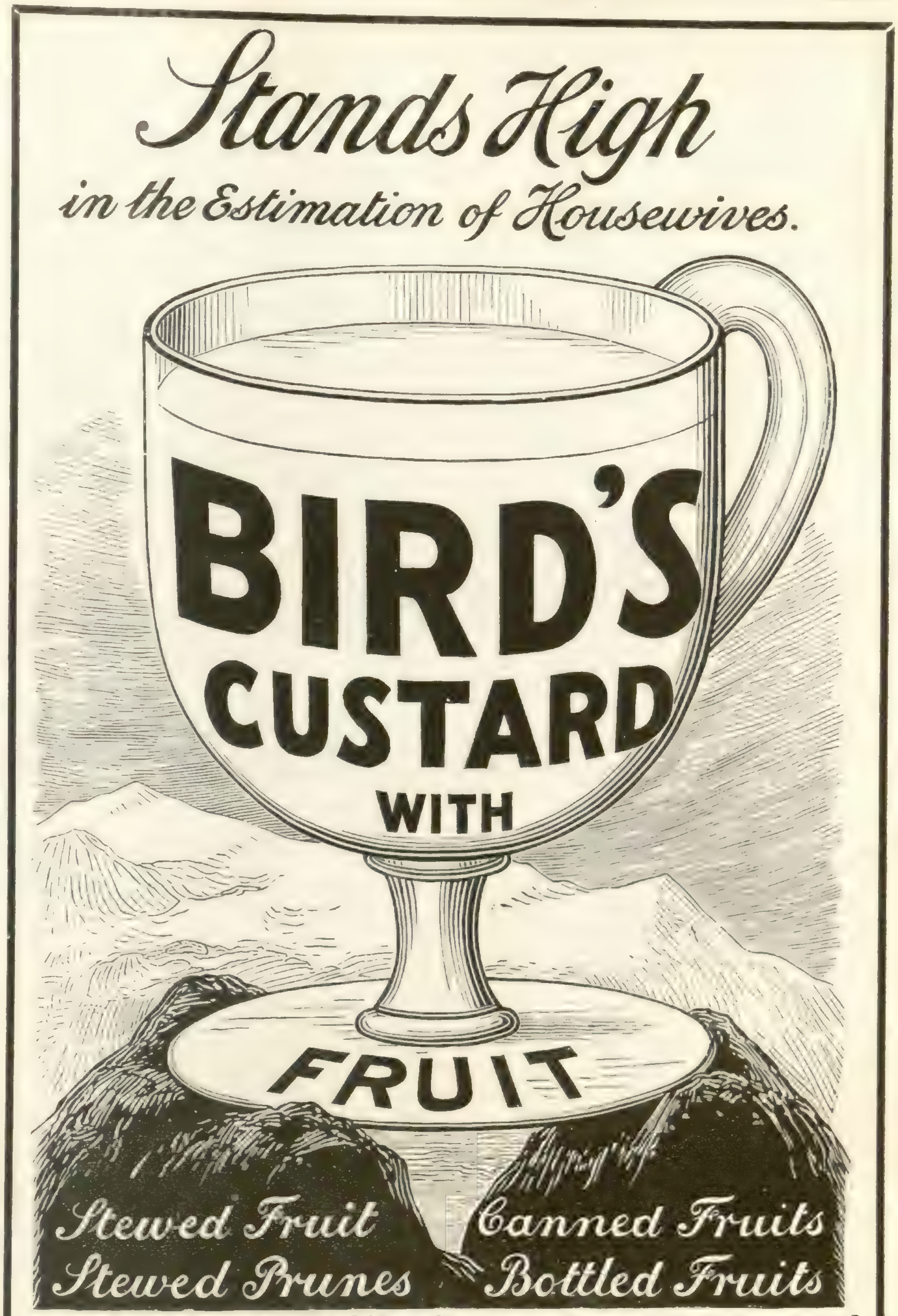

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do not forget, however, that unlikely things do happen. If you feel very much troubled about the matter, why not write to the Secretary, Royal Horticultural Society?

BRITISH GARDENERS' ASSOCIATION.—J. S., Chester-le-Street: Several new branches of the British Gardeners' Association have been formed of late, but we cannot tell you which branch is nearest to you. You can, however, obtain full particulars of membership and local branches from the secretary, Mr. John Weathers, Talbot Villa, Isleworth, Middlesex. We have no knowledge of a previous communication from you. When did you send it?

FAIRY RINGS ON LAWNS.—W. H. P., Winscombe: In our issue of January 8, 1908, we published an interesting article dealing with the vexed question of subduing fairy rings on lawns. Many experiments were conducted for the purpose of discovering what would effectually kill the mycelium of the fungus without permanently injuring the grass itself. It apears to have been abundantly proved that 8lb. of sulphate of iron dissolved in 30 gallons of water, and applied to an area of sixty square yards of lawn, is effectual, provided a similar application is made three or four times at intervals of one week. Mowing should take place two days before each application, and the lawn should be watered the evening previous to the application, and it is a good plan to water lightly directly after the application to wash the solution down to the mycelium. Three applications will probably suffice in most cases, but whatever the number, it is essential that a week after the last application a good dressing of freshly slaked quick-lime in powdered form be given to the treated area at the rate of one ton per acre. This dressing is necessary to neutralise the excess of iron sulphate in the soil.

POTATO EXPERIMENTS.—C. T., Wisbech: So far as we can gather, it is to the Oxfordshire experiments you refer. The manurial experiments did not yield very definite results, but a great deal of interest centred in the results obtained from similar quantities of seed potatoes from various sources, each stock being given the same amount of space. The yield was as follows: Duke of York, Scotch, 248lb.; Berkshire, 127lb.; Oxon, 144lb.; Lincoln, 153lb. Epicure, Scotch seed, 147¾lb.; Irish, 143¼lb.; Oxon, 137½lb.; Lincoln, 146½lb. Duchess of Cornwall, Scotch seed, 167lb.; Irish, 271lb.; Oxon, 250lb.; Lincoln, 272lb. As you will see for yourself, these figures are somewhat inconclusive.

NAMES OF FRUITS.

Correspondents not answered this week will please consult succeeding issues.

E. S., Sipson.—Warminster Pearmain.

A. L., Guildford.—1, Emperor Alexander; 2, Blenheim Pippin; 3, not recognised.

M. G. E., Ipswich.—1, Allen's Everlasting; 2, Catillac; 3, Beurre Dièl; 4, Beurre Rance.

B. W. B., Lincoln.—The specimens were so small and scabby that it was impossible to identify them.

F. B. A., Frensham.—1, Golden Noble; 2, Adam's Pearmain; 3, Lane's Prince Albert; 4, Bramley's Seedling.

J. W., Shanklin.—1, Souv. du Congres; 2, Beurre Bosc; 3, Beurre Dièl; 4, Beurre Superfin; 5, Waltham Abbey Seedling.

NAMES OF PLANTS.

G. S., Neath.—Aristolochia elegans.

R. P. G., Ware.—1, Primula obconica; 2, Cratægus orientalis; 3, Cypripedium Spicerianum.

T. C. H., Cambridge.—1, Costus igneus; 2, Cissus discolor; 3, Nepenthes Mastersiana; 4, Oncidium varicosum Rogersi.

E. L. F., Horsham.—1, Abies Douglasi; 2, Cimicifuga simplex; 3, a garden variety of Aster Nova-Belgi; 4, Physalis Alkekengi; 5, Adiantum Williamsi.

J. C. D., Chester.—1, Begonia Gloire de Sceaux; 2, flowers very faded, but appears to be Begonia John Heal; 3, Jasminum nudiflorum; 4, Sedum Sieboldi.

A. C., Torquay.—Hope to name the conifers for you next week.

M. S., Newport.—1, We cannot undertake to name florists' flowers; 2, very poor specimen, appears to be a form of Saponaria officinalis.

W. H. S., Chipping Sodbury.—The damp moss in the air-tight tin generated so much heat that the flowers were black and practically hopeless when we opened them. No. 3 is Pellionia Daveaueana; 4, we will try and name for you next week.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1909. October 24 to October 30.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Oct. 24—Sunday	5 18	50	47	53	48
" 25—Monday	8 30	44	40	50	38
" 26—Tuesday	—	45	44	47	31
" 27—Wednesday	—	45	43	47	45
" 28—Thursday	—	43	43	41	43
" 29—Friday	3 42	40	39	45	37
" 30—Saturday	1 42	33	32	43	29
Means	(total) 19 12	43	41	47	39

Date. 1909. October 24 to October 30.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
Oct. 24—Sunday	0.03	53	55	55	43
" 25—Monday	0.04	50	55	55	33
" 26—Tuesday	0.58	48	53	55	27
" 27—Wednesday	0.26	49	52	55	44
" 28—Thursday	1.00	48	52	54	42
" 29—Friday	trace	46	51	53	34
" 30—Saturday	—	44	50	53	22
Means	(total) 1.91	48	52	54	35

FORTHCOMING ENGAGEMENTS.

MONDAY, November 8.—United Horticultural Benefit and Provident Society.

TUESDAY, November 9. — Royal Horticultural Society; committees meet at 12 o'clock; lecture at 3 p.m. on "Some Beautiful Shrubs," by Mr. Edwin Beckett, V.M.H.; Scientific Committee at 4 o'clock.

Ulster Chrysanthemum Show; two days.

Southampton Chrysanthemum Show; two days.

Farnham Chrysanthemum Show; two days.

WEDNESDAY, November 10.—East Anglian Horticultural Club.

Bromley Chrysanthemum Society; two days.

Buxton Chrysanthemum Society.

South Shields Chrysanthemum Show; two days.

THURSDAY, November 11.—Hitchin Chrysanthemum Society.

Exeter and Devon Horticultural Society; two days.

FRIDAY, November 12.—Bradford Chrysanthemum Show; two days.

Sheffield Chrysanthemum Show; two days.

Huddersfield Chrysanthemum Society; two days.

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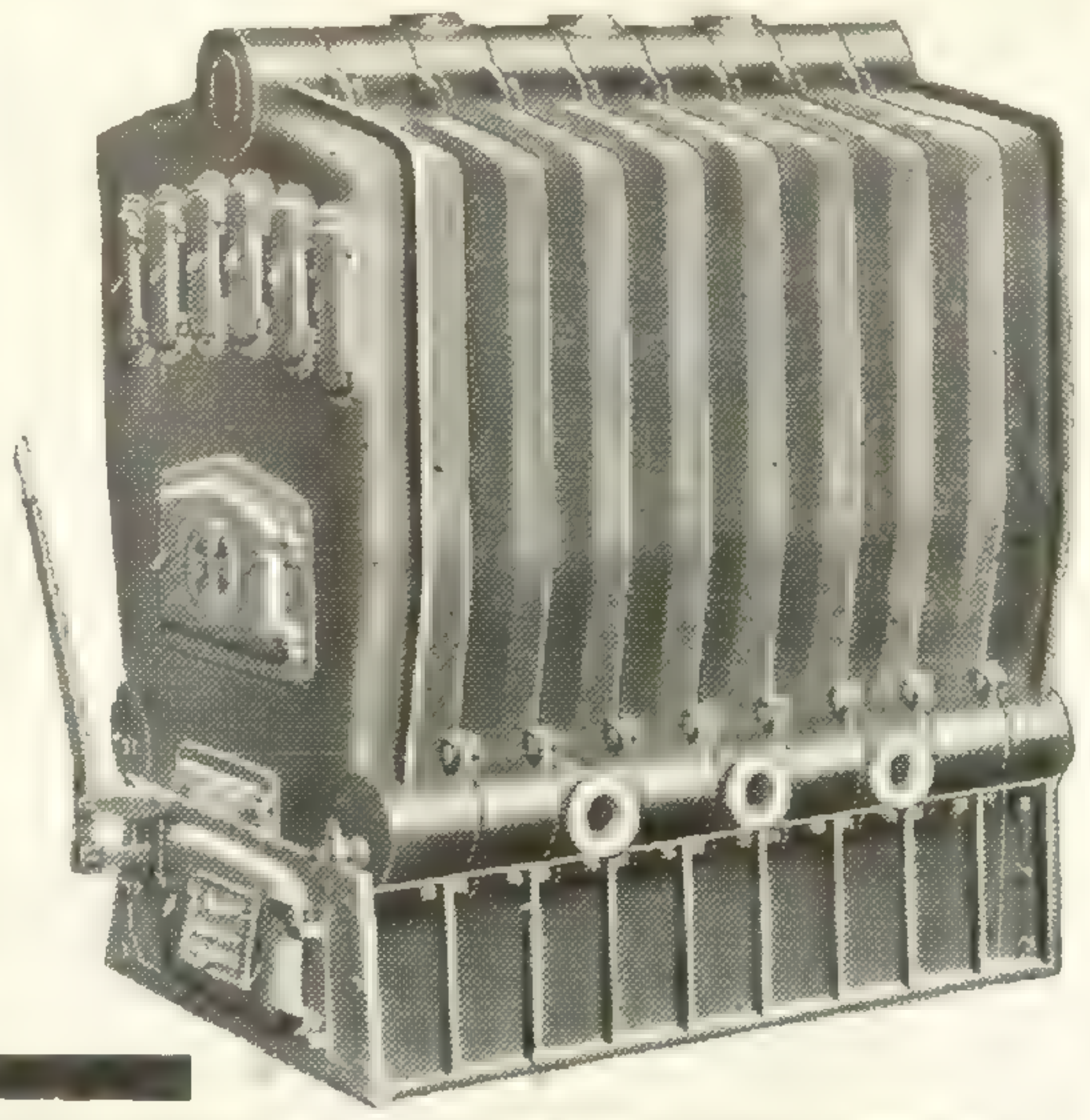

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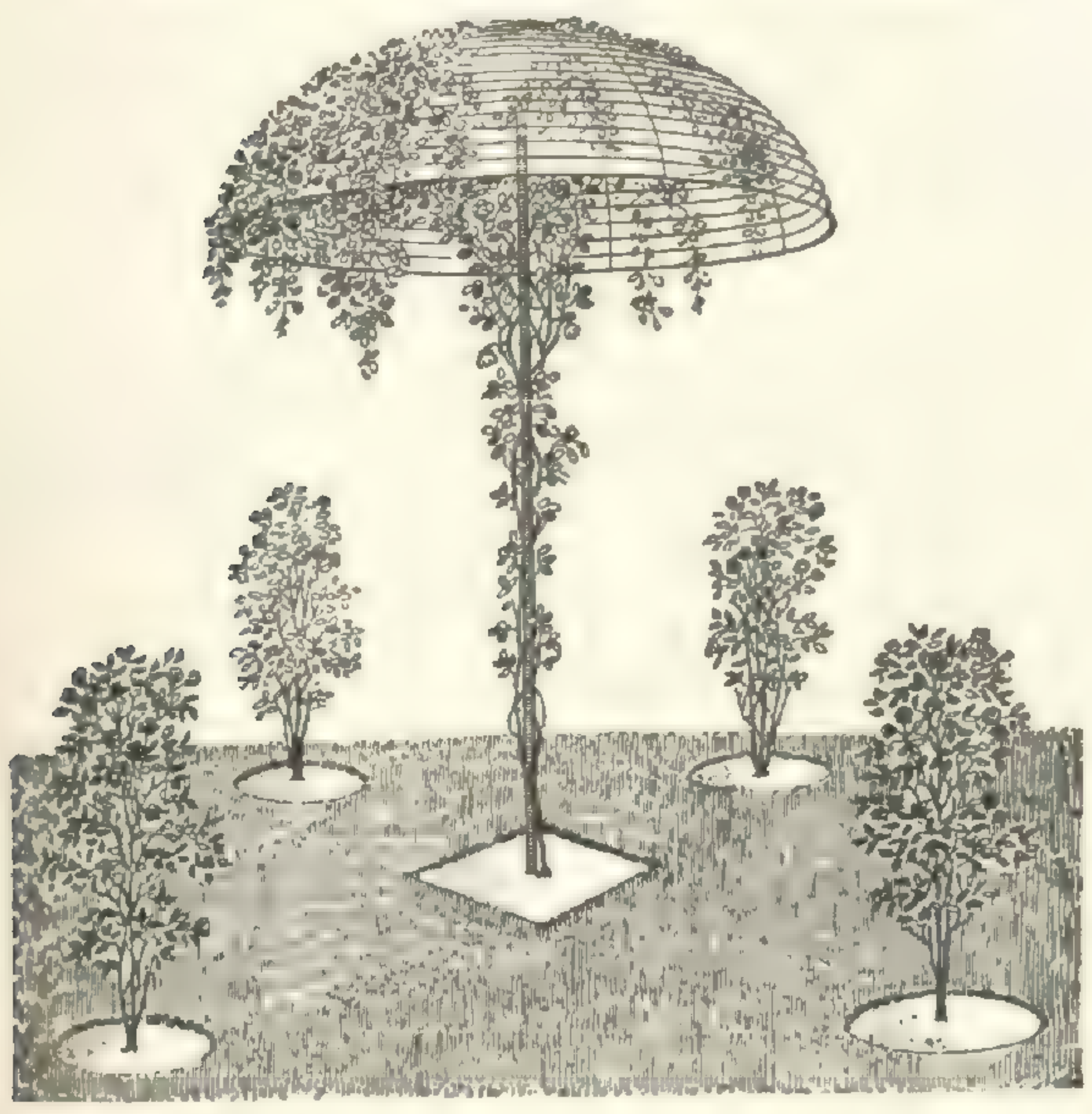

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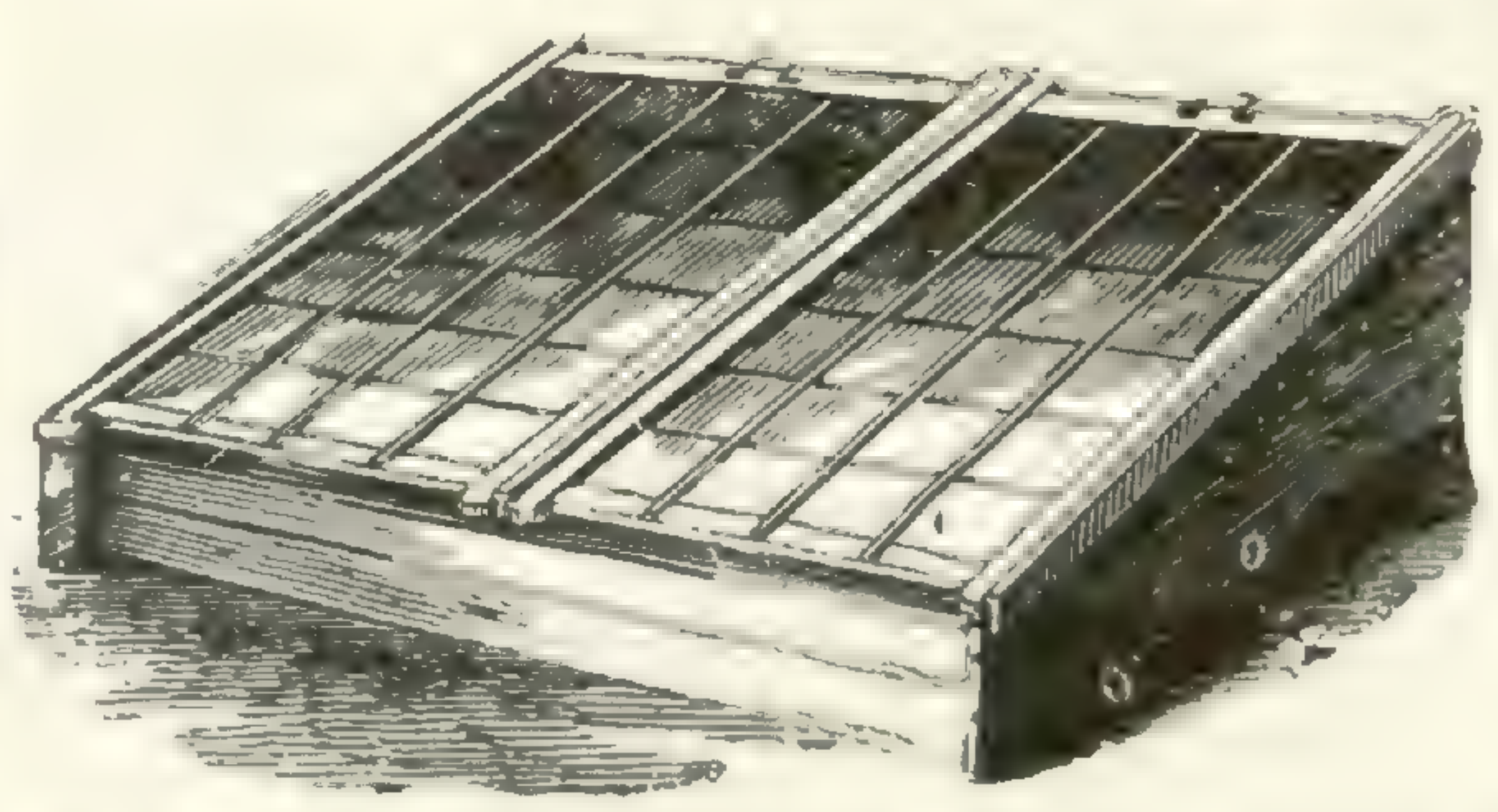

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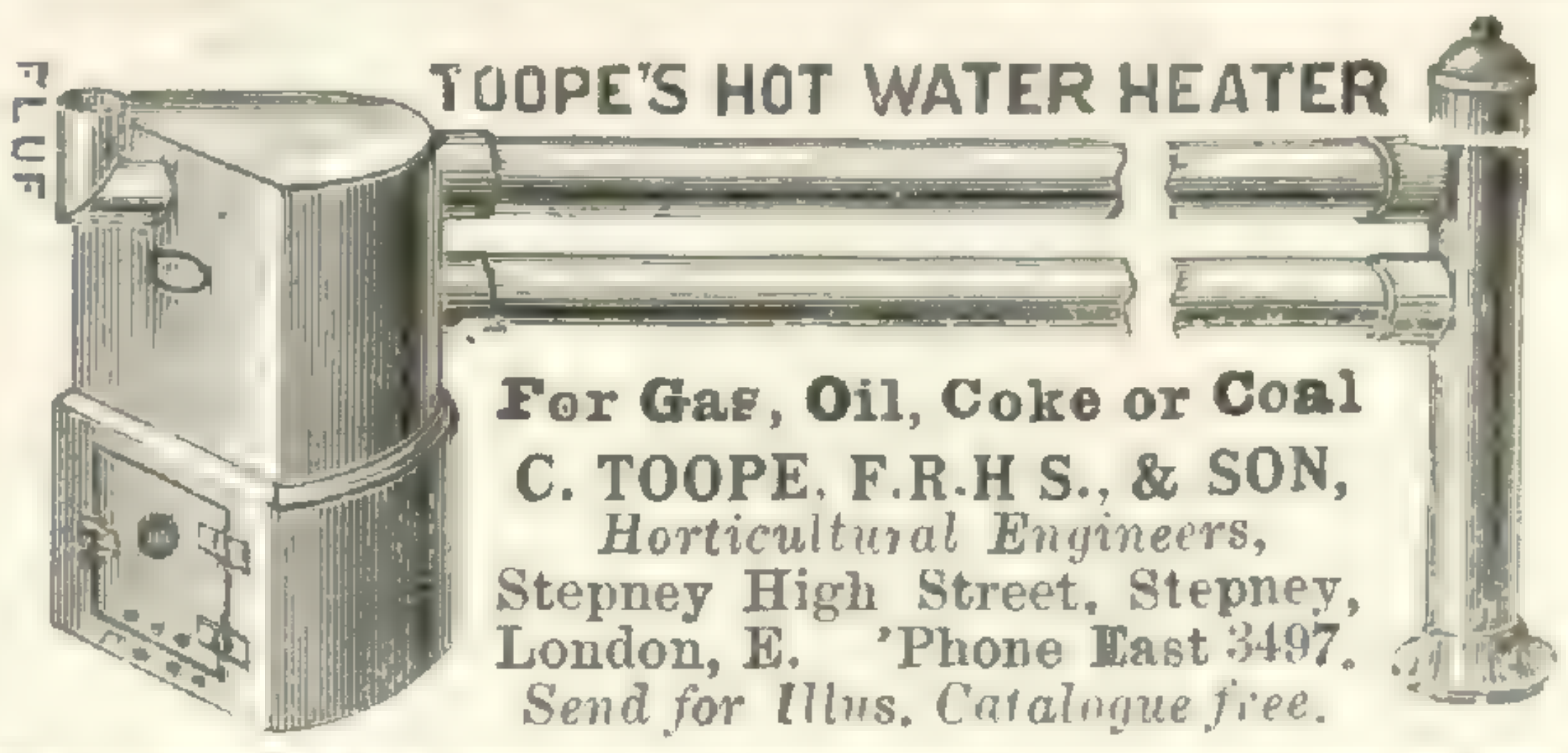

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THE GARDEN UNDER GLASS—A GAY GARDEN—FRUIT CULTURE—VEGETABLE CULTIVATION—FLORAL SPECIALITIES: Begonias; Carnations; Chrysanthemums; Daffodils (Narcissi); Dahlias; Lilies; Roses; Sweet Peas; Violas and Pansies; Bulbs and their Culture—FRUIT SPECIALITIES: Cucumbers; Melons; Tomatoes for Profit—INDOOR GARDENING—SUBURBAN GARDENS—ROCK GARDENS—PRACTICAL WORK—GARDEN PESTS—GARDEN NOTES: Work for Every Month; Hints on Sowing Flower and Vegetable Seeds; Fragrant Flowers; Poisonous Plants and their Antidotes—GROWING AND SHOWING GARDEN PRODUCE—GROWING FOR MARKET—CLAY'S MANURES, HOW TO USE THEM—THE USE AND ABUSE OF MANURES—FLORAL DECORATIONS—GLOSSARY OF TERMS.

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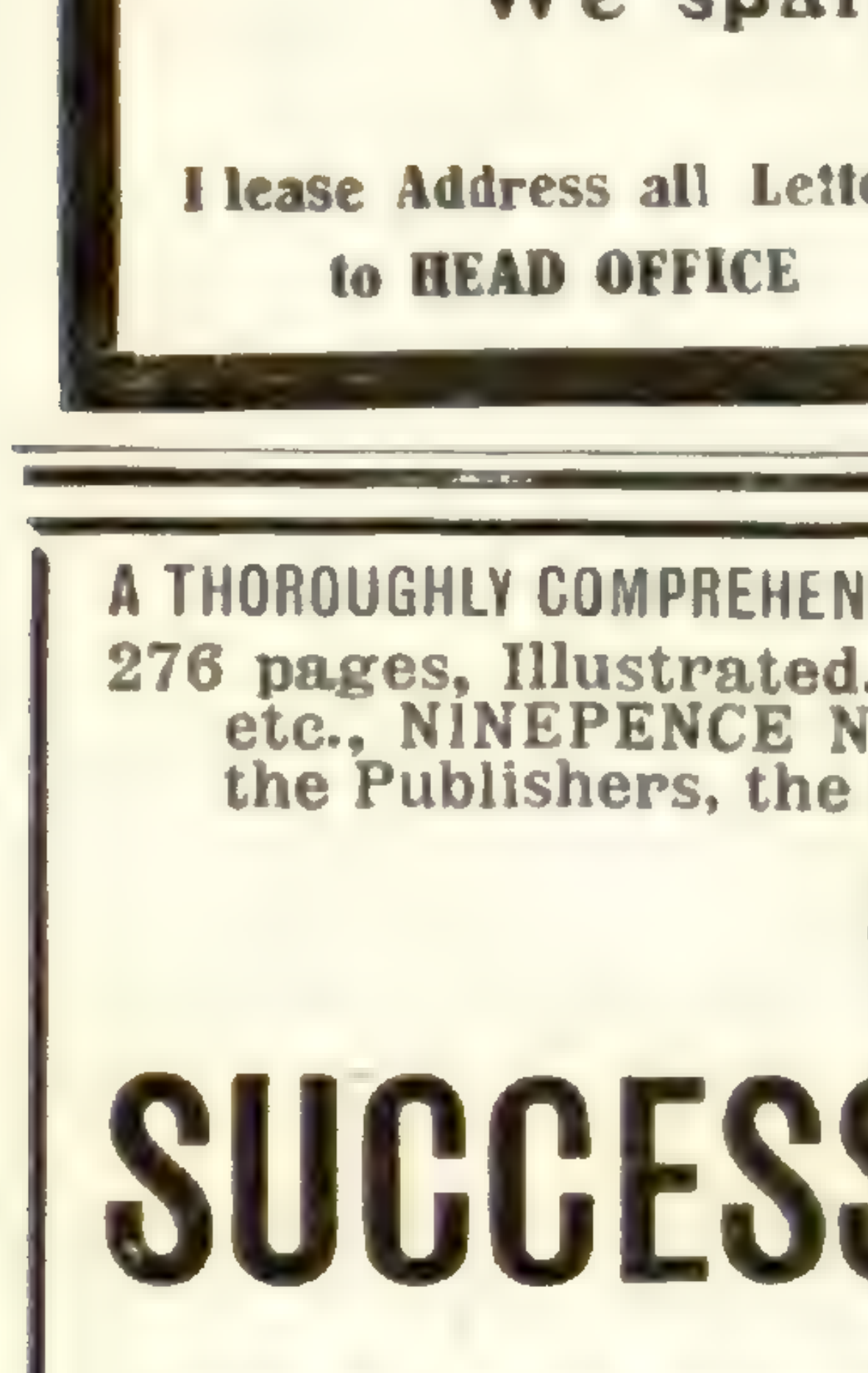
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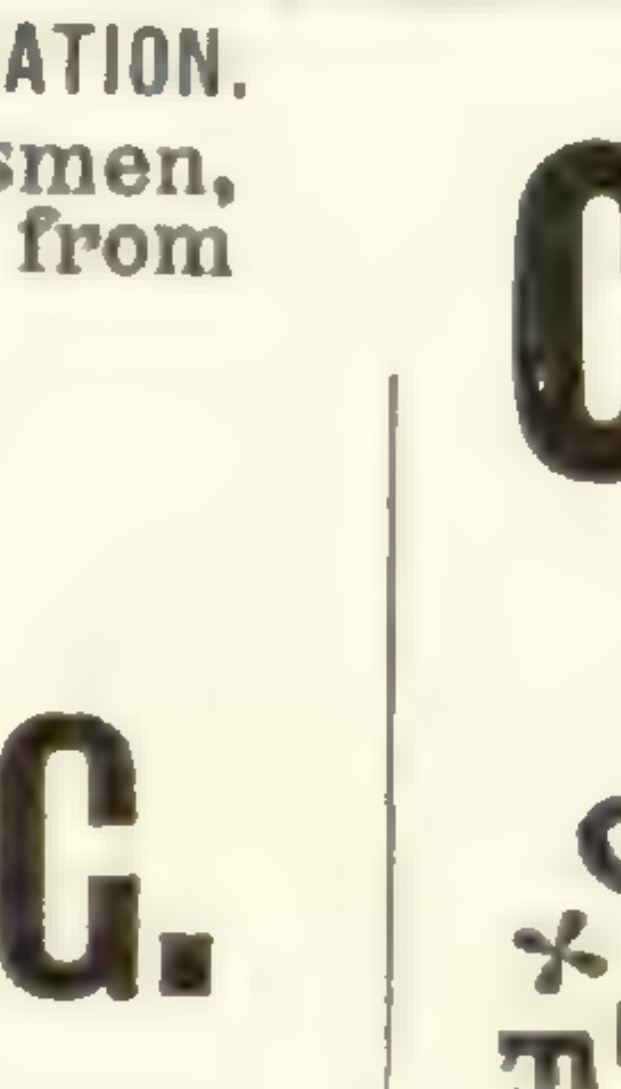

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THE GARDENERS' MAGAZINE.

No. 2,924 Vol LII.
Reg. at the G.P.O. as a Newspaper.
SATURDAY, NOVEMBER 13, 1909. (10/6 per Ann. Post Free. To Foreign Countries, 15/-.) Twopence.

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Nomination forms can be obtained from the Secretary, and must be delivered to him on or before Tuesday, December 14th next, on which date the list will be closed.

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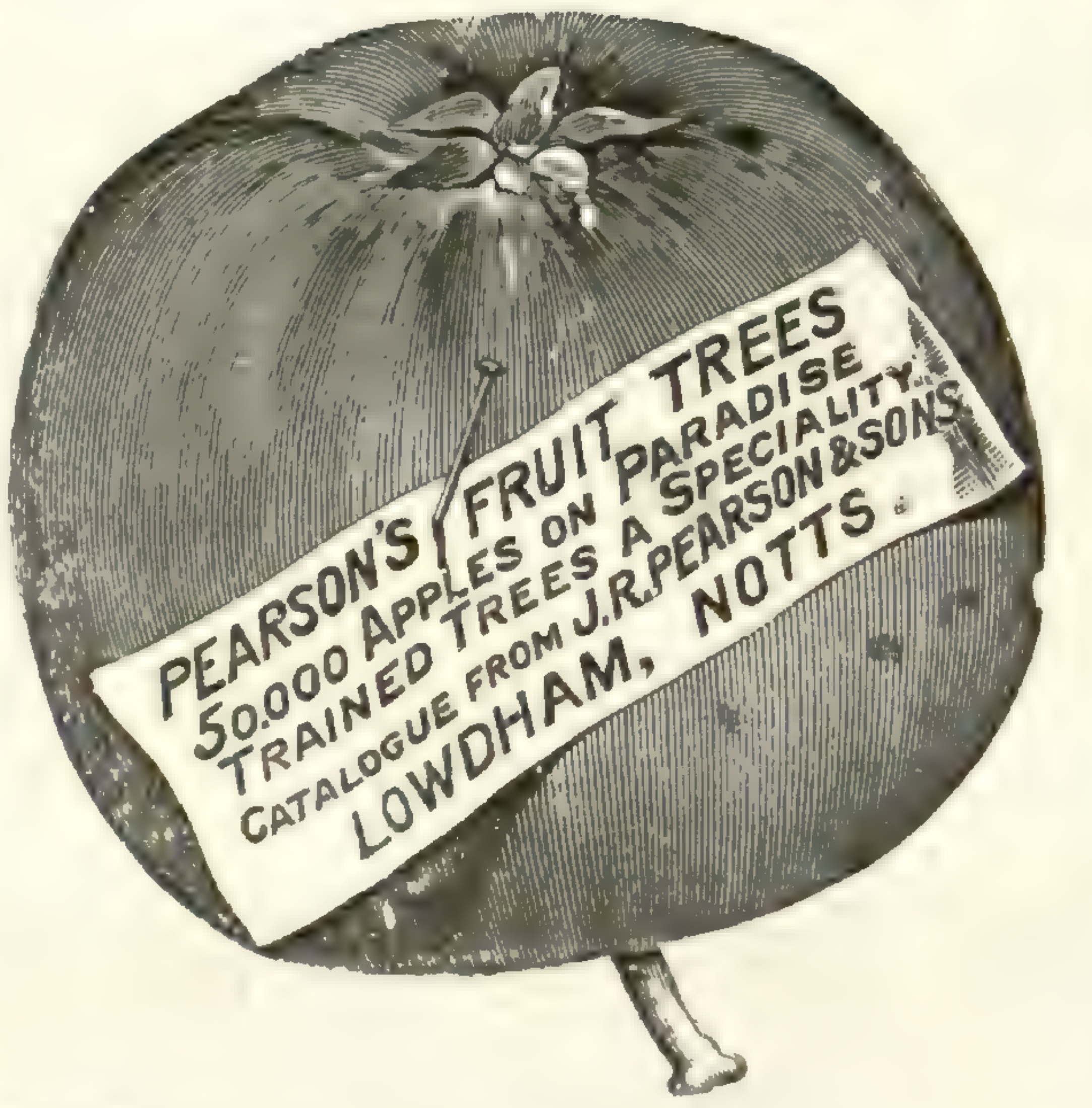
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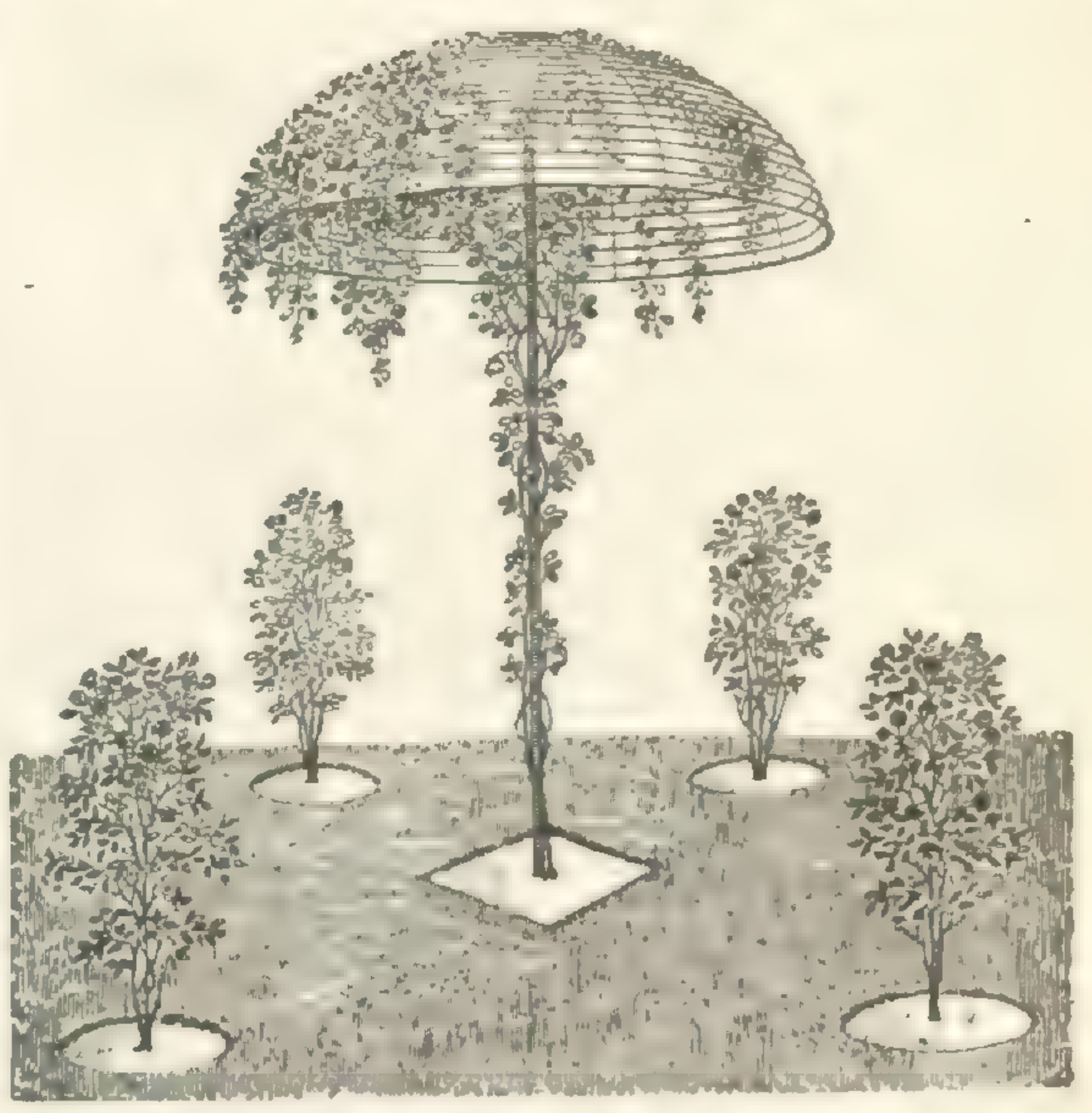

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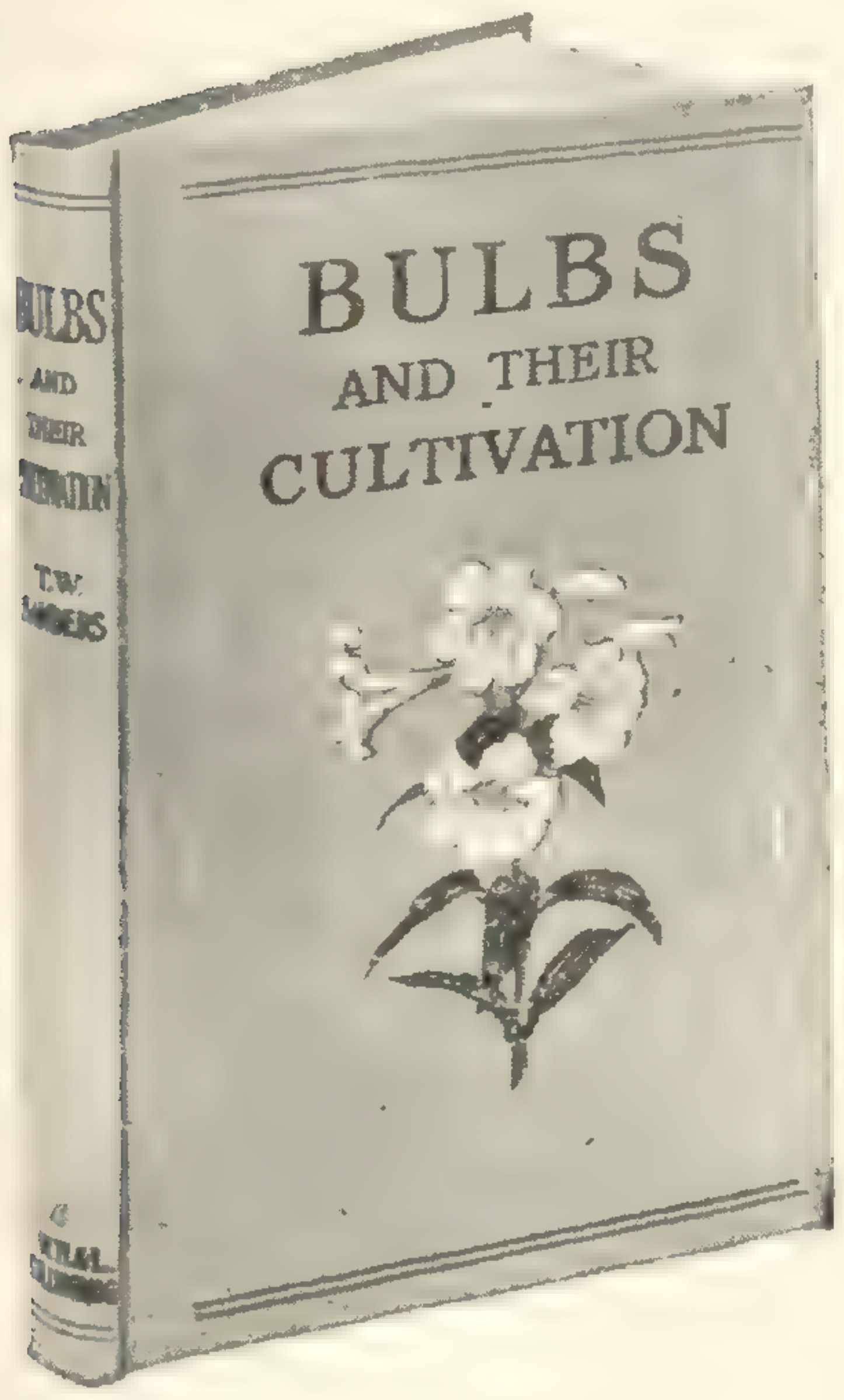

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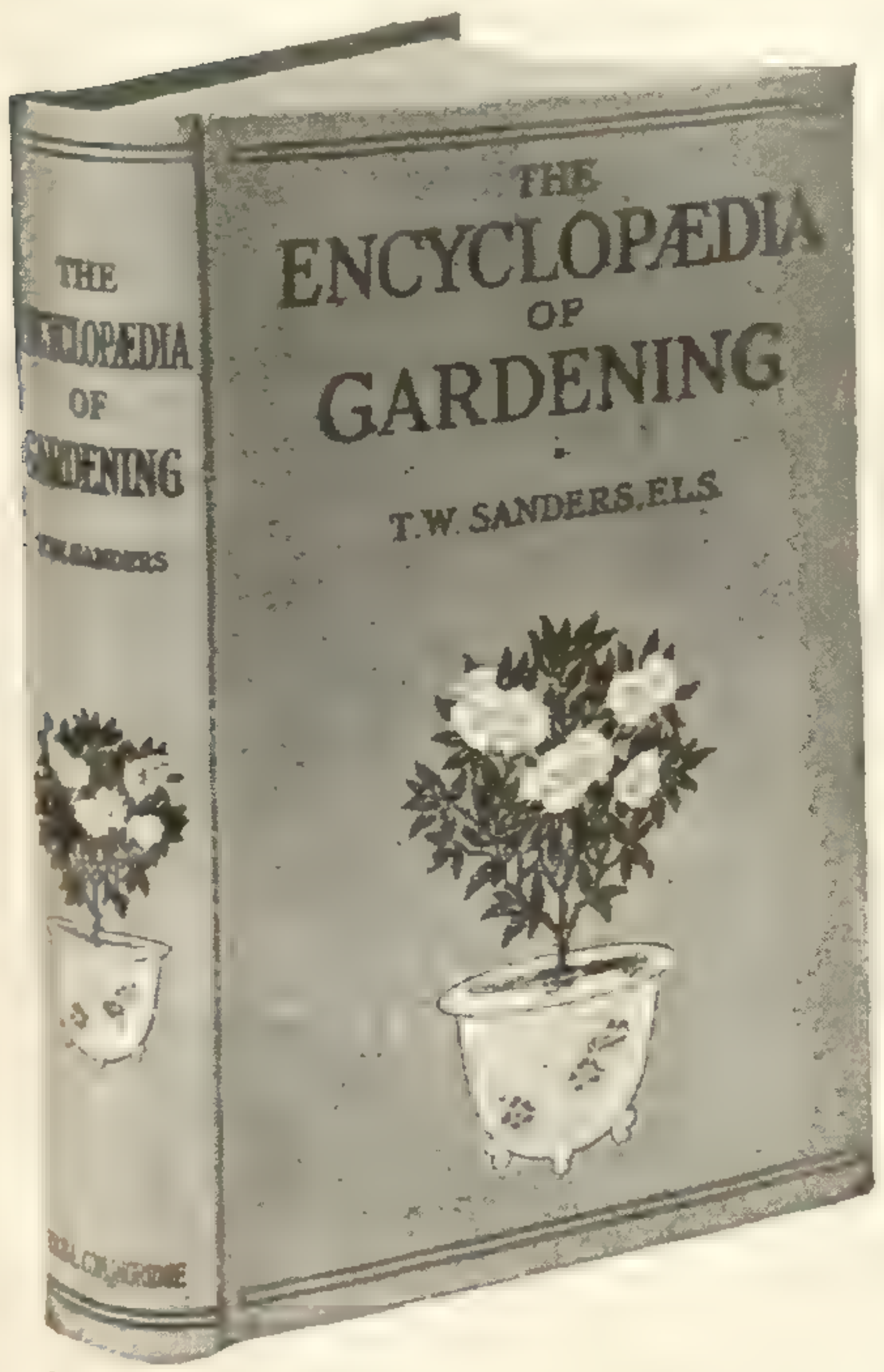

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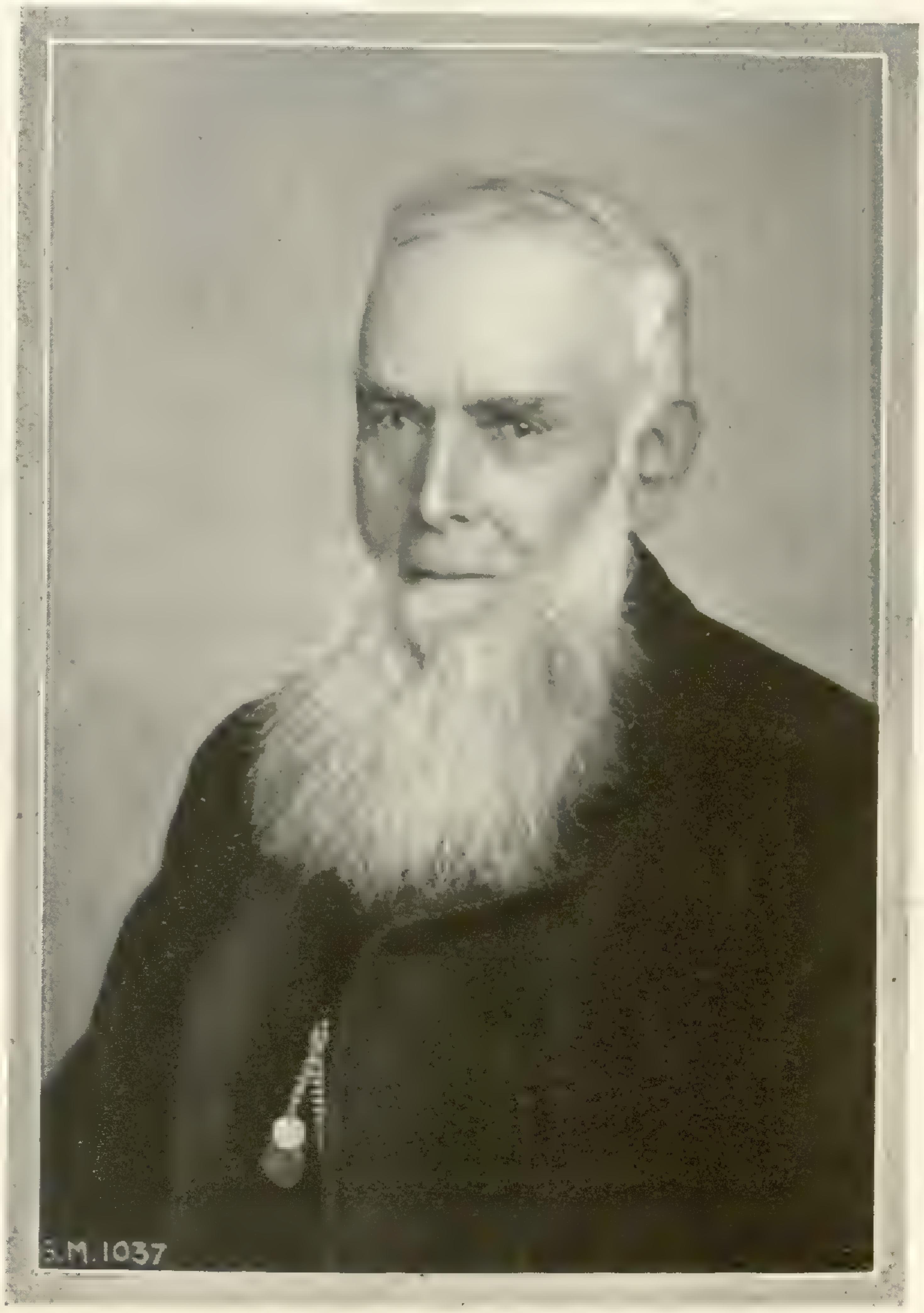
VOL. LII.—No. 2,924. SATURDAY, NOVEMBER 13, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Insect Tolls.

To a very large degree the tolls which insects levy upon the flowers for the services which they render as fertilising intermediaries are, from the human point of view, fairly justifiable; thus, for instance, no gardener begrudges that levied by the bees, who collect the honey, which is designed to attract them, and devote a considerable amount of the pollen itself to the manufacture of bee-bread for their progeny. In this case, the maximum service is rendered with a minimum of harm to the plants, since the pollen supply is ample for both bee food and floral fertilisation. It is, however, far otherwise with moths and butterflies, which in their perfect state are satisfied with sipping the nectar and incidentally conveying pollen from flower to flower; but in their larval condition of the caterpillar represents, perhaps, the most destructive agency to vegetation, in some cases defoliating it to such an extent as to practically destroy it. Thus the ravages of the Gipsy moth, accidentally introduced into the United States, can only be held in check sufficiently to save vast forestal areas of established trees by the expenditure of millions of dollars and the labours of an army of men. This case is a typical one of animal life—for though we do not class insects with animals popularly, they certainly belong to the animal kingdom as distinct from the vegetable one—suddenly finding itself transferred to an environment free from checks which control it in its natural habitat. Under normal conditions of environment and evolution Nature always establishes a balance, instituting some sort of check to excessive multiplication by multiplying the foes of the particular organism in equal ratio, or by evolving some protective element in the plants liable to be attacked. In a new locality, which normally the attacking organism would never reach, not only are its natural foes absent, but the food plants available are unprotected, and hence, instead of levying a mere toll for service rendered, the ever-increasing hordes proceed to bring about a natural balance again by utterly destroying their source of food supply, and thus eventually leading to their own eradication for lack of support. This operation would, however, in all probability be interrupted by the evolution of an appetite for them in the native birds and insects, or the development of some disease induced by the change of environment. The gardener, however, knows, to his frequent discomfiture, that an enormous amount of damage is done by insects to which the term "toll," as meaning a charge for service rendered, is altogether inapplicable. A vast number of pests appear to be designed entirely on malevolently destructive lines. Thus the weevil tribe, with their subterranean grubs destroying the root system, and their superterranean beetles devouring foliage and fruits, contribute at no stage in their career to the perpetuation of the plants upon which they prey. The wireworms, the slug and snail family, the leaf-miners, gall insects, the multitudinous hordes of the aphis tribe, and a host of other pests to the gardener and agriculturist all belong to the category of unprofitable spongers upon the vegetative bounty of Nature, giving nothing in return but disciplinary exercise in the virtue of patience to the flower lover who has to contend with them. "Cui bono" is the inevitable query in this connection, but this admits of more than one reply. In the first place, the world was not made for man alone, but for a vast number of other forms of organic life, each of which has its own battle to fight, and undoubtedly, if we only knew it, its own particular function to perform in the great scheme of Nature. Taking for a moment the pernicious weevil's point of view, assuming it has one, what sort of a pest is man himself, a gigantic forky organism, which, after decimating the weevils, grubs, and beetles in his vinery for having taken a nibble here and a nibble there, coolly monopolises the fruit by entire bunches, and for no conceivable reason, mutilates the plant as well to a terrible degree when pruning time comes round. Another reply to the "Cui bono" argument is that, as we have seen, it is essential that Nature should institute checks upon that abundant multiplication for which she so liberally provides, and it is certain that no gardener can get away from the fact that all his foes do their level best in that direction, especially with his "pet" plants.



MR. R. SMITH.

Mr. Robert Smith, a gardener born, has by sheer perseverance, sound practice, and ability, won for himself a position of esteem in a wide circle of horticultural friends. Born at Bramfield, in the county of Hertford, he early showed his passion for gardening. Passing from the village rector's garden, Mr. Smith entered, as improver, in the service of Baron Dimsdale, of Essendon, who then had an establishment famed for its New Holland plants and its collection of trees and shrubs. From Essendon Mr. Smith passed to the vegetable and fruit garden of Winnington Hall, Northwich. His horticultural life has been fairly evenly distributed between the counties of Lincoln and Hertford, with the exception of breaks Kent. In the latter county, at Dartford, when he practised in Oxfordshire and he met with the elder Philip Ladds, and narrowly missed being absorbed into the market gardening section of horticulture. For a long time Mr. Smith was gardener at Carlton Lodge, near Louth, Lincolnshire, when geometric summer bedding was at its height, and he there achieved much fame in this line. He has entered enthusiastically into all the branches of gardening he has touched, and at one time was much given to the raising of new plants. A zonal pelargonium of merit saw the light at Dartford, and was grown for market by Mr. Ladds; in Oxfordshire a bedding centaurea was raised, and subsequently sold to the late Mr. Wimsett, of Chelsea. He also grows several apples of his own raising. It is his old love for fruit that has latterly brought him to the fore. Both at his late charge—Presdales, Ware, Herts, and his present one as gardener for E. E. Pearson, Esq., Brickendonbury, Hertford, he has been very successful. The silver cup offered by the Hertford Horticultural Society for hardy fruit and open to the county, has fallen to him four times in eight years. This is the more noteworthy in that two years ago Mr. Smith was seriously ill for a long time. In the notable Guild Hall fruit exhibition of 1890 Mr. Smith had the honour of being the exhibitor of one of the dishes of pears (Emile d'Heyst) selected for presentation to her late Majesty Queen Victoria. A medal presented by the Hertford Society further attests his prowess; he also possesses one of the GARDENERS' MAGAZINE medals, awarded in 1892 for cultural excellence in fruit. One feature of Mr. Smith's gardening must be noted, and that is his capacity for hard work. Most of his charges have been unmade or neglected gardens, which have been modelled or remodelled under his guidance. His late charge at Ware is a notable example, and his present one shows many new features of quite recent addition.

Royal Botanic Society's Gardens.—In view of the present position of the Royal Botanic Society, the following letter, which has recently been made public, was written by the Rev. W. Wilks, secretary of the Royal Horticultural Society, on the 15th ult., to the president, H.S.H. the Duke of Teck, G.C.V.O.: "The president and council of this society desire me to address your Serene Highness, as president of the Royal Botanic Society, in regard to the present position of that society. They have been given to understand by reports and other statements appearing in the public Press, as well as by letters and other private communcations, that there is serious danger of the gardens in Regent's Park reverting to the Department of Woods and Forests owing to financial difficulties. Should this be so, and should the Royal Botanic Society cease to occupy these gardens, the president and council of this society consider that it would be a real misfortune, not only to the Fellows, but especially to the very important interests of British horticulture, and to the people in London. Under these seemingly urgent circumstances the council of the Royal Horticultural Society desire me to say that, should the Royal Botanic Society wish it, they are prepared to appoint a committee of their body to meet a committee of the council of the Royal Botanic Society to consider and discuss any proposals which may be made, with an earnest desire to help in securing, if possible, the preservation of the Regent's Park gardens for horticultural uses."

Mr. Wilks' Letter to H.S.H. the Duke of Teck has not, according to a letter from Mr. Harry J. Veitch, V.M.H., which appeared in the "Times" of Wednesday last, yet been submitted to the council and Fellows of the Royal Botanic Society. Mr. Veitch writes: "It has become a matter of general knowledge that owing to a variety of circumstances the position of the Royal Botanic Society has become so precarious as gravely to threaten its continued existence. As a Fellow of the Royal Botanic and Royal Horticultural Societies of many years' standing, and writing with the knowledge and consent of the president and council of the Royal Horticultural Society (of which council I have the honour to be a member), I have been surprised to learn that a letter sent by the latter society to H.S.H. the Duke of Teck, president of the Royal Botanic Society, has not been communicated to the council and Fellows of the Botanic, though I believe H.S.H. the Duke intended it should be. The president and council of the Royal Horticultural Society feel that should the Regent's Park gardens come to an end it would be little short of a calamity both to the great gardening interests of the kingdom, and to the pleasure and enjoyment of the inhabitants of the Metropolis and its visitors. I am authorised to say that the president and council of the Royal Horticultural Society are most anxious, if possible, to come to such an arrangement with the Royal Botanic, as may ensure the continuance of the Regent's Park gardens for the future."

Sale of Orchids at Manchester.—On the 3rd inst. Messrs. Protheroe and Morris offered for sale, at the Manchester Coal Exchange, duplicates of choice orchids from the collection of Mr. H. J. Bromilow, at Raun Lee. Good prices were realised, and for one lot, comprising plants of Cypripedium Charlesworthi Bromlowiana, the sum of 140 guineas was paid. Other lots realised from 140 guineas to 10 guineas.

International Horticultural Exhibition at Florence.—The City of Florence and the Royal Tuscan Society of Horticulture have arranged to hold an International Exhibition of Horticulture in the year 1911, in celebration of the fiftieth anniversary of the proclamation of the kingdom of Italy. This exhibition will be held on dates yet to be fixed in the month of May, and the programme includes 432 classes, arranged in nine groups, and in these prizes in medals or cash are offered. The first group includes plants that are new or of recent introduction, orchids in collections, the first class for these flowers being for 100 distinct species or varieties; anthuriums and their allies; water lilies and other aquatics. In the second group the classes are set apart for collections of forced fruits and fruit trees. The third group comprises vegetables and strawberry plants in fruit of recent introduction. Seeds and bulbs have a place in the fourth group, and in the fifth group are the classes for cut flowers of various kinds, including dried and artificial. Group seven is devoted to glass houses, manures, insecticides, heating apparatus, fountains, rustic work, pictures of flowers and fruit, photographs of plants, flowers, and fruit in monochrome and in their natural colours, and photographs of gardens, parks, and forests. In the eighth group there are fifteen, and these are devoted to horticultural literature, plans of gardens, wall pictures illustrating plant structure, the life history of plant parasites, and in the ninth group are the classes for models of refrigerators, and of apparatus used in drying and preserving fruits and vegetables. Entries in some classes must be sent to the Executive Committee not later than December 31, 1910, and in others not later than March 31, 1911. Those who contemplate taking part in this exhibition can obtain the programme on application to the Comitato Escecutivo, R Società Toscano di Orticultura, via Bolognnese 9, Florence, Italy.

Glasgow and West of Scotland Horticultural Society.—We are pleased to learn that this society, which is now in its ninety-ninth year, continues in a most flourishing condition. In moving the adoption of the report and balance-sheet, submitted by Mr. Hugh Mackie, the secretary, Mr. T. Dagg, who presided, said the year had been one of great prosperity. The attendance at the annual show in September constituted a record, and the attendance at the meeting was considerably above the average. Further evidence of the interest that was taken in the society and its work was afforded by the keen competition there was for obtaining places on the committee.

Autocrat Pea.—In our issue of the 6th inst. we gave an illustration of this fine late pea, but by a slip of the pen in writing the inscription we described it as The Gladstone, which, as so well known, has curved pods. We hasten to correct the slip, and trust our readers will make due note of the correction.

Exhibition of Colonial Fruits and Vegetables. — H.R.H. the Princess Louise, Duchess of Argyll, has consented to open the Royal Horticultural Society's exhibition of Colonial-grown fruits and vegetables at 12.30 p.m. on December 1, at their hall in Vincent Square, Westminster, and her Royal Highness will be accompanied by his Grace, the Duke of Argyll, K.T., G.C.M.G., G.C.V.O. An excellent exhibition is being arranged, and the various Colonies are endeavouring to be represented according to their respective climatic abilities at this time of year. The hardy fruits of Canada and British Columbia, already so renowned, will, it is anticipated, be displayed in all their well-known excellence and beauty: the West Indian Islands—with their sub-tropical fruits, so suggestive of warmth and luxury of climate, will display their bounty; and New Zealand, Victoria, and South Africa are to show their resources. Free cinematograph displays at frequent intervals will be given, with lectures, and on December 1, at 3 p.m., Mr. Robert Newstead, A.L.S., F.E.S., of the Liverpool School of Tropical Medicine, will deliver a lecture on the West Indian insect pests.

Professor Percival has resigned the directorship of the Department of Agriculture and Horticulture at the University College, Reading, but has been appointed to the post of professor of agricultural botany. Mr. Ronald V. O. Hart-Synnot, B.Sc., has been appointed director of the Department of Agriculture and Horticulture in place of Professor Percival; and Mr. Frederick G. Drew is the lecturer and practical instructor in horticulture in succession to Mr. Charles Foster, who, as our readers have been informed, was, some time since, appointed director of the Times Experimental Station, Sutton Green, Guildford.

Bath and West of England Society will hold its annual show in 1911 at Cardiff, and the Marquis of Bute has placed the Sophia Gardens Field at the disposal of the local committee for the purposes of the exhibition.

ROYAL HORTICULTURAL SOCIETY.

There was a fine display of excellent produce at the Royal Horticultural Hall on November 9, but the hall was not so crowded as usual, and visitors (owing, perhaps, to the counter-attraction of the Lord Mayor's Show) were less numerous than usual.

FLORAL COMMITTEE.

Right across the end of the hall Messrs. J. Hill and Son, Barrowfield Nursery, Lower Edmonton, arranged what was probably the most magnificent exhibit of ferns ever put up at Westminster. It was a huge exhibit of finely-grown plants, many of them being specimens from 4ft. to 6ft. through, all tastefully arranged. Big dicksonias and cyatheas were set up over the other things, and were very graceful. Beneath these were fine examples of Asplenium caudatum, Davallia Mooreana, Polypodium irioides, P. giganteum, P. Knightæ, and P. Meyeriana, Davallia solida, D. fijiensis elegans, Nephrolepis elegantissima, N. Amerpohli, N. todeaoides, N. exaltata superba, Davallia tenuifolia Veitchi, D. polyantha, Gymnogramma grandiceps superba, Cheilanthes elegans, Adiantum peruvianum, A. Hendersoni, A. O'Brieni, A. digitatum, Asplenium nidus, Pellea robusta, and many other good things, and all pictures of health and elegance.

A magnificent group of splendid crotons, all beautifully coloured, staged by Messrs. Jas. Veitch and Sons, Chelsea, was a fine attraction on this occasion. The arrangement of the group was excellent, the brilliant coouring and elegant leafage combining to produce a startling effect, and once again prove the value of crotons for decorative purposes. The leading varieties were Warreni, Queen Victoria, the broad-leaved B. Comte, Golden Bracelet, Thomsoni, Golden Ring, Lucy, Disraeli, Prince of Wales, Williamsi, Reidi, Leonard Bause, and the bright Duchess of Portland. Altogether this fine collection included about forty of the very best varieties, and was therefore of educational value. Besides this display, the Messrs. Veitch filled the whole of one table with superbly grown chrysanthemums in pots, dwarf, freely-flowered examples in 48's, with foliage down to the pots. There were twenty-six single and about one dozen decorative varieties represented, each by a batch of a dozen or more lovely little bushes of immense decorative value. Among the decoratives the plants of White Cap, J. Shrimpton, Caprice du Printemps, Kathleen Thompson, and Soleil d'Octobre were splendid, many plants of Kathleen Thompson and Caprice du Printemps carrying twenty blooms of good size. Among the singles we were specially attracted by the yellow Lady Coleridge, the old pink Lady Smith, the deeper Metta, the blush Lillie Godfrey, the yellow Exmouth Yellow, the deep rose Alice Crate, and the elegant white Snowstorm—but all were charming. The same firm showed a new pure white single zonal pelargonium named Fairy Queen.

Messrs. Stuart Low and Co., Enfield, submitted a group of perpetual carnation flowers. Mr. D. Wilkinson, gardener to Sir D. Gooch, Bart., Chelmsford, brought up a fine lot of cut blooms of useful single chrysanthemums; the flowers were all disbudded, of large size, and on long stems, and the leading varieties were Doreen, Bronze Pagram, Mary Richardson, Roupell Beauty, Edith Pagram, J. H. Greswold Williams, Elsie Neville, Hilda Lawrence, and Altrincham Yellow. Mr. W. Graysmark, gardener to R. Barclay, Esq., Bury Hill, Dorking, also brought forward a collection of single chrysanthemums, and Messrs. H. Cannell and Sons, Swanley, staged a collection of these attractive and popular flowers, setting up large triangular bunches of Red Star, Honeysuckle, Gaiety, Mars, Mrs. G. Bates, The Lion, and other good things.

Mr. Bradford, gardener to E. H. Brown, Esq., Highwood, Roehampton, set up a large and very pretty group, effectively arranged, consisting of palms, crotons, dracænas, ferns, phryniums, abutilons, chrysanthemums, Begonia Gloire de Lorraine, celosias, browallias, Primula obconica, and cyclamens. Mr. G. Gilbert, Queen's Road, Hastings, showed Etoile Rouge, a free-flowering red decorative chrysanthemum. Mr. L. R. Russell, Richmond, set up berried aucubas, ivies, etc. Messrs. Wells and Co., Merstham, showed their new Phosphorescens, Freda Bedford, and other good chrysanthemums.

Messrs. Felton and Sons, Hanover Square, W., showed two large orange trees, one being well laden with fruits. These were seedlings, twelve years old, and a cultural commendation was awarded. Mr. Martin Silsbury, Shanklin, staged White Queen, Frances Joliffe, Hon. Mrs. Lopes, and other fine new Japanese chrysanthemums. Messrs. J. Peed and Sons brought up several good single chrysanthemums, Miss Dorothy Cottrell, rose and yellow, and Alfred Aylett, crimson scarlet, being the best. Mr. W. H. Page, Tangley Nurseries, Hampton, exhibited a batch of flowering plants of the new pink perpetual carnation named May Day, which appears to be a fine grower; Mr. Page also set up large vases of Mrs. T. W. Lawson, Enchantress, Rose Pink Enchantress, Britannia, Mikado, and other good varieties. Messrs. Wm. Cutbush and Sons, Highgate, had such carnations as Marmion, Helen Gould, White Perfection, The President, Enchantress, Victory, Winsor, etc. The same firm contributed a bank of pernettyas, skimmias, Michaelmas daisies, liliums, etc.

BEGONIA THE GEM.

A new and distinct winter-flowering variety, raised by Messrs. J. Veitch and Sons, Lim., who exhibited it at the R.H.S. Meeting on Tuesday last, when it received an Award of Merit. The flowers are rich scarlet.

Mr. J. Dickson, gardener to Adelaide, Duchess of Bedford, Chenies, Rickmansworth, showed some finely grown plants of a bright salmon and red, yellow shaded gesnera, a variety somewhat between G. exoniensis and G. splendens. The winter-flowering begonias shown by Mr. Ballantine, gardener to Baron Schroder, The Dell, Egham, were superb plants, and the kinds shown were B. Gloire de Lorraine, Mrs. Leopold de Rothschild, Elatior, Mrs. Heal, Julius, Ensign, etc. All these were aglow with blooms, well grown and very attractive.

Nephrolepises were delightfully shown by Messrs. H. B. May and Sons, The Nurseries, Edmonton, and the charming display of these elegant ferns included the new and very beautifully divided and frilled N. exaltata Marshalli; this is a sport from N. Amerpohli, and is the most graceful, shapely, and elegant of the many fine varieties; N. Whitmani, N. Amerpohli, N. Duffi, N. rufescens Mayi, and others were all shown well, and made up a most interesting exhibit. A small group of the Malmaison carnation Princess of Wales was put up in one of the corners of the hall, with ferns and foliage plants, by Mr. Allan, gardener to Lord Hillingdon, Hillingdon Court, Uxbridge.

ORCHID COMMITTEE.

Very bright was the display of orchids made by Messrs. Charlesworth and Co., Haywards Heath, who had such showy subjects as Epidendrum vitellinum majus, Lælio-cattleya Luminosa, Cattleya Venus, Brassia Lawrenceana longissima, Cattleya Phrygia, Odontioda Ellwoodi, Cattleya Lord Rothschild, Sophro-cattleya Eros, and Cypripedium insigne Sanderæ, C. triumphans, C. Lord Ossulston, and the pretty Stenoglottis longifolia. Mr. Edward V. Low, Vale Bridge, Haywards Heath, brought up a number of white-flowered orchids, notable among these being Oncidium ornithorhynchum album, Cattleya labiata alba Laura, C. l. Ulysses, C. l. Reedleyensis, C. l. Ameriana, Dendrobium Phalænopsis album, and D. P. Phyllis Moore.

Messrs. Cypher and Sons, Cheltenham, put up a very pretty group of cypripediums that contained good plants and flowers of C. Niobe superba, C. Arthurianum pulchellum, C. insigne Sanderæ, C. Maude, C. Tityus superba, C. Leeanum aureum giganteum, C. insigne Harefield Hall, C. i. Laura Kimball, C. Fairrieanum, C. Actæus, and C. Minos Youngi.

Messrs. Stuart Low and Co., Enfield, contributed a group of orchids that included the graceful Ionopsis paniculata, Oncidium varicosum Rogersi, Cattleya Bowringiana, C. Armstrongæ, C. labiata in variety, C. aurea, and several botanical curiosities.

Mr. Mertens, Ghent, again brought over some fine odontoglossums, and Mr. Alexander, orchid grower to Lieut.-Colonel Holford, Westonbirt, Gloucester, showed Cypripedium Dante magnificum, C. Rossetti magnificum, and Lælio-cattleya Corunna Westonbirt var. (A.M.). Mr. Hopkins, gardener to F. Wellesley, Esq., Westfield, Woking, brought up Cypripedium Elatior pulchella, C. Thalia Mrs. F. Wellesley, C. The Emperor, and C. Fulshawensis giganteum. Mr. P. Walker, Heatherfield, Putney, and Mr. Collier, gardener to Sir J. Colman, Bart., Gatton Park, Reigate, each showed a few orchids.

Cypripediums were nicely shown by Mr. W. C. Price, gardener to E. Rogerson, Esq., West Didsbury, Manchester, and these included C. insigne punctatum, C. Sir Redvers Buller, C. Leeanum Corona, C. Gaston Bulteel, C. Thalia giganteum, C. Actæus giganteum, C. Niobe, and C. triumphans, etc.

FRUIT AND VEGETABLE COMMITTEE.

Onions made a fine show as set up by Messrs. Sutton and Sons, Reading, who had fine bulbs of Sutton's Globe, Perfection, A1, Reading, Ailsa Craig, Magnum Bonum, Tripoli, and Bedfordshire Champion. Mr. W. A. Voss, Fairlight Glen, Rayleigh, put up excellent fruits of such apples as Duke of Devonshire, Scarlet Pearmain, Garrett Pippin, Court Pendu Plat, The Queen, and other apples, and a few pears.

Messrs. J. Veitch and Sons contributed two dozen dishes of splendid pears (French-grown, we understood), the leading varieties being Beurre Six, Mdme. Dupuis, Beurre de Naghan, Belle les Abres, Chas. Ernest, Notaire Lepin, Beurre Bachelier, Beurre Diel, Beurre Cadelein, Triomphe de Jodoigne, and Le Lectier. The Chelsea firm also contributed a collection of their special varieties of vegetables, in which parsnips, leeks, onions, Brussels sprouts, and endive were conspicuously good.

Mr. Divers, gardener to the Duke of Rutland, Belvoir Castle, Grantham, exhibited over forty dishes of pears, some of the best being Le Lectier, Beurre Diel, Beurre Clairgeau, St. Luke, Catillac, Doyenne du Comice, Chas. Ernest, Duchesse d'Angoulême, Pitmaston Duchess, and Beurre de Jonghe.

COMPETITIONS.

The only exhibitor of six dishes of potatoes was Mr. Gentle, gardener to Mrs. Denison, Little Gaddesdon, Berkhamsted, who was awarded first prize for splendid samples of King Edward, Goldfinder, Snowball, Royalty, Longkeeper, and Queen of the Veldt. Messrs. Jas. Carter and Co., High Holborn, scored for eighteen dishes of potatoes with fine specimens of Advancer, Goldfinder, Early Favourite, Royalty, Nonsuch, Snowball, May Queen, etc. Mr. Gibson, gardener to the Duke of Bedford, Welbeck Abbey, Notts, was awarded first prize for a dozen dishes of potatoes, distinct; the tubers were of beautiful shape, and quite free from blemish, but in some cases, notably Windsor Castle and Epicure, they were hardly characteristic; Mr. R. Staward, Panshanger Gardens, Herts, second. Mr. E. Beckett, V.M.H., gardener to the Hon. Vicary Gibbs, Aldenham House, Elstree, was first for six dishes of onions with fine bulbs of Ailsa Craig, Globe, A1, Reading, etc.; Mr. E. Hatch, gardener to A. B. Goldschmidt, Esq., Cavenham Park, Mildenhall, second.

AWARDS.

First-Class Certificate. — To Nephrolepis exaltata Marshalli, from Messrs. H. B. May and Sons, Edmonton.

Award of Merit.—To Begonia The Gem, from Messrs. J. Veitch and Sons, Chelsea.

To Chrysanthemum Lingwood's Pride, from Messrs. J. Peed and Sons, West Norwood.

To Lælio-cattleya Baroness Schroder var. Mdme. Henriette, from Comte de Hemptinne, Belgium.

To Lælio-cattleya Corunna Westonbirt var., from Lieut.-Colonel Holford (grower, Mr. H. Alexander), Westonbirt, Gloucester.

MEDALS.

Gold.—To Messrs. J. Hill and Son, Edmonton, for ferns.

Silver-Gilt Flora.—To Messrs. H. B. May and Sons, Edmonton, for ferns; to Messrs. Jas. Veitch and Sons, Chelsea, for crotons and chrysanthemums.

Silver-Gilt Knightian.—To Messrs. Sutton and Sons, Reading, for onions; to the Duke of Rutland (gardener, Mr. W. H. Divers), Belvoir Castle, Grantham, for pears.

Silver-Gilt Banksian.—E. Brown, Esq. (gardener, Mr. Bradford), Highwood, Roehampton, for group of plants; to Baron Schroder (gardener, Mr. Ballantine), The Dell, Egham, for winter-flowering begonias.

Hogg Medal.—To Messrs. J. Veitch and Sons, Chelsea, for pears.

Silver Flora.—To Mr. W. H. Page, Tangley Nurseries, Hampton, for carnations; to Messrs. Charlesworth and Co., Haywards Heath, for orchids; to the Duke of Marlborough, Blenheim, for Vanda cærulea.

Silver Banksian.—To Messrs. J. Cypher and Sons, Cheltenham, for orchids; to Messrs. Stuart Low and Co., Enfield, for orchids; to Mr. E. V. Low, Haywards Heath, for orchids; to E. Rogerson, Esq. (gardener, Mr. Price), West Didsbury, for orchids; to Messrs. W. Cutbush and Son, Highgate, for carnations and hardy flowers; to Lord Hillingdon (gardener, Mr. A. Allan), Hillingdon Court, Uxbridge, for carnations; to Mr. W. A. Voss, Rayleigh, for fruits.

Silver Knightian.—To Messrs. Jas. Veitch and Sons, Chelsea, for vegetables.

Bronze Flora.—To Messrs. H. Cannell and Sons, Swanley, for chrysanthemums; to Sir D. Gooch (gardener, Mr. D. Wilkinson), Chelmsford, for single chrysanthemums; to the Duchess of Bedford (gardener, Mr. Dickson), Chenies, Rickmansworth, for gesneras.

Bouvardias. — These are beautiful and distinct subjects for flowering indoors during the winter months, as both white and coloured forms impart a bright effect to the conservatory when in flower, while as cut flowers they are in general request for button-holes and table decorations. At this season they require a light airy position in a warm pit where the atmosphere is lightly charged with moisture, and an occasional watering with dilute liquid manure will encourage the plants in the production of their flowers. Vapourising is the safest and most effective method in suppressing insects among these plants at this season.—Thomas Smith.

Roses for Town Gardens.—In the paper on "Roses for Town Gardens," by Mr. A. C. Hill, gardener to Sir R. Poynter, Bart., Kensington, W., read at the monthly meeting of the London Branch of the British Gardeners' Association, the following varieties were recommended as the most suitable for town gardens: H.P.'s, Ben Cant, Beauty of Waltham, Countess of Oxford, Duke of Teck, Duke of Edinburgh, Duke of Wellington, Ulrich Brunner, Fisher Holmes, General Jacqueminot, Prince Camille de Rohan, Frau Karl Druschki, Mrs. Sharman Crawford, Mrs. Geo. Dickson, and Ideal. H.T.'s, Caroline Testout, Killarney, Grace Darling, Mrs. J. W. Grant, Joseph Hill, Gloire Lyonnaise, Liberty, Marquis of Salisbury, Mildred Grant. Wichuraianas, Alberic Barbier, René Andre, Dorothy Perkins, Lady Gay. Polyanthas, Crimson Rambler, Philadelphia, Queen Alexandra, Longworth Rambler, Blush Rambler, Psyche.

NATIONAL VEGETABLE SOCIETY.

The second lecture of the winter session of the Kingston Gardeners' Society was delivered by Mr. A. Dean, V.M.H., and his subject was "The National Vegetable Society: Its Aims and Objects."

Referring to the existence of numerous special societies of a horticultural character, the lecturer said that they were exclusively devoted to the cultivation and exhibition of flowers, such as roses, carnations, sweet peas, dahlias, and others. These were all very well, from their promoters' point of view, but they did nothing to stimulate or popularise such very important food products as fruits and vegetables. Even the Royal Horticultural Society, with its 10,000 Fellows and large income, was so greatly concerned with horticulture as a whole, and covered so much ground, that it could not devote special attention to any one subject. Yet in its case both fruits and vegetables occupied a far less prominent position than did trees, shrubs, and flowers.

Now, whilst leaving to fruit growers to organise their own special society, vegetable growers, and others specially interested in their culture, whether as garden products for home use, or for commercial purposes, had formed the National Vegetable Society, of which the Duke of Portland is the president. There were a large number of vice-presidents, and an executive of twenty-four persons, all well-known in gardening circles. One special object of the society was to promote from time to time trials of different classes of vegetables, to ascertain which were the most profitable and suitable methods of culture, as well as the best varieties to recommend for general culture. To that end already three trials of autumn-sown cabbages and onions were in progress, one at Twickenham, one at the "Times" Experimental Farm, Sutton Green, Guildford, and one on stiff Essex land at Romford. Each trial was being conducted on exactly similar lines, with the same varieties, and in both cases these were all the best in commerce. Full reports of these trials will be published in due course.

Then a great effort is being made to hold at Westminster next September a large representative exhibition of vegetables, and numerous good offers of prizes have been made. The value of good home-grown vegetables as food was strongly emphasised. All the strongest of animals were vegetable consumers, and their bone and muscle was quite identical with that of man. But instead of cultivating the millions of acres of land at home, and in so doing furnishing good employment to millions of men in producing a great vegetable food supply, we preferred to depend on the uncertain and costly importations of meat and corn from elsewhere, supplies that at some critical moment may fail us. How much better to be able to consume good healthy, non-gouty foods grown at home, and obtained at trifling cost, than to purchase and consume vegetables grown elsewhere, and served up second-hand in the form of questionable animal food.

The subject was not one of vegetarianism or of politics, but it was one of successfully utilising vast areas of home land now lying almost waste or useless, and employing millions otherwise unemployed to cultivate the land, and produce from it an ample supply of good, wholesome food for all the nation's inhabitants. It was really a matter of common-sense or of no sense.

Special emphasis was laid on the unfortunate way in which, as a rule, good vegetables are presented for sale to consumers. Even were there great improvements in that direction seen, the consumption of vegetables might be speedily doubled. We were slow to learn, and generally too proud or too obstinate to be taught, but if we would adopt the methods of packing and marketing shown by foreigners or colonists, how much better would ours be.

A cordial vote of thanks was given after many questions had been replied to.

NATIVE PLANTS IN THE ROCK GARDEN.

With the rapid extension of rock gardening it has become imperative that the gardener and garden lover should know something concerning those plants which are especially adapted for furnishing the rock garden. Certainly one can find ample room for study among the plants that are suitable on the rockery. One is not limited in choice of species and varieties, neither is there any need to duplicate the kinds that are represented in someone else's garden.

The great charm of rock gardening lies in its enthralling interest, and happy indeed is he who can break away from conventional ideas, and choose and group his plants in his own "unfettered" way. If there is anything which will detract from the charm of the rock garden it is the repetition of a few well-known subjects, which, attractive though they may be, yet by constant association become, as it were, commonplace, and lose much of the interest that really belongs to them.

Happy is the collector who can devote himself to rarities, and embellish the ledges, chinks, and nooks with delightful uncommon plants from the mountain ranges of the world. All are not thus fortunate in being able to devote the time and money to the acquirement of such a collection. And, in a way, it is well, for the rarity of many alpines in cultivation enhances their interest and value.

Thus, to the reader who is desirous of making a rock garden of interest, which shall differ greatly from the majority, I would suggest the formation of a collection of British plants that are suitable for the purpose. And really there is a wealth of material to choose from. One could without difficulty form a very pretty collection at a small cost, which would impart to the rockery both interest and beauty. Violas like V. lutea, and the rare odorata varieties might all find a place. Dianthus, such as D. cæsius (the Cheddar pink) and its varieties, also D. deltoidea, and its varieties may be noted.

Saxifrages furnish many species, notably Saxifraga umbrosa, S. oppositifolia, S. hypnoides, S. geum, S. aizoides, S. cæspitosa, may be mentioned among them. Sedums also are somewhat numerous. S. rhodiola, S. album, S. anglicum, S. acre, S. dasyphyllum, S. sexangulare, S. rupestre, and others are worthy of inclusion.

But the wealth is so great that it is useless to attempt enumeration. One can briefly refer to such gems as the native linarias, the tiny Hutchinsia alpina and H. petræa, Dryas octopetala, Sisyrinchium anceps, Linum perenne, Epimedium alpinum in variety, Claytonia perfoliata and C. perfoliata alba, veronicas like V. repens, V. spicata, V. alpinus, etc., the charming thymes, vincas in variety, the silvery Antennaria dioica, cerastiums, including C. alpinum, primulas such as P. farinosa, P. scotica, the delightful native campanulas and phyteumas; lychnis such as L. alpina, L. viscaria, L. vespertina, and their varieties; Glaux maritima, gentians in variety, and the best of the geraniums and erodiums. Other exquisite natives are found among the potentillas, erysimums, arenarias, armerias, thalictrums, corydalis, statices, asperulas, ajugas, lithospermums, geums, alyssums, and arabis. Then there is the spur-valerian, Centranthus ruber, of which there are red and white forms. These handsome plants will have been noticed by many of my readers growing on chalk cliffs on the sea coast and elsewhere, more particularly in the South of England, where they produce a beautiful effect. They grow freely, and bloom profusely when planted on the rockery with ordinary soil for the roots to run in. One of the best proofs of this is the illustration given herewith of Centranthus ruber growing in a Hertfordshire garden.

Bulbous plants, such as Tulipa sylvestris, Fritillaria meleagris, Galanthus nivalis, narcissi in various forms, crocus, and others come readily to mind. Anemones like A. pulsatilla, A. nemerosa alba plena, A. ranunculoides, and A. apennina, cyclamen of the europæus section, and Convallaria majalis (the lily of the valley), and other cool-loving subjects are deserving of notice. When you add to the foregoing fragarias, Frankenia lævis, drabas in variety, erigerons, pyrolas, the daphnes, Astrantia major, and a host of other subjects, the reader will realise that the British rock garden need not be scantily supplied.

For the cool and half-shady portions of the rock garden one could select some of the choice varieties of the British ferns. There are so many exquisite forms to be found among the polystichums, polypodiums, scolopendriums, lastreas, etc., etc., that one need not doubt the propriety of grouping them in the cooler situations. With them one can associate such flowering plants as hellebores, anemones, etc., which will add to the interest and beauty of the garden.

Where comparatively large open spaces are available, groupings of the British heaths, in their many varieties, could be resorted to. Ericas are certainly pleasing, and a small collection, arranged on the peaty slope, with here and there a grouping of slow-growing shrubs, breaking up amongst them, to take off any appearance of flatness, will add to the attractions of the rock garden.

Lastly, but not by any means least, are the hardy orchids, and the cypripediums, orchis, ophrys, habenarias, call for distinct notice. With few exceptions the British hardy orchids may be successfully cultivated in the rock garden, and the selection of planting sites, the acquisition of representative species and rare varieties, and the subsequent interest attaching to them, will provide the garden lover with a pleasing task and an instructive hobby. Taken as a whole, the British flora, so rich in genera, species, and varie-

CENTRANTHUS RUBER AND OTHER NATIVE PLANTS IN THE BRICKENDEN GRANGE GARDENS.

ties, is deserving of the close attention of those whose hobby is their garden.

With a representative collection one may include a few plants, that may be either terribly invasive or wonderfully reproductive, but these can usually be kept in check by occasional lifting and prevention of seed formation, or, if time is an all-important item, such forms could be eliminated altogether. P. S. Hayward.

PEAR DOYENNE DU COMICE AS A BUSH TREE.

A common law in connection with pears seems to be that the more choice the variety the greater the need for high-class or wall culture. There may be some degree of truth in this as regards some of our better stocks, but certainly it does not apply to all, at any rate, in localities where pears are successfully grown in the open air. In the northern counties, and in districts where circumstances give occasion for special protection, the choicer kinds of pears may, and do, need either wall or glass protection in order to secure satisfactory results.

It needs no stretch of imagination to place pear Doyenne du Comice at the head of the large number of varieties in our garden, orchard house, or field, and yet what variety among them has such an adaptive disposition? The present season has been one apparently which has suited the pear much more perfectly than it has the apple, which is somewhat contrary to the commonly accepted views of the observant pomologist. It has often been said, and perhaps as often proved, that the pear revels in a summer with a record of solar maximums, and for these reasons one turns instinctively to the large importations of Continental and Colonial fruit in their season. The French Williams, and Duchesse d'Angoulême, are instances of such faith, their large size and good qualities taking a distinct lead over our own stocks of the same kinds. The last-named, indeed, has by no means a reputation for superior quality in British soil, yet the French fruit finds a ready sale in a market already very well supplied with other pears.

I can well remember the time when great hesitancy was found in choosing Doyenne du Comice as a bush or pyramid for the garden. It was regarded as fit only for the sheltering wall. It is true such provision may give samples more or less superior in appearance and size, but there is no gainsaying the fact that when flavour is the test the bush or pyramid in the open garden can calmly lay down a challenge where climatic or local circumstances favour open-air culture. It is true that from a wall, it may be, of east, west, or south aspect, there is a greater refinement of skin than is procurable from the open bush tree, and we cannot deny that skin perfections are very attractive; but take the outer skin off, and it will be found, to use a common expression, that beauty is but skin deep. Under the two systems of culture there is a marked difference in exterior tones. This recalls an incident in which a distinguished baronet who professed some knowledge of pear names declared that our "Brown Beurres" were the best he had ever tasted. An attempt to enlighten was not at first successful, for the medium size and russetty skin were such true counterparts of the real Brown Beurre that only actual flavour comparisons between them carried conviction. Evidently, wall-grown fruits were those to which he had grown accustomed.

These influences are not more developed in Doyenne du Comice than in other pears commonly grown in our gardens. The old favourite Marie Louise can just as easily deceive the untrained eye. At an exhibition last year a young gardener staging a very good collection of pears had doubts about the correctness of his names, and a specimen of Marie Louise was needed for verification. This was obtained instantly, yet the point arose, "But they are not like yours," which was true as regards skin colour only. The one had the pale, smooth golden tone, the other the characteristic russet of the open air tree, and so one might continue instances.

I have seen trees of Doyenne du Comice bearing heavy crops in several gardens this season, indeed, in one case it was much the best among the many sorts in point of fertility, and if there were any sense of hesitancy previously, it has been definitely overcome by the uniform aspect of the current season's crop. There may not be the same individual size of fruit obtained from bush trees as from a wall-trained example, but in the case of a healthy tree not much fault can be found in this respect. The size of fruit may be governed somewhat by the age and extent of tree and its crop, and also by the encouragement that is given in feeding of the roots.

It is often felt that the warmth derived from the wall itself is reflected in the produce of the tree, both in the matter of size, colour, and smoothness of the skin. The variety under notice has shown less tendency to fall prematurely from the trees than many pears this season, and it is well to remember that by the aid of muslin bags or even a tie on the stem this permits of their being left on the tree till later, and thus extends the season and service of the best pear of the garden.

W. Strugnell.

STONE FRUITS.

Stone fruits are in demand in almost all gardens, but in some certain kinds are in more demand than others. Apples and pears, if healthy trees, and the season is at all favourable, may be relied on to produce satisfactory crops, but with such conditions the same cannot be said of stone fruits. Soil plays an important part in the production of stone fruits, and with plums more so than any other kind—at least, that is my experience. A heavy, loamy soil is less suited for plums than for any other kind, and this is probably due to an absence of lime, but even with a liberal addition of lime, plums require much restriction of the roots, especially when grown as wall trees, and necessarily limited in branch space. When plums have to be grown in such land the roots of wall trees must be strictly confined, and it is then not so difficult a matter to provide the necessary soil conditions to ensure success, if the trees are properly managed in other respects.

To check strong growth and to induce fruitfulness, many growers have recourse to lifting and replanting, or other forms of root pruning, which, for a time, certainly checks the strong growths, and also tends to the formation of some fruit spurs. Replanting under such conditions requires to be done frequently, it also means the probable loss of a crop the first season afterwards. A firm border may be maintained, say, three feet in width from the foot of the wall, but the roots of plums will soon reach the cultivated border in front, even if it is intensively cultivated.

All such extra labour may be avoided if a different procedure is adopted at the time of planting. The best means I have found to ensure success with stone fruits is to take out a hole three feet long and about two wide and put in a wall of bricks placed on their sides, the undisturbed soil will keep them in position on the one side and soil put into the hole when planting will answer the same purpose on the other side. The bottom of the hole should be bricked over, and, if necessary, some drainage be placed over these bricks. Bricks commonly known as "thirds" will answer for the purpose. If in the course of time it is necessary to give the trees more rooting space, it is a simple matter to dig out more soil lengthways, on each side, and place the bricks a little further away. When planting the trees add a liberal quantity of lime to the soil, or, if this is difficult to obtain, apply basic slag liberally.

When planting the trees within these bricked enclosures, leave the top of the soil inside about an inch or more below the top of the bricks. When trees are so planted, whether on north, south, east, or west walls, the intervening spaces between these enclosures can be cropped without any injury to the roots of the trees, and there is always something that can be grown in such places.

The same treatment will apply to cherries, and to those trees of this fruit which may be grown as pyramids or bushes in enclosures where protection from birds is necessary. I have found basic slag one of the best manures for cherries in the production of fruiting spurs and also of a crop, and as sweet cherries come in at a useful time, and form an agreeable dish for dessert, space ought always to be found for growing a few trees.

Apricots are usually in request, either for preserving or for dessert, and they are (excepting in a few localities) the most difficult of stone fruits to successfully cultivate. Where this difficulty arises, the brick enclosures should be made for the reception of young trees, or for trees not too old for transplanting, but to apricots I would give less rooting space than other stone fruits.

Peaches and nectarines, the most delicious of stone fruits, are greatly benefited by being grown in the way described, if only for the prevention of peach blister. Many may not agree with me on this point, but to overcome the attacks of peach blister we must go to the root of the evil or the chief cause of it, viz., soft, gross, badly ripened wood. When we can secure hard, well-ripened wood, about nine inches in length, which is more likely to be obtained by leaving plenty of space between the branches and restricting the root-run, we shall be well on the road to success in combating the attacks of the fungus causing peach blister.

Some varieties of peaches and nectarines are more susceptible to the attacks of this fungus than others, as I have proved by growing such varieties by the side of those which have proved immune from attack, and I have also proved by the procedure here recommended that, where properly carried out and the trees carefully attended to in other respects, injury by peach blister may be prevented. It has been said that lifting and replanting will check strong growth and bring about the desired results, but I have invariably found that peaches so treated are, the first spring after replanting, more liable to suffer from peach blister than established trees. If, therefore, trees are planted as recommended, there is no after check to root action, the curtailment of rooting-space remedying this, and also saving the labour of root pruning and lifting. Planting as advised also brings the roots of the trees under the control of the cultivator.

Horsham. T. H. Slade.

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AMONG THE ROSES IN NOVEMBER.

There is a great contrast between some previous seasons and the present in the matter of lifting roses. More than once we have had to water the ground, and on many occasions extra care was needed because the ground was dry and hard.

No time should be lost in transplanting where one is fortunate enough to possess ground not too saturated. I would even endeavour to plant with the aid of planks or boards to tread upon rather than miss getting the plants in while the ground is still fairly warm. Of course, one must upon no account plant in mud, but where planting can possibly be done, the prevailing rains are all in favour of the soil settling firmly about the roots before real winter weather arrives. The condition of the soil in each case should be taken into consideration, and no hard and fast rule can be followed.

Owing to the humid and mild autumn the majority of roses are in leaf still, and I would like to draw especial attention to the benefit of removing most of the leaves immediately the plants are lifted. It is surprising how great a strain is put upon the plants to supply enough moisture to aid the ripening of leaves after the roots have been disturbed, and much shrivelling of wood and distress is avoided by removing the bulk of the foliage at once. Of course, in the case of permanent plants this removal is not necessary.

Some growers make a special hobby of cultivating their roses from the earliest stages; more particularly in the case of a few standards. Personally, I think it better for the amateur to obtain plants from some well-known nurseryman. Not only is there great annoyance from losses, but two years' delay before a respectable plant is secured. In addition to this there is the unsightly and straggly appearance unavoidable in the first stages of growing standards. Still, if it is your hobby, buy the briars as soon as possible before they have laid about in the frost. Half the secret in rooting hedge briars lies in procuring and planting them before they have had their roots frosted, and while the soil is still warm. Do not give manure to unrooted briars; they root better without, and any additional food can be supplied later. Wind waving should be avoided in some way, as support is necessary when briars are first planted.

In many cases wind has swayed the tall shoots of pillar and climbing roses more than usual this autumn, and therefore some care is needed to prevent injurious chafing of growths, which is oftentimes the direct forerunner of canker.

Pot roses need to be housed now; or, at any rate, put into pits. Excessive wet at the roots clogs and sours the compost, and the plants can readily be brought on in batches from the cold frame or pit as desired, never forgetting that steady treatment from the first is better than hasty forcing. But it is early yet for these except in the case of market growers, and I only mention them because experience has proved to me that they are best under cover at this date.

Too much attention cannot be given to preparing soil for roses; nor can one move it over too deep or often. By this I do not mean that sour or gravelly subsoil should be brought to the surface, and the roses be put in it, but that opportunity should be taken to drain the soil if necessary, and thoroughly work and enrich it. Although roses thoroughly enjoy a rich soil they do not like a big dose of manure all at once. After a good compost has been provided I would prefer to help the plants as they grow. It is obvious that if we add a lot of manure now, much of this will be lost long before the roots are active enough to use it, and that is why I think a good mulching in early spring is particularly beneficial.

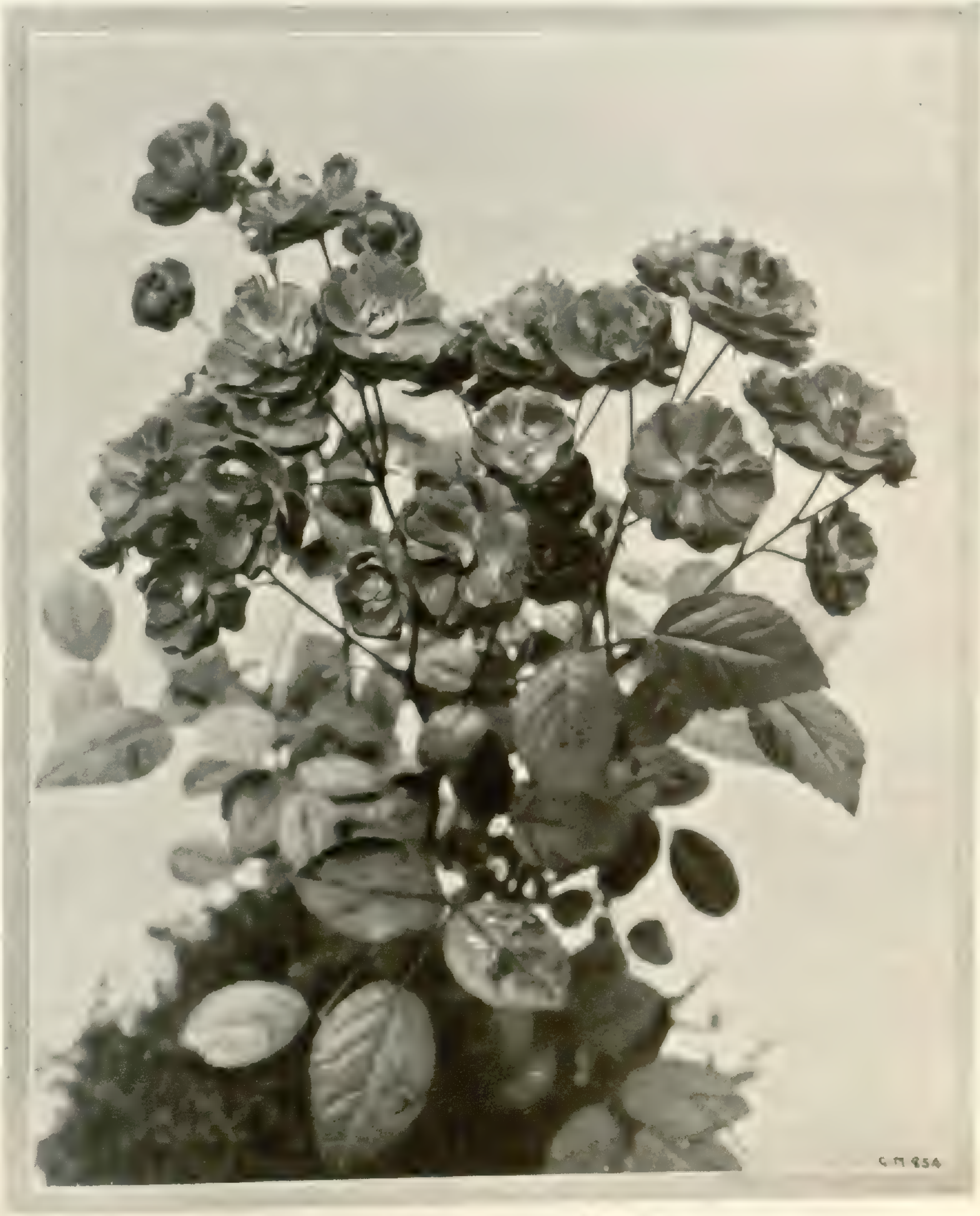
Nor is time wasted in spreading out the roots more carefully than I have seen it done in many instances. Endeavour to place them in a natural position. It hurts me to see the roots lumped in as if a farm hand was dibbling in cabbage plants. If we bore in mind how firm atmospheric and wind pressure soon makes the ground we would plant more firmly than is generally the case. Frost will often lift newly-planted roses considerably, and it is a good plan to examine the beds and tread around the plants after frosts or dry, windy weather.

As to which are the best roses to grow, we have such a selection now that one has only to choose a colour or colours, and they can be supplied in any form and suitable for almost any situation. It is no longer necessary to possess what is sometimes described as a rose soil, although, of course, a strong, stiff, and naturally rich loam is best. Good roses can be grown in any district or situation if due attention is given to the selection of varieties. I would advise those who do not know exactly which variety they want to state the colour, mention the situation they wish the plant to occupy, give a little idea of locality and soil, and then trust to some well-known rose grower to supply.

A. Piper.

NEW POLYANTHA ROSE JESSIE.

Those who saw this delightful little rose at the Temple Show held in May last, will hardly need a reminder of its usefulness and beauty. Others, however, who have not yet seen the variety, will gather from the illustration herewith some idea of its habit and appearance. It is a dwarf, neat-growing rose, producing its very double flowers in large clusters, and with great freedom. The colour is vivid crimson, almost a scarlet shade, consequently a bed or group of this rose is very effective at flowering time. Now that roses are being so abundantly grown in beds and rose gardens the use of dwarf polyantha varieties becomes a necessity for grouping among or around large growers or standard plants. This newcomer, named Jessie, is well worthy of consideration by planters, and it has been already hall-marked by the Royal Horticultural Society, this body granting it an Award of Merit on May 25, when it was shown by Messrs. H. Merryweather and Sons, Lim. Southwell, Notts, the introducers.



POLYANTHA ROSE JESSIE.

A beautiful free-blooming dwarf variety with flowers of a brilliant crimson hue. Introduced by Messrs. H. Merryweather and Sons, Lim.

Everyone interested in a garden should obtain a copy of the Alphabet of Gardening, by T. W. Sanders. Thoroughly practical information is given as to soils, manures, seed sowing, planting, potting, budding, pruning, grafting, forcing, hybridising, etc., with explanatory diagrams. Price 1s. 6d. net, by post 1s. 9d.; cloth, 2s.; by post 2s. 3d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

PROLIFERATION.

One of the most familiar foliage plants for room or conservatory decoration is Asplenium bulbiferum, a pretty twice-divided evergreen exotic fern, the fronds of which are profusely proliferous, that is, produce a number of young plants which, under congenial conditions, bear a second generation while still attached to the parent plant. On examination it is found that these youngsters first make their appearance as tiny pimples upon the surface of the sub-divisions, and not, as with buds proper, as excrescences in the axils at the base of the stalks, and it is this feature which distinguishes them as bulbils proper.

In trees, as we know, there is a dormant bud at the base of each leaf where the leaf stalk springs from the twig, and it is by the development of these buds into twigs in their turn, and the expansion of the twig into a branchlet, and the branchlet into a branch that in time the great mass of a tree is constructed. These, however, may be considered as constituting buds proper, and there are very few flowering plants indeed which produce bulbils normally on their foliage, although it has been found that, in some cases, as in the begonias, gloxinias, and achimenes, they will form on the cut edges of wounded leaves, a faculty of great service to the propagator. Some bulbous plants, such as the hyacinth, also form bulbils abundantly on the artificially hollowed out bases of the bulbs (as was recently shown in these pages), though these might be more fitly termed bulblets, since they do not produce leaves as bulbils do, until subsequently planted, first forming a miniature bulb with only an embryo root system.

The root systems, however, of trees and other plants, are capable of producing what must be considered as proliferous bulbils, since, although there are no leaves or leaf axils proper, they produce young plants when they approach the surface by developing superficial buds. In many plants this capacity is developed on more definite lines in the form of subterranean runners or stolons, which, however, in many cases, must be regarded rather as plunging branches so to speak than proliferous roots, since, as a rule, the stolon or runner itself, only develops roots proper at the points where the buds develop into plants, precisely on the same lines as the super-terrestrial runners of the strawberry. In Anemone japonica there is an abundant provision of buds on the fleshy root branches in continuous rows like an incrustation, so that any accidental severance of the roots aids instead of hinders the propagation of the plants.

In ferns proliferation takes several forms. In the broad-fronded platyceriums or Stag's Head Ferns, the root tips when they reach the surface of the mass of humus on which they generally grow, form buds which develop into plants. The struthiopteris or Ostrich Feather Fern, produces burrowing stolons by means of which strong plants arise at a considerable distance from the parent. A large number of ferns have latent buds at the bases of their fronds which in some cases assert themselves so as to form cespitose or bunchy specimens, while in others they only do so when the main centre of growth is checked. Some, as we have seen in the case of Asplenium bulbiferum, produce bulbils on their fronds, others, as in many of the abnormal polystichums, bear proliferous buds on their frond stalks or even profusely along the main and secondary midribs of the fronds and their sub-divisions. In several distinct forms of plumose or extra feathery athyriums or Lady Ferns, the rare phenomenon of dorsal bulbils, or bulbils on the frond backs, in association with the spore heaps, exist, a phenomenon which is a specific character in the exotic Lastrea prolifera.

A pretty form of our native Maidenhair, Adiantum capillus veneris var. imbricatum, bears marginal bulbils where the spore heaps should be. The Hartstongue Fern is not normally proliferous at all, but a number of varieties produce bulbils erratically on the stalks; several do so on the surfaces of the fronds like Asplenium bulbiferum, and all forms possess a curious capacity of producing bulbils on the frond bases if these be severed from the caudex and kept close. Nature, in fact, has been most generous in providing means of resuscitation, or rather regeneration, of her plant creations in case of damage or partial destruction, by endowing the cells individually with the power of deviating from their normal course of development or objects and assuming reproductive powers. This, of course, is an immense advantage for the propagator who grasps this fact fully and finds ways to profit by it. Rare and comparatively or quite barren plants or infertile hybrids can be multiplied in this way, and we have a very strong impression that the very fact that normal sexual reproduction is repressed implies greater reproductive vigour in other directions. The converse case certainly holds good, for plants which propagate themselves freely and abundantly by other than seminal means are often sparse seed or spore producers.

Chas. T. Druery, V.M.H., F.L.S.

VIOLA CORNUTA PURPUREA.
A very distinct form, producing a profusion of rich purple-blue flowers; as exhibited by Messrs. Gunn and Sons.

VIOLA CORNUTA PURPUREA.

It is now very many years ago since the late Mr. John Wills so well known for his skill as a floral decorator—secured a good deal of fame for himself, and did horticulture a real service, by reintroducing Viola cornuta into gardens, and demonstrating its value as a bedding, border, or edging plant. Mr. Wills was at that time gardener to the Egerton family at Oulton Park, Cheshire. In more recent years the greatly improved race of violas, or tufted pansies, has overshadowed Viola cornuta for general garden decoration, though it and its varieties have been favourites with lovers of rock gardens.

Quite lately, however, a very fine variety of the good old species has been brought prominently before the public by Messrs. Gunn and Sons, of Olton, near Birmingham. This is V. cornuta purpurea. It would be difficult to conceive a plant that flowers more freely than this, for its brilliant deep purple-blue flowers, borne erect on wiry stems, are produced so freely that scarcely can the foliage be seen. Mr. Gunn points out that where old plants are pulled to pieces in late spring, and replanted, and another set similarly treated in the autumn, it is very rarely indeed that flowers are absent. This is worth remembering, because where floral decorations of a blue colour are necessary this viola is most valuable, and it may be pressed into service to take the place of violets in wreaths and other floral designs. As a bedding and edging plant this beautiful hardy viola has a fine feature, and one may expect to find it used largely for spring and summer displays in parks and gardens. There is no question as to the hardiness of Viola cornuta or its varieties.

THE ROWANS OR MOUNTAIN ASHES.

The accompanying illustration of Pyrus aucuparia var. dulcis directs attention to the free-fruiting qualities of the Mountain Ash and its varieties, though unfortunately, a photograph fails to do justice to the fruits, for the bright crimson, scarlet, or yellow colouring cannot be reproduced.

The Mountain Ash, Pyrus aucuparia itself, is one of our most ornamental fruiting trees, and is popular in many parts of the country, whilst it is frequently met with in a wild state. In wooded districts or in pleasure grounds it is no uncommon thing to find Mountain Ashes in all stages of development from tiny seedlings to mature specimens that have originated from seeds distributed by birds; for when ripe the fruits are greedily eaten by many of the feathered tribe, particularly blackbirds and thrushes. It shares with the birch and Scotch pine the distinction of being a good subject for reclaiming waste ground, for it grows well wherever it can find root-hold, and one is surprised at times to find it flourishing in places where little or no soil appears to exist. A seed has perhaps been dropped in the fissure of a rock; this has germinated, and the roots of the tiny seedling have gradually forced their way through tiny cracks until they have found sufficient food material to build up a goodly-sized bush.

PYRUS AUCUPARIA DULCIS.
A handsome form with brilliant crimson fruits as exhibited by Messrs. Paul and Son.

From this, it must not be imagined, however, that the tree prefers poor living, for it is just like other subjects, and, although it can get along comfortably in poor, sandy ground, it assumes its finest proportions in soil of good quality. It never grows into a large tree, and its maximum height appears to be about 40 feet, whilst trunks $1\frac{1}{2}$ft. in diameter are not common. The timber is not put on the market in sufficient quantities for it to have any special commercial value, though doubtless, if it could be obtained in regular quantities it would be saleable at a fair price, for it is hard, fine-grained, and takes a good polish. As an undergrowth it has some economic value, for coppiced stools throw up clean, straight growths which form good stakes, whilst they can be used in a split state for hurdle making. In the woodland groups or single trees are effective, whilst for small gardens they are to be commended.

In the case of a tree that is so widely grown it is not surprising to find that some variation has occurred either in habit or fruit, and advantage has been taken of these variations to give a number of the most distinct, descriptive names. The following varieties may all be obtained from the leading firms of nurserymen who make a speciality of trees and shrubs:

P. a. asplenifolia is distinguished from the type by the leaflets of the pinnate leaves being divided into fine segments. The fruits are very similar to those of the type. P. a. Backhousei has a stiffer and more upright habit than the type with very bright coloured fruit. P. a. discolor differs principally by its fruits, which are double the size of those of ordinary kinds and orange-scarlet in colour.

P. a. dulcis, of which an illustration is given, bears crimson-scarlet fruits in very large trusses, the individual berries being as large as those of the last-named. P. a. fastigiata is easily detected by its habit being similar to that of a Lombardy poplar. P. a. fructu-luteo is an extremely desirable plant, for it bears rich yellow berries in place of the ordinary scarlet sort. P. a. moravia is conspicuous by exceptionally large heads of fruit. P. a. pendula differs from other varieties by having pendulous branches. P. a. saturæfolia has larger leaves than the type and yellow fruits. P. americana, the "American Mountain Ash," is very similar to the common one, but is of stiffer habit with larger heads of smaller fruits.
W. D.

THE GARDEN IN NOVEMBER

Some of us like Nature best in her less soft and gentle seasons, having perhaps a tendency "to love the lovely that are not beloved," but when Nature is narrowed down to the garden, and that in November, there are not many who can really feel that the season has many pleasures peculiar to itself. Some will doubtless agree with the poet when he says:

> "My very heart faints and my whole soul grieves
> At the moist rich smell of the rotting leaves,
> And the breath
> Of the fading edges of box beneath,
> And the year's last rose."

But as the true Nature-lover can get his sense of the beautiful fully satisfied even in November, so a thorough-going gardener and not the suburban dweller, who, with so many of his neighbours, has recently taken up gardening, will find November a real delight in the garden. It has been said that the highest joy of gardening is in making improvements, even though, to the callous observer, they are only alterations, and November is the month par excellence to indulge this delight. I have often said that I enjoy gardening more in November than at any other time of the year—a nice dry November when you can ruthlessly clear everything away without waiting for anything to finish flowering or to be cut off by the frost, and can transplant anything with impunity, while the soil, nicely moistened to a good depth after the autumn rains, works easily and well, so that whatever we do something looks the better for it.

Our mental attitude towards the garden is one of hope, and that, to a greater degree perhaps than at any other season, for everything we do, apart from mere clearing away of leaves and rubbish, is a preparation for the future, and there are no failures or disappointments of any sort at present. A writer in "The Times" once said that a test of the extent to which a man was permeated by the true spirit of gardening was to ask him in which month in the year he would most reluctantly be away from his garden, for if he gave any month but November he might be considered wanting. The writer in question went on to say that November and March were the two most important months of the gardener's year, but I am prepared to contend that November stands by itself, for whereas the work in March, though indispensable, is mostly of a routine character —mainly sowing seeds and planting the vegetable garden—November is the season for making the plans and laying the foundation for next year's display.

Now is the time to do that two-spit digging, which will give us sweet peas ten feet high and two-pounder onions; to take up, renovate, and replant the mixed borders and beds; and, above all, to plant roses, shrubs (other than evergreens) and fruit trees, so that next season will scarcely show they have been moved. For all this the conscientious workman and the shirker can show pretty nearly equal results during the winter; but when spring comes, and after that the summer, what a difference in the results!

November has been called an untidy month, but it is the month of all months when we really make everything neat and tidy for the winter. It has been called a month of sadness, gloom, and hopelessness; but it is the reverse of all this, for everything is preparing for the spring, and the growing tips of the snowdrops, crocuses, narcissi, and others are in many cases only a fraction of an inch below the surface of the soil. July is the dead season for all these things, but very soon now we shall see that

"The buried bulb doth know
The signals of the year,
And hails far summer with his lifted spear."

In its more genial moods, too, bird life, especially in the person of the thrush, becomes more vocal after the comparative silence of the summer and early autumn, and it is the forerunner of the spring songs that we may hear in real earnest in open weather a month or six weeks later.

In conclusion, though the busy man sees all too little of his garden, it is a season when he may contemplate it with satisfaction and equanimity. This applies especially to the latter part of the month, when, unless he has been unfortunate, all the more pressing work is done, and that before the bad weather of the winter has set in. There is nothing to worry about now, everything is in winter quarters, or in such a state or position that the normal winter is not likely to do it any harm. Before the winter is over he will begin to worry about the early-flowering fruit trees on the walls, a worry from which he will not be quite free till May is nearly out, and after that it is not long before more things begin to need the watering-pot than he has time to satisfy, and this continues till August or the beginning of September, when he will be on the constant watch for the ravages of birds on his special apples and pears, ravages which are not always prevented by what he considers secure netting.

None of these conditions obtains in November, and only one whose delight is in Nature as we find her in the garden, can appreciate the feelings of the amateur who works about his garden in the semi-darkness of a November Saturday afternoon, and is able to recognise with satisfaction the work that has been accomplished during the week, either by himself alone or with the help of others—work which perhaps he had been setting his mind upon for months past, while at the same time he can feel—a rare thing for a gardener—that he can rest a bit soon now even when it is daylight. The whole forms the reverse of an exhilarating prospect to the Philistine, but we may say, mutatis mutandis with Robert Browning:

"The rest may reason and welcome; 'tis we musicians know."

Alger Petts.

THREE GOOD PEACHES.

The three different varieties of peaches to which I would briefly refer are very distinct, and should be included where a number of trees are grown under glass.

Exquisite.

I have grown this variety as a bush under glass, and I would remind inexperienced cultivators that rather more skill is needed to bring its fruits to perfection than in the case of Hales' Early. From the time that the fruits are the size of Barcelona nuts to full maturity, they must be exposed to the sun's rays. When not so exposed the flesh near the stone does not ripen as perfectly as the part near the skin; at least, this has been my experience, and, furthermore, I have found that the fruits require a longer period in which to ripen than many varieties. The fruits are large, the flesh vinous, and very sweet. The apricot-yellow ground suffused with deep crimson makes the fruits very attractive in appearance.

Lady Palmerston.

This is another excellent variety that ripens about ten days earlier than Exquisite; both, however, being in season, with moderate forcing, from the middle to the end of September, and during the early part of October in a cool structure.

Lady Palmerston is a very distinct variety, golden fleshed, and of high quality. I grew one tree on a wall at the end of a long range of cool peach and nectarine houses; the tree had a west aspect, all the others a south one. The shoots made annually were not very strong ones, but they were always studded with ripe buds, and never failed to give a full crop. In this instance, the aspect being a west one, I was able to gather splendid fruits in November nearly every year for ten years, and the colour and quality of each specimen were most satisfactory. The tree in question was exposed to cold draughts, but I never saw the least bit of mildew on the leaves or fruits.

Lord Palmerston.

This is a very large variety, maturing about three weeks earlier than the two already referred to. The flesh is firm, juicy, and very agreeable, but not quite so rich as that of the variety Lady Palmerston. Exposure to a south or south south-west aspect is essential in order to bring out the full flavour in the fruits.

B.

MEADOW LAND IN 1909.

The meteorological records of the Rothamsted Experimental Agricultural Station, Hertfordshire, show that the year 1909 started with a deficiency of rainfall amounting to 284 tons of water per acre. January and February of 1909 recorded a further deficiency of $2\frac{3}{4}$ inches of rain, equal to $276\frac{1}{2}$ tons of water per acre. March altered the condition of things, and probably saved the hay crop from being a complete failure, by yielding $3\frac{3}{4}$ inches of rain, including nine falls of snow, which was $1\frac{1}{8}$ inch in excess of the average for that month. This large and welcome rainfall was followed by April and May each recording a deficiency of rain amounting to $194\frac{1}{2}$ tons of water per acre. June gave an exceedingly large rainfall, measuring slightly over 4 inches, being $170\frac{5}{8}$ tons of water in excess of the average for June extending over the past 57 years at Rothamsted.

Taking the first five months of the year, January to May, together, the rainfall was 179 tons of water per acre deficient, which, added to the 284 tons deficient with which the year started, made a total deficiency of 463 tons of water per acre.

But the heavy rainfall of June considerably reduced this enormous deficiency, and certainly assisted the mixed herbage of grass-lands to quickly respond to the grateful showers.

The bright sunshine was in excess of the average in January, February, April, and May, but less than the normal record in March and June. The mean temperature was slightly above the average in January and April, but deficient in February, March, May, and June.

The first six months of the year 1909, therefore, which embraces all the growing period of the first crop of hay, revealed in this district a deficiency of rain, a much lower than average temperature, but $80\frac{1}{2}$ hours excess of bright sunshine.

Under these climatic conditions the experimental hay crop at Rothamsted was in each of the twenty-four plots, under different manurial treatment, below the average yield, and, in some cases, very considerably below the normal yield.

The greatest deficiency was shown on those plots which received no potash in the manurial mixture. The application of ground burnt lime applied at the rate of 2,000lb. per acre two years ago to certain portions of these permanent grass plots has effected a great improvement both in the yield and the character of the herbage.

The yield has in some cases been increased by the lime three-quarters of a ton of hay per acre, and of a much better stock feeding quality.

Selecting a few of the most characteristic of the Rothamsted experimental grass plots, which have received the same manurial treatment for the past 54 years, we find that the plot of land which has had no manure whatever for the whole of this long period, yielded but $6\frac{3}{4}$ cwt. per acre, being $9\frac{1}{4}$ cwts. of hay, less than the average; the addition of lime to one-half the area increased the yield by 4 cwt. per acre.

Superphosphate alone, at the rate of 3 cwt. per acre, produced $12\frac{1}{8}$ cwt. of hay per acre, being just about double the quantity of the unmanured plot. The addition of sulphate ammonia, 400lb. per acre, to the superphosphate, gave no increase over the plot receiving superphosphate alone; this fact was doubtless owing to the lack of potash, which ingredient in such an unfavourable season as the present appears to have considerable influence on the total yield of hay, as well as upon its cattle-feeding value.

The soil of this plot, which has received for so many years superphosphate and ammonia, but without potash, has become distinctly acid, so that the vegetation, which consists mainly of shallow-rooting grasses growing in tufts—namely, sheep's fescue, sweet vernal, common bent smooth-stalked meadow grass, and Yorkshire fog; these grasses have generally a rusty and unhealthy appearance, and there is an entire absence of clovers in the herbage. The addition of ground lime to one-half of this plot resulted in an increased bulk of hay of $11\frac{1}{2}$ cwt. per acre.

The plot receiving a complete mineral manure, of which the chief ingredients are 3 cwt. of superphosphate and 5 cwt. of sulphate potash gave $24\frac{3}{8}$ cwt. of hay, being 5 cwt. per acre less than average. On this plot an application of lime to one-half increased the yield of hay by half a ton per acre. On an adjoining plot where the potash was omitted, the weight of hay fell to $15\frac{1}{4}$ cwt. per acre, and on this plot with its soil-exhaustion of potash, the application of lime had no effect.

Superphosphate, sulphate of potash, and 400lb. sulphate of ammonia, produced $29\frac{1}{2}$ cwt. of hay, being $14\frac{5}{8}$ cwt. per acre less than the usual average. On the adjoining plot, where potash was omitted, the yield of hay was reduced to 17 cwt. per acre only, being nearly a ton of hay per acre less than the average record for this plot.

Superphosphate, potash, and 550lb. nitrate of soda per acre, yielded $48\frac{3}{8}$ cwt. of hay, which is very nearly the average produce for this plot. The same amount of superphosphate and potash with one-half the quantity of nitrate soda, namely, 275lb. per acre, gave $31\frac{5}{8}$ cwt. of hay, being $7\frac{5}{8}$ cwt. below average.

These experiments prove that on this class of grass land nitrate of soda is a much better manure than sulphate of ammonia, more especially in a season suffering from a deficiency of rain. The probable reason for this fact is that nitrate of soda dissolves more rapidly in the soil than does sulphate of ammonia, and thus descends more deeply into the subsoil whither the plant-roots follow it, for where the food is there go the plant roots to feed upon it, thus a larger soil area and a greater supply of soil moisture become available to the growing crop.

J. J. Willis.

Harpenden.

APPLE CHRISTMAS PEARMAIN.

This apple, introduced, I think, in 1905 by Messrs. G. Bunyard and Co., Lim., Maidstone, should, when better known, become popular amongst fruit growers. It grows to a capital dessert size, looks well on the exhibition table, and, from a market point of view, it is of a good taking colour. It is said that the variety crops heavily, and forms good standards, but I should like to hear a little more on these points, as well as observations on its behaviour generally in both heavy and light soils. Perhaps the raiser, or some other grower, will enlighten us on these matters. We know only too well all dessert apples are not Cox's Orange Pippins, as regards flavour, but there are other important qualities which must be considered, especially by those who grow fruit on a large scale, and as the time for planting is at hand any observations respecting this particular variety would be very useful.

H. Markham.

Wrotham Park Gardens.

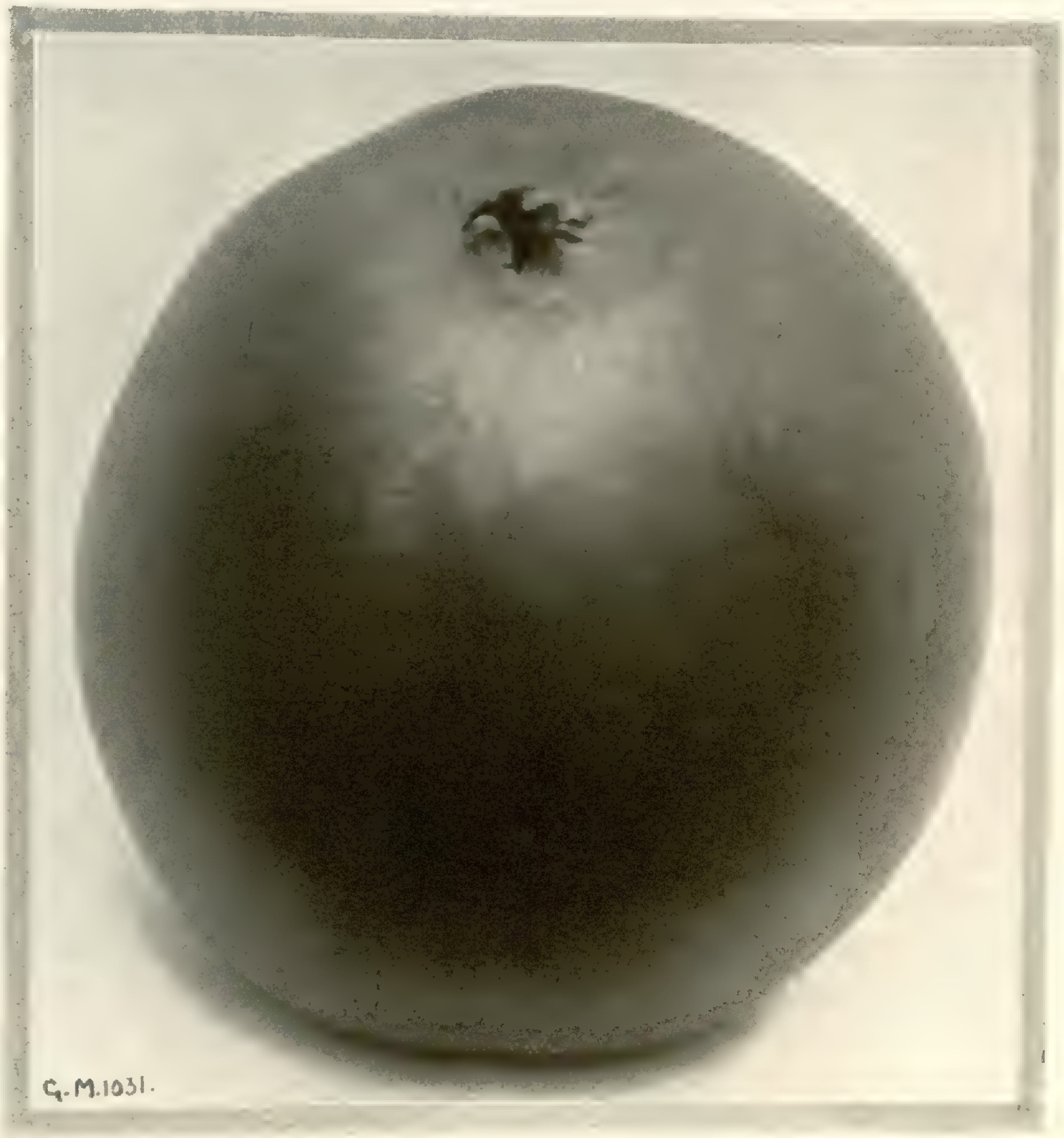
PLANTING FRUIT TREES IN POOR SOIL.

In some districts there are several different kinds of soil within a limited area. In one case I know of there is a strip of beautiful deep yellow loam about half a mile wide and many miles long, and for a considerable distance on each side of this narrow strip the soil is comparatively poor, consisting of peat in some parts, and gravel, peat, and sand in others. In the whole of the district in question gardeners strive to grow fruit trees, but those possessing the good soil are not handicapped to the same extent as others who are obliged to plant their trees in the poor soil. But this fact does not deter gardeners; they have succeeded in cultivating splendid specimens in the poorer ground, although both apple and pear trees thrive best in a deep, friable loam, preferably in that which is inclined to be of a clayey nature. In regard to pears, I know of instances where magnificent crops are now growing on trees planted in a gravelly, sandy, peaty medium.

Thousands of fruit trees will very soon be planted in both old and new gardens in different parts of the country, and in many kinds of soil. In all cases, I strongly advise intending planters to thoroughly prepare the ground before putting in the trees. One must regard the trees as permanent when once they are planted, and we expect them to improve every year. I will here state a case where failure resulted. A new orchard was being formed, and the soil was shallow, resting on a mixture of sand and gravel; it was poor and hard when dry. The orchard was intended to be an important one; but the initial mistake of not trenching proved to be a costly one. Holes were made—they were not large enough—and the trees roughly planted in them and left unstaked. Result: scarcely any growth was made during the three years following the planting; the trees lived, but were sorry looking objects. I have just inspected them after a period of fifteen years, and their appearance now is that of trees of five years' growth. There is scarcely a straight-stemmed specimen amongst them owing to neglect in staking. There are other fruit trees growing in similar soil not far from them, but they were treated well by a person who knew how to manage fruit trees, and they are splendid fruitful specimens. Much might have been done by surface dressings, etc., to improve the condition of the badly planted trees, but no attempt was made in this direction. I give this case as a warning to inexperienced cultivators.

I know of another instance where much success followed a novel method of planting apple and pear trees. There was a thin crust of soil on a gravel bed, mixed freely with sand. Holes in the gravel and sand were made after removing the crust of soil. Then the soil was used for covering the roots, and the stones and sand put back in the form of a mulch. The trees were well cared for, and top-dressings of better soil were put on as opportunity afforded. The stony surface was moist even in the hottest weather, and many fibrous roots were made annually. Branch growth was moderate, it matured well, and yielded fair average crops of average quality fruit. As many gardeners are now, no doubt, obliged to plant fruit trees in indifferent, or apparently unsuitable ground, or not have any trees at all, I give these examples as both a warning and an encouragement.

G. B.



APPLE CHRISTMAS PEARMAIN.

A remarkably handsome dessert variety of high quality. Introduced by Messrs. G. Bunyard and Co., Lim.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

WINTER FLOWERING CYPRIPEDIUMS.—Owing no doubt to the unfavourable climatic conditions of the past summer and autumn, the winter blooming cypripediums are some weeks later here and in this district than usual. One almost feared a short time since that they were not going to flower; but satisfactory results are apparent in the earlier flowering kinds, and there is no reason to anticipate otherwise with the later varieties. It is many years ago that I first referred in this column to the usefulness of these orchids for decorative purposes where there was a demand for plants and flowers during the duller months of the year. From recent observations it is evident they have become general favourites not only with orchid specialists, but also in gardens generally. I cannot pass the matter by without still further pointing out the advantage these cypripediums offer to those whose gardens are in the neighbourhood of large towns and in smoky manufacturing districts. Take, for example, some of the districts which surround Manchester. Here we find the conditions so detrimental to plant life that scarcely a blade of grass will grow outside. To attempt to grow any of the various stove or greenhouse plants is by no means encouraging. Yet we find in these districts the winter-flowering cypripediums are cultivated more extensively than in any other part of the country, and the success of their cultivation is displayed at the fortnightly meetings of the Manchester Orchid Society during the winter months. This, I think, should be sufficient to show that they can be successfully cultivated and satisfactorily flowered under conditions unfavourable to plant life. The cultivation is so simple, and their requirements are now so well understood by most amateurs, that they merit more general attention. The durability of the flowers when cut is remarkable, and, if permitted to remain on the plants, they last a long time in perfection. I would point out the desirability of cutting the flowers as soon as possible after they have become fully open. Nothing taxes these cypripediums so much as over flowering. If the flowers are removed and stood in bottles of water in the house in which the plants are grown, they will last for several weeks in perfection, so that there is no reason whatever to put the plants to a great strain.

SEEDLING PLANTS of the winter flowering cypripediums make, perhaps, more growth at the present season than at any other period of the year. Many of them will also be actively rooting. Such should be examined for repotting purposes, especially so where they are reaching the flowering stage. It is often difficult to decide what to do for the best when there is a possibility of their flowering, but unless a plant is actually showing flower, I do not consider it is desirable to neglect an increase of root room, when the roots are running freely, for, if carefully done, very little check is caused, and more satisfactory results are produced in the health of the plants, and also better quality in the flowers when they are produced. Where they become root-bound so much more frequent watering is necessary, which, in my opinion, is not desirable during the winter months.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

NEPENTHES.—Further shading will not be necessary this season, but a close, moist atmosphere at all times, even during the winter months, must be maintained. Daily syringing and regular watering, with a night temperature of about 65 degrees, and a slight rise during the day, should be maintained; and the plants will then make healthy growth. Cut-down plants will form pitchers which will fully develop in the spring.

DRACÆNAS.—At this season, to retain the beauty and value of dracænas, the leaves must not be allowed to drop from comparatively young plants; a light position near to the glass in a temperature of 60 degrees, and very careful watering are most essential. Careless watering during the short, dark, dull days is generally the cause of disfigurement. Sometimes damage is done to the young leaves of highly-coloured kinds by an over-free use of the syringe.

BEGONIA PRESIDENT CARNOT AND B. CORALLINA.—When, at this season, these begonias are grown in a temperature of about 60 degrees, they are very effective, and continue flowering for a very considerable time. Feed them freely if well rooted. Ample root room is necessary to produce the best results. When trained overhead on the rafters the huge clusters of bright flowers are most effective, and as the plants are fairly free from pests, they should be given such a position. Two parts loam, one part peat, one of coarse sand, and some burnt clay and wood ashes make up a very suitable mixture.

TUBEROSES.—These make fine companions to the above winter-flowering plants, and to secure a succession of bloom, bulbs should be potted up at intervals of a few weeks, using four-inch or six-inch pots, with one bulb in the former, and three in the latter. Remove all side growths, and use a light, rich, firm soil. When the pots are filled with roots, plunge them in a bed with a temperature of 60 degrees. Give little or no water until growth is well advanced. Tuberoses may be had in flower the greater part of the year, and when used in moderation their perfume is delicious.

EUPHORBIA JACQUINIÆFLORA.—If it is considered desirable to have some of these in flower, a slight rise in the temperature may be given; but this must not be overdone, because much fire-heat has a tendency to weaken the flowers. Careful watering is at all times essential.—W. Fyfe, Lockinge Gardens.

FRUITS UNDER GLASS.

RIPE GRAPES will require great care this damp season, and when it can be conveniently done the vines should be relieved of some of the bunches, especially when heavily cropped. If cut and the end of the laterals placed in bottles of soft water, and placed in a dry room, they will keep fresh for a very considerable time. When the borders are outside they should have received a covering to carry off the heavy rains. The grapes must be looked over regularly to cut away any berries that may be spotted or damping, and the interior of the house kept as sweet as possible by means of gentle heat, and a little air admitted at the apex ventilators; and if the borders have become too wet, a layering of clean straw will be a good means of absorbing a portion of the moisture.

TOMATOES.—Those plants now fruiting must have a warm, dry, and airy temperature of about 55 to 60 degrees. Pinch out laterals as soon as they are seen, so that the force shall be directed to the fruits. Give water only when needed, remembering that the tomato requires a comparatively high temperature and dry atmosphere. At the same time it must be borne in mind that the roots must not be allowed to become dust dry. Gather the fruits as soon as ready, and lay on fine wood wool till required for use.

CUCUMBERS.—The plants for supplies in winter are just commencing to fruit, and when they are in full bearing cut the old plants that produced the autumn crop to make room for other occupants. Keep the growths neatly tied in, and stop at the joint immediately above a fruit, and allow only one fruit to each joint. All others should be promptly cut off, and it is advisable not to allow more to grow than are required for use. Top dress as often as the roots are seen to be coming through the soil. Good loam and mushroom bed manure, and a little soot and bonemeal make a suitable top-dressing for winter cucumbers. Syringe the underside of the foliage every day in order to keep it clean, and damp around pipes and paths several times daily in order to keep a nice moist atmosphere.

ORCHARD HOUSE TREES.—Whether these are in pots or planted out, they should receive attention now, and those trees which are planted out, and have made too much growth should be lifted, and given fresh soil; good loam and lime rubble, are the principal materials for enriching the border, and for use in pots. It is best to apply manure when the trees are growing.

CHERRY HOUSE.—This should be thoroughly cleansed. The border should be lightly pricked over and be taken away, and some fresh soil and lime rubble spread over the border. When this has been done the trees will be in readiness for starting, or the house may be used for any light plants, bulbs, etc., for a few weeks.—W. A. Cook, Leonardslee Gardens, Horsham.

THE KITCHEN GARDEN.

FRENCH BEANS.—Those sown as advised in early autumn, if subjected to proper treatment, will be commencing to yield a supply of beans which will continue for some time. Although a heavy return cannot be expected from seed sown now, where convenience will permit it will pay to make a sowing, if only to give a few dishes and afford variety in the vegetable supply. Pots not larger than seven inches in diameter should be used, and these should have ample drainage, and be filled with light sandy soil. Anything of a heavy nature will result in failure; and care in watering the young plants is essential. Give them the lightest position in the forcing house to build up strength as growth is made.

LETTUCE.—A pan or two of seed of an approved variety of cabbage lettuce, such as All the Year Round, or Golden Ball, may be sown. The young plants should be grown along slowly in a light, cool position, such as on a shelf in a greenhouse or carnation house. Strong stocky plants suitable for pricking out over mild hotbeds towards the end of December and beginning of January ought to result from this sowing.

BROCCOLI.—To assist the plants to stand the winter frosts, the heads should be turned over to face northwards, and the stems earthed up with soil. It is just below the leaves that is mostly damaged by frost, and therefore requires protection. This will serve to reduce the loss that is often experienced during exceptionally severe weather when the crop is fully exposed. In districts in which vegetation suffers much from frost, a quantity of bracken fern is valuable to throw lightly over the plants when required.

DRAINING.—The present time of the year is the most suitable to drain the kitchen garden, as many of the quarters are clear of crops, and the condition of the soil shows clearly if charged with too much moisture. Where this is the case, the soil is too cold for vegetation to give its maximum returns, and should be drained at once that next season's crops may benefit from it. The nature of the soil must be taken in consideration when carrying it out. If strong and adhesive, the drains will require to be placed closer together and more shallow than on lighter land.

GENERAL REMARKS.—With such a moist, sunless season as we have experienced, reports are coming to hand that potatoes are keeping indifferently, and therefore frequent and careful examination will be necessary. Endive and lettuce placed in frames will require the removel of decayed parts, and free ventilation on every favourable occasion. Stir the surface soil amongst crops wintering in frames as often as possible, such as cauliflowers, etc.; also run the Dutch hoe through the sowings of young onions, spinach, and crops that are growing on south borders.—Charles Flack, Cholmondely Castle Gardens.

EXHIBITIONS AND MEETINGS.

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Liverpool Horticultural Association.

The thirtieth autumn exhibition was held in St. George's Hall on November 3 and 4, under most unfavourable weather conditions; indeed, so bad was the light during the judging that matches were brought into request to test the colouring of the grapes. The entries were much below the normal, especially in chrysanthemums and miscellaneous plants, and this detracted from the usual brilliant display generally seen at these exhibitions. The cause of this failure may be attributed to the early date of the show and the late season experienced.

CUT BLOOMS.

These were fairly good in quantity and surpassed expectations. In the chief class, for thirty-six blooms, eighteen incurved and eighteen Japanese, six lots were staged. Mr. G. Haigh, gardener to Sir W. H. Tate, Bart., Allerton, last year's winner, was again successful, thus securing the handsome challenge vase presented by Sir W. H. Tate, Bart. The flowers were heavy throughout, especially fine were (incurved) Buttercup, Mrs. J. Hygate, Lady Isabel, Miss F. Ashworth, Boccasse, and Romance; (Japanese), Mrs. A. J. Miller, Chry. Montigny (possibly the finest bloom in the show), J. Locke, Mrs. W. Knox, Algernon Davies, Sir Frank Crisp, Lady Talbot, etc.; Mr. G. Goves, gardener to Sir Gilbert Greenall, Bart., was second; and Mr. G. Hunt, gardener to Pantia Ralli, Esq., Ashstead, third; and Mr. J. Stoney, gardener to Lieut.-Colonel J. B. Gaskell, J.P., fourth. For eighteen incurved, not less than twelve varieties, Mr. G. Hunt led the way, and for twelve blooms Mr. J. Clarke, gardener to Thos. Clarke, Esq., scored.

The best eighteen Japanese, not less than twelve varieties, came from Mr. G. Goves, and the best twelve from Mr. J. Copple, gardener to T. Biddulph, Esq. For six Japanese, distinct, to be shown in two vases, Mr. J. MacFarlane led, and for six vases of single flowers, arranged for effect, Mr. E. Wharton was to the fore, his white Edith Pagram being noteworthy. The most tastefully arranged table of flowers was by Mr. J. Williams, gardener to C. J. Procter, Esq.

PLANTS.

Chrysanthemums in pots showed the effects of the late season, some of them being staged with only a few open flowers. For four large-flowered trained specimens, Mr. T. Hitchman, gardener to A. Earle, Esq., was first with good, but unfinished plants. For one large-flowered example, the same exhibitor was to the fore.

Mr. R. T. Bushell, gardener to L. Noblett, Esq., took the lead for three plants of single varieties, and he also had the best pompons. In other plant classes, Mr. E. Wharton, gardener to John Findlay, Esq.; Mr. P. Caunce, gardener to G. Nicholson, Esq.; and Mr. T. Hitchman won prizes. For a group arranged for effect Mr. T. Atkin, gardener to J. W. Wright, Esq., held the place of honour with fresh flowers, well arranged.

For six begonia Gloire de Lorraine Mr. T. Hitchman won with excellent plants. For four stove or greenhouse ferns, Mr. W. H. Roberts, gardener to T. Dixon-Nuttall, Esq., led with fair specimens. Mr. R. J. Taylor, gardener to R. L. Overton, Esq., won with small, but choice varieties, in the class for three orchids, and for one orchid the same exhibitor was to the front, with a fine plant of Cattleya Mantini 4ft. in diameter, carrying twenty-seven spikes and 124 flowers; this plant received a well-deserved certificate of merit. For one cypripedium, Mr. W. Wilson won with C. Spicerianum, carrying several twin-flowered spikes. Mr. G. Osborne, gardener to Dr. Duffus, led for three palms or cycads, and also for a like number in eight-inch pots. Mr. H. McFall had the best primulas; Mr. R. T. Bushell the best cyclamen; Mr. E. Wharton the best mignonettes; Mr. F. Atkin the finest table plants; Mr. J. George the best poinsettias; Mr. T. Hitchman the winning sets of Roman hyacinths and salvias; and Mr. D. McKelvie the best lily of the valley.

FRUIT.

This section, as usual, contained many fine exhibits, and for six dishes, distinct, Mr. E. F. Hazelton, gardener to the Right Hon. Earl of Derby, led with well-finished Muscat of Alexandria and Black Alicante grapes, richly-coloured Cox's Orange Pippin, and Peasgood's Nonsuch apples; and White Seedling melon; Mr. J. Skitt, gardener to A. H. Bright, Esq., second; and Mr. T. Elsworthy, gardener to W. L. Gladstone, Esq., third. For two bunches of Alicante grapes, Mr. W. Wilson was first with well-coloured bunches, and for "any other black," Mr. R. Anderson, gardener to Mrs. Kendall, scored.

The best two bunches of Muscat-flavoured grapes were from Mr. J. Stoney, who had large-berried bunches; for "any other white," Mr. W. Wilson led, and for four bunches of grapes Mr. E. F. Hazelton won with Alicantes and Muscat of Alexandria. In the class for six dishes dessert pears, Mr. Hazelton won with heavy specimens; Mr. G. Gilmour, gardener to Thos. Kendall, Esq., led for four dishes; Mr. E. Hazelton for four dishes grown outside, and Mr. J. Taylor, gardener to F. Bibby, Esq., for one dessert variety, with Doyenne du Comice. Mr. Hazelton had the best dish of stewing pears.

For four dishes of dessert apples Mr. Hazelton won with richly-coloured fruits; for four dishes of culinary varieties, Mr. T. Howard led, and in the remaining five classes Mr. J. Lee, the noted amateur, was well ahead, his Cox's Orange Pippin and Peasgood's Nonsuch being very fine.

NON-COMPETITIVE.

As usual, this section was strong, and added much to the attractiveness of the exhibition. A gold medal was awarded to Mr. J. Lee, for seventy-four dishes of fruit, a very fine display; gold medal to Messrs. Mansell and Hatcher, for a choice display of orchids and for Lilium sulphureum; a silver medal went to the Liverpool Orchid Company for orchids; to Messrs. Dicksons for a collection of apples and carnations; to Messrs. Clibrans, for chrysanthemums and pelargoniums; to Mr. H. Middlehurst, for liliums and spiræas; to Messrs. Thos. Davies and Co. for ferns and spiræas; to Mr. W. Rowlands, for carnations and cyclamen; to Messrs. R. P. Ker and Sons, for palms, cyclamen, etc.

Bedford.

There was a very bright show in the Corn Exchange, Bedford, on November 4, and, though there was a falling off in some of the amateur classes for flowers, there were about sixty more entries than usual. In the leading cut flower classes, especially in the vases, there were some very fine Japanese blooms; singles were good, but incurved poor. The fruit classes brought out an excellent competition, but it was in the classes for vegetables that the competition was keen both as regards numbers and closeness of quality. The vegetables were excellent all through, and in the classes set apart for cottagers, the vegetables and fruits were of a high standard of excellence. Messrs. Laxton Brothers put up an excellent exhibit of hardy fruits grown at their Bedford Nurseries.

GROUPS AND PLANTS.

The premier award in the group class fell to Mr. Tysoe, gardener to the Misses Fitzpatrick, The Lodge, Clapham Road, Bedford, for a well-arranged display of good blooms, in which the colours were well blended, and white flowers were very few; Mr. A. H. Pike, gardener to W. H. Allen, Esq., J.P., Bromham House, Bromham, was second, but his margin of single varieties was very weak. In the single-handed gardeners' class, Mr. P. Welcher, gardener to J. W. Wright, Esq., Burnaby Road, was the only exhibitor, and he was awarded first prize for a really first-rate display, finished off at the pot level with ivy sprays. Plants were not good, although Mr. Burkinshaw's six table plants must be omitted from this observation; he was first in that class. He was awarded a second prize for Begonia Gloire de Lorraine, six plants.

FLOWERS.

From four competitors, Mr. Taylor, gardener to R. W. Allan, Esq., Blunham Grange, Blunham, secured the premier award for one dozen Japanese blooms, winning with F. S. Vallis, Master David, Eric Crossley, W. Beadle, Bessie Godfrey, and Edith Jameson; Mr. Tysoe was second, and very little behind the first set; Mr. E. Jones, Bower Street, Bedford, third. In the amateurs' class for a dozen Japanese blooms, Mr. P. Wilsher led, followed by Mr. E. Jones. First place for a dozen incurved blooms was won by Mr. W. Wilsher, who had fairly good specimens of Buttercup, Lady Isabel, and Embleme Poitevine; Mr. E. Jones a good second, and Mr. P. Wilsher third.

Mr. T. Tildesley, Goldington, was a capital first for a dozen Japanese in the cottagers' division, and with his stand he won the prize for the "best bloom" in his division, and also the N.C.S. certificate; Mr. H. Parrot second, and Mr. Pateman third.

Several of the vase classes were good. In the one for five Japanese blooms, distinct, with any foliage, Mr. E. Jones was a capital first with fine examples of Mrs. Knox, Reg. Vallis, and Lady Talbot; Mr. F. Taylor second, and Mr. H. Tysoe third. For five blooms of any one Japanese variety, Mr. F. Taylor scored with Bessie Godfrey in fine form; Mr. E. Jones second with Lady Talbot not quite fully out; and Mr. Tysoe third with spreading but thin flowers of F. S. Vallis. For a vase of five blooms of any one white Japanese variety, Mr. F. Taylor scored with Mrs. A. T. Miller in fine condition, and one of these flowers was the "best bloom" in the premier divisions; Mr. E. Jones second with the same variety; and Mr. P. Wilsher third with Mrs. J. C. Neville.

Mr. S. Shutler, gardener to J. Rushbrooke, Esq., St. George's, Ampthill, scored for three vases of three blooms each of Japanese varieties, his varieties being Mrs. R. H. Pearson, Mrs. A. T. Miller, and Mrs. Knox; Mr. Tysoe second, and Mr. F. Taylor third.

Some capital vases of singles were shown, and in the class for five vases, Mr. W. Wilsher led the way with Mary Anderson, Mrs. H. Redden, Mary Richardson, etc.; Mr. R. Day, gardener to T. E. Hurst Hodgson, Esq., St. Mary's Abbey, Bedford, second; and Mr. E. Jones third. Mr. Jones was first, and Mr. E. H. Pateman Eastwood, Pembroke Street, Bedford, second for three vases of single varieties.

Table decorations were fairly good; Mrs. Ruff, Sharnbrooke, gained first prize, with Mrs. A. H. Pike, Bromham, second, and Miss Stanton, Clapham, third. Mrs. Ruff was a capital first for a basket of chrysanthemums with a delightful display of Mary Richardson; Mrs. G. Myers second, and Mrs. A. H. Pike, third.

FRUITS AND VEGETABLES.

Mr. W. Wilsher led for two bunches of black grapes with large, loose bunches of Alicante; Mr. R. Day second, and Mr. T. W. Burkinshaw, gardener to Sir C. E. Hamilton, Bart., Hatley Park, Sandy, third with Lady Downes. Mr. Burkinshaw had the best Muscats, and Mr. W. Wilsher was second, with Mr. P. Wilsher third.

First place for four dishes of culinary apples fell to Mr. Tysoe, who had Blenheim Pippin, Peasgood's Nonsuch, Warner's King, and Beefing; Major Carpenter, Biddenham Close, second; and Mr. J. Bates, St. Mary's, third. Mr. Burkinshaw scored for dessert apples with Blenheim Pippin, Allington Pippin, Cox's Orange Pippin, and King of the Pippins; Mr. Tysoe second, and Mr. Day third. Mr. Tysoe led for pears with Pitmaston Duchess, Beurre Diel, Doyenne du Comice; Mr. R. Day second, and Mr. Burkinshaw third. Mr. Taylor had the best dish of culinary apples with Warner's King and Mr. Day had the best single dish of pears—Grosse Calebasse.

Vegetables were a splendid feature, and occupied a large amount of space. For nine kinds Mr. Tysoe scored with Michaelmas cauliflowers, Ailsa Craig onions, Perfection carrots, Standard Bearer celery, Windsor Castle potatoes, etc.; Mr. S. Shutler a close second; Mr. W. Gaiger, gardener to A. T. Tatham, Esq., Elstree, Herts, third; and Mr. Gentle, gardener to Mrs. Denison, Little Gaddesdon, fourth. There was little to choose between the sets, though some were better put up than others. For six kinds of vegetables Mr. F. Taylor scored; Mr. R. Day was second, and Mr. A. H. Pike third. In the class for six kinds, provided by Messrs. Sutton and Sons, Mr. Shutler was to the front, and he had grand onions and leeks; Mr. H. Tysoe second, and Mr. W. Gaiger third. In the class provided by the Messrs. Laxton Brothers, Mr. Tysoe led with splendid produce, onions being again fine; Mr. R. Day second.

Mr. J. B. Robinson, Great Barford; Mr. Mason, gardener to H. G. Hipwell, Esq., Shakespeare Road; and Mr. R. Burgin, Bower Street; also won prizes in classes for collections of vegetables, while in single dish classes Mr. Tysoe led for celery; Mr. Day for sprouts; Mr. Tysoe for leeks and for onions (fine); Mr. Gentle for potatoes; Mr. Gaiger for parsnips; Mr. Tysoe for carrots; Mr. Gentle for turnips; Mr. Gaiger for beet; and Mr. Day for cauliflowers.

National Amateur Gardeners' Association.

On Tuesday, the 2nd inst., at this society's meeting at Winchester House, Old Broad Street, Mr. T. W. Sanders, F.L.S., in the chair, Mr. Charles T. Druery, V.M.H., F.L.S., gave an interesting lecture on "Our Wonderful World." Opening with an apology for the necessarily superficial way in which so vast a subject could be dealt with in a single short lecture, he stated that his object was rather to induce increased attention to the innumerable marvels underlying all the familiar things around us, and whose very familiarity was apt to lead, not indeed to contempt, but an entire ignoring of their truly wonderful nature. He divided his subject into four heads, viz., the Air, the Earth, the Ocean, and the most interesting one of all, the Life which existed in each. The air he described as practically forming a vast and profound ocean, at the bottom of which we lived under an immense pressure, which we did not feel because it was counterbalanced by an equal pressure from within. He described its composition, gaseous and aqueous, and how it resembled the watery ocean in its currents and whirlpools, though these latter were on a vastly greater scale.

Next he dwelt upon the accepted history of the evolution of a solid habitable world from a nebulous celestial mist, and the stages through which it must have passed ere it became as we now know it, alluding to the variety of the rocks which compose its crust, and the history which these rocks unfold to the geologist and associated scientists. The oceans, all of which were practically one, were next touched upon, and the manner was described in which the great circulatory system was maintained, the tropical water sweeping north and south as vapour and returning by way of glaciers and rivers to the sea to form a slow returning bottom current, cold as ice, to their tropical source.

The final theme of the life existing in all three realms, and how it was evolved from simple beginnings into the innumerable forms with which we are more or less familiar, was concluded by an allusion to perhaps the most wonderful feature of all, viz., that the only link between the sun, the immediate source of all vitality and this world of ours, was chlorophyll, the tiny green granules pervading all foliage, and which alone were capable of utilising the sunbeam and transforming, by virtue of its energy, the inorganic salts of the earth and the carbonic acid of the air into all the foods and essentials of humanity and the animal world generally.

A hearty vote of thanks was accorded the lecturer.

Bournemouth.

The annual chrysanthemum show was held on November 2 and 3, in ideal autumn weather, in the Winter Gardens Pavilion, an excellent building for the purpose. The exhibition was a great success in every way. Groups of miscellaneous plants were new features this year, and there were also the old arrangements of chrysanthemums in pots. Table decorations were a lovely feature, the hand bouquets, sprays, and floral designs generally, also made a beautiful display. Hardy fruit was extensively shown both by private growers and nurserymen, and grapes were shown in greater numbers and of higher quality than in any previous year at this show.

Cut blooms on boards showed a falling off in numbers, but the average quality was good. Mr. Thomas Stevenson, gardener to E. G. Mocatta, Esq., Woburn Place, Addlestone, was the first prizewinner in the class for thirty-six cut blooms, not more than two of any variety; his varieties were as follows: F. S. Vallis (two), Henry Perkins, Lady Talbot (two), Valerie Greenham, Mrs. Charles Penford, Sir Frank Crisp (two), Mrs. Norman Davis, Marquis of Northampton, Reginald Vallis (two), Master James (two), F. W. Lever, Mrs. W. Knox, Mrs. A. T. Miller (two), Algernon Davis, G. J. Bruzard, Mdme. de la Crouce (two), James Lock (two), Chas. H. Totty, Walter Jinks, Miss N. K. Thorne, Duchess of Sutherland (two), J. H. Silsbury, Mrs. Stoop, Mrs. Norman Davis, Leslie Morrison, and Mdme. G. Rivol; Mr. Usher, gardener to Sir Randolph Baker, Bart., Blandford, was a close second, and his best blooms were Rose Pockett, Mrs. A. T. Miller, Lady Talbot, President Viger, W. Beale, Splendour, Mr. Laxton, and Dr. Watson.

For twelve cut blooms, Japanese, Mr. Lloyd, gardener to Major Wyndham Pain, Christchurch, scored; Dr. Brodie, Bournemouth, being second. Dr. Brodie was also first for twelve Japanese in not less than six varieties; Mr. Barge, gardener to Rev. C. H. Burrows, being a close second. In the class for nine vases of Japanese blooms with long stems, three blooms of each, in nine distinct varieties, Mr. Slark, gardener to G. J. Fenwick, Esq., Bournemouth, was successful, winning the silver challenge cup presented by Alderman Beale.

Instead of providing for a group of chrysanthemums and foliage plants, as formerly, the committee this year included other plants, making it a miscellaneous group. Messrs. G. Watts and Sons, Bournemouth, were the successful exhibitors; Mr. Welch, also of Bournemouth, being second. Mr. Tompkins, gardener to the Dowager Lady Miller, scored in the chrysanthemum group class, also winning the challenge trophy presented by the Mayor of Bournemouth, with a very fine arrangement. This exhibitor also secured the silver challenge cup presented by Mrs. Telfer for two vases of Japanese chrysanthemums, nine blooms (one variety), in each case. Mr. Sprackling, gardener to Dr. Lys, scored for three bush plants in the open division, and in another class Mr. Slark won, followed by Mr. C. Barrett, gardener to E. Howard May, Esq., the specimens all being very fine.

Mr. W. Shave, gardener to the Dowager Lady de Tabley; Mr. Wills, Southampton; and Mr. Jeffreys and Miss Taylor were prominent exhibitors in the classes for baskets of flowers and foliage, bouquets, sprays, and table decorations.

FRUITS AND VEGETABLES.

Fruits were shown in very fine condition, and extensively. For three bunches of grapes, distinct varieties, open to all England, Mr. Pope, gardener to L. G. Pike, Esq., Wareham, Dorset, scored, followed closely by Mr. Geo. Garner for second honours with better finished bunches. Mr. C. Curtis, Blandford, was successful also in the open class for two bunches of black grapes, and Mr. G. Garner again won second prize, Mr. C. Barrett being third. Mr. Pope was first in the open class for two bunches of white grapes, staging Muscat of Alexandria in superb condition. He was also first in the local class for two bunches of grapes.

Mr. Beesley, gardener to the Right Hon. Earl Nelson, was premier exhibitor with four dishes of kitchen apples (forty dishes staged), and Mr. C. S. Wady was equally successful in the class for dessert apples (forty dishes staged here also).

Vegetables were a prominent feature of the show, and Mr. Usher was first for a grand collection of six distinct kinds.

NON-COMPETITIVE.

Mr. A. S. Usher staged a very imposing collection of vegetables, not for competition, for which he was awarded a gold medal. The chairman of the committee was awarded a silver medal for a beautiful collection of orchids, prominent amongst them being Cypripedium insigne Harefield Hall variety, Cattleya Harrisoni and sophronitis, Cattleya Harrisoni, Lælia Elva, and some lovely oncidiums that have flowered during the past seven years. Mr. R. Chamberlain, the vice-chairman, was awarded a gold medal for floral designs, and Messrs. Cypher and Sons, Cheltenham, a similar award for orchids. Messrs. Cooling and Sons, Bath, sent apples and pears (silver medal); Messrs. D. Stewart and Sons, Wimborne, had a gold medal for a grand collection of apples and pears. Messrs. Cutbush and Sons, Highgate, obtained a silver medal for carnations, and Messrs. Toogood and Sons, Southampton, a silver medal for vegetables. Messrs. Ingram, Thurston, Prichard, and Haskins all had excellent exhibits.

Aberdeen Natural History Society,

Professor Davidson, Aberdeen University, was the lecturer at the last meeting of this society, his subject being "The Poetry of Plant Names." There was an exceedingly large attendance, the botany classroom of the University being crowded. Mr. Reay presided and introduced Professor Davidson.

The professor, who met with a very cordial reception, started with a reference to the great amount of light that is thrown upon words by the mode of handling them, that deals with their growth in meaning, and traces their history, and to the remarkable achievements in this sphere that the new Oxford Dictionary, carrying out the principles first enunciated by Archbishop Trench, has made. The lecturer proceeded to limit his subject to the realm of common plant names, and to bring out the poetry and romance that many of them embody. His examples were: Speedwell, Our Lady's Bedstraw—a plant which figures prominently in Poussin's painting as the bedding of the manger at Bethlehem; Mouse-ear, Scorpion Grass, Paddock Pipes, and Paddock Stools, Hollyhock, Devil's Bit Scabious—the abrupt termination of the root giving rise to this name among the common folk, who imagined that Satan was angry with the plant on account of its beneficial medicinal properties; Solomon's Seal, Foxglove, Eyebright, Daisy, Pansy, Rowan, Horse-chestnut, Willow, and Royal Fern (Osmunda regalis), the only "flowering" fern found in Britain. All those examples, and many others, the lecturer pointed out, went to prove that plant names had wonderful stories of the past to tell.

History and archæology, folk-lore, and social customs, poetry and religion, fable, myth, and superstition—all were here; and medicine also had a distinct interest in the study, if it would see itself faithfully presented, not perhaps as a primitive science, but as a primitive art. Further still, plants bearing certain names had been, the professor pointed out, the subjects of poetic handling from the very earliest times. Chaucer and Spenser, and Shakespeare and Wordsworth, revelled in the poetry of flowers. Burns and Hogg and the Scottish ballad writers sang sweetest when inspired by some field weed or untended plant of Nature. It would be difficult to find anything finer in the English language than what had been written by the poets on the

Daisy. Celandine and Eglantine, and Primrose and Pansy, had each been the theme of brightest poetic effusions. Examples of these were given at various points as the lecturer proceeded, and the appropriateness of the study of plant names by members of the society was emphasised, because of the bearings of the subject on natural history and on antiquarianism, and because the subject was instinct with human interest, and replete with literary significance.

In replying to a vote of thanks, most heartily awarded, Professor Davidson specially referred to the great interest which had been taken in the lecture by such a large audience.

Newport (Mon.) Chrysanthemum Society.

NOVEMBER 4.

On the above date this society held its twenty-first annual show in the Gymnasium, Newport, when chrysanthemums were well shown. Cut blooms of Japanese varieties, both in the classes for stands and vases, and also single-flowered varieties in the classes devoted to them, were throughout of a high order of merit. The class for table decorations, open only to ladies, was well filled with pleasing displays. Fruit was not largely shown, but in the few classes provided very creditable exhibits were found.

PLANTS.

In the class for a group of chrysanthemums, to fill fifty square feet, there was only one exhibitor, but he had an excellent arrangement. This was composed of Japanese and single-flowered varieties, pleasingly mingled with crotons, cocos, and other palms, eulalias, etc., edged with variegated panicum and adiantum. The exhibitor was Mr. W. C. Pearce, gardener to H. Oakley, Esq. For a group occupying forty square feet, open only to amateurs and gentlemen's gardeners, Mr. R. Long, gardener to W. F. Dawson, Esq., Llantarnum Court, was the leading exhibitor with a nicely-arranged collection. Mr. Denman, gardener to Mrs. C. H. Bailey, was placed second. Mr. Denman was first for a group of miscellaneous plants arranged in a space of forty square feet, with a bright and tasteful arrangement, composed chiefly of flowering decorative plants. Mr. W. C. Pearce, who was second, employed chiefly ornamental-leaved plants in his arrangement. For three dwarf trained chrysanthemums, Mr. Denman was placed first with medium-sized, well-grown, and flowered examples. For three bush plants, singles excluded, Mr. Harris, gardener to G. F. Colborne, Esq., was first, and for three bush plants of single-flowered varieties, Mr. Duff, gardener to Mrs. Williams, Bryngias, took the lead. For four plants, single-flowered varieties, open only to under gardeners, Mr. W. Meades, under gardener to F. W. Dalson, Esq., was first with a good set.

CUT BLOOMS.

Mr. Duff was the only exhibitor of twenty-four Japanese, in not less than eighteen varieties, and was deservedly awarded the first prize, his blooms being of large size, fresh, and well-finished. In a similar class for twelve blooms, Mr. Duff again had no rival, and took the first prize with excellent examples.

In competition for the prizes for twelve Japanese, Mr. Long was first with excellent blooms of well-known varieties. In a similar class for amateurs, Mr. W. H. Hollingdale led with splendid blooms, including a fine example of the Hon. Mrs. Lopes (which secured the N.C.S. silver medal for the best bloom in the amateur class); the second prize was taken by Mr. J. Matthews, of Heatherwood. For six blooms, Mr. Matthews won with capital examples, and Mr. Hollingdale was a close second. For eight vases Japanese, three blooms in each, Mr. Drake, Cardiff, was placed first amongst four competitors with grand sets. This exhibit secured for Mr. Drake the society's challenge trophy, valued at thirty guineas, and £5 in cash. Mr. Bible, gardener to H.S.H. Prince Hatzfeldt, Draycott Park, was a good second, and amongst other varieties staged a grand vase of Hon. Mrs. Lopes, one bloom of which won the N.C.S. certificate for the best bloom in the show; Mr. Duff was third. In the amateurs' class for four vases, three blooms of each variety, Mr. Hollingdale again led, and Mr. Matthews was second. For four vases single varieties Mr. R. Fry was placed first, and for six vases, single varieties, Mr. E. George, gardener to E. Steer, Esq., was first; Mr. J. George, gardener to H. Freeman, Esq., being second; and Mr. Long third.

DECORATIVE CLASSES.

The most tastefully arranged table was exhibited by Mrs. McGinn, and Mrs. Percy Phillips secured the second prize. The best vase of spidery chrysanthemums was staged by Mr. Price, and the best hand bouquet of chrysanthemums by Mrs. Long. Mr. Holbrook had the best shower bouquet.

FRUIT.

Mr. Bible was first, and Mr. Duff second in a class for black grapes, each staging good bunches of Lady Downes. For white grapes Mr. Long scored with fair samples of Muscat of Alexandria. For two dishes of apples Mr. Bible was first with fine dishes of King of the Pippins and Newton Wonder; Mr. R. Hobbs second. For four dishes, Mr. Duff led with good samples; Mr. Long second. Mr. Long was first for two dishes of pears; Mr. Hobbs second. Dr. Brooke, Gratta, and C. D. Phillips, Esq., were each awarded certificates of merit for choice collections of orchids, staged not for competition.

Portsmouth.

The twenty-third annual autumn show was held in the Town Hall on November 3, 4, and 5, and, for the season, was up to the average, although entries were not quite so numerous as in the past. Cut blooms are liberally provided for in the schedule, six classes being open and twelve confined to the radius of Portsea Island.

The most important class was for thirty-six Japanese blooms in not less than eighteen varieties, and not more than two of one variety. The leading prize was a silver cup valued £20, a gold medal, and £5—quite a tempting offer. Only two competed, and the leading award was made in favour of Mr. E. Garratt, gardener to Lord Ashburton, The Grange, Alresford, for a good set of blooms, the following being the most noteworthy: The Hon. Mrs. Lopes, Mrs. W. Knox, Miss H. Rowley, Edith Smith, Mrs. N. Davis, Marquis of Northampton, Rose Pockett, R. Vallis, Lady Talbot, F. S. Vallis, J. Stoney, Splendour, Henry Perkins, Bessie Godfrey, W. Beadle, G. Mileham 1908, Mrs. A. T. Miller, President Viger, and Mrs. Marsham; Mr. W. G. Adams, The Strand, Southsea, was second with smaller specimens, J. W. Molyneux, Mrs. A. T. Miller, Hon. Mrs. Lopes, and Lady Talbot were the best.

Three competed for twenty-four Japanese, in not less than sixteen varieties, and Mr. W. E. Gill, St. Mark's, Florence Road, Southsea, was first with heavy, even-sized blooms of Lady Talbot, Bessie Godfrey, Reg. Vallis, Splendour, Marquise V. Venosta, Mdme. G. Rivol, F. S. Vallis, and Algernon Davis; Mr. P. J. Palmer, gardener to L. J. Roig, Esq., Holly Band, Emsworth, second.

Pompons were, as they always are here, well shown. For twelve sprays, three blooms on each, in not less than eight varieties, there were three entrants. Mr. J. Nance, 98, Hampshire Street, Portsmouth, was first with W. Sabey, Black Douglas, Perle des Beautes, Maid of Kent, Harry Hicks, Faber, and W. Westlake; Mr. H. Snook, 5, Fitzroy Street, Fratton, second. Single-flowered varieties were well displayed, and greatly admired; Mr. C. Johnston, 38, Walmer Road, Portsmouth, had the best set of twelve sprays, showing Roupell Beauty, Mrs. R. H. Parkinson, Edith, White and Bronze Pagram, and Jessie Curtis as the most prominent; Mr. Snook again followed.

Mr. W. E. Gill had the best group of chrysanthemums arranged on a space of 60 square feet, and he secured the silver cup offered with £5 as the leading prize, with a distinctly good exhibit; the Asylum Committee, Portsmouth, were second.

In the local classes there was good competition, and highly creditable blooms were staged. For twenty-four flowers, twelve Japanese and twelve incurved, Mr. J. Love, 2, Bertie Cottage, Park Road, Cowes, Isle of Wight, was first among three with medium sized, nicely staged blooms of Buttercup, Hanwell Glory, Romance, Clara Wells, Mrs. J. Wynn, and Embleme Poitevine (incurved), and Mdme. P. Radaelli, Lady Talbot, Hon. Mrs. Lopes, F. S. Vallis, and Mrs. A. T. Miller as the best in the Japanese section; Mr. C. White, Garden Terrace, Southsea, came next. Mr. Gill had the best twelve Japanese, distinct, and Mr. J. Love a similar award for the best dozen incurved specimens.

In the classes for ladies only, for the most tastefully arranged floral decoration for a dinner-table, there were four entrants, Mrs. W. Sturt, Stanstead Gardens, Emsworth, securing the leading position with an effective display; Mrs. Rapley, Warblington, Havant, second. Miss G. D. Burden, 17, Margate Road, Southsea, won the premier award for a basket of chrysanthemums with an extremely attractive display; Mrs. Rapley second.

Vegetables were well shown by Mr. Ellwood, gardener to W. H. Myers, Esq., Swanmore Park, Bishop's Waltham, who won the society's first prize for nine dishes, also the premiers given by Messrs. Sutton and Messrs. Webb for six dishes, staging high-class exhibits in all classes. Mr. Ellwood also won first place for six dishes of apples and two bunches of black grapes.

Bristol.

The Bristol Chrysanthemum Society held its forty-sixth annual show on November 3 and 4 in the Drill Hall, Bristol. As there were several other shows held in the district upon the same dates, chrysanthemums were not in quantity, or quality, staged so well at Bristol as we have usually found them. Specimen stove and greenhouse plants, ferns, decorative plants, and orchids, were well shown, while apples, pears, and grapes made a fine display. Trade exhibits, as usual, occupied considerable space, and were generally of high-class in quality.

GROUPS.

For a group of plants, fifty square feet, Mr. F. A. Burt, gardener to Mrs. Stucky Wood, took the lead with a well-arranged lot of dwarf chrysanthemums, carrying large, well-coloured blooms, with an edging of maidenhair fern; Mr. Hunter, gardener to J. Buckland, Esq., was placed second; and Mr. Price, gardener to I. M. Dunlop, Esq., third. Only one group was staged in a class for chrysanthemums and ornamental plants arranged on an area of 50 square feet, this was from Mr. Bannister, gardener to Mrs. St. Vincent Ames, Stoke Bishop, who had a beautiful arrangement of large-flowered chrysanthemums, tastefully relieved by the single-flowered Miss Mary Richardson, and palms, crotons, eulalias, and ferns.

CUT BLOOMS.

For twenty-four Japanese, in not less than eighteen varieties, Mr. Pope, gardener to C. Bailey, Esq., led with fairly large, well-coloured blooms, and some of his best were Mrs. W. Beadle, Splendour, President Loubet, Mrs. A. T. Miller, Madame P. Radaelli, Norman Davis, R. Vallis, and Leslie Morrison; the second place was taken by Mr. G. Sutton, gardener to W. A. Todd, Esq.; and third by Mr. Coote, gardener to D. E. Taylor, Esq. In a class for twelve blooms two fairly good lots were staged, the leader being Mr. Baker, gardener to Dr. I. Cropper; Mrs. Norman Davis, Norman Davis, Edith Smith, Reg. Vallis, Bessie Godfrey, Mrs. A. H. Lee, Mrs. F. G. Coster, and Mrs. A. T. Miller were his best blooms; Mr. H. Woodward, gardener to E. Watts, Esq., second. In the class for a dozen blooms, open only to amateurs and gentlemen's gardeners, Mr. Woodward took the lead, closely followed by Mr. Sutton. Mr. Baker was the only exhibitor of twelve incurved, and he staged good blooms.

In a class for six vases of single varieties, five sprays of each, Mr. F. Little, gardener to Lord Justine Farwell, was first; Mr. Benfield, gardener to F. Tagart, Esq., coming second; and Mr. Wilkinson, gardener to G. A. Gibbs, Esq., Flaxbourton, third. This made a pretty class. In the class for six blooms of any one Japanese variety, two exhibitors staged splendid blooms of Mrs. T. A. Miller, viz., Mr. J. T. Curtis, gardener to Sir W. H. Davies, and Mr. H. Woodward, who took first and second prizes in the order named. For six blooms of any white variety, Mr. Benfield was first, and Mr. H. Woodward second, Mrs. A. T. Miller being again the variety staged. For one bloom of any variety, Mr. Baker was placed first with a fine bloom of A. T. Miller.

PLANTS.

Orchids made a splendid show, and for a group 6ft. by 4ft., Mr. Gostling, gardener to A. G. Groves, Esq., took chief honours, with lælias, cattleyas, odontoglossums, and cypripediums; Mr. Spowage, gardener to Colonel H. Cary Batten, followed. Mr. Curtis won the first prize for three plants, staging Oncidium varicosum Rogersi, a fine variety of Cattleya labiata, and a good form of Cypripedium insigne; Mr. Woodward took the second place. Mr. Mitchell and Mr. Woodward took first and second prizes in the order named for two plants; and Mr. Curtis and Mr. Viner first and second for one plant. For three plants of choice varieties of Cypripedium insigne, Mr. Spowage and Mr. Gostling took the honours, and for one plant of Cypripedium insigne, Mr. Curtis was placed first, and Mr. Jay second.

Ferns were shown as large specimens, Mr. Benfield and Mr. Bannister taking the lead here and in several other plant classes.

FRUITS AND VEGETABLES.

In the class for a collection of six dishes of fruit, not less than four kinds, there were four exhibitors, Mr. Wilkinson, gardener to G. A. Gibbs, Esq., Tynesfield, coming first with Lady Downes and Muscat of Alexandria grapes, Jubilee melon, Fearn's Pippin apples, and Marie Louise and Doyenne du Comice pears; Mr. Baker second, and Mr. Thoday, gardener to L. P. Nott, Esq., third. For six dishes of pears, Mr. Bannister was placed first amongst five exhibitors with excellent examples of Charles Ernest, Princess, Doyenne du Comice, Beurre Diel, Beurre Anjou, and Fondante de Thirriott.

Dessert apples, six dishes, formed a strong class (eleven competitors) in which Mr. G. Pow, with splendid dishes of Cox's Orange Pippin, Allington Pippin, King of the Pippins, Baumann's Red Reinette, Rival, and Paroquet took the first prize; Mr. J. H. Virgo second; Mr. H. Pow third. Mr. A. Currey took the lead for four dishes with a fine set. For six dishes of culinary apples, Mr. G. Pow was again first in a strong class, staging large, clean dishes of Newton Wonder, Bismarck, Bramley's Seedling, Stirling Castle, Peasgood's Nonsuch, and Gascoigne's Seedling; Mr. H. Pow was a good second, and Mr. Currey third. Mr. Wilkinson was first for a single dish.

Mr. Wilkinson deservedly secured the special prize offered for the best exhibit of fruit with his collection of six dishes. This exhibitor was also a conspicuous winner in classes for grapes.

Vegetables, for collections of which Messrs. Garaway and Co., Messrs. Carter and Co., and Messrs. Sutton and Sons all gave prizes, were staged in large quantity, and in first-rate condition.

NON-COMPETITIVE.

The non-competing exhibits were a great help in making the show a success. Orchids in rare variety were staged by Messrs. Cypher and Sons, of Cheltenham; a large and good collection of apples by Messrs. Garaway and Co., Clifton, Bristol; conifers, floral designs, and decorative plants by Messrs. Parker and Sons, Clifton; carnations by Messrs. Young, Cheltenham; chrysanthemums and carnations by Mr. Ellis, Weston-super-Mare; vegetables, palms, etc., by Messrs. Brooks and Kitley, Bristol; collection of apples from British Columbia; and chrysanthemums from Messrs. Wells and Co., Merstham. Medals were awarded to these exhibitors.

Cardiff.

NOVEMBER 3 and 4.

In the Park Hall, the twenty-third autumn show was held, and, as a whole, was the best yet seen there. Much encouragement is given at Cardiff to chrysanthemums, no fewer than fifteen challenge cups, bowls, etc., are offered, beside a large amount in cash. Surely such encouragement in the nature of prizes should have an effect upon exhibitors, and it has induced them to bring of their best. Cut blooms were fine, and so were groups of chrysanthemums.

CUT BLOOMS.

There were ten open classes, and all but two of these were devoted to cut blooms. The leading class was for eight vases of Japanese blooms, distinct, three of each, for which the George Williams Challenge Cup and £4 in cash was offered as the premier award; four competed, the best coming from Mr. W. G. Drake, Cathays Terrace, Cardiff, an exceedingly fine display, the blooms not excessively large, but fresh and richly coloured; the varieties were Mrs. A. T. Miller, J. H. Silsbury, Mdme. P. Radaelli, F. S. Vallis (fine), Lady Talbot (extra good), President Viger (large), Bessie Godfrey, and Reginald Vallis (extra deep and richly coloured); Mr. F. Bible, gardener to Prince Hatzfeldt, Draycott Park, Chippenham, was a good second, having a magnificent trio of the Hon. Mrs. Lopes, one of which was awarded the prize for the best bloom in the show; Mr. G. H. Brown, gardener to E. Treharne, Esq., Cœdarhydylyn Park, third, with small blooms. In the class for twenty-four blooms, incurved, the Mrs. Courtis Challenge Cup and £3 in cash was awarded to Mr. Drake, who was the only competitor. The award was well deserved, for he staged a really fine set. For twelve Japanese, distinct, five competed, and Messrs. G. Williams and Son, Manor Road Nurseries, Cardiff, were first with an even set of well-staged fresh blooms; Mr. Bible was a good second, and Mr. H. A. Joy, Cardiff, third.

In the amateurs' section for six vases, three blooms of each, Mr. A. F. Hill staged grand specimens of the Hon. Mrs. Lopes, Lady Talbot, F. S. Vallis, P. Viger, and Mrs. G. Mileham, and won the coveted trophy, the "Vivian" cup. Single-flowered varieties were, as they always are here, well shown. Mr. T. Bindon, gardener to Dr. Wallace, Cardiff, was first with extremely fine blooms of G. W. Forbes, Edith Pagram, Altrincham Yellow, Felix, Metta, and Bronze Pagram. The best arranged vase of single-flowered varieties was one from Mr. G. J. T. Grinter, Cardiff. For twelve incurved, not more than three of any one variety, Mr. G. Tucker, Cathays, Cardiff, won with exceedingly fine blooms. For six, any kind, Mr. F. Maident, 4, Bradford Street, Cardiff, won the premier position, no fewer than seven competing. For six Japanese, Mr. T. J. Dugmore, 30, Pembroke Terrace, Penarth, was first with blooms in splendid condition, eight staging.

PLANTS.

For a group of chrysanthemums and foliage plants, Lord Ninian Stuart gave a challenge cup, which was competed for by Messrs. G. Williams and Son and Mr. W. Treseder, Cardiff, the prizes going in the order here given. The premier group contained many handsome blooms, and, for the small space occupied, was distinctly good.

Very fine, too, were the groups of chrysanthemums arranged by cottagers in a space of 20 square feet. There were five entrants. Mr. W. Hatherdale, Cardiff, a working mason by occupation, won the first prize with dwarf plants well clothed with deep green leaves, and carrying good blooms.

In the division for amateurs and gentlemen's gardeners, there were fourteen classes for cut blooms. The "Courtis" challenge cup was offered for twenty-four Japanese, but there were two entries only, Mr. A. F. Hill, 10, Oakfield Street, Cardiff, an enthusiastic amateur, was first; Mr. H. E. Allen, Penarth, was a good second. For twelve Japanese, Mr. F. E. Atkins, Cardiff, was first with high quality blooms of the leading varieties, Mr. H. Edwards, Cardiff, a close second. Mr. F. Bible was awarded the first prize for twelve incurved with large, rather rough examples of popular varieties. Mr. Drake secured the premier award for six Japanese, white, with handsome blooms of Mrs. Norman Davis and Mrs. A. T. Miller; Mr. Bible second. The last-named won the leading place for twelve incurved, and a like number of Japanese, distinct.

Fruit was a capital display. Especially fine were the apples and pears.

Gold medals were awarded to Messrs. J. Cypher and Son, Cheltenham, for orchids, and to J. J. Neale, Esq., Lynwood, Penarth, for orchids, well grown and arranged; and to Mr. Basham, Fair Oak Nurseries, Bassalleg, Newport, for a fine exhibit of apples and pears. Messrs. W. Clibran and Son, Altrincham, Cheshire, had also a gold medal for vegetables in much variety and of high quality.

Reading Gardeners' Association.

An unusually large number of members assembled for the fortnightly meeting in the Abbey Hall on Monday, October 25, the vice-president, Mr. Leonard Sutton, occupying the chair. Mr. Sutton drew attention to the approaching exhibition by the members, remarking that November 17 would be here very quickly, and urging intending exhibitors to inform the hon. secretary what space they would be likely to require.

Mr. Alderman Parfitt, president of the association, was, according to the programme, to have lectured this evening, but owing to his unavoidable absence from Reading, Mr. F. Townsend, head gardener to the vice-president, very kindly exchanged dates with Mr. Parfitt, and gave his paper, "Annuals and Perennials Grown as Annuals," on this occasion, instead of a fortnight later. Mr. Townsend opened his remarks by saying that he did not propose to touch on sweet peas, asters, or stocks, each of which might well form a subject in itself.

First dealing with annuals grown in pots, Mr. Townsend reminded his audience of the beautiful clarkias in pots, which no doubt many of them saw at the last Temple Show, and enumerated many other subjects that might be treated in an equally successful manner, schizanthus, godetia (double rose), stock-flowered larkspur, annual and perennial chrysanthemums, nicotiana, balsam, nemesia, Dimorphotheca aurantiaca, etc., the charm and novelty of which, when seen in pots, words could not express. Passing to half-hardy and hardy subjects raised under glass for summer bedding, the lecturer said he made no apology for the number of varieties he proposed to mention, the members had seen all, or nearly all, in the gardens when they visited Hillside in the summer, and could form their own conclusions as to their beauty. Some of the subjects touched on were Rehmannia angulata, carnations, dianthus, antirrhinums, pentstemons, salvias, lobelias, begonia (fibrous-rooted), petunia (large-flowered, dwarf, compact), nicotiana, cosmea, Arctotis grandis, statice, mimulus, verbena, Phlox Drummondi, salpiglossis, scabious, and zinnia.

Instructions as to sowing, the proper compost to be used, and advice as to subsequent treatment were fully given. From personal experience Mr. Townsend was able to recommend with confidence that for the raising of annuals a preponderance of leaf-soil may be, with advantage, used in the compost at the ratio of two parts leaf-soil to one of loam. The paper was brought to a conclusion with instructive remarks as to the treatment of annuals sown in the open where they are intended to flower, and having spoken for just over an hour, Mr. Townsend resumed his seat amidst applause.

An animated discussion followed, among those taking part were the vice-president, Messrs. Tunbridge, Loader, Alexander, Stanton, T. Judd, W. J. Townsend, G. Hinton, and Bailey.

Mr. Townsend illustrated his lecture with specimens of antirrhinums, pentstemons, salvias, etc., the fine flowers so late in the season being much admired.

Votes of thanks to the lecturer and the chairman concluded the evening.

Southampton Horticultural Society.

NOVEMBER 9 and 10.

In the Artillery Drill Hall, St. Mary's Road, the annual autumn show of this society was held, and proved a distinct success.

PLANTS.

For the prizes, six, distinct, each carrying not less than five blooms, suitable for conservatory decoration, there was but one competitor, and he was awarded second prize owing to the blooms on one plant being but partly developed, although the remainder were good. For six plants, consisting of white and yellow varieties, there was again but one entry. This from Mr. Dymott, Freemantle Nurseries, Southampton, who received the premier award for well-grown and freely flowered plants of F. S. Vallis and the Hon. Mrs. Acland, the latter carrying twenty-eight fully developed blooms. The contributions to the class for six single-flowered varieties, in pots not to exceed eight inches in diameter, made a good display. Mr. Dymott was first with freely flowered examples of Reine des Roses, Mrs. Hampson, Edith Pagram, Mary Richardson, and Elsie Neville; Mr. Chandler, 75, Shirley Road, Southampton, second. Four bush plants, distinct, were best shown by Mr. C. Dymott; E. Vere Freeman, Melanie Fabre and its sports were freely flowered.

The amateur growers had a class for a group of chrysanthemums wholly to themselves, but there were only two competitors, the first prize being awarded to Mr. R. Parnell, Derby Road, Southampton, for a fairly good exhibit.

CUT BLOOMS.

The prizes for twelve vases of Japanese varieties, distinct, three blooms in each, were well contested; there were three entries. Mr. F. Bible, gardener to Prince Hatzfeldt, Draycott Park, Chippenham, was distinctly first with handsome, fresh blooms of Hon. Mrs. Lopes, extra fine; to one of these was awarded the prize for premier Japanese in the show; J. H. Silsbury, J. H. Doyle, Mdme. G. Rivol, Lady Talbot, Splendour, Superb, Bessie Godfrey, Mdme. P. Radaelli, W. Jinks, Purity, and F. S. Vallis; Mr. W. Mease, gardener to A. Tate, Esq., Downside, Leatherhead, was a capital second with smaller blooms, of which those of Mrs. W. Knox, J. Peed, Leslie Morrison, and Mrs. L. Thorn were the most noteworthy; Mr. F. Chandler third. For two vases of white-flowered Japanese, three blooms of each, there were three competitors. Mr. T. Stevenson, gardener to E. Moccatta, Esq., Addlestone, won with splendid blooms of F. W. Lever and Mrs. N. Davis; Mr. Bible was second, staging Purity finely; Mr. Chandler third. In a class for any two varieties, three blooms of each, other than white, six competed, the best coming from Mr. Stevenson, F. S. Vallis and Master James being grandly displayed; Mr. Bible followed; Mr. Usher, gardener to Sir R. Baker, Ranston, Blandford, third.

FIRST PRIZE SIX VASES OF SINGLE CHRYSANTHEMUMS.
Shown by Mr. C. Dymott at the Southampton Horticultural Society's Exhibition.

FIRST PRIZE TWELVE VASES OF JAPANESE CHRYSANTHEMUMS.
Shown by Mr. F. Bible at the Southampton Horticultural Society's Exhibition.

Single-flowered varieties, in six distinct varieties, arranged in vases, displayed their popularity by the number of entries. At the head of the eight competitors was Mr. Dymott, who staged remarkably fine blooms of Mary Richardson, Crown Jewel, Roupell Beauty, Mary Anderson, Florence Robinson, and Bronze Pagram; Mr. Bible second; Mr. H. C. Dredge, gardener to J. C. Willis, Esq., Fleming, Chilworth, third.

There was a good competition in the class for twenty-four Japanese, in not less than sixteen varieties, arranged on the orthodox boards. The best collection was that from Mr. Stevenson, who staged heavy, richly-coloured blooms of F. S. Vallis, Leslie Morrison, H. Perkins, R. Vallis, Duchess of Sutherland, Mrs. N. Davis, Leigh Park Wonder, Lady Crisp, J. Lock, Mrs. C. H. Totty, Lady Talbot, Hon. Mrs. Lopes, C. H. Broomhead, Master James, Mdme. G. Rivol, Frank Payne, and the Marquis of Northampton; Mr. Mease was second with smaller blooms, but finely finished; Mr. Usher third with blooms not well arranged. The class for twelve Japanese, distinct, was a popular one, there being six competitors for the premier position, which was occupied by Mr. D. Edwards, gardener to W. Garton, Esq., Salisbury Court, with medium sized, well-coloured specimens; Mr. H. Pearce, gardener to Mrs. Trogett, Romsey, second. Incurved blooms were very fine. For eighteen, in not less than twelve varieties, four entered, the best coming from Mr. Mease, especially good being those of Daisy Southam, Mrs. J. Wynn, Buttercup, Romance, Clara Wells, and Mrs. P. Bryce; Mr. Chandler followed closely for second place; Mr. Bible third.

For twelve, incurved, there were three entrants, Mr. Edwards winning with large and rather rough blooms; second, Mr. Chandler.

The blooms from amateurs made a good display. There were three competitors in the class for twelve Japanese, the best coming from Lieut.-Colonel R. R. H. Moore, Netley Cliff, a deserving collection; Mr. F. Chandler second. The last-named won for twelve Japanese, not less than eight varieties, with a good set.

MISCELLANEOUS CLASSES.

Dinner table plants were a good display, Mr. G. Ellwood, gardener to W. H. Myers, Esq., Swanmore Park, Bishop's Waltham, winning for a bright set. The most tastefully arranged table decoration of flowers, foliage, and grasses, orchids excluded, brought nine exhibitors. Mr. J. D. Cape, Ferndown, Wimborne, was an easy first with bronze chrysanthemums intermixed with bright autumnal foliage; second, Mr. R. H.

Jeffery, Nursling, with carnations and pink roses; third, Mr. Bealing, Bassett.

OPEN TO LADIES ONLY.

The most elegant stand of chrysanthemums arranged with autumn foliage, etc., was one from Mrs. Bealing, amongst six entrants of fair quality. And for a vase similarly treated, there were six competing. Mrs. Jeffery, Nursling, was first with a fair exhibit.

Baskets of autumn leaves, berries, etc., were a distinct feature, no fewer than nine taking part, much the best coming from Mrs. E. Ladhams, Shirley, Southampton, a choice collection of material tastefully arranged; second, Mrs. Marsh.

FRUIT.

For the prizes for three bunches of grapes, distinct varieties, there were five competitors. Mr. H. C. Dredge was an easy first with almost perfect examples of Mrs. Pince, Muscat of Alexandria, and Gros Maroc; second, Mr. W. Sanders, Andover.

In the class for two bunches of black grapes, nine competed, and Mr. Dredge was first with Mrs. Pince, good; and Mr. J. Hughes, gardener to A. P. Ralli, Esq., Twyford Lodge, second. In a similar class for white, Mr. D. Pope, gardener to L. G. Pike, Esq., King Baron, Wareham, was first among five with Muscat of Alexandria; second, Mr. Dredge. Apples were a distinct feature of the show. For four varieties dessert, twelve entered. Mr. Usher was first with really fine Ribston Pippin, Cox's Orange Pippin, Rival, and Wealthy; second, Mr. J. H. Cope. For the same number of kitchen varieties eleven staged, the best coming from Mr. T. Beesley, gardener to Earl Nelson, Trafalgar, Salisbury, with Hambling's Seedling, Peasgood's Nonsuch, and Blenheim Pippin; second, Mr. G. Barnes, gardener to T. C. Wilson, Esq., The Thickets, Bishop's Waltham.

VEGETABLES.

These were numerous and good. Messrs. Sutton and Sons provided the prizes in one class for six dishes. Mr. Ellwood was first among six entrants; second, Mr. Usher; third, Mr. Barnes. Mr. Ellwood was first also in Messrs. Toogood's class for six varieties, and Mr. H. Pearce was second.

Nottingham.

NOVEMBER 5 and 6.

In the Mechanics' Hall the annual show was held, and if not quite so good as in some former years, was a remarkable display for the season. Nowhere can such exhibits be seen as here from the artisan competitors. Certainly on this occasion the incurved blooms were superior to those seen at the National Chrysanthemum Society's show at the Crystal Palace. There is also a keenness shown by the exhibitors here that is much wanting at other shows. As many as fifteen entries was not an uncommon occurrence, and the hall was taxed to its utmost to afford space for the exhibits and display them properly. The society is managed by an efficient committee, ably led by the secretaries, Messrs. Skelhorn and Atkin.

CUT BLOOMS.

There were eight open classes, the principal one being that for twenty-four Japanese in not less than eighteen varieties. Mr. A. Chandler, gardener to A. James, Esq., Coton House, Rugby, was distinctly ahead with a set of heavy, well-coloured blooms, of which the following were noteworthy: Reginald Vallis (premier bloom), Marquise V. Venosta, Bessie Godfrey, Mrs. W. Knox, C. H. Totty, J. Lock, Mrs. A. T. Miller, G. Mileham 1908, Lady Talbot, Mrs. G. Mileham, Miss Hilda Rowley, F. S. Vallis, President Viger, Algernon Davis, and Valerie Greenham. Mr. W. G. Drake, Cathays Terrace, Cardiff, second, Master James, J. H. Silsbury, F. S. Vallis, and Reginald Vallis being distinctly meritorious in his stand. Mr. R. Nisbett, gardener to Sir W. Bass, third; five staged. For twelve incurved, distinct, three competed, the best set of blooms coming from Mr. Drake, who staged Godfrey's Eclipse, Nellie Threlfall, Doris Rayner, E. F. Evans, Mrs. Judson, Bocaccio, Ma Perfection, W. Beadle, Triomphe de Mont Brun, and C. H. Curtis. Mr. Chandler second.

The amateur and artisan classes included one for six incurved and six Japanese, distinct. In a strong competition Mr. W. D. Parkin, 65, Truman Street, Nottingham, was first with remarkable blooms of Clara Wells, Mrs. G. Denyer, Pantia Ralli, B. Hankey, Buttercup, and Romance for incurved, and the Japanese were Lady Talbot, Splendour, and F. S. Vallis, all of which were equally good.

In the class open to artisans only, for six Japanese and six incurved, in which the premier award was a challenge cup, the entries were numerous and the blooms of high quality. Mr. W. Cox, 11, Cromer Road, Nottingham, was first with splendidly-developed blooms of incurved, such varieties as Clara Wells, Mrs. J. Wynne, and Buttercup measured fully six inches in diameter. The Japanese, which were equally meritorious, included F. S. Vallis, Lady Talbot, and Reginald Vallis. In a class restricted to artisans growing not more than 200 plants, a challenge cup was offered as the premier award for six incurved and six Japanese. Here Mr. G. Wright was the most successful with wonderful blooms of Mrs. G. Denyer, Triomphe de Mont Brun, Buttercup, and John Wainwright.

In a class for six Japanese a challenge cup was offered, which Mr. W. Swann, 152, Blue Bell Hill, Nottingham, won with extra fine examples of popular varieties. For three Japanese, one variety, there were nine competitors. Mr. L. Burley won with handsome examples of Lady Talbot. For three incurved, one variety, nine staged, Mr. W. Swann won with remarkably fine specimens of Clara Wells, large in size, and finely finished. For twelve incurved, not less than eight varieties, four competed, and Mr. G. Wright obtained premier honours with grand blooms of Clara Wells, Buttercup, Mrs. G. Denyer, Triomphe de Mont Brun, W. Pascoe, and John Wainwright. For twelve Japanese in not less than eight varieties, Mr. W. D. Parkins, in a strong entry, was first with handsome examples. For a vase of seven blooms, arranged as for drawing-room decoration, Mr. W. J. Holmes was first among six entrants. Seven entered in the class for six Japanese, any one variety, Mr. W. D. Parkins was first with Reginald Vallie, remarkably fine; Mr. W. Swann second.

Single-flowered varieties were extremely fine; seven entered for three vases, and Mr. W. D. Parkins won easily with enormous blooms of Edith, Bronze, and White Pagram.

Royal Horticultural Society.

SCIENTIFIC COMMITTEE.—Oct. 26.

Present: Mr. E. A. Bowles, M.A., F.E.S., F.L.S. (in the chair); Messrs. E. M. Holmes, A. W. Sutton, A. Worsley, G. Gordon, J. Fraser, J. T. Bennett-Poë, F. J. Chittenden (hon. sec.), and Rev. Aikman Paton, M.A. (visitor).

HYBRID SOLANUMS. — Rev. Aikman Paton, M.A., Soulseat, Castle Kennedy, N.B., showed a series of Solanums raised by himself to illustrate the result of crossing Solanum tuberosum (a wild form from Mexico) and the white flowered variety of S. Commersoni. He also showed plants and fruits of S. verrucosum, S. etuberosum, etc. The following is a description of the parents used and the resulting progeny:—

S. tuberosum (Mexico), wild. [The Mexican variety used has larger portions of the rhachis bare between the leaflets, fewer leaflets, and the terminal leaflet also tapering from the base, where the lamina is often adnate to the rhachis, fewer interspersed small leaflets than the Chilian variety.] — Stems, green to purplish, speckled or streaked with green, with wavy green-winged edges. Leaflets, oval, very short stalked, the lamina much raised between the venation, giving the leaves a crumpled appearance, glossy; edges, crenate. Calyx, hairy, with long tapering awl-like points, which turn back from the berry. Corolla, rotate-pentagonal; edges, arcuate. Colour, dark lilac [R.H.S. Colour Chart 202, 2 and 3]. Anthers, short, orange coloured. Style, slightly projecting beyond the stamens. Berries, somewhat rounded, pointed, heart-shaped, with sloping shoulders at stalk end, covered with white spots, especially at the lower half. Tubers, reddish.

S. Commersoni (Uruguay), white flowering.—Stems, pale green, violet at nodes, especially in axils; edges, slight, straight, green winged. Leaves, pale green, sparse. Leaflets, shortly stalked, widely separated on the rhachis, few or no interspersed leaflets, oval obtuse, flat, dull; edges, plain. Calyx, short, blunt, shouldered, with short claws. Corolla, star-shaped, deeply segmented, white (sometimes with a violet tinge on base of back of petals). Stamens, long, thin, lemon coloured (paler than those of S. tuberosum). Style, much exserted. Berries, larger than those of S. tuberosum, heart-shaped, dimpled at stalk end, with sulcus down the middle always visible at stalk end, and especially if seedless, few spots. Tubers, yellowish white, warty (lenticels).

Hybrids of above.—Stems, dark violet, rounded triangular; edges, winged, green, straight. Leaves, dark green. Leaflets, oval obtuse, flat, plain-edged, dull. Calyx, short, blunt, shouldered, with short claws (sometimes triangular tapering, with longer claws). Corolla, always lilac [No. 202, 4 and 3], rotate-pentagonal. Style, much exserted. Stamens, pale yellow, long. Berries, bluntly heart-shaped, full at top, covered with whitish spots on lower half. Tubers, white, with large lenticels, like S. Commersoni. In a brief comparison of the hybrids with their parents, the hybrids have the form of stem, the form and colour of foliage, the venation of the leaflets, and the habit and general appearance of S. Commersoni. The calyx is generally that of S. Commersoni. The flower in form and colour is that of S. tuberosum, the shade only different [No. 202, 4 and 3]. The berry is intermediate, shaped like that of S. Commersoni, but blunter and thicker, and spotted like that of S. tuberosum.

The cross above described is particularly interesting, in view of the fact that very rarely has Solanum Commersoni been got to produce fertile seed. Mr. A. W. Sutton has obtained some, but besides this no one appears to have done so, although the plant has been widely grown. The committee, on the motion of Mr. A. W. Sutton, unanimously recommended the award of a silver Knightian medal to Mr. Paton for his interesting exhibit.

POTATO TUBERS. — Mr. A. W. Sutton showed a series of tubers of various solanums as follows: 1, Solanum Commersoni (white-flowered form); 2 (seedling from No. 1), Solanum Commersoni (white-flowered), selfed 1906. These tubers showed a distinct break from those of the parent, the skin being of a different colour and the tubers of a different shape. 3, Solanum Commersoni, FitzHerbert's form; 4, Solanum Commersoni (violet-flowered form); 5 (seedling from No. 4), Solanum Commersoni (violet-flowered), selfed; 6, Solanum Ohrondi; 7, Solanum Maglia; 8, Solanum Maglia × commercial Potato; 9 (seedling from No. 8), Solanum Maglia hybrid × commercial Potato, selfed; 10, Solanum etuberosum.

VIRESCENCE IN CREPIS VIRENS.—Mr. E. M. Holmes showed a plant of Crepis virens in which the individual flowers had become stalked, and in place of a pappus a calyx had developed. The capitulum looked very like the inflorescence of an Umbelliferous plant.

SALIX LANATA.—Mr. Fraser briefly recounted how he had discovered this rare alpine willow, and showed specimens. The plant does not appear to thrive in many gardens, but there are fine specimens in the garden of the society at Wisley, and in the Botanic Gardens at Birmingham.

PRUNING AFTER PLANTING.—A communication dealing with the question of the wisdom of pruning immediately after planting trees was received from Mr. J. Lansdell. It will be printed in the society's "Journal."

DORSTENIA WALLERI.—Mr. Chittenden showed a plant of this interesting species from the society's garden, grown from a tuber received from Central Africa. The species was first described in "Gard. Chron.," August 12, 1893, p. 178, plants having been raised at Kew from seed received from Central Africa. Like other plants of the genus, the green inflorescence is flattened, and bears the flowers like an opened fig upon the flattened stem; the margin of the inflorescence is raised somewhat, and gives rise to four or five coarse long tapering filaments.

ACORNS REFUSED BY STOCK.—Mr. Bowles showed some acorns from three trees at Myddleton House, Waltham Cross, which neither cattle nor sheep would eat. Mr. Holmes took them for further examination.

ABNORMAL BULB FORMATION IN NERINE.—Mr. A. Worsley showed a curious bulb of nerine which had developed at the apex of a flattened process somewhat similar to that seen in the bulbs of vallota. The occurrence of a bulb in the position assumed by this is unique in Mr. Worsley's experience of nerines, and he considered it probable that it was owing to the diseased condition of the basal part of the bulb.

National Vegetable Society.

A commitee meeting of this society was held at the Royal Horticultural Society's Hall on the 9th inst., Mr. A. Dean, V.M.H., being in the chair, and the following members present: Messrs. W. Poupart, E. Beckett, V.M.H., J. Gibson, C. Foster, J. Harrison Dick, T. Harvey, G. Wythes, V.M.H. (treasurer), and E. G. Quick (secretary). The minutes of the previous meeting were read and signed. A letter was read, stating that the council of the Royal Horticultural Society could not grant the use of the hall for a two days' exhibition, as it would not be available on the dates provisionally fixed at the previous meeting. The Chairman reported that, owing to the R.H.S. having also determined to hold a vegetable show in September, the National Vegetable Society had approached the council as to the two exhibitions being held conjointly, but it was stated that the space at command would not be sufficient. It was then decided to hold a show in 1910, as at first suggested on September 28. Messrs. Beckett, Gibson, and Foster supported this resolution, and it was unanimously carried. Promises of liberal prizes were received from Messrs. Dobbie and Co., Rothesay, Messrs. Barr and Sons, King Street, W.C., Messrs. Cheal and Sons, Crawley, and Messrs. Wood and Sons, Wood Green. Letters were read from Messrs. Clibrans, Altrincham, and other large firms promising assistance and liberal prizes. The Treasurer reported several new subscribers. and several gentlemen were nominated for membership. It was proposed to issue the schedule early in the new year.

Aberdeen Horticultural Society.

The annual meeting of this society was held in the Music Hall Buildings, Aberdeen, on Saturday evening, 30th ult. Mr. J. G. Burnett, of Powis, chairman of directors, occupied the chair, and there was a good attendance. The annual report showed that, from a horticultural point of view, the exhibition held in August was an exceedingly good one, but the financial result was not satisfactory, owing to the complete breakdown of the weather on the last day of the show—for the second year in succession. The income for the year amounted to £390 5s. 11d., and the expenditure to £456 4s. 9d., showing a deficit for the season of £65 18s. 10d., the debit balance to be carried forward to next year being £34 2s. 9d. The membership, unfortunately, continued to show a slight decrease, and the directors appealed to their fellow-members to endeavour to get their friends to join the society. The report ended with a vote of thanks to the Town Council for granting the use of the park, and to Sir David Stewart, LL.D., for his courtesy in opening the show.

The report was agreed to.

A short but animated discussion followed on the question of the date of next year's show, the contention being that the show was held too early. It was pointed out that Edinburgh and Dundee held their shows about the beginning of September, and their displays were much better than that of Aberdeen. The matter was left in the hands of the directors.

On the motion of the chairman, the hon. president, hon. vice-presidents, and hon. directors were all re-elected. For the office of chairman for the ensuing year, Mr. J. G. Burnett was re-elected. Councillor Milne was re-elected vice-chairman; Messrs. Reid and Wyllie were re-appointed auditors, and Mr. J. B. Rennett was reappointed secretary and treasurer. A large committee was then appointed representing the various interests of the society—professional gardeners, market gardeners, nurserymen, and florists, amateurs, and working-men.

The usual votes of thanks closed a pleasant meeting.

Chrysanthemum Mary Richardson. — The popularity of the single chrysanthemum for winter decoration stimulates the production of new varieties, many of which, however, are in no way superior to existing forms. A striking exception is found in the variety Mary Richardson, and, though not new in the strictest sense, it is as yet unrepresented in many collections: the flowers are a most distinct shade of reddish-salmon, of medium size, and are borne upon erect stems of an average height of three feet. The plant is a free-grower, and flowers during the early part of November. It is a beautiful flower for decorating, as the blooms attain a great brilliancy under artificial lighting.—Thomas Smith.

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NOTES OF OBSERVATION.

Cupressus funebris. — Commonly known as the Funeral Cypress, this is an excellent subject for summer bedding, and, when grown in pots, it forms neat specimens that can be turned to excellent account for decorative purposes indoors during winter. The plant forms a faultless pyramid of slender, wiry branches, which are gracefully pendulous, while the scale-like leaves are of a pleasing grey-green colour. It endures the most trying conditions indoors, and will stand for several months in dimly-lighted rooms, or in draughty corridors without apparent injury. This species is readily raised from seeds or cuttings, and when grown on rapidly in a warm house it makes handsome specimens in a very short time. Good fibrous loam and firm potting, in conjunction with copious supplies of diluted liquid manure during summer are the main features in its culture.—Thomas Smith, Walmsgate Gardens.

Coleus thyrsoideus.—This useful winter flowering plant will now be showing flower spikes. The pots are now well filled with roots, therefore, to retain the foliage and enlarge and brighten the flowers, frequent applications of liquid manure and soot water should be given. Through the dull winter months few plants show to such advantage when well grown, their bright blue spikes always claiming admiration. The plants best suited for our own requirements run from three to five feet in height, with one, two, and not more than three stems. When in flower in conjunction with Begonia Gloire de Lorraine, Euphorbia jacquiniæflora and Poinsettia pulcherrima, etc., are very decorative.—W. Fyfe.

Codiæums (**Crotons**).—Among tender exotics few plants rank with crotons in exhibiting greater variety of colouring in their leaves, and, although less popular in some respects than they were a few years back, yet the demand for these is more or less present in every establishment, their lightness, grace, and beauty of colour giving point to every decorative arrangement in which they are employed. Encouraged by humid conditions during the growing season, and exposed to the sunlight in order to develop the colouring of the leaves, at this season it becomes necessary to inure them to a lower temperature and drier atmosphere in order that they may stand the change from the plant stove to the mansion or exhibition table without injury. Sudden changes of temperature should, as far as possible, be avoided with crotons, and they must never be left in positions exposed to draughts, while their period of usefulness is prolonged to the utmost if those employed indoors are frequently changed. Specimens that become leggy early in the season are still useful for furnishing leaves for bouquets or other cut flower arrangements, it being only necessary to retain the leads for propagating purposes. —Thomas Smith.

HOW TO ENJOY A MELON.

I extract the following recipe freely translated from "La Tribune des Sociétés Horticoles." Brussels: "Take a Cavaillon melon (shun the Cantaloupe), cut it circularly round the stalk with an enamelled knife and remove the seed with a silver spoon, not disturbing the pulp. This done, put alternate layers of refined sugar (two spoonfuls) and alpine strawberries until it is full, and then pour in a bottle of irreproachable Bordeaux to fill up the spaces between berries and sugar. Then replace the severed part to serve as a stopper, and let it stand in a cool cellar for 24 hours. Empty then the contents into a dish, and the solemn hour will have arrived. As for the melon itself, present it to some lukewarm friend at the right season." For the combination this might be worth trying by the fruiticultural gourmet, or the members of the fruit committee, by way of a change from unsophisticated material. C. T. D.

OCTOBER IN THE NORTH.

During October, writes our Aberdeen correspondent, we seem to have been more fortunate in the North than most other places as regards the weather. We had a good deal of sun on some twelve or thirteen days; sometimes, as on the 31st, from morning until night. Temperature, however, has been keen and cold during the closing days of the month, with frost in the mornings, sometimes exceedingly hard, especially on the 27th. The rainfall was about three inches, a little below the average of the last 40 years for October. On a long average, October is the month in which we have most rain. The wettest was that of 1895, in which we had nearly seven inches; the driest that of 1899, when we had only one inch. Although it has been below the average this year, yet the number of days on which some rain fell is large, being at least sixteen. In England and the South of Scotland the rain has been excessive—far worse than we have experienced. In the Stranraer district of Wigtownshire there have been only five days, it is said, which were suitable for field work. Unfortunately we have recently had a succession of bad harvests, for of the last eight at least six have been rather late and tedious, and in only one (that of 1905) was there really fine harvesting weather, while the harvests of 1903 and 1907 were about the worst anyone now living can remember. As these things often follow in groups, the chances are there will be some fine harvests by and by, at any rate, it is to be hoped so. The weather in the North in October is often either very good or very bad. A fine sunny day in October in these northern regions is one of the most pleasant in the whole year, the air is so cool, clear, and bracing, and with what Northerners call a "stang" in it, but a gloomy, squally day of rain in that month is just the reverse. In the month just closed we have had samples of both.

NEW PLANTS, ETC.

CHRYSANTHEMUMS.

Mrs. Colles.—A large-flowered, single variety of great beauty and distinction, and apparently a very free-flowering one. The shapely flowers are of that charming shade of colour known so well among ladies as crushed strawberry. F.C.C., N.C.S., November 3. Mr. H. Redden, Manor House Gardens, West Wickham.

George Hemming. — A deep Japanese variety with drooping and curling florets. The colour is bright rosy-claret, with silvery reverse. A fine addition in the matter of good colour and refinement. F.C.C., N.C.S., November 3. Mr. G. Mileham, Emlyn House Gardens, Leatherhead.

J. H. Greswold Williams.—This is a large-flowered single variety of bright yellow colour. It produces its showy blooms in good sprays. F.C.C., N.C.S., November 3. Mr. H. Tribe, Bradenbury House Gardens, Worcester.

Francis Joliffe.—A distinct, long-petalled Japanese variety, a very deep bloom; straw-yellow, shaded with rose along the margins of the broader florets, and rather deeper yellow in the centre of the flower. F.C.C., N.C.S., November 3. Mr. Martin Silsbury, Shanklin, Isle of Wight.

Mrs. R. Luxford.—This promises to become a very useful Japanese market variety, as it has very solid flowers of good form and of a decided deep chestnut-red colour. F.C.C., N.C.S., November 3. Messrs. W. Wells and Co., Merstham.

Phosphorescens.—A free-flowering decorative or market variety of reflexed Japanese form, and one that makes a first-rate bush plant. Colour, bronzy terra-cotta. F.C.C., N.C.S., November 3. Messrs. W. Wells and Co., Merstham.

TRADE NOTES.

Much taste and judgment is at the present time shown in the preparation of trade catalogues associated with gardening, and as the result, many of these publications are so admirably prepared, both as regards utility and attractiveness, as to fully merit the warmest praise. For a long period, the "Manual" issued by Messrs. Kelway and Son has occupied a foremost position among trade catalogues of the highest class, and the issue for 1909-10 which is now before us is so great an advance upon its predecessors as to deserve the heartiest commendation. The publication forms a handsome quarto of about 350 pages, and descriptive lists of plants, flowers, fruits, seeds, and bulbs, and is remarkable for the large amount of information it contains, and is of interest as indicating the immense resources of the firm. It need hardly be said that delphiniums, gaillardias, pæonies, pyrethrums, and gladioli occupy a prominent position in the "Manual," for it is well known that the firm has taken a leading part in the creation of the many beautiful varieties of these flowers that are now in cultivation. But it must be said that the descriptive lists of the finest of the varieties are accompanied by large numbers of finely executed illustrations, in black and white and in colours. Other sections of the "Manual" are also freely illustrated, the illustrations being such as to afford valuable aid in making selections.

Messrs. Foster and Pearson's "Catalogue of Horticultural Buildings" is issued in an enlarged form, and is so attractive, comprehensive, and useful as to merit some fuller reference than can be given it under the heading of "Catalogues Received." A great and instructive feature of the catalogue is formed by the admirable illustrations of the structures that have been erected by the firm in gardens in various parts of the United Kingdom. These range from the ornate conservatory to the plain forcing house, and are of special interest for the elegance that characterises the whole of the designs. Not less interesting is the section devoted to the famous Robin Hood and other boilers manufactured by the firm. Copies of the catalogue may be obtained from Messrs. Foster and Pearson, Beeston, Notts.

From Messrs. J. K. King and Sons, of Coggeshall, we have received fruits of a new tomato that they intend distributing in the forthcoming seed season. The variety originated as the result of a cross effected between Lord Roberts and Beauty of Wilts, and the fruits are so handsome in shape and high in quality as to justify the anticipation that it will in due course become popular both in private and market gardens. The fruits are more or less spherical, quite smooth, of a brilliant scarlet colour, and have a firm flesh and fine flavour. They should appeal to the cook, for the fruits before us are about four ounces each, which is undoubtedly the most suitable size for the table. We are informed by the firm that the variety is very productive, many of the stems in the house in which it is seeding having from twenty-four to thirty fruits, each of the size of those sent us. We have no intimation of the name the variety is to bear.

Lectures at Aberdeen. — At the recent meeting of the Aberdeen Horticultural Society it was announced that a course of lectures on "The Elementary Chemistry of the Garden" was to be given by Mr. James Hendrick, B.Sc., of Aberdeen University, commencing on Thursday, November 25, and that the course on forestry would be given by Mr. William Dawson, B.Sc., commencing on November 10.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the GARDENERS' MAGAZINE. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

VARIETIES OF RHUS COTINUS.—F. S., Jersey: Comparatively few people know that there are two distinct varieties of the Wig Tree or Burning Bush. These two are pendula, with weeping branches, and atropurpurea, that has purplish leaves, growths, and flower stems.

ROSES FOR TOWNS.—A. G. D., Wood Green: The National Rose Society recommends the following ten roses as the best varieties for towns and suburbs: Blanc double de Coubert, Caroline Testout, Gloire de Dijon, La Tosca, Longworth Rambler, Mdme. Abel Chatenay, Mdme. Isaac Periere, Mrs. J. Laing, Mrs. Paul, and Ulrich Brunner. To these we would like to add such strong growers as Ben Cant, Frau Karl Druschki, Conrad Ferdinand Meyer, G. Nabonnand, and the bright and fragrant Gruss an Teplitz.

THE BOG ASPHODEL.—S. L., Huntingdon: There are many prettier things for the bog garden than the common Bog Asphodel (Narthecium ossifragum), but if you have plenty of room for it a good colony will prove attractive. As a single plant, or in tiny groups, it is of little value. Wet peaty soil suits this native plant finely. The golden yellow flowers are produced in July and August. The plant may be readily increased by division of the root stocks.

PROTECTING STANDARD ROSES. — F. E. A., Derby: In districts where it is necessary to protect standard roses during the winter, the material employed is usually bracken or straw, this being placed loosely around and among the branches. We feel sure that a great deal of damage is often done to standard roses during the very early frosts, especially after a mild, damp autumn, because the growths are then very sappy, and suffer badly, though the damage may not be apparent for some time. When there has been a bright and fairly dry autumn to ripen up the wood, the danger is not so great. A few days ago we saw a quantity of standard roses being protected with the old flowering heads of Michaelmas daisies, etc., and were told that the clearing of the herbaceous border provided ample material for protecting the roses.

ORACHE.—T. P. L., Baldock: The Orache is closely allied to the garden spinach, and is sometimes called Mountain Spinach. It is a native of Tartary, a hardy annual, and occasionally used as a substitute for spinach. We do not recommend it, however, because the garden spinach is as easy to grow, and, we think, of better flavour. Seeds should be sown an inch deep, in drills 2ft. apart, in March. Rich soil and plenty of moisture are necessary to secure good results. Pinch out flowering stems as they appear, and make new sowings every six weeks from March to September.

STORING DAHLIAS.—M. E. H., Tadcaster: Cut down the blackened growths as far as the stout, woody portion of the main stem, and then lift the roots. Fasten the label securely to each plant, and set the roots on their sides in the sunshine, or in a frost-proof shed, to dry. When dry put them in an outhouse or cellar that is frost-proof, cover the roots with fine ashes. Some straw or bracken may be thrown over the ashes in the event of very severe weather.

BASIC SLAG.—M. E., Cambridge: You are quite right, basic slag is a capital manure to use on moor, peaty, and fen lands. It contains a large proportion of lime, and also a good percentage of phosphoric acid and oxide of iron. Basic slag should not be used in conjunction with sulphate of ammonia.

A PERFECT SOIL.—D. P., Bristol: Most of us have our own pet ideas of what constitutes a perfect soil, and those ideas vary greatly. The amount of labour and material at command count for a great deal; if these be plentiful then a deep, heavy soil, inclining to clay, can be brought into a highly fertile condition in a few years, and even a thin soil over chalk or gravel can be materially improved. This is hardly the point, however. Dr. Griffiths has laid it down that "a perfect soil for general cultivation would contain approximately: 60 per cent. of sand; 25 per cent. of clay, and 7 per cent. each of calcium (lime) carbonate and humus. This soil would contain enough sand to make it warm, retentive of moisture, and sufficiently open to admit air into its interstices; enough clay to render it sufficiently moist, without being wet and cold, and capable of holding manures; enough carbonate of lime to aid in the decomposition of organic matter, and to provide the necessary lime for plant growth; and, finally, a sufficiency of humus to assist in providing plant food, and the production of carbon dioxide in the soil." Dr Griffith also points out that the water-holding power of soils is as follows: Clay soil, 40 per cent.; loam 51 per cent.; heavy clay, 61 per cent.; and fine carbonate of lime, 85 per cent.

NAMES OF FRUITS.

When sending fruits for naming will our readers be good enough to send good specimens, as without these it is not possible to accurately determine the varieties. Pack firmly, using light tin or wood boxes, and send not more than six varieties at once. Label each specimen and enclose letter with the fruit, whether a separate notification is sent or not. Address the packages to the Editor, GARDENERS' MAGAZINE, as advised in the notice at the head of "Answers to Correspondents."

M. C. F., Lasswade.—1, Bramley's Seedling; 2, Catillac; 3, Mère de Ménage; 4, Court Pendu Plat; 5, Beurre Clairgeau.

T. W., Merton.—1, Waltham Abbey Seedling; 2, Alfriston; 3, Beurre Bosc; 4, Beurre d'Aremberg.

F. F., Chelverton.—1, Doyenne Boussoch; 2, Nouvelle Fulvie; 3, Cockle Pippin; 4, Dutch Mignonne; 5, Chelmsford Wonder.

L. D. V., Sherborne.—1, Peasgood's Nonsuch; 2, Dumelow's Seedling; 3, Smart's Prince Arthur; 4, D'Arcy Spice; 5, Blenheim Pippin.

J. S., Leamington Spa.—We have received no specimens from you; please let us know whether they were sent to the Aldersgate Street or the Kew address.

G. B., Dublin.—The specimens are not good ones, and therefore difficult to identify; they are being dealt with. Names of first lot were published in our issue of October 30.

NAMES OF PLANTS.

Under this heading we can only undertake to name species and well marked varieties of plants, and not florists' flowers. Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one correspondent.

C. C. A., Harpenden.—1, Poinsettia pulcherrima albida; 2, Cattleya Bowringiana.

T. S., Hull.—1, Leonotus Leonurus; 2, Cypripedium Spicerianum; 3, Gymnogramma calomelanos; 4, G. peruviana.

W. H., Shanklin.—1, Drimys Winteri; 2, Photinia japonica—the Loquat; 3, Fuchsia procumbens.

P. S. J., Tewkesbury.—1, Primula frondosa; 2, Calceolaria Burbidgei; 3, Callicarpa purpurea; 4, Bouvardia Humboldti corymbiflora.

I. B. D., Molton.—1, Dendrobium formosum giganteum; 2, Cypripedium insigne; 3, Cattleya labiata; 4, C. Bowringiana; 5, C. Mantini.

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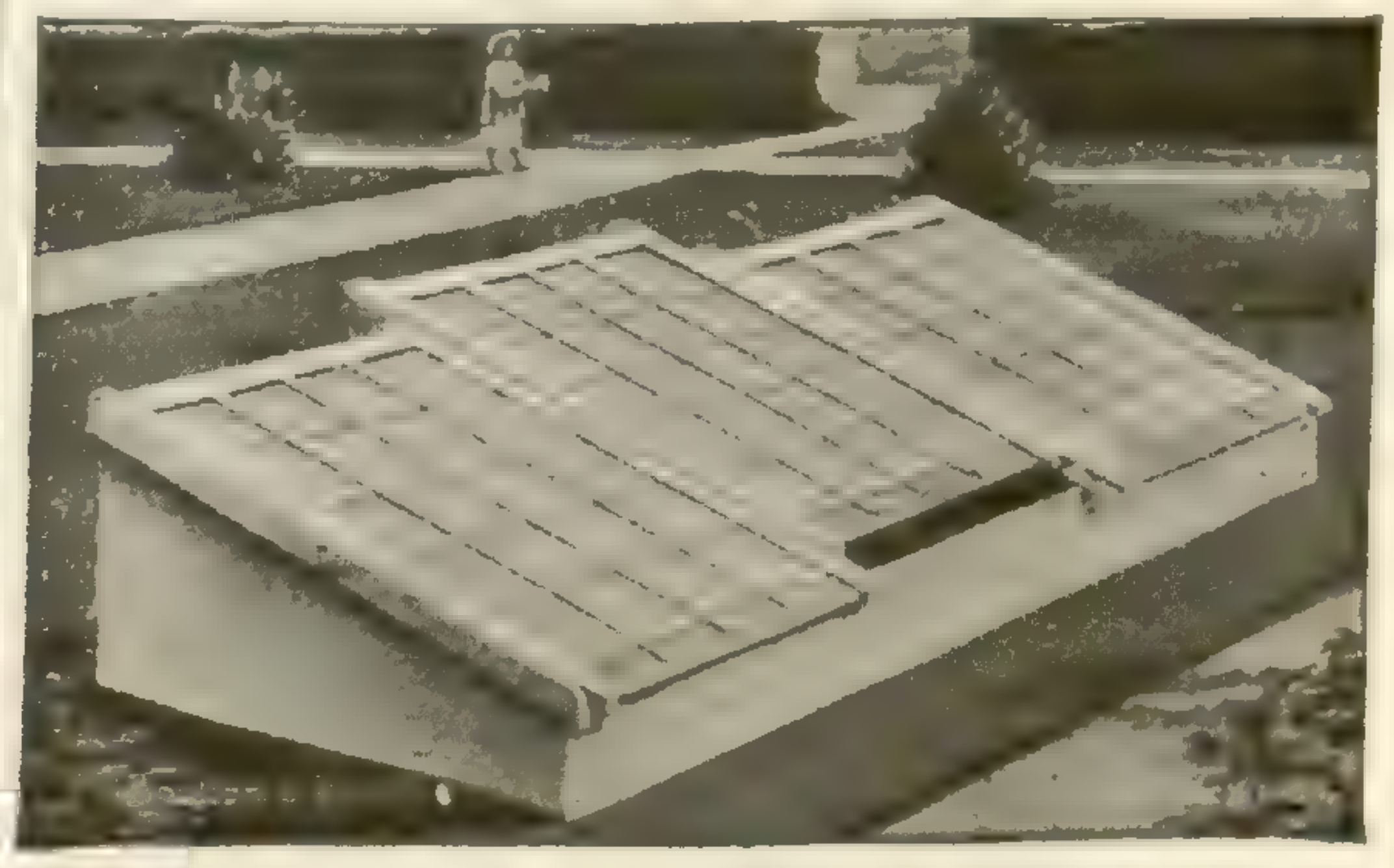

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8ft. by 6ft. ... 2 15 0
12ft. by 6ft. ... £3 15 0
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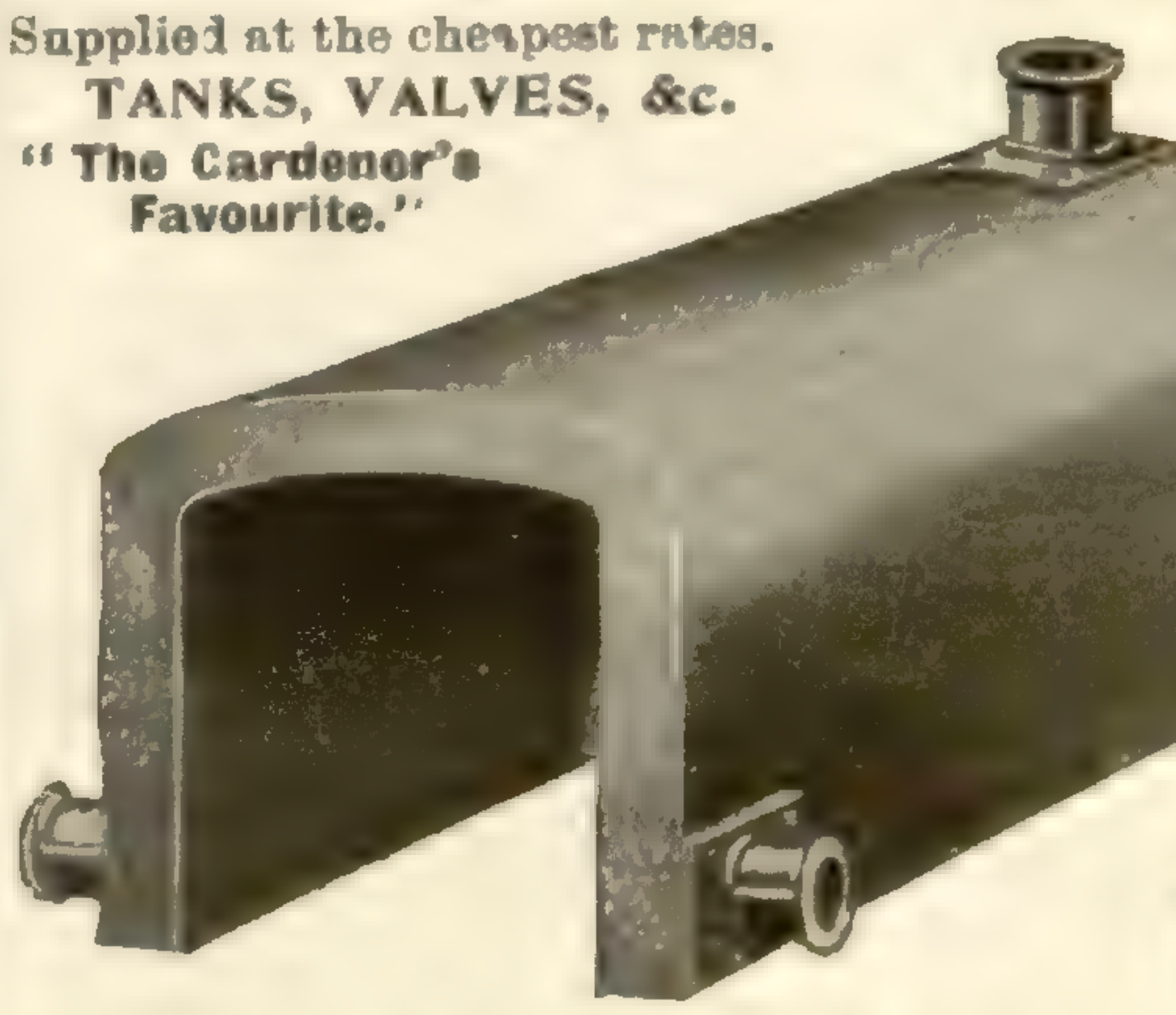

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METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1909. OCTOBER 31 TO NOVEMBER 6.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Oct. 31—Sunday	—	42	39	47	33
Nov. 1—Monday......	—	47	47	49	42
„ 2—Tuesday	3 0	43	43	54	43
„ 3—Wednesday .	—	52	52	54	43
„ 4—Thursday ...	—	48	47	51	47
„ 5—Friday..	4 18	37	37	55	35
„ 6—Saturday ...	6 36	29	31	56	28
Means	(total) 13 54	43	42	52	39

DATE. 1909. OCTOBER 31 TO NOVEMBER 6.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
Oct. 31—Sunday	0.12	44	48	52	28
Nov. 1—Monday....	0.01	46	48	52	41
„ 2—Tuesday......	0.01	47	49	51	40
„ 3—Wednesday .	trace	49	49	51	45
„ 4—Thursday ...	—	49	50	51	43
„ 5—Friday.......	—	48	50	51	32
„ 6—Saturday ...	—	46	50	51	28
Means ...	(total) 0.14	47	49	51	37

FORTHCOMING ENGAGEMENTS.

MONDAY, November 15.—National Chrysanthemum Society; Floral Committee at Essex Hall at 3 o'clock; Executive Committee at 7 o'clock.

Royal Institute, Lecture by Mr. Inigo Triggs, on "The Planning and Laying Out of Public Spaces," 8 p.m.

TUESDAY, November 16.—Winchester Chrysanthemum Show.

Redhill and Reigate Gardeners' Association, Lecture by Mr. George Gordon, V.M.H., on "Spring-flowering Bulbous Plants," with lantern slides, 7.30 p.m.

WEDNESDAY, November 17.—York Chrysanthemum Show; three days.

Chester Chrysanthemum Show; two days.

Buxton Chrysanthemum Show.

Royal Meteorological Society.

THURSDAY, November 18.—Edinburgh Chrysanthemum Show: three days.

Barnsley Chrysanthemum Show; two days.

Manchester Chrysanthemum Show; three days.

Norwich Chrysanthemum Show; two days.

Linnean Society Meeting.

FRIDAY, November 19.—Bolton Chrysanthemum Show; two days.

Leeds Chrysanthemum Show; two days.

TUESDAY, November 23.—Royal Horticultural Society; Committees meet at 12 o'clock; lecture at 3 p.m. on "Spices," by Mr. J. A. Alexander; Scientific Committee at 4 o'clock.

CATALOGUES RECEIVED.

J. CHEAL AND SONS, CRAWLEY, SUSSEX.—A handy, clearly-printed, well-arranged, and illustrated catalogue of ornamental trees and shrubs, fruit-trees, and roses. New fruits are a speciality.

DICKSONS, CHESTER.—To those concerned with reafforestation, and new plantations of either forest or ornamental trees, and covert plants, this catalogue will strongly appeal.

CHAS. WALL, SOUTH DOWN, BATH.—A neat descriptive list of carnations and picotees.

BEES, LIM., MILL STREET, LIVERPOOL.—In this catalogue of fruit trees, shrubs, and herbaceous plants the chief interest centres in the new plants, notably the new primulas, introduced by the firm from the mountains of Yunnan.

LAXTON BROTHERS, BEDFORD.—In their new catalogue of fruits the Brothers Laxton describe and illustrate several new varieties of their own raising; these include new plums, a new peach, and a new black and new red currant. The catalogue is devoted exclusively to fruits, and, of course strawberries are included.

R. H. BATH, LIM., WISBECH.—This is one of the early autumn sweet pea lists. The remarks on fixity, and the colour descriptions, are of special interest. Five new varieties are listed.

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MARKETS.

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COVENT GARDEN.

Flowers.

Prices are good and the demand is steady.

		s.	d.		s.	d.
Adiantum cuneatum	per doz. bun.	5	0	to	9	0
Arums............................	per doz.	3	0		4	0
Asparagus	per bun.	1	0		2	0
Carnations	per doz. blms.	1	6		3	0
„	per doz. bun.	6	0		12	0
„ Malmaisons	per doz.	6	0		9	0
Cattleyas	per doz.	12	0		14	0
Crysanthemums	per doz. bun.	2	0		5	0
Croton leaves	per bun.	1	0		1	6
Cypripediums	per doz. blms.	2	0		4	0
Eucharis	per doz.	2	6		3	0
French fern	per doz. bun.	0	6		1	0
Gardenias	per doz.	1	6		2	0
Lapagerias	per doz.	1	0		2	6
Lavender	per doz. bun.	4	0		6	0
Lilium auratum	per bun.	2	0		3	0
„ speciosum	per bun.	1	6		2	6
„ longiflorum	per bun.	2	0		3	0
Lily of the Valley	per doz.	5	0		15	0
Marguerites, white	per doz. bun.	1	6		3	0
Mignonette	per doz. bun.	2	0		3	0
Odontoglossums	per doz. blms.	2	0		2	6
Pelargoniums	per doz. bun.	4	0		6	0
Roses	per doz.	1	0		3	6
Smilax	per doz. trails	4	0		8	0
Statice	per doz. bun.	3	0		4	0
Tuberoses	per doz.	0	3		0	4
Violets	per doz. bun.	2	0		3	0

Fruits.

There is a good demand and as supplies are shorter prices keep firm.

		s.	d.		s.	d.
Apples, English	per bush.	2	0	to	7	0
„ Californian	per case	8	0		9	6
„ Cox's Orange	per ½-sieve	3	0		10	0
„ American	per barrel	12	0		16	0
„ Nova Scotian	per barrel	14	0		24	0
Bananas	per bun.	3	0		9	0
Cobnuts	per 12lb.	3	6		4	6
Damsons	per ½-sieve	1	0		2	6
Figs	per doz.	0	9		3	0
Grapes, English	per lb.	0	8		3	0
„ Guernsey	per lb.	0	5		1	0
„ Almeria	per barrel	8	0		14	0
Lemons	per case	10	0		25	0
Melons, Valencia	per case	3	6		6	0
Oranges, Jamaica	per case	9	0		12	0
„ Navels	per case	10	0		12	6
„ Naples	per case	8	0		10	6
Pears, English	per bush.	2	6		8	0
„ French Duchesse ...	per crate	6	0		8	0
Pineapples	each	1	6		3	6
Plums	per ½-sieve	2	0		3	6
Walnuts	per 12lbs.	2	0		3	6

Vegetables.

Supplies are good and meet a fair demand.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	2	6	to	3	0
Beet	per bush.	1	6		2	0
Brussels sprouts	per bush.	2	0		2	6
Cabbage	per tally	2	6		4	6
Carrots	per doz. bun.	1	0		2	6
Cauliflowers	per tally	4	0		7	6
Celery	per bun.	0	9		1	6
Cucumbers	per doz.	1	0		2	0
Endive	per doz.	1	3		1	9
Horseradish	per doz. bun.	8	0		12	0
Leeks	per doz. bun.	1	6		2	0
Lettuce	per score	1	0		2	0
Mint	per doz. bun.	1	0		2	0
Mushrooms	per doz. lb.	6	0		9	0
Onions, Valencia	per case	7	0		12	0
„ English	per doz. bun.	1	6		2	0
Parsley	per doz. bun.	2	0		2	6
Parsnips	per bag	2	6		3	0
Spinach	per bush.	1	0		1	9
Tomatoes, English	per doz. lb.	3	3		4	0
„ Guernsey	per doz. lb.	2	6		3	6
Turnips	per doz. bun.	3	0		3	6
Vegetable Marrows	per tally	4	0		6	0

LONDON POTATO MARKETS.

Both supply and demand are pretty much as reported last week.

		s.	d.		s.	d.
Bedfords	per cwt.	2	3	to	3	0
Blacklands	per cwt.	2	3		2	6
Essex Kidneys	per cwt.	2	0		2	9
Kents	per cwt.	2	6		3	0
Lincolns	per cwt.	2	0		2	6
May Queen	per cwt.	2	9		3	0
Puritans	per cwt.	2	9		3	3
Sharpe's Express	per cwt.	2	9		3	0

Tarragon is in many establishments much used for flavouring salads and other things, and is in continuous demand. Where this is the case, roots should be lifted and put into ten or twelve-inch pots, and placed where they can have a little bottom heat. If they have attention to daily syringing the plants will soon commence to grow and form serviceable shoots for cutting.—C. F.

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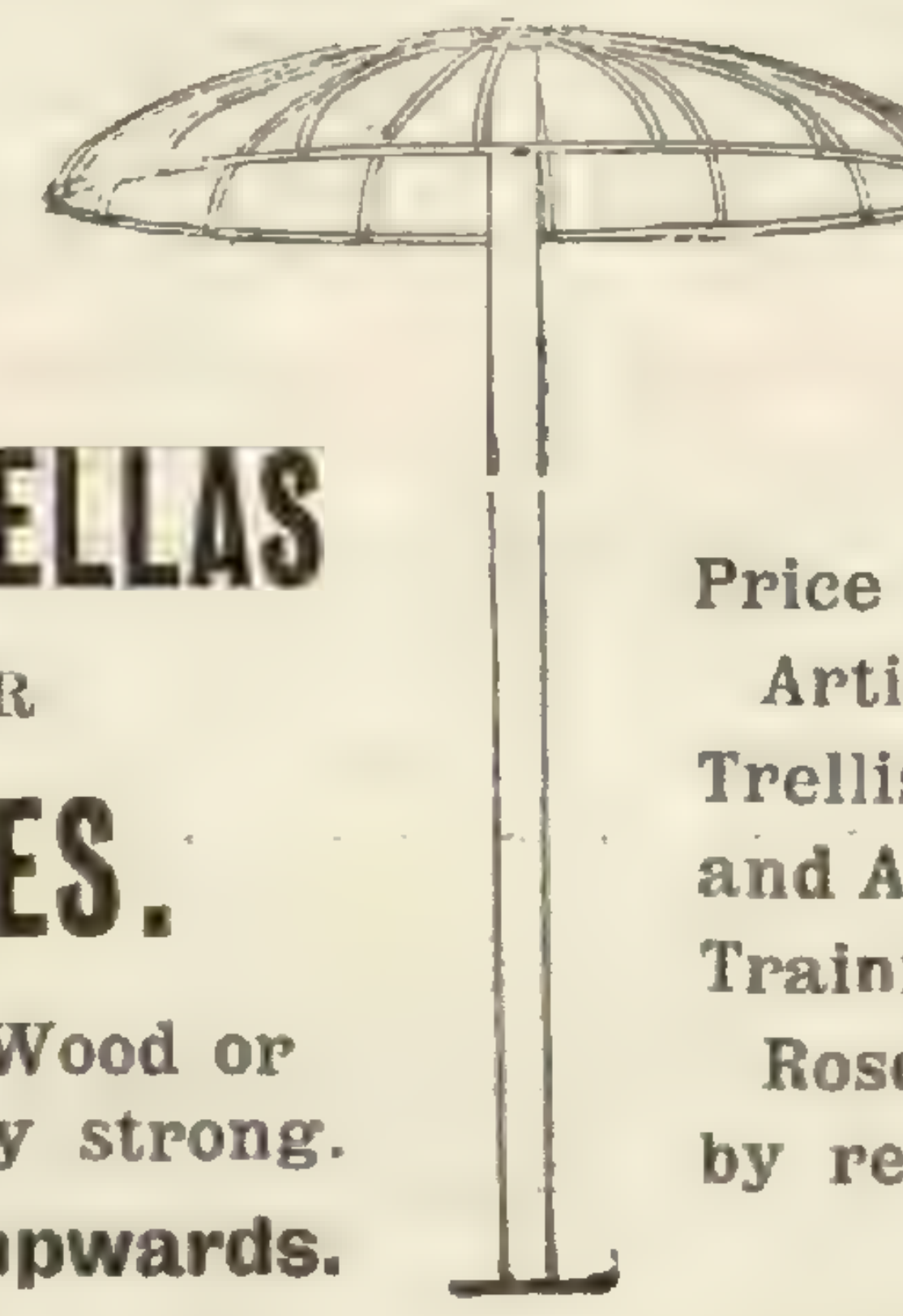

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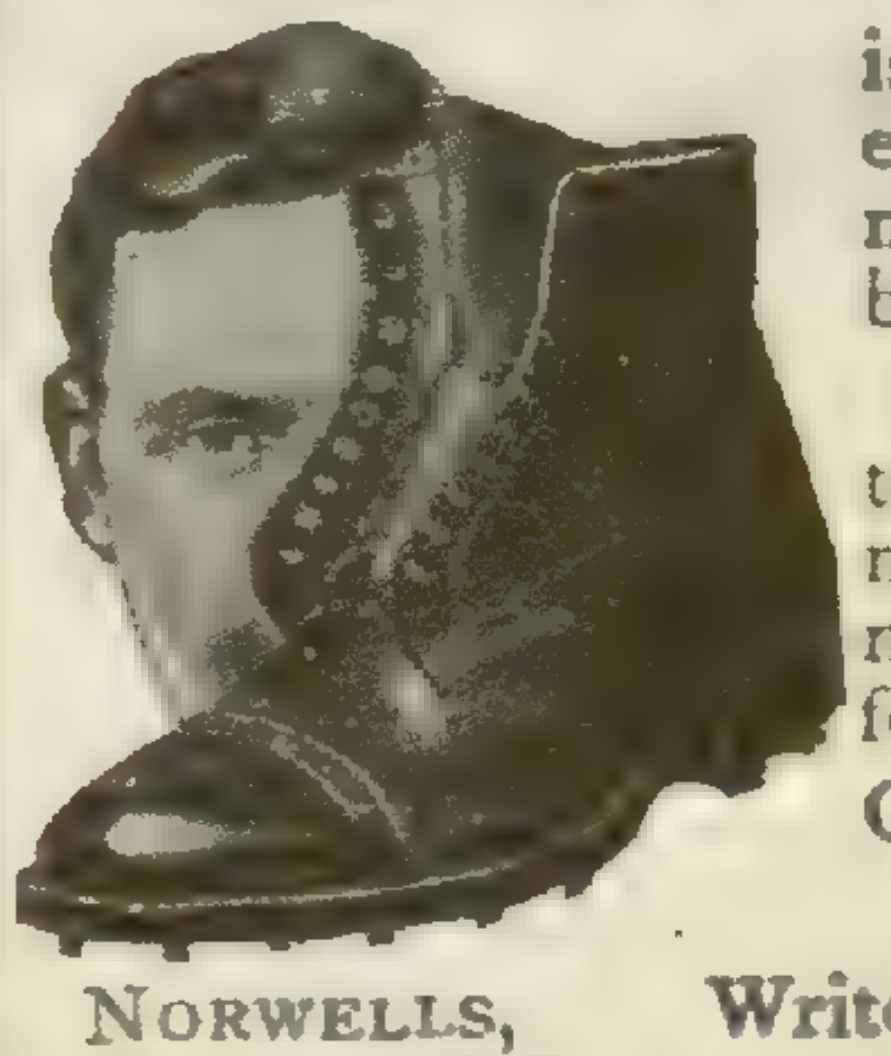

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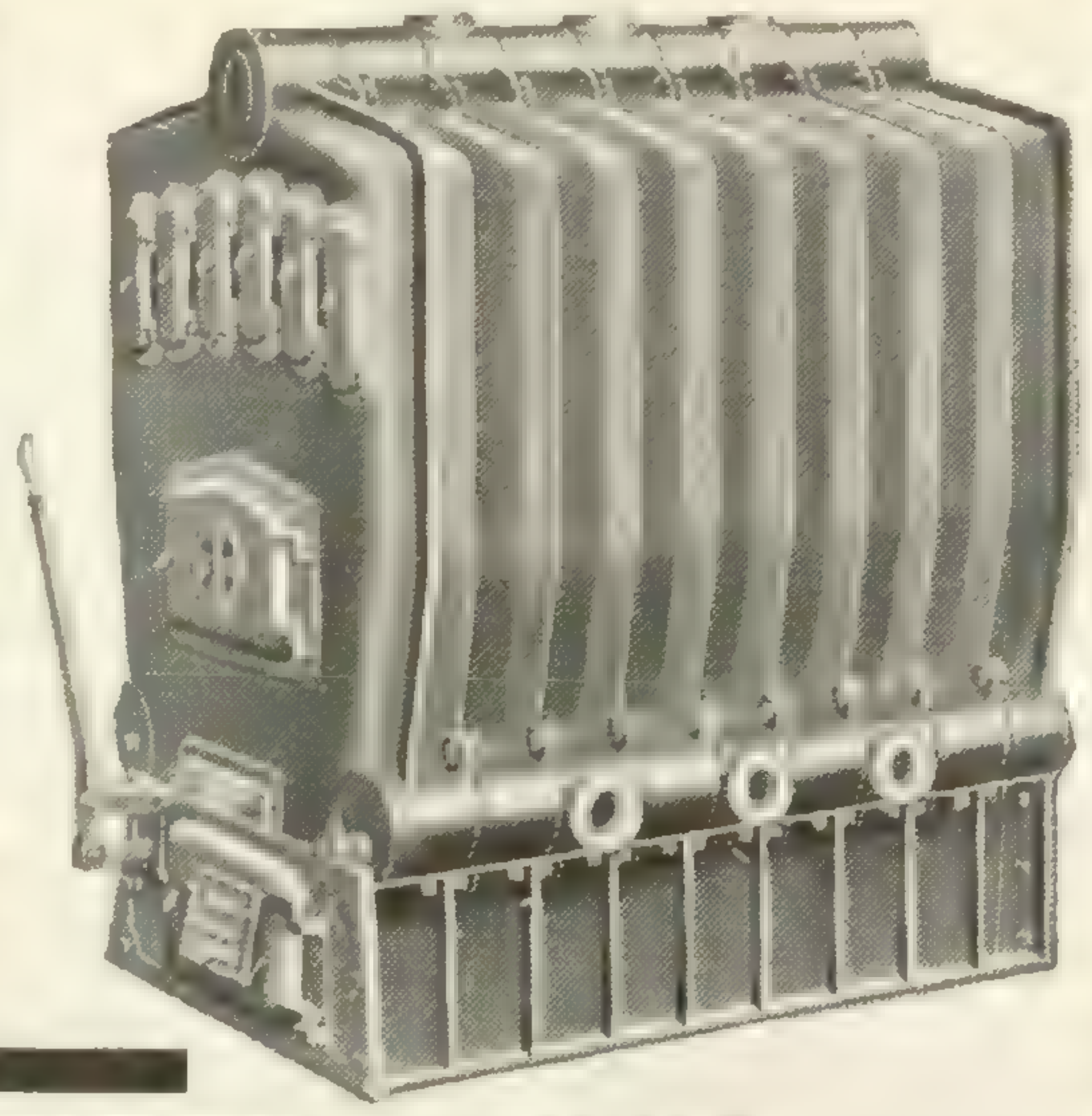

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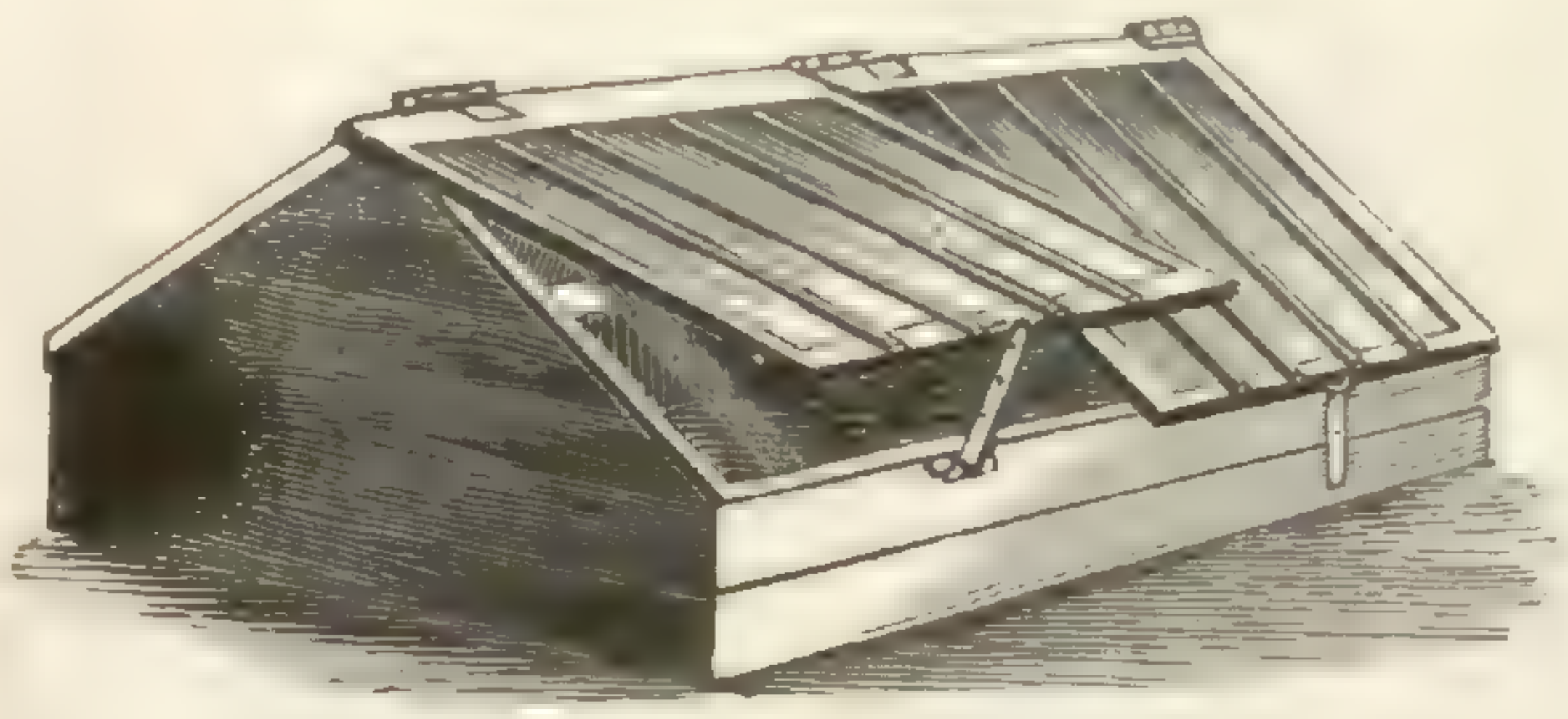

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12ft. ,, 6ft. ,,		5	12	6

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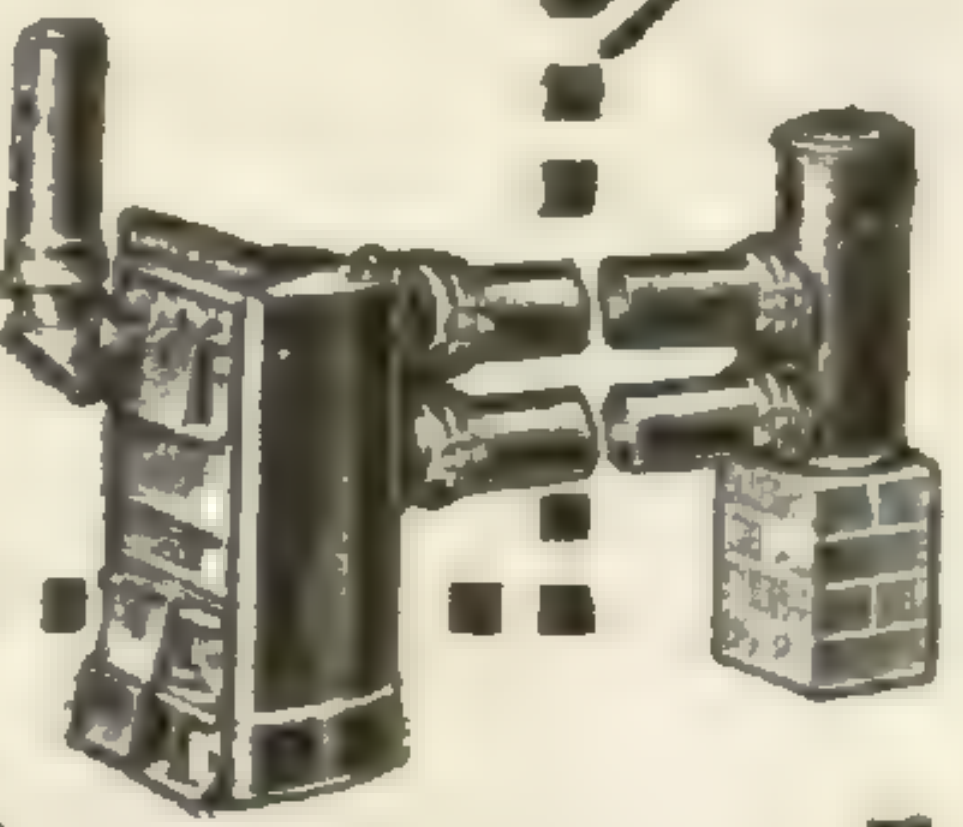

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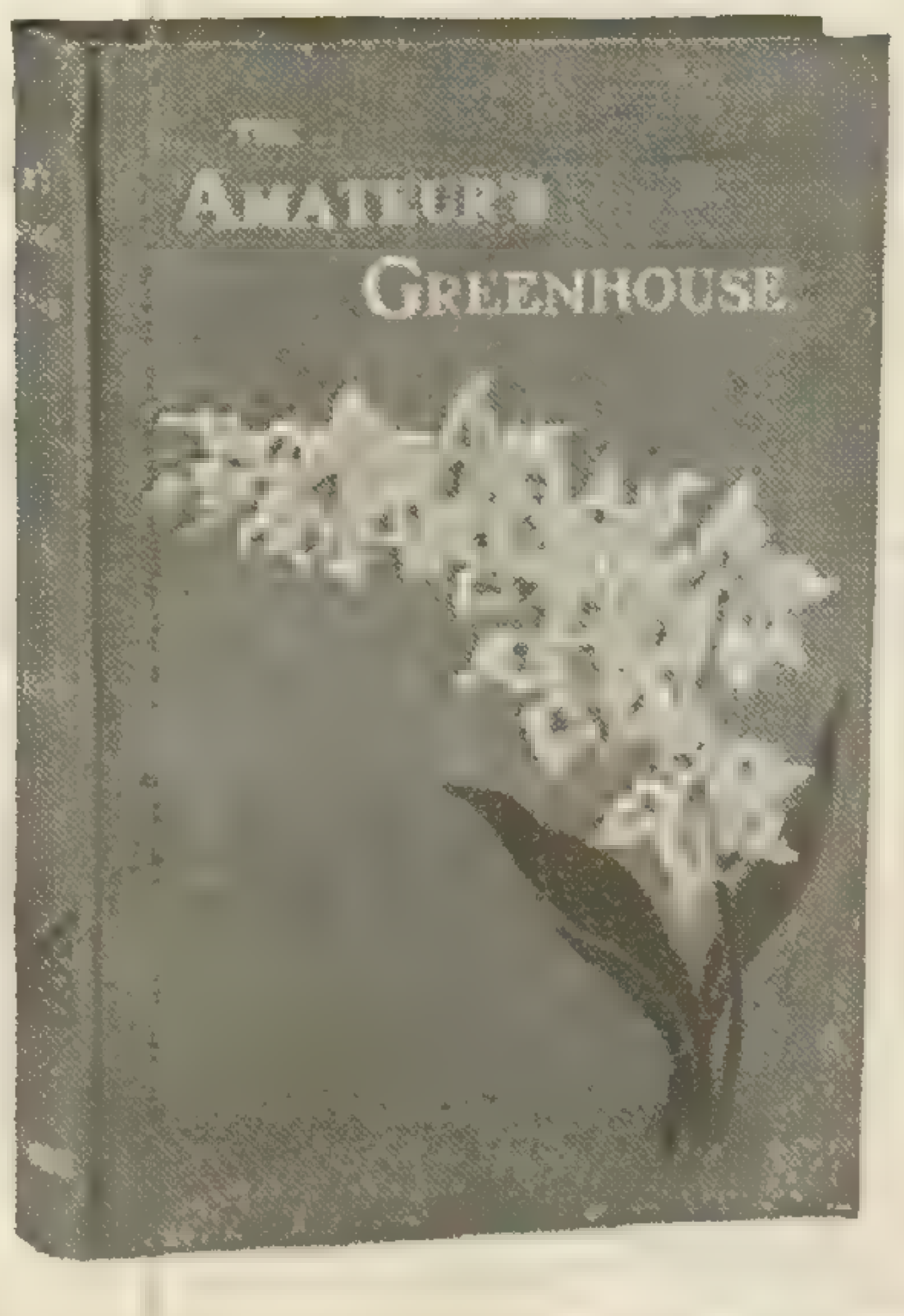

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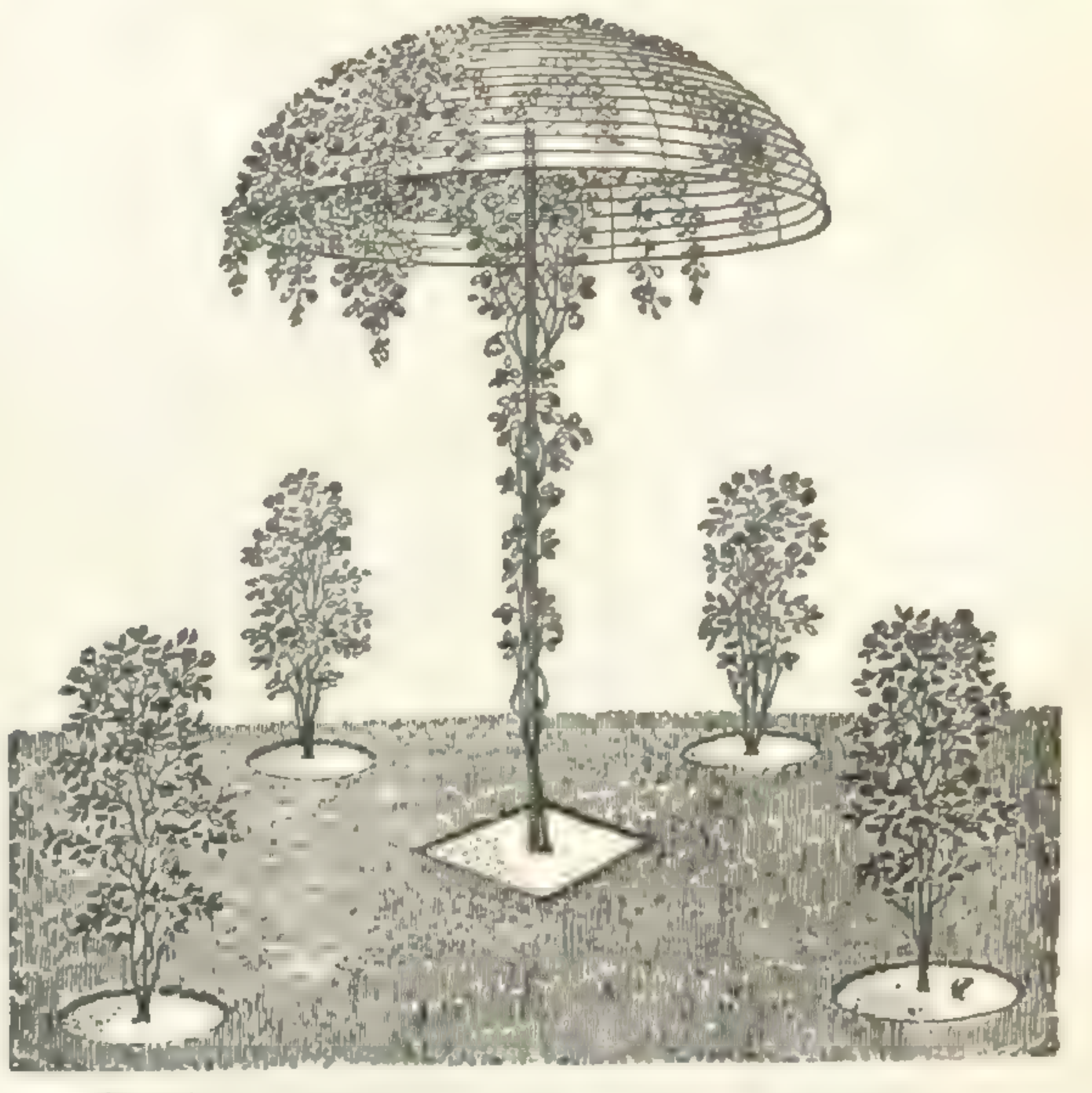

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A List of Gardeners on the Register will be supplied to employers only upon application to the Publishers if a stamped envelope is forwarded, addressed 148 and 149, Aldersgate Street, London, E.C.

Situations Wanted.

GARDENER (Head).—Advertiser seeks RE-ENGAGEMENT in first-class establishment, where several are employed; life experience, and thoroughly practical in all branches; five years as head in last situation; can be strongly recommended. Apply DUNKLEY, The Gardens, Mill House, Bourne End, Bucks.

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GARDENER (Head Working or Single-handed) seeks SITUATION; age 28; married; life experience in all branches Inside and Out; excellent references. HOWARD, Bintry, East Dereham, Norfolk.

GARDENER (Head Working), very good with Plants and Fruit under glass, and the general routine, Inside and Out; best references for ability and character; nearly six years last place; age 33; Single. PARTRIDGE, 20, The Hoo, near Wellington, Salop.

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CULTURE OF HARDY CLIMBING SPECIES: Soil, rich, deep, well-drained loam containing plenty of old mortar and decayed manure. Position, sunny trellises, arches, old tree stumps, arbours, etc.; also in beds with shoots trained over surface. Plant in autumn or spring. Prune in Feb. Pruning: Montana, Florida, Patens, and Lanuginosa kinds only need to have weak shoots removed as they flower on the old wood. Coccinea kinds require weak growths and tips of strong ones removed. Viticella and Jackmanni groups require previous year's shoots to be cut back to six inches from their base. Feed healthy plants occasionally in summer with weak liquid manure. Top-dress those grown in beds with decayed manure in autumn.

CULTURE IN POTS: Compost, two parts loam, one part of equal proportions of leaf-mould, decayed manure, & sand. Plant in pots or tubs in June. Train shoots up roof of cold or cool greenhouse, or around wire trellis fixed in pots. Water freely March to Sept. Apply weak liquid manure occasionally in summer. Keep soil nearly dry in winter. Prune shoots to 3 or 4 in. from base early in the year.

CULTURE OF GREENHOUSE SPECIES: Compost as for above. Grow in pots or in well-drained bed, planting in spring. Water freely during the summer, moderately in winter. Prune away weak growths and shorten rampant ones a little in Feb. Train shoots near the roof. Temp., Sept. to March, 45° to 55°; March to Sept., 55° to 65°. Syringe freely daily in summer.

CULTURE OF HERBACEOUS SPECIES: Soil, ordinary rich. Position, sunny borders. Plant in autumn or spring. Top-dress annually with decayed manure in autumn. Prune shoots close to soil in autumn. Dwarf species best grown on sunny rockeries. Propagate by seeds sown in sandy soil in cold frame in spring in case of hardy kinds, or in heat in spring in case of greenhouse species. Greenhouse species also by cuttings inserted in sandy soil in temp. of 75° in spring; hardy climbers by grafting on roots of C. viticella or vitalba in heat in spring, also by layering shoots in summer; herbaceous kinds by division in autumn or cuttings of young shoots in frame in summer.

GREENHOUSE SPECIES: C. indivisa lobata, white, April, 15 to 20 ft., New Zealand.

HARDY CLIMBERS: C. coccinea, scarlet, July, Texas; flammula, white, July France; florida, white, summer, Japan; Jackmanii, purple, summer, hybrid; patens, white, summer, Japan; lanuginosa, blue, June, China; montana grandiflora, white, May, Nepaul; vitalba, white, July, Britain; viticella, blue, July, Spain. Lady Londesborough (mauve) and Miss Bateman (white) are examples of the patens group, and flower in May and June. Duchess of Edinburgh (white) and John Gould Veitch (lavender-blue) are typical forms of the Florida group flowering in summer; Henryi (cream) and Lady Nevill (lavender) of the lanuginosa section; Lady Bovil (blue) and Hendersoni (purple) of the viticella group; and Jackmanii (purple) of the Jackmanii section.

HERBACEOUS SPECIES: C. Fremonti, purple, summer, 1 ft. N. America; fusca, reddish, summer, 6 to 8 ft., shoots woody, N. Asia; heracleæfolia, purple, summer, 2 ft., China; heracleæfolia davidiana, lavender-blue, fragrant, Aug.; integrifolia, blue, Aug., 2 ft., S. Europe; ochroleuca, yellow and white, summer, 2 ft., N. America; recta, white, fragrant, Aug., 2 ft., S. Europe.

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VOL. LII.—No. 2,925. SATURDAY, NOVEMBER 20, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Plant Fecundity.

As regards capacity for propagation by seeds or eggs, though the animal kingdom presents examples of wonderful fecundity, as we may see in some of the fish tribes, whose eggs run into hundreds of thousands per individual, there is no doubt that the plant world can, in innumerable instances, far and away surpass it. In this respect, it would appear that high development in both cases tends to reduce fertility. Among animals especially, the offspring of the mammals are comparatively few, their very organisation which gives them their name, precludes a greater number of progeny than the mother can herself nourish; when, however, we descend to the layers of eggs, the numbers increase, and may, as we have already stated, become enormous. Another point is that Nature undoubtedly favours numbers in direct ratio with the risks which the young must experience when first launched into active existence, a fact which is obvious enough when we consider that, despite the disparity of numbers of young produced, the number of adult individuals, speaking generally, may be regarded as equal year after year, so nicely is the balance maintained. In the plant world all are seed or spore bearers, the plant, whether of high or low degree, has no share in the protection of its young progeny. All it can do, and this it usually does, is, by means of its special contrivance for flight, attachment, or other means of wide dissemination, to get its seed away from its own particular area, and give it a chance at a distance. This being so, it follows that a large number is, as a rule, an essential for the continuance of the race, since the struggle for existence to which the seedling is inevitably exposed, renders equally inevitable the early destruction or perishing of an immense majority. Thus, even in, let us say, the oak, as a type of long-lived trees, which may exist for centuries, every season may witness the production of an immense crop of acorns, yet how few seedlings shall we find even in the soil which may have been all but covered with them at the fall, though every one, as we can easily convince ourselves, will sprout and grow if sown and protected. In point of fact, all which fall within the shade or upon the root realm of the mother tree are heavily handicapped by the practical monopoly of light and soil, and we thus see that the fecundity of the oak is largely neutralised by the fact that, as regards seed dissemination, it is a failure. The balance is, however, maintained by the stability and longevity of the parents. Ephemeral plants, such as annuals and biennials, make up for their short life by more abundant seed, accompanied often by clever scattering devices, and, there is little doubt, a greater capacity of germination than obtains in perennials generally. Many perennials which have a widespreading stoloniferous habit, and propagate themselves freely in that way, are either chary of producing seed at all, or their seed is very slow to germinate. It is, indeed, a rule in Nature that, giving free propagation in one direction, there is a check in another. Ferns, for instance, with travelling rootstocks, lend themselves much less freely to spore propagation, as a rule, than those with single crowns. In the case of ferns, their fecundity is incredible, a single plant of fair size yielding by actual computation over a thousand million spores as an annual crop, while in some of the huge tree ferns they must be reckoned by the billion, and this, despite the fact that there is practically no limit to their longevity. The marvel here is the greater since it has been abundantly proved that each spore is capable of producing not merely one but several ferns. Here the incipient fern represented by the preliminary scale-like growth which originates from the spore, and upon which the equivalent of flowers are produced, is very small, and is handicapped in a great variety of ways in the struggle for existence, so that here again the balance is maintained exactly in an unchanged environment. It is, however, among the still lower grades of vegetative life, viz., the fungi, that we arrive at the acme of fecundity; computation fails to estimate the crops of spores which may be produced by a colony of fungi originating from a single one. Here the spore produces an invading growth, the so-called mycelium, which penetrates the soil or the tissues of infected plants, and eventually forms colonies instead of single individuals, each member of which may disseminate countless spores in its turn to pervade, perhaps, the very air itself with potential germs, and it may be, cause serious injury to plant or animal life.

MR. THOMAS BEVAN,
Chairman of the National Chrysanthemum Society's General Committee.

Mr. Thomas Bevan, whose portrait we give in this issue, is, perhaps, best known to the general body of horticulturists for what he has done in connection with the National Chrysanthemum Society, but he has accomplished much useful work in other directions. After a considerable experience in gardens at home and on the Continent, Mr. Bevan was appointed to the post of superintendent of the St. Marylebone Cemetery, and here he has, by his free and tasteful use of ornamental plants, set an example that is worthy of imitation generally, and deserving of high praise. Notwithstanding the immense amount of detail incidental to his position that has to receive attention, Mr. Bevan has found time to do excellent work in the advancement of horticulture. For many years he has taken an active part in the management of the various horticultural societies in the north of London, and for a quarter of a century or so he has been closely associated with the management of the National Chrysanthemum Society. Long a member of committee, he was for about seven years chairman of the Floral Committee, and for a similar period he has filled the higher position of chairman of the Executive Committee. During his period of office Mr. Bevan has visited many of the principal horticultural exhibitions as a deputation from the National Chrysanthemum Society, with other members of the executive. Mr. Bevan fully appreciates the usefulness of gatherings of gardeners, both for technical and social purposes, and during the past twenty years he has seldom been absent from the more important horticultural meetings held in and around London.

Fruits of Foreign Growth were so sparingly contributed to the British markets during October as to show a very material decrease in values, as compared with the corresponding month of last year. This may be regarded as satisfactory, or otherwise, according to the view taken with regard to the presence of foreign fruits in the home markets. The imports of apples amounted to 513,253 cwt., of the value of £300,554, these figures showing a decrease in quantity of 69,610 cwt., and in value of £16,669. In the imports of apricots and peaches there was a decrease in quantity of 836 cwt., and in value of £1,524, the aggregate having been 170 cwt., of the value of £200. Banana imports aggregated 496,807 bunches, of the value of £145,135, these figures representing decreases, as compared with October, 1908, and increases on the imports of the corresponding month of 1907. There was the very large decrease of 167,456 cwt., on the imports of grapes, the aggregate having been only 173,460 cwt., of the value of £178,060, which is the smallest quantity of foreign grapes that have been received in British markets during October for many years past. Lemons, oranges, and almonds were imported in increased quantities; but the imports of miscellaneous nuts show a material falling off. Of pears the imports were 80,209 cwt., of the value of £58,375, or a material decrease both in quantity and value. Plums, on the other hand, show an increase of 17,433 cwt., of the value of £8,731, the aggregate imports having been 19,636 cwt., of the value of £10,085. Unenumerated fruits were also imported in increased quantities, the total imports having been 48,226 cwt., of the value of £33,543. The total value of the fruit imports for the month was £1,056,080, or a decrease of £166,240.

Royal Botanic Society.—With reference to the correspondence relating to the proposition made by the Royal Horticultural Society to this society, it will be of interest to mention that the following letter has been written to the secretary of the Royal Horticultural Society: "Dear Sir,—At the meeting of my council held last (Friday) evening I was directed to say that they have heard to-day from our president, his Serene Highness the Duke of Teck, and have sent a copy of your letter dated October 15 to his Highness. My council reciprocates the friendly sentiments expressed in that letter, and will be pleased to meet a committee of your body and to consider and discuss with them the question proposed. My council suggests that five on each side would be a convenient number, and that the meeting should take place at as early a date as practicable.—J. Bryant Sowerby, secretary of the Royal Botanic Society."

Roses and Rose Culture.—The members of the Croydon Gardeners' Association were fortunate in having an address on roses and their cultivation by Mr. E. J. Holland, at their last meeting, a fact which they appeared to fully appreciate. Mr. Holland, at the outset of his address, gave a brief sketch of the history of rose growing in this country; but, as the object he had in view was of a distinctly practical character, he did not devote much time to the historical aspect of his subject. Passing on to a consideration of cultural matters, Mr. Holland suggested that in selecting a site for the rose garden it should be borne in mind that while roses should have sufficient shelter to protect them from strong winds, the position should be open to sunlight and air. The importance of liberal manuring and trenching was insisted on, and November was suggested as the best month in which to plant roses. Careful handling of the roots and firm planting was advised, and, in the case of dwarf roses, it was recommended that they should be deep enough in the soil for the junction of the stock and scion to be below the surface. Proceeding to deal with the details of management, Mr. Holland advised that pruning should be commenced in March with the hardier kinds, and that this operation be completed by the end of the month. A rather severe system of pruning was advocated, but it was mentioned that the stronger growers should be cut back to within seven or eight inches of the base of the shoots. The thinning of the young growths at an early stage of their development, the use of liquid manure in June, the search for and destruction of insect pests, and other points received a full share of attention, and at the close of his lecture Mr. Holland received the heartiest of thanks.

Horticultural Club.—The next house dinner of the club will be held on Tuesday next, November 23, at 6 p.m., when Mr. Joseph Cheal will give a lecture entitled, "Canada of To-day, Horticulturally and Generally." As Mr. Cheal's observations of the Dominion extended from the Atlantic to the Pacific, the lecture, which will be freely illustrated by original lantern slides, should be not less interesting than those previously given by him at the Horticultural Club.

Primula obconica.—From Mr. J. Dickson, gardener to Adelaide Duchess of Bedford, Woodside, Chenes, Rickmansworth, we have received a box of flowers of numerous varieties of this useful primula. The flowers are large in size, of superb form, varied and effective in colour, and represent an excellent strain.

Vegetable Imports in October were about equally balanced as regards increases and decreases. In the imports of onions there was the substantial increase of 133,633 bushels, of the value of £8,041, the total having been 884,335 bushels, of the value of £105,251, which we suggest is a much larger quantity than we should have to obtain from abroad to meet the demand for these pungent bulbs in October. There was an increase also in the imports of tomatoes, which aggregated 77,634 cwt., of the value of £76,725. The imports of potatoes were 111,475 cwt., of the value of £18,243, these figures representing small decreases both in quantity and value. Unenumerated vegetables were imported to the value of £10,448, or a decrease of nearly £3,000.

Plants Injured by Frost.—At the meeting of the R.H.S. Scientific Committee, on the 9th inst., Mr. J. Fraser showed specimens to illustrate the damage done by frost acting under varying conditions, e.g., Bracken growing in the open (near London) became quite black, while under an oak tree it remained green. Solanum nigrum varied considerably in the extent to which individuals suffered, the pernicious weed, Galinsoga parvifolia, originally from Peru, now too common in market gardens in Surrey and Middlesex, was blackened by four degrees or five degrees of frost, while Chrysanthemum frutescens from the Canaries was uninjured. While Datura stramonium was killed, its fruits were uninjured, and it persists as a weed in this country partly on this account, but also because the seeds from any particular pod do not all germinate in the same season.

Plant Distribution.—A fact of peculiar interest in connection with plant distribution is, observes "Nature," presented by Dr. Engler in the discovery of an African plant referred to the family Triuridaceæ. The plants of this family are saprophytes of such a reduced nature that there is some doubt whether they are correctly classed with monocotyledons. Several species, under two genera, have been discovered in tropical America and tropical Asia; also a new species from the Seychelles Islands was described by Mr. Botting Hemsley in 1907. The latest species was collected in West Africa, in the Cameroons, so that the genus Sciaphila is now recorded from three continents. It is quite unlikely that the seeds of a plant which is a saprophytic inhabitant of virgin forest should be transported by water, and the problem of its existence in these distant isolated localities is exceedingly puzzling. An anatomical examination of the stem showed a reduced structure not inconsistent with a monocotyledonous position.

Magnolia Delavayi is, unfortunately, not quite hardy in the open, even at Kew, although it does well against a wall. It is an evergreen species, and has big creamy-white flowers, and is the subject of a double-page illustration in the November issue of the "Botanical Magazine." Other plants figured in the same issue are Pieris formosa, a fine evergreen flowering shrub, that does well in the West of England; Cotoneaster moupinensis floribunda, a hardy, scarlet-berried shrub; Cephalotaxus drupacea, a not very common yew-like conifer; and Kitchingia uniflora, a sedum-like plant, with inflated tubular red flowers borne singly at the ends of the growths.

Formation of Chlorophyll.—According to the researches of Mr. B. L. Issatchenko, a low temperature (24 deg. Fahr.) does not prevent the development of chlorophyll in plants, and it is formed as rapidly in a low temperature as a high one, the formation of chlorophyll depending wholly upon the intensity and duration of light.

Horticultural Congress at Brussels.—We would again draw our readers' attention to the International Horticultural Congress to be held at Brussels in 1910, in connection with the spring flower show. The Congress will occupy four days, i.e., from April 30 to May 3. The subscription to the Congress is five francs, and the office of the secretariat is 28, Rue St. Catherine, Brussels.

FUCHSIAS.

The recent article in The Gardeners' Magazine, page 787, on these beautiful flowering plants is exceedingly interesting to one like myself, for I have devoted a good deal of attention to the subject, and some varieties of my raising may now be regarded as popular ones.

I have tried to intercross several of the species with each other, or with some of the garden forms, and must confess that the failures have far outnumbered the successes. The fact that the berries reach their full size and ripen thoroughly must not be taken as always indicating that they will contain good seed, for many individuals are very disappointing in this respect. One particular variety from which I have been very anxious to obtain seed for years disappoints me annually, for each season there is a full crop of berries, but they never contain a single good seed. With regard to the best mode of extracting the perfect seeds from the pulp, I do not favour the plan advocated on page 787, but much prefer the system followed by Mr. George Fry, and detailed by him in a paper read at a meeting of the Royal Horticultural Society on August 9, 1892. It is to simply smash the ripe berry on the palm of the hand and pick out the perfect seeds on the point of a penknife. In practice it will be found an easy matter to select the good seeds, which are often limited to two or three in a pod, while occasionally there are a considerable number of them. A superior variety that can be depended upon for seeding purposes is of considerable value to the hybridist.

Concerning an erect-flowered fuchsia referred to in the above-mentioned article, I may point out there is one by no means new in which the flowers are nearly erect. It is, I believe, of Continental origin, and is still catalogued by Messrs. H. Cannell and Sons, of Swanley, under the name of Fuchsia erecta Novelty. This variety has white sepals and petals, and a deep rose corolla. From its habit it is certainly very distinct, but to my mind at least is far less pleasing than those whose flowers droop in the ordinary way.

A great favourite of mine is that exceedingly distinct, white-flowered variety Countess of Aberdeen, which was put into commerce about twenty years ago. The flowers of this are semi-erect, and though I know nothing of its early history, except that it was distributed by Messrs. Cocker, of Aberdeen, it would not surprise me to learn that Countess of Aberdeen originated either as a sport or a seedling from the above-mentioned F. erecta Novelty.

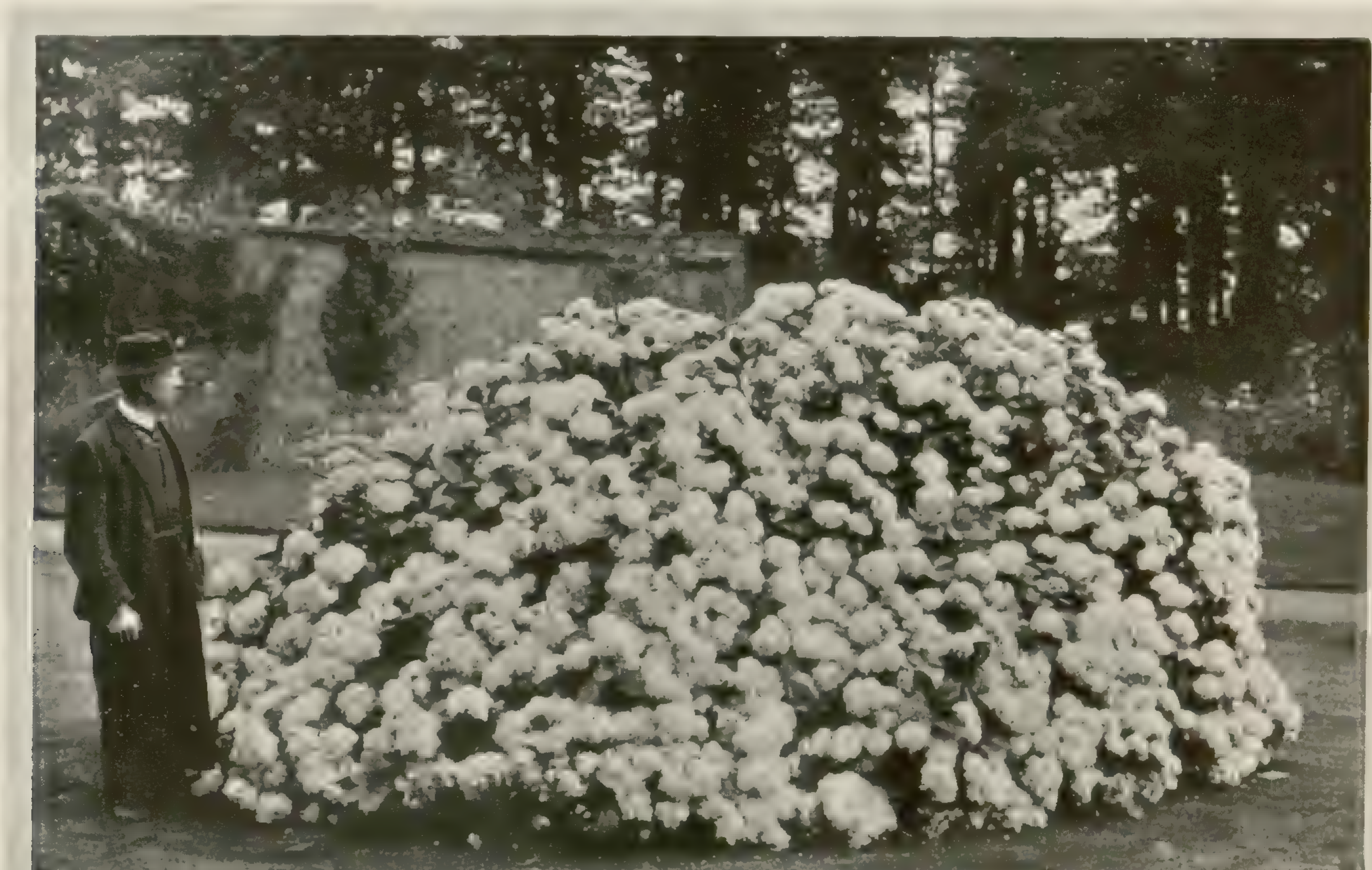
I have many times tried, but up to the present without success, to obtain good seed from Countess of Aberdeen, either fertilised with its own pollen, or with the pollen of other forms. By fertilising some flowers with pollen from a light-coloured variety I obtained some large berries, which eventually ripened, but not a single perfect seed could I find. The fruits of this variety even when ripe remain green, while most of the varieties change to a purple hue. As a rule, however, those forms in which the tube and sepals are white produce berries that are greenish or yellowish green when ripe.

There are two or three raisers in France, notably M. Lemoine of Nancy, who send out regularly a few new varieties, some of which are quite distinct in their colouring or other features from those in general cultivation. The most decided "break away" among fuchsias sent out within the last few years are the varieties raised in Germany. One of these—Coralle, was given an Award of Merit by the Royal Horticultural Society about two years ago. These German varieties are, I should say, hybrids between Fuchsia triphylla, F. fulgens, and F. corymbiflora. They formed quite a notable portion of Messrs. Cannell's exhibit at the last Temple Show. The best of them are—Clio, rosy red; Coralle, coral-red; Eros, deep pink; Gartenmeister Bonstedt, orange-red; Perle, silvery rose; Thalia, rosy coral; and Traudchen Bonstedt, pink tube and sepals, and orange corolla.

K.

A NOBLE HYDRANGEA.

In the western and southern counties there are, here and there, to be found some wonderful examples of that fine old flowering shrub, Hydrangea Hortensia. In some cases these develop a beautiful shade of blue in their flowers, and they are then even more striking than the pink and rosy forms. Many would give a good deal to be able to secure blue flowers on their hydrangeas, and doubtless many have tried various methods for securing a fulfilment of their wishes, mostly with unsatisfactory results. In some soils and positions the blue colouring comes naturally, but under different circumstances the same plant would lose its novel colouring in a short time. At Dyffryn, Neath, South Wales, the seat of J. E. Moore Gwyn, Esq., J.P., D.L., there is a fine specimen hydrangea on the spacious lawn, and it recently bore no fewer than 1,740 heads of bloom, all of a pleasing shade of blue, and this specimen we are able to illustrate in the present issue, by the kindness of Mr. H. T. Bradley, the able gardener at Dyffryn.



A NOBLE SPECIMEN OF HYDRANGEA

Growing in the Gardens at Dyffryn, Neath, South Wales, and bearing 1,740 heads of bloom.

Epiphyllums.—These are among the most novel of winter-flowering greenhouse plants, their curious form and brilliant colour always attracting attention, while their value in a mixed group of plants at this season is not easily over-estimated. Grown as standards, the flowers are most conspicuously displayed, the leaf-like stems assuming a pendulous habit and surrounding the main stem, and when the branches are terminated by the brightly-coloured flowers, they constitute the perfection of symmetry and grace, so that one can scarcely conceive a more effective or more generally useful subject for the winter months. The various forms of E. truncatum exhibit considerable variety of colouring, scarlet, orange, salmon, rose, and white appearing in varying combinations. Their cultural requirements are of the simplest character, so that amateurs whose glasshouse facilities are of a limited character will find them of inestimable value.—Thomas Smith.

CONIFER FRUITS.

It has seldom happened that a more abundant crop of cones has been produced by conifers than that which occurs during the present year. While most kinds have fruited well, various species of abies have borne a prodigious crop, and the trees have been effective for a long period.

When extolling the merits of various ornamental fruited trees, the conifers are usually left out, though they might well be included, for the cones of some are of decorative value, not only for a few weeks during autumn, but from the time they first make their appearance, while those sorts which do not bear cones have also their interesting points. When examining a full collection of conifers and studying the cones of each group separately, a great difference is found both in size and shape, and even in a genus a great deal of variation is noticeable.

In point of size, pride of place has to be given to the Chili Pine, Araucaria imbricata, amongst hardy conifers, for well developed examples of the cones of this are seven or eight inches long, and almost as far through, nearly round, curiously covered with stiff scale appendages, and borne upright on the branches. They take two years to mature, and, though male and female inflorescences are sometimes found on the same tree, it more frequently happens that trees are diœcious. Following close behind the araucaria comes the Californian Pinus Coulteri. This has remarkable woody cones, nine inches or so long, covered with stout, woody, claw-like spines, which terminate the scales. They are often six inches through at the base. A tree somewhat similar in appearance which has also large cones is P. Sabiniana. P. ponderosa and P. Jeffreyi have smaller cones, six or seven inches long and about three inches through at the base, they are not woody like the former, and the scales separate as the cones ripen. The Cluster Pine (Pinus Pinaster) is remarkable for the manner in which the cones are often borne in large clusters which surround the branches. The cones are light brown, five to six inches long and very handsome. They are very hard and sometimes hang on the trees for several years. This habit of bearing cones in clusters is not confined to the one species, for it is frequently noticed in Pinus Thunbergi, P. insignis, P. parviflora, and others. Upwards of sixty cones have been counted in a single cluster of P. Thunbergi.

In the case of P. insignis the cones are very conspicuous, being three to four inches or sometimes more in length, and three inches through, one side being always a great deal more fully developed than the other, causing the cone to have a lop-sided appearance. The Stone Pine, Pinus Pinea, is remarkable for its large solid cones with thick scales. The cones are about four to five inches long and three to four inches through. They are very hard and rarely open without being subjected to heat. P. tuberculata and P. muricata retain their cones for a very long period, and cones may be found on trees which were matured thirty or forty years ago, with cones of all ages, to those borne this year. The group of pines represented by P. strobus, the Weymouth Pine, contains some conspicuous trees. P. excelsa bears drooping cones six or seven inches long and two inches through, plentifully clothed with resin. P. ayacahuite has long cones nine or ten inches in length, and two and a-half to three inches through, whilst P. Lambertiana has still longer cones. These are a few of the most noticeable.

The abies or firs bear their cones upright on the branches. Many of them are of a lovely violet hue when quite young, and the colour is retained until well on towards the end of summer. The finest cones are borne by A. nobilis and A. magnifica. These are six to eight inches long and two to three inches through, and are very imposing when seen in quantity about the summit of a tree. As a contrast to these come the small purple cones of A. balsamea, which are frequently but two inches long. Abies religiosa, though of little value for general use, bears very pretty cones with hooked scales. The tree, however, is only met with in the warmer parts of the country. A. Webbiana produces very distinct cones, whilst those of A. bractyphylla, A. Pinsapo, A. grandis, A. pectinata, and A. Nordmanniana, are all handsome. The cones of A. bracteata are also very distinct.

The spruces or piceas can be distinguished from the abies or firs by their pendulous cones. Conspicuous amongst them are P. morinda and P. excelsa, both with cones five to six inches long, P. nigra with tiny cones scarcely an inch long, and P. Menziesii with cones about three inches long.

The Tsugas or Hemlock Spruces all have small cones, whilst the Douglas Fir, Pseudotsuga Douglasii, bears pendulous cones three to five inches long.

Something special might be expected from the Mammoth-tree of California (Sequoia gigantea), but the cones are comparatively insignificant in size, being but one and a-half and two and a-half inches long by about one and a-half inches in diameter, while its relative, S. sempervirens has somewhat smaller cones.

The Umbrella Pine (Sciadopitys verticillata) bears cylindrical cones three to four inches long and two and a-half inches in diameter, which take two years to mature. The various species of athrotaxis bear tiny cones and the small globular fruits of the junipers are hardly worth consideration. The cypresses have rounded cones, those of Cupressus Lawsoniana, C. pisifera, C. thyoides, and C. nootkatensis being small, while such sorts as C. sempervirens and C. macrocarpa have rounded cones one to one and a half inches in diameter. The thuyas differ from the cypresses by having longer cones, which are usually rather narrow compared with their length, while the cryptomerias have rounded cones. The fruit of the Maidenhair Tree (Ginkgo biloba) differs greatly from that of other conifers. It very much resembles a small plum and is yellow when ripe, and one-half to three-quarters of an inch in diameter. Some considerable difference is noticeable in the cones of the larches, the most conspicuous being the rare Larix Griffithii, which has cones three inches long, the scales of which are curiously hooked. During development the colour is bright violet.

The fruit of the yew is well known by reason of the bright red fleshy covering which surrounds the seed, the red colour giving place to yellow in some of the varieties. The cephalotaxus and torreyas produce nut-like seeds covered by green shells, the seeds being in some instances upward of an inch long. Though these do not exhaust the interesting trees and shrubs to be found in coniferæ, they are sufficient to direct the attention of those who have not paid them special attention hitherto.

Kew. W. Dallimore.

Roses may be grown to perfection by following the instructions given in Roses and their Cultivation, by T. W. Sanders. A selection is given, with description of all the best varieties, and full details for culture outdoor and under glass. Price 2s. 6d. net, by post, in box, 2s. 10d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

CHRISTMAS ROSES.

Well-grown clumps of Christmas roses are generally welcome at the festive season, in fact I have myself been specially charged to have them in flower for Christmas Day, and probably other cultivators have had to furnish a supply for the same date. In most gardens these hellebores are in demand, and good blooms when the chrysanthemums are past their best, make a change from the ordinary forced bulbs.

The hellebores are impatient of much forcing, and therefore to lift the clumps with the object of quickly getting them into flower is not altogether wise: I do not say such treatment would end in failure, but it weakens the plants, and soon causes the stock to deteriorate. Placing the plants in gentle heat to obtain blooms by a certain date is helpful, but the forcing must be gentle or the flowers will not open kindly.

The better way of persuading those plants to expand their flowers is to grow them in a good position where the protection of a light can be given in good time. This will advance the buds gently, and as these expand such protection not only keeps away the frost, but also preserves the purity of the blooms. Different growers have different ideas respecting the cultivation of Helleborus niger, especially as to the position or aspect in which the plants should be grown, and many have the notion that they require a shaded or half-shaded position. For lengthening the season of flowering they may be grown in two or three aspects. I have grown them facing east, south, and west, and in such positions, at the base of a wall or the front of forcing houses, they can easily be protected from the weather, and will flower in succession if well arranged.

To thoroughly ripen the crowns and give the plants a partial rest I prefer the south and west aspects, and in such positions, if the plants are undisturbed for several years, quantities of flowers can be gathered. In such places as here described the plants would require several waterings during the growing period.

The finest clumps of Christmas roses I have had the pleasure of seeing this season are in the gardens at Newells, Horsham, the residence of W. S. Graves, Esq. These are growing in a small border in front of a lean-to house, and facing due south. Mr. Haldane, the gardener, informed me they had been planted four years, and had received an annual dressing of manure and leaves, while during the summer an occasional watering has been given when required. These clumps have leaves of leathery texture, and exceedingly healthy appearance, while the crowns are bristling with an abundance of flower buds. Later in the autumn small sashes are placed over the plants for their protection, and a large harvest of flowers is gathered. These clumps of hellebores are a fine object lesson of what a position facing due south will do in developing good plants, and in supplying abundance of blooms.

T. H. Slade.

Pyramidal and Bush Fruit Trees are well adapted for planting in the borders of the vegetable garden, while the narrower borders may be utilised by planting espaliers or oblique cordons, the latter for preference, as these young trees come into use sooner than the espaliers. A greater number of varieties can also be grown on the same length of border, and should any vacancy occur, these can be more easily filled up by the cordons than espaliers.—G. Woodgate.

NEW PLANTS, ETC.

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NEPHROLEPIS EXALTATA MARSHALLI.

Notwithstanding the fact that very many beautiful varieties of Nephrolepis exaltata are now in commerce, it must be conceded that the newcomer, N. Marshalli, is the most beautiful of them all. Whether it becomes as popular for market as some of its predecessors remains to be seen; but it is certain of wide popularity in private gardens. N. Marshalli is a sport from N. exaltata Amerpohli, and its wide fronds are very finely divided and plumed, so that each frond looks like a graceful piece of the most exquisite moss. F.C.C., R.H.S., November 9. Messrs. H. B. May and Sons, Edmonton.

BEGONIA THE GEM.

This very beautiful winter-flowering hybrid should do much to further the popularity of the Veitchian begonias. It is of fine habit, as the illustration on p. 881 has shown, but the colour of the flowers, brilliant carmine, is so rich, that the effect is almost that of scarlet. The plants bloom very freely, and as the flowers are semi-double, they last a considerable time in good condition. B. Socotrana, and a semi-double, rose-coloured tuberous variety, were the parents of The Gem. A.M., R.H.S., November 9. Messrs. Jas. Veitch and Sons, Chelsea.

CHRYSANTHEMUM LINGWOOD'S PRIDE.

A very effective single chrysanthemum, of large size, and with soft pink florets surrounding a golden centre. The variety was raised by Mr. G. Rigden, Englefield Green. A.M., R.H.S., November 9. Messrs. J. Peed and Son, West Norwood.

LÆLIO-CATTLEYA CORUNNA WESTONBIRT VAR.

Beyond the fact that Lælio-cattleya Ingrami was the seed parent, the origin of L.-c. Corunna is unknown, but probably Cattleya Hardyana was the other parent. The flowers are of good size, with bright rose-purple sepals and petals, and a rich crimson-purple lip, veined with gold. A.M., R.H.S., November 9. Lieut.-Colonel Holford (grower Mr. H. Alexander), Westonbirt, Tetbury, Gloucester.

LÆLIO-CATTLEYA BARONESS SCHRODER, VAR. MDME. HENRIETTE.

This handsome hybrid between Lælia Jongheana and Cattleya labiata gives ample evidence that fine varieties of the parents were used in its production. The rosy-purple sepals and petals are veined and shaded with deeper purple, and the lip is yellow with a crimson purple apex. A.M., R.H.S., November 9. M. le Comte Joseph de Hemptinne, St. Denis Westrem, Ghent.

EXOSTEMMA SUBCORDATA.

This West Indian shrub is closely allied to the cinchonas, and is said to thrive under the treatment usually accorded ixoras. It grows about a yard high under cultivation, and produces a terminal corymbose inflorescence composed of white fragrant flowers. The flowers are tubular, with five recurving slender lobes, and prominent exserted stamens. Bot. Mag., t. 8,274.

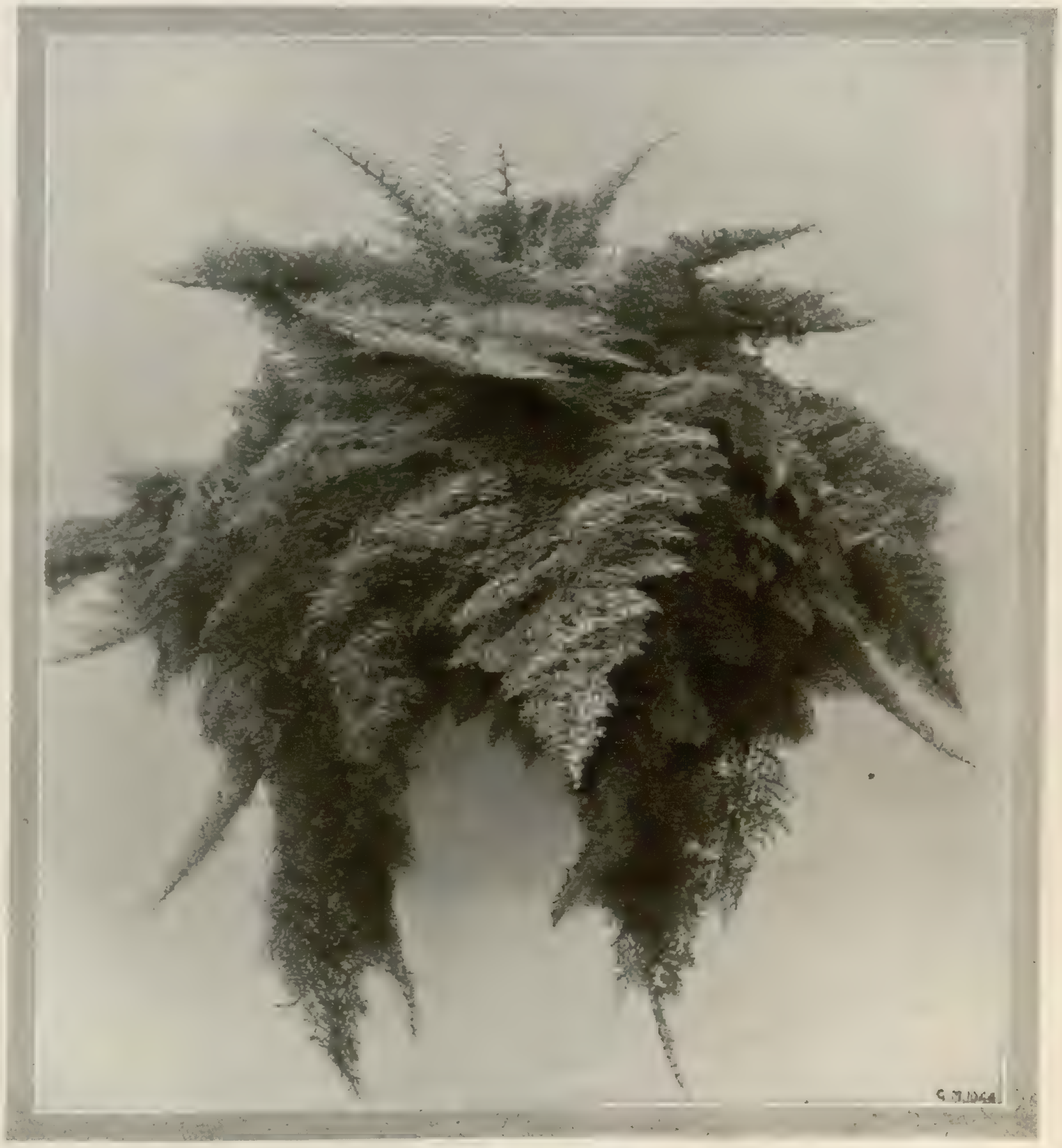
Peach, Nectarine, and Plum Trees are prone to throw up suckers from their roots, therefore when planting these see that every appearance of these young suckers is pruned off close to the roots. A little carefulness in this matter now will prevent a lot of trouble later on. Do not plant too deeply, especially on cold, wet land, but keep the roots well up to the surface, and mound the soil over them. The roots will be certain to penetrate quite deep enough. In all cases plant the trees and bushes in their new positions firmly, so that the roots may be brought into close contact with the soil at once.—G. Woodgate, Rolleston Hall Gardens.

WINTER CHERRIES.

Everyone knows these two forms of the Winter Cherry—P. Alkekengi, with its small and rounded, inflated calyces; and P. Franchetti, with its larger, ribbed, and pointed form, three to four inches long, both alike of a brilliant orange-scarlet when at their best. The latter is generally considered a great improvement upon the former, but I am conservative enough to regard the older form as more beautiful in the shape of its calyces and more graceful in the manner of its growth. They require a sunny border for the greatest production of well-coloured balloons, especially in an autumn which is not very sunny, but they will grow and thrive in the shade, especially the older form. Any ordinary soil suits them, but they do best in a soil which is light and warm. Though P. Franchetti is of much more vigorous growth than the other form, attaining a height in favourable circumstances of two to three feet, it does not spread underground so much as P. Alkekengi, which consequently should not be planted near choice fruit trees or shrubs, as it is little better than bindweed in a favourable soil in this respect.

The gathering of the stems, with their attached balloons, needs care if they are to look well afterwards, the slightest pressure being sufficient to make an indentation in the calyx, which cannot be removed. If they are left till late in the year, when the leaves have fallen, the calyces will become skeletonised, showing the berries, or cherries, as they are called, inside; and though in this state they are interesting, they are not so effective for indoor decoration as when the calyces retain their brilliancy of colouring. Some recommend cutting off the stems close to the ground as soon as a sufficient number of calyces are coloured, putting the cut ends in vessels of water, and standing them in a dark place till the leaves have fallen off. I think a better way is to cut them carefully, and hang them up in twos or threes head downwards till the stems are dry and stiff, when they will retain their rigidity, and may be arranged for the winter. A pretty combination may be made with this and the old-fashioned Honesty, and other arrangements will occur to everyone. They will last the whole winter, though they need a little careful dusting to keep them bright.

It is often said that the berries make a good preserve, but I cannot imagine any housewife sacrificing such a number of the scarlet lanterns as would be necessary to carry it out. These quaint plants are suggestive of China and Japan, from which countries they are said to have come, though the later form is a native of the Caucasus. P. C.



NEPHROLEPIS EXALTATA MARSHALLI.
A.M., R.H.S., November 9. Messrs. H. B. May and Sons.

Armeria Laucheana.—Of all the varieties of dwarf thrifts, or sea pinks, this is one of the brightest coloured, and, withal, one of the best in every way. It makes a close tuft of fresh green leaves, and gives on this quite a large number of dainty heads of bloom, which come as near crimson as we can find in the thrifts. It is only a few inches high, grows freely, and is multiplied by division. It will not come altogether true from seeds, even when grown apart from others. A. Laucheana makes splendid edgings, fine tufts for the rockery, or pretty plants for the front of the border. — S. Arnott.

SCABIOUS.

The annual or biennial varieties of this favourite old-fashioned flower, with its honeyed scent, belong to the species Scabiosa atropurpurea, a native of Southern Europe, and therefore as we might expect, they are not always hardy in cold, damp situations, though they will grow in any soil. They may be treated as annuals, for, if sown early in the spring, they flower in the latter part of the summer, but finer plants are obtained by treating them as biennials, when they should be sown in June or early in July, either on a reserve border and thinned out to six or eight inches apart, or in pans and dibbled out at a similar distance apart. The handsomest plants are obtained when they are allowed to bloom where they are sown, but they can very well be transplanted into their flowering positions not too late in the autumn. They will stand a fair amount of frost, but a wet winter is often more destructive to them than a frosty one. Plants which stand the winter will be in flower by the end of June, and if the dead blooms are regularly picked off they will continue in flower during July and August.

These varieties of scabious are very useful for cutting, as they can generally be obtained with good long stalks, and, though they have a tendency sometimes to droop, this may be reduced to a minimum by cutting them early in the morning and putting them in water at once, preferably warm water. For the purpose of cutting, a bed of them in the reserve or kitchen garden is very useful, and whether grown in this way or in the mixed beds and borders, the best effect is obtained by growing together those of fine colour only, seed of differently coloured varieties now being sold separately by all nurserymen. A better effect, too, for indoor decoration, is produced by the use of one colour, or, at most, two colours together.

Among the best varieties are those of rosy red shades, yellow, and white, those with shades of lilac and purple in their colouring not being so pleasing in effect. The old-fashioned deep crimson Pincushion flower, too, one has a sort of sentimental regard for, and it is decidedly pretty, and very sweet-scented. It is sometimes recommended to pot up the plants when small, say, in July or early in August, and grow them on in a cold frame, when they make good flowering plants in the greenhouse the latter part of the winter or early spring. Keepers of bees will find a bed of these scabious a great attraction.

A word or two must be said about the Caucasian scabious (S. caucasica), which is undoubtedly the handsomest of all the scabious family. It is a true perennial, but is difficult to establish on cold wet soils, where, even if slugs leave it alone, it seldom survives any but a very favourable winter. On light warm soils, on the other hand, it forms large clumps which produce great quantities of beautiful lilac-blue flowers right through the summer and into the autumn. It grows two to three feet in height, and the flowers are often three to four inches in diameter. There is also a white variety, which, though beautiful, is scarcely equal to the species, as there are so few flowers of its colour. It can be propagated by division where it does well, though it takes some little time to become established. Seedlings raised in a frame in the spring and planted out on a nursery bed of light, rich soil, will make nice flowering plants for the following year, and they can be put in their flowering positions in the autumn. If seed is sown in heat in February the resulting plants may be had in flower the same season. This is certainly one of the best flowers for cutting in August, a season when flowers for cutting are not too abundant. This and the primrose-coloured variety of S. atropurpurea make a very beautiful combination.

ALGER PETTS.

PLUM ENEMIES.

(Concluded from page 844.)

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The Brown Rot of Plums.

One would have thought that, with Botrytis cineria in the strawberries and apple and pear scab on those fruits, the fruit grower's trials from fungoid diseases would be for a time, at least, ended. Alas, another dread plague has appeared on the scene, aided by the weather conditions, which latter, to the ordinary individual, may appear much maligned, though in reality the damage resulting therefrom can hardly be overestimated.

The cold spell of June and July set the skin of the plums; then we had the heat of the first fortnight in August, followed by the rain of the last week in that month, and, as a result, the plums split in all directions. Into these cracks there entered a spore, or, it may be, spores of the Monilia fungus, which very quickly rotted the fruit, showing its presence outwardly by curious brownish tufts all over the outside, which, under a microscope, are seen to consist of dense masses of chains of spores, branching in all directions.

This fungus is common to most of our fruits, apples, pears, peaches, and apricots being all affected, though it takes somewhat different forms in various cases. In apples and pears the tufts of spores are produced on the surface of the fruit in curious irregular, concentric circles having a very striking appearance. If the affected plum forms one of a bunch of fruits touching each other, the mycelium of the fungus often passes from one to the other till the whole bunch is diseased.

As there are countless millions of spores on each diseased plum, it is apparent that with bad weather delaying the ripening of the crop, and continually splitting the plums, the situation becomes very serious indeed. Not only so, but the spores are able to live over the winter and commence infestation anew the following spring in a variety of ways.

If the plum is attacked in the growing stage when it is small, less than half grown, the tendency of the fungus after it has completely filled the fruit with its threads of mycelium, is to shrivel and mummify the fruit, which remains firmly fixed to the tree.

In this condition it remains over the winter, when, with the approach of spring the spores are released and distributed all over the tree. Some fall on the opening blossoms, there to germinate and kill the flowers, producing a brown, withered appearance as if the injury had been caused by frost, the mycelium afterwards passing down the stalk to twig and shoot, killing them.

All this is often seen in the spring in some varieties of plums and particularly in Morello cherries, where these withered shoots can often be seen dotted all over the trees. In the spring of 1907 this form of the disease was very bad on one variety of plums with us, but in 1908 it was not so bad, and in this year, 1909, the attack is less still, though nothing has been done to combat the disease.

The only remedy at all suggested or proposed to me, was to send a man with a ladder to cut off all these shrivelled tips. As these trees were something like twenty feet high and ten to fifteen feet through them, and there were something like five acres of them, coupled with the fact that I estimated a man might, perhaps, do twenty trees a day, I abandoned the attempt, failing the gratuitous assistance of a regiment of soldiers.

When the fruit attacked has attained anything like full size, the fungus, taking possession of it, seems to rot it, so that the fruit falls away from the stalk on to the ground. There it decays and the spores are released to remain in the ground over the winter to form another fruitful source of infection in the following spring and summer. Yet another possible manner in which infection is carried on is by means of spores which fall on the shoots and branches of the tree and pass the winter in the lichen and moss by which they are covered. There is, therefore, a terrible danger of this disease reproducing itself by the mummified fruits, by the hibernating mycelium in the shoots, by dormant spores in the ground, and by spores which pass the winter on the tree.

In the first place, all these shrivelled fruits must be removed, put in a pail, and burnt with as little disturbance as possible. Secondly, wherever it is possible, without costing too much, as in the case of wall trees and bush plums and cherries, the withered shoots should be removed, preferably while the leaves are on the trees and affected shoots can be more easily seen and burnt. Thirdly, the ground round trees, from which such fruits have fallen, should receive a good soaking of a solution of sulphate of iron, which may be prepared as recommended by the Board of Agriculture in their leaflet (86) on the subject, namely, to place 25 pounds of sulphate of iron in a barrel, pour one pint of sulphuric acid on it, and add 50 gallons of water by degrees. Fourthly, the trees should in winter receive a good spraying with a simple solution of copper sulphate at the rate of four pounds to 100 gallons of water, care being taken to thoroughly wet every portion of the twigs, boughs, and branches as well as the trunk of the tree.

There is no doubt that this disease, like most others, is very prevalent and also very virulent this year, and it therefore behoves all who have it at all badly to take active measures in order that the attack during next season may not be worse.

I have heard of one grower in Kent who has 10 per cent. of his plums affected; considering the millions of spores produced on each plum, the outlook for next year for this man, unless he does something to combat the disease, is most serious indeed. I sincerely trust that he will awake to the danger, and take some active steps before it is too late.

There is no doubt in my mind that the excessive damage produced this year is due to some extent to the fact that the skins of the plums have cracked, so giving entrance to the spores. In company with a friend, I examined many bunches of fruit, and in every instance a cracked plum proved to be the starting-point in the bunch of decay.

FRED W. HAMMOND.

Pilgrim's Hatch.

Horse Radish.—A quantity of strong, straight roots may be lifted from the bed, and laid in moist soil or ashes for future use. This will do away with the necessity of searching for it when the ground is unfit to work. The roots will keep quite well for a considerable time in a plump condition.—CHARLES FLACK.

HERBACEOUS SPIRÆAS FOR FORCING.

The plant known popularly as Spiræa japonica has for many years been largely grown for forcing purposes, and, in fact, it is still cultivated to a greater extent than any other. Fine clumps that will flower well may at this season be purchased at a very cheap rate, and few plants can be depended upon to give such an amount of blossom for such a moderate outlay. Still, S. japonica is not the only spiræa of this section that is available for forcing purposes, as several other forms have come prominently to the front within recent years. Most of these are of a larger and bolder habit of growth than the older kind, a feature, no doubt, derived from Spiræa astilboides, a species introduced from Japan by the late Mr. William Bull, of Chelsea, and distributed by him about twenty-five years ago. This is altogether a bolder plant than S. japonica, both the leaves and leaflets being larger and rougher in texture, while the young foliage is tinged with brown. The flower spikes are taller, and dispose themselves in a more informal manner, while the flowers are of a somewhat creamy tint.

Half-a-dozen years or so after the distribution of S. astilboides a variety of Continental origin was put into commerce under the name of S. astilboides floribunda. It was supposed to be an accidental hybrid between the two species above-named, and this was borne out by its general appearance. This spiræa has now been popular for many years, and still remains so. Of late, however, other varieties belonging to this large, bold growing section have been freely distributed, particularly S. astilboides longifolia and Lord Salisbury, both of which can now be purchased at a price not much exceeding that of S. japonica itself. For the decoration of the greenhouse or conservatory these varieties, from their taller and bolder habit of growth, are especially valuable.

Of marked difference from the last, inasmuch as it is of a dwarfer and more compact habit than Spiræa japonica, is S. compacta multiflora. It originated, I believe, as a sport, and was given an Award of Merit in 1891. For some years it was decidedly popular, but is not, I think, now grown to the same extent as it then was. A very old variety, with golden-veined leaves, has the inflorescence almost, if not quite, identical with S. compacta multiflora, and I should say that this last is a sport from the older variegated form.

The two pink-flowered varieties—Queen Alexandra and Peach Blossom—which attracted so much attention when first exhibited, have proved to be somewhat disappointing. When forced, the blossoms are in many cases of an undecided tint, and they are seen at their best when the plants are well exposed to light and sunshine, in conjunction with a free circulation of air. Last season many of these pink-flowered spiræas were often noted as unsold in Covent Garden Market, and I saw them frequently exposed for sale on the costermongers' barrows in the streets of London during the summer. When allowed to develop entirely out of doors the pink colour of the flowers is most pronounced.

Spiræa palmata, with flattened heads of deep rose-coloured blossoms, is very effective when grown in pots for decorative purposes, but it is not amenable to hard forcing. For the embellishment of the greenhouse during the months of May and June Spiræa palmata is as valuable as it is later on out of doors.

In common with many other subjects, most of the spiræas intended for forcing are sent to this country from Holland during the month of November. It is a decided advantage to obtain them as soon as possible after their arrival, for they are frequently, when unsold, kept in warehouses or similar spots, where the atmosphere is so dry that they soon deteriorate. These spiræa clumps very quickly commence to root, for which reason they should, as soon as possible, be placed in their flowering pots. For early forcing this is absolutely necessary, but for later flowering it is also an advantage, even if the pots are, when finished, stood out of doors. W. T.

MORE ABOUT DAMSONS.

I was much interested in Mr. George Garner's article on the culture of this fruit, and while I agree with him that there is no jam superior to that from damsons when properly made, I go a step further and contend that there are few better fruits for dessert in October than a fine fully ripe Cheshire damson. Like your correspondent, I know something of the conditions under which damsons are grown in Cheshire and the adjoining counties, and I lived for some years in a certain district of Staffordshire, where in an area of some square miles, the damson flourishes like the proverbial bay tree. In a general sense this is anything but a favourable district for fruit, as the situation is bleak and the soil a cold stiff clay. Apples canker badly, and pears need a lot of coaxing, but damsons simply revel in the local conditions. Every farm almost has its damson orchard attached, and in the district there are numerous small holdings, comprising a cottage—built originally on common land—with a few acres of ground attached, enough to keep a cow. Nearly all these holdings boast of a small damson orchard, which, in favourable seasons, help materially to pay the rent. As in the county referred to by your correspondent, the hedges dividing many of the fields are studded with damson trees, but I do not think the majority of them were ever planted by human hands. They simply sprang up as seedlings or suckers, rose above the hedge, and formed themselves into low standard trees. In these districts, which are especially adapted to damson growing, the trees are propagated locally, or propagate themselves, after the manner of the Pershore plum round Evesham, and the establishment of an orchard is not a costly matter. The trees do well on grass, they get as much manure as they want from the pigs and calves which run underneath, and protection in the early life of the trees consists of a primitive bunch of thorns round the stems. I am not going to say what the results would be if the ground before planting were trenched as your correspondent suggests, but cultural operations rarely enter into the consideration of the Midland damson grower, and I know of no crop which gives a better return with so little attention.

Spring frosts and biting easterly winds when the trees are in flower or the fruit is setting are the great troubles, and, owing to these agencies the calculations of a crop are often upset. It is very doubtful whether damson growers get as much financial benefit as they should from the fruit, particularly in seasons when crops are heavy. It is the custom of farmers and small holders to pick their fruit and take it to the nearest market, if they do not dispose of it to a travelling dealer. When there is a lot of fruit in, these local markets become glutted, dealers buy pretty well at their own prices, and in some cases the return to the grower is hardly sufficient to pay picking expenses. Years ago local weights and measures were variable quantities, and I once knew an old fellow who used to buy damsons in North Staffs at so much per strike, take them to Manchester, sell them for the same price or less, and make a profit, the explanation being, of course, that there were so many pounds more in the local than in the market strike. I am aware that to some extent methods of distribution have improved somewhat in recent years, perhaps to the benefit of the grower, but it is a doubtful point, I think, whether the middleman does not get the best picking out of the damson harvest.

There can be little doubt that certain fruits are adapted by Nature to certain localities, and this accounts for damsons flourishing as they do in the counties referred to. Mr. Garner asks for information as to the way damsons thrive in the southern counties. Well, I spent some years in Kent—the favoured home of fruit culture, but I never saw any damsons that could be compared to those of the Midlands. I knew a few places that could be described as damson districts, but the fruit is small and wanting in that fleshiness which is characteristic of the Cheshire and Staffordshire damson. In Kentish fruit plantations there are many trees of the Kent Cluster or Crittenden variety, which is a heavy cropper, and the fruit is borne in clusters, but there is a good deal of stone in the damsons, and the quality is not first rate.

Of late years I have had some experience of damsons in the West of England—the home of orchards and cider apples, but nowhere in the running with Cheshire, Staffordshire, and Salop, where damsons are concerned. By way of illustration I bought some native damsons a year ago for the purpose of jam making, but I was a little bit suspicious of them at the time, as the fruits were so small. However, the jam was made, and it is in the cupboard now, because no one will eat it on account of its peculiar woody flavour. Of course, there may be better damsons in the West, but if so, I have not been fortunate enough to get hold of them.

I cannot help thinking that lessons in commercial fruit culture might be taken from this illustration of the damson given by Mr. Garner, and supported in these remarks. There are people possessed of extravagant ideas regarding the possibilities of commercial fruit culture, who, through their doctrine of "plant fruit and grow rich," have induced others with money but not much practical knowledge to plant fruit in unsuitable soils and situations, with the results that they have lost money. I do not wish to suggest that fruit growing as a commercial venture does not posses possibilities, but in choosing situations let Nature be the teacher. The plant here, plant there, plant anywhere idea is absurd, and the correct thing is to let Nature indicate the districts where certain fruits will grow, as the damson does in the counties referred to, and then cultivate the fruit and market the produce on the best known principles. G. H. H.

Standard Fruit Trees should have the necessary support fixed into the ground before planting, and all such trees should be made secure to the supports immediately the work is finished, but all fastenings should be so adjusted that while they will prevent the tree from being blown about by the wind, they will still allow of a slight sinking of the tree with the natural subsidence of freshly broken up soil.—G. Woodgate.

NATURALISING BULBS.

Mr. Aggett's interesting article (p. 841) has induced me to offer a few further suggestions on the naturalisation of bulbs. He is quite right when he says that many species of bulbous plants look more artistic in the grass than when grown in borders or beds, and none are more striking in that respect than narcissus, especially where the soil suits them, but the grass should not be cut until their foliage has died down.

My method of planting differs somewhat from Mr. Aggett's. In the first place, some soil is sifted, old potting soil generally, and a little bonemeal mixed with it, as that will assist them soon after they commence to root. The bulbs are then thrown from a basket, and strewn over the ground that is to be planted as naturally as possible, with some thick patches running out thinner at the outsides, and a few stray ones here and there, a yard or two from the others. The thick patches are irregular, and there is no "cabbage bed" arrangement about it, or the effect will be entirely lost. As soon as the bulbs are thrown out men follow on with dibbers similar to those shown in Messrs. Barr's catalogue; a hole is then made about six inches deep, as close as possible to where the bulbs lie, another man or boy follows each dibber with a basket of the sifted soil, and puts a little in each hole; the bulb is then placed in position, and the hole filled up, each bulb having a covering of two or three inches. In this way I have planted as many as fifteen thousand in a day with eight men dibbing and the same number of planters, when the ground was in good condition, but when hard and dry the same men have planted no more than three thousand.

Several of the varieties need a little shade, and this can be arranged near trees by planting a little to the north side; but when under trees the main branches should be avoided, or any that are likely to bring down an excessive amount of rain. Narcissus pallidus præcox likes a slope to the north, and the flowers vary a great deal in colour from creamy-white to deep yellow. The double white variety does not thrive so well in the grass, as the flowers become smaller, and, after a year or two, many fail altogether. It requires deep cultivation and a moist situation.

For the past eight years I have planted from fifty to sixty thousand narcissus bulbs annually, and have found the above method to answer very well. Our groups vary from five hundred to fifteen thousand of a variety, and, as the park is very undulating, this adds very much to the beauty of the flowers as seen in the distance.

The following are the favourite varieties here out of over fifty kinds: Emperor, Golden Spur, Henry Irving, Queen of Spain, Maximus, M. J. Berkeley, Rugilobus, Empress, Grandis, Horsfieldi, Princeps, Mrs. Thompson, pallidus præcox, William Goldring, Autocrat, Cynosure, Queen Bess, Sir Watkin, Stella superba, Barri conspicuus, Leedsi, amabilis, Duchess of Brabant, Minnie Hume, Mrs. Langtry, poeticus, ornatum, poetarum, and Pheasant's Eye.

Aconites, chionodoxas, muscaris, Scilla sibirica, single snowdrops, and crocuses are all planted in the same way, but the pheasants soon destroy the crocuses. The first season we planted five thousand, but by the end of the following summer scarcely one was left; then seven thousand were planted, and put seven inches below the surface, and they, too, were eaten in about three years, except for a stray one here and there. In conclusion, I would advise anyone proposing to naturalise daffodils to secure good bulbs, as nothing is more discouraging than cheap bulbs, which are seldom true to name. W. Brooks.

Blackdown House Gardens,
Haslemere.

APPLE KING EDWARD VII.
A valuable late culinary variety, as exhibited by Mr. W. Crump, V.M.H.

APPLE KING EDWARD VII.

The fine culinary apple King Edward VII. was admirably represented at the second of the two October meetings of the Royal Horticultural Society, when prizes were offered for apples and other fruits introduced since 1892. Both in the class for single dishes and for collections of three dishes of culinary apples it was well shown, and attracted much attention, and in the single dish class the winners of the first and second prizes staged fruits of King Edward VII. The variety was raised at Worcester, from a cross between Blenheim Pippin and Golden Noble, and it has received an Award of Merit from the Royal Horticultural Society's Fruit Committee, and also similar distinction from the Birmingham Fruit and Chrysanthemum Society. The tree has a good constitution, and crops most freely in a young state. The fruit is very solid, of great density, being one of the heaviest apples known, and may be kept in sound condition until June. In the earlier stages the skin is green, changing to a bright golden-yellow, and the flesh is white, richly flavoured, and cooks splendidly. Mr. W. Crump, V.M.H., Madresfield Court, who exhibited the first-prize dish, from which the fruit herewith illustrated was selected, at the R.H.S. meeting, regards it as "quite one of the very best late-keeping culinary varieties."

NEW H.T. ROSE WALTER SPEED.

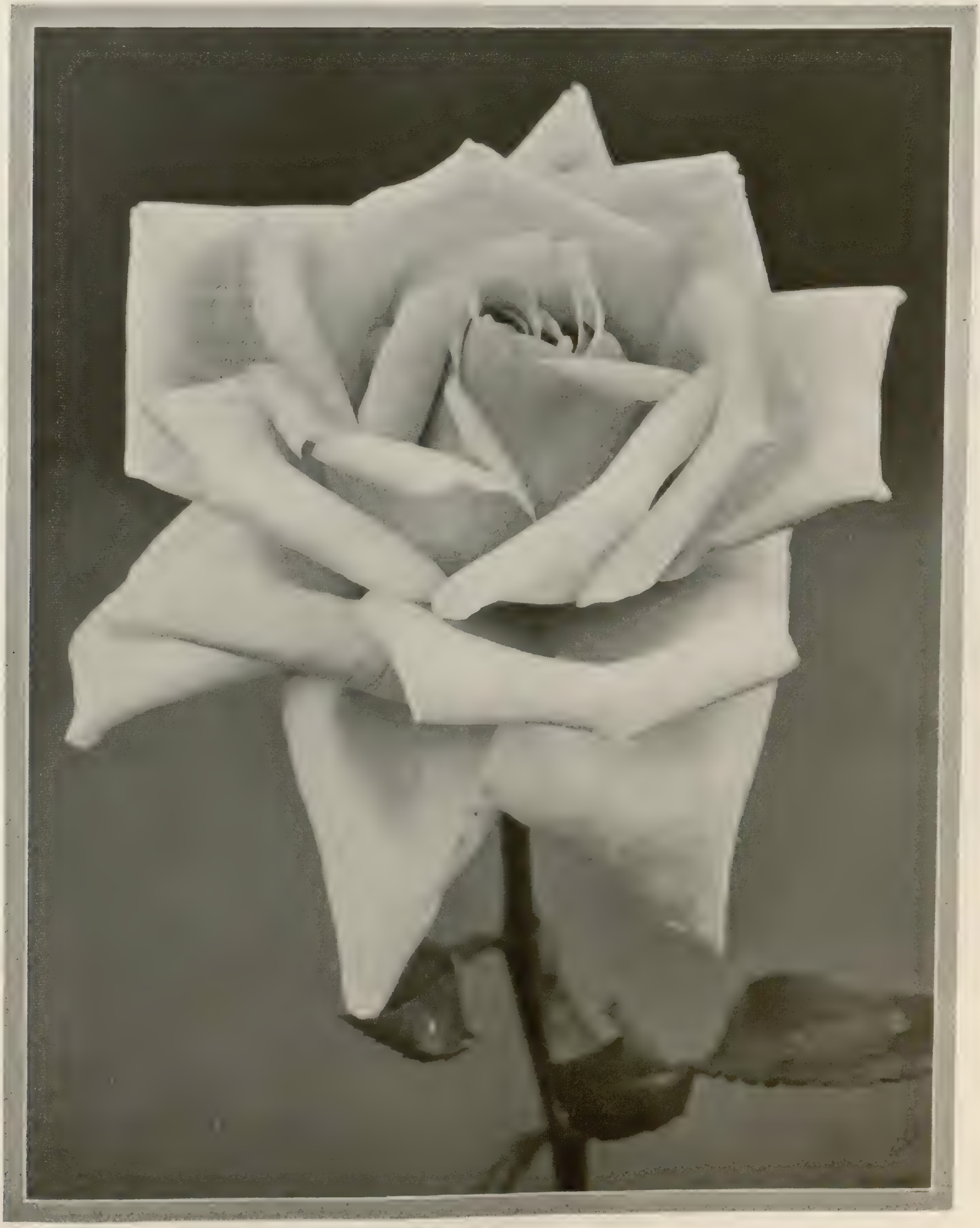
One of the most attractive of the many fine new roses exhibited by Messrs. Alex. Dickson and Sons, of Newtownards, at the Holland Park Show in July of the present year, was the beautiful hybrid tea we now figure, named Walter Speed. We had an opportunity of seeing it growing and flowering in Ireland last season, and were then much struck by its wonderful robustness, erect habit, and fine style of blooming. The flower stems are stiff and carry the blooms erect, and this is a point of considerable importance. The high centred, broad petalled flowers are very handsome in form, and of beautiful colour, the latter being creamy-white in the case of fully-opened blooms, shaded with pale yellow, and tinted with salmon in the centre, but just as the buds open the yellow shading is much deeper. Walter Speed is a continuous flowering rose, vigorous and hardy, and has so many good qualities that it is sure to become a great favourite. It gained an Award of Merit from the Royal Horticultural Society on July 6.

Lowne's Tulip.—In Tulipa Lownei we have one of the dwarf species of tulips which seem so well suited for the rockery. The flowers are crocus-like in their appearance, although rather starry, and are of a lovely series of tints, soft rose, based with yellow, and having the outer colouring of a beautiful olive-green. As it is only six inches high it can be grown on a small rockery, and is fine for the front of the border. It comes from Cilicia, and blooms with us about April. The bulbs should be planted about two inches deep.—S. Arnott.

GARDENS NEAR CHEPSTOW.

Mathern Palace was, in the old days, the abode of the Bishops of Landaff, but the Reformation dealt hardly with the see, and its lands and revenues were largely alienated or stolen, with the consequence that the palace gradually fell into decay, and, after a struggle to keep up appearances on £400 a year, the bishops ceased to reside in their diocese, and the palace was turned into a farm house. About fifteen years ago Mr. H. Avray Tipping bought the palace, and restored it with the most admirable taste, using the old grey stones in outbuildings, ruins, and walls in the work of repairing the dwelling, so that, at the present time, it presents a most picturesque and at the same time habitable appearance.

The gardens at Mathern Palace are interesting. Last year the pomegranate bore five fruits, the largest as big as a man's fist. This year, owing to the dull and rainy season, no fruit has set, but it was in fine flower in September. It is very unusual for the pomegranate to fruit in this country. Clianthus puniceus and Sollya heterophylla were rather badly cut last winter, which was severe, but had quite recovered and had made good growth. By the waterside is a long row of Astilbe Davidi, which must have presented a fine sight when in full flower, especially as no other plants bearing brightly-coloured blossoms are sufficiently near for their hues to clash with the tint of the astilbe's bloom. Large masses of Rodgersia podophylla were very decorative in their colouring, and a great plant of Polygonum sachalinense was in full flower. Campanula Raineri grows like a weed, and is to be seen in great masses among the rocks, where cyclamen flourish to perfection. A bush of Indigofera Gerardiana is 7ft. in height and 12ft. in diameter, and Clerodendron trichotomum is 12ft. in height, while Carpenteria californica is very healthy.



NEW H.T. ROSE WALTER SPEED.

A.M., R.H.S., July 6, Messrs. Alex. Dickson and Sons, Newtownards. Flowers white, yellow and salmon.

By the walls of the palace Veronica Hulkeana and Romneya Coulteri are flourishing, and Alströmeria pelegrina and its white variety, which are generally considered tender, appear quite at home. Diascea Barberæ, usually treated as an annual, is here a perennial. Tricyrtis hirta makes astonishing growth, being fully 3ft. 6in. in height, instead of the 2ft. it generally attains, and Zauschneria californica creates a brilliant effect in the late summer.

At Mounton, a mile or so distant, Mr. Tipping has a charming wild garden. The lower portion of the grounds is intersected by streamlets, while behind cliffs rise perpendicularly, their tops crowned by trees whose branches droop gracefully over the edge, and provide a picturesque background to the garden. Water-loving vegetation borders the streams. Enormous clumps of Saxifraga peltata exhibit their handsome foliage, and the bronzed leaves of Rodgersia podophylla are fine in colour, while in one spot the bank is covered by Rosa Wichuraiana. Many of the primulas flourish by the waterside, P. rosea having increased enormously by self-sown seedlings. The two plants first obtained have by now multiplied into several hundreds, which have formed large clumps around the stream-bed, and are in the most vigorous health.

In the stream the common mimulus, ranging in colour from yellow to red, spreads freely, and Ranunculus Lingua luxuriates. In one place, the steeply-sloping bank of the stream is covered with a large colony of Tiarella cordifolia. Above a rock the branches of Cotoneaster horizontalis, bright with scarlet berries, spread out above the water, creating an extremely pretty effect. Herbaceous phloxes are here seen in perfection, and Lilium speciosum makes marvellous growth, one of a group of the variety rubrum, measuring 8ft. in height last year, and bearing 48 flowers. These lilies are grown in soil mixed with peat-moss litter manure and apparently appreciate their treatment. Abutilon vitifolium succeeds admirably here, and has attained a height of 20ft., while it shows no signs of dying off as it so often does in the south-west. Coriaria terminalis is exceptionally fine, with its shoots, 4ft. in length, studded with amber-yellow berries, and there is a large colony of Kniphofia Northiæ.

At the base of the cliff Romneya Coulteri is doing well, and Euphorbia Wulfeni, in the same position, is very ornamental, as is Carpenteria californica when in flower. Hoheria populnea has blossomed for the last two years, and in September a few of its starry white blooms were still in evidence. The foliage of this tree is very peculiar, that at the base of the branches being very small, and not unlike that of Azara microphylla, while at the extremity of the branchlets the leaves are quite large, the two forms being absolutely dissimilar, and appearing to belong to different trees. Plagianthus Lyalli also flowers well here, and great bushes of Pyrus japonica were loaded with fruit. The rare Cotoneaster adpressa is a very attractive little shrub of prostrate growth. It is being propagated freely, and can be easily increased to any extent, since the branches root into the ground as they spread, and, if cut off, can be readily lifted with good roots and transplanted. It is intended eventually to cover portions of the higher levels with this cotoneaster.

Nandina domestica was very healthy and in flower, and there were large masses of Potentilla Hopwoodiana. Polygala Chamæbuxus purpurea was doing well, and Oxalis enneaphylla was evidently satisfied with its surroundings, a number of plants having been obtained from the one first procured. Saxifrages find a congenial home on a steeply sloping bank studded with rocks, the mossy and encrusted sections both exhibiting most robust health. Large masses of S. Burseriana, S. apiculata, S. sancta, and others formed mats of green between the stones, and were obviously happy. Of the yuccas Y. vomerense has flowered, as has Spiræa Aitchisoni, which has been discarded by Canon Ellacombe on account of its failure to bloom.

The handsome Asclepias tuberosa, whose brilliant, flat, orange-scarlet flower-heads have such a showy effect early in August, but which sometimes proves difficult to grow, was in the best of health, and there were fine breadths of Androsace sarmentosa. Spiræa gigantea, Astilbe Davidi, and Miscanthus zebrina were growing by the waterside, and there was a strong young plant of Davidia involucrata.

WYNDHAM FITZHERBERT.

A CHAT ABOUT ROSES.

Previous to the sharp nip of frost on the 29th of last month, we had a really good show of late blossoms; so much so that I venture to give a short list of varieties that have proved most reliable with us for late summer and autumnal flowering. Beautiful as roses are during early and mid-summer, the individual blossoms do not last so long or keep so fresh as those produced during cool autumn, and we can now have quite a feature of late sorts.

Most of the extra strong growers, including the Wichuraianas and their hybrids, produce a large mass of flowers early in June, and are then over for that season. But we have a few of these extra vigorous varieties that bloom much later, and one of the best among these is Delight, a bright carmine coloured form of Hiawatha, which was in flower until the frost previously mentioned. Flower of Fairfield, the perpetual Crimson Rambler, has also been very showy. Trier is creamy-white all through the summer and autumn. Ards Rover supplies a glowing crimson, with particularly handsome foliage. Perpetual Thalia does not grow so strong as those already mentioned, but it is exceptionally free, and produces large trusses of small white flowers up to the last. Another of the strong growers that should not be missed is the Wichuraiana type, which has been in flower all the autumn, and a few standards are showy at the time of writing, notwithstanding we had 8 degs. of frost. The pure white, star-like blooms of this rose are greatly intensified by its clear yellow stamens, while it is as nearly evergreen as any rose. Occasionally, too, we find William Allen Richardson a mass of highly coloured blossoms upon a sheltered wall late in the season, but it does not come so persistently with us as the others named. Conrad Ferdinand Meyer and its white form, Nova Zembla, are both good autumnal bloomers.

But we find our best late bloomers among the dwarf polyanthas, and very showy indeed some of these have been since early in July. Mrs. W. H. Cutbush, Phyllis, Mdme. N. Levavasseur and Maman Levavasseur, Gloire des Polyanthas, Miniature, White Pet (there is also a good climbing form of this), Schneewittchen, and Leonie Lamesch are among the best. Among the Chinas we should by no means pass over Queen Mab, Eugene Resal, Comtesse du Cayla, and Laurette Messimy.

Many grand late bloomers can be selected from the increasing class of hybrid teas, a few of the very best being Betty, Countess of Derby, Corallina, General MacArthur, Mdme. Antoine Mari, Richmond, Edu Meyer, Ecarlate, Madame Pol Varin-Bernier, Lady Battersea, Georges Nabonnand, Peace, Mrs. Peter Blair, Papa Gontier, Peggy, and Pharisaer.

There are a few varieties in the hybrid perpetual section that are extra free in the autumn, and, although I do not find Victor Hugo so constant as General MacArthur, Gruss an Teplitz, and Richmond for late blooming, it is indispensable because of its glowing maroon scarlet, and great lasting qualities. Mrs. R. G. Sharman Crawford and Killarney are two good silvery pinks, and Frau Karl Druschki is by far the best white. This grand rose will do anywhere, and is useful for almost all purposes.

In these rambling notes I have by no means exhausted the list of roses suitable for late blooming, but have noted a few of the best. If I were confined to half-a-dozen from these they would be Frau Karl Druschki, Mrs. W. H. Cutbush, General MacArthur, Ecarlate, Betty, and Madame Pol Varin-Bernier; the last is one of the sweetest scented roses grown, and produces numbers of well-formed buttonhole flowers up to the advent of sharp frosts. It is a deep yellow, with silvery edges as the bloom ages, and is also a good forcer.

In addition to naming some of the best late bloomers, it may be useful to note the average time of flowering among some of the varieties most suitable for pillars, pergolas, and arches, so as to secure the full benefits of contrast in colours. For instance, we find two good yellows in Electra and Aglaia in flower early in June; among the very first, in fact, and to plant them with Dorothy Perkins, Hiawatha, or Crimson Rambler that generally flower fully from four to six weeks later is to lose much of their effect.

In the following list I propose naming a few with their approximate dates of flowering, adding their predominating colour only: Flora (rosy-flesh), Amadis (purplish-crimson), Aglaia (canary-yellow), Electra (deep lemon, changing to white), Leuchtstern (bright rose, white eye), Polyantha simplex (white, bramble-like), Tea Rambler (copper and salmon-pink), Thalia (white), Trier (coppery-cream), Waltham Bride (pure white), Alberic Barbier (yellow, opening to silvery white), Gardenia (brightest yellow), Joseph Billiard (bright red), and Ruby Queen (deep carmine), all commence flowering about the second week in June.

The following list do not come in until from two to four weeks later, viz., Wichuraiana (white), South Orange Perfection (rosy blush), Adelaide Mouille (rosy-carmine), Delight (carmine), Dorothy Perkins and its white companion, Hiawatha (rich crimson), Lady Gay (a slightly improved Perkins), Crimson Rambler, Climbing Cecile Brunner (orange and apricot), and Blush Rambler. The last-named opens a little sooner than the preceding, but continues so long as to almost outlast the rest of this batch. Carmine Pillar and Bardou Job are exceptionally early, and afford grand reds to go with the earliest varieties.

There are not many climbers that bloom freely late in the season; a few of the best being Perpetual Thalia, Trier—both only semi-climbers—Gardenia, Francois Foucard, Ards Rover, Wichuraiana Delight, Paradise, Flower of Fairfield, and Alberic Barbiér. Although these notes rather resemble a catalogue, I trust they may help intending planters whom I advise to obtain the necessary plants as soon as possible.

Uckfield. A. PIPER.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

WARM DIVISIONS.—At this season of the year, and during the next few weeks, most of the plants in the warmer divisions will be in a dormant state, and the opportunity should be taken advantage of to thoroughly overhaul them for cleansing purposes. It is at this season that scale and other insect pests are most troublesome. It is by no means an easy matter to rid plants that have become attacked with scale, but by thoroughly cleansing the pseudo-bulbs and foliage now, they are the more easily kept in check during the winter season. One is frequently asked the best insecticide to use for cleansing purposes. There can be no doubt but that the safest method is to sponge the plants with clean soft water. Carelessness in the use of any insecticide, however safe it may be when used with proper discretion, cannot fail to have detrimental effects. I have seen so much of the unfavourable results of careless usage that I would not be prepared to permit any plant in my charge to be cleansed with insecticides unless in a position to mix it myself. In spraying the quantities are given, and where it is regularly used there is very little fear of the young men failing to follow out the written instructions for use, but when it comes to small quantities for sponging purposes more than ordinary care is required in properly diluting it to the required strength. Even the use of soft soap, or what was at one time considered a safe remedy, nicotine-soap, must be applied very sparingly indeed, or serious damage is done.

MILTONIA ROEZLI.—Most of the plants of the typical form and the variety M. R. alba, will now be developing their flower spikes, and where they can be induced to grow well, there are few orchids that give a better display during the winter months. They are, as a rule, considered to be difficult to cultivate, but where a situation suited to their requirements can be found, there are few orchids that make greater progress or repay better the consideration and admitted trouble in keeping them clean and free from thrips. With M. vexillaria, these insects are the greatest pests that have to be contended with. I recently visited a garden where there was no pretence to grow orchids, and in a hot moist corner of the plant stove, plunged in a bed of sphagnum moss, I found a batch of both varieties of the species growing luxuriantly, and was informed that they had been in cultivation under the same conditions for a number of years. There can be no doubt that a hot, humid atmosphere suits them at all seasons of the year. They are best grown in shallow pans drained to about two-thirds their depth with clean material. The potting compost should consist of about equal proportions of peat and chopped sphagnum moss. I have found considerable advantage derived in the cultivation of this and its allied species, M. phalænopsis, to have a trough made, and to place the pans containing the plants in it. Put ample drainage at the bottom, and fill in the remaining space with chopped living sphagnum moss to the rim of the pans.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

CONSERVATORY.—During the dull, cold weather that we are likely to have for some two or three months the conservatory will need very careful attention. Remove all decaying foliage and flowers. Salvia splendens in particular is very apt to drop its blossoms, and these, if left about on the foliage of other plants, soon set up decay. Where groups of chrysanthemums have been arranged rather thickly mildew is very apt to make its appearance, and if it does, dusting with flowers of sulphur will check it. Care in watering is a very essential point at this time of the year, and if done properly will often prolong the flowering period of a plant, whereas if it is done in a haphazard manner, splashing or wetting the foliage in the process, no plants or blooms will keep well.

ZONAL PELARGONIUMS.—These are among the brightest and most useful of winter-flowering plants (after the chrysanthemums are over); they should be treated as well as possible. A light, airy house, with a night temperature of about 50 deg. (not lower) will suit them well, giving the plants as much room as possible. Watering must be very carefully done, keeping the plants just on "the dry side," and giving them weak liquid manure at each watering. Keep all dead flowers and foliage picked off regularly; ventilate freely during bright weather but shut down closely in the event of fog, this being the great enemy of zonal pelargoniums in winter.

BULBS.—Roman hyacinths if required for house or conservatory decoration should be neatly staked as they throw up their spikes, but if required only for cutting this will not be found necessary. If used in conjunction with Cypripedium insigne, they make a very pretty table decoration. Further batches may now be brought forward as well as some of the earlier varieties of tulips, and, if well rooted, also a few pots of Van Sion and Golden Spur narcissi, but these latter must not be subjected to much heat.

POINSETTIAS.—These are now spreading out their bracts, and somewhat drier and rather cooler quarters will suit them if they are to be kept for any length of time. When they are developed very little water will be required at the root—just sufficient to prevent their flagging.

EUPHORBIA JACQUINÆFLORA is somewhat later in flowering and should still be kept in a fairly warm temperature, not under 55 deg. at night. Keep them fairly dry overhead, but do not stint water at the root until the flower spikes are fairly well advanced, when less will be required.—Thomas Stevenson, Woburn Place Gardens.

THE FLOWER GARDEN.

AUTUMN COLOURS.—The present season has not been an ideal one by any means for the development of the high colouration of many of our trees and shrubs, but it should always be borne in mind when planting that at this season of the year many of the numerous varieties of deciduous subjects from which one can select are never more beautiful than when they commence ripening their foliage prior to its falling, or, it may be, carrying their heavy crops of highly coloured fruits. When these are associated with evergreens in such a way as to portray their beauty to the best advantage, autumn time can be made most interesting. Few trees or shrubs assume richer coloured foliage than the many forms of Japanese maples, and these ought to be planted more largely in the shrubberies in good open, sunny positions. Not being such rapid growers as many other shrubs, they do not so readily become too large for their position. Another highly coloured tree is Pyrus nigra, which is an excellent and distinct subject for grouping or growing as specimens. Many of the euonymus, cornus, spiræas, especially S. prunifolia fl. pl., Berberis Thunbergi, virescens, aquifolium (also good for massing and planting under trees), Amelanchier canadensis, or Snowy Mespilus, makes good specimens for planting in the open woodland, so also do the many varied species of the American thorns, now loaded with their large-sized scarlet fruits, and the various crabs. The cotoneasters, such as C. frigida, C. nummularia, C. Roylei, and C. Roylei pendula are all free fruiting varieties, whilst the Sea Buckthorn, Hippophœa rhamnoides, though a British shrub, is well worth planting, and, being diœcious, both sexes must be grown, when a free set of berries will be ensured.

GENERAL WORK.—With the persistent wet and mild weather which we have experienced of late the leaves are very much later in falling, but no doubt the few frosts we have just had will hasten their downfall. These should be kept brushed up and collected as quickly as possible, and wheeled away to some out of the way spot to decompose. Continue to roll the drives and walks, and many parts of the lawns will require a further mowing when dry enough, to make them presentable. No time should be lost now in procuring a sufficient quantity of protecting material for the more tender shrubs, and stored in some dry place ready to hand whenever wanted. Furze or gorse is excellent for this purpose, also bracken, and, when necessary, tender shrubs planted on walls should either be matted up for the winter or protected by slanting reed mats against them. This is an excellent method, as these can be easily removed when the weather is more genial. Smaller subjects are best protected by having a guard placed round them made of wire to enclose the material. Many of the more tender rock plants will need these, and at this season care should be taken to keep these clean by removing all leaves which have littered on them, or these will probably rot the more delicate subjects. Another excellent plan is to enclose the crowns of choicer plants by small circular pieces of perforated zinc, to protect them from the ravages of slugs and other enemies.—E. Beckett, Aldenham House Gardens.

HARDY FRUITS.

PLANTING.—The damp and very mild weather which we have been experiencing of late has kept the trees growing much later in the season than usual, with the result that many of them are still full of leaf, but no time should be lost in sending on the orders for any fresh trees that may be required, so that these may be despatched as early as possible after they are ready for removal. I always advocate autumn planting whenever it can be carried out, as the soil is then sufficiently warm to encourage new roots to push forth, and take possession of the soil. Some old potting soil will be found useful to spread among the roots if the staple soil should be of a stiff nature. In preparing the ground for new quarters of raspberries, loganberries, blackberries, currants, and gooseberries, plenty of good manure should be trenched into the ground, as it is not advisable to dig among these crops afterwards; but for apples, pears, plums, cherries, peaches, and nectarines, very little manure is necessary, unles the soil is in a poor condition, when a little well-decomposed manure may be used, but this will be found more beneficial to the trees if an equal proportion of good turfy loam is well incorporated with it. Examine well the roots of each tree previous to planting, and remove all broken and damaged pieces by a clean cut with a sharp knife.

FULL STANDARD TREES are best for planting in orchards where cattle will be allowed to graze, or where it is intended to crop with vegetables; but half-standards are most suitable for orchards which are kept specially for fruit, these being easily attended to in the matter of pruning, spraying, and thinning the fruit.

RED and WHITE CURRANTS, as well as gooseberries, are well adapted for growing as either double or treble cordons, as they take up very little space, produce excellent fruit, and are more easily protected from birds than when grown in the ordinary bush form.

WALL TREES.—Peaches, nectarines, plums, Morello cherries, and apricots are usually grown in fan-trained form, while pears, sweet cherries, and apples are more often seen growing as horizontal-trained, or as cordons.

POSITIONS.—Peaches, nectarines, and apricots should have a wall with a south aspect. Plums and sweet cherries, also apples and pears, will thrive well against walls having a south-west or west position, while against walls facing north and north-east Morello cherries and a few gooseberries will be found to fruit satisfactorily.—Geo. Woodgate, Rolleston Hall Gardens.

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EXHIBITIONS AND MEETINGS.

Sheffield.

There is ample room in the big Corn Exchange, Sheffield, for an extensive show, but on November 12 there was very little room to spare when the place was cleared for judging. The schedule differed considerably on this occasion from that of 1908, as the big plant group class and the arrangement of certain vase classes in front of mirrors were omitted. Whether the alteration is an improvement is an open question, but there is a good deal to be said for rearrangement and alteration, as visitors do not care to find so much apparent sameness in the shows year after year. The flowers were good at Sheffield, and one of the most pleasing features of the show is the keenness of the contest in all the local and amateur and cottagers' classes, and one loves to see the competition for two blooms each of such charming old incurved varieties as Mrs. Rundle, Mrs. Dixon, and Mr. G. Glenny, and on this occasion there were ten entries, chiefly from cottagers, many of whom are connected with the Sheffield steel trade.

SIX VASES OF INCURVED CHRYSANTHEMUMS,
For which Mr. Drake was awarded the first prize at Sheffield.

It should be added that the committee had draped the whole of the inner walls of this big building with soft deep green material, and festooned it along the top with heliotrope material—a capital idea.

CUT FLOWERS.

Vase classes are a leading feature of the cut bloom section at Sheffield, and the competition is invariably good and close. For four vases of Japanese blooms, three blooms of one variety in each vase, the leading award fell to Mr. E. J. Brooks, gardener to Lieut.-Colonel Beech, Brandon Hall, Coventry, who was the best out of five competitors with magnificent flowers—some of the best we have seen this year—of F. S. Vallis, Pres. Viger, John Peed, and Lady Talbot; Mr. G. Hall, gardener to the executors of the late Lady Ashburton, Melchet Court, Romsey, second with Lady Talbot, Edith Jamieson, J. H. Silsbury, and Annie Hamilton; Mr. W. Iggulden, Frome, third, and Mr. Drake, Cathays Terrace, Cardiff, fourth.

The leading prize for six vases, three blooms in each, of incurved varieties, is £6, and there are three other money prizes of £4 10s., £3, and £2 respectively. There were three competitors, and two of them showed remarkably well, and the first prize was well won by Mr. Drake, Cardiff, with splendid examples of Mrs. Judson, G. F. Evans, Triomphe de Montbrun, Embleme Poitevine, Bocaccio, and May Phillips; Mr. W. D. Parkin, Nottingham, second, with Mrs. B. Hankey, Clara Wells, Buttercup, W. Pascoe, Mrs. G. Denyer, and Triomphe de Montbrun. Mr. J. Harrison third. In a somewhat similar class, but for Japanese varieties, Mr. C. J. Brooks added to his laurels by winning with deep fresh flowers of F. S. Vallis, President Viger, Reg. Vallis, Madame G. Rivol, Madame P. Radaelli, and Lady Talbot; Mr. G. Drake second with big blooms of F. S. Vallis, Reg. Vallis, Madame P. Radaelli, Bessie Godfrey, Lady Talbot, and Valerie Greenham; Mr. W. Iggulden, Frome, third, and Mr. G. Hall, fourth.

Mr. Drake had also the best pair of vases of incurved varieties, showing C. H. Curtis and Mrs. G. Wynn in fine form; Mr. W. D. Parkin, Nottingham, second, and Mr. J. Harrison third. The best single vase of a white chrysanthemum was Lock's Hill, a white sport from Madame Paolo Radaelli, from Mr. W. Iggulden. Mr. Brooks scored for one vase of a yellow Japanese variety with noble flowers of F. S. Vallis; indeed each competitor showed this variety.

Mr. Drake beat Mr. Harrison for a dozen incurved blooms, on boards, and he had Miss M. Threlfall, Godfrey's Eclipse, Mrs. G. Wynn, Ialene, and Mrs. Judson, very good. Mr. Brooks came to the front again for a dozen Japanese blooms, distinct, on boards, scoring with F. S. Vallis, J. Peed, Lady Talbot, Reg. Vallis, Madame G. Rivol, Madame P. Radaelli, Mrs. N. Davis, C. H. Totty, Marquis V. Venosta, President Viger, and Splendour; Mr. Drake had to be content with second place, and Mr. G. Hall was third; five competitors.

In the district classes, limited to growers residing within a radius of twenty miles of Sheffield Parish Church, there were a number of excellent exhibits of cut flowers, chiefly staged in vases. Of four vases of Japanese blooms three flowers of one variety in each vase, there were seven entries, and here Mr. J. Harrison, Walkeley, was first with good examples of Mrs. Knox, Reg. Vallis, and G. Mileham; Mr. W. Fletcher, Stannington, second, and Mr. T. Colin Fletcher third. For two vases of three blooms each, Japanese varieties, the honours fell in order of merit to Mr. J. Marsden (for Reg. Vallis and Mr. A. T. Miller); Mr. William Fletcher, and Mr. J. Harrison.

Six bunches of single varieties made a brave and interesting show, as there were four good entries; Mr. D. Lewis, gardener to W. A. Milner, Esq., Totley Hall, led with fine bunches of Master E. L. Lewis, Seagull, Scarlet Gown, and Ajax; Mr. W. Hartley, Ward Green, Barnsley, second; and Mr. Spencer, gardener to Miss Roberts, Park Grange, third. Mr. Harrison led, and was followed by Mr. W. Fletcher for twelve incurved blooms, but the tables were turned in the class for six blooms, Mr. Fletcher showing very well here.

In the amateurs' and cottagers' division the names that appeared prominently in the cut bloom classes were Mr. Colin Fletcher, Stannington; Mr. W. Fletcher, Stannington; Mr. J. Bateman, Mr. W. C. Carnall, Mr. H. G. Betts, Mr. Lackard, Dixonfield; and Mr. W. Crawshaw (fine incurved).

GROUPS, ETC.

The class for a table group of chrysanthemums, with other plants and foliage, was not a very good one, inasmuch as the two leading displays set up were utterly unlike in style; that from Mr. Iggulden, was an exhibit of Japanese blooms, with a very few asparagus sprays among them, while the other, from Mr. C. Hyde, was a bold and decorative display of palms, crotons, and moderately good flowers. Prizes were awarded in the order named, but the most "decorative" display was Mr. Hyde's, and Mr. Iggulden's the best flowers; Mr. J. Harrison third.

Messrs. Seagrave and Co., Gleadless, secured the chief award for a table decoration, their flowers being carnations and Cypripedium insigne; Mrs. Blake, Mylnhurst, was second, with a very pretty design in carnations, cypripediums, and lily of the valley; Mr. J. C. Davis, Balathie Gardens, Stanley, third, with bougainvillea and lily of the valley.

In the plant classes Mr. W. C. Hyde gained first place for a specimen palm with a large spreading Phœnix; Mr. Agar, gardener to J. Roberts, Esq., Queen's Towers, had the best three ferns; Mr. J. Marsden, gardener to Mrs. Blake, Mylnhurst, led for Begonia Gloire de Lorraine, six plants; Mr. W. C. Hyde for six table plants—rather too big, but the best shown.

Mr. W. C. Hyde led in the local district class for a table group of chrysanthemums and foliage plants, and he showed some excellent material in a tasteful manner.

FRUITS AND VEGETABLES.

Some good collections of fruit were shown, and after a good deal of consideration the judges awarded first prize to Mr. A. Blakey, gardener to G. H. Shaw, Esq., Howden, East Yorks, for Gros Colmar and Muscat of Alexandria grapes, Pitmaston Duchess and Beurre Clairgeau pears, and Worcester Pearmain and Blenheim Pippin apples; Mr. James Gibson, gardener to the Duke of Portland, Welbeck Abbey, Worksop, second, with an excellent set that would have been placed first by many judges; Mr. J. C. Davis, third; five competitors. Mr. J. Gibson was placed first for white grapes (Muscats), and also for black grapes (Alicante), and there were five competitors in the latter class.

Mr. James Gibson, Welbeck Gardens, scored an easy first for a collection of six kinds of vegetables with Prizewinner leeks, Dwarf Gem Brussels sprouts, Autumn Mammoth cauliflowers, Ailsa Craig onions, Ideal potatoes, and Superb Pink celery; Mr. Blakey, Howden, second; and Mr. W. C. Hyde third. The prizes in this class were presented by Messrs. Sutton and Sons, Reading.

NON-COMPETITIVE.

Messrs. Clibrans, Altrincham, were represented by an exhibit of Japanese, incurved, decorative, and single chrysanthemums, set up in association with palms, ferns, etc., the whole making an effective display. Messrs. Seagrave and Co., Lane End Nurseries, Gleadless, Sheffield, were large exhibitors of decorative and single chrysanthemums put up in tall stands, with baskets and small stands of singles in the foreground. In the centre of their exhibit they had a bank of the most popular varieties of perpetual-flowering carnations.

In the display of chrysanthemums submitted by Mr. H. Woolman, Shirley, near Birmingham, there were some excellent vases of incurved and decorative chrysanthemums, and a fine selection of the leading single varieties. Mr. Alfred Upstone, Rotherham, brought over a collection of clean vegetables, his parsnips and potatoes being the most attractive kinds. The Agent-General for British Columbia had a big and very attractive exhibit of Columbian apples, some of the fruits being selected and staged in dishes, but the majority were in the boxes, as packed, with the lid off; Jonathan, Rome Beauty, Grime's Golden, and King of Tompkins County were very fine. Messrs. Hiram Shaw and Son, Richmond Hill Nurseries, Sheffield, exhibited crotons, chrysanthemums, liliums, bamboos, etc., but the feature of their group was an arch of Gros Colmar grapes over a little bank of Cypripedium callosum.

Messrs. W. Artindale and Son, Sheffield, had a superb display of floral designs, and not only were the various items composing it made up in the very best style and taste, but the grouping of these delightful representations of floral art was exceptionally good. Roses, carnations, arum lilies, violets, and cattleyas were beautifully disposed in chaplets, harps, anchors, cushions, stars, hearts, and other devices.

Woolton, NOVEMBER 10.

The eleventh exhibition of chrysanthemums at Woolton will compare favourably with its predecessors, although in some classes a decided drop was noticeable.

In the class for single-flowered chrysanthemums, nine vases, with nine flowers, there was a remarkably fine display. The splendid challenge vase presented by A. H. Tate, Esq., has induced the growers in the district to put forth their most strenuous efforts, and as the result the exhibits were admitted to be the finest yet seen. R. W. Barr, Esq. (gardener, Mr. T. Keightley), secured the premier award, the flowers being of large size, of good form, substance, and bright in colour; as this section is rapidly coming into favour, we give the names in the collection — Mrs. W. Herbert, A. K. Askell, Eureka, Edith Edwards, Sir A. T. Simons, Metta, Mr. Walton, G. W. Forbes, and Edith Pagram; W. Tod, Esq. (gardener, Mr. G. Eaton), was second with a charming set; and A. S. Mather, Esq. (gardener, Mr. H. Howard), a good third; each exhibit, it should be added, was admirably staged. For three vases, S. S. Bacon, Esq. (gardener, Mr. J. Rothwell), was the chief prizewinner with good blooms. For twenty-four Japanese, Mr. G. Eaton took the lead with a strong set, his Lady Talbot, for which he received the N.C.S. Certificate, being exceptionally fine. In the class for eighteen Japanese, Sir W. H. Tate, Bart. (gardener, Mr. G. Haigh), staged excellent flowers; and for the twelve, Mr. Keightley had the best. In the competition for the prizes for eighteen incurved, T. Clarke, Esq. (gardener, Mr. J. Clarke), obtained premier honours with a set in which Souvenir de William Clibran proved the best bloom in the show. For twelve varieties, Mr. J. Clarke was the winner of the first prize.

Trained plants are usually a feature of this society's shows, but on this occasion they were hardly up to the average owing to the lateness of the season. For three distinct, trained or bush specimens, Arthur Earle, Esq. (gardener, Mr. T. Hitchman), had the leading examples in good form. For one incurved, W. Cunningham, Esq. (gardener, Mr. W. Wilson), had the best. For one pompon, Mr. T. Keightley, and for one anemone, Mr. Keightley was the most successful competitor; and for one single-flowered specimen Mr. Keightley was first.

Mr. G. Haigh obtained the leading award for a palm, with a noble specimen; and Mr. J. W. Hughes (gardener, Mr. J. McColl) was first for a specimen fern with Goniophlebium subauriculatum in a high state of development. For one cypripedium, Lieut.-Colonel J. B. Gaskell (gardener, Mr. J. Stoney) with C. Spicerianum. The best foliage plant was shown by Mr. G. Eaton; and in the class for one flowering plant, Mr. H. Howard was first with Eucharis amazonica. Mr. J. Stoney was first for two begonias, staging well-flowered specimens.

For two bunches of black grapes, Mr. W. Wilson won with Alicante; and for two bunches of white grapes he was first with well-coloured Muscat of Alexandria. Mr. T. Clarke won for a collection of dessert apples; and for a collection of culinary apples Colonel R. Ireland, Blackburn (gardener, Mr. A. A. Evans), obtained premier honours. Mr. A. A. Evans and Mr. J. McColl shared the honours for pears.

Birmingham Chrysanthemum Show.

NOVEMBER 9, 10, and 11.

The forty-ninth annual chrysanthemum, fruit, and vegetable show at Birmingham compared favourably with its predecessors, and although there was a decrease in a few of the classes, this was balanced by the introduction of other novel features, notably classes for Begonia de Lorraine and carnations, which served as a very pleasing change for the visitors. Contrary to expectations in some quarters, owing to the unfavourable character of the season, chrysanthemums were, on the whole, of average merit, and many of the cut blooms excelled those staged at any previous show. Fruit was well represented, but not so highly coloured amongst apples as on some previous occasions. As usual, the trade or non-competitive displays added much to the attractions of the exhibition.

SPECIMEN CHRYSANTHEMUM PLANTS.

These were unusually well staged by those highly successful local growers Mr. Oliver Brasier, gardener to Mrs. E. Martineau, and Mr. Alfred Cryer, gardener to J. A. Kenrick, Esq., of Edgbaston. In the class for six Japanese varieties Mr. Cryer led with well-developed specimens, and Mr. Brasier was a close second. In the remaining six classes the latter was successful in winning the premier prizes, while Mr. Cryer followed closely for the second place. The class for a group of chrysanthemums, arranged in a space 20ft. wide at back and 12ft. deep, was not a success, for, as was the case last year, there was only one exhibit, when Mr. A. Cryer was awarded the society's first prize of £10 and the William Butler Memorial Silver Cup, presented by W. Waters Butler, Esq., in memory of his father, a past president of the society. This is the second time Mr. Cryer has won the cup, and when he wins it again it will become his property. There was a good competition in the class for a group 14ft. by 10ft., and Mr. R. Bullock, gardener to T. W. Piggott, Esq., Moseley, led with a very good arrangement; Mr. G. Corbett, gardener to Hume S. Pinsett, Esq., Harborne, was a good second. For a group of decorative chrysanthemums, arranged as grown, the sole exhibitor was Mr. C. H. Herbert, The Nurseries, Acock's Green, who was justly awarded the premier prize for a fine arrangement of fresh flowers.

CUT BLOOMS.

The new class for winter-flowering carnations evoked much interest; the flowers were arranged on staging 20ft. long by 8ft. deep, in vases or stands. The first prize consisted of £12 12s. in cash, offered by the committee, and a silver challenge shield, to be held by the exhibitor during the ensuing year. The prizes induced two growers from the South to compete. These were Mr. C. F. Waters, Balcombe, Sussex, who was successful in obtaining the premier position; Mr. S. Mortimer, Farnham, Surrey, was a close second. There were but few exhibitors of hand bouquets. Messrs. Perkins and Sons, Coventry, were the only exhibitors of bridal bouquets. On the other hand, there were several competitors in the class for bouquets of chrysanthemums, and, on the whole, these were very creditable. Dinner table decorations, with chrysanthemums, were fewer than usual, but the leading examples evidenced considerable artistic ability. An attractive feature was formed by the cut blooms of chrysanthemums, in vases, which were fully up to the average, many of the blooms being perfect in size and quality, notably examples of F. S. Vallis, Lady Talbot, and Mrs. A. T. Miller. For six vases of Japanese, in eighteen varieties, one bloom of each, of three distinct varieties in each vase, Lieut.-Colonel Beech, Coventry, led with superb examples; second, Mr. W. Iggulden, Frome; and third, Hugh Andrews, Esq. (gardener, Mr. F. R. Tooley). For four vases, Colonel Beech was again first, Mr. Tooley was second, and Mr. W. Iggulden third. The best vase of a pink-coloured variety was Colonel Beech's Reginald Vallis; second, Mr. R. Peyton, Edgbaston, the same variety; third, Mr. Iggulden. For a crimson coloured variety Mr. John Tooley scored with Magnificent; second, Mr. Iggulden, with the same variety. The best vase of a white variety was shown by Mr. H. S. Foster, gardener to F. G. Muntz, Esq., Umberslade, who had superb blooms of Mrs. A. T. Miller; second, Mr. J. Deacon, gardener to the Right Hon. Joseph Chamberlain, with the same variety; third, Colonel Beech, with Mrs. Norman Davis. For a vase of a yellow variety Colonel Beech again scored with F. S. Vallis, a superb exhibit; second, J. H. Whitley, Esq., Berkswell Hall, Knowle (gardener, Mr. W. H. Westley); and third, Mr. Iggulden. Decorative varieties were also very well staged.

There was a fair number of competitors in the incurved section of chrysanthemums. For four vases of distinct varieties Mr. J. Deacon was first, with excellent examples. For a similar class, but with three blooms of one variety in each vase, Mr. J. Deacon was first; second, Mr. H. F. Keep, Edgbaston. For two vases, in two varieties, Mr. Deacon was placed first; second, Mr. O. Brasier; and third, Mr. Keep.

MISCELLANEOUS PLANTS AND FLOWERS.

The new class for twelve plants of Begonia Gloire de Lorraine was highly interesting. Mr. W. V. Wall, gardener to A. Hughes, Esq., Knowle, led with very good examples; second, Mr. A. Cryer; and third, Mr. J. Deacon.

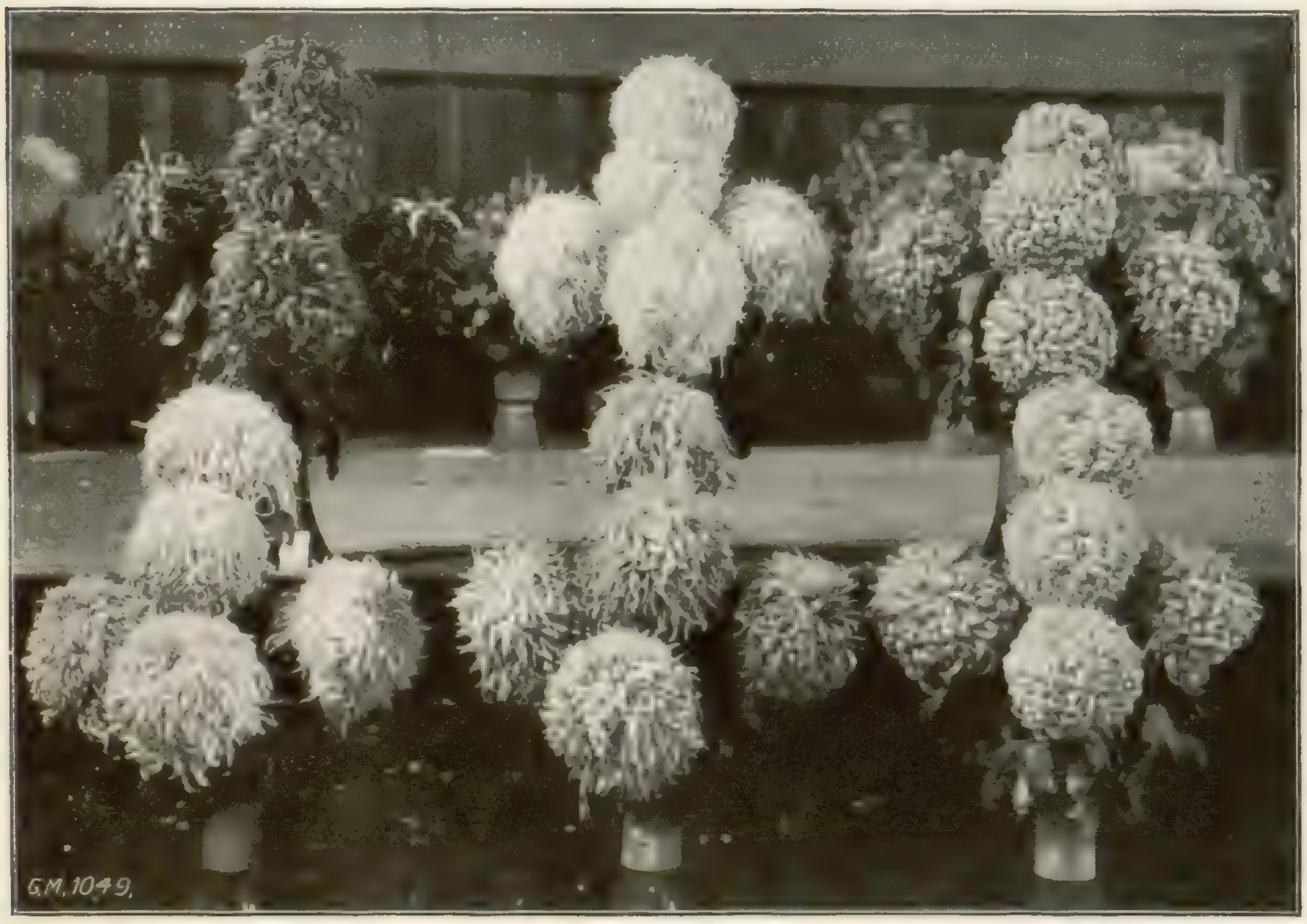
Primulas were not largely shown. Mr. A. Cryer was first with fine examples; second, Mr. R. Peyton. Cyclamens made a pleasing effect. For twelve plants Mr. Shambrook, gardener to the Rev. H. Buckstone, Sutton Hall, Derby, led with very good examples; second, Mr. J. Deacon. In the local classes Mr. Shambrook first, Mr. A. Cryer second, and Mr. Hume Pinsentt third.

FRUIT, ETC.

For a collection of British-grown hardy fruits, to be grown by exhibitor, the first prize consisted of £5 in cash, and a silver challenge cup, given by Mr. H. S. Bevins. This award was won by Mr. C. V. Powell, Hereford, who, having been the winner in 1907 and 1908, now became the owner of the cup. For a collection of British-grown fruit, arranged on a space of 40 sq. feet, Mr. Goodacre, Elvaston Castle Gardens, obtained premier honours with a splendid collection comprising grapes, melons, plums, apples, and pears; Mr. H. Cotton, gardener to Lord Biddulph, Ledbury, was a good second. Grapes were excellently staged. For three bunches of black grapes Mr. Hugh Anderson was first with very fine Alicante; second, Mr. J. H. Goodacre, with Gros Colmar; and third, Mrs. F. Need, Malvern, with Alicante. For Muscat of Alexandria Mr. C. Harding, gardener to the Marquis of Hertford, Rayley Hall, Alcester, led with fine examples; second, Mr. Goodacre. There were several other classes for grapes. Apples were well staged. For six dishes, culinary, Mr. H. Cotton obtained premier honours, and Mr. C. Harding and Mr. Goodacre were second and third. For six dishes dessert apples Mr. H. Cotton was again first; second, Mr. Thomas Green, gardener to the Marquis of Exeter. Pears were very fine. For eight dishes, distinct, Mr. Bannister, gardener to Mrs. Ames, Westbury-on-Trym, was first; second, Mr. Goodacre. Local classes for apples and pears were well filled.

VEGETABLES.

These made a very fine display. In the class provided by Messrs. Sutton and Sons Mr. Edwin Beckett, Elstree, obtained the premier prize; second, Mr. Thomas Jones, Ruabon. For Messrs. Webbs' prizes, first prize fell to Mr. John Hudson, Leicester; second, Mr. Silas Cole, gardener to Earl Spencer, Northampton; third, Mr. T. Barnett, Ellesmere, Salop. Messrs. Sydenham's, Lim., prizes for a collection of nine varieties, were awarded as follows: First, Mr. Thomas Jones, Ruabon; second, Mr. W. Folkes, Ampthill, Beds. There was also, as usual, a strong contest in the single dish classes.



MR. T. STEVENSON'S SIX VASES OF JAPANESE CHRYSANTHEMUMS,
For which he was awarded the King's Challenge Cup at Windsor.

NON-COMPETITIVE EXHIBITS.

The following awards were made for these: Messrs. E. Webb and Sons, Wordsley, for collection of vegetables, large gold medal; Messrs. John Waterer and Sons, Bagshot, evergreen shrubs, large gold medal; Messrs. Clibran, Altrincham, vegetables, large gold medal; King's Acre Nurseries, Hereford, apples and pears, large gold medal; Messrs. Gunn and Son, Birmingham, Japanese rock and water garden, large gold medal; Messrs. Yates and Son, Birmingham, vegetables, large gold medal; Messrs. R. Smith, Worcester, shrubs, gold medal; Mr. H. Woolman, Shirley, chrysanthemums, gold medal; Messrs. Laxton, Bedford, potatoes and vegetables, gold medal; Messrs. Hewitt and Co., Solihull, gold medal; Messrs. Bakers, Wolverhampton, shrubs, small gold medal; Mr. Godfrey, Stourbridge, shrubs, silver medal; Mr. James Simpson, Harborne, shrubs, silver medal; Miss S. S. Thompson, Handsworth, for a collection of cacti, silver medal; Messrs. R. Smith and Co., begonias, silver medal; Mr. J. Randall, zonal pelargoniums, etc., silver medal; Messrs. Clibrans, winter-flowering new begonias, silver-gilt medal; Messrs. Thomson and Co., Birmingham, vegetables, silver medal; Mr. Ellison, West Bromwich, ferns, silver medal.

Windsor, NOVEMBER 12.

The eighteenth annual autumn show was held in the Royal Albert Institute, and was a great success. Much interest centred in this show on account of the King's Challenge Cup having been twice won by Mr. Stevenson, gardener to E. Mocatta, Esq., Woburn Place, Addlestone; this time he was the only entrant, staging fine blooms, and this trophy has found a final home at Woburn Place. Cut blooms were not so numerous as usual, but good groups of chrysanthemums, as well as miscellaneous subjects, were of a high order of merit, and fruit and vegetables well up to the average.

CUT BLOOMS.

For six vases, five blooms in each, of one variety, the King's Challenge Cup was offered with the first prize; this brought but one exhibitor, Mr. Stevenson, who staged extremely fine specimens of Miss L. Thorne, Reginald Vallis, F. S. Vallis, Master James, Lady Talbot, and Walter Jinks. In a class for eighteen Japanese, distinct, arranged in a space 5ft. by 3ft., with the addition of any foliage plants or cut foliage, quality of bloom to be the leading feature, there was again but one competitor. This was Mr. Stevenson, who arranged amongst small palms, ferns, oak, and other sprays, handsome blooms of popular varieties in an effective manner, showing how effective are large blooms when properly associated with decorative material. In the class for twelve incurved and twelve Japanese, distinct, Lady Evelyn Mason gave a challenge cup, in addition to the first prize in cash. There were three competitors, and Mr. C. Page, gardener to J. B. Fortescue, Esq., Dropmore, Maidenhead, won easily the coveted award by the superiority of both incurved and Japanese blooms. The varieties were: Japanese, Lady Talbot, Mdme. P. Radaelli, Mrs. C. Penford, Mrs. Norman Davis, F. S. Vallis, Pockett's Crimson, G. G. Mileham 1908, Reginald Vallis, Mrs. A. T. Miller, and Leigh Park Wonder. Incurved, Beauty of Bucks, Clara Wells, Romance, G. F. Evans, W. Pascoe, Buttercup, Godfrey's Eclipse, Fred Palmer, and Triomphe de Mont Brun as the best. Mr. R. Evens, gardener to H. F. Slattery, Esq., was second. Single-flowered varieties made a bright display, and for six varieties, five sprays to each, not disbudded, Mr. Page was first among eight entrants with excellent vases of Mary Richardson, E. Trower, and Metta; Mr. W. Cole, gardener to Mrs. E. B. Foster, Clewer Manor, was a good second.

Large blooms, arranged in a basket or vase, are usually a great feature at this show. On this occasion five entered for twelve, with stems not less than 12in. long, arranged with any natural foliage. Mr. Page led with typical specimens of F. S. Vallis, Lady Talbot, Mrs. N. Davis, and Splendour associated with richly-coloured sprays of Berberis Thunbergi; Mr. Stevenson second with blooms of Duchess of Sutherland.

For twelve Japanese, distinct, Mr. Stevenson was first among six entrants with an excellent set of popular varieties; Mr. J. Minty, gardener to Mrs. Moir, Cockle, second. For six Japanese, any one variety, Mr. Stevenson was once more successful with grand blooms of Lady Talbot; Mr. Page second with F. S. Vallis; Mr. Minty third. For a similar number of blooms of any one incurved variety, Mr. Stevenson was again the most successful, with grandly-coloured blooms of Buttercup, Mr. Page following with rather coarse specimens of G. F. Evans.

Amateurs are not a numerous body here. The Rev. G. S. Cuthbert won for twelve Japanese with really nice blooms of F. S. Vallis, Reginald Vallis, and Florence Penford; Mr. C. Hanstin, second.

GROUPS.

Groups of chrysanthemums associated with foliage plants are usually popular here, and they are deservedly so, for they are remarkably well arranged. Mr. W. Cole was first with dwarf plants, well furnished with good foliage, and carrying fine blooms, all lightly arranged with crotons, etc.; Mr. E. J. Hill, gardener to A. L. Wigan, Esq., second. The competition for the prizes for a group of decorative chrysanthemums, not disbudded, was even more interesting, owing perhaps to the general scarcity of such classes at the shows. Nothing could be more effective from a decorative point of view. Mr. F. Copp, gardener to E. Iveson, Esq., Ascot, was distinctly first with freely-flowered plants of popular varieties, not too closely packed, which is an all too common fault; Mr. J. Barnes, gardener to Lady Dalton Fitzgerald, second with good plants, effectively grouped, excepting the margin, which was too thin; Mr. G. West, gardener to F. Ricardo, Esq., The Friary, Old Windsor, third, with a collection of well-chosen varieties, freely flowered, but all too closely arranged, just a flat, formal bank.

Mr. J. Minty had the best group of miscellaneous plants arranged for effect in a small space, orchids, nerines, pancratiums, ferns, crotons, and palms all nicely associated; Mr. F. Clarke, gardener to Sir J. McGregor, second. Carnations added variety and interest to the show. For three vases, distinct varieties, six blooms of each, Mr. G. West was first, and Mr. F. Plowright second. Mr. Titt, florist, Windsor, had an interesting exhibit of wreaths, etc.

Reading Gardeners' Association.

At the fortnightly meeting, held in the Abbey Hall, on Monday, November 8, there was a very large attendance of members, the occasion being the president's lecture, "The Preparation and Planting of a New Orchard of One Acre." Presiding at the opening of the meeting, Mr. Parfitt commended to the members their energetic individual and united support of the exhibition, which, before the next fortnightly meeting occurred would be numbered with the things of the past. The President requested Mr. A. F. Bailey to take the chair, and before commencing his remarks, thanked Mr. F. Townsend for so kindly exchanging dates with him, owing to his unavoidable absence from Reading on October 25.

The Reading Gardeners' Association is particularly fortunate in possessing so eminently practical a president, and they have on more than one occasion, notably when they visited his plantation at Caversham in September, 1908, profited by his profound knowledge and ripe experience of fruit cultivation, which, by the way, is practised by him from the sheer inherent love of his "hobby." We shall not pretend to follow the president fully in his lengthy and learned discourse, which conclusively proved, if such proof were wanting, how deeply he has studied and how extensive is his knowledge of matters pertaining to fruit culture. Mr. Parfitt not only imparted the fullest advice as to the preparation, etc., of one orchard, but information was given as to the treatment and laying out the quantity of land stated under several conditions of soil, situation, etc. First dealing with an acre plot, in the preparation and planting of which there was to be no limit to the expenditure, and afterwards advising what should be done, in different degrees, when the outlay was limited to certain figures. Advice was also given as to the best varieties of trees to plant, the proper distance at which the standard trees should be placed apart, also as to the desirability of, for the first few years, occupying the ground between the standards with bush trees. Note-books were very freely used during Mr. Parfitt's remarks, and when he resumed his seat he was loudly applauded.

The able lecture was followed by a most instructing and interesting debate, sustained by Messrs. Bailey, Powell, Tunbridge, Fry, Saxby, Neve, Wilson, etc. Mr. W. G. Pigg, gardener to H. Fitch, Esq., Trevercli, Maidenhead, exhibited a well-flowered Cymbidium Traceyanum. Three new members were elected.

A hearty vote of thanks to the President concluded the meeting.

Bradford.

NOVEMBER 12 and 13.

The chrysanthemum show held each year at Bradford, in the St. George's Hall, is always a very pretty and attractive one, the general arrangement being excellent and effective. A raised shelf all down the centre of each long table accommodates the various pot plants, such as primulas, table plants, hyacinths, etc., and the cut blooms are arranged on either side. Immediately in front of the platform the beautiful bouquets—always a delightful feature, are arranged, with begonias behind and above them on the platform edge. There is barely room left for the band, for round and behind the instrumentalists, and right up to the organ, range the bush and other specimen chrysanthemums. As a spectacle the Bradford Show is one of the best we know, one might say of it that it is admirably stage-managed; even all the tabling is prettily and comfortably draped with red material, and boxes and packing materials are conspicuous by their absence.

CUT FLOWERS.

Four competitors were attracted by the substantial prizes of £10, £7, £5, £3, and £2, offered by the Bradford Society for two dozen Japanese blooms, not fewer than eighteen varieties, on boards, and chief honours fell to Mr. Charles Jones, Spital Old Hall, Bromborough, Cheshire, for a fine set of the following varieties: Lady Talbot, G. F. Bruzard, Frank Payne, Reginald Vallis, Paul Raudet, Bessie Godfrey, W. J. Davis, Mrs. W. Knox, Valerie Greenham, W. A. Etherington, Madame G. Rivol, Mrs. C. Penford, W. R. Church, North Pole, Yellow Etherington, Walter Jinks, White Barkley, and Mrs. Barkley. Mr. A. Chandler, gardener to Arthur James, Esq., Coton House, Rugby, was a close second, his F. S. Vallis, Reginald Vallis, Bessie Godfrey, and Mr. G. Mileham being especially good; Mr. G. W. Drake, Cardiff, third; and Mr. W. Iggulden, fourth. For a dozen Japanese blooms, distinct, Mr. Chandler led the way with F. S. Vallis, Bessie Godfrey, J. H. Silsbury, Reginald Vallis, and Valerie Greenham, as his best specimens; Mr. C. Jones second, and Mr. W. Iggulden third.

Only two competitors came forward in the class for two dozen incurved blooms, and here Mr. G. W. Drake, Cathays Terrace, Cardiff, was awarded first place for very large and, on the whole, good blooms, of such varieties as Mrs. Judson, Doris Rayner, Le Peyron, Embleme Poitevine, Mrs. Wynn, C. H. Curtis, and Triomphe de Montbrun; Mr. A. Chandler second with smaller and rougher flowers. Two competitors entered in the class for a dozen incurved blooms, distinct, and here Mr. Drake was again to the front, winning with big blooms of May Phillips, Mrs. B. Hankey, Nellie Threlfall, Boccacio, Mrs. Judson, M. Muelenare, Mrs. J. Wynn, Embleme Poitevine, Madame Vremblay, Pantia Ralli, Ialene, and C. H. Curtis; Mr. Chandler was again second.

Some very fine blooms were to be seen in the class for eighteen Japanese blooms, in six varieties, set up in vases. Mr. W. Iggulden, Locks Hill, Frome, led the way with F. S. Vallis, Madame P. Radaelli, Lady Talbot, Bessie Godfrey, Madame G. Rivol, and Reginald Vallis; Mr. A. Chandler followed, and he had fine vases of Bessie Godfrey and F. S. Vallis. Mr. W. Moorby, Rhodes Street, Shipley, annexed the chief award for a dozen vases of single chrysanthemums with some pretty sprays, but if the order had been for six sprays of each, instead of three, the display would have been very greatly improved; Mr. J. Thornton second, and Mr. L. Shearman, Undercliffe Cemetery, Bradford, third.

The great local class was for eighteen Japanese blooms, and here the silver cup offered by the Lord Mayor of Bradford as first prize was won by Messrs. H. Clark and Son, Rodley, with a very even, clean set of Mr. A. T. Miller, Bessie Godfrey, C. H. Broomhead, F. S. Vallis, Mrs. G. Mileham, Formality, Madame P. Radaelli, Mrs. T. Dalton, F. S. Vallis, A. Davis, Edith Jamieson, Reginald Vallis, J. H. Silsbury, and Bessie Godfrey. Mr. J. Thornton came second; Mr. W. Aldridge, gardener to Mrs. Constable, Manor House, Otley, third; and Mr. H. Foster, St. Ives, Bingley, fourth.

In the local class for a dozen incurved, distinct, Mr. J. Thornton, Lumb Hall Nursery, Drighlington, led the way, followed in order by Messrs. H. Clark and Son, Rodley, Leeds; and Mr. Thomas Bird, Valley Street, Windhill, Shipley. In the local class for decorative varieties in vases, Mr. J. Brookes, Park Nurseries, Heaton, led with useful sprays of popular varieties; Mr. W. Moorby, second; and Mr. R. Eichel, Eldwick, third. In the same division Mr. Thornton scored for nine vases of single varieties with a good set, in which Altrincham Yellow and Edith Pagram figured prominently; Messrs. H. Clark and Son, second; and Mr. Moorby, third; six competitors.

PLANTS, ETC.

Mr. A. C. Brown, gardener to C. Beverley, Esq., West Royd, Farsley, scored for six table plants in a strong competition, and he also led for three table plants. Roman hyacinths and lily of the valley were not nearly so good as usual, but primulas were fairly good, Mr. Nutter, gardener to J. Barron, Esq., Claremont, Bingley, leading for six plants, with Mr. F. Howland, gardener to T. Arton, Esq., Micklefield House, Rawdon, second; and Mr. L. Shearman third.

The chief prizewinners in the classes for chrysanthemum plants were Mr. S. Nutter, Mr. S. Thompson, Mr. J. W. Anderson, gardener to O. G. Moss, Esq., Bingley; Mr. W. H. Aldridge, and Mr. Shearman. Mr. R. Eichel was to the front for Begonia Gloire de Lorraine, and Mr. J. W. Dale staged the best scarlet salvias.

Seven pairs of bunches of black grapes were tabled, and those sent by Mr. Howland (Gros Maroc) were considered the best; Mr. E. Midgley, gardener to R. J. Foster, Esq., Harrowins, Queensbury, second; and Mr. Chandler, third. Mr. Midgley scored easily for white grapes, with Mr. Sutcliffe, Raglan Street, Bingley, second.

FLORAL DESIGNS.

The bouquet classes were very well filled; the best hand bouquet was a lovely arrangement of white roses, pancratiums, and lily of the valley from Mr. M. Brooke, 34, North Parade, Bradford; Mr. J. Brooke was second. Mr. M. Brooke had the best bouquet of red roses—Richmond; Mr. J. Brooke a close second. Mr. M. Brooke also led for a chrysanthemum bouquet, using single varieties, and also for a bouquet of carnations, using a scarlet variety. Mr. Howland led for buttonhole bouquets, with neat arrangements of odontoglossums, but Mr. M. Brooke was first for ladies' sprays, with delightful sprays of roses.

Mr. E. Midgley was a fine first for a basket of chrysanthemums in pink, white, and bronze; Mr. R. Eichel second, and Mr. John Brooke third. Mr. F. Howland led for an epergne of chrysanthemums, and he used the popular Mary Richardson, single variety; Mr. Eichel second, and Mr. T. Dawson, Otley, third. Mr. Eichel, Eldwick, scored for a basket of autumn foliage and berries, and Mr. J. Brooke was a good second.

NON-COMPETITIVE.

Mr. J. Brooke, Market Hall, Bradford, contributed a display of floral designs and table plants. Messrs. W. Conway and Sons, Halifax, exhibited a collection of flowering and foliage plants. Messrs. Alex. Dickson and Sons, Lim., Newtownards, Co. Down, brought over a collection of rosy-cheeked apples, some good potatoes, and single chrysanthemums; their Peasgood's Nonsuch, Bismarck, and Emperor Alexander apples were particularly clean, large, and well-coloured.

Ascot Horticultural Society.

As usual, this society held its annual exhibition at the Grand Stand, and we are pleased to record the fact that it was in every way a success. Groups were the chief feature. The president, Sir Edwin Durning Lawrence, Bart., must feel very proud of his gardener, Mr. Lane, who secured three first prizes for groups and four first prizes for vegetables. Mr. Sydney R. Clement, the honorary secretary, was complimented by the judges on the excellent arrangements. The weather was fine, and the attendance was above the average.

PLANTS.

In the class for groups of chrysanthemums, with foliage plants, Mr. W. Lane, gardener to Sir Edwin Durning Lawrence, King's Ride, Ascot, was first; Mr. J. Sargent, gardener to Sir A. C. Lucas, Bart., Heatherwood, Ascot, second; and Mr. E. Young, gardener to Mrs. Morrison, Farm Wood, Ascot, third. For groups of chrysanthemums Mr. Lane was first; Mr. F. Capp, gardener to E. Iveson, Esq., The Chartars, Sunningdale, second; and Mr. W. Haines, gardener to Mrs. Lillingstone, Ascot, third. For a non-disbudded group of chrysanthemums Mr. Capp was first with a magnificent arrangement, the premier including the silver cup offered by the secretary; Mr. J. Sargent second, and Mr. W. Neate, gardener to Miss Thacker, Ascot, third. For a group of miscellaneous plants Mr. Lane was first with some well-grown cattleyas and oncidiums, crotons, etc. Mr. J. Sargent ran him very close for second place with a lighter arrangement. Mr. Lane won for table plants. For six Begonia Gloire de Lorraine, Miss Langworthy, Holly Port, Maidenhead (gardener, Mr. T. Broom), was first; and for six cyclamens, Mr. C. Cooper, The Vineries, Sunninghill, was successful in obtaining the premier award.

CUT BLOOMS.

In the open class for eighteen Japanese, distinct, Mr. C. Moore, gardener to C. A. Pearson, Esq., Farnham, was a capital first with fresh blooms of Mrs. C. Penford, F. W. Leaver, A. H. W. Prior, Mrs. W. Knox, Marquis V. Venosta, Reginald Vallis, J. A. Silsbury, President Viger, W. Watson, Miss S. Oliver, Miss L. Thorn, The Lyon, Mrs. A. J. Miller, George Mileham 1908 (the premier bloom), Mrs. W. Davis, C. A. Broomhead, W. Beadle, and White Venosta. Mr. T. A. Brooms, gardener to Miss Langworthy, Holly Port, Maidenhead, was a capital second, his best blooms being, H. Perkins, Bessie Godfrey, and Australia; W. Wilson, Esq. (gardener, Mr. C. Ribsden), Windlesham, third.

For eighteen incurved, distinct, and eighteen Japanese, distinct, Mr. W. Wilson was the only exhibitor, and the judges very properly awarded him the first prize. His incurved blooms were grandly finished, there not being a weak flower. For eighteen distinct incurved Mr. W. Wilson was again first, staging fairly good flowers of W. A. Browlees, Topaze Orientale, W. D. Perkins, Embleme Poitevine, W. Biddle, Mrs. F. Ashworth, Lady Isabel, Godfrey's Eclipse, Mrs. C. Crooks, Mr. G. Denyer, G. F. Evans, Duchess of Fife, Clara Wells, C. H. Curtis, W. Pascoe, Frau Tristian, Buttercup; Mr. C. Knox second. For six incurved, distinct, Mr. F. Dutton was first, and for six blooms of one incurved variety Mr. F. J. Broome was first with Romance. This stand contained the premier bloom of incurved (grand).

For six table plants Mr. W. Lane was first, and Mr. W. Wilson second.

FRUIT.

For two bunches of black grapes Mr. C. Cooper was first with Gros Maroc; Mr. H. G. Worsfered, gardener to C. H. Asten. Esq., Englefield Green, second; and Mr. W. Lane third. For two bunches of white grapes, Mr. W. Lane was first with grandly coloured Muscat of Alexandria. Mr. Capp obtained premier for six dishes of dessert pears, also for the same number of dishes of cooking apples. Hon. Miss Hill was first for four dishes of dessert apples, richly coloured. Mr. W. Lane was first for nine varieties of vegetables, and also in Messrs. Sutton and Sons, Messrs. Webb and Sons, and Messrs. Sale and Son's classes for collections of vegetables.

COLLECTION OF THIRTY-SIX INCURVED CHRYSANTHEMUMS
For which Mr. W. Higgs was awarded a silver cup at Winchester.

Winchester, NOVEMBER 16 and 17.

For many years this city has been able to boast of having one of the finest of autumn shows in the country, and one of the best of places in which to hold it. The Guildhall is undoubtedly an ideal place for such a display, except that it is hardly large enough to accommodate all the subjects submitted. This year's display was no exception.

PLANTS.

For the best collection of chrysanthemums arranged in a space 8ft. by 7ft., there were five contestants. Mr. A. J. Marsh, gardener to M. Hodgson, Esq., Morton House, Kingsworthy, was first with good blooms on plants well arranged; Mr. A. Macay, gardener to C. R. Schmidt, Esq., Alresford, second. Chrysanthemum plants, grown for conservatory decoration, were a good feature. For nine distinct, each to carry not less than five blooms, Mr. J. Cousens, gardener to J. A. Fort, Esq., 69, Kingsgate Street, Winchester, was first with dwarf, well-flowered examples, and Mr. G. Adams, gardener to Colonel F. A. Dickins, Edge Hill, Winchester, was second.

In a similar class, but confined to varieties with white or yellow flowers, Mr. G. Cousens won with charming plants of F. S. Vallis, Mrs. Judson, C. H. Curtis, and Mdme. R. Oberthur; Mr. Adams second, also good. The best single specimen, untrained, was one from Mr. E. Yarrow, 38, North Walls, Winchester.

Miscellaneous plants, arranged for effect in a space 9ft. by 7ft., were highly attractive. Mr. J. Hughes, gardener to A. P. Ralli, Esq., Twyford Lodge, Winchester, was first with orchids, palms, etc., nicely arranged; Mr. E. Long, gardener to F. C. Birch, Esq., Clovelly, Southampton, second.

CUT BLOOMS.

The class for thirty-six Japanese, in not less than twenty-four varieties, brought six entries, the several collections making a very fine display. Mr. T. Stevenson, gardener to E. Mocatta, Esq., Addlestone, was first with heavy blooms of Lady Talbot, F. S. Vallis, Leigh Park Wonder, Duchess of Sutherland, Mdme. G. Rivol, W. Jinks, Purity, Mrs. L. Thorn, and Mrs. A. T. Bott; Mr. C. Moore, gardener to C. A. Pearson, Esq., Frensham Place, Farnham, second; Mr. W. Higgs, gardener to J. B. Hankey, Esq., Fetcham Park, Leatherhead, third.

There were four entries in the class for twenty-four Japanese, in not less than eighteen varieties, and Mr. H. Lloyd, gardener to Major Wyndham Payne, Bransgore House, Christchurch, was first with heavy blooms, well arranged; Mr. H. Lloyd, gardener to Captain Wiener, Ewell Castle, Surrey, second. In the class for twelve Japanese, distinct, Mr. D. Edwards, gardener to W. Garton, Esq., Sarisbury Court, Swanwick, was first, and Mr. A. Macay second.

At this show there were but two classes for blooms arranged in vases, all the remainder being shown on the ordinary boards. For six varieties Japanese, three blooms of each, six competed, and Mr. Stevenson won with very fine examples of Lady Talbot, Mrs. G. Mileham, F. S. Vallis, J. H. Silsbury, A. Davis, and Edith Jameson; and Mr. H. Lloyd was second. In the class for five blooms of any white variety, Mr. G. Adams won with Mdme. R. Oberthur amongst five competitors.

Incurved varieties were very fine indeed, quite the best seen this year. For thirty-six, in not less than twenty-four varieties, or more than two of any one variety, there were four entrants, and Mr. Higgs, gardener to J. B. Hankey, Esq., Fetcham Park, Leatherhead, occupied the post of honour with massive, well-finished blooms of the leading varieties in cultivation. In the class for eighteen, in not less than twelve varieties, there were three entries, and Mr. Edwards was first with large, even blooms, and Mr. Hughes was second with smaller, yet good examples.

Single-flowered varieties, not disbudded, and arranged in vases, made a brave display. There were seven competitors, and Mr. G. Ellwood, gardener to W. H. Myers, Esq., Swanmore House, Bishop's Waltham, was first with huge masses of Edith Pagram, Roupell Beauty, and Mrs. E. Roberts; Mr. J. Hughes second. In a similar class for any decorative varieties, except singles, there were nine entries. Mr. A. E. Taylor, 3, Hill Side Terrace, Winchester, was first with an extremely fine exhibit, comprising Source d'Or, Phœbus, Emperor of China, and Soleil d'Octobre; Mr. E. Long second.

DECORATIVE CLASSES.

The most tastefully arranged stand of flowers, foliage, and grasses, suitable for table decoration, was very attractive. Mrs. Jeffery, Nursling, was first; Mrs. Bealing second; Mrs. E. Ladhams, Shirley, third. For the best arranged dinner table decoration of flowers, in a space 3ft. square, Mrs. Rapley, Warblington Cottage, Havant, was first with a low arrangement of bronze chrysanthemums; Mrs. Bealing second with carnations, roses, and lily of the valley; Mrs. Walters, Fareham House, third.

For the most tastefully arranged stand of flowering shrubs, coloured foliage, grasses, etc., all to be gathered in the open, Mrs. Jeffery was first, and Mrs. Smith, St. Cross, second.

Mr. S. Bide, Alma Nursery, Farnham, was awarded a gold medal for a fine display of floral decorations.

FRUIT.

Fruit was remarkably good. Mr. Ellwood was first for two bunches of black grapes. Mr. Hall, gardener to Lord Swaythling, South Stoneham, won for two bunches of white grapes, also for three dishes of dessert apples, for kitchen varieties, and for pears.

Hitchin, NOVEMBER 11.

Although the morning was very bright and pleasant, the weather at Hitchin changed to cold drizzle just as the visitors began to arrive, and we fear the "gate" must have suffered during the afternoon and evening. The show, held in the Town Hall and Gymnasium, on Thursday, November 11, was a very successful one floriculturally, and even better as a whole than the bright and attractive ones that have preceded it in recent years. Not only were flowers good, especially in the vase classes, and those for decorative and single flowers, but hardy fruits and vegetables were excellent, and the competition good. There is one weak point about the management of this otherwise excellent society, i.e., excessive leniency towards exhibitors in the matter of the time for judging. This year, in the hope of providing ample time for those competitors residing in outlying and rather unget-at-able places, the hour of judging was fixed at 11.30, but it was 12.15 before the judges could start. We suggest this is unfair to competitors and judges, and as most of the members of the large committee are competitors, the matter is in their hands to alter.

CUT BLOOMS.

Vase classes are a great feature of the cut flower section at Hitchin, and, as there are a number of good growers in the district, the blooms are always of a high standard. In the premier class for six vases, three blooms of one Japanese variety in each vase, and each bloom to have not less than 1ft. of stem attached, there were four competitors for the challenge cup presented by T. Fenwick Harrison, Esq., to which 30s. is added as first prize; four prizes are offered. The chief honours fell to Mr. J. Coutts, gardener to M. R. Pryor, Esq., Western Park, Stevenage, for a fairly heavy set of blooms of F. S. Vallis, Mdme. Paolo Radaelli, Reginald Vallis, Mrs. A. T. Miller, Valerie Greenham, F. S. Vallis, and Mrs. E. Crossley. He was closely followed by Mr. Hartless, gardener to T. Fenwick Harrison, Esq., Hertingfordbury, who had rather smaller but very fresh blooms, some of them scarcely at their best; Mr. Munt, gardener to W. Bailey Hawkins, Esq., Stagenhoe Park, Welwyn, third; and Mr. Pateman, gardener to C. A. Cain, Esq., The Node, Welwyn, fourth.

Another good class was for four vases of Japanese blooms, staged under similar conditions, and here Mr. T. Sadler, gardener to Mrs. Cotton Brown, Walkern Hall, Stevenage, scored with fresh flowers of Mrs. G. Mileham, F. S. Vallis, Mrs. Knox, and Mrs. A. T. Miller; Mr. R. H. Crockford second; and Mr. W. G. P. Clark (the hon. secretary), third.

In a very close competition, Mr. Hartless annexed the premier award for a dozen Japanese blooms, distinct, on boards, and here he scored with very bright examples of Bessie Godfrey, Sappho, Edith Smith, Master Fred, Mrs W. Knox, Lady Hopetoun, Mdme. Paolo Radaelli, Norman Davis, Duchess of Sutherland, Mrs. A. T. Miller, Reg. Vallis, and Mrs. R. H. Pearson; Mr. W. Munt was a fine second; and Mr. J. Coutts third. Mr. Hartless's Bessie Godfrey was judged to be the best bloom in the show. Mr. T. C. Sadler led for six Japanese blooms on boards, and was followed by Mr. H. Harding and Mr. Crockford.

Mr. Hartless had the best six incurved, one variety, winning with good, shapely flowers of Romance; Mr. Munt second with Mrs. B. Hankey; and Mr. Sadler third with Mrs. Denver. Mr. Munt scored for six incurved, distinct, but neither he nor Mr. Hartless, or Mr. Creswell, gardener to the Earl of Lytton, Knebworth House, Knebworth, showed particularly well in this class.

Two classes stood out conspicuously on this occasion, and served to demonstrate the popularity and usefulness of single and decorative varieties. For three vases of single varieties, six sprays of one variety in each vase, there were nine competitors, and nearly all showed well, but the set of Edith Pagram, Bronze Pagram, and E. Forbes, stood out above the rest, as the bold sprays of large disbudded flowers were splendid; these were from Mr. H. Bates, gardener to Miss E. Robertson, Sele Grange, Hitchin; Mr. R. H. Crockford, gardener to C. Poyntz Stewart, Esq., Chesfield, Stevenage, was an excellent second; and Mr. A. Wilson, gardener to A. Ransom, Esq., Burslow, Hitchin, was third. Of equal attractiveness and utility was the class for three vases, six sprays each, of decorative varieties, and here Mr. W. Munt was placed first for very fine sprays of clean, medium-sized flowers of Lizzie Adcock, Etoile Blanc, and Crimson Source d'Or; Mr C. H. Green second; and Mr. W. Robinson third, from eleven entries.

Mr. Hartless was first for five blooms of one Japanese variety with Miss D. Oliver, Mr. Munt following with Mrs. A. T. Miller. For five coloured Japanese blooms, one variety, Mr. Hartless scored with Mdme. G. Rivol; Mr. J. Coutts second with F. S. Vallis; Mr. Munt third with Mr. G. Mileham.

PLANTS.

For a table group of miscellaneous plants, arranged for effect on a space 6ft. 6in. by 3ft. 6in., Mr. A. Titmuss, gardener to W. Tindall Lucas, Esq., Foxholes, Hitchin, led with bright salvias, chrysanthemums, begonias, etc.; Mr. Munt second with orchids; and Messrs. Abbers Brothers, Hitchin, third. Mr. E. Osman, gardener to S. Lucas, Esq., Tile House, Hitchin, was a good first for a group of chrysanthemums, and both he and Mr. W. G. P. Clark, York Road, Hitchin, who was second, showed well. Mr. Osman and Mr. Titmuss won the prizes for specimen plants. In the smaller group class, chrysanthemums only, Mr. W. G. Willmott, Enside, Chiltern Road, was a capital first with well-grown plants very well arranged; Mr. A. Wheeler, gardener to Mrs. Foster, second; and Mrs. G. C. Taylor third.

Mr. Hartless and Mr. Munt were first and second respectively, both for three palms and for six table plants, while Mr. Munt was first, and Mr. Pateman second for three zonal pelargoniums. Mr. Crockford had the best three Begonia Gloire de Lorraine, but these were not so fine as we have seen them at Hitchin. Mr. Sadler was first for one orchid with a big Cypripedium insigne, and Mr. Munt was second with a good C. Spiceranium.

FRUIT AND VEGETABLES.

Mr. Pateman scored for nine dishes of apples, with Rival, Cox's Orange Pippin, Mother, Bismarck, Gascoigne's Scarlet, Peasgood's Nonsuch, The Queen, Lord Derby, and Emperor Alexander. Mr. Sadler beat Mr. Pateman for dessert pears, with Beurre Diel, Doyenne du Comice, and Pitmaston Duchess. Mr. R. Parke, led for culinary pears with Red Warden, Catillac, and Uvedale's St. Germain. Mr. Hartless led for white grapes, and Mr. Munt for black grapes.

Vegetables were well shown, and there were numerous classes provided by the society, by Messrs. Sutton and Sons, and Messrs. Jas. Carter and Co. Leading prizewinners in this division were Mr. H. Bates, gardener to Miss E. Robertson, Sele Grange, Mr. H. Harding, gardener to Mrs. Harris, Sele Lodge; Mr. Munt and Mr. Hartless.

FLORAL DECORATIONS.

Table decorations were good, no fewer than twelve competing in the class for chrysanthemum flowers, and six in the class for any other flowers than chrysanthemums. In the latter class roses were very largely used. The prizes in these classes were awarded by popular vote, the first hundred visitors receiving voting papers, but our representative had to leave before the result was made known. Mrs. W. G. P. Clark had the best vase of flowers—roses; and Sister Ernestine, Warrenhoe, Hitchin, led for a basket of chrysanthemums with a very fine arrangement of both large and small flowers of yellow and crimson varieties.

South Shields Chrysanthemum Exhibition.

The annual exhibition of this society was held on Wednesday and Thursday, November 10 and 11, and in common with most exhibitions, the exhibits fell short on account of the most untoward season. The cold and very wet autumn was not favourable for the development of the blooms, so the dates fixed proved a little too early, especially for the pot plants, many of them being only in bud, others not fully developed. Nevertheless, many very fine flowers were staged in the Japanese section, and also in the classes for incurved. The bouquets, epergnes, and dinner-table decorations were, as usual, most artistic, and quite a feature in themselves.

In the chief class for thirty-six Japanese, the premier award was the President's silver cup, valued fifteen guineas, and £10 in cash. Mr. A. Chandler, gardener to Arthur James, Esq., Rugby, was a good first with the following well-developed varieties: F. S. Vallis (2), (one of these was selected as the premier bloom), Reginald Vallis (2), Magnificent (2), Bessie Godfrey (2), P. Viger (2), J. H. Silsbury (2), J. Lock, Mrs. G. Mileham, Lady Talbot (2), George Mileham, C. H. Totty, Dorothy Goldsmith, W. Gee, Rose Pockett, Henry Stowe, Mrs. O. Miller, Algernon Davis (2), Mrs. Norman Davis, Valerie Greenham, Duchess of Sutherland, Marquis V. Venosta (2), Mrs. E. Crossley (2), and Miss Hilda Rowley; Mr. G. W. Musk, gardener to Captain Laycock, Bawtry, Notts, was second; Mr. C. Jennings, gardener to F. W. Jameson, Esq., North Fereby, Yorks, was third; and the fourth prize fell to Mr. G. E. Thomas, gardener to the Marquis of Ripon, Studley Royal.

In the class for eighteen Japanese, Mr. Chandler and Mr. Jennings again occupied the first and second positions, with Mr. Reay, gardener to James Readhead, Esq., Westoe Hall, third. The same exhibitors took the chief prizes in the smaller classes of Japanese. The incurved blooms were not numerous, but much better developed than one could have expected in such a late season. Mr. C. Jennings was again first with a very good stand of twenty-four varieties, thus winning Mr. John Readhead's silver cup, valued five guineas, for the third time outright. He consequently rivalled Mr. Chandler's success in the chief Japanese class in winning the President's silver cup three times in succession. There was some interesting competitions in the local classes for cut blooms; and Mr. Hetherington, gardener to C. T. Kendal, Esq., North Shields, was the only exhibitor of a group, and won Mr. Wm. Readhead's silver cup and £5 cash.

Especial mention should be made of the bridal and other bouquets, and the epergnes. These experts in the art—Mrs. James Summers and Miss Summers, of Sunderland—exhibited some splendid arrangements, and won the chief prizes. Some very choice orchids, with pancratiums, lilies of the valley, etc., with some croton foliage, being the principal flowers used. There was also some very high-class fruit on the decorated table by the same exhibitors. The basement of the Royal Assembly Hall was filled with a splendid exhibition of vegetables. The leeks, for which some good prizes were given, being the principal attraction.

Royal Botanic Society.

NOVEMBER 12.

Early in the current month an appeal was issued by the Council to the Fellows of the society for contributions to the fund being raised for the purpose of meeting the more pressing liabilities. On the 12th inst., a meeting of the Fellows was held at the society's gardens for the purpose of considering the results of the appeal. Mr. P. S. Stephens, K.C., who occupied the chair, said the society owed £2,000 to the bank, which had agreed to accept £1,000 on account, and the balance of £1,000 on January 31. Unless £500 was paid at once, and £500 in the first week of next month, the society would be in the hands of the bank, which had threatened to take action. The letter to the Duke of Teck, which we published in our issue of the 13th inst., had not officially reached the Council, and they had not, therefore, been able to take any tangible steps in the matter. The amount of the debts owing was actually £4,000 less than a few months ago; £1,809 was required to pay an overdraft, and there were sundry accounts which brought up the total deficiency to £3,293.

Mr. Rubenstein spoke in favour of the Council approaching the Royal Horticultural Society with a view to amalgamation. Mr. Cecil Raleigh expressed his objections to this being done, and proposed that a hundred of the Fellows present should meet the present emergency by subscribing £5 each. In a few minutes it was announced that £379 had been raised in addition to the promises that had been received.

East Anglian Horticultural Club.

At the November meeting of this club, it was in every way sympathetic that a vote of condolence was moved to Mr. John Clayton, manager at Messrs. Daniels Bros., Lim., Norwich, at the recent loss of his wife. Mr. Clayton should have given a paper that evening at the club, but, under the circumstances, had to postpone it. Mr. H. Perry opened up what proved to be a most animated discussion upon "What is a Spray of Naturally Grown Chrysanthemums?" It was eventually decided, upon the suggestion of Mr. H. Goude, Catton Grange Gardens, that in future the schedule should stipulate that it should read a terminal spray, which would constitute one growth only from the point of the last break. Mr. H. Goude secured the special prize for the best two plants of Begonia Gloire de Lorraine. Mr. H. Shoesmith, Cringleford, won for the new

Begonia Ideal, also for orchid and black grapes with very creditable specimens. Mr. W. Palmer, gardener to J. B. Coaks, Esq., Thorpe, had a nice trio of Japanese chrysanthemums, and a well-grown cattleya. The excellence of the exhibits throughout was well maintained, as was also the discussion upon the several matters introduced.

OBITUARY.

MR. J. C. TALLACK.

It is with much regret that we have to record the death of Mr. J. C. Tallack, which occurred in the Shipley Hall Gardens on the 12th inst., under distressing circumstances. For a considerable period Mr. Tallack had suffered much from insomnia, and some months ago he had the misfortune to fracture his thigh, and it would appear that his slow recovery from his accident affected his mind and gave rise to the delusion that he was suffering from an incurable disease. Mr. Tallack's death was due to his taking cyanide of potassium, which, we hardly need say, is one of the deadliest of poisons.

THE LATE MR. J. C. TALLACK.

Mr. Tallack had been head gardener at Shipley Hall, Derby, the residence of J. C. Mundy, Esq., nearly eleven years, and during this period the gardens were greatly altered and improved, both inside and out. All the glass structures have, under his direction, been moved or remodelled, and several new features added. Of the latter the fine pergola and the water lily ponds, both in the open and under glass, are especially noteworthy. Mr. Tallack was an all-round gardener of the highest rank, and he was exceptionally well read, a keen observer, a forcible writer, and a successful lecturer. For nearly twenty years he has been a contributor to these pages, and his most recent educational work has been under the auspices of the Nottingham University College.

The news of Mr. Tallack's death has been received with profound regret by his wide circle of friends, and the deepest sympathy is felt for Mrs. Tallack and the other members of his family.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

VARIETIES OF MIGNONETTE.—E. G., Nottingham: You are quite right. In a great many gardens the inferior mignonette known as the Common is grown instead of the finer types. The common mignonette is undoubtedly beautiful and fragrant, but it is not equal to the improved forms, and nothing but the best should, where practicable, have a place in gardens, whether large or small; and in the case of this annual it is practicable, for none of the forms are really expensive. The following are remarkable for their distinctiveness, and can be specially recommended: Bismarck, a robust form, with large spikes of rich red flowers; Giant Crimson, a strong-growing variety, bearing fine spikes of flowers of the colour indicated by its varietal name; Machet, a dwarf-growing variety with dense spikes of red flowers; and Golden Machet, a stronger-growing type, with long spikes of yellow flowers. If two varieties are sufficient, Giant Crimson and Golden Machet should be selected.

KUMQUATS.—M. R. G., Horsham: The Kumquat is a small, elongated orange, and a form of Citrus japonicus. Grown as a pot plant, this makes a very attractive subject for house or conservatory decoration, as the bright golden fruits are freely produced, and are very effective. The ordinary treatment accorded the orange will suit the kumquat. Kumquats are largely used in crystallised form, and in this fashion, in fancy boxes, they form a fairly important item of the dried or crystallised fruit trade about Christmas time and the New Year.

A DOZEN KINDS OF HERBS.—F. C. S., Swindon: It is seldom that a dozen kinds of herbs are asked for at once, but the class should prove an interesting one if it is instituted. The following would make a good set: Mint, parsley, sage, thyme, lemon thyme, fennel, hyssop, rosemary, horehound, tarragon, and sweet marjoram. Other kinds available are angelica, anise, balm, basil (bush and sweet), borage, chamomile, chervil, chives, clavy, coriander, dill, pot marigold, sweet cicely, rue, sorrel, and tansy. All these kinds may be grown without difficulty, but those for which there is a regular demand are few in number.

ACETYLENE GAS REFUSE FOR LAWNS. —E. W. R., Poole: We are given to understand that the refuse of the calcium carbide used in the manufacture of acetylene gas is very useful as a top-dressing for lawns. It is best applied quite early in the spring, as it has then the effect of deepening the colour of the grass, and also of bringing worms to the surface.

ROLLING LAWNS.—N. W. T., Peterborough: There are two very emphatic "don'ts" to be remembered in connection with the rolling of lawns, and these have reference to frosty and to very wet weather. There is no objection to rolling in showery weather, but in very wet weather rolling will work the surface soil into a paste that, under the influence of sun and wind, will dry hard and prevent the proper aeration of the soil. At this season of the year, provided the soil is not over-wet, rolling will do a great deal of good; but a good sweeping should precede the rolling, to distribute worm casts and remove fallen leaves.

LARGE GOOSEBERRIES.—C. B., Neyland: We are glad you do not want a "long lecture" on each variety of gooseberry, because we have neither time nor inclination for such a lecture, and you would have been disappointed had you desired one. We would point out that high cultivation, severe thinning, and ample feeding are necessary to secure very large gooseberries, even in the case of those varieties that are naturally larger than the majority. Further, the very largest varieties are not by any means the heaviest croppers, and, as already noted, big berries mean severe thinning. For reds you may select Bobby and Dr. Woolley; green—Surprise, and Telegraph, or Green London—Thumper is of pendulous habit; white—Careless is good, but Princess Royal is pendulous; try Freedom; yellow—Leveller and Catherina. We do not know the other yellows you mention.

NAMES OF PLANTS.

S. A., Huddersfield.—Sanchezia nobilis variegata.

W. H. S., Sodbury.—1, Lycaste lanipes; 2, not recognised.

A. J. P., Sidmouth.—Appears to be a leaf of Strobilanthes Dyerianus.

E. Y., Falmouth.—1, A poor form of Cattleya labiata; 2, Symphoricarpus racemosus; 3, Tabernæmontana coronaria.

S. N. J., Bradford.—1, Physalis Franchetti; 2, Filicium decipiens; 3, Asparagus Sprengeri; 4, Clerodendron fallax.

C. G. P., Bedford.—1, Aralia (Elœodendron) Chabrieri; 2, Phrynium variegatum; 3, Acalypha Godseffiana; 4, Reidia glaucescens.

NAMES OF FRUITS.

C. E. H., Barnsley.—1, Swan's Egg; 2, Colmar.

T. P. B., Enfield.—1, Bowood; 2, Beurre Hardy; 3, Forelle.

E. G., Abingdon.—The pear is Glou Morceau, and the apple Brunswick Codlin.

M. B., Ballymascanian.—1, probably Sugar-loaf, fruit partly rotten; 2, Dutch Mignonne; 3, Rosemary Russet; 4, Cockpit.

F. T., Hadley.—1, Doyenne du Comice; 2, Beurre Diel; 3, Marie Louise d'Uccle; 4, Glou Morceau; 5, rotten, not recognised; the apple is Blue Pearmain.

G. B., Dublin.—A, not recognised; B, Durondeau; C, Blenheim Pippin; D, Chaumontel; E, not recognised; F, Emperor Alexander; G, Hawthornden; H, Col. Vaughan; I, Belle Dubois; J, Heliote Dundas; K, Court Pendu Plat.

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ROYAL HORTICULTURAL SOCIETY.

The annual examinations of the Royal Horticultural Society are becoming of such world-wide acceptance that perhaps you will allow me, through the agency of your excellent journal, to bring them to the notice of your readers, now that the dark winter evenings, with their invaluable opportunities for study, are again with us.

The society's certificates issued to successful candidates are accepted in all parts of the globe, as indicating the possession of theoretical and practical knowledge of horticulture.

The examinations were undertaken by the society as long ago as 1893, in response to the demand for such tests made under the authority of a practical body. They are now four in number, viz.: Senior General, Junior General, the Public Parks, and the School Teachers' Examinations.

The two first test the applicants' knowledge in the principles and practice of horticulture. The examinations are not confined solely to the British Islands, but are held in any part of the Empire, being altered and adapted to the various local conditions.

The Public Parks Examination is intended for the employees of County Councils, City Corporations, and such-like public bodies.

The London County Council have frequently testified to the assistance given them in this way by our society, and their present system of garden appointments and promotions is based upon the applicants' place in the pass list; about 100 of their men enter annually.

School teachers are examined in cottage and allotment gardening, the matter having been undertaken by the society in order to satisfy the increasing demand in country districts for school teachers to be competent to teach the elements of gardening.

The society has recently printed in book form all the questions set since 1893, in order that candidates may inform themselves of the general scope and character of the examination for which they propose to enter, and be thus enabled to direct the study of their leisure hours in the most profitable direction.

W. WILKS, Secretary.

Royal Horticultural Society,
Vincent Square, Westminster, S.W.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1909. NOVEMBER 7 TO NOVEMBER 13.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	TEMPERATURE OF THE AIR. At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Nov. 7—Sunday	0 54	40	40	48	30
,, 8—Monday......	6 30	33	33	48	31
,, 9—Tuesday	5 54	32	31	48	26
,, 10—Wednesday.	3 12	41	39	47	33
,, 11—Thursday ...	3 18	36	35	49	34
,, 12—Friday..	0 24	48	45	54	36
,, 13—Saturday ...	4 18	43	38	47	41
Means	(total) 24 30	39	37	49	33

DATE. 1909. NOVEMBER 7 TO NOVEMBER 13.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
Nov. 7—Sunday	trace	45	49	51	29
,, 8—Monday......	trace	44	48	51	23
,, 9—Tuesday......	—	42	47	51	22
,, 10—Wednesday.	0.01	43	47	50	30
,, 11—Thursday ...	—	41	46	50	24
,, 12—Friday........	—	43	46	49	32
,, 13—Saturday ...	0.09	45	47	49	34
Means ...	(total) 0.10	43	47	50	28

MARKETS.

◆

COVENT GARDEN.

Flowers.

Supplies are well up to the average and the demand is good.

		s. d.		s. d.
Adiantum cuneatum	per doz. bun.	5 0	to	9 0
Arums	per doz.	3 0		4 0
Asparagus	per bun.	1 0		2 0
Bouvardia	per bunch	4 0		6 0
Carnations	per doz. blms.	1 6		3 0
,,	per doz. bun.	6 0		12 0
,, Malmaisons	per doz.	6 0		12 0
Cattleyas	per doz.	12 0		14 0
Crysanthemums	per doz. bun.	2 0		5 0
Croton leaves	per bun.	1 0		1 6
Cypripediums	per doz. blms.	2 0		4 0
Eucharis	per doz.	2 0		3 0
French fern	per doz. bun.	0 6		1 0
Gardenias	per doz.	1 6		2 0
Lapagerias	per doz.	2 0		3 0
Lilium auratum	per bun.	2 0		3 0
,, speciosum	per bun.	1 6		2 6
,, longiflorum	per bun.	2 0		4 0
Lily of the Valley	per doz.	5 0		15 0
Marguerites, white	per doz. bun.	1 6		3 0
Mignonette	per doz. bun.	2 0		3 0
Odontoglossums	per doz. blms.	2 0		2 6
Pelargoniums	per doz. bun.	4 0		6 0
Roses	per doz.	1 0		4 0
Smilax	per doz. trails	4 0		8 0
Statice	per doz. bun.	3 0		4 0
Tuberoses	per doz.	0 3		0 4
Violets	per doz. bun.	2 0		3 0

Fruits.

Business is brisk; grapes are cheap and apples plentiful.

		s. d.		s. d.
Apples, English	per bush.	3 0	to	8 0
,, Californian	per case	8 0		9 6
,, Cox's Orange	per ½-sieve	3 0		10 0
,, American	per barrel	12 0		16 0
,, Canadian	per barrel	14 0		20 0
,, Nova Scotian	per barrel	14 0		24 0
Bananas	per bun.	3 0		9 0
Cobnuts	per 12lb.	3 6		4 6
Figs	per doz.	0 9		3 0
Grapes, English	per lb.	0 8		3 0
,, Guernsey	per lb.	0 5		1 3
,, Almeria	per barrel	8 0		14 0
Lemons	per case	10 0		25 0
Melons, Valencia	per case	3 6		6 0
Oranges, Jamaica	per case	9 0		12 0
,, Navels	per case	10 0		12 6
,, Naples	per case	8 0		12 0
Pears, English	per bush.	3 6		9 0
,, French Comice	per crate	4 0		7 0
Pineapples	each	1 6		3 6
Walnuts	per 12lbs.	2 0		3 6

LONDON POTATO MARKETS.

Supplies are not large and business is steady.

		s. d.		s. d.
Bedfords	per cwt.	2 6	to	3 0
Blacklands	per cwt.	2 6		2 6
Essex Kidneys	per cwt.	2 6		2 9
Kents	per cwt.	2 6		3 0
Lincolns	per cwt.	2 6		2 6
May Queen	per cwt.	3 0		3 6
Puritans	per cwt.	3 0		3 6
Sharpe's Express	per cwt.	3 0		3 6
Up-to-date	per cwt.	3 0		3 6

Vegetables.

An abundant supply continues and there is a ready sale for sprouts, cauliflowers, turnips, and celery.

		s. d.		s. d.
Artichokes, Globe	per doz.	2 6	to	3 0
Beet	per bush.	1 6		2 0
Brussels sprouts	per bush.	2 0		2 6
Cabbage	per tally	2 6		4 6
Carrots	per doz. bun.	1 0		2 6
Cauliflowers	per tally	5 0		8 0
Celery	per bun.	0 9		1 6
Cucumbers	per doz.	1 0		2 0
Endive	per doz.	1 3		1 9
Horseradish	per doz. bun.	8 0		12 0
Leeks	per doz. bun.	1 6		2 0
Lettuce	per score	1 0		2 0
Mint	per doz. bun.	1 0		2 0
Mushrooms	per doz. lb.	6 0		9 0
Onions, Valencia	per case	7 0		12 0
,, English	per doz. bun.	1 6		2 0
Parsley	per doz. bun.	2 0		2 6
Parsnips	per bag	2 6		3 0
Spinach	per bush.	1 0		1 9
Tomatoes, English	per doz. lb.	4 0		5 6
,, Guernsey	per doz. lb.	2 6		3 6
Turnips	per doz. bun.	3 0		3 6

FORTHCOMING ENGAGEMENTS.

TUESDAY, November 23.—Royal Horticultural Society; Committees meet at 12 o'clock; lecture at 3 p.m. on "Spices," by Mr. J. A. Alexander; Scientific Committee at 4 o'clock.

MONDAY, November 29.—National Chrysanthemum Society; Annual Dinner at the Holborn Restaurant, at 6.15 p.m. for 6.45 p.m.; Sir Albert Rollit, D.C.L., LL.D., will preside.

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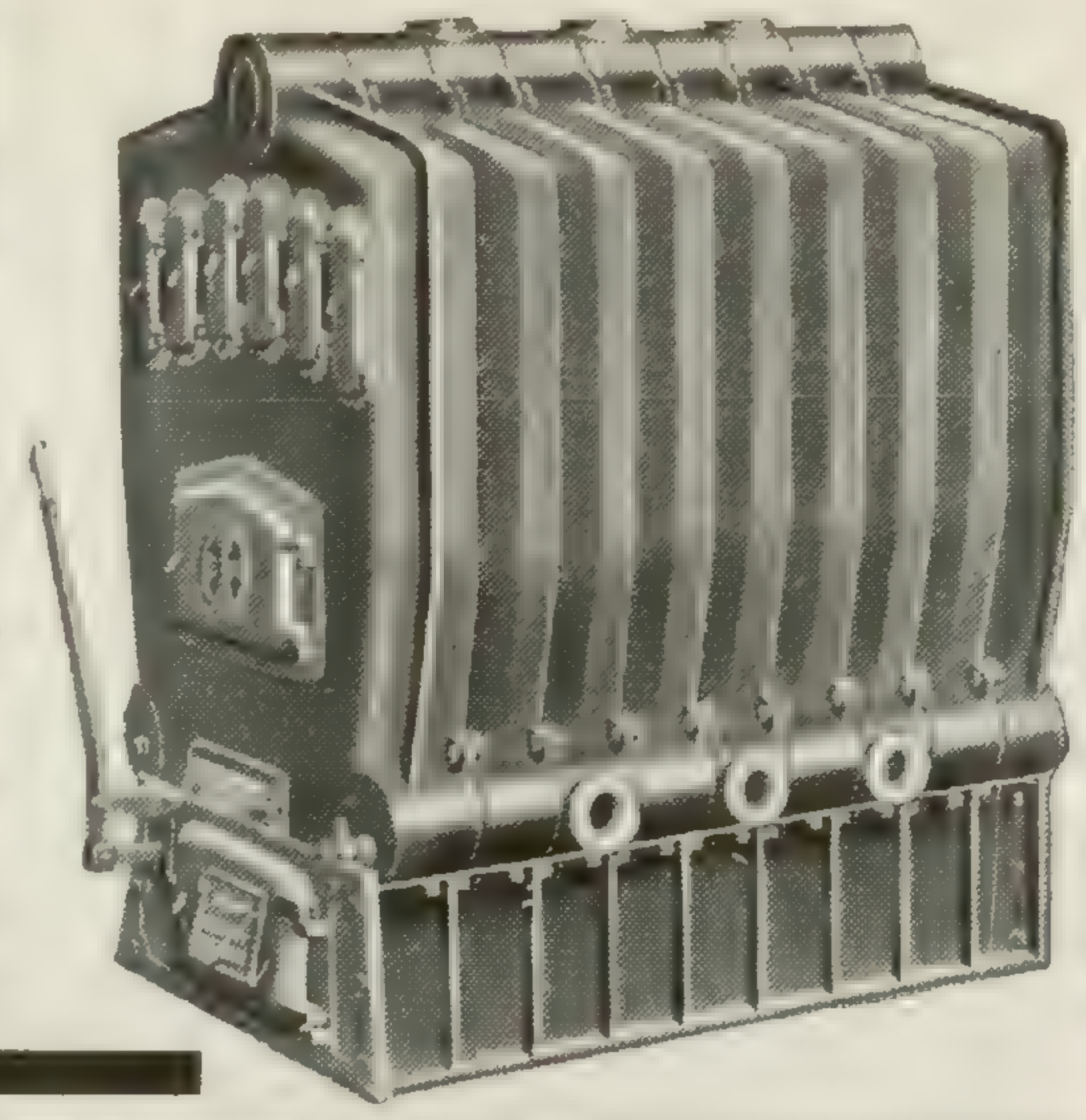

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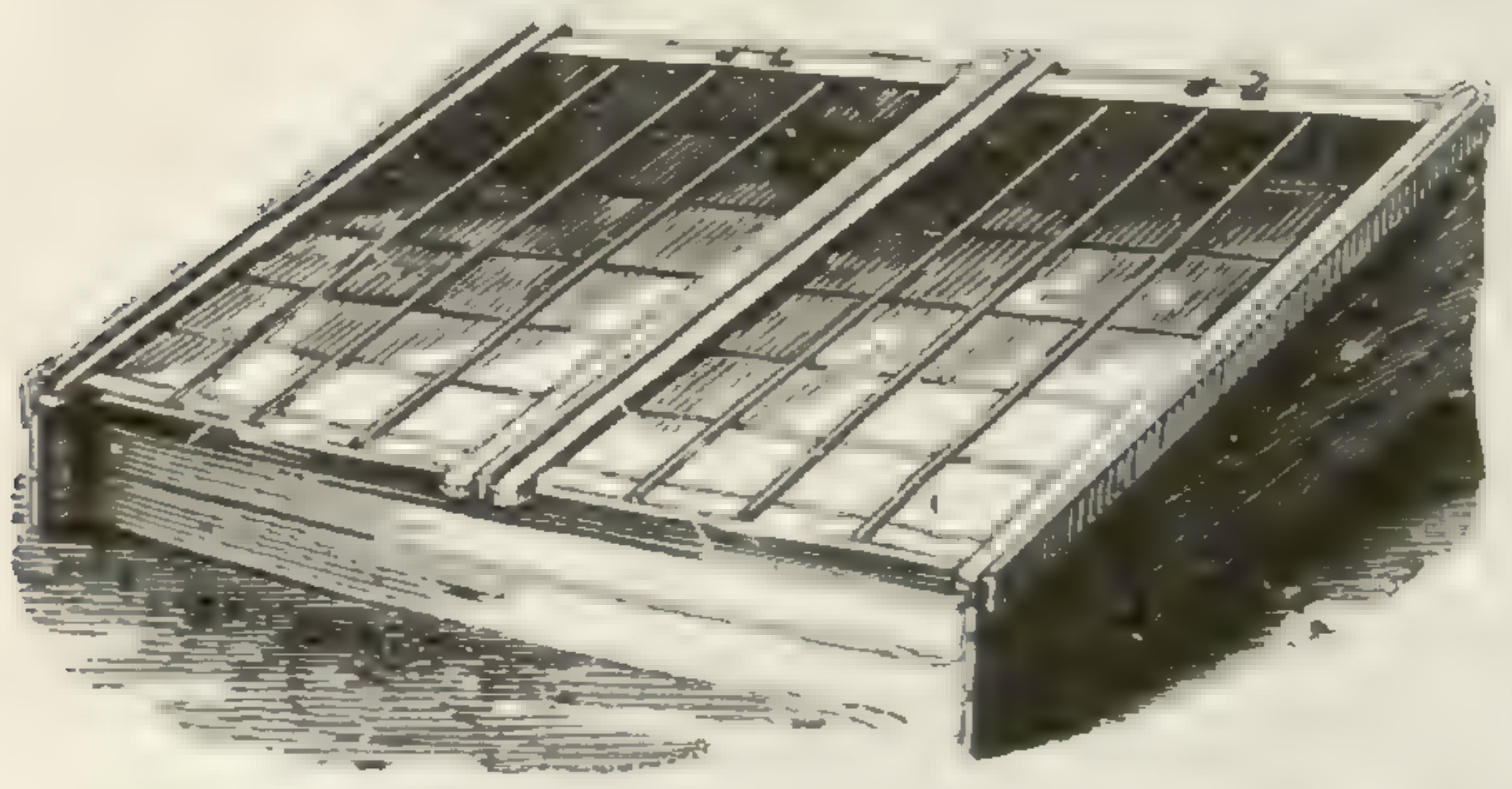

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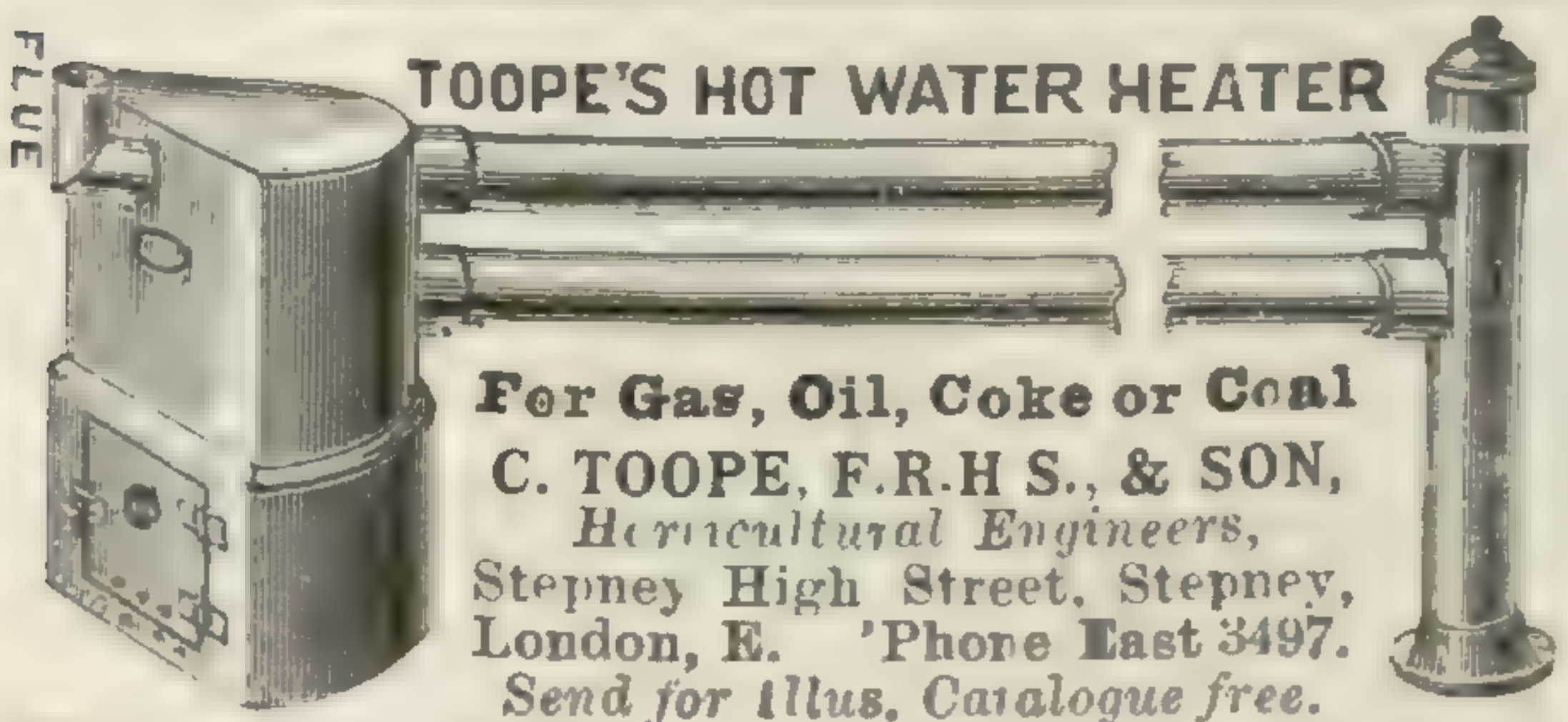

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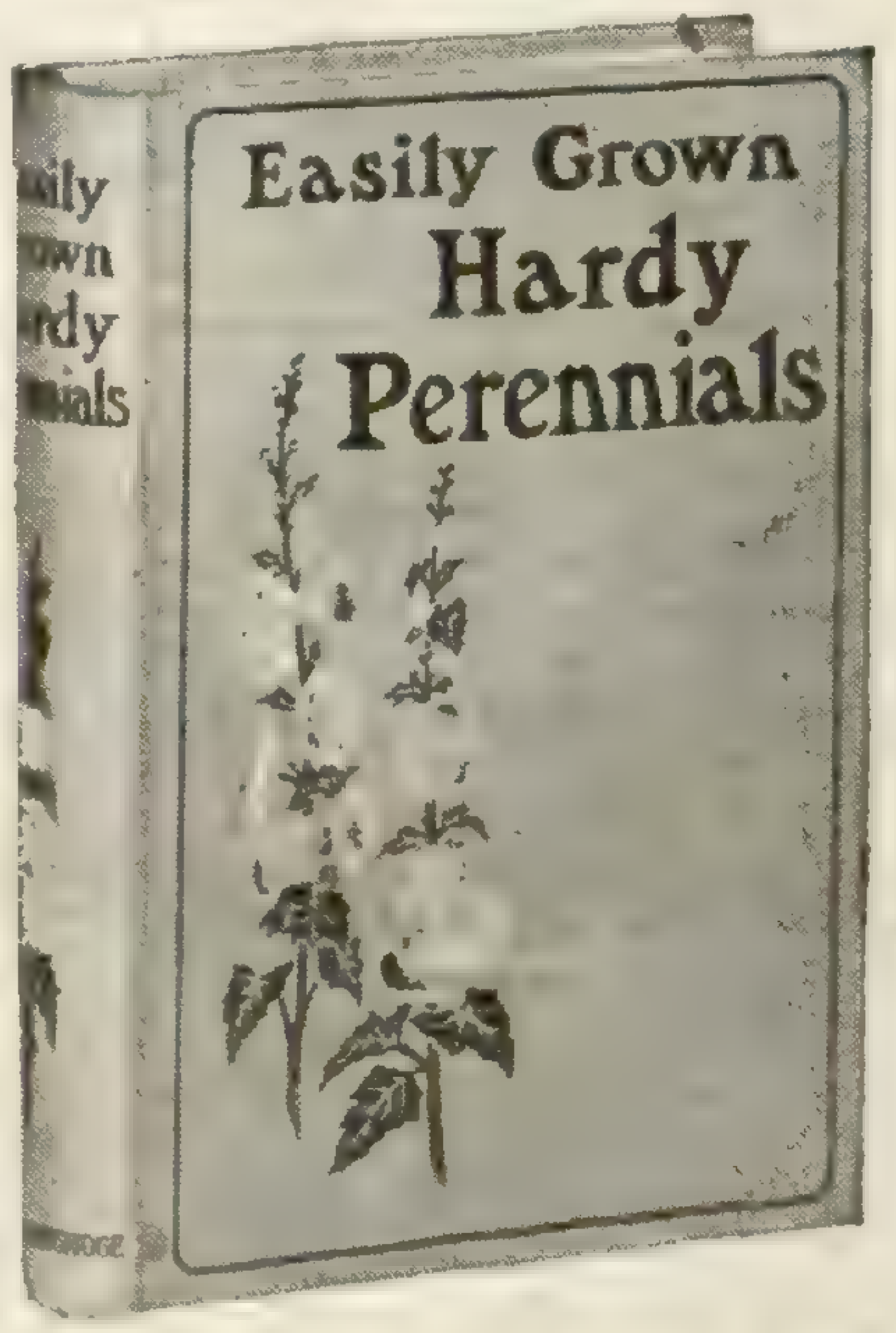

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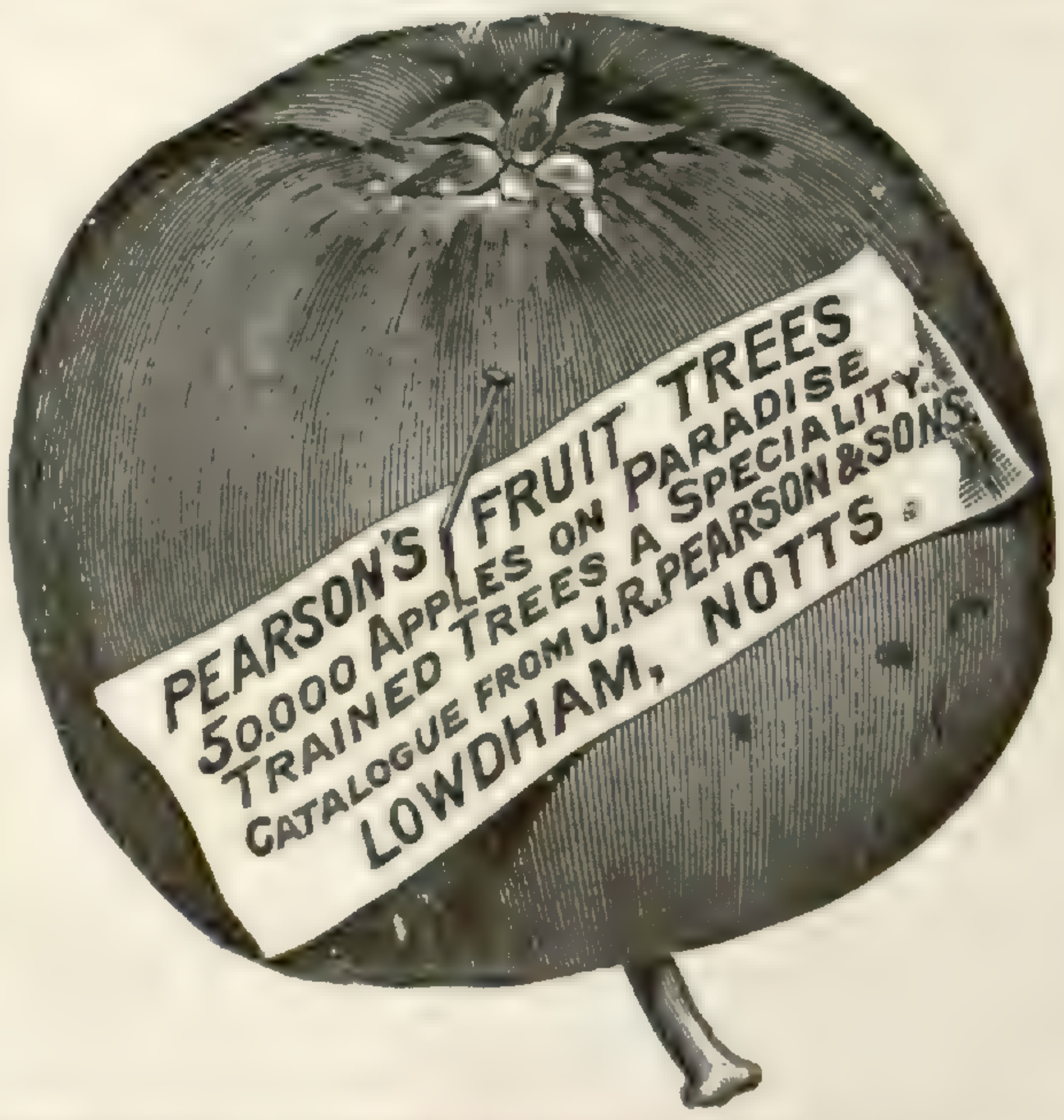
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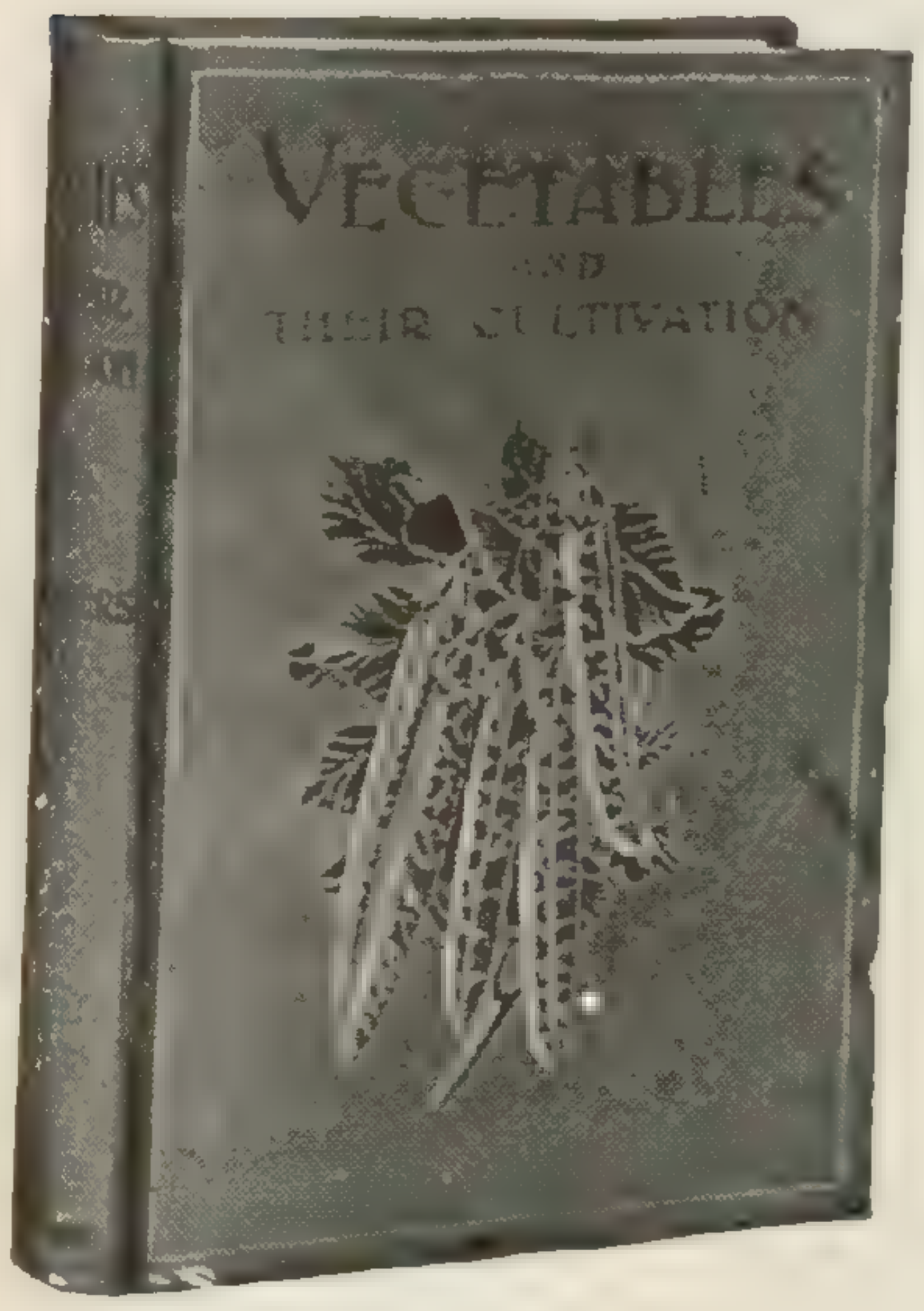

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Bessie Brown, creamy-white
Countess of Gosford, salmon-pink
J. B. Clark, scarlet and purple
K. A. Victoria, lemon

12 CHOICE HYBRID PERPETUALS, best for exhibition or general garden purposes. Carriage paid for **7s. 6d.** All splendid varieties.

A. K. Williams, carmine
Capt. Hayward, bright carmine-crimson
Dupuy Jamain, cherry-red
Fisher Holmes, shaded crimson-scarlet
Frau Karl Druschki, purest white grown
Hugh Dickson, brilliant crimson
Victor Hugo, crimson, shaded purple
Marie Baumann, bright red
Mrs. John Laing, soft pink
Mrs. R. G. S. Crawford, deep rose-pink
S. M. Rodocanachi, silvery rose
Ulrich Brunner, cerise

12 CHOICE TEAS for **10s. 6d.,** Carriage Paid.

Anna Olivier, flesh-coloured rose
Lady Roberts, rich apricot
Catherine Mermet, rosy-flesh
Mdme. Hoste, white, yellow centre
Mdme. Jean Dupuy, rose and yellow
Mdme. Jules Gravereaux, yellow and peach
Mdme. Lambard, bright rose
Mr. Edward Mawley, carmine and salmon
Souv. de Pierre Notting, apricot-yellow
Maman Cochet, flesh and carmine-rose
White Maman Cochet, white
Muriel Graham, cream

12 CHOICE CLIMBERS for **12s. 6d.;** or **1s. 6d.** each, Carriage Paid.

The above Collections are grand value, and cannot be surpassed. The plants are very strong and healthy, and should be ordered now for early planting.

W. LEGGETT,
The Rose Gardens,
WEST BERGHOLT, COLCHESTER.

ROSES

Wm. Paul & Son,

(Rose Growers by Appointment to H.M. the King)

Tree, Plant, Bulb and Seed Merchants,

Waltham Cross, Herts.

The largest Collection of Roses in the country and the plants unsurpassed, if equalled, anywhere for quantity and quality. Roses in pots, both dwarfs and ramblers, are extra fine this season. The formation of Rose Gardens a speciality. Books on Roses. Upwards of 1,000 First Prizes and Gold and other Medals over the past 50 years. Priced list post free on application.

AMARYLLIS, AMARYLLIS, AMARYLLIS (Hippeastrums).—Special offer, 1s., 1s. 6d., 2s. each; 10s., 15s., 20s. dozen. Many when in bloom will be worth 5s. to 10s. each.

ELLISON, F.R.H.S., 57, West Bromwich.

VOL. LII.—No. 2,926. SATURDAY, NOVEMBER 27, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Single Chrysanthemums.

For a long period subsequent to the introduction of the chrysanthemum into this country, cultivators and raisers, with remarkable unanimity, would not have anything to do with the single varieties, of which it may be assumed large numbers were raised annually. They were resolutely destroyed as they made their appearance in the seed beds, and there can be no doubt that during the first seventy or eighty years of the history of the flower in the British Isles a considerable number of really beautiful forms were destroyed because their blooms did not possess a sufficient number of ray florets to assist in the realisation of the ideals that the raisers had set up. With a thorough acquaintance with the literature of the subject, there is no great difficulty in formulating an opinion as to the views that obtained with regard to the relative merits of single and double flowers for at least two-thirds of the last century, or of properly appreciating the reason why the latter were held in such high favour. The chrysanthemum that Blanchard brought to Europe had blooms that differed very materially from those of varieties now in general cultivation, and those who were busily engaged in the production of new forms would naturally reject such seedlings as gave evidence of reversion. Moreover, the trend of the public taste was in favour of double flowers, not alone of those of the chrysanthemum, but of the dahlia, the hollyhock, and some other of the favourites, and of necessity the raisers had to provide that for which there was the largest demand. We must not, therefore, in a consideration of this question, condemn past generations of raisers as wanting in taste or judgment because of their attaching so much importance to the increase in the fulness of chrysanthemums and some other flowers. A quarter of a century or so ago the introduction of several charming single chrysanthemums directed attention to the fact that beauty, so far as it relates to these flowers, was not confined to the formal incurved, the fantastic Japanese, or the compact little pompons, and suggested to cultivators that a selection might with advantage be grown in conjunction with the other sections. They were not, however, regarded with much favour for some time, and it was not until the end of last century that they became really popular. Since then their popularity has increased at a rapid rate, and at the present time the increase is such as to suggest that some slackening of the pace thereof might be an advantage. Whether a slight check to the popularity of single chrysanthemums would be advantageous or otherwise, we are strongly of the opinion that it is desirable there should be a more rigorous selection in the case of varieties intended for distribution, and that the several bodies entrusted with the important duty of making awards to novelties should appreciably raise their standard of merit. We have been much impressed during the season now rapidly reaching its close with the desirability of some change in the directions indicated. Both at the London meetings and provincial exhibitions we have seen numbers of varieties that are considerably below the standard by which they should be judged, and it should hardly be necessary to point out that varieties more or less indifferent will check the popularity of the section, and greatly reduce the demand for novelties, and thereby prevent the raisers obtaining an adequate return for their labours. From a careful examination of large numbers of varieties that have come under our notice during the present season, it appears to us that in forming an estimate of the merits of a considerable proportion sufficient attention has not been paid to the flower as a whole. To form a proper estimate, it is essential that the disk as well as the ray florets should be taken into consideration, for, however attractive in colour or perfect in form the latter may be, the bloom will be unsatisfactory if it has in its centre a prominent mass of green florets. It may be difficult to obtain perfect harmony in the colouring of the two classes of florets, but there should be some approach thereto, and raisers should make strenuous efforts to effect an improvement in the centres, and they will be greatly assisted in the attainment of this object if they take the variety known as Mary Richardson as a model. There is room also for improvement in the ray florets of many varieties, but it is difficult to indicate the lines on which it should proceed, because it is not desirable to materially restrict the variations in the form of the blooms. Generally speaking, the florets should be more or less uniform, and be sufficiently close together for a considerable part of their length for the edges to touch each other or very slightly overlap. It is a very general impression that single chrysanthemums should have one row of ray florets only; but, excepting in the case of such varieties as Mary Anderson, one row is not enough, and recognising this fact, the National Chrysanthemum Society, in its definition of a single chrysanthemum, stipulates that there should not be more than two rows. With one row the flowers have a somewhat ragged appearance, and one of but little value for decorations, and more than two or three rows suggest that the blooms have been produced by plants that have been subjected to a starving method of culture.

MR. WILLIAM SMITH,
Hon. Secretary Norfolk and Norwich Horticultural Society.

Mr. William Smith, whose portrait we have the pleasure of giving in this issue, may not have obtained renown as a cultivator or raiser of any of the several classes of useful and ornamental plants to which the practical horticulturist must perforce give his attention, yet he has rendered services of immense value to horticulture. As honorary secretary of the Norfolk and Norwich Horticultural Society, Mr. Smith, who, by the way occupies a prominent position among the members of the legal profession in Norwich, has given the best of all proofs that he is in full sympathy with horticulturists and their work. We, at all events, cannot conceive that a gentleman engaged in one of the most exacting of professions should undertake and carry on for a long number of years the arduous duties of secretaryship of one of the principal horticultural societies in the provinces, with its three exhibitions annually, unless he had a strong affection for the garden and its occupants. However that may be, Mr. Smith has occupied his present position for a goodly number of years, and, by his remarkable administrative ability, and courtesy, is held in the highest esteem by those who are associated with him in the management of the society—which is properly considered one of the most important of the institutions in Norwich—and is regarded with respect by all who are interested in the society and its affairs. Writing with a personal experience extending over many years of the manner in which the secretarial duties are performed on the occasion of the exhibitions at Norwich, we have no difficulty in fully agreeing with the members of the executive and others acquainted with the work of the Norfolk and Norwich Horticultural Society that this venerable body is fortunate in its honorary secretary, or in joining with them in the hope that Mr. Smith may long continue to occupy that position.

Gardens Round Hertford.—In the issues of the Gardeners' Magazine for December 4 and 11 we shall give an illustrated account of the more noteworthy gardens round Hertford. The gardens that will be described and illustrated include those of Bayfordbury, Brickendonbury, Brickendon Grange, Fanshawes, Goldings, Poles, and Presdales.

New Victoria Medallists of Honour. — We have much pleasure in making the announcement that the President and Council of the Royal Horticultural Society have appointed Mr. W. Botting Hemsley, F.R.S., Mr. J. H. Goodacre, and Mr. A. Mackellar to fill the vacancies existing in the Victoria Medal of Honour in Horticulture. Mr. Hemsley, who specially distinguished himself in the botanical department of the Royal Gardens, Kew, recently retired under the age limit from the important position of Keeper of the Herbarium and Library. Mr. A. Mackellar as so well-known is the King's gardener at Windsor, where, as at Sandringham, he has done splendid work. Mr. J. H. Goodacre is head gardener at Elvaston Castle, Derby, and has obtained a high reputation as a fruit grower, and has achieved remarkable success as an exhibitor at the principal shows in the United Kingdom. We gave a portrait of Mr. Hemsley, with a brief account of his work, in the Gardeners' Magazine of August 10, 1907, and of Mr. A. Mackellar in the issue of October 12, 1907. We should also have given a portrait of Mr. Goodacre long ere this had not his modesty stood in the way.

National Rose Society.—The annual general meeting of the National Rose Society will take place at the Westminster Palace Hotel on Thursday, December 9, at 2.30 p.m. In addition to the ordinary business, such as receiving the report of the committee, passing the accounts, and electing the officers and committee for the ensuing year, a considerable number of alterations in the rules will be proposed. The proposed alterations are the outcome of a desire to rearrange some of the rules with a view to render them more explicit. It is proposed to change "General Committee of the Society" to "Council of the Society." As there are now four departmental committees, the proposed change in title of the governing body should be an advantage. The departmental committees would appear to have greatly increased the duties of the members of the executive, for, we learn from the balloting list of officers and members of committee, that Mr. E. Mawley, V.M.H., the hon. secretary, attended twenty-eight meetings of these bodies, in addition to nine meetings of the general committee, and that the Rev. F. Page-Roberts, the president, attended twenty-one meetings of the departmental committee, and nine meetings of the general committee. Mr. H. E. Molyneux, Mr. C. E. Shea, Mr. H. R. Darlington, and Mr. E. J. Holland also made a large number of attendances.

Professor W. Bateson, M.A., F.R.S., Fellow of St. John's College, Cambridge, and Professor of Biology in the University, has been appointed, by the Council, Director of the John Innes Horticultural Institution at Merton, Surrey.

Sweet Pea Trials for 1910.—The committee of the National Sweet Pea Society will hold its annual series of trials at the Times Experimental Station, Ladygrove Farm, near New Guildford, in 1910, and will test novelties, and grant awards and certificates according to merit. No awards or certificates will be granted to sweet peas unless they are sent for trial at Guildford. For these trials the varieties will be accepted only from the raiser or introducer; and a charge of 2s. 6d. for each variety will be made. Novelties will be received under number, although names are much preferred. Any variety meriting an award must, if under number, be named before such award can be granted. At the request of numerous seedsmen the committee will conduct a further and distinct trial solely for the purpose of testing correctness and purity of stocks of sweet peas. A charge of 5s. per variety or stock sent for trial will be made. Sweet peas for these trials must reach Mr. C. Foster, Ladygrove Farm, near New Guildford, not later than January 15, 1910. For the novelty trials not less than fifteen seeds should be sent, and for the purity trials, not less than two dozen seeds of each variety or stock. At the same time a list of the varieties, together with the amount due for trial charges, should be sent to the hon. secretary, Mr. C. H. Curtis, Adelaide Road, Brentford, Middlesex.

Flower Imports in October were not so large or valuable as in the corresponding month of last year, the total value having been £3,512, or a decrease of nearly £1,000. For the ten months ending October 31 there was a substantial increase, the total value being £210,597.

National Rose Society's Conversazione.—Instead of the usual annual dinner it has been decided by the committee to hold a conversazione in the large room at the Westminster Palace Hotel, Victoria Street, Westminster, on Thursday, December 9, from 4.30 to 6 p.m., to which all members are cordially invited. Each member is entitled on application to one free ticket and to purchase other tickets for friends, including ladies, at 2s. each. Application for tickets must be made to the hon. secretary, Mr. E. Mawley, V.M.H., Rosebank, Berkhamsted, on or before Saturday, December 4, in order that suitable arrangements for refreshments may be made. A selection of music will be played by members of the Alexeda Orchestra, and Miss Holbrook, of the Guildhall School of Music, will sing. Mr. R. F. Felton, florist to H.M. the King, has kindly promised to decorate the tables with roses and other flowers.

National Sweet Pea Society.—The annual general meeting of members of the National Sweet Pea Society will be held in the North Room, Hotel Windsor, Victoria Street, Westminster, S.W., at 3 p.m., on Friday, December 10, 1909. A Sweet Pea Conference will also be held at the Hotel Windsor on the above date, commencing at 7 p.m., when the following papers will be read: "The Imperfect Seeding of Waved Sweet Peas," by Mr. William Cuthbertson, J.P.; "Sweet Pea Names and Naming," by Mr. W. J. Unwin. For the convenience of members dinner will be provided at the Hotel Windsor, at 5.30 p.m., on the above date. Tickets 5s. each (exclusive of wine). Application for tickets must be made to the hon. secretary, Adelaide Road, Brentford, Middlesex, not later than December 9.

Importation of Gooseberry Bushes into Ireland.—The Department of Agriculture draws the attention of nurserymen and others to Article 5 of the American Gooseberry Mildew and Black Currant Mite (Ireland) Order, 1908, which renders it unlawful to land in Ireland gooseberry and currant bushes brought from any place outside Ireland without a licence from the Department of Agriculture for Ireland. There is reason to believe that during the past season a few consignments of bushes were landed in Ireland in contravention of this order, and as, in addition to the forfeiture and destruction of such bushes, all persons concerned in the landing of same are liable to severe penalties, the Department desire to announce that they will institute legal proceedings in any case of breach of the regulations of this order which may come under their notice after this date.

Allotments and Small Holdings.—We learn from the "Journal" of the Board of Agriculture that the total quantity of land held in England and Wales on December 31, 1908, for the purpose of allotments was 17,529 acres, of which 3,478 acres had been purchased, and 14,051 acres hired. The actual quantity let in allotments amounted to 16,809 acres, and the number of tenants to whom it was let was 58,648 individuals and two associations; the average size of each allotment is, therefore, about 1r. 6p. The number of applications received for allotments during 1908 was 21,540, and the total quantity applied for was 15,695 acres. There were 18,366 applicants for not more than one acre each, the total quantity applied for being 4,779 acres, while there were 3,169 applicants for allotments exceeding one acre and not exceeding five acres, and the quantity applied for by them was 10,806 acres. The number of applicants in England and Wales who have been provided with allotments by local authorities during 1908 is 6,147, of whom 2,002 have been provided for by Parish Councils, 1,606 by Urban District Councils, and 2,539 by Town Councils. These figures include all those persons who have been accommodated with allotments on land which was in possession of the Councils prior to January 1, 1908, when the Small Holdings and Allotments Act, 1907, came into operation, as well as on the land which was acquired by Councils under that Act during the year 1908.

YORK CHRYSANTHEMUM SHOW.

Blessed with the opportunity of holding its show in the spacious, light, and elegant exhibition building and its galleries, at York, the Ancient Society of York Florists is able to provide ampler accommodation than is the case in many other cities and towns. On November 17, 18, and 19 the thirtieth chrysanthemum show was held, and it was of all round excellence, and as the schedule provided for pillar groups, bush plants, fruits, and vegetables, the show was an interesting one. The chief cut blooms and group classes were in the main building, the choice fruits in a side hall, and the hardy fruits and vegetables in the wide galleries.

GROUPS AND PLANTS.

There are three open group classes at York, one for a circular display of chrysanthemums, one for a pillar group of chrysanthemums, and one for a pillar group of flowering and foliage plants. There were six pillar groups in all, and these, rising to a height of 23 feet, make a striking feature, and one not found at any other show in the kingdom, so far as our experience goes.

For a circular display, arranged on a space not exceeding 80 sq. ft., the premier award of £6 was made in favour of Mr. J. W. Hields, Acombe, York, who was the only exhibitor. He had the usual conical arrangement, and, with a kentia as centrepiece, he displayed fairly good blooms of Mrs. W. Knox, Reginald Vallis, F. S. Vallis, Mr. A. T. Miller, and other popular Japanese varieties, bordering the whole with ferns.

Mr. G. Cottam, Alma Gardens, Cottingham, Hull, won the premier award of £6 for a pillar group of chrysanthemums and green foliage plants. His was a good effort, though the general outline was a little too formal, that is to say, the group was of practically the same width from base to summit. The whole effort was produced by dwarf bushy plants of single and decorative chrysanthemums, lashed to the pillar, and associated with ferns, bamboos, and aralias. The Source d'Or varieties, with Ladysmith and Mary Richardson, were those chiefly used, and the combination of colour was good. There were two competitors, and second prize fell to Mr. J. Key, Clifton Nursery, York, whose group was weak at the point where it commenced to ascend the pillar, but the upper portion was good, and his asparagus, Pteris tremula, and nephrolepis gave the necessary light and elegant greenery.

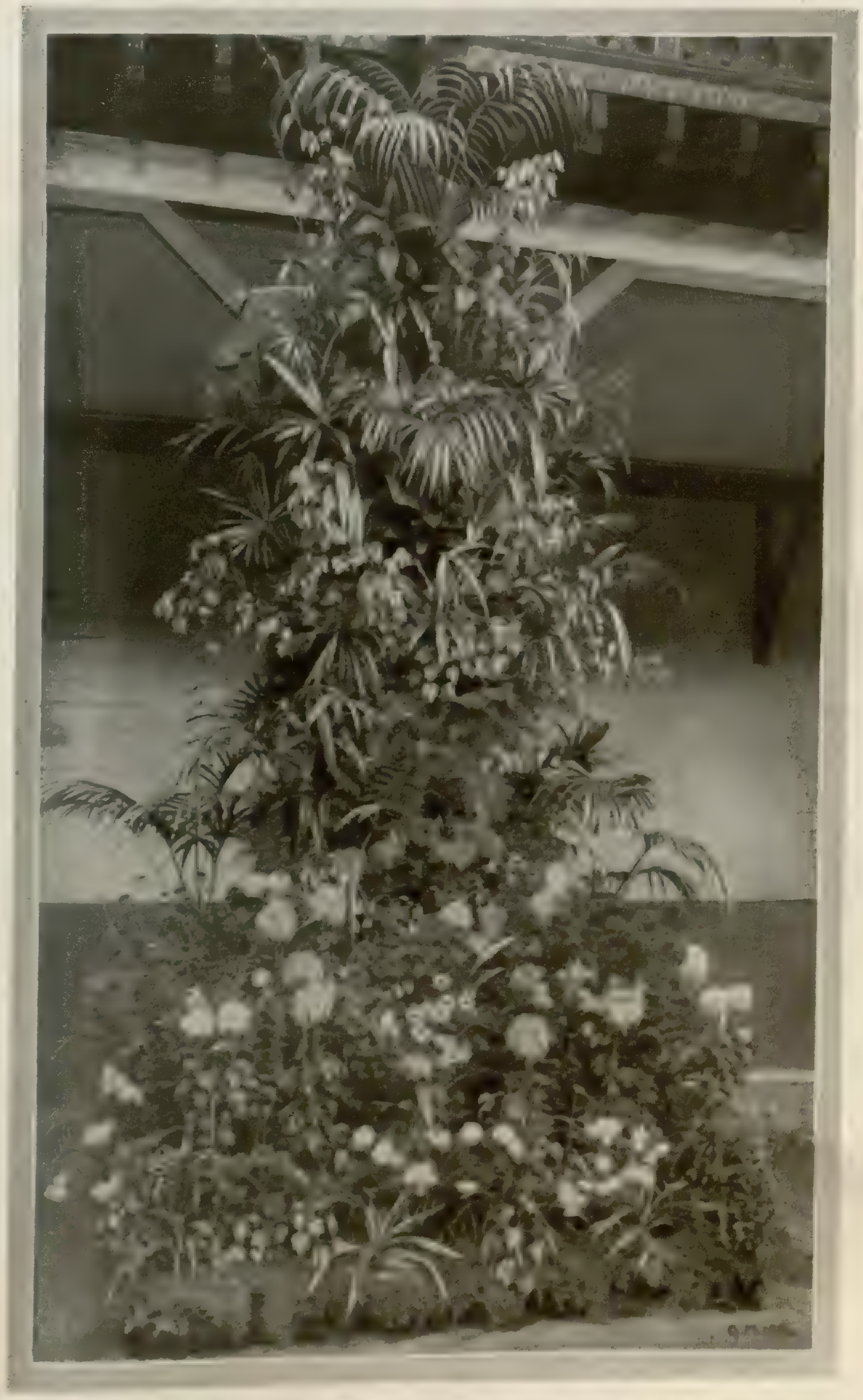
Mr. F. H. Ward, Scarcroft Nursery, York, led in the class for a pillar group—(see illustration)—formed of chrysanthemums at the base, to a height of 6ft., and miscellaneous plants from this height to the gallery. He had a base of Source d'Or varieties, with a few large yellow Japanese blooms, and a foreground of bright crotons, pandanus, and an edging of ferns. The pillar part was composed of bright broad-leaved crotons, Abutilon Szovitzi, dracænas, palms, ferns, and asparagus, these making at once a bright, pleasing, and elegant feature. Mr. G. Cottam was second, but his pillar portion was too scanty and stiff to be altogether pleasing; Messrs. R. Simpson and Sons, Brook Street, Selby, third; and Mr. T. M. Petch, Bayle Gate Nurseries, Bridlington, fourth.

Mr. L. Hanchant, gardener to the Frederick Hotels Company, Lim., Hotel Majestic, Harrogate, led the way for a table display of chrysanthemums and foliage, arranged for effect on a space 6ft. by 4ft.; two vases of yellow and white and red flowers were very effective, bamboo and asparagus sprays being associated with them. The stemless flower heads of single and small decorative varieties strewn on the white table, among sprays of Asparagus Sprengeri, were not pretty—it was barbarous treatment; Mr. F. H. Ward was second with vases of bronze and yellow Source d'Or, surrounding a base of white and pink flowers; Mr. G. Wynne, gardener to Mrs. Richardson, Burn Hall, Easingwold, third; six competitors.

Very formal also were the groups in the local amateurs' class, where a semi-circular area of 50 sq. ft. was provided. Mr. J. W. Hields, Acombe, York, was an easy first, his group consisting of dwarf single-stemmed plants, with good foliage to the base, and carrying fair flowers, but the precise arrangement of the blooms detracted from the elegance of the display; Mr. F. S. Rawling, Harcourt Street, Heworth, second.

CUT FLOWERS.

There were no fewer than nine competitors in the class for three dozen Japanese blooms in not less than twenty-four varieties, and here the president's (Alderman J. Agar, J.P.) prize of £10 10s. was won by Mr. A. Chandler gardener to A. James, Esq., Coton House, Rugby, who is in good form this year. Some of his blooms were very fine, while others were of moderate size, but his was a bright stand, and included a number of richly coloured blooms. The varieties were F. S. Vallis, Mr. A. T. Miller, Lady Talbot, Reginald Vallis, Mrs. C. F. Coster, Splendour, W. Mease, Marquise V. Venosta, Mrs. G. Mileham, C. H. Totty, J. Peed, President Viger, Algernon Davis, J. H. Silsbury, Madame P. Radaelli, Madame G. Rivol, J. Lock, Magnificent, Edith Jameson, Valerie Greenham, Mrs. H. Weeks, Mrs. F. W. Vallis, Leslie Morrison, and O. H. Broomhead. Mr. J. Vert, gardener to Lord Howard de Walden, Audley End, Saffron Walden, was second; Mr. A. R. Searle, gardener to the Marquis of Northampton, Castle Ashby, Northampton, third; and Mr. W. Iggulden, Lock's Hill Nurseries, Frome, fourth.

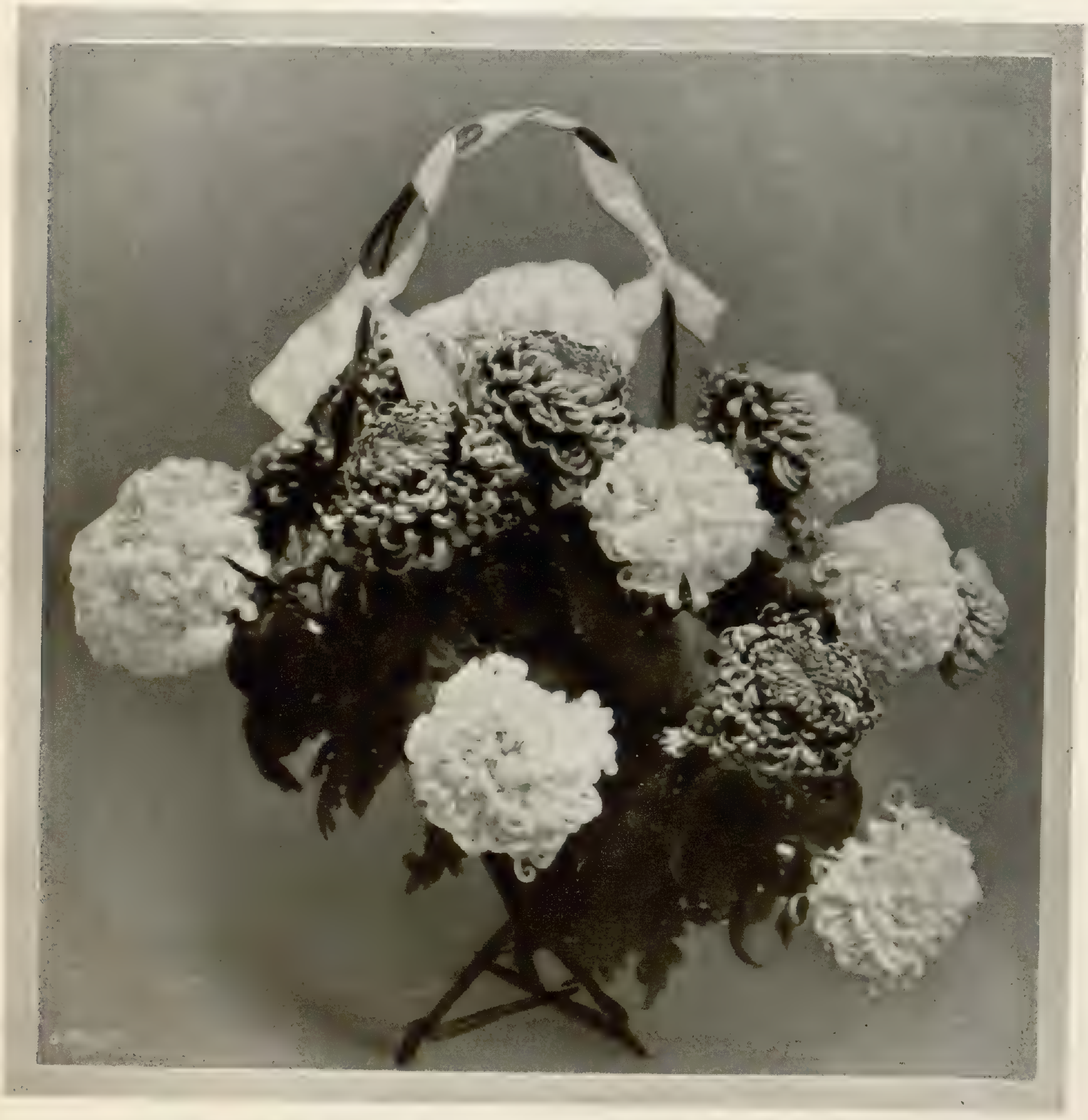


PILLAR GROUP OF CHRYSANTHEMUMS AND MISCELLANEOUS PLANTS AT YORK.

Arranged by Mr. F. H. Ward, who received the premier award.

Some very good bush plants were set up by the two competitors in the class for six specimens; Mr. J. Everard, gardener to Mrs. Gutch, Holgate Lodge, York, led with Souv. d'un Petite Ami (over 36 blooms), J. Shrimpton, Val d'Andorre, C. H. Curtis (with ten good blooms), F. S. Vallis (12 blooms), and Phœbus. Mr. R. Harrison, gardener to J. H. Shouksmith, Esq., The Laurels, Bishopthorpe, second. Mr. Everard was also first for three bushes of single varieties, and here he had handsome specimens of Mrs. E. Roberts, Miss Wilcox, and Miss Beatie Rowden.

The vase classes were scarcely up to the highest standard, though there were many good flowers set up. For two vases of Japanese varieties, three blooms of each variety, Mr. W. Iggulden, Lock's Hill, Frome, was a comfortable first with Lock's Hill and F. S. Vallis; Mr. D. Williams, gardener to the Earl of Feversham, Duncombe Park, Hemsley, second; and Mr. J. Hanchant, third. The class for four vases of Japanese blooms, three flowers in each vase, brought out four competitors, Mr. D. Williams securing the first prize with Mr. A. T. Miller, J. H. Silsbury, F. S. Vallis, and Reginald Vallis; Mr. W. Iggulden second, and Mr. G. W. Musk third. In the class confined to growers residing within a radius of ten miles of York city, for four vases of Japanese varieties, three blooms of each, Mr. J. Dobson, gardener to Sir J. Grant Lawson, Bart., Middlethorpe Lodge, York, led with Bessie Godfrey, Reginald Vallis, Mr. A. T. Miller, and Mr. G. Mileham, in good form; Mr. W. Richardson, gardener to Mrs. Whitehead, Deighton Grove, York, second; and Mr. C. F. Atkinson, gardener to A. Leetham, Esq., Shelly, Holgate, York, third. Mr. G. W. Richardson led for two vases of Japantse blooms from six competitors.



BASKET OF CHRYSANTHEMUMS AT YORK.
For which Mr. L. Hanchant was awarded the first prize.

Mr. Searle scored for a dozen incurved blooms, followed in order by Mr. J. McPherson and Mr. Barker, gardener to the Earl of Newcastle, Clumber Park, Worksop. Mr. Searle was first, Mr. J. McPherson second, and Mr. G. W. Richardson third for six incurved blooms.

Mr. S. Everard was a capital first for six vases of single chrysanthemums with good sprays of well-developed blooms of Mrs. Ritson, Mrs. E. Roberts, Altrincham Yellow, Metta, White Pagram, and Miss M. Bird; Mr. A. Alderman, gardener to the Hon. H. W. Fitzwilliam, Wigganthorpe, York, second; Mr. J. Dobson third. Mr. F. Styan, Rawcliffe Lane, York, was a fine first prizewinner in the class for a dozen vases of decorative varieties, with Bessie Chapman, La Triomphante, Source d'Or, Soleil d'Octobre, W. Holmes, Mary Richardson, etc.; Mr. Alderman, second; and Mr. F. Dean, gardener to J. Rowntree, Esq., Clifton, York, third.

Mr. J. W. Hields; Mr. W. Sharp, The Lodge, Heworth Green; and Mr. H. Parkinson, Mill Lane, Heworth, were prominent prizewinners in the local cut flower classes.

The best basket of chrysanthemums was undoubtedly that illustrated in the present issue, of big white and crimson flowers, arranged by Mr. L. Hanchant with great taste; Mr. F. H. Ward, second; and Mr. Heppell, Silver Street, York, third. In another class Mr. F. C. Harrison was first, while Mr. Dean had the best vase of flowers—Source d'Or. Miss Whitehead, Deighton Grove, York, led for a florally decorated dessert table with a pleasing design in the ever-popular Mary Richardson single chrysanthemum; Mr. Petch, Baylegate Nurseries, Bridlington, second, with carnations; and Mr. Dawson, South Parade, York, third, with single white flowers.

FRUITS.

Mr. J. McPherson led the way for six distinct dishes of dessert fruits with Gros Guillaume and Muscat of Alexandria grapes, Ribston and Cox's Orange Pippin apples, Doyenne du Comice and Pitmaston Duchess pears; Mr. A. R. Searle second, and Mr. W. Jackson third; six competitors.

The very good prize of £5 is offered for the best six bunches of grapes, and there was a keen contest for it among five entrants; Mr. J. McPherson won with big bunches of Gros Guillaume, Gros Colman, and Muscat of Alexandria; Mr. J. E. Hathaway second with Gros Guillaume, Alicante, and Muscat of Alexandria; and Mr. J. Corbert, gardener to the Marquis of Normanby, Mulgrave Castle, near Whitby, third. Mr. J. McPherson led for black grapes with good clusters of Alicante, and he also scored for white grapes with Muscat of Alexandria. Mr. Searle was second for black grapes, and Mr. W. Jackson for white grapes.

Apples and pears were very largely shown, and, considering the season, they were good. There were four competitors in the class for six dishes each of culinary and dessert apples and a dozen dishes of pears, in every case six fruits being required for a dish. The leading award of £3 was won by Mr. J. E. Hathaway, gardener to J. Brennand, Esq., Baldersby Park, Thirsk, whose pears were very good, and consisted of Beurre Fouqueray, Pitmaston Duchess, Beurre Diel, Louise Bonne of Jersey, Doyenne du Comice, Doyenne Boussoch, Marechal de la Cour, Charles Ernest, Beurre Bachelier, Emile d'Heyst, and Beurre Benoist; Rival, Cox's Orange Pippin, King of Tompkins County, Peasgood's Nonsuch, and Sandringham were his best apples. Mr. A. R. Searle won second place with clean, but smaller examples; and Mr. G. W. Musk, gardener to Captain J. F. Laycock, Wiseton, Bawtry, Notts, was third.

Mr. J. C. McPherson, gardener to Baron de Forest, Londesborough Park, Market Weighton, led for six varieties each of dessert and culinary apples, winning with a very clean, bright set of Charles Ross, Bramley's Seedling, Fraise d'Hoffinger, Peasgood's Nonsuch, Gascoigne's Scarlet, Newtown Wonder, King of the Pippins, Worcester Pearmain, Wealthy, Ribston Pippin, Blenheim Pippin, and Cox's Orange Pippin; Mr. Searle second, and Mr. Hathaway third. Mr. Hathaway scored for six dishes of pears, followed in order by Mr. G. W. Musk and Mr. T. G. Goodall, gardener to Lord Deramore, Heslington Hall, York. Mr. Musk scored with Peasgood's Nonsuch for one dish of culinary apples, and Mr. J. McPherson led for a dish of dessert apples with Ribston Pippin.

In the county classes for fruit Mr. Hathaway led for six dishes of culinary apples, with Mr. Goodall second. Mr. W. E. Hyde, Wadsley Lane, Wadsley Bridge, Sheffield, scored for six dishes of dessert apples, with Mr. Hathaway second. Mr. Hathaway won the piece of plate offered by the society's Chaplain, the Rev. Gordon Salmon, for the best six dishes of pears; Mr. W. Jackson, gardener to Lord Hotham, Dalton Hall, Beverley, second; and Mr. D. Williams, gardener to the Earl of Feversham, Duncombe Park, Helmsley, third.

VEGETABLES.

In Messrs. Sutton and Sons' class for six kinds of vegetables there were nine entries, Mr. W. E. Hyde winning premier honours. In the class provided by Messrs. Webb and Sons there were seven competitors, Mr. G. W. Reader, Naburn, leading the way. The latter also won the leading prize in Messrs. J. Backhouse and Son's class for nine kinds, four entries. Mr. J. Whitehead, Appleton-le-Street, led in Messrs. Kent and Brydon's class for nine kinds.

Prominent prize-winners in the single-dish classes, where the competition was on the whole very keen, were Mr. F. Styan, Mr. R. Cowling, Easingwold; Mr. G. W. Reader, Mr. G. How, Brawby; Mr. R. Harrison, Mr. Butler, gardener to Rev. R. W. Powell, Escrick Rectory; and Mr. D. Williams. Onions and potatoes were largely shown, and well shown, too.

NON-COMPETITIVE.

On the platform, and rising right up to the organ, Messrs. James Backhouse and Son, Lim., York, arranged a very big and graceful semicircular display of conifers and bamboos, the latter being very much in evidence, and showing up well in front of the dark conifers. Pampas grasses were also used, but what was needed to make this display an unusually fine one was some bright colouring, such as a few bushes of good decorative chrysanthemums would have provided; but it was a fine contribution, nevertheless. Messrs. Backhouse had also an exhibit in the gallery consisting of a small group of stove and greenhouse foliage plants, begonias, liliums, single chrysanthemums, and perpetual carnations, with a collection of fair-sized clean fruits of popular apples forming the foreground. In another part of the building this firm contributed a display of choice floral designs.

A very large and interesting display was made by Messrs. Clibrans, Altrincham, who filled a considerable space with well-grown vegetables, that included a fine selection of potatoes, good leeks and celery, ornamental gourds, and some splendid onions, beet, and carrots. The other part of their exhibit consisted of large vases of popular Japanese chrysanthemums, well arranged with palms and asparagus; with these were popular decorative varieties, and a selection of pretty single varieties, these latter including the distinct and dainty Altrincham Yellow, Cyril H. Evans, a new and useful bronze variety, Queen of Spain, the popular Mary Richardson, and Countess of Stamford.

In the spacious gallery Messrs. Laxton Brothers, Bedford, displayed an attractive collection of apples, setting up about fifty varieties in neat baskets, piled up; Warner's King, Peasgood's Nonsuch, Charles Ross, Allington Pippin, Gascoigne's Scarlet, Stirling Castle, and Sandringham were varieties that looked particularly well thus staged. Mr. F. Kirby, Feasegate, York, contributed a display of those many essentials for the conduct of gardening operations known comprehensively as "sundries."

The Gardeners' Magazine stall, with its portraits of prominent horticulturists, beautiful garden scenes, horticultural handbooks, and coloured plates, was a prominent exhibit.

PRUNING GOOSEBERRIES.

There is no subject concerning which so much misapprehension exists, as judged by the results embodied in practice, as the pruning of gooseberry trees. Even in large places, where the wall trees and the houses are admirably managed, one often sees by the condition of the gooseberry trees, that they have been pruned by rule, rather than by an intelligent understanding of the principles involved.

The first and great necessity is a clear conception of the various reasons for the process, for, unless the goal to be attained is known, the course that is taken can be nothing more than an aimless wandering. As I understand the case, the first reason for pruning is that the tree may be made to produce the greatest amount of fruiting wood possible; the second, that such wood may be so situated as to give the fruit the maximum amount of light and air that can be obtained; and the third, that the fruit may be so placed that it can be gathered without unnecessary trouble, caused by the tangled nature of the growth and the sharpness of the spines. An examination of a number of different gooseberry trees during the fruiting season will show that the fruits are produced on wood of all ages, but that the finest fruits are mostly to be found on the younger growths, though not necessarily confined to them.

The problem is, therefore, to devise a method of pruning by which the tree may be furnished with the maximum amount of young, vigorous wood from one to four or five years old; that this wood may be so situated that the fruit may have all the sun and air possible; and also that there may not be too many crossing boughs to prevent the hand of the picker passing readily through the tree for the purpose of gathering the fruit.

It is quite obvious, in the first place, that all the growth must be trained in a more or less perpendicular fashion, since anything in the way of horizontal growth effectually shades that beneath it from the beneficent beams of the sun. Probably the best form in which to train the tree would be the goblet shape, but for one drawback, and that a serious one, namely, that the gooseberry blossoms during the time when spring frosts are prevalent, would be exposed to the risk of being destroyed, particularly if the frost comes before the leaves have unfolded.

To my mind, there is no method that so effectually fulfils all the requirements that I have mentioned as that which I term, for want of a better name, the radial system, which is simply the continuation throughout the tree of the fan training adopted for most stone fruits on walls and trellises. The same necessities apply to both, viz., the extension of the branches without harming one another, the need to preserve some of the fine young wood produced on the tree in the form of side shoots, the desirability of being able to cut out altogether the old black wood which is only producing a few small berries.

The necessary spacing of the branches for benefit of light and air in the case of the wall tree is equally needed in that of the gooseberry, and, further, the absolute freedom from any crossing branches would render it easy to pick the fruit if the bushes could be pruned exactly on these lines.

If it were possible to train the boughs and branches of the gooseberry bush exactly in this manner, when one looked at the bush from any point the branches would appear to run straight to the centre without any crossing. I would not, for one moment, suggest that it is possible to get anything more than a rough approximation to this ideal. The natural habit of some varieties is directly opposed to such training, and all the pruning possible will not make them shapely and satisfactory, as judged by the standard I have just now set up. Weight of fruit, the effect of storms, and other factors operate to destroy the symmetry of the tree even when the pruner has succeeded passably, but, notwithstanding all this, I believe it is of immense advantage in pruning gooseberries to have this ideal in mind, and to strive to carry it out as nearly as possible.

The advice generally given, to "thin out the young growths," is a hideous mockery to a novice when confronted with a thrifty tree some eight or nine years old, for he does not know where to begin, or which to take out among the multitude of young shoots. But, with this ideal clearly in mind, he selects first of all the leading shoots of the branches, shortening them as much as is needed for the production of future leaders, then removing all shoots upon it which do not follow, more or less, the direction of the branch, and, further, those which, if they fulfil this point, are too much crowded.

If he sees that a certain bough or branch is becoming old and weak, he can generally find a vigorous young piece running in the same direction that can be used to replace it, either by the immediate removal of the old down to the young piece, or else by preparing for the removal at next pruning season by leaving in the younger and shortening it in the same way as a leading shoot.

At the same time, though the pruner may have this governing idea to work by, it must necessarily be modified, to some extent, by each particular variety. A careful examination should be made to discover, if possible, the peculiarities of each, which should be carefully borne in mind when pruning. Some varieties, for instance, bear much more on the spurs than others, and will admit of the young wood being removed or "spurred in," while others bear far better on the young wood, and need that the tree shall be constantly replenished with the same.

Some varieties, again, have a very erect habit, and need constantly cutting to an outside bud to open out the tree, while others are of a pendulous, drooping character, rendering it necessary to select an upward bud to cut to for the leaders, in order to produce any sort of a tree at all.

Again, considerable care is necessary to watch how the tree responds to the pruning, as some varieties produce such enormous quantities of wood every time they are pruned, that it is policy to cut them as little as possible. Such a variety is Red Warrington, which is formidable enough to the picker, owing to its "three thorns," without the task being rendered more difficult by the enormous crowd of shoots it makes. A drastic thinning, which is necessary to render it easy to reach the fruit, only serves to accentuate the trouble.

I have met with one or two varieties that have a distinct peculiarity, in that the buds at the base of the young shoot are in a great many cases blind, so that when such shoots are cut off to within about an inch of the branch they die, because there is no bud to break, and an ugly patch of blank wood results. Such varieties need the spurs left longer than is usual, to include the first bud, when such a failure will be prevented. Golden Drop, Langley Beauty, and other members of that family are upright growers, and produce an enormous quantity of wood, but as they bear particularly well on the spurs the majority of it can be cut out.

Cousen's Seedling, another yellow berry, on the other hand, is very drooping, and of very much the same habit as Red Warrington, though with less vigour. Lancashire Lad is a good erect grower, which does not produce an extraordinary quantity of wood, neither is the wood often any too stiff and robust, consequently the leaders and shoots will put up with a pretty severe shortening without being unduly excited into growth.

This is not the case with Crown Bob, for a too drastic shortening of the strong shoots leads to the formation of several even stronger ones the next season. It is an upright grower, however, bearing its largest fruits on the one and two-year-old wood, it presents no other special difficulty to the pruner.

Berry's Kent is between the two last-named in vigour, having much the same habit as Lancashire Lad, and comparatively easy to prune.

Speedwell is of a most peculiar habit, forming an abundance of natural spurs and scarcely any wood at all, often, therefore, needing hard pruning to produce the requisite amount of wood to properly furnish the tree.

Coiner, an improved Gunner, is of good vigorous, upright growth, and presents no special difficulties at all, producing just enough wood to enable the pruner to select that which suits him best, without a superabundance to embarrass him.

These are just a few of the better known varieties which occur to my mind now to exemplify the varying habits and styles of growth which need studying; but, above all this, I believe it is of paramount importance to have a purpose in mind.

F. W. Hammond.

Pilgrims' Hatch.

Vine Eyes.—In pruning vines choose some of the best and ripest wood for the renewal of stock by means of eyes, and tie up in bundles and plunge them in ashes to await the time of propagation, which will be early in the new year. These should not be kept in heat, but in a cold frame.—W. A. Cook, Leonardslee Gardens, Horsham.

THE JASMINE.

In writing of these shrubs it may first be said that the name was derived from the Persian yâsmin, and that the odour of its flowers is so peculiar as to be incomparable, and it is probably the only floral perfume which cannot be imitated by art. While it grows from 12 to 20 feet high, its stem is feeble, and requires support. The fragrant white flowers appear from June to October, and are found chiefly on the young shoots. On account of their exquisite fragrance the flowers are highly esteemed in the East, and are frequently referred to by the Persian and Arabian poets. The narrow-leaved jasmine, J. angustifolium, is a beautiful evergreen climber, 10 to 12 feet high, and is found in the Coromandel forests, and was introduced into Great Britain during the past century. Its leaves are a bright and shining green, its large terminal flowers are white with a faint tinge of red, fragrant, and are produced throughout the year. Another variety, I would mention in passing, a general favourite, and one that is with us in autumn and winter, cheering and brightening the dull dark days from November to January, I mean, of course, Jasminum nudiflorum.

BASKET OF CHRYSANTHEMUMS.
For which Mr. W. Laws was awarded first prize at Norwich.

One writer, as long ago as 1839, said the white jasmine has been called a sweet emblem of amiability, and always acceptable whenever we meet it. It graces alike the lowly casement of the lone window, and the proud parterre of the rich and gay, the bosom of the village lass, and the Oriental vase of the drawing-room. The common jasmine, which grows naturally at Malabar, is registered in the "Hortus Kewensis" as a native of the South of Europe, but it is thought that it did not leave the East until the taking of Constantinople by the Turks, whose fondness for flowers would induce them to transport it to the land they conquered in 1453. It certainly would not have been passed unnoticed by Pliny and other ancient authors had it either been grown naturally or been introduced to Greece previous to their time. Dioscorides is the only Greek author that notices it, and as he has given no description of the plant or flower, but only tells us that the Persians obtained an oil from a white flower with which they perfumed their apartments during their repasts, it is probable that he only became acquainted with the jasmines during his attendance on Antony and Cleopatra in Egypt, whose unbounded luxury would naturally cull this essence from the land of odours. At what time this plant or shrub first perfumed the British atmosphere is uncertain. Mr. Aiton says in 1548; "Hortus Cantabrigiensis," and Curtis's "Botanical Magazine" the same date. But we consider it to be much longer acquainted with our soil, as it seems to have been so common in the time of Gerard as to have been considered a native plant by some persons. This excellent author says: "Jessemin is fostered in gardens, and is vsed for arbors, and to cover banquetting houses in gardens; it groweth not wilde in Englande, that I can vnderstand of, though Master Lyte be of a different opinion. The white jasmine is common in most places of Englande."

If we may believe a Tuscan tale, we owe our thanks to Cupid for the distribution of this pretty shrub. We are told that a Duke of Tuscany was the first possessor of it in Europe, and he was so greatly fearful lest others should enjoy what he alone wished to possess, that strict injunctions were given to his gardener not to give a slip, nor so much as a single flower, to any person. To this command the gardener would have been faithful, had not the god of love wounded him by the sparkling eyes of a fair, but portionless peasant, whose want of a little dowry, and his poverty, alone kept them from the hymeneal altar. On the birthday of his chosen one the gardener presented her with a nosegay, and to render the bouquet the more acceptable, he ornamented it with a branch of jasmine. The young nymph wishing to preserve the bloom of this new flower, put it into fresh earth, and the branch remained green all the year, and in the following spring it grew, and was covered with flowers, and it flourished and multiplied so much under the maiden's cultivation that she was able to amass a little fortune from the sale of the precious gift which love had made her, when, with a sprig of jasmine in her breast, she bestowed her hand, and her wealth, upon the happy gardener of her heart; and the Tuscan girls to this day preserve the remembrance of this adventure by invariably wearing a bouquet of jasmine on their wedding day, and they have a proverb which says, that a young girl wearing this nosegay, is rich enough to make the forfortune of a good husband. Let us, therefore, cultivate more abundantly what love has scattered so happily, for the supple and pliant branches of the jasmine accommodate themselves to numerous situations in the garden and the shrubbery.

"Here jasmines spread the silver flower,
To deck the wall or weave the bower."

They should be woven into the trellised arch or alcove, climb the palisades or pergolas, rest on the branches of the broad-leafed laurel, cover the dead wall, and run wildly over the shrubs of the wilderness walks. Whilst obedient to the shears of the gardener, they are formed into bushy shrubs, and little trees, for the near approach of the dwelling, where in the morning and evening their star-topped tubes send forth a shower of fragrance that alike embalms, refreshes, and purifies the surrounding air.

"'Twas midnight, through the lattice wreathed,
With woodbine; many a perfume breathed
From plants that wake while others sleep,
From timid jasmine buds that keep
Their odour to themselves all day,
But when the sunlight dies away;
Let the delicious secret out,
To every breeze that roams about."
—T. MOORE.

From the tube of this Eastern flower the bee extracts the most exquisite honey, and the painted butterfly is never seen to greater advantage than when resting on the delicate petals of the white jasmine. When the jasmine was introduced into France it was supposed to require all the heat that could be given it; it next occupied a place in the orangery, and at length found its way into the open garden, where it thrives as freely as a native plant, and still holds the situation of a favourite with the Parisian ladies, and is always the most saleable bouquet in the French market. We have often been surprised that our cottagers who possess little gardens, should not cultivate flowers more freely for sale, particularly the jasmine, which is so hardy, and so easy of culture, and with which they might even form their fences, or suffer it to run over their hedges, without taking away any of their potato ground. In the market (a writer says) they would find one bunch of jasmine flowers bringing them as much money as three cabbages or a bunch of turnips. As far back as the time of Charles II. Evelyn says: "Were it (jasmine) as much employed for nosegays, etc., with us as in Italy and France, they might make money enough of the flowers. One sorry tree in Paris, where jasmines abound, has been worth to a poor woman nearly a pistole a year (a Spanish gold coin of value about 8s. 6d.)." At the present time I am quoting from a book published in 1836; it says, "a great deal of money is made by the nurserymen in that neighbourhood (Paris), who train them up with a single stem, and then pot them, and send them to the flower market covered with blossoms, where they soon find customers amongst those who are wise enough to preter familiar beauty to costly rarity, and you see it there flourishing equally in the cobbler's window and on the palace balcony.

Halstead. H. C. Philbrick.

(To be continued.)

FIRST PRIZE COLLECTION OF FRUIT AT NORWICH.
Shown by Mr. J. Hilson.

Araucaria excelsa.—The old "Norfolk Island Pine" is an extremely useful subject for furnishing indoors during winter. When well-grown it forms a stately plant, the branches being arranged in regular whorls. It is a conifer that appears capable of enduring the most adverse conditions, and yet presents a healthy appearance after months of confinement. Its greatest service arises from its habit of growth, as it can be employed in rooms or corridors where lack of space precludes the use of wide-spreading palms. It requires an abundance of water during the growing season, and indoors, during winter, its requirements in this respect are above the average. When not requisitioned for decorative purposes, it should be given a well-lighted position in the palm house, in order to recuperate its strength and regain its colour.—Thomas Smith.

CUPRESSUS OBTUSA AND ITS VARIETIES.

Cupressus obtusa and its numerous varieties constitute an interesting group of garden coniferæ, for many are of great decorative value, while the remainder are worth growing on account of their peculiarity of growth. The species belongs to the section of the genus which is frequently known as retinospora in gardens, and, like the other species in the same group, it exhibits a certain difference in growth between juvenile and mature examples, but the difference is less pronounced than in the allied species C. pisifera.

It is a native of Japan, and was introduced to British gardens in 1861 by Mr. John Gould Veitch. Its distribution in Japan is fairly wide, while it is met with in mountainous regions up to an altitude of 3,250 feet. In its native country it has acquired a considerable reputation as a timber tree, the wood being of fine grain, durable, and valuable alike for interior work in houses and for use out of doors where damp-resisting wood is a necessity. Under natural conditions it attains a height of 80 to 100 feet, with a trunk diameter near the base of 3 to 4 feet. It is distinct from other cupressuses by reason of its flattened branchlets and small, blunt, rather bright green leaves, with a silvery under surface. The cones are from one-third to half an inch in diameter, and round. C. obtusa grows with the same rapidity as others of its class, but is not well adapted for wind-swept areas. The most distinct varieties are as follows:

C. o. pygmæa, a miniature form of the type, which never attains a height of more than a couple of feet or so, and is excellent for rock-work. It is possible that this is one of the forms used by the Japanese for their celebrated dwarf trees, for forms of C. obtusa appear to be very popular for the purpose. C. o. aurea differs from the type in having golden foliage. C. o. compacta is a dwarf form with pretty frond-like branchlets, rather stronger growing than pygmæa. C. o. Crippsi is another golden-leaved kind. It is a strong grower, of good colour, and an excellent ornamental plant.

C. o. erecta viridis is distinguished from the type by reason of its stiff, erect habit, the branches having lost a great deal of that flat frondose appearance so typical of C. obtusa. C. o. filicoides forms a small tree with a curious branching arrangement, the branchlets being small, neat, and frondose, very like that of some small-leaved fern. C. o. gracilis is a very graceful variety, with semi-pendulous branchlets clothed with dense foliage on the older parts of the branches, the ends, however, being less densely covered. C. o. gracilis aurea is a counterpart of the last-named, but has golden leaves. When well grown it is an extremely ornamental plant, not of large size, but suitable for a lawn specimen.

C. o. Keteleeri cannot by any means be recommended for general cultivation, for it belongs to that abomination in all plants, and especially in conifers, where the variegation is restricted to patches here and there over the whole plant. In this instance the main colour is green, and the variegation takes the form of sickly-looking silvery patches. C. o. lycopioides is a very curious variety, with many of the branches slightly fasciated, and with very dark leaves. It is very distinct, and when well grown is ornamental.

C. o. nana is a dwarf-growing variety after the style of compacta, there are distinct forms of it, two of which are aurea, with golden foliage, and gracilis, of looser habit than the type. C. o. tetragona aurea is a pretty golden-leaved variety of distinct appearance; it, however, cannot always be depended on to grow well, especially where the atmosphere is at all impure.

This exhausts the best known of the cultivated varieties; and, though we occasionally see other forms catalogued, they frequently turn out to be one or other of the above-mentioned kinds.

W. Dallimore.

FRUIT TREES THAT FAIL.

Every year thousands of fruit trees are propagated in nurseries, thousands are sold and planted, and yet the demand does not appear to grow less. How is this accounted for? In the first place, because there is a good deal of fresh land broken up and planted with fruit year by year, and, secondly, a good many trees are wanted every season to take the place of specimens which fail. It is of the latter that I now write, and in doing so leave out of consideration the old veteran fruit trees, which, after living a long life of usefulness, fail in the ordinary course of nature, and make room for young specimens. One is disposed to wonder how the nursery trade would be affected if every tree that was sent out grew and flourished, and replacement was never necessary. It would certainly make a difference, but such a thing is not likely to happen, for fruit trees, like human beings, fail at all ages, and for reasons of varying character.

As I write the planting season is just beginning, and between now and next spring hundreds of trees will be planted, in the hope that they will flourish and bear fruit. Last year the same thing was done with the same hope, and the year before, and for many years past; but, if one knew, it would be shown that a large percentage of the trees planted, say, within the last ten years, have proved to be anything but profitable investments for the individuals who purchased and planted them. In a way every man who plants a fruit tree takes a certain risk, as there can be no possible guarantee that it will grow. There is a reasonable prospect that it will, of course, but most of us have had experience of trees failing after everything that is humanly possible has been done to ensure success, and this is an ordinary risk which every fruit grower has to take. The instances, however, of trees failing through reasons that cannot be explained are few compared to those in which the grower is responsible for the loss, and it is, therefore, true of nurserymen that they increase business through the shortcomings of their customers.

Perhaps it is in the cultivation of fruit in orchards that more failures could be recorded than in any other department, and every year scores of young trees are planted which never live to bear fruit and become profitable. To obtain convincing evidence of this one should visit an orchard country which Nature has adapted for fruit culture, and examine trees that have been planted in recent years. It would soon become apparent why some trees fail, and the shoulders of the grower would have to carry the blame. Take, for instance, the West of England, which is a veritable orchard land, and possesses possibilities untold for the culture of apples and pears. Does this favoured district contribute what it might towards the fruit supply of the country? Alas! no, and one cannot help thinking that if fruit culture had been taken up here in the past on the same lines and at the same time as when foreign growers set out to supply the markets of Great Britain, import figures would read differently to what they do, but, there, that is part of another story.

To return to the trees that fail, a large number of the West Country orchards are attached to farmsteads, and the trees for planting are supplied by the landlord. It is true of some landlords that they are not particularly generous in providing trees, and they are content to see the orchards on their estate deteriorate for the want of renovation, without, perhaps, realising that the value of the property is deteriorating as well. Happily, however, there are landlords who know the value of orchards, and spend considerable sums of money on young trees for their tenants year by year, and while some of the latter do their part in the interests of themselves and the landlord as well, others fail in their duty, and through their failure the trees naturally fail also, and little encouragement is afforded to the landlord.

Strangely enough, the failure of trees to grow and prosper can often be traced to the neglect of what are simple details in cultivation, and for which it is difficult to find any excuse. Take the planting to begin with. The Woburn experiments have shown that the best results have followed unorthodox planting, and it would appear as if the worse one treated a tree when planting the better it would do. This may be so, but it must be remembered that there are thousands of trees which were planted carefully and well, according to practical views, that have done as well as trees possibly could, and a policy which would tend to encourage certain people to be more careless than they are now would be a risky one to teach, and there is certainly evidence enough to suggest at any rate that the failure of trees to succeed is due to the rough and ready way they were put in the ground.

But planting is not responsible for so many failures as other things, and there seems to be an idea on the part of some people that when a young tree is planted all responsibility in respect of its welfare is at an end. In short, there are hundreds of trees in orchards to-day which give the impression that they were planted, and promptly forgotten. In too many cases no pruning is done at an early stage to form the head of the tree, which, through the failure of this detail, perhaps bears a few small fruits at the start, but fails to get away into growth, and six or seven years after it was planted it is a stunted, old-young looking specimen, not much bigger than when it left the nursery. When will people realise that the first business of a young fruit tree is to grow? And if its early energies are devoted to bearing instead, the development of branches is checked, if not stopped entirely.

Correctly speaking, of course, horned stock and horses should not be allowed to graze in orchards containing young trees. In some cases, however, there is no alternative, and in such the trees should be protected. Unfortunately, this is too often neglected, and what can be expected from young trees that act as rubbing posts for cattle and horses? In a word, the failure of hundreds of trees can be traced to this cause, or through the bark on the stems being gnawed away by sheep or ground game. Again, when a young standard is planted it is staked and tied, but stakes will decay in time, and ties will break. The careful man watches for this, goes round his trees from time to time, and takes the proper measures to prevent damage to the stems by blowing about or bruising the bark, knowing, as he does, that neglect of these matters leads to canker and other troubles. But all are not careful, and some will walk past the tree that has broken away from the stake and wants a tie, half a dozen times without seeing it, and they never notice that the bark is being gnawed off the stems until it is nearly all gone, and the doom of the tree is sealed. Indeed, it is not too much to say that the majority of failures with young orchard trees can be directly traced to the want of attention to what are apparently little things.

A great mistake in orchard planting is that of putting in poor trees. By such I mean ill-grown specimens, with gnarled or weakly stems, and poor, unformed heads, which dwindle and struggle for a few years, but are rarely a credit to themselves or their owner. Nurserymen who have reputations to maintain do not send out poor trees, but towards the end of the planting season there are to be seen in public market places big bundles of trees which are sold by auction and private contract at prices which appear ridiculously low compared to what nurserymen charge. It is doubtful where the trees come from, they bear no tradesman's name, and the varieties are a doubtful quantity. They sell, for the simple reason that they appear cheap, and a proportion may turn out satisfactory, but I have seen enough of this method of purchasing fruit trees to know that at the best it is risky, and it is infinitely better when purchasing trees to go to a reliable tradesman for them, and pay a fair price. Indeed, false ideas of economy may be included amongst the various reasons why fruit trees fail.

H.

PROTECTION.

Protection in some form or other is generally practised in gardens, particularly where half-hardy subjects are extensively cultivated. Materials are employed to protect either the roots or branches. Root protection is needed where the roots consist largely of surface fibres, as in many half-hardy shrubs, or when the rootstock starts into growth during winter as in ostrowskia, Cushion irises, and the somewhat shrubby romneya; again, when bulbous or tuberous, the roots are liable to be destroyed or weakened by frost, and such instances occur in Crinum Powelli and eremurus. Grafted and budded plants often suffer from the same cause as is the case with tea roses. In these examples the protective agent should consist of some light open material in the form of a mulch; wheat straw, coal ashes, cocoanut fibre, and fresh peat moss are among the best materials to employ.

Materials are sometimes required to protect the branches from winds which in many gardens are in the nature of draughts or currents caused by walls, hedges, or dense shrubberies. A thick impervious hedge is not so good a shelter, from the standpoint of a wind-break, as one stout enough to withstand gales and yet allow the wind to pass through, as in the latter case the hedge acts as a filter, breaking the power of the wind, whereas the former merely diverts its course, causing the wind to seek an exit whence it emerges with as great power as before. With this knowledge it must necessarily be, that most half-hardy plants can be made largely self-supporting by introducing them among the hardiest shrubs, employing the latter in the capacity of nurses, and thereby forming a living shelter to safeguard the weaker subjects.

Temporary shelters are at times necessary, as during extreme periods of frost, and hurdles laced with straw, birch, or spruce are very serviceable as windbreaks, and mats made of straw, fibre, or other light material are the most suitable articles for affording temporary protection during periods of extreme frost.

THOMAS SMITH.

Walmsgate Gardens.

BEST PLANTS FOR GREENHOUSE.—Nearly 300 pages are devoted to the description, propagation, and culture of the best flowers and plants for the greenhouse in THE AMATEUR'S GREENHOUSE, by T. W. Sanders, price 5s. net, or by post 5s. 6d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.

NEW JAPANESE CHRYSANTHEMUMS.

From the many enquiries received from growers who have not the opportunity to see the new varieties, I know there is a strong desire to add each year some new varieties of merit to collections.

Following my usual practice then, I give herewith the names of those I have seen and can recommend for the benefit of readers of the Gardeners' Magazine. Really good novelties are not numerous, rather the reverse this season. Somehow we do not obtain many from France or America and fewer than usual from Australia, but we are dependent more on home supplies, many of which, it must be said, have but a short life, much more so than formerly. How is this? It is also strange that we obtain so few sports; these seem to run in families, especially from Mdme. P. Radaelli, and some few others. If some scientist could enlighten the world as to the cause of sports and the best means of controlling them, how much more we should gain in new varieties, because, no doubt, many of our best and longest lived varieties, not confined to the Japanese section, have originated as sports. We do not appear to be any nearer this end than we were thirty years ago.

POLYGONUM POLYSTACHYUM IN THE CAMBRIDGE BOTANIC GARDENS.
Flowers white.

With English-raised varieties there is too strong a tendency to place them on the market before they are thoroughly proved, and hence the short existence so many have.

Miss Lillian Hall (Davis) is a true incurved Japanese, with broad florets of a silvery-rose colour, much resembling in that respect Mrs. Barkley.

Miss Ellie Greene (Mileham) has long drooping florets of a graceful character, pleasing in colour, rose-pink, quite a promising variety.

Mrs. Robert Brown (Carpenter) has extremely long and wide petals, some I measured were seven inches in length, forming a large bloom of a drooping character. The colour is brick-red on the surface, with a bronzy-buff reverse.

Yellow Mrs. Charles Beckett is a capital variety for grouping, being especially dwarf, with good foliage. The broad florets turn slightly up at the tip; in colour it is a soft yellow.

Miss Annie Nicoll is a pale blush sport from the deep purplish-pink Walter Jinks, itself a large showy variety. By some the newcomer is said to be pure white, but I have found it distinctly flushed with pink, and later blooms are more heavily suffused.

Ella Ainsley (N. Molyneux) belongs to the race of bright coloured varieties emanating from this raiser, which only need a trifle more size to render them perfect as exhibition flowers. This newcomer has wide florets that reflex gracefully, showing the full surface colour, which is rich crimson.

Kate Ainsley (N. Molyneux) is fully eight inches in diameter, the semi-drooping florets curl at the point, building up a full-centred flower. The base colour is gold, with crimson or purple stripes on the medium wide florets.

Frank Molyneux (N. Molyneux) is fully nine inches in diameter. The colour is terra cotta with a gold suffusion. The reverse gold.

Mrs. F. C. Stoop (Carpenter) has medium-sized petals of a semi-drooping character, building up a full flower. The colour rose, edged and striped with a deeper tint on a cream-coloured ground.

Beecham Keeling has semi-drooping florets, terra-cotta red, with a reverse of chestnut.

Mary Poulton (Poulton) has closely-fitting florets, a full and deep flower of a rich shell pink colour.

White Queen (Silsbury) is a deeply-built flower, with reflexing florets, ivory white, quite a promising variety.

George Hemming (Mileham), rich amaranth, promising as a full-sized decorative variety.

Mrs. Trevor Williams (Jones). This variety has wide florets, which are semi-drooping with twisted points; the colour buff, deeper in the centre as the florets unfold, the points are distinctly flushed with rose.

Mrs. L. Thorne, although not quite new has not been seen in good order until this year, and now it deserves a special note, it being one of the finest yellow flowered varieties in cultivation. The blooms are of full size, loosely incurving, and of high quality. The colour is soft yellow.

E. Molyneux.

POLYGONUM POLYSTACHYUM.

Those who value the strong-growing polygonums for the wild garden or border should possess this handsome species on account of its late flowering. It grows about five feet high, with large terminal panicles of white flowers, which are produced in September and October, rendering a very pleasing contrast both in habit and colour with Michaelmas daisies and other late-flowering subjects.

The accompanying photograph shows a plant growing in rather poor soil in the Cambridge Botanic Garden, where with other strong-growing kinds, such as P. sachalinense, P. cuspidatum, and var. crispum, and P. sericeum, a succession of flower is produced for several months.

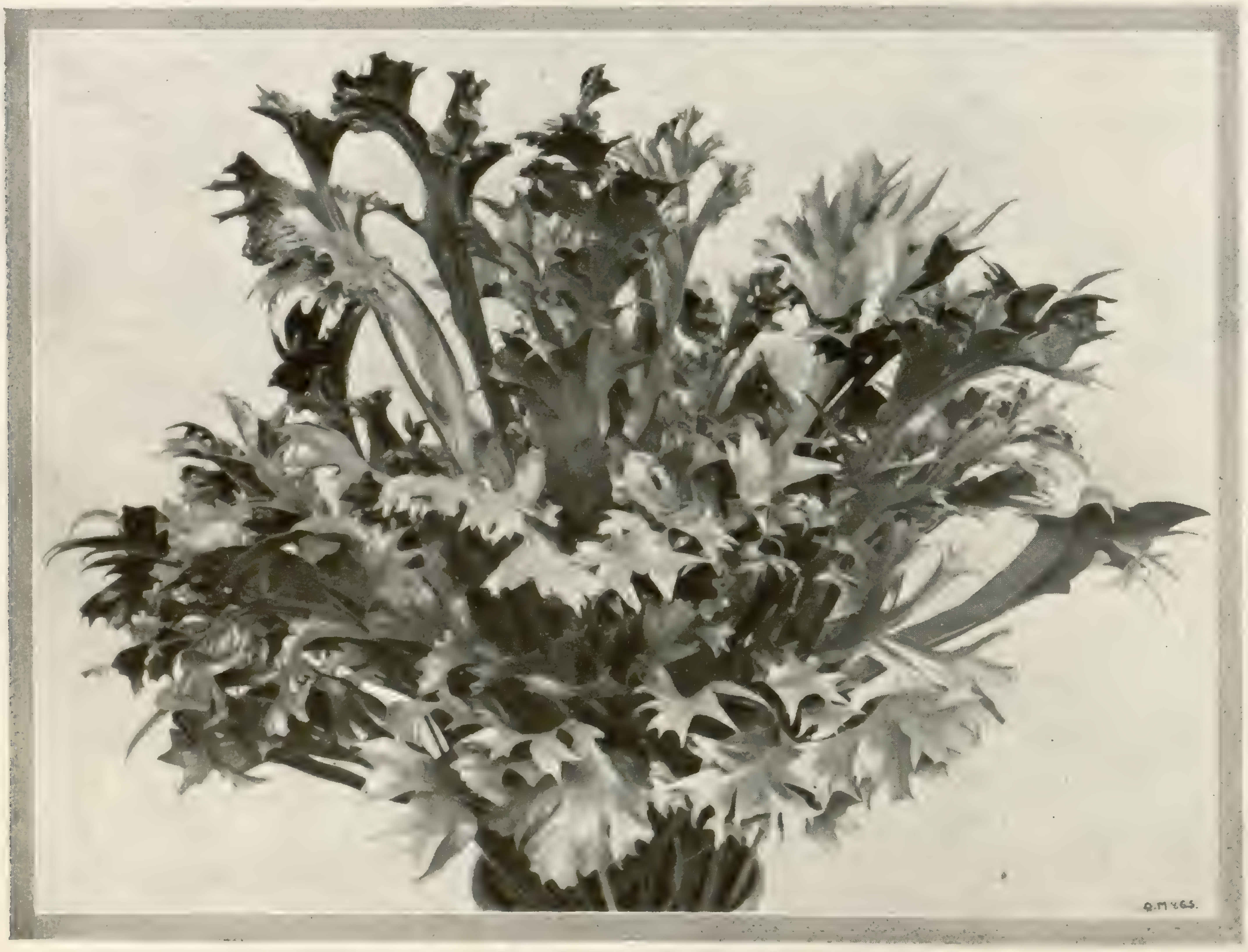
These strong-growing species are very pretty when allowed to cover good big stretches in the wild garden or by the side of a stream or lake, and in the case of P. cuspidatum and P. sachalinense, the golden and brown stems when dead are worth retaining until nearly Christmas, being quite ornamental, especially when viewed on sunny days.

E. J. Allard.

Cambridge.

POLYPODIUMS FOR HOUSE DECORATIONS.

Though the polypodiums are very numerous, and are found growing in almost all parts of the world, there are not so very many species that are suitable for house decorations. Some grow too large, others are by far too dwarf, while some are deciduous, their foliage being too soft to withstand the variable temperatures of the dwelling-house. Still, there are more than enough species and varieties that may be selected from this extensive genus to suit the tastes of the most fastidious. There are, however, not many that are indigenous to the British Isles, although the varieties of the common polypodium are somewhat numerous, and a goodly proportion of them most beautiful.


POLYPODIUM IRIOIDES RAMO-CRISTATUM.
As grown by Messrs. W. Hill and Son.

A considerable proportion of the species produce creeping rhizomes, which must be kept near the surface of the soil if the plants are to thrive satisfactorily; some, in fact, produce them on the surface, and these are well adapted for growing both in pots and baskets. The soil should be of a light, peaty nature, to enable the water to pass through it freely, and the drainage in all cases be ample, as but few of the species do well when over watered. Most gardeners are well acquainted with the old Phlebodium aureum, which at one time played an important part in a collection of stove ferns at the great exhibitions. This is synonymous with Polypodium aureum, and was introduced as far back as 1742. Since that time many fine species have been introduced, and not a few forms have been raised in this country. P. Mayi is one of these. The fronds are similar in colour to those of aureum, but they are of a fine wavy character the whole of their length; the edges of which are quite crispate. This is undoubtedly one of the finest varieties yet introduced, and grows well in the greenhouse either in a pot or basket. P. Schneideri is another hybrid that should be found in every collection. The fronds are deeply cut, and having that beautiful glaucous tint found in aureum they are most attractive. When well grown they attain a length of about two feet, and are borne on a wiry leaf-stalk of six inches in length. P. nigrescens in a small state is very handsome.

P. Billardieri is a very useful and ornamental greenhouse species from New Zealand. The fronds usually stand nearly upright, and in old plants they are deeply cut, in fact, the cutting reaches almost to the midrib. They are of a fine leathery texture, which enables them to withstand the sudden changes of temperature in the dwelling-house. P. glaucum and its varieties cristatum and magnificum are grand kinds for decorative purposes, their fronds being of a fine leathery texture. P. neriifolium and its varieties cristatum, furcatum and cristatum are also very ornamental in a young state, as their fronds are of that dark green leathery texture so desirable for indoor decorations. P. irioides is a singular looking erect-growing species from New South Wales. The fronds are from a foot to eighteen inches in length, and of a pale yellowish green colour. P. irioides ramo-cristatum is a most useful variety, the fronds being beautifully crested. This is a variety raised in this country, and is a fine subject for decorative purposes, especially when well grown in pots of about five or six inches in diameter. The fine specimen herewith illustrated was in Messrs. W. Hill and Son's collection.

H. C. Prinsep.

Buxted Park Gardens.

APPLE CHRISTMAS PEARMAIN.

Mr. Markham (on page 889) draws attention to this apple, and expresses a wish to know other growers' opinions of its merits. Of its behaviour as a standard I cannot speak, but as a bush tree or pyramid I have found it a very heavy cropper, so much so that it should make a good apple for market. My experience of it has been with trees planted in fairly heavy land. It makes an excellent espalier tree, and crops as freely when grown as a trained tree as it does in the bush form.

Independent of its prolific habit, it has other good points in its favour, such as size, colour, quality, and long keeping properties, and there is little doubt that when better known it will be grown in quantity. It is not up to Cox's Orange Pippin in flavour, but I may safely say there is as yet no variety in commerce which can equal Cox's for quality. The man who raises an apple equal in flavour to Cox's Orange Pippin, of good constitution, and one that will come in at a later season than it, will have done something to be remembered by for ever in the horticultural world. One has occasionally heard of such varieties, but so far we have not met with them.

T. H. Slade.

Jerusalem Artichokes.—These will have completed the development of their tubers sufficiently for them to be lifted. When lifted, they may be stored in sand in the root room. Nothing will be gained in leaving them longer in the kitchen garden quarters, and the ground can, when cleared, be prepared for future cropping.—C. Flack.

CULINARY PEARS.

In the majority of gardens the call for stewing pears during winter and spring is constant, and to meet the demand a few good dependable varieties should be given a fairly good position. During the early part of the season we find that many pears grown for dessert are the best of cookers, but their season, as a rule, is so short that good keepers of the stewing varieties must be included in a collection of pears. Catillac is no doubt one of the most commonly planted, as it is a grand cropper, and thrives satisfactorily in most soils, either on standards or bushes, and although a little gritty, it is exceptionally good when properly cooked, and, in addition, the fruits keep sound, when properly stored, till late in spring. Large trees of almost any variety not required might well (at the proper season) be headed back and grafted, and in this way heavy crops of useful sized pears will quickly follow.

I grew Bellissime d'Hiver some years ago, and considered it to be one of the very best culinary pears for quality, the flesh being fine grained, tender, sweet, with a slight musky flavour, and the fruits kept sound till March, and sometimes till April. Uvedale's Saint Germain is one of the largest varieties grown, and although not one of the finest of croppers, healthy espalier trained trees bear satisfactorily.

The variety Vicar of Winkfield, in its season, makes a good cooker, and is generally appreciated by lovers of cooked pears. Gilogil is a very handsome pear, that crops heavily, and the trees make capital standards.

But one of the heaviest of croppers I know is the variety Verulam, and large trees rarely fail to bear; the fruits in some seasons are very dark brown on the sunny side, they are always of useful size, and the tree crops heavily and the fruit keeps well.

Although there is a constant demand for stewing pears, I do not think it necessary to grow more than three or four varieties, and these might be given a position not quite so good as that devoted to the more choice dessert kinds. Young trees growing too vigorously to be fruitful should be lifted and replanted, and larger trees will need root pruning, but this work, it is needless to say, should be taken in hand and carefully carried out on all trees making too much wood, and also when the roots are in a bad state. I have repeatedly brought unfruitful trees into a very satisfactory state of bearing by giving attention to the roots at the proper time.

H. Markham.

Wrotham Park Gardens.

A FINE STEWING PEAR—CATILLAC.
From a photograph of a fruit grown by Messrs. G. Bunyard and Co., Lim.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

CŒLOGYNE CRISTATA. — Where this species and its varieties are required to produce their flowers about Christmas or the beginning of the New Year, they should now be removed from the houses wherein they have been placed to ripen their growths to a warmer house where more liberal treatment can be given. I would like to point out the difficulties that are frequently met with in winter, when C. cristata and its varieties are cultivated in or near large towns, where there is a prevalence of fog and the light is subdued. It will often be found when an attempt is made to have them in flower early in the year, that the flower spikes turn black and form a pulpy mass some time before they reach the stage at which the flowers are expanding. It will almost always occur after a thick fog or a period of subdued light. I have tried various methods to counteract this, and the results have been such as to convince me that, where it is desired to flower them satisfactorily, there is no alternative under unfavourable outside conditions but to keep them as cool as possible for some weeks yet, and thus retard their flowering until late in the spring. The variety C. c. alba is naturally late-flowering, and is generally found to do satisfactorily in the neighbourhood of large towns.

DENDROBIUMS.—The early-flowering deciduous dendrobiums, such as D. aureum, D. Ainsworthi in its varied forms, and D. Wardianum will now be producing their flower buds from the alternate side of the pseudo-bulbs to that where the leaves have been shed. Should these be required to flower early in the season, the most forward may now be selected and placed under slightly warmer conditions, and thus gradually removed into the hot-house or stove. Here more liberal treatment, as far as atmospheric moisture is concerned, can be given; care must be taken to avoid too much heat and moisture at first. Sudden changes from a practically cool, dry atmosphere to one that is hot and humid usually results in the flower buds turning into growths. Too much moisture at the roots, or spraying liberally, frequently brings about the same result thus early in the season. Only sufficient root moisture is necessary to retain the pseudo-bulbs in a normal plump state, until the flowers have become separated in the bud; as soon as this can be ascertained, more liberal treatment may be given. Keep them well up to the light so that the colour characteristics of the flowers may be developed to the best advantage. Where a succession of flowering examples of the deciduous dendrobiums is required a few should be placed under more liberal treatment weekly for the next few weeks. With the turn of the year growth becomes more rapid, and they may remain under resting conditions for longer periods.—H. J. CHAPMAN, Oakwood Gardens.

STOVE PLANTS.

GARDENIAS.—For flowering at this season of the year gardenias are better managed when heated pits can be set aside for them, as the necessary warmth and moisture can then be given. If planted out in such structures that the lights have been removed after growth was completed and buds formed, an abundance of flower will be freely produced when the necessary light and heat can be assured.

RESTING BULBS.—This is a time of rest for a large number of bulbs, and rest means a renewal of strength, but it is also a time when the cultivator should not lose interest and require to be reminded of what is under the stage. If but little, some attention is absolutely necessary in the case of a great number of such bulbs. Supposing no water is necessary during November, December, and, in many cases, January, premature growth must be guarded against, excess of heat or cold, etc. It is good practice to have the compost prepared for such bulbs some months previously. It always appears to me to be in a better state for potting when it has been mixed some time before being used. The different ingredients become incorporated, and in that state the compost is preferable for potting purposes.

TEMPERATURE, ETC.—At this quiet season the temperature by night and day can be lowered, where the usual collection of stove plants are grown, and from 63 to 65 deg. may be taken as a suitable night temperature. A lower temperature than this should only be adopted during very cold weather, then it will be an advantage to the plants in general, by preventing exhaustion from too much evaporation by the overheating of the pipes. A lower temperature than the above in mild weather would be found insufficient to dispel moisture, which if allowed to remain on the plants would soon cause the foliage or flowers, as the case may be, to suffer. To find the plants the first thing in the morning, as it were, bathed in moisture is a result of low temperature. According to the state of the weather the temperature for the day may rise 5, 10, or 15 deg. Admit air when a rise has been obtained, but close early at all times. Damping down or syringing must be done with care during dull or rainy weather, but little will be necessary, a slight spray with the syringe being sufficient besides sprinkling the floors. Should it be found necessary to syringe heavily for any special purpose take advantage of a bright day, and have a little extra heat in the pipes, so that the moisture may soon be dispersed.

CROTONS would be found an exception to the above rules, as they do not suffer from an excess of atmospheric moisture provided the above temperature is maintained; on the other hand, it appears to be suited to their requirements. These and kindred subjects that require a trifle more attention in this direction can easily be accommodated with a little management.—W. FYFE, Lockinge Park Gardens.

FRUITS UNDER GLASS.

PEACH HOUSES.—The earliest house should now be closed, and if the necessary cleansing and pruning and training have been carried out, as advised in these columns, all will be in perfect readiness. Simply close the ventilators, and damp down daily in fine weather, and maintain a temperature ranging from 45 to 50 degrees. A few strawberry plants may be placed on the shelves. These should be examined to see if there are worms in the pots, and they should have the surface soil cleaned, and, if necessary, give a top-dressing of good loam. If the leaves are not free from insects sponge them with a little tepid water, and then wash the pots, so that all will be perfectly clean. Succession peach houses should now have attention, and as I have already dealt with root pruning and planting it is not necessary to do more than say that if these details have not been carried out they should not be any longer delayed. In pruning cut out as much old wood as can conveniently be spared. Of course, it is quite necessary in the case with very large trees to have some big branches, but to a great extent these can be covered up by small fruiting wood.

EARLY VINERY.—If ripe grapes are required at the end of April it will be necessary to cleanse and start the house. This is done by closing all ventilators. Should mealy bug have been prevalent it is well to examine the rods again, and wash them with some trustworthy petroleum emulsion mixed with warm water. The stages should be dressed with raw petroleum, well rubbing it into the cracks. This is the only way to effectually eradicate this dreaded pest. Give a good watering with water at a temperature of 70 deg., and keep the temperature at about 50 deg., which should be fairly easy without fire heat, and syringe the rods twice daily in sunny weather, at other times once. Plants that are to be forced may be introduced for the purpose of being started.

SUCCESSIONAL VINERIES.—Prune the rods as soon as the leaves have fallen, and make preparations for cleansing both the vines and the interior of the house—glass, wood, and ironwork—and finally the borders; if the wood of the rods has not been so satisfactory as desired, the border should be overhauled. For instance, if the cultural requirements have been well attended to the roots must be at fault, and this can only be found out by a thorough examination. There are soils in some localities that will grow grapes thoroughly well, and the treatment may be quite ordinary; but much can be done towards obtaining better results by improving the border by the addition of fresh soil. The vines will suffer but little check if the operation be performed carefully, and thus early.

POT VINES.—These may be treated similarly to permanent vines, but may be grown in any light house or pit. The pots should be plunged to the rims in fresh tree leaves, which will give a little heat to the roots, and keep the house at a temperature of 50 deg. Bend the rods down to induce the buds to push regularly throughout the whole length of the rods. Pot vines can be grown, of course, in the house with permanent vines, providing there is light enough, and this is a very good way of keeping up a supply.—W. A. COOK, Leonardslee Gardens.

THE KITCHEN GARDEN.

SPRING CABBAGE. — The plants that were put in early will have become established in their new quarters. Those occupying south borders to supply the first heads will be benefited by having a light application of nitrate of soda sprinkled round them and the surface of the soil loosened with the hoe frequently. The later plants intended for the main crop should be lightly forked between, and the stems during the process may be earthed-up, as the soil about them will act as a protection against frost and steady them during strong winds. A dry day is preferable for carrying out this work.

OLD CABBAGES.—These are frequently left to produce a second crop during the latter part of autumn and early in winter, which usually proves most useful. As soon as the heads are cut have the plants removed at once. They are great impoverishers of the soil, consequently the land should be enriched with the best manure available, and, if possible, be deeply trenched before being again planted with further crops.

TURNIPS. — The August-sown turnips in all cases that have come under my notice have been a success this season. Many of the bulbs have arrived at perfection, and should be lifted for use, and stored in a similar manner to the artichokes. The smaller bulbs will continue to improve in size to a small degree as long as the weather is not severe, and may be left in the quarters.

CELERY.—Owing to continual rain the earthing-up of celery has been very difficult. Where the late plants have not received their final earthing take advantage of the first fine day for completing the work. Take care to well pat the soil with the spade on each side of the rows, to form a smooth surface and throw off the water, and prevent any considerable quantity reaching the hearts.

CUCUMBERS. — Up to the present the weather has been fairly favourable to maintain the temperature to suit cucumbers without resorting to strong firing. During the next three months the crop will require the most careful attention. Frequent light top-dressings of rich soil and dustings of an approved artificial manure, watered in with warm water will assist growth. Crop lightly and maintain a humid atmosphere, and on warm days syringe freely to remove all traces of red-spider from the leaves.

EARLY POTATOES. — A beginning with the earliest crop of tubers should be made, either by planting in pits, or frames over hotbeds. Put in boxes quantities of the best sets, and place them in the light to start them into growth in readiness for planting later.—CHARLES FLACK, Cholmondeley Castle Gardens.

THE PERPETUAL FLOWERING CARNATION SOCIETY.
GREAT WINTER SHOW OF CARNATIONS, ROYAL HORTICULTURAL HALL, Vincent Square, Westminster, S.W., WEDNESDAY, December 8th.
Admission, 1 p.m. to 5 p.m., 1s.
Schedules and Particulars from the Honorary Secretary, Mr. HAYWARD MATHIAS, "Lucerne," Stubbington, Fareham, Hants.
ANNUAL DINNER, WINDSOR HOTEL, same evening, at 7 p.m. Tickets from Mr. E. F. HAWES, Royal Botanic Gardens, London, N.W.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

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Norfolk and Norwich Horticultural Society.

NOVEMBER 17 to 19.

Excellent as was the autumn show held by this society last year, it was surpassed by that of the current season which, if it did not establish a record, was in every way worthy of the society and its traditions. We have not in any year seen the St. Andrew's and Blackfriars Halls better filled, or the products of higher quality. Cut blooms of chrysanthemums, which were rather weak at last year's exhibition, were on this occasion staged in immense numbers, and as a whole in remarkably fine condition; miscellaneous cut flowers were plentiful, and in the classes for floral arrangements the competition was keen, and the exhibits highly attractive by reason of the great taste evinced by the exhibitors. As in former years, the spacious Blackfriars Hall was filled to its utmost capacity with fruits and vegetables, which were presented in a condition that clearly indicated the remarkable cultural skill obtaining in the county. As usual, the arrangements were admirably carried out under the direction of Mr. W. Smith, the honorary secretary, and, favoured by fine weather, there was a large attendance of visitors.

CUT BLOOMS.

As already mentioned, there was a magnificent display of cut blooms; Japanese varieties were, as a matter of course, strongly represented, and incurved varieties were considerably above the average, both in numbers and quality. Classes were provided for naturally grown flowers shown in vases, and these were well filled, but the collections were in some cases rather poor owing to the exhibitors interpreting the term naturally grown too literally.

There was a strong competition in the great class for forty-eight Japanese blooms in not less than thirty-six varieties. Here Mr. C. Nichols, gardener to T. A. Rising, Esq., Manor House, Ormesby, was a splendid first with blooms remarkable for their large size, freshness, and good colour, especially noteworthy were the blooms of Madame P. Radaelli, Reginald Vallis, J. W. Molyneux, Lady Talbot, W. A. Etherington, Mafeking Hero, F. S. Vallis, Madame Rivol, Algernon Davis, R. H. Broomhead, Bessie Godfrey; and a second bloom of Reginald Vallis, which was selected for the award for the best bloom of the Japanese varieties in the show; Mr. Nichol was also awarded for this collection the Royal Horticultural Society's silver-gilt Flora medal for the best exhibit in the show; Mr. F. J. Brown, gardener to Miss Langworthy, was a capital second; and Mr. E. F. Bull, gardener to J. W. Brooke, Esq., Adrian Lodge, Lowestoft, was a close third. In competition for the prizes for thirty-six blooms of Japanese varieties, Mr. A. Hill, gardener to F. J. O. Montague, Esq., Lynford Hall, obtained premier honours for superbly developed blooms of the finer varieties; Mr. H. Goude, gardener to E. Reeve, Esq., The Grange, Old Catton, followed for second place with a fine set of blooms; and Mr. E. Leach, gardener to W. H. Palmer, Esq., Ormesby, had excellent blooms for the third place.

Some excellent contributions were made to the class for twenty-four Japanese blooms, distinct, and the first and second prizes were awarded to Mr. J. King, gardener to E. J. Hacker, Esq., Ormesby, and Mr. A. Gibson, Thelveton Hall Gardens. Both staged finely developed blooms of well-known varieties. In competition for the prizes for twelve Japanese, Mr. H. Andrews, Earsham Hall, was first, and Mr. H. Gill, Crinfer Hill, Slarston, second. There was a strong competition in the classes for six blooms. In that for any white Japanese, Mr. E. Hill was first with superb blooms of Mrs. A. T. Miller, and in the class for six blooms of any variety other than white, Mr. W. Palmer obtained premier honours with Reginald Vallis. The bright yellow F. S. Vallis was splendidly shown in this class by several exhibitors.

Incurved varieties were shown in a condition considerably above the average, and it was interesting to see these old-fashioned flowers so well represented. Mr. E. Hill occupied the post of honour for twelve varieties with splendidly-developed blooms of Romance, Mrs. G. Denyer, Pantia Ralli, Godfrey's Eclipse, and other well-known varieties; Mr. J. Wynn, Sedgeford Hall, was second, with blooms, large in size, but rather wanting in finish; Mr. W. Turner third. For six blooms of any one incurved variety, Mr. J. Wynn was first with grand blooms of the beautiful pink incurved J. Wynn. One of these was selected as the best bloom of its class in the show.

A class was provided for chrysanthemum blooms, arranged on a space of six by four feet, in which quality of flowers and taste in arrangement had to be considered. The competition for the first place was very close between Mr. W. Palmer, gardener to J. B. Coaks, Esq., Fern Hill, Thorpe, and Mr. C. Nichols, gardener to T. A. Rising, Esq., Manor House, Ormesby. The last-named had a trifle the best blooms, but they were placed in wine bottles, and the layer of evergreens on which the latter were stood detracted much from the effect. The blooms from Mr. Palmer, who obtained first place, were arranged in vases, and the foliage used was light and pleasing. Mr. T. Simpson, gardener to the Earl of Stradbroke, Henham Holt, who was third, staged his flowers, which were decidedly good, in a formal bank that was not particularly pleasing.

There was a keen contest in the classes for hall vases and baskets of chrysanthemums, and for the last-named Mr. W. Laws, gardener to G. E. White, Esq., Eaton House, Norwich, was first with a tastefully arranged basket of single varieties, of which an illustration is given herewith. Dr. Back, Acle, was second with an effective arrangement of a rose-coloured single chrysanthemum, and crimson foliage.

PLANTS.

Of late years specimen chrysanthemums have not formed a strong feature, and on this occasion they appeared to be limited to the collections of bush-grown plants, and these, it must be said, were well flowered and in every way satisfactory. Groups of chrysanthemums were, as usual, of a high order of merit, and arranged in a line down St. Andrew's Hall, they proved immensely attractive to the visitors. Mr. W. Palmer was successful in obtaining premier honours, his group being remarkable for the high development of the blooms, the excellent leafage, and the taste evinced in the arrangement. Mr. C. Burtenshaw, gardener to H. Skelton, Esq., St. Helen House, Norwich, was a close second with a group equally remarkable for high quality and tasteful arrangement; and Mr. W. Rush, gardener to F. P. Hurd, Esq., The Fernery, Thorpe, who was third, had a fine group.

Three classes were provided for winter-flowering begonias, and in each specimens of quite exceptional excellence were represented. In these classes the plants had to be grown in six-inch pots, and they were simply pyramids of flower about thirty inches high, and eighteen inches in diameter. Mr. Goude was first for three specimens of the white Turnford Hall, and Mr. Coombs, gardener to Lord de Ramsey, Haverland Hall, Norwich, occupied the first place for three specimens of Ideala. We were especially interested in the last-named for, as far as we are aware, this was the first time that begonias of the Ideala type have had a class specially provided for them, and the specimens were certainly the finest that have yet been seen in competition.

The premier award for six specimens of Gloire de Lorraine was made in favour of Mr. H. Goude, who is deserving of the highest praise for the success he had achieved in the cultivation of this popular begonia.

There was a good competition in the orchid classes, and prominent among the exhibitors were Mr. W. Mason, gardener to Rider Haggard, Esq., Ditchingham House; Mr. Lewis Smith, gardener to E. Fellowes, Esq., Shotesham Park; and Mr. Coombs.

FRUITS AND VEGETABLES.

As is customary at the Norwich exhibitions, these products formed features equally remarkable for their attractiveness and educational value. There were three entries in competition for the prizes for a collection of fruit in twelve varieties, and the fruit was meritorious throughout. Artistic arrangement of the collection had to be taken into consideration by the judges, and in this respect Mr. J. Hilson, gardener to Sir F. Adair, Bart., Flixton Hall, Norwich, was far ahead of the other competitors, and, as his fruit was exceptionally high in quality, he was awarded the challenge bowl and the cash prize offered as the premier award. Mr. Hilson had fine clusters of black and white grapes, and excellent apples and pears, and, in association with the fruit, he had very excellent dracænas, and a few other plants, and light vases of single chrysanthemums.

Grapes were splendidly shown, and, in competition for the prizes for three bunches of Alicante, Mr. H. Goude, gardener to E. Reeve, Esq., The Grange, Old Catton, Norwich, was first with finely-shouldered clusters, remarkable for the large size and fine colour of the berries; Mr. W. Palmer, gardener to J. B. Coaks, Esq., Fern Hill, Thorpe, Norwich, was a close second, with shapely, well-finished bunches, and Mr. F. Faint, gardener to Sir S. Hoare, Sidestrand Hall, third. The most successful of the exhibitors of Black Hamburgh grapes, which were well represented, were Mr. W. Palmer, Mr. J. Fitzpatrick, 221, Dereham Road, Norwich; and Mr. E. F. Bull, gardener to J. W. Brooke, Esq., Adrian Lodge, Lowestoft. There was a strong competition in the class for three black varieties, one bunch of each, and the first place was occupied by Mr. A. V. Coombe, gardener to Lord de Ramsey, Haverland Hall, with splendidly-finished clusters of Appley Towers, Alicante, and Gros Maroc; Mr. H. Goude followed closely for second place. The last-named was first for a single bunch of black grapes with Alicante, and Mr. A. V. Coombe was a very close second with the same variety. Muscat of Alexandria was especially well represented, and at the head of the several competitors for three bunches was Mr. W. Allan, gardener to Colonel the Hon. E. Harboard, Gunton Park, Norwich, whose clusters were of large size and superbly finished; Mr. J. Farrow, gardener to J. Powell, Esq., Hampstead House, Southlawn, was second. For three bunches of any other white grape, Mr. W. Palmer was first with richly-coloured bunches of Golden Queen, and Mr. H. Andrews, gardener to Captain J. P. Meade, Earsham Hall, second with Foster's Seedling. The best bunch of white grapes was that of Muscat of Alexandria from Mr. W Allan; and Mr. W. Palmer was second with the same variety.

Apples were strongly represented, the whole of the classes being well filled, and the quality high. In competition for the prizes for nine dishes of culinary varieties Mr. G. D. Davison, gardener to Colonel Petre, Westwick House, Worstead, was first with magnificent fruit of Annie Elizabeth, Bismarck, Mère de Ménage, Warner's King, Lane's Prince Albert, Bramley's Seedling, Peasgood's Nonsuch, Gascoigne's Scarlet, and Lady Henniker; Mr. T. Simpson, gardener to the Earl of Stradbroke, Henham Hall, who was second, had fruit in a high state of development; Mr. W. Allan third, with fruit of excellent quality. For six dishes of culinary apples, Mr. T. Jones, gardener to E. G. Cubitt, Esq., Honing Hall, Norwich, was first with exceptionally fine examples; Mr. J. Hilson, gardener to Sir F. Adair, Bart., Flexton Hall, Norwich, was a close second, with fruit hardly so large, but superb in finish. There was an equally strong competition in the classes for dessert apples, and as the fruit was throughout high in colour and well finished the numerous collections were most attractive. For nine dishes, Mr. F. Hanson, gardener to Sir F. Crossley, Bart., Somerleyton Hall, Lowestoft, obtained premier honours with brilliantly coloured and otherwise good examples of King of Tompkins County, Cox's Orange Pippin, Gascoigne's Scarlet, Ribston Pippin, Charles Ross, James Grieve, Baumann's Red Winter Reinette, and Blenheim Pippin. Mr. W. Allan was a close second, with fruit of great excellence. The prizes for six dishes were awarded to Mr. G. Davison, Mr. F. Jones, and Mr. E. Chambers, gardener to Captain H. H. Francis, Long Stratton; Mr. H. Goude had the best three dishes of dessert varieties.

A class was provided for one dish of Cox's Orange Pippin, and there were fourteen or fifteen entries. By far the finest dish was that shown by Mr. W. Allan, but for some inexplicable reason the judges awarded it the third prize. The fruits were of relatively large size, finely coloured, and so perfect in finish that not a single blemish could be discovered on any one of them. Mr. F. Hanson, who was placed first, had excellent fruits, but they were smaller than those shown by Mr. Allan, and several bore traces of apple scab; Mr. M. Berry, gardener to A. Donavon, Esq., Carbrook Hall, who was placed second, also had a good dish. The awards should undoubtedly have been awarded to Mr. Allan, Mr. Hanson, and Mr. Berry in the order of their names as here placed, and it would be of much interest to know why the awards were made otherwise.

Pears were, as usual, exhibited in large numbers, and were of remarkably high quality, if not quite so perfect in finish as was the case with those shown at Norwich last year. The competition was very strong in the class for six dishes, and at the head of the several competitors was Mr. G. D. Davison, who staged magnificent fruits of Durondeau, Marie Louise, Pitmaston Duchess, Glou Morceau, Emile d'Heyst, and Doyenne du Comice; Mr. W. Allan was second, and Mr. F. Hanson third, both staging fruit of much merit. In competition for three dishes of pears Mr. J. Hilson obtained premier honours with exceptionally fine fruit, and Mr. H. Goude was a close second. The best dish of culinary pears was that of Catillac, from Mr. G. D. Davison, the fruits being of the largest size and perfect in every way. Mr. Davison was first also for a dish of dessert pears with Doyenne du Comice at its best.

Vegetables were shown in immense quantities, and in such condition as to prove to demonstration that their cultural requirements are fully understood in the many gardens within a wide radius. In the classes for collections and single dishes the competition was of the keenest, and we should have liked to refer to the more noteworthy exhibits in some detail, but the great pressure on our space at the present time renders it impossible to do more than refer to them in a general way.

NON-COMPETITIVE.

The contributions to the non-competitive class were not numerous, but those staged were of great excellence. Messrs. Sutton and Sons, Reading, exhibited a comprehensive collection of the choicer kinds of vegetables, which was arranged with quite exceptional taste, and formed one of the most attractive of the many features; Messrs. Daniels Bros., Norwich, filled the end of the Blackfriars with a fine collection of flowers, fruits, and vegetables; and Messrs. Hobbies, Lim., contributed a large bank of single chrysanthemums.

Scottish Horticultural Association.

With a tremendous record of entries the show held by the Scottish Horticultural Association, in the Waverley Market, Edinburgh, on November 18, 19, and 20, promised to be one of the finest ever held in that famous and spacious rendezvous. But, alas! "the best laid schemes," etc., proved all too true, and bitterly cold weather a day or two before the show, and 19 degrees of frost early in the morning of the opening day, prevented many would-be competitors from putting in an appearance, and turned the Waverley Market into an enormous refrigerator, and made most of those who did bring their exhibits wish they had stayed at home.

As may be imagined, the show was not up to the average in extent, and, owing to the incidence of the season the quality of the big blooms in the leading classes was, though very high, not up to the best Waverley Market standard. The bush plants were good, and there was a first rate display of hardy fruits and grapes, while the bouquets were especially fine, and, with other floral arrangements, constituted one of the best features of the show.

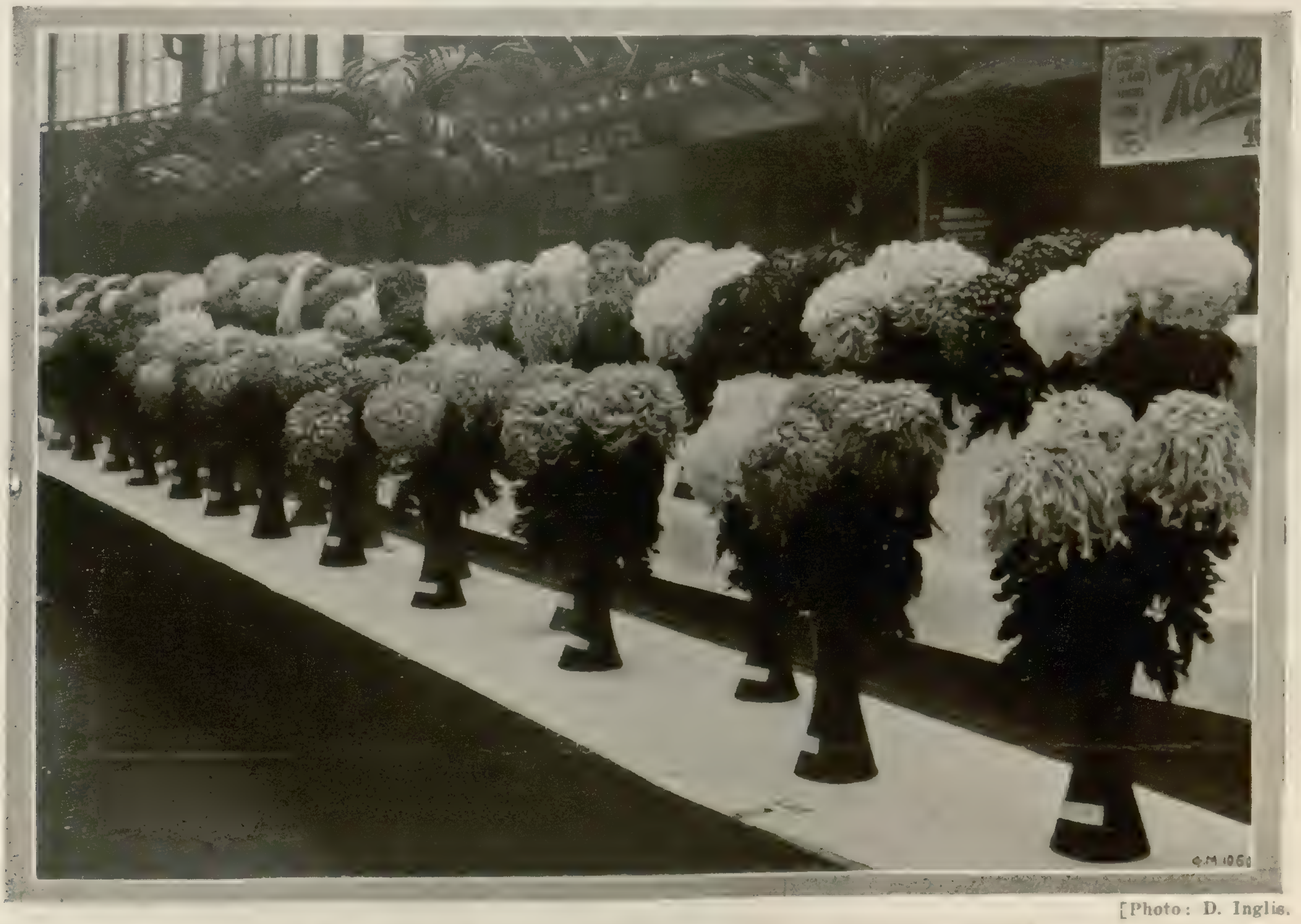
[Photo: D. Inglis.

BRIDE'S AND BRIDESMAIDS' BOUQUETS AT EDINBURGH.
Shown by Miss Todd and Miss Alice Todd.

Everything was in good order, as usual, and those in authority, notably such old friends as Mr. Richardson and Mr. M. Todd, rendered varied assistance to the pressmen, but as neither the one or the other was an Erebus or a Terror in full working order, they could not raise the temperature. In a very long experience we never remember having to work during a show morning under such dreadful climatic conditions.

THE CITY OF EDINBURGH CLASS.

The great cut flower class at Edinburgh is an open one, for the City of Edinburgh and Queen Victoria prizes, presented by the Lord Provost, Magistrates, and Town Council of the City. The first prize is the City of Edinburgh Cup and £20; second, £15; third, £10; and fourth, £5. The schedule requires fifteen vases of Japanese chrysanthemums, in fifteen varieties, three blooms in each vase. There were six competitors, and the coveted chief award was won by Mr. Morton, gardener to the Dowager Coun-



[Photo: D. Inglis.

THE CITY OF EDINBURGH CLASS FOR FIFTEEN VASES.
The first prize set shown by Mr. Morton is in the foreground.

tess of Seafield, Cullen House, Cullen, who had good, clean, fine-sized examples of Lady Talbot (10), Lady Conyers (9), Reg. Vallis (9½), Bessie Godfrey (8½), Mr. A. T. Miller (11), Mr. G. Mileham (7), Algernon Davis (10), Madame G. Rivol (8½), Madame P. Radaelli (10½), Miss Hickling (9½), W. Beadle (10), Victoria and Albert (8), Elsie Fulton (8), Edith Jameson (10½), and J. H. Silsbury (9½); total, 139½ points out of a possible 180, as twelve points are allowed as a maximum for each vase. Mr. David Nicoll, gardener to the Messrs. Bell, Rossie, Forgandenny, came second, with Madame P. Radaelli (10), Madame G. Rivol (9½), J. H. Silsbury (9½), Mr. A. T. Miller (9), Lady Talbot (9), Splendour (8), Purity (10½), F. S. Vallis (10), Victoria and Albert (8), Edith Jameson (9), Mrs. F. W. Vallis (8½), Mrs. C. Beckett (9), Hon. Mrs. Lopes (10½), Bessie Godfrey (9), and Melchet Beauty (8); total, 137½. Mr. James Beisant, gardener to Lady Armistead, Castle Huntley, third, with a total of 131 points; Mr. W. Iggulden, Lock's Hill, Frome, fourth, with 127½ points. Mr. Stewart and Mr. J. E. Davis, who were not placed, had respectively 125 and 111 points.

CUT FLOWERS.

The Scottish Challenge Cup, for eight vases of Japanese blooms, three flowers of each variety, was won by Mr. J. Finnie, gardener to A. R. Brown, Esq., Summerhill, Shandon, with a total of 73 points, allotted as follows: F. S. Vallis (9), Mrs. F. W. Vallis (9½), Lady Talbot (9), Marquise V. Venosta (9½), Bessie Godfrey (9½), Reg. Vallis (9½), Mr. A. T. Miller (9), and J. H. Silsbury (8). Mr. L. McLean, gardener to D. Thomson, Esq., Greenfield, Alloa, second, with 71 points; and Mr. R. Addison, gardener to Sir Walter Dalrymple, Bart., Luchia Gardens, North Berwick, third, with 68 points.

The premier award for twenty-four Japanese blooms, in the open class, was won by Mr. McKellar, Portmarnock, Ireland. All the flowers in this class were staged on boards, and there were six competitors. Mr. McKellar's best blooms were of F. S. Vallis, Lady Talbot, Mrs. Knox, Hon. Mrs. Lopez, Magnificent, Reg. Vallis, Rose Pockett, and Madame Paolo Radaelli; Mr. David Nicoll, gardener to Messrs. Bell, Rossie, Forgandenny, a good second; and Mr. Alex. Morton, gardener to the Dowager Countess of Seafield, Cullen House, Cullen, third.

Mr. A. Stenhouse, Morningside Asylum, Morningside, led for two vases of Japanese blooms with Mrs. Beckett and Madame Paolo Radaelli; Mr. J. Macdonald, gardener to Mrs. Bremner, Stratham House, Morningside, second; and Mr. R. Griffin, gardener to the Rev. R. Macnair, Brizlee, third.

For two vases of three blooms, one variety, Mr. A. R. Brown, Summerhill, Shandon, was a fine first with lovely flowers of Bessie Godfrey; Mr. McKellar second with F. S. Vallis; and Mr. J. E. Davis, gardener to Colonel Stewart Richardson, Ballathie, Stanley, Perth, third, with the latter variety.

Mr. J. L. McKellar, Portmarnoch, had the best six vases of Japanese varieties, leading in a stiff competition with Reg. Vallis (10), F. S. Vallis (9½), Mrs. J. Hadaway (8½), Valerie Greenham (8½), Edith Jameson (9½), and Mrs. Norman Davis (9); total, 55 points; Mr. D. Mackay, gardener to C. Dickson, Esq., Vuurbaak, Lasswade, second with 54 points; and Mr. J. McLean third with 50½ points.

Decorative varieties were beautifully shown, and for three vases Mr. A. E. Todd, Stoneybank, Musselburgh, was a fine first with Mr. Galloway second, and Mr. Knight third; eight competitors. The best three vases of singles were from Mr. A. Knight, who showed Edith Pagram, and Bronze Pagram, well, but hardly any of the varieties in the whole of the class were labelled: Mr. Galloway second, and Mr. A. McMillan third. Mr. Pirrie had the best six vases of single varieties, his Pagram varieties, seedlings, and Mary Richardson being all superbly shown; Mr. P. Bell second.

FLORAL DESIGNS.

For one bride's bouquet and a pair of bridesmaids bouquets, Miss Todd, Stoneybank, Musselburgh, won the premier award with exquisite designs in odontoglossum and lily of the valley in the first case, and Cattleya labiata, Cypripedium insigne, and lily of the valley in the case of the bridesmaid's displays. Miss Alice Todd second, her bridesmaid's bouquets of Lilium speciosum rubrum being particularly good; Mr. J. Ford, gardener to T. G. Bishop, Esq., Dalmore, Helensburgh, third. Miss McBoe, Bridge Street, Leith, had the best bouquet of carnations, winning from seven entries. Miss Alice Todd scored for a bouquet of flowers (carnations and chrysanthemums excluded), with a dainty exhibit; Miss Todd second with oncidiums and Vanda cærulea. Mr. Adam Holmes, Bellevue Bank, Helensburgh, led for a bouquet of chrysanthemums.

There were six baskets of chrysanthemums, and here honours fell in order of mention to Miss R. Newlands, Bridge Street, Leith, who had a beautiful arrangement of bronze and yellow flowers tastefully disposed; Mr. J. Beats, Binrock, Dundee; and Mr. A. Horton, Helensburgh.

No fewer than twelve baskets of hardy foliage and berries were submitted, and these were of various designs. The first prize was awarded to Mr. F. R. Urquhart, gardener to Henry Mungall, Esq., Gatton Side House, Melrose, who, over a foundation of yellow holly had berberis and symphoricarpus sprays; Mr. A. Horton, gardener to W. Middleton Campbell, Esq., Camis Eskam, Helensburgh, second; and Mr. A. Hogg, gardener to H. Hope, Esq., Luffness, Aberlady, third.

For a basket of orchids, Mr. Duncan Mackay, gardener to C. Dickson, Esq., Vuurbaak, Lasswade, led with a bright design in odontoglossums, oncidiums, Cattleya labiata, and Odontoglossum grande and Dendrobium Phalænopsis; Mr. R. McAndie, gardener to Sir A. B. Milne, Bart., Inveresk Gate, Musselburgh, second, with a very neat exhibit; and Mr. A. Knight, gardener to Sir Wilfrid Lawson, Bart., Brayton, Cumberland, third.

Mr. Hogg, Luffness, was placed first for an epergne of chrysanthemums, but there was nothing of special merit in the class. Mr. A. Sinclair Henderson, Seathwood, Dundee, was first for a vase of chrysanthemums and foliage, with a grand arrangement of big yellow and bronze flowers; Mr. D. Kidd second, and Mr. Jas. Beats third.

Seven competitors entered in the table decoration class, and here Mr. J. Beats was placed first, and he had a very pretty design in yellow and bronze single varieties; Mr. P. Bell, gardener to the Earl of Home, Bothwell Castle, second; and Mr. A. Knight third.

PLANTS.

A dozen classes were provided for chrysanthemum plants, and the chief of these was for six large-flowered varieties. There were three competitors, and each showed big, well-staked bushes, freely flowered. Mr. W. Pulman, gardener to D. R. W. Hine, Esq., Holly Road, Colinton Road, Edinburgh, was placed first for half a dozen excellent examples, but he and his fellow competitors had not deemed it worth while to label the varieties. Mr. Jas. Fraser, gardener to Mrs. Simson, Bondley Towers, Colinton, second; and Mr. W. Michie, gardener to Lady Steel, Boroughfield, Edinburgh, third. For four specimens of Japanese varieties, Mr. W. Michie was first, but three of his specimens were hardly yet at their best; Mr. Fraser second.

Mr. Pulman was successful for one specimen of a white or yellow variety, and scored with Souv. d'un Petite Ami, in fine condition. In the class for a specimen of any other colour than white or yellow Mr. Pulman was once more to the front. The best specimen single-flowered chrysanthemum was a huge bush of Ladysmith, shown by Mr. Michie; Mr. J. Fraser was second. Four competitors came forward in the class for six specimens of Japanese or incurved varieties, and Mr. Pulman again asserted his superiority, and showed dwarf plants well flowered; Mr. Fraser, second; and Mr. W. Armstrong, gardener to Dr. Scott, Musselburgh, third.

The pompons proved interesting, and here Mr. Michie was first, Mr. Pulman second, and Mr. T. P. Bell, London Street, third, for six plants. Mr. Bell was the leading prizewinner in the amateurs' class for chrysanthemum plants.

In the miscellaneous plant classes Mr. Knight led for lily of the valley; Mr. J. MacNeil for Roman hyacinths; Mr. R. Whammell, gardener to Lieut.-Colonel More Nisbett, The Drum, Gilmerton, for salvias; Mr. J. Turnbull, Valleyfield Gardens, Penicuick, for hardy ferns; Mr. G. D. Kerr, Langton, Duns, for Primula obconica—beautiful plants of a good strain; Mr. Kerr for Chinese primulas; Mr. D. McLean, Raith, Kirkcaldy, for winter-flowering begonias; Mr. A. Williams, Jedburgh, for Begonia Gloire de Lorraine, with three plants each well over a yard high; Mr. J. McNeill, gardener to Major Thorburn, Peebles, for decorative foliage plants; and Mr. A. Knight for eight decorative foliage plants.

TABLES OF FRUIT.

Two decorated tables of fruit were set up, and first prize was won by Mr. D. Kidd, gardener to Lord Elphinstone, Carberry Towers, Musselburgh, who showed neat bunches of Muscat of Alexandria, Appley Towers, and Gros Maroc grapes; Ribston Pippin, The Queen, Gacsoigne's Scarlet. Cox's Orange Pippin, Peasgood's Nonsuch, Emperor Alexander, Newtown Wonder, and Blenheim Pippin apples, Pitmaston Duchess. Marie Benoist, Doyenne du Comice, Durondeau, and Beurre Diel pears, a melon, and a dish of tomatoes. Mr. Kidd was also awarded a silver medal for his floral arrangements, in which he used the single chrysanthemum Mary Richardson. Mr. G. Mackinley, gardener to the American Ambassador, Wrest Park, Ampthill, Beds, second, his fruits including grapes, apples, pears, melons, plums, oranges, peaches, and medlars. Each exhibit in this class was arranged on a space of 10ft. by 5ft., and had to consist of eighteen dishes of fruits, in not less than nine kinds. The chief prize of £10 10s. was presented by Lord Elphinstone, the hon. president of the association.

GRAPES.

Mr. D. Kidd led for four bunches of grapes with Muscat of Alexandria, Diamond Jubilee, Alicante, and Gros Maroc, all of medium size, but well coloured; Mr. James Beisant, gardener to Lady Armitstead, Castle Huntley, Longforgan, second. For two bunches each of Appley Towers and Lady Hutt grapes Mr. J. Beisant led, with Mr. J. McNeill, gardener to Major Thorburn, Craigerne, Peebles, second. For one bunch each of black and white grapes Mr. T. MacPhail, gardener to Mr. and Mrs. Hamilton Ogilvy, Archerfield, Dirleton, was first with Muscat of Alexandria and Lady Downes; Mr. J. Law, gardener to J. S. Laidlay, Esq., Inverie, Dirleton, second; and Mr. T. Gray, gardener to D. Norman Ritchie, Esq., The Holmes, St. Boswells, third.

In the class for two bunches of Alicante grapes Mr. J. Highgate, gardener to the Marquis of Tweeddale, Yester, scored with good-sized, well-finished clusters; Mr. H. Johnston, gardener to D. Shankland, Esq., Oakleigh, Greenock, second; and Mr. J. Shiells, gardener to Sir James King, Bart., Carstairs House, Carstairs Junction, third; twelve entries. Mr. J. Shiells led for two bunches of Gros Colmar with small, but very large berried bunches; Mr. James Beisant, second, and Mr. R. Dickson, West Colinton House, third; five entries. Mr. Kidd had the best pair of bunches of Lady Downes; Mr. G. Scott, gardener to A. Sinclair Henderson, Esq., Seathwood, Dundee, second; and Mr. MacPhail, third; four entries.

For two bunches of any variety, Mr. G. Pirie, gardener to C. W. Cowan, Esq., Dalhousie Castle, Bonnyrigg, led with deeply-coloured clusters of Cooper's Black; Mr. Beisant second with Mrs. Pince; ten entries.

HARDY FRUITS.

In the Scottish class for eighteen dishes of apples, Mr. R. G. Sinclair, Congaldon Gardens, Drem, scored with a very even, clean, and bright set of Peasgood's Nonsuch, Annie Elizabeth, Ecklinville, Loddington, Lord Derby, Bismarck, Warner's King, Bramley's Seedling, Norfolk Beauty, Allington Pippin, The Queen, James Grieve, Gascoigne's Scarlet, Emperor Alexander, King of the Pippins, Worcester Pearmain, Cox's Orange Pippin, and Golden Noble. Mr. James Day, gardener to Sir Malcolm McEachrane, Galloway House, Wigtown, second; and Mr. C. Webster, gardener to the Duke of Richmond and Gordon, Gordon Castle, Fochaber, third.

Mr. McKellar, Portmarnock, Ireland, had the finest set of eighteen varieties of apples in the open class, and his was an excellent collection, and included good dishes of Lane's Prince Albert, Bismarck, Mère de Ménage, Charles Ross, etc.; Mr. R. Sinclair second, and Mr. G. Mackinlay third. Mr. Mackellar led for eight dishes of apples and four dishes of pears, with Mr. G. Mackinlay second.

In the Scottish class for six dishes of pears Mr. J. Galloway, gardener to the Earl of Wemyss, Gosford, Longniddry, scored with Hacon's Incomparable, Beurre d'Anjou, Beurre Bosc, Doyenne du Comice, Pitmaston Duchess, and Duchess d'Angoulême; Mr. A. Hogg, second; and Mr. Melville, Rosemount, Monckton, third. In the open class for six dishes of pears Mr. R. Aitken, gardener to A. W. Inglis, Esq., Logan Bank, Milton Bridge, was a capital first among eight competitors, Mr. Mackinlay coming second, and Mr. Hogg third.

Mr. Mackellar won first place for six dishes of culinary apples with clean, heavy fruits of The Queen, Newton Wonder, Bramley's Seedling, Bismarck, Lord Derby, and Peasgood's Nonsuch; Mr. R. Currie, gardener to Rev. G. H. Davenport, Foxley, Hereford, second: and Mr. W. F. Staward, Belford Hall, Northumberland, third. Mr. McKellar was also to the front for six dishes of dessert apples, leading here with very bright fruits of The Houblon, Worcester Pearmain, Charles Ross, King of the Pippins, Rival, and Cox's Orange Pippin; Mr. R. Currie, second, and Mr. R. Sinclair third.

Mr. Sinclair led for three baskets of dessert apples, followed by Mr. J. Harris, Silsoe, Beds; while for three baskets of culinary apples Mr. G. Ormiston, Dalrymple Loan, Musselburgh, was first, and Mr. Sinclair second. In each class the baskets had to contain 12lb. of fruit.

VEGETABLES.

Vegetables were again shown excellently, and the classes for single dishes were very numerous. For a collection of six kinds, seven competitors, Mr. J. Gray, Middlewood, Uddington, was first; Mr. D. McMilhan, Hillfoot, Dollar, second; and Mr. F. Urquhart, third. There were seven exhibits of twelve kinds of vegetables, and here the chief award fell to Mr. James Gibson, gardener to the Duke of Portland, Welbeck Abbey, Notts, for clean, beautiful samples of Ailsa Craig onions, Black beet, Perfection tomatoes, Autumn Mammoth cauliflowers, Prizetaker leeks, Superb Pink celery, Red Intermediate carrots, Superlative potatoes, Princess of Wales beans, Dwarf Gem Brussels sprouts, Orange Jelly turnips, and Telegraph cucumbers; Mr. R. Stuart, gardener to Lord Lauderdale, Thirlestane Castle, Lauder, second; and Mr. Galloway third.

Other leading prizewinners in the vegetable classes were Mr. G. W. Taylor, Dorchester; Mr. J. Melville, Mr. J. Gibson (potatoes), Mr. A. Dickson, Innerleithen, and Mr. R. Stuart (leeks).

NON-COMPETITIVE.

Messrs. Young and Co., Hatherley, Cheltenham, put up a very pretty little group of perpetual carnations, showing charming flowers of May Day, White Enchantress, Mikado, Britannia, Lady Audley Neild, Mrs. Burnett, and Rose Dorée. The Government of British Columbia filled a considerable space with a fine display of bright, well-graded, and finely packed apples. Messrs. Tillie, Whyte, and Co., Edinburgh, displayed good vegetables. Messrs. H. Pattisson and Co., Streatham, set up a few examples of their excellent horse boots.

Messrs. Sutton and Sons, Reading, were represented by a very attractive and interesting display of onions, their excellent bulbs of Ailsa Craig, Reading, Bedfordshire Champion, The Sutton Globe, Red Rocca, Trebons, Crimson Globe, Sutton's A1, and a specially selected high, conical seedling that promises well. There were about thirty varieties in this admirable contribution. Mr. H. N. Ellison, West Bromwich, was represented by a large table of finely-grown nephrolepises, adiantums, and other useful and elegant ferns.

Messrs. Storrie and Storrie, of Dundee, showed pot fruit trees, a collection of apples, and some scarlet salvias. Bouvardias, begonias, and perpetual carnations came from Messrs. John Forbes, Lim., Hawick. Grapes were finely shown by those famous growers, Messrs. William Thomson and Sons, Clovenfords, the baskets of finely coloured Gros Colmar cut from vines planted in 1869 being striking examples of continuously good cultivation.

Messrs. W. Wells and Co., Merstham, Surrey, showed a big bank of chrysanthemums, both plants and cut flowers, and their display was greatly admired; Bessie L. Payne, a golden chestnut Japanese variety, with gold reverse, won the silver medal as the best novelty in the show. Messrs. J. and A. Glass, Princes Street, put up a very large exhibit of floral designs. Messrs. Wilson and Co., Prestonfield Nursery, Craigmillar, contributed a table of ferns and foliage plants.

Leeds Paxton Society.

This society's twenty-first show, held in the Albert Hall, Leeds, was not up to the usual standard of excellence. This was most unfortunate, as one looks for something super-excellent when a society celebrates its coming of age. The season, no doubt, accounts for some of the falling off in quality and quantity, while in the matter of accommodation the society is not well served, and no doubt this also militates against progress.

GROUPS.

The first prize of £5, for a group of miscellaneous plants, arranged on a space of 70 sq. ft., was won by Mr. J. Phillips with a bold display, in which crotons figured largely, in association with poinsettias, Begonia Gloire de Lorraine, chrysanthemums, lily of the valley, and Vanda cærulea. The design was a trifle heavy, but a good one nevertheless. Mr. J. Harrison secured the second prize with a lighter arrangement that was somewhat lacking in colour, and had not a good finish at the back. Both these groups were arranged under the gallery, and backed on to the wall.

Premier place in the class for a table of single chrysanthemums, associated with fine foliage plants, fell to Mr. J. Phillips, who had good crotons, and some bronze and yellowish singles arranged lightly in green vases; the second prize was secured by Mr. J. Harrison, gardener to F. H. Fulford, Esq., Headingley Castle, who had long sprays of white, yellow, and pink single chrysanthemums, a Cocos Weddelliana, and nephrolepis; Mr. R. B. Gilchrist, gardener to W. Mathieson, Esq., Horsforth, third, with a very bright table.

The best table of Begonia Gloire de Lorraine and foliage plants was easily that shown by Mr. J. Harrison, who had nicely flowered examples of this popular winter-flowering plant, and small, bright, narrow-leaved crotons; the second prize table was also a good one, the white-flowered B. Gloire de Lorraine being prettily used with the type; whose table it was did not appear on the prize card; Mr. A. Lupton, gardener to E. O. Simpson Adel, Esq., third, with plants that were rather drawn up.

One interesting and rather pretty class at Leeds is for a group of miscellaneous plants, arranged on a table 6ft. by 3ft. There were three competitors, however, and the first prize was won by Mr. J. Phillips, gardener to J. C. Nicholson, Esq., Headingley, Leeds, who used bright, neat crotons, and a few orchids, over a setting of fittonias; Mr. W. N. Hague, gardener to W. D. Cliffe, Esq., Meanwood Towers, second, with crotons, narrow-leaved dracænas, Rex. begonias, and scarlet salvias. Mr. W. Crossfield, gardener to T. G. Mylchrist, Thorner, third.

Mr. H. Carter, gardener to C. Watson, Esq., J.P., Barton Grange, was awarded a second prize for his group of chrysanthemums, arranged on a space of 60 sq. ft., not more than six foliage plants allowed beyond a margin of ferns. The blooms were poor, and the bamboos used to support them were so much in evidence as to detract very materially from the effect of the display.

Mr. Norman had the best primulas; Mr. Hague the best six table plants; Mr. Norman the best six salvias—big, bright examples; and Mr. Gilchrist the best pair of orchids.

CUT FLOWERS.

The chief open class for cut blooms was for eighteen each of incurved and Japanese varieties, distinct, the leading award being a silver challenge cup and £7 7s.; second prize, 4 guineas; and third prize, 3 guineas. Mr. C. Jennings, gardener to F. W. Jameson, Esq., Aston Hall, North Ferriby, was easily first, winning the cup with a good set of Mr. A. T. Miller, F. S. Vallis, Lady Talbot, J. H. Doyle, Rose Pockett, O. H. Broomhead, D. Gouldsmith, Norfolk Blush, Mrs. W. Knox, Magnificent, Algernon Davis, Splendour, Mrs. E. Crossley, Reg. Vallis, Viscountess Venosta, Harold Wells, Mrs. G. Mileham, and J. H. Silsbury. His incurved, of fine size and fairly good finish, were Lady Isabel, Romance, Doris Raynor, O. J. Muelenare, Miss Threlfall, Embleme Poitevine, G. F. Evans, Mrs. B. Hankey, Madame L. Faure, Mrs. W. Clibran, Mrs. F. Ashworth, Marjory Shields, Buttercup, Madame Ferlat, D. Southam, W. Pascoe, J. Hygate, and Triomphe de Montbrun; Mr. G. Jarvis, gardener to Mrs. Whitaker, Cliffe House, Hessle, second. The best dozen Japanese came from Mr. C. Jennings, whose best flowers were of Lady Talbot, F. S. Vallis, Magnificent, and Viscountess Venosta; Mr. G. Jarvis second. Mr. Jennings was placed first for a dozen incurved blooms, distinct, with Mr. Jarvis second.

In the local class for a dozen blooms each of Japanese and incurved varieties Mr. H. Carter won the Mylchrist Cup with a fairly good set; he had a good Mr. G. Mileham, J. H. Silsbury, Buttercup, Romance, Mrs. J. P. Bryce, and Madame Ferlat; Mr. F. Norman, gardener to A. T. Walker, Esq., second.

Twelve vases of single chrysanthemums, distinct, should have proved a good class, but there were only three competitors, Mr. G. C. Coates, gardener to S. L. Haldane, Esq., Coltman Street, Hull, leading with some good flowers of Edith Pagram, Altrincham Yellow, Bronze Pagram, Lady Mayoress, E. Roberts, etc.; the flowers were badly labelled, as in so many cases the names were curiously and confusingly contracted. Mr. G. Buck, Horsforth, second, and Mr. Jarvis third. Mr. Carter led for six bunches of stove and greenhouse flowers, with arums, camellias, Rondeletia speciosa, Oncidium flexuosum, Anthurium andreanum, and red lapagerias; Mr. Coates second, and Mr. Jarvis third. Mr. Carter had the best three vases of carnations, and was followed by Mr. Coates and Mr. Harrison.

Mr. H. Carter was also successful in the class for six vases of single chrysanthemums, but here again the competitors had not named their flowers; Mr. Gilchrist second, and Mr. J. Phillips third. Mr. Norman and Mr. A. Lupton were first and second respectively for three vases of pompones, all unnamed. Mr. A. Lupton, gardener to E. O. Simpson, Esq., won first prize for six vases of decorative or naturally grown chrysanthemums, and he had Source d'Or and Soleil d'Octobre good; Mr. J. Phillips second, and Mr. F. Norman third. Here again was a whole class with not a vase labelled. Mr. Norman scored for six Japanese, and Mr. Carter for six incurved, and the former was first for six white Japanese blooms of one variety, with Mr. A. T. Miller; for twelve Japanese blooms in vases, and for a dozen incurved blooms in vases.

VEGETABLES AND FRUITS.

In the Messrs. Suttons' class for a collection of six kinds of vegetables Mr. A. Blakey, gardener to G. H. Shaw, Esq., Howdon, won first prize with a really good set of Ailsa Craig onions, Student parsnips, King Edward VII. potatoes, Superb Pink celery, Prizetaker leeks, and ten beautiful specimens of Early Giant cauliflowers; Mr. J. R. Groundwell, Scott Hall Gardens, Burlingthorpe, a good second. In the open class Mr. Hague led with some excellent produce that was not very well arranged; Mr. D. Crossfield, second; and Mr. F. Norman, gardener to A. T. Walker, Esq., The Elms, Weetwood, third.

For two bunches of black grapes there were three entries, the lead being taken by Mr. A. Blakey, gardener to G. H. Shaw, Esq., Howden; Mr. F. Howland, gardener to T. Aston, Esq., Rawdon, second; and Mr. F. Norman, gardener to A. T. Walker, Esq., The Elms, Weetwood, third. In a similar class for white grapes Mr. F. Norman led, Mr. F. Howland receiving third prize, no second being awarded. For six dessert apples Mr. A. Blakey won, followed by Mr. W. N. Hague, while the lead in the class for baking apples was taken by Mr. W. N. Hague, who was followed by Mr. A. Blakey and Mr. W. Crossfield. For dessert pears Mr. Blakey won, Mr. W. N. Hague was second, and Mr. Crossfield third.

In the local class for black grapes Mr. H. Carter was first, Mr. F. Howard second, and Mr. F. Norman third. Mr. Norman was first for white grapes, Mr. R. B. Gilchrist was second, and Mr. Howland received third prize.

NON-COMPETITIVE.

A small, but choice, collection of chrysanthemum blooms came from Messrs. W. Wells and Co., Lim., Merstham, Surrey. Among the Japanese were Mrs. R. Luxford, Splendour, Rose Pockett, and December Gold. Good singles were Coronation and Kathleen Stewart. A display of Colonial grown fruit was arranged by the Government of British Columbia; the apples were of good size, rich colour, and in good condition.

Messrs. Mansell and Hatcher, Lim., Rawdon, Yorks, exhibited a very fine group of orchids, which constituted a leading feature of the show. In the centre of the group was a good specimen of Cattleya Portia superba with four large spikes, and the background consisted of other fine cattleyas and oncidiums, with odontoglossums and cypripediums in the foreground. There was also on this firm's stand a large vase of Lilium sulphureum from bulbs imported direct from Burma by them. A table of ferns, begonias, and spiræas, set up by Messrs. E. J. Batchelor and Sons, Harrogate, contained all the newer varieties of nephrolepis, some of which were grown in baskets.

Chester, NOVEMBER 17 and 18.

The Chester show was of the usual interesting nature, the fruit forming the most important feature, and, as usual, the card attached to each dish gave information as to the stock and soil in which the fruit was grown. Only the names of the first prize-winners can be given, although, in the amateurs' and farmers' section many of the exhibits were of high merit.

Dessert apples: Ribston Pippin, Mr. A. Billington, gardener to E. B. Baker Wilbraham, Esq.; Cox's Orange Pippin, Mr. J. Shaw, gardener to Godfrey Fitzhugh, Esq.; King of the Pippins, Mr. J. Fleet, gardener to Mrs. Thompson; Allington Pippin, Mr. A. B. Earle; Gascoigne's Scarlet, Mr. T. Jennings, gardener to W. E. Whineray, Esq.; Blenheim Pippin, Mr. W. Dunning, gardener to Rev. W. M. Kinlock; American Mother, Rev. Canon Garnett; Dutch Mignonne, Mr. George Aitken, gardener to Philip Yorke, Esq.; James Grieve, Mr. G. Aitken; any other variety (Adam's Pearmain), Rev. Canon Garnett; any new variety (The Houblon), Mr. John Weaver, for which a bronze medal was also added.

Dessert pears: Marie Louise, Mr. W. Reeves, gardener to E. P. Jones, Esq.; Pitmaston Duchess, Mr. W. Reeves, with fine fruits; Doyenne du Comice, Mr. H. Bateman, gardener to Egerton Leigh, Esq.; Glou Morceau, Mr. George Aitken; Beurre Diel, Mr. H. Bateman; Winter Nelis, Mr. T. Winkworth, gardener to R. Brocklebank, Esq.; Easter Beurre, Mr. G. Aitken; any other ripe variety, Mr. J. Fleet; any other late keeping variety (Olivier de Serres), Mr. J. Fleet; any stewing pear (Catillac), Mr. J. Clack, gardener to J. G. Frost, Esq.

Culinary apples: Peasgood's Nonsuch, Mr. G. Aitken, with bronze medal; Newton Wonder, Mr. P. Greene, gardener to Thomas Gee, Esq.; Mère de Ménage, Mr. G. Franklin, gardener to G. Lisle Smyth, Esq.; Lane's Prince Albert, Mr. P. Greene; Dumelow's Seedling, Mr. W. Dunning; Wareham Russett, Mr. H. Dutton, gardener to B. C. Roberts, Esq.; Warner's King, Mr. P. Greene; Bramley's Seedling, Mr. P. Greene; Alfriston, Mr. E. Rowland, gardener to the Hon. C. Parker; Lord Derby, Mr. P. Greene; any other variety (Emperor Alexander), Mr. P. Greene; any other keeping variety (Yorkshire Greening), Mr. W. Dunning; any new variety (Byford Wonder), Mr. J. Weaver.

Dessert apples, six varieties: Rev. Canon Garnett, with well-coloured fruits. Kitchen apples, twelve varieties, Mr. R. R. Salmon. Kitchen apples, six varieties: Mr. T. Winkworth. Apples and pears, twenty-four varieties, Mr. G. Aitken, who had excellent Peasgood's Nonsuch apple and Doyenne du Comice pears. Dessert pears, six varieties, Mr. G. Aitken.

For two bunches of white grapes, Mr. J. Clack led with Muscat of Alexandria, and for two bunches of black grapes, Mr. C. Flack scored with well-coloured Alicante.

For six vases of naturally-grown chrysanthemums, Mr. A. Walker, gardener to Mrs. A. Ross, was placed first, and for six vases of single varieties, Mr. T. Griffiths, gardener to A. D. Campbell, Esq., led.

Groups of naturally-grown chrysanthemums were excellent, and Mr. G. Gilbert, gardener to T. Gibbons Frost, Esq., led with a pleasing display, second, Mr. E. Stubbs, gardener to Major MacGillycuddy. For a group of singles, Mr. E. Stubbs led with good, bright blooms; Mr. H. Lawson, gardener to Dr. Lawrence, second; and Mr. A. Walker third.

The best eighteen Japanese blooms, in six vases, came from Mr. C. Goves, gardener to Sir Gilbert Greenall, Bart., who showed good F. S. Vallis and W. Etherington; Mr. E. Ellis was second; and Mr. P. Jakeman, gardener to Sir W. Forwood, Bart., third.

The following exhibits were arranged not for competition: Messrs. Dicksons, chrysanthemums and carnations; Mr. F. W. Dutton, single chrysanthemums; Messrs. McHattie and Co., chrysanthemums and fruit; and Messrs. Clibrans, silver medal for cut chrysanthemums. Mr. N. F. Barnes, gardener to the Duke of Westminster, Eaton Hall, put up a table of apples and pears, all superbly coloured, and of fine size. There were about eighty dishes very tastefully arranged. Mr. H. Large, gardener to G. W. Hayes, contributed some well-grown begonias Gloire de Lorraine, which received a well-merited cultural certificate.

Manchester.

NOVEMBER 18, 19, and 20.

This show, held at the White City under the auspices of the Manchester Royal Botanical Society, with Mr. P. Weathers as secretary, proved the best held for some years, the blooms being good and the classes well filled.

For plants of nine large-flowered varieties, Mr. J. Smith, gardener to James Brown, Esq., as usual, held the leading position, but with plants hardly up to his usual style, though Souv. de W. Clibran and Mad. Ferlat were excellent. Mr. J. Royle, Sale, and Mr. J. Siddall, gardener to L. Breslaurer, Esq., took the other awards. For six Japanese specimens, Mr. Smith was again to the fore, followed by Mr. J. Royle and Mr. G. Wild. For six pompones, Mr. Smith won with well-flowered plants; Mr. H. Brocklehurst, gardener to A. R. Kelly, Esq., second. For a display of cut flowers, Mr. W. J. Garner and Messrs. Muirhead and Willcock were placed as named.

In the cut bloom class for twenty-four incurved and twenty-four Japanese, distinct, Mr. G. Haigh, gardener to Sir W. H. Tate, Bart., Woolton, held the coveted position with a telling stand, his best being F. S. Vallis, Mrs. A. T. Miller, Leigh Park Wonder, Hon. Mrs. E. Lopes, Mrs. Barkley, Mrs. E. Crosley, Buttercup, Miss F. Ashworth, Pantia Ralli, Amber Gem, Daisy Southam, and Romance; Mr. G. Hunt, gardener to Pantia Ralli, Esq., Epsom, second, with good blooms.

For thirty-six blooms, representing all sections except singles, Mr. Haigh again stood out with heavy blooms, his Descartes (anemone) and Cullingfordi (reflexed) being very good; Mr. J. Stoney, gardener to Lieut.-Colonel J. B. Gaskell, J.P., Woolton, followed with bright flowers; Mr. W. Metcalfe, gardener to Sir W. J. Crossley, Bart., Altrincham, third. For twelve incurved, Mr. G. W. Drake led with a good stand, Messrs. J. Hunt and G. Haigh coming second and third.

Mr. T. Stevenson, gardener to E. Mocatta, Esq., Addlestone, Surrey, led for thirty-six Japanese, with a grand, even lot, the size and colour being good; his stand included F. S. Vallis, Purity, Algernon Davis, Superb, Master James, Lady Talbot; Mr. G. Hall, Melchet Court, Romsey, second; and Mr. G. W. Drake, Cardiff, third. For eighteen Japanese, the prize takers were Messrs. T. Stevenson, W. Iggulden, and G. Hall, the first standing well to the front. In the class for twelve blooms, the winners were Messrs. T. Stevenson, G. Hall, and W. Iggulden; and in the local class Mr. C. Goves, gardener to Sir Gilbert Greenhall, Bart., Messrs. G. Haigh and J. Stoney, were placed as named.

For twenty-four incurved, Messrs. G. W. Drake, G. Hunt, and C. Goves were placed as named; and for twelve, the prizes went to Mr. S. Ollier, gardener to F. Ashworth, Esq., Knutsford; Mr. W. Metcalfe, and Mr. C. Goves. The awards for the baskets of chrysanthemums went to Messrs. J. Nixon, W. J. Garner, and A. Porter.

Mr. W. Foster, gardener to S. Petrocochino, Esq., had the best Roman hyacinths; Mr. G. Bramwell and Mr. W. Foster led for primulas; and Messrs. W. Bramwell, D. Roberts, gardener to Mrs. Tattersall, and E. Smith had the best cyclamens. Mr. J. Smith won for a miscellaneous group, his palms being in excellent health.

Messrs. Toogood and Sons, Southampton, received a gold medal for a meritorious display of vegetables. The British Columbian Government secured a like award for a display of apples, and Messrs. F. Dicks and Co., and Messrs. Muirhead and Willcock also had non-competitive exhibits.

Aylesbury.

NOVEMBER 18.

Cultivators at this Bucks centre were favoured with open weather on the occasion of the thirtieth annual show, which was held in connection with a "bread competition," as in the past two seasons, over 2,000 loaves being staged for the prizes offered by milling firms in various parts of the kingdom. The idea appears to have caught on, as the attendance of visitors demonstrated.

The schedule of prizes for chrysanthemums had been very carefully revised, and certain classes eliminated, the incurves being limited to six of one variety. There was the usual array of bush specimens, but the development of the blooms had been seriously retarded by want of sunlight, and some of the specimens in the sixes and fours had but one flower expanded. The pompon bushes were fairly well bloomed, but the Cedo Nulli group do not tell for much with their flat flowers. Several groups were arranged around the sides of the Town Hall, but none of them appeared specially striking owing to the poor quality of the blooms. One fine group, however, made a feature. It was arranged by Mr. H. Warren, gardener to Lady A. Rothschild, Aston Clinton, who had an immense kentia palm flanked by two smaller examples, these gracefully shaded about eight lines of ponderous blooms, in which F. S. Vallis was very noticeable, faced by a circling line of specimen Gloire de Lorraine begonias, with a massing of ferns and foliage for an edging; an award of merit was given.

In the cut bloom section Mr. W. Tipler, gardener to Mrs. E. D. Lee, Hartwell Park, was a most successful exhibitor, securing the awards for two dozen blooms and eight vases (triplets), his premiers being Mrs. W. Knox, Splendour, Mrs. A. T. Miller, Lady Hopetoun, The Duchess, Beatrice May, Glitter, The Lyon, Reginald Vallis, Mrs. N. Wright, and F. S. Vallis. For six, one variety, incurved, the card rested on a fine lot of Mad. Ferlat, staged by Mr. G. Clark, gardener to T. Gurney, Esq.; Mr. Tipler second with C. H. Curtis, grand in colour, but scarcely fully developed; while for one bloom, the cards went to Mr. J. C. Bridge and Mr. Tipler as equal first, the latter with F. S. Vallis, and the former with Romance, a magnificent compact bloom. For six Japanese, one variety, Mr. Bridge was first with F. S. Vallis, and Mr. Tipler second with Leigh Park Wonder. The bowls of Japanese blooms, with foliage, were excellently arranged, Mr. G. G. Giles, occupying the post of honour with a taking exhibit. Mr. Tipler was awarded premier honours for half a dozen bunches of Japanese blooms, for singles, and for spidery, plumed, or thread-petalled varieties.

Fruit was interesting but small in quantity, and deficient in colour. Of apples, Cox's Orange Pippin and King of the Pippins were fairly good; the best of the culinary sorts being Peasgood's Nonsuch, Warner's King, Emperor Alexander, Lane's Prince Albert, and Newton Wonder. For grapes (Alicante) Mr. Tipler led; Mr. C. Partridge, gardener to Colonel H. Bernard, Chearsley Manor, second; with Mr. H. Brandon, gardener to Mrs. H. Gurney, third.

Vegetables are always a feature; nearly 1,000 specimen tubers were staged in the single dish potato classes. Carrots were better than has been noted elsewhere, and onions, though scarcely as large as the usual run of Ailsa Craig types, were a grand lot and numerous. The employees at the printing works contributed largely of their allotments produce.

Bolton.

NOVEMBER 19 and 20.

The twenty-third annual show was held in the Albert Hall, and compared very favourably with its predecessors. Groups and tables of plants were the predominant feature, the plants utilised being admirably selected and successfully cultivated.

For the circular group of miscellaneous plants Mr. W. Burgess, gardener to John Harwood, Esq., secured the first award and the silver challenge cup with a praiseworthy arrangement, in which crotons and palms played an effective part; the centre was a well-built pyramid, but would have been improved by a few more flowers. Mr. H. Shone, gardener to J. W. Makant, Esq., was second with an effective display of good material. Mr. J. Wainwright, gardener to E. T. Crook, Esq., was third with a highly creditable display. For a group of chrysanthemum plants, undisbudded, Mr. W. Burgess was to the fore, thus securing another challenge cup with a combination of bright-coloured flowers well arranged; Mr. H. Wainwright, gardener to Charles Taylor, Esq., followed with a group that lacked lustre and variety. In the class for a group of large flowering chrysanthemums, Mr. D. Wilson, gardener to Miss Annie M. Philips, was the first and only competitor, and secured a silver challenge cup.

The best table of orchids came from Mr. W. Holmes, gardener to J. McCartney, Esq., who had a choice selection, well arranged, in which Lycaste Skinneri alba, cattleyas, oncidiums, and odontoglossums were nicely arranged on a base of nephrolepis; Mr. H. Arthur was second with a pleasing combination. Mr. W. Holmes was again to the fore for a table of cypripediums with many choice varieties; Mr. H. Arthur was an excellent second. In the four classes for Roman hyacinths the first-prize winners were Messrs. W. Holmes, C. Weaver, D. Wilson, and Jos. Trevina. Mr. Jas. Entwistle took the lead for carnations.

For a ball-room bouquet Mr. J. Nixon won with orchids, and for a bridal bouquet Mr. A. Adshead was to the fore with odontoglossums.

For twelve Japanese and twelve incurved blooms, distinct, Mr. G. Drake, Cardiff, led, his best examples being F. S. Vallis, Lady Talbot, V. Greenham, G. F. Evans, and C. W. Matthews; Mr. A. Chandler, gardener to A. James, Esq., Rugby, second. For thirty-six Japanese, Mr. Chandler came out top with good blooms; Mr. C. Jones, gardener to Sir E. Evans, Bart., Bromborough, and Mr. G. Drake secured the remaining awards. For six vases of singles Mr. H. Shone led, and Mr. R. Tyrer was second. For six vases of decorative varieties Mr. D. McKelvie, gardener to H. Stone, Esq., Roby, was to the fore.

For two bunches of Alicante grapes Mr. H. Shone led, with Mr. J. Wright, gardener to E. Lord, Esq., second. For two bunches of white grapes Mr. T. Barclay, gardener to S. Cook, Esq., St. Helens, won. In the classes for three dishes of dessert apples, three dishes of culinary varieties, and three dishes of pears Mr. J. Bayley, gardener to Lady Hindlip, was first in each case with moderate fruits.

Mr. J. Lloyd led for primulas, Mr. W. Burgess for cyclamen, Mr. D. McKelvie for begonias, and Mr. J. Lloyd for table plants. Mr. H. Shone had the best palm, a Phœnix rupicola, and Mr. J. Wainwright had the winning hanging basket, and also led for a hanging basket of flowers.

Mr. H. Wainwright had three good single chrysanthemums, and Mr. W. Burgess one plant and one single specimen, the latter being well flowered.

Mr. J. Lee, Bebington contributed, not for competition, fifty dishes of apples, all the fruit being of fine form.

Royal Horticultural Society.

The recent severe weather was reflected in the Royal Horticultural Hall on Tuesday last, as exhibits were fewer than usual; there was a bright display, however, chrysanthemums, begonias, orchids, carnations, and fruits being all brought up in large numbers. There was an excellent attendance during the afternoon.

FLORAL COMMITTEE.

A grand group of chrysanthemums was set up in a delightfully artistic manner by Mr. H. J. Jones, Ryecroft Nursery, Lewisham, and during the middle of the afternoon it was a difficult matter to get near the display. There were beautiful baskets of yellow, and crimson and gold varieties, Japanese and single forms being often associated with the most pleasing results. Some of the bolder vases and stands were of such varieties as Crimson King, Buttercup, True Gold, Mdme. G. Rivol, Mrs. Hygate, F. S. Vallis, and Mrs. Elliott. Single varieties were splendidly shown, and this popular section was represented by Mensa (A.M.), Cloth of Gold, J. B. Lowe (A.M.), Gen. Bullough, Pictor (blush pink), and Kathleen May (crimson). It was a splendid group, and a fine feature of the show.

Messrs. R. and G. Cuthbert, Southgate, showed several pans of red hyacinths, Sir John Foxburgh and King of the Reds particularly early-flowered. Single chrysanthemums in great variety were elegantly disposed by Mr. L. Lawrence, Shoreham Cottage, Shoreham; the majority were seedlings, and demonstrated the interest that the raising of single varieties must create.

Messrs. Jas. Veitch and Sons, Chelsea, submitted a fine lot of well-grown chrysanthemums in 48-sized pots, all finely flowered and of highly decorative character. The leading varieties were Niveus, Arcturus, Wm. Grix, Market Red, Kitty Bourne, the fine pink Ursa Major, the rich rosy-cerise Roupell Beauty, and the very elegant white Feltham White. The same firm filled a table with their beautiful winter-flowering begonias, and more than half the plants shown were exhibited at Westminster a month previously. Brilliantly flowered, sturdy, and defiant of the season were such fine things as Mrs. Heal, Julius, Winter Cheer, Ensign, Success, the pretty dwarf Agatha, and the new and very bright-flowered Elatior. All these are splendid for winter flowering.

Mr. Bullock, gardener to Mrs. Wythes, Copped Hall, Epping, also demonstrated the value of these winter-flowering begonias by staging a big group of well-grown examples of Ensign, grouping these with palms and ferns. Begonia Ensign was also very well shown by Mr. Burrell, gardener to J. A. Dunn, Esq., Coombe Cottage, Kingston Hill, Surrey, who set up about thirty good plants. Single chrysanthemums, put up in triangular bunches by Messrs. H. Cannell and Sons, Swanley, made a good show; Mars, Yellow Pagram, Cannell's White, Mrs. Chas. Willis, and Mrs. W. J. Hartin were prominent varieties.

From Messrs. Stuart Low and Co., Enfield, came a bright lot of perpetual carnations, the most notable varieties being Britannia, Enchantress, May Day, Mrs. Crook—a new red and pink flaked variety, and a number of new seedlings; they also showed Begonia Patrie. The striking Lilium nepalensis was exhibited by Messrs. Mansell and Hatcher, Rawdon, Leeds, a fine companion to L. sulphureum. Mr. Page, Tangley Nurseries, Hampton, brought up a magnificent zonal pelargonium, with blooms 3 inches and 3¼ inches across, vivid scarlet with tiny white eye, named His Majesty (A.M.); it is a grand winter bloomer, and also promises to be a good summer bedder.

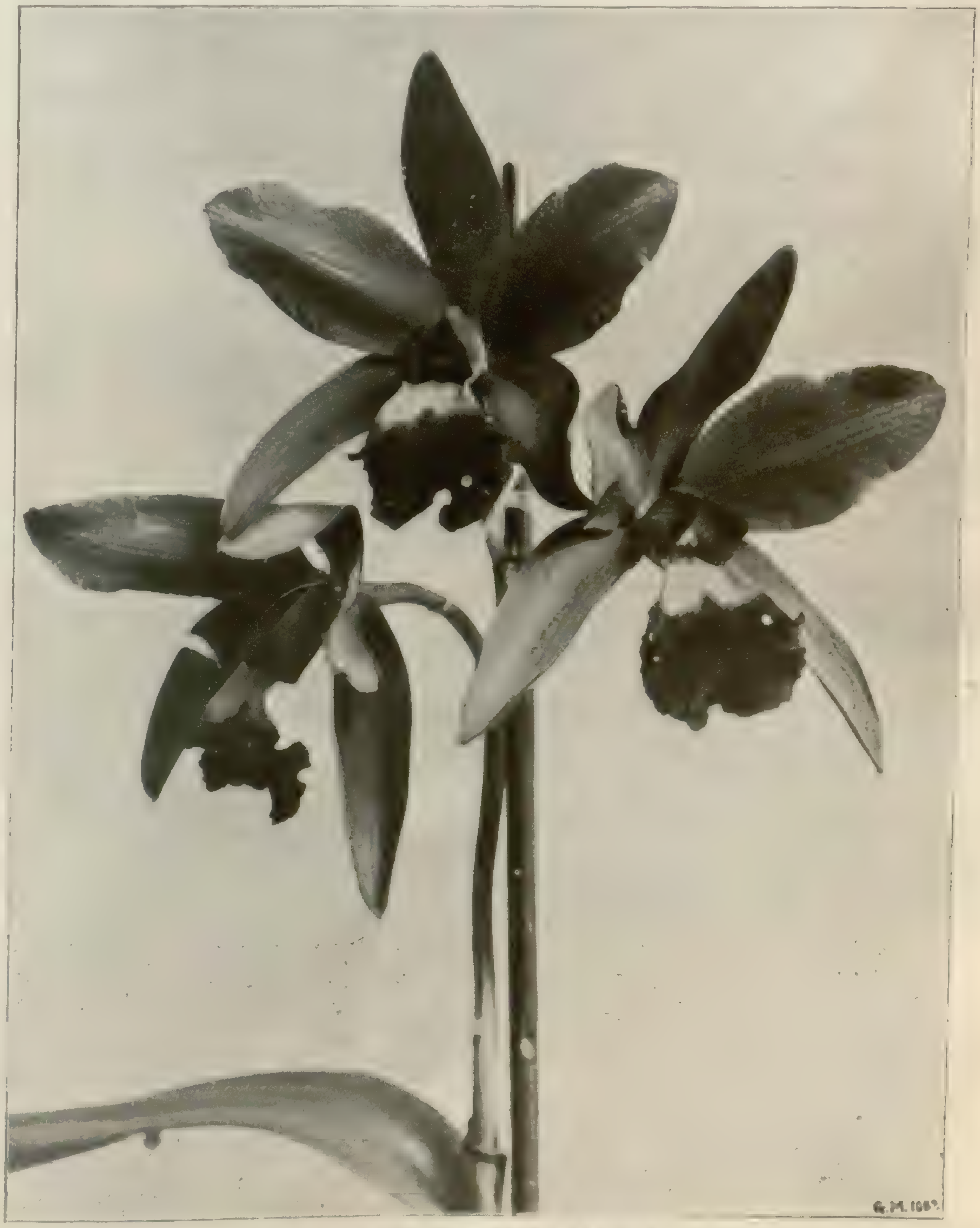
Some charming perpetual carnations were set up by Mr. A. F. Dutton, Iver, Bucks, the flowers of Pink Delight, Wanaka, May Day, and Alvina being particularly good. Mr. T. Crosswell, gardener to Mrs. Bullivant, Eden Park, Beckenham, showed a lovely pale cream yellow single chrysanthemum named Miss Lilian Bullivant (A.M.). Messrs. Wells and Co., Merstham, were represented by a bright group of chrysanthemums that included Japanese, decorative, and single varieties, the latter being very much in evidence; Felicity, Kathleen Stevens, Lady Brook, White Pagram, and Miss Kathleen Wells (large crimson) single varieties, were fine, and the new amber-coloured Japanese variety named Bessie G. Payne (that was the silver medal variety at Edinburgh) was finely represented. Other good things were Miss M. Smith and R. F. Felton, two good decorative varieties. Messrs. J. Peed and Son's contribution, from West Norwood, consisted of alpines and succulents.

A large group of cut perpetual carnations from Messrs. Cutbush and Son, Highgate, N., was notable for its fine flowers of Lady Norah Brassey, Beacon, Victory, Aurora, Enchantress, May Bennett, Mrs. Burnett, Lady Ridley (the first perpetual yellow-ground picotee), Helen M. Gould, White Perfection, and Rose Doré. A selection of varieties of Primula obconica submitted by Messrs. Sutton and Sons, Reading, was interesting, as it contained pink, crimson, white, and deep pink varieties, and indicated the increasing range of colour in this useful plant.

Mr. Frank Lilley, Guernsey, put up a large group of single chrysanthemums in considerable variety. Messrs. G. Williams and Sons, Cardiff, displayed single, decorative, and Japanese varieties of the Autumn Queen, their stand of the big single rose-coloured Caledonia proving as attractive as their big blooms of Lady Talbot and F. S. Vallis.

Very finely grown, dwarf, free-flowered chrysanthemums, in 48-sized pots, as exhibited by Messrs. Butler Brothers, Burr Farm, Bexley, were superb examples of high cultivation. Each plant was a perfect specimen and of immense decorative value. Messrs. H. B. May and Sons, Edmonton, contributed a set of beautiful selaginellas and a set of the newer nephrolepises, the latter including N. recurvata and N. splendens (A.M.).

Mr. Frank Brazier, Caterham, contributed a big semicircular display of Japanese and single chrysanthemums, arranged with Michaelmas daisies, palms, and other foliage plants.



LÆLIO-CATTLEYA KING MANOEL.

A distinct hybrid with bright orange-red flowers, exhibited by Francis Wellesley, Esq., at R.H.S. Meeting on Tuesday last, when it received an Award of Merit.

ORCHID COMMITTEE.

Some very fine specimens of Cypripedium insigne Sanderæ, one of them carrying sixteen fine blooms, came from Messrs. J. and A. A. McBean, Cooksbridge, Sussex, together with a few other cypripediums. Mr. Bolton, Wilderspool, Warrington, showed the white Cypripedium Boltoni (F.C.C.), a beautiful thing derived from C. insigne Sanderæ. Mr. H. J. Chapman, gardener to Mrs. N. Cookson, Oakwood, Wylam, showed the chaste new Calanthe Cooksoniæ, pure white. The interesting Cirrhopetalum longissimum (F.C.C.), with long pink flowers, was shown by Mr. White, orchid grower to Sir Trevor Lawrence, Dorking, and attracted a great deal of attention.

Messrs. Charlesworth and Co., Haywards Heath, brought up Odontoglossum ardentissimum, O. Armainvilliersense, the new violet and purple-brown Zygo-colax Charlesworthi, Cattleya Venus, C. lucida, C. Rhoda, and the lovely buff-tinted Lælio-cattleya Melthorpe Beauclerk. Mr. G. Day, gardener to H. S. Goodson, Esq., Putney, sent Odontoglossum crispum Cooksoni and L.-c. Golden Oriole. A well-grown plant of Cypripedium Ville de Paris, with five flowers, was shown by Mr. Davis, gardener to J. G. Fowler, Esq., Glebelands, South Woodford. Mr. Hopkins, gardener to Francis Wellesley, Esq., Westfield, Woking, showed the handsome Cypripedium Waterloo, and the brilliant and novel Lælio-cattleya King Manoel (A.M.), with vivid orange-coloured flowers, and yellow and maroon lip (see illustration).

Messrs. Stanley and Co., Southgate, were represented by a small group of cypripediums. Mr. H. Alexander, orchid grower to Lieut.-Colonel Holford, Westonbirt, Gloucester, exhibited several splendid plants, the kinds being Lælio-cattleya Golden Beauty Westonbirt var., with a head of twelve golden blooms; L.-c. Barbarossa Westonbirt var. (F.C.C.), with four big flowers; L.-c. Paulina, and Cattleya Dirce superba.

A very fine lot of cypripediums was well set up by Messrs. Jas. Veitch and Sons, Chelsea, the plants being all arranged about on a level with the eye, and set in a bed of maidenhair fern. Among the many good things were C. Thalia, C. vexillarium, C. insigne Harefield Hall, C. Maudiæ magnificum, C. St. Alban, C. Fairrieanum, C. insigne Sanderæ, C. Spicerianum, and C. insigne Chantini. The group of orchids from Messrs. Stuart Low and Co., Enfield, contained Cattleya labiata, Cypripedium insigne Sanderæ, Dendrobium formosum giganteum, Ionopsis paniculata, oncidiums, etc. Messrs. J. Cypher and Sons, Cheltenham, displayed a bank of useful cypripediums, their best being C. insigne Harefield Hall, C. i. Sanderæ, C. Mdme. Jules Hye, C. Minos Veitchi, and varieties of C. insigne. Mr. Maurice Mertens, Ghent, again brought forward some charming odontoglossums of hybrid origin.

FRUIT AND VEGETABLE COMMITTEE.

Some well-grown apples set up in large baskets, by Messrs. W. Seabrook and Sons, Chelmsford, made up a big group; Warner's King, Ribston Pippin, Bismarck, Blenheim Pippin, Cox's Orange Pippin, Allington Pippin, Peasgood's Nonsuch, and Beauty of Kent were all uncommonly good. Beurre de Naghan pear, a fine variety, was well shown by its introducers, Messrs. J. Cheal and Sons, Crawley, who also submitted a basket of the new apple Encore.

Messrs. Ambrose Palmer and Co., 87, Mount Street, Grosvenor Square (Nurseries, Halliford, Middlesex), contributed some splendid fruits of Doyenne du Comice, Bergamot d'Esperen, and Beurre Clairgeau pears, and Lane's Prince Albert, Cox's Orange Pippin, and a few other apples. From the Woburn Experimental Fruit Farm came an exhibit of fruits, showing the effect of grassing near standard trees after twelve or fifteen years of tillage—all small fruits; a set from trees carefully planted in trenched ground (normal), in untrenched ground (relative value 209), and carelessly planted in untrenched ground and generally neglected (relative value 105). In another set it appeared that no manurial dressing gave a relative value of 105 as compared with a normal crop (100), as a result of light and heavy dressings of manure. Summer pruning gave a value of 70, light pruning 100, and no pruning a relative value of 131. It would seem from these exhibits that careless planting, no manuring, and no pruning pay best in apple culture—at Woburn.

COMPETITIVE EXHIBITS.

Messrs. Seabrook and Sons, Chelmsford, were first for four dishes each of dessert and eight of cooking apples, and showed Chas. Ross, Mother, Cox's Orange Pippin, Bismarck, Gascoigne's Scarlet, and Peasgood's Nonsuch in excellent form. Messrs. Ambrose Palmer and Co., Halliford, gained a silver-gilt Banksian medal in this class, and their dish of Chas. Ross was very fine.

Mr. Gerrish, gardener to J. G. Williams, Esq., Pendley Manor, Tring, Herts, led for three dishes of dessert and six dishes of cooking apples with a fine set of Rival, Chas. Ross, Cox's Orange Pippin, Peasgood's Nonsuch, Emperor Alexander, Lane's Prince Albert, Lord Derby, Bismarck, and Gloria Mundi; Mr. W. H. Bacon, gardener to Sir Marcus Samuel, Bart., The Mote, Maidstone, second; and Mr. A. Tidy, gardener to C. H. Combe, Esq., Cobham Park, Surrey, third.

In the pear classes Mr. A. Tidy scored for seven dishes of dessert and two of cooking varieties with excellent examples of Pres. Drouars, Chas. Ernest, Pitmaston Duchess, Beurre d'Anjou, Doyenne du Comice, General Todleben, Beurre Diel, Duchess d'Angoulême, and Uvedale's St. Germain. Mr. Bacon second, and Mr. C. Page, Dropmore, third. For six dishes of pears Mr. T. Pateman, gardener to C. Cain, Esq., The Node, Welwyn, Herts, was first, and Mr. H. Markham, gardener to Viscount Enfield, Wrotham Park, Barnet, second.

CERTIFICATES AND AWARDS.

First-class Certificate.—To Lælio-cattleya Barbarossa Westonbirt var., from Lieut.-Col. Holford (grower, Mr. Alexander), Westonbirt, Gloucester.

To Cirrhopetalum longissimum, from Sir Trevor Lawrence, Bart., Dorking (grower, Mr. White).

To Cypripedium Boltoni, from Mr. W. Bolton, Warrington.

To Lælio-cattleya Nelthorpe Beauclerk, from Messrs. Charlesworth and Co., Haywards Heath.

Award of Merit.—To Cattleya Dirce superba, from Lieut.-Col. Holford.

To Lælio-cattleya King Manoel, from Francis Wellesley, Esq. (gardener, Mr. Hopkins), Westfield, Woking.

To Zygo-colax Charlesworthi, from Messrs. Charlesworth and Co.

To single chrysanthemums Mensa and J. B. Lowe, from Mr. H. J. Jones, Lewisham.

To zonal pelargonium His Majesty, from Mr. W. H. Page, Hampton.

To single chrysanthemum Mrs. W. Buckingham, from Mr. L. R. Russell, Richmond.

To single chrysanthemum Miss Lilian Bullivant, from Mrs. Bullivant (gardener, Mr. Crossfield), Eden Park, Beckenham.

To Nephrolepis splendens, from Messrs. H. B. May and Sons, Edmonton.

MEDALS.

Silver-gilt Flora.—To Mr. H. J. Jones, Ryecroft Nursery, Lewisham, for chrysanthemums; to Messrs. Jas. Veitch and Sons, Chelsea, for begonias and chrysanthemums.

Silver Flora.—To Messrs. W. Cutbush and Sons, Highgate, for carnations; to Messrs. H. B. May and Son, Edmonton, for ferns and selaginellas; to Mr. L. R. Russell, Richmond, for shrubs and chrysanthemums; to Messrs. J. Veitch and Sons, Chelsea, for orchids; to Messrs. Charlesworth and Co., Haywards Heath, for orchids.

Silver Banksian.—To Messrs. J. Cypher and Sons, Cheltenham, for orchids; to Messrs. Stuart Low and Co., Enfield, for orchids; to Messrs. J. and A. A. McBean, for orchids; to Messrs. Butler Brothers, Burr Farm, Bexley, for chrysanthemums; to Messrs. H. Cannell and Sons, Swanley, for chrysanthemums; to Messrs. W. Seabrook and Son, Chelmsford, for apples.

Bronze Flora.—To Mr. M. Bullock, gardener to Mrs. Wythes, Copped Hall, Epping, for Begonia Ensign; to Messrs. Stuart Low and Co., Enfield, for carnations; to Messrs. Williams and Son, Cardiff, for chrysanthemums; to Messrs. W. Wells and Co., Merstham, for chrysanthemums; to Mr. F. Lilley, Guernsey, for chrysanthemums.

Bronze Banksian.—To Mr. J. A. Dunn, Kingston, for Begonia Ensign.

SCIENTIFIC COMMITTEE, November 9.

Present: E. A. Bowles, M.A., F.E.S., F.L.S. (in the chair), J. T. Bennett Poë, A. W. Hill, R. A. Rolfe, W. E. Ledger, W. Hales, J. Douglas, and F. J. Chittenden (hon. secretary).

VARIATION IN BLUE PRIMROSES.—Attention was drawn to the fact that several primulas had varied in the same directions as P. sinensis, particularly noting the fimbriation of the edges of the petals which occurred in P. obconica, P. japonica, P. Sieboldi, and P. x. Kewensis. It was enquired whether any member of the committee had noticed similar variations in the common primrose, P. acaulis. Mr. Chittenden said he had once seen a plant with the edges both of the petals and sepals much cut in a cottage garden at Chelmsford, but no other member of the committee had noticed any. Mr. Douglas and Mr. Fraser pointed out that if seedlings showed signs of roughness at the edges of the petals they would be discarded immediately by florists, and no record would be kept. The committee would be glad to hear of instances of parallel variations in different species of primula under either natural conditions or when cultivated. For instance, double forms of P. acaulis are well known in gardens, but appear to be very rarely wild, and there seems to be only one record of their being raised from seed (by Mr. Murray Thompson, in litt.), while doubling of a similar nature has occurred in P. sinensis.

VARIATION IN BLUE PRIMROSES.—From the garden of Sir Arthur Hort, Bart., came red flowers of primroses which in the spring bear blue flowers. It was suggested that the change may be due to the cell sap being acid in reaction instead of alkaline, owing, perhaps, to some variation in external conditions such as temperature.

SCILLA SOCIALIS.—Mr. W. E. Ledger showed a specimen of this uncommon Natal plant, flowering profusely. It was figured by the late Mr. Wilson Saunders in "Refugium Botannicum," t. 180, and the present plant appeared to be a direct descendant of the plant originally figured. When treated liberally, it appears to increase fairly rapidly, though slow to grow when starved, numerous plants forming around the central one.

MALFORMED ORCHIDS.—Mr. G. Wilson, F.L.S., showed malformed Lycaste Skinneri, odontoglossum, and cattleyas, upon which Mr. Rolfe, who examined them, reported as follows:—"The flower of Lycaste Skinneri has a free, dark purple filament, ¾-inch long, opposite to one of the side lobes of the lip, and as the latter has lost its colour and become like the petals in texture, it is an evident case of replacement. There are three flowers of Cattleya labiata, one in which the lip has reverted to a simple petal, giving a regular perianth, while the column is straight and has an additional perfect anther, showing that one side-lobe of the lip has been developed as an anther, while the other has been suppressed. In a second flower the sepals have become petal-like in shape and colour. In the third flower there are two sepals, two petals, and a slender column and anther, the lip being totally suppressed, and the flower dimerous. The other is a three-flowered inflorescence of Odontoglossum crispum, in which the column is abortive in each case, and the lip rather full, though otherwise normal."

TRIFOLIUM HYBRIDUM MALFORMED.—Mr. H. T. Gussow, of the Central Experimental Farm, Ottawa, Canada, sent some specimens of Trifolium hybridum, which was sent to the botanical division of the Experimental Farm, Ottawa, Ontario, Canada, by a farmer whose crop showed a peculiar development throughout. The heads were produced in axillary, compound, long, peduncled umbels. The umbels measured from ⅓ to 1 inch in breadth and were 8 to 26 rayed. The pedicels were from 2 to 4 mm. long, flattened, and 1 mm. broad. Involucre none, or reduced to several scale-like bracts, 1 mm. long, acutely linear; involucel, scale-like, membraneous bracts 1½ to 2 mm. long, umbellets 6 to 12 flowered. The flowers, unfortunately, could not be examined, as they had not sufficiently developed. Any botanist might have been puzzled to identify the plant if the inflorescences only had been sent. The plant at first sight looked more like an umbelliferous than a leguminous plant.

Banbury.

NOVEMBER 17 and 18.

Bright, but very cold weather attended the holding of the twenty-fourth exhibition in the town of sweet cakes. Entries for the show proved such a record as to exclude all non-competitive exhibits, much to the disappointment of the several traders who liberally support the association. About 560 specimen blooms were staged, a large proportion being ponderous examples of popular varieties. The schedule provided for no plants save and except primulas, cyclamens, winter-flowering begonias, and a table of orchids. In this last-named section the twenty-guinea challenge cup, cash, and the N.C.S. certificate of merit went to Mr. G. F. Hallett, gardener to Lady Fermor Haskett, Easton Neston, for a very tastefully arranged grouping of cattleyas, vandas, odontoglossums, oncidiums, tuberoses, and brilliant narrow-leaved crotons, faced by pretty specimens of Gloire de Lorraine begonias, and edged with a dense massing of ferns; the second award fell to Mr. J. M. Bush, gardener to F. J. Myers, Esq., Charlton Lodge, who was strong with calanthes, vandas, carnations, tuberoses, etc., in addition to other subjects named above. The several exhibits of Gloire de Lorraine begonias were quite a feature, these being strong bushes of grand colour; the place of honour was assigned to Mr. G. H. Bonner, gardener to S. J. Waring, Esq., Watlington Park.

For nine vases, of three blooms each, the challenge cup, cash, and N.C.S. certificate went to Mr. Bush, who was in splendid form; his best were Bessie Godfrey, Marquis of Northampton, Mrs. Dalton, Walter Jinks, Edith Smith, F. S. Vallis, Mrs. W. Cole, Reginald Vallis, and W. E. Etherington; Mr. S. Brown, gardener to W. C. Cartwright, Esq., Aynho Park, was a good second; Mr. Hallett, third. For eighteen blooms Mr. Bush held his own with a matchless even set, including Duchess of Sutherland, Pockett's Surprise, Mrs. N. Davis, Splendour, O. H. Broomhead, Mrs. Barkeley, Algernon Davis, Edith Jameson, Maud Jefferies, Hon. Mrs. Lopes, Madame P. Radaelli, Madame Rivol, and others previously mentioned.

Twelve incurved was a good class, the blooms all beautifully finished, the premier award going to Mr. F. Tapper, gardener to Sir S. Scott, Bart., M.P., the varieties being Mrs. Hygate, W. Pascoe, Embleme Poitevine, Madame G. Denyer, C. H. Curtis, Hanwell Glory, Clara Wells, Romance, Pearl Palace, Captain, Mrs. Judson, and Pantia Ralli; Mr. Hallett, second. For six, one variety, the awards fell to lovely forms of C. H. Curtis, Frank Tustin, and Buttercup. In the class for six Japanese (white), Mr. Bush led with Mrs. W. Cole; Mr. Bonner, second, with Miss Elsie Fulton; for six (not white), the awards were in favour of Mr. G. A. Sadler, gardener to Rev. W. Bradford; Mr. Bush, and Mr. G. Low, gardener to Lady Gordon-Lennox, Broughton Castle, each staging F. S. Vallis. In the amateurs' section, six of one variety proved a good class, the prizes going to Mr. W. J. Florey (schoolmaster), Chipping Warden, with Mrs. N. Davis; Mr. L. H. Southam, for Reginald Vallis; and Mr. R. H. Harper, with F. S. Vallis.

Fruit was a large and attractive section, Mr. E. Cox, gardener to Lady Keighley, securing the society's ten-guinea challenge cup and cash for a table of dessert fruit and flowers, also the premier for Muscat of Alexandria grapes; Mr. Brown leading in the class for Alicantes. For six dishes of culinary apples, Mr. G. Stockley, gardener to T. L. M. Cartwright, Esq., Newbottle Manor, was first; while for a like number of dessert varieties Mr. D. S. Power, gardener to Lord North, Wroxton Abbey, headed the list; the premier dozen of culinary apples were Gloria Mundi, and of dessert King of the Pippins. Cox's Orange Pippin was largely staged. Pears were numerous, but wanting in colour; several of the Pitmaston Duchess were large, and there was one very bulky exhibit of shapely Beurre Diel; the variety Doyenne du Comice secured the awards in the single dish class.

Vegetables were a large show, some 80 dozens being staged, and the onions numbered 150 bulbs, the premier twelve, in the open, from Mr. J. Swain, cemetery keeper, Banbury, being very large, and of grand form. Mr. R. Wadham, gardener to Mrs. Bradshaw, Steeple Aston, secured the champion award for a collection of vegetables in which the leeks were gigantic; Mr. S. Boss was first in the amateur section for a well-balanced set of varieties. Mr. A. Busby, gardener to Colonel Murray, Deddington, headed the list with six dishes of potatoes, his selection being Royal Kidney, Twentieth Century, King Edward VII., Up-to-Date, Windsor Castle, and Purple Perfection; while for one dish Mr. S. Bricknell, gardener to T. W. Holland, Esq., Chipping Warden, led with Duchess of Cornwall; and Mr. E. Cox, second, with Edgecote Purple. Carrots, parsnips, and celery formed a large portion of the exhibits staged.

Reading Gardeners' Association.

The coming of age celebration of the above flourishing society was held on Wednesday, November 17, in the Small Town Hall, Reading, and took the form of a fine non-competitive exhibition, to which admission was charged, and the proceeds divided between the two gardening charities. The association numbers about 350 members, and was, therefore, able to hold a fine exhibition.

Three large groups were arranged on the platform. The one from Mr. Johnson, gardener to S. B. Joel, Esq., Maiden Erleigh, was composed of chrysanthemums and foliage plants; that from Mr. Townsend, gardener to Leonard Sutton, Esq., Hillside, Reading, was of seedling chrysanthemums; and the third, from Messrs. Sutton and Sons, was also composed of chrysanthemums raised from seeds sown on January 23 last.

Some splendid fruit, including oranges and citrons, were submitted by Mr. Powell, gardener to Mrs. Noble, Park Place, Henley, who also showed new potatoes growing on old retarded tubers. Zonal pelargoniums, collections of fruits, chrysanthemums, begonias, etc., etc., were all set out with great taste, and every exhibitor did his best to make the occasion a notable and successful one.

Mr. F. B. Parfitt, the president, declared the show open, and in his address he reviewed the history of the association, and pointed out the great help it had been to the horticulture of the Reading district, and to the gardening charities.

The following is a list of the exhibitors:

Collections of Fruit.—F. B. Parfitt, Esq., Caversham; A. W. Jackson, Esq., Shiplake (gardener, Mr. J. H. Crook); Mrs. Noble, Park Place, Henley-on-Thames (gardener, Mr. T. J. Powell); S. B. Joel, Esq., Maiden Erleigh (gardener, Mr. F. Johnson); Mr. G. W. Layley, Beenham; Martin J. Sutton, Esq., Holme Park, Sonning (Mr. R. Doe); A. F. Walter, Esq., Bearwood (Mr. W. Barnes); Mr. J. Roberts; Miss Cripps (Mr. G. Durrant); Mrs. Simonds (Mr. J. Timms); Mr. Howlett; F. Lowenadler, Esq., Badgemore (Mr. T. Hatton); Sir W. Farrer, Sandhurst Lodge (Mr. W. J. Townsend); Mrs. Bland Garland, Lower Redlands (Mr. H. Wilson); J. Ridges, Esq., Leighton Park (Mr. G. Tovey); Mrs. Austin, Whitley Lodge (Mr. W. Bennett); Dr. C. M. Powell, Caversham (Mr. G. Boxall); His Grace the Duke of Wellington, Strathfieldsaye (Mr. A. G. Nicholls); T. R. Harmon, Esq., Sindlesham House (Mr. T. Neve). W. Pole Routh, Esq., Oakfield (Mr. H. House); Mr. F. W. Macdonald; Count Gourowski, Woolhampton Park (Mr. G. Kemp).

Collections of Vegetables.—Sir W. Farrer, Sandhurst Lodge (gardener, Mr. W. J. Townsend); University College, Reading (Mr. Drew); L. R. Erskine, Esq., Binfield Manor (Mr. C. Earl); Mrs. Wheeler, Hatchgate (Mr. T. Judd); Mrs. Collins, Stoneham House (Mr. H. Goodger); Mr. E. J. Dore; Mrs. Simonds (Mr. Timms); Mr. G. Hatch, The Gardens, Caversham Hall, Suffolk.

Groups of Plants, etc.—Rufus D. Isaacs, Esq., K.C., M.P., Fox Hill (gardener, Mr. Exler), Primula obconica; L. G. Sutton, Esq., Hillside (Mr. F. Townsend), seedling chrysanthemums, Primula obconica, and Primula sinensis; L. R. Erskine, Esq., Binfield Manor (Mr. C. Earl), cut seedling chrysanthemums; M. H. F. Sutton, Esq. (Mr. H. C. Loader), seedling chrysanthemums; W. Howard Palmer, Esq., Heathfield, Wokingham (Mr. W. C. Moles), pelargoniums; Colonel Thornton, Maidenhatch (Mr. W. Clarke), begonias and cyclamen; Captain D. M. Millar, Blandford Lodge (Mr. Reeves), geraniums; G. Bird, Esq. (Mr. Abrahams), geraniums; Mrs. Bland Garland, Lower Redlands (Mr. H. Wilson), chrysanthemums; Mr. G. Stanton, Upper Culham, dried flowers and grasses; Messrs. Sutton and Sons, seedling chrysanthemums; S. B. Joel, Esq., Maiden Erleigh (Mr. F. Johnson), chrysanthemums, begonias, etc.; Miss Cripps, Preston (Mr. G. Durrant), chrysanthemums, etc.; A. G. Vanderbilt, Esq., Shiplake (Mr. G. Preston), foliage plants.

British Gardeners' Association.

The November meeting of the London Branch took place at Carr's Restaurant on Thursday, November 11, Mr. E. F. Hawes presiding. The Chairman announced that 360 circular letters had been sent out to candidates at the recent Borough Council elections, and a good percentage of favourable replies had been received. It was also announced that the Executive Council had unanimously agreed to allow the Richmond branch to be transferred to the London branch. A hearty welcome was extended to the members from Richmond.

A paper was read by Mr. E. F. Hawes, entitled, "Should be have fuller State recognition of Horticulture?" The lecturer pointed out that the increasing amount of capital invested and the corresponding increase in the number of gardeners employed, together with the number of gardening societies formed, were all proofs of the great advance which horticulture has made of late; but all the different societies and organisations formed were acting independently of each other, thereby missing the advantages of a well-organised combination, such as those enjoyed by many other professions. He thought it would be of immense advantage to have a Central Chamber of Horticulture on which all societies could be represented. In conclusion, Mr. Hawes said he hoped that the London branch would endorse his opinion, "that the time had come when some definite action should be taken to secure a fuller recognition of horticulture by the State."

The discussion was opened by Mr. Barnes, who considered better education and more individual effort on the part of gardeners themselves would do more to raise their social status and secure better conditions of employment than any gratuitous benefits conferred by the State as a result of political agitation. Mr. Raffles, who followed, thought that those who produced the necessities of life should be especially favoured by the State. He pointed to Belgium as an example of what can be done by State representation of horticulture. Mr. Tidy suggested that experts should be employed by the State to give advice upon all matters connected with economic horticulture. It was of the utmost importance that the cultivator should know just what crops his land is best capable of producing, what plant foods it is most deficient in, how these may best be supplied, and how he can best deal with the various insect and fungus pests he may have to contend with.

Mr. Hawes, replying, said there were plenty of good men sufficiently educated and quite capable of filling the positions named in the gardening profession, but their social standing was not deemed sufficiently important. He thought that representation in Parliament would be an important step in the right direction, and one that would be bound to result in benefit to the whole horticultural profession. A resolution was passed by the meeting in favour of Mr. Hawes's proposals, and the matter was referred to the Executive Council for further consideration.

Bromley.

The twenty-eighth annual exhibition of this society, held in the Grand Hall, Bromley, Kent, on November 10 and 11, proved one of the finest displays yet held there. The various classes were arranged to the best advantage,and the competitive exhibits occupied every inch of available space. The entries were well above the average, from ten to twelve competitors being found in most of the classes, while the quality of the blooms showed no evidence of the unfavourable season.

The challenge cup class for forty-eight blooms, equal numbers of Japanese and incurved, always creates a keen competition. This year the successful competitor was Mr. Simon, gardener to W. W. Mann, Esq., Ravenswood, Bexley, and he was closely followed by Mr. Lyne, gardener to H. F. Tiarks, Esq., J.P., Foxbury, Chislehurst, last year's winner; Mr. Dove, gardener to H. Bennett, Esq., Albyfield, Bickley, was a good third.

Mr. Rigby, working single handed for the Rev. A. C. Cooper Marsden, Wickham Road, Beckenham, carried off the Griffith Challenge Cup in the class for six vases, Japanese; his Mrs. G. Mileham and Reginald Vallis were magnificent specimens, one in the latter vase being awarded the National Chrysanthemum Society's Certificate as the best Japanese bloom in the show. Mr. Govier, gardener to J. I. Smail, Esq., Warrenwood, Hayes, last year's winner, took second place.

In the classes restricted to single-handed gardeners Mr. Rigby took the lead throughout.

The incurved section was better represented this year than it has been for several years; all the classes were well filled, and there was a refinement in the blooms that has been lacking recently. The National Chrysanthemum Society's Certificate for the finest incurved bloom in the show was awarded to one staged by Mr. Hudd, gardener to Mrs. Chalmers, Farrants, Bickley, the variety being Hanwell Glory, the judges remarking that it was as fine a specimen of that variety as they had ever seen.

The two classes for singles were a feature of the show, the 120 vases occupying a terraced stage the whole width of the hall, and thus making a grand display. The decorative classes, open to lady exhibitors only, are always an interesting feature of these shows, and the nine examples of dinner table decorations were much admired; the vases of decorative varieties of chrysanthemums arranged with foliage for effect, and stretching the whole length of the building, also attracted much attention and admiration.

Fruit and vegetables, although well represented, were not so numerous or so fine in quality as last year.

Maidstone and Mid-Kent Natural History and Philosophical Society.

"THE WONDERS OF FERNLAND."

On Monday, the 8th instant, under the auspices of this society, at the Museum, Maidstone, Mr. Charles T. Druery, V.M.H., F.L.S., gave a lecture entitled "The Wonders of Fernland," illustrated by a large number of lantern slides. The first of these showed views of the vegetation of the Coal age, as presumed from the fossil remains of ferns and their allies found in coal and associated strata, and, taking these as his text, the lecturer pointed out that, although we were apt to regard ferns as mere decorative plants in these days, in the long distant past they had practically built up the material upon which our present prosperity was mainly based, since without coal this could never have been attained.

The next slides illustrated with the aid of the lecturer's remarks, the difference between seed bearing or flowering plants and spore bearers or presumed non-flowering plants, though the latter, he demonstrated, really bore the equivalent of flowers and of pollen and seeds, and were reproduced by a process of fertilisation on similar lines. The many ways in which Nature departed from the normal process, and yet succeeded in reproducing the parental form, were then described and shown upon the screen.

The lecturer then entered upon his special field of variation, as exemplified in our native ferns, to a far greater degree than all the innumerable exotic ferns in the world had so far shown themselves capable of.

In succession a number of the most beautiful "sports" of the Lady Fern, the Common Polypody, the Hartstongue, the Buckler Fern, the Hard Fern, the Bracken, and last, but not least, the Shield Ferns, were shown, these consisting mainly of wild "sports," the spontaneous work of Nature as found in our woods, glens, roadsides, and shady lanes. These were followed by some extraordinarily beautiful improvements of these obtained by selective cultivation through their spores. Two slides, showing the pedigree of some of the finest, were particularly interesting as exemplifying the immense strides which may occur even in a single generation once the normal form has departed from ordinary lines and indicated a "break" as a hint to the selective cultivator. Incidentally, the marvellous fertility of ferns was shown in the forms of a simple multiplication sum, based on the annual number of fronds produced by a single fern, the number of divisions major and minor, the number of spore heaps on each of these last, and finally the number of capsules in a heap and the number of spores in each, the total reaching 1,120 millions, as the annual crop of a single fern. The lecture concluded with views of several British ferneries, winding up with one of the lecturer's own, which evoked great admiration, and demonstrated beyond all question the value of our native ferns as superb decorative plants for shady and unheated conservatories. A hearty vote of thanks was accorded the lecturer.

United Horticultural Benefit and Provident Society.

The monthly committee meeting of this society was held at the Royal Horticultural Hall, Vincent Square, Westminster, on Monday, November 8. Mr. Charles H. Curtis presided. Six new members were elected. The death of Mr. Nathan Cole was announced, and the sum standing to his credit in the society's books, viz., £14 14s. 6d., was granted to his nominee. Mr. Cole was one of the founders of the society, being No. 4 on the list, and had been on the benevolent fund eleven years. The amount of sick pay for the past month was £33 15s.

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ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

CROWN IMPERIALS.—R. S. J., Farnham: These handsome bulbous plants should be planted as early in the autumn as possible, October for preference, and it is an excellent plan to lift, divide, and replant them every third year. Lift and replant at once, when weather permits. A few strong bulbs should be potted up, and put in a cold frame, as they will come in useful for conservatory decoration next spring.

VARIATIONS OF THE ACRE.—C. H. M., East Grinstead: The imperial acre, consisting of 4,840 square yards, is now the generally accepted standard of measurement for land, and it is generally known as the English acre. The Scotch acre, not now much used, is 6,150 square yards; the Irish acre 7,840 square yards. In some parts of England the acre used to represent distinct variations from the recognised standard, and from each other. Thus there was the Devonshire acre of 4,000 square yards; the Cornish acre of 5,760 square yards; the Lancashire acre of 7,840 square yards; the Cheshire and Staffordshire acres of 10,240 square yards; and the Wiltshire acre of 3,630 square yards. The French "Arpent" is 1 3-16 English acres; the Prussian "Morgen" is nearly ¾ of an English acre; and the Strasburg acre is about half an English acre.

ASTER COLWALL BEAUTY.—M. M., Eastbourne: This beautiful, double Michaelmas Daisy was raised by Mr. Ballard, The Court, Colwall, Malvern; it was a great success in the trials of perennial asters conducted by the Royal Horticultural Society at Wisley in 1907; gained an A.M. on September 26 of that year; was figured in our issue of October 3, 1907; and was distributed by Messrs. T. S. Ware, Lim., Feltham.

VANDA CÆRULEA.—P. G., Oxford: As soon as the flower spikes have been removed either suspend the plants from the roof, or raise them on pots so that they are as near the light as possible, consistent with safety. The intermediate house will suit them at this period, and, as there is practically no active growth, very little water will be needed during the winter.

BRIAR STOCKS FOR ROSES.—M. H. C., Cheltenham: If you have the opportunity obtain your briars from the hedges on the land of some friendly farmer or landlord, and, after trimming the roots as necessary, plant them at once. The reason why there are so many failures in the propagation of standard roses is that the hawkers from whom the majority of the stocks are purchased, treat the briars so badly and expose the few roots so much that, even when the plants survive the winter, and the stems respond to the warmth and moisture of spring, the root system is so poor, or almost non-existent, that they soon collapse.

BLACK CURRANTS.—J. B. W., Henley: Unlike the red currant, which should have a clear stem six or eight inches out of the soil, black currants should be planted rather deeper, and without a clear stem. Thus planted strong, vigorous shoots will spring from the base, which will, in course of time, replace the older branches, and prove most productive. Any contemplated planting should be carried out without delay. In-

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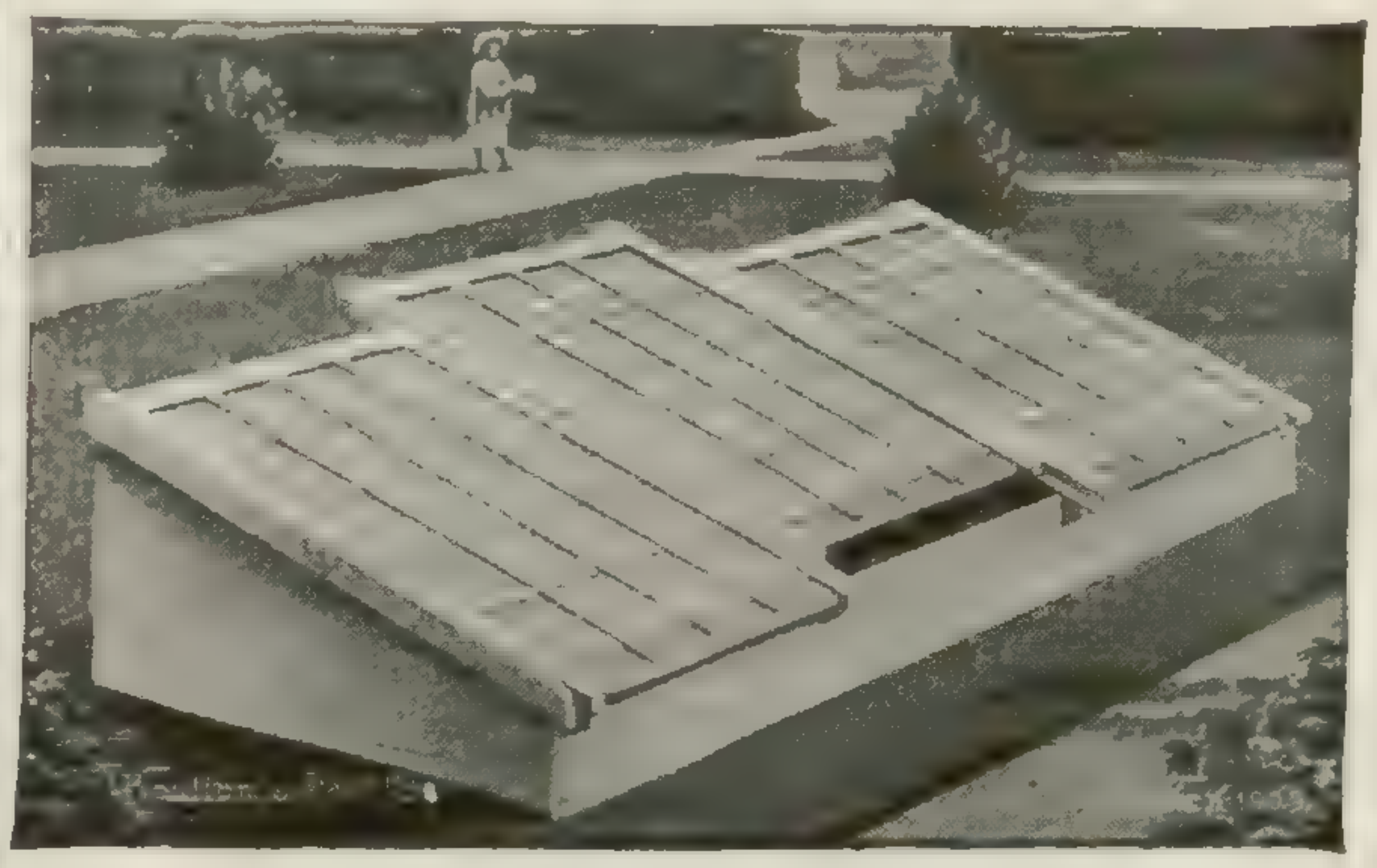

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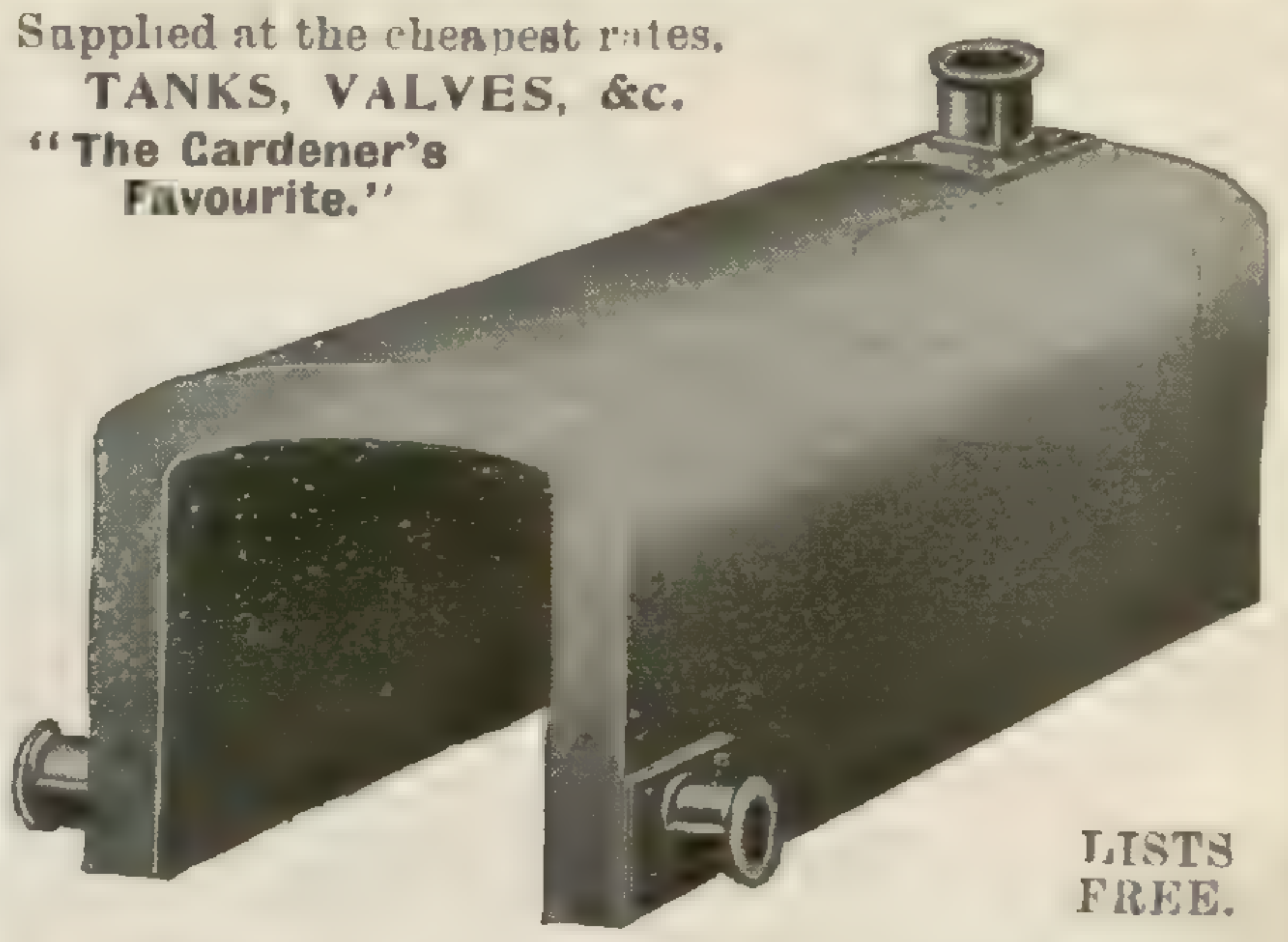

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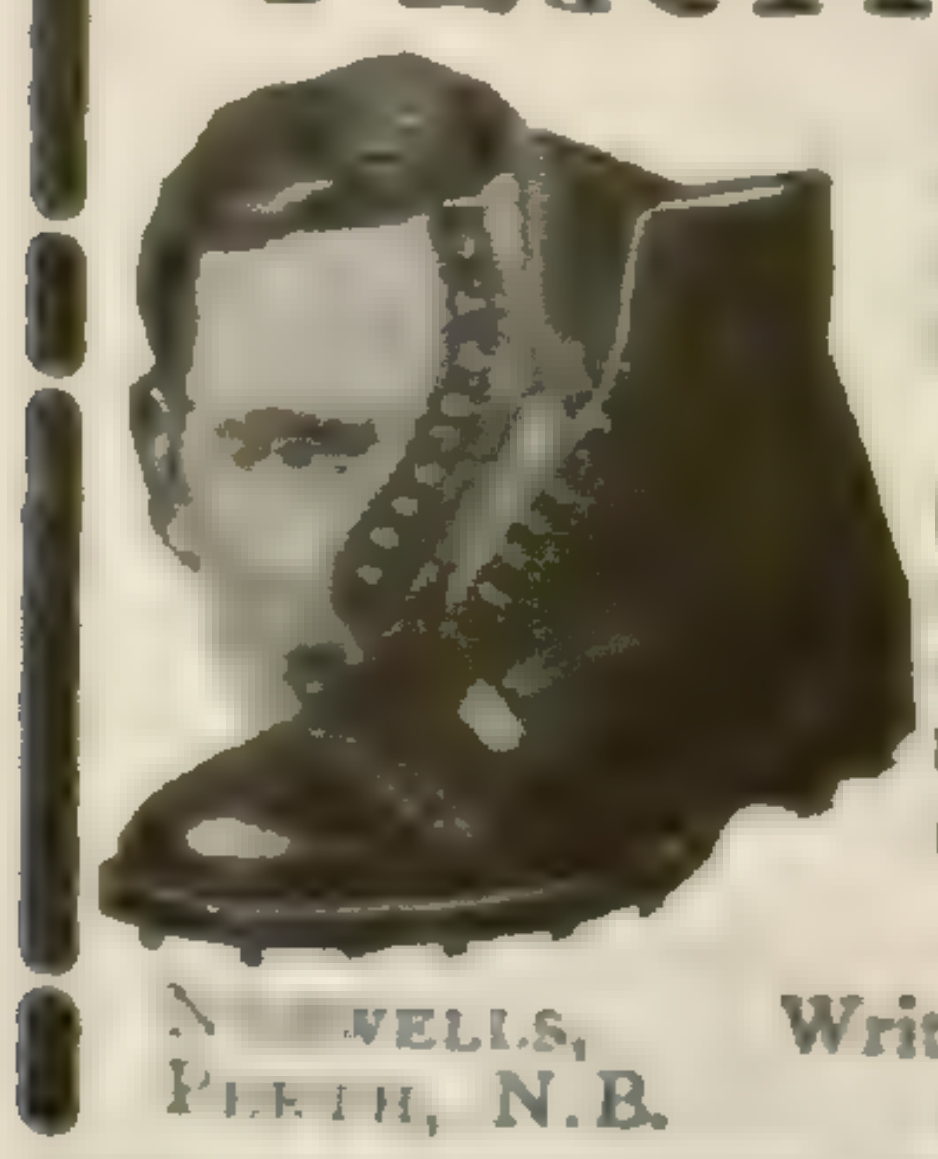

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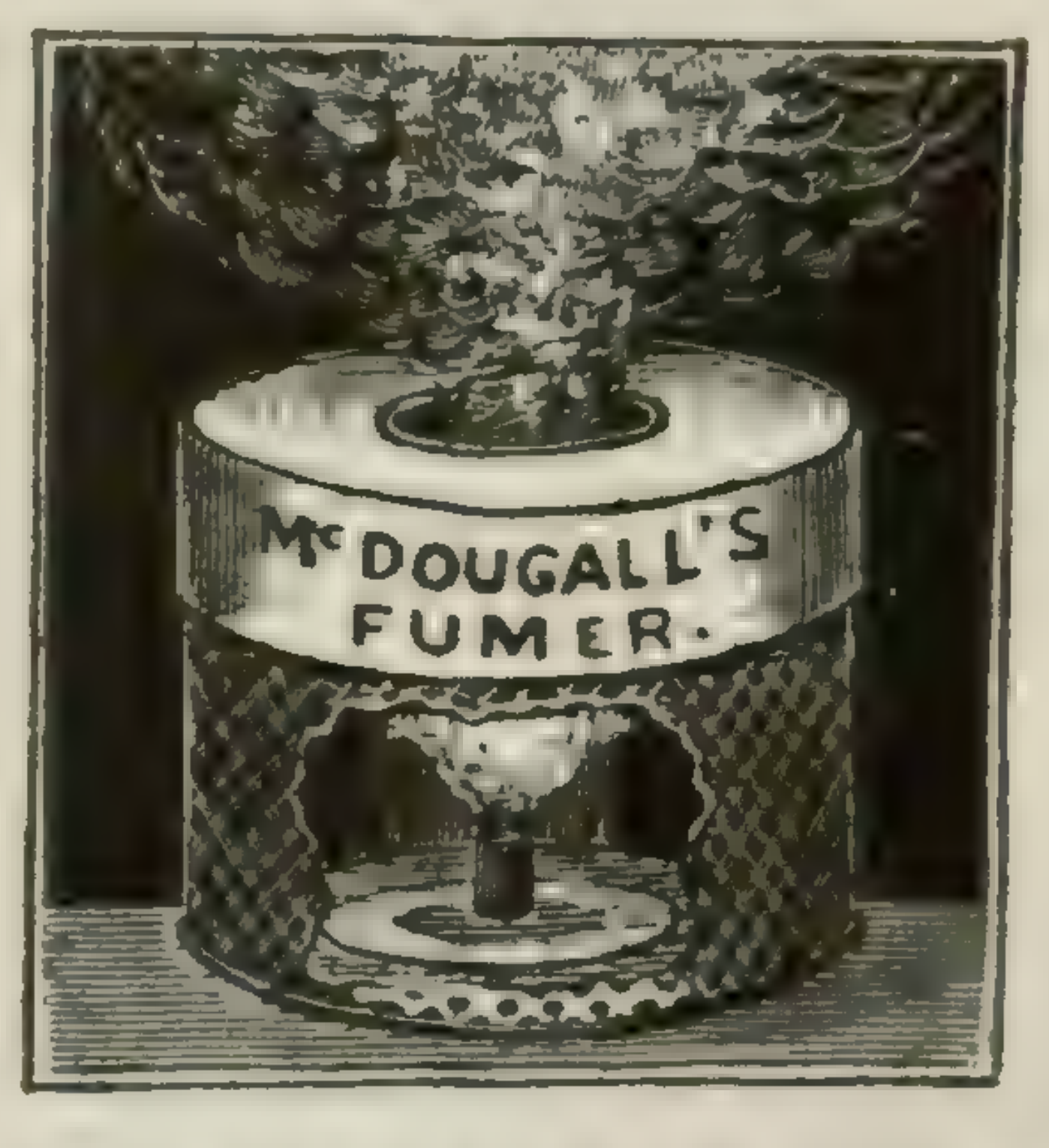

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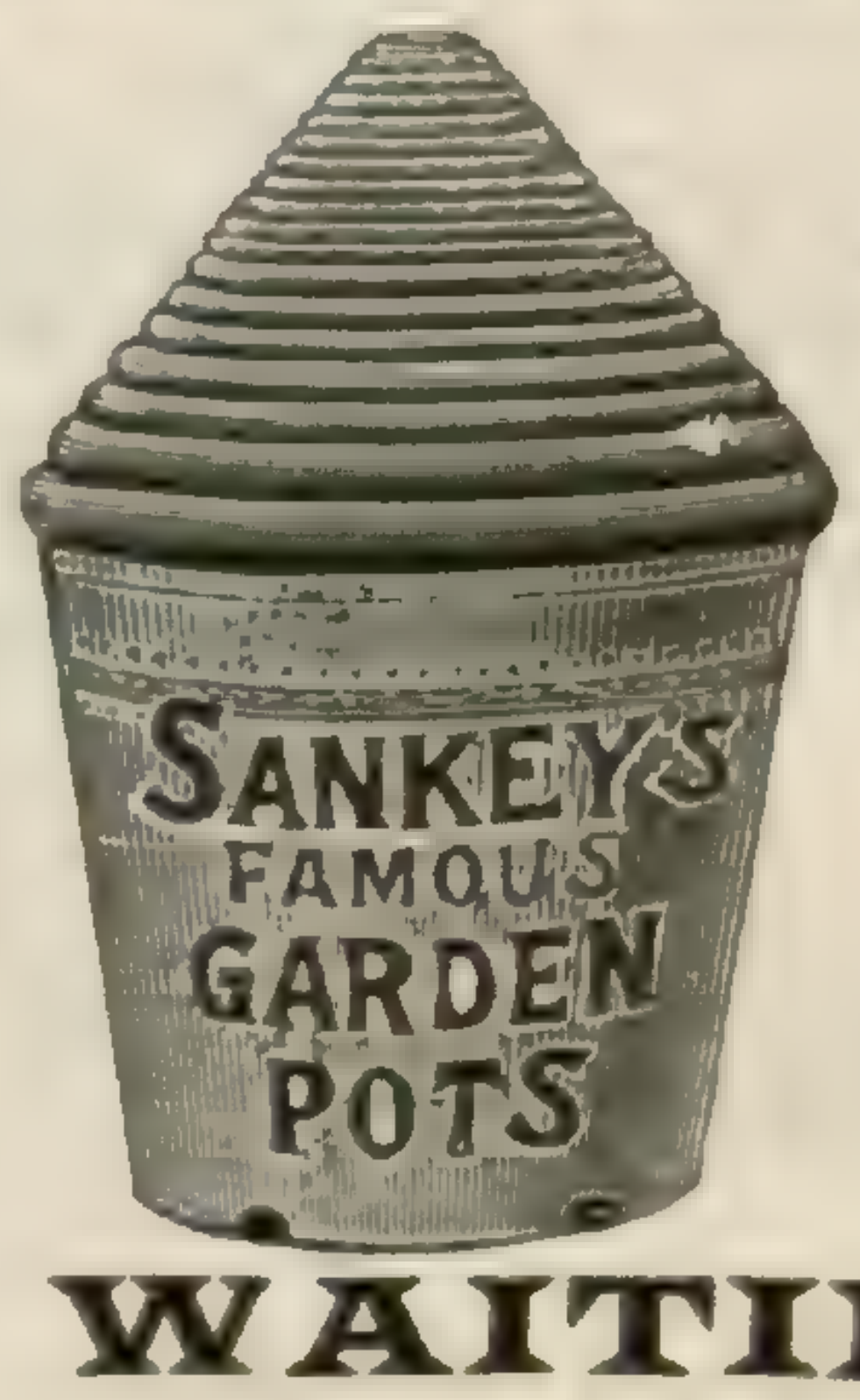

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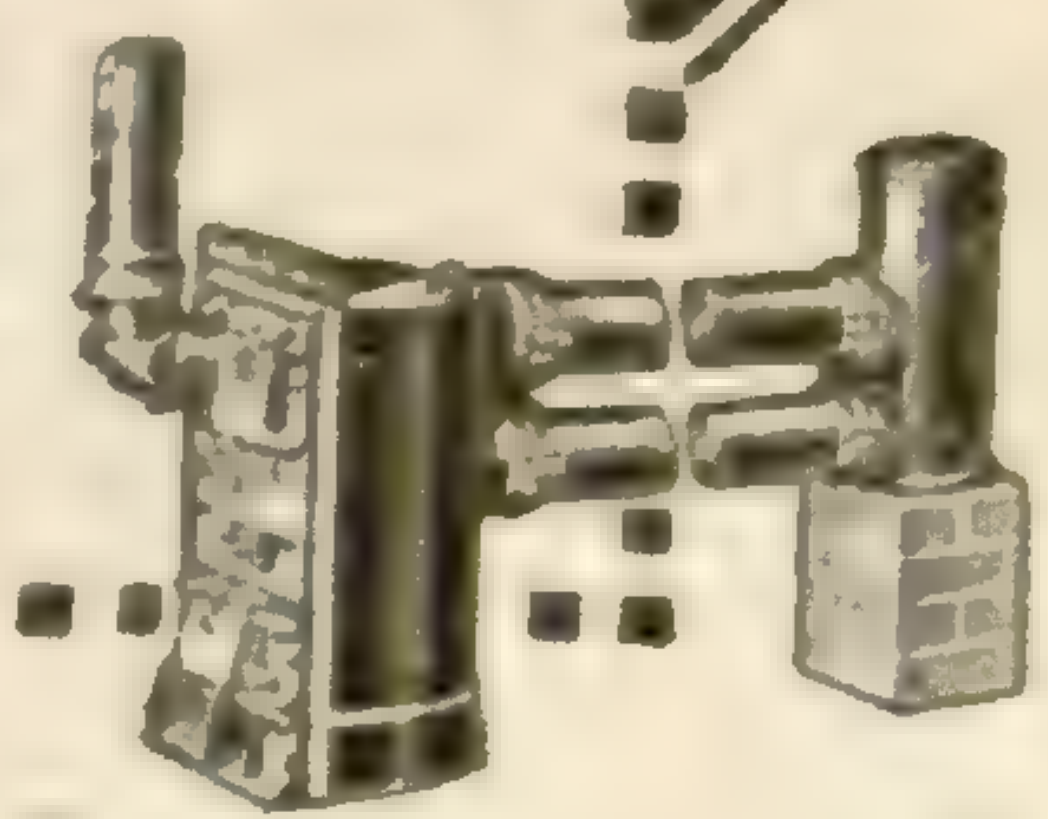

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corporate with the soil that is to be worked back among the roots some charred garden refuse, and a litle decayed manure, and mulch with rough litter immediately the work is completed. A suitable distance to dispose the bushes is five to six feet both ways, and some other crop may be grown between them for a year or more. The system of pruning is totally different from that practised with red currants. The aim should be to retain all the young vigorous branches intact, cutting clean out at the base any that are crowded or stunted. The centre of the bush should be left as open as possible to admit full light and air to the remaining branches. The knife should be used freely on aged trees, and if not actually unhealthy they may thus be rejuvenated if other details of culture are of the best.

NAMES OF FRUITS.

J. S. N., Leamington.—Hope to give the names in our next issue.

G. M. F., Leeds.—1, Beurre Diel; 2, Beurre Hardy; 3, Beurre Bosc.

E. S., Sidmouth.—1, Fearn's Pippin; 2, Dutch Mignonne; 3, Bismarck.

H. B., Lincoln.—1, King of the Pippins; 2, Stirling Castle; 3, Claygate Pearmain.

L. A. O., Chelmsford.—1, Peasgood's Nonsuch; 2, Lane's Prince Albert; 3, Waltham Abbey Seedling; 4, Dumelow's Seedling.

NAMES OF PLANTS.

M. P., Whittlesea.—Rudbeckia speciosa.

B. W., Sidmouth.—1, Maranta zebrina; 2, Saintpaulia ionantha.

C. F. H., Chester.—1, Plumbago rosea; 2, Ficus Parcelii; 3, Oncidium flexucsum; 4, Maxillaria picta.

F. E. A., Redcar.—1, Lilium sulphureum; 2, Veronica Andersoni variegata; 3, Calceolaria Burbidgei.

E. I. S., Southampton. — 1, Cypripedium insigne Maulei; 2, Cattleya Bowringiana; 3, Pellionea Duveauiana.

J. M., Uttoxeter.—3, Rondeletia speciosa; 4, Cestrum aurantiacum; other specimens not recognised, send when in flower.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date.	Sunshine.	Temperature of the Air.			
1909. November 14 to November 20.		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Nov. 14—Sunday	—	33	32	38	29
„ 15 Monday	—	37	36	41	33
„ 16—Tuesday	0 54	32	31	41	30
„ 17—Wednesday	2 18	34	33	46	31
„ 18—Thursday	3 42	39	38	46	34
„ 19—Friday	6 0	39	35	42	38
„ 20—Saturday	5 12	29	29	45	29
Means	(total) 18 6	35	33	43	32

Date.	Rain.	Temperature of the Soil at 9 a.m.			Lowest Temperature on Grass.
1909. November 14 to November 20.		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
Nov. 14—Sunday	0.06	42	46	49	23
„ 15 Monday	0.01	42	46	49	32
„ 16—Tuesday	0.03	41	45	48	22
„ 17—Wednesday	0.04	40	45	48	23
„ 18—Thursday	—	41	44	48	29
„ 19—Friday	—	41	45	47	32
„ 20—Saturday	—	40	44	47	24
Means	(total) —	41	45	48	26

MARKETS.

◆

COVENT GARDEN.

Flowers.

Cut flowers are now realising better prices and there is a good general demand.

		s.	d.		s.	d.
Acacia	per bunch	0	9	to	1	0
Adiantum cuneatum	per doz. bun.	5	0		9	0
Arums	per doz.	3	0		4	0
Asparagus	per bun.	1	0		2	0
Azalea	per bunch	1	0		1	6
Bouvardia	per bunch	4	0		6	0
Carnations	per doz. blms.	1	0		3	0
„	per doz. bun.	6	0		12	0
„ Malmaisons	per doz.	6	0		12	0
Cattleyas	per doz.	12	0		14	0
Crysanthemums	per doz. bun.	2	0		5	0
Croton leaves	per bun.	1	0		1	6
Cypripediums	per doz. blms.	2	0		4	0
Eucharis	per doz.	2	0		3	0
French fern	per doz. bun.	0	6		1	0
Gardenias	per doz.	1	6		2	0
Lapagerias	per doz.	2	0		3	0
Lilac, French	per bun.	4	0		5	0
Lilium auratum	per bun.	2	0		3	0
„ speciosum	per bun.	1	6		2	6
„ longiflorum	per bun.	2	0		4	0
Lily of the Valley	per doz.	5	0		15	0
Marguerites, white	per doz. bun.	1	6		3	0
Mignonette	per doz. bun.	2	0		3	0
Odontoglossums	per doz. blms.	2	0		2	6
Pelargoniums	per doz. bun.	4	0		6	0
Roses	per doz.	1	0		4	0
Smilax	per doz trails	5	0		8	0
Statice	per doz. bun.	3	0		4	0
Tuberoses	per doz.	0	3		0	4
Violets	per doz. bun.	2	0		3	0

Fruits.

Oranges are good and sell well. Grapes are cheap.

		s.	d.		s.	d.
Apples, English	per bush.	3	6	to	8	0
„ Californian	per case	8	0		9	6
„ Cox's Orange	per ½-sieve	3	0		10	0
„ American	per barrel	12	0		16	0
„ Canadian	per barrel	14	0		20	0
„ Nova Scotian	per barrel	14	0		24	0
Bananas	per bun.	3	0		9	0
Cobnuts	per 12lb.	3	6		4	6
Figs	per doz.	0	9		3	0
Grapes, English	per lb.	0	5		3	0
„ Guernsey	per lb.	0	5		1	3
„ Almeria	per barrel	10	0		18	0
Lemons	per case	10	0		25	0
Melons, Valencia	per case	4	6		6	0
Oranges, Jamaica	per case	9	0		11	0
„ Navels	per case	10	0		12	6
„ Naples	per case	8	0		12	0
Pears, English	per bush.	3	6		9	0
„ French Comice	per crate	6	0		10	0
Pineapples	each	1	6		4	6
Walnuts	per 12lbs.	2	0		3	6

Vegetables.

The cold weather has shortened supplies somewhat, but there is a good demand.

		s.	d.		s.	d.
Artichokes, Globe	per doz.	2	6	to	3	0
Asparagus, Paris	per bun.	3	0		4	6
Beet	per bush.	1	6		2	0
Brussels sprouts	per bush.	2	0		2	6
Cabbage	per tally	3	0		5	0
Carrots	per doz. bun.	1	0		2	6
Cauliflowers	per tally	4	0		10	0
Celery	per bun.	0	9		1	6
Celeriac	per doz.	1	6		2	6
Cucumbers	per doz.	1	0		2	0
Endive	per doz.	1	3		1	9
Horseradish	per doz. bun.	8	0		12	0
Leeks	per doz. dun.	2	0		2	6
Lettuce, English	per crate	1	0		1	6
Mint	per doz. bun.	1	0		2	0
Mushrooms	per doz. lb.	6	0		9	0
Onions, Valencia	per case	6	0		10	0
Parsley	per doz. bun.	2	0		2	6
Parsnips	per bag	2	6		3	0
Spinach	per ½-sieve	1	6		1	9
Seakale	per doz. pun.	16	0		18	0
Tomatoes, English	per doz. lb.	3	0		5	6
„ Canary,	per case	10	0		16	0
„ Guernsey	per doz. lb.	2	6		3	6
Turnips	per doz. bun.	3	0		3	6
Watercress	per flat	4	0		6	0

LONDON POTATO MARKETS.

The demand has not improved much; supplies are ample.

		s.	d.		s.	d.
Bedfords	per cwt.	2	6	to	3	0
Blacklands	per cwt.	2	6		2	9
Essex Kidneys	per cwt.	2	6		2	9
Kents	per cwt.	2	6		3	0
Lincolns	per cwt.	2	6		2	6
May Queen	per cwt.	3	3		3	6
Puritans	per cwt.	3	0		3	6
Sharpe's Express	per cwt.	3	0		3	3
Up-to-date	per cwt.	3	0		3	6

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FORTHCOMING ENGAGEMENTS.

MONDAY, November 29.—National Chrysanthemum Society; Annual Dinner at the Holborn Restaurant, at 6.15 p.m. for 6.45 p.m.; Sir Albert Rollit, D.C.L., LL.D., will preside.

WEDNESDAY, December 1.—National Chrysanthemum Society Floral Committee.

Royal Horticultural Society's Exhibition of Colonial Fruits and of Home-grown Bottled and Preserved Fruits; four days

THURSDAY, December 2.—Linnean Society.

SATURDAY, December 4.—French Horticultural Society of London.

TUESDAY, December 7.—Royal Horticultural Society; Commitees meet at 12 o'clock; Lecture at 3 p.m. on "The Cooking of Vegetables," by Mr. C. Hermaan Seun; Scientific Committee at 4 o'clock.

WEDNESDAY, December 8.—Perpetual Flowering Carnation Society's Exhibition at Royal Horticultural Hall, Annual Meeeting and Dinner at the Hotel Windsor in the evening.

East Anglian Horticultural Club.

THURSDAY, December 9.—National Rose Society's Annual Meeting at the Westminster Palace Hotel, Victoria Street, S.W., at 2.30 p.m.; Conversazione at same place, 4.30 p.m. to 6 p.m.

FRIDAY, December 10.—Annual Meeting of the National Sweet Pea Society, Hotel Windsor, at 3 p.m.; dinner at 5.30 p.m.; and Sweet Pea Conference at 7 p.m.

MONDAY, December 13.—United Horticultural Benefit and Provident Society.

National Chrysanthemum Society, Floral Committee Meeting.

WEDNESDAY, December 14.—Royal Meteorological Society.

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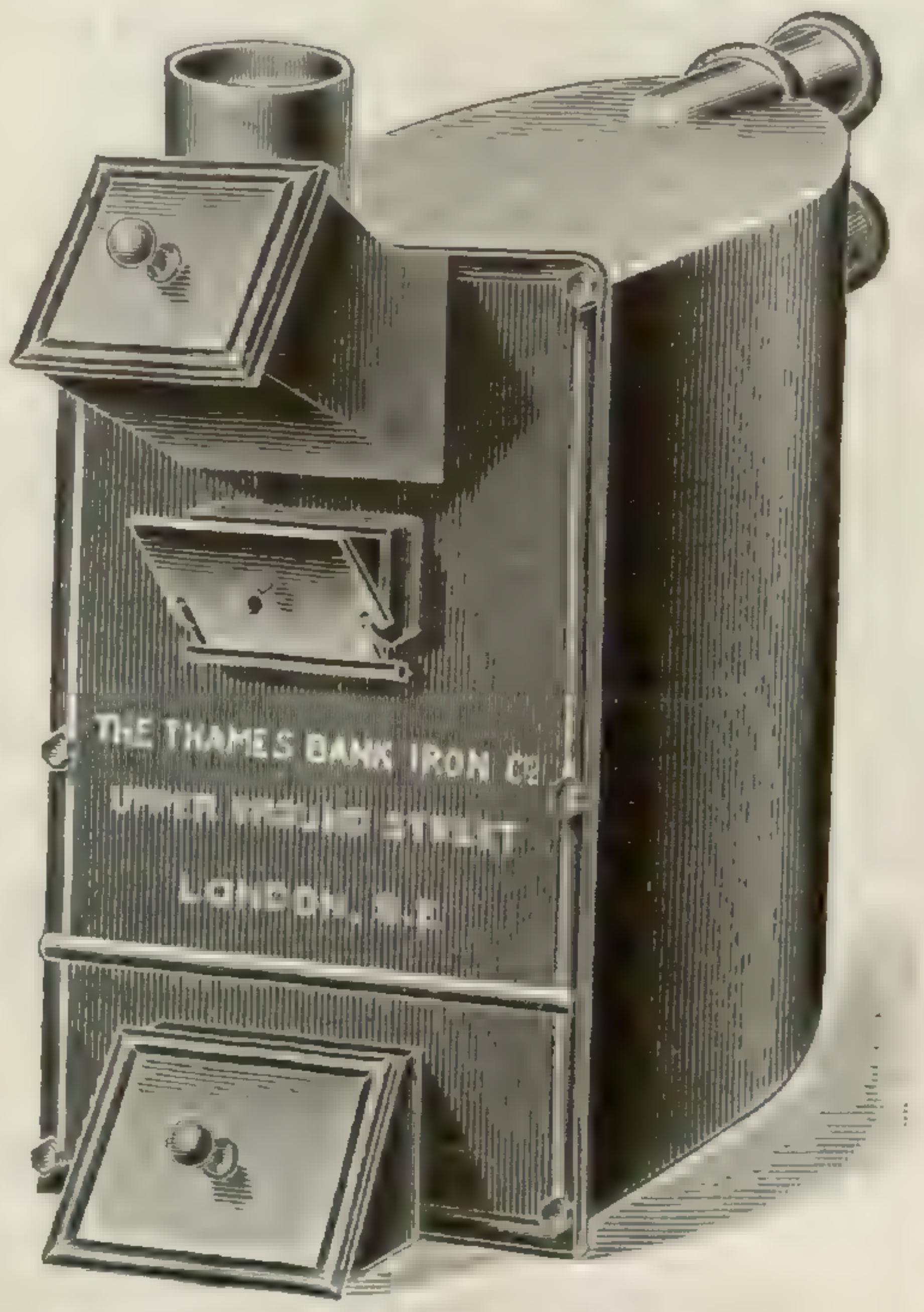
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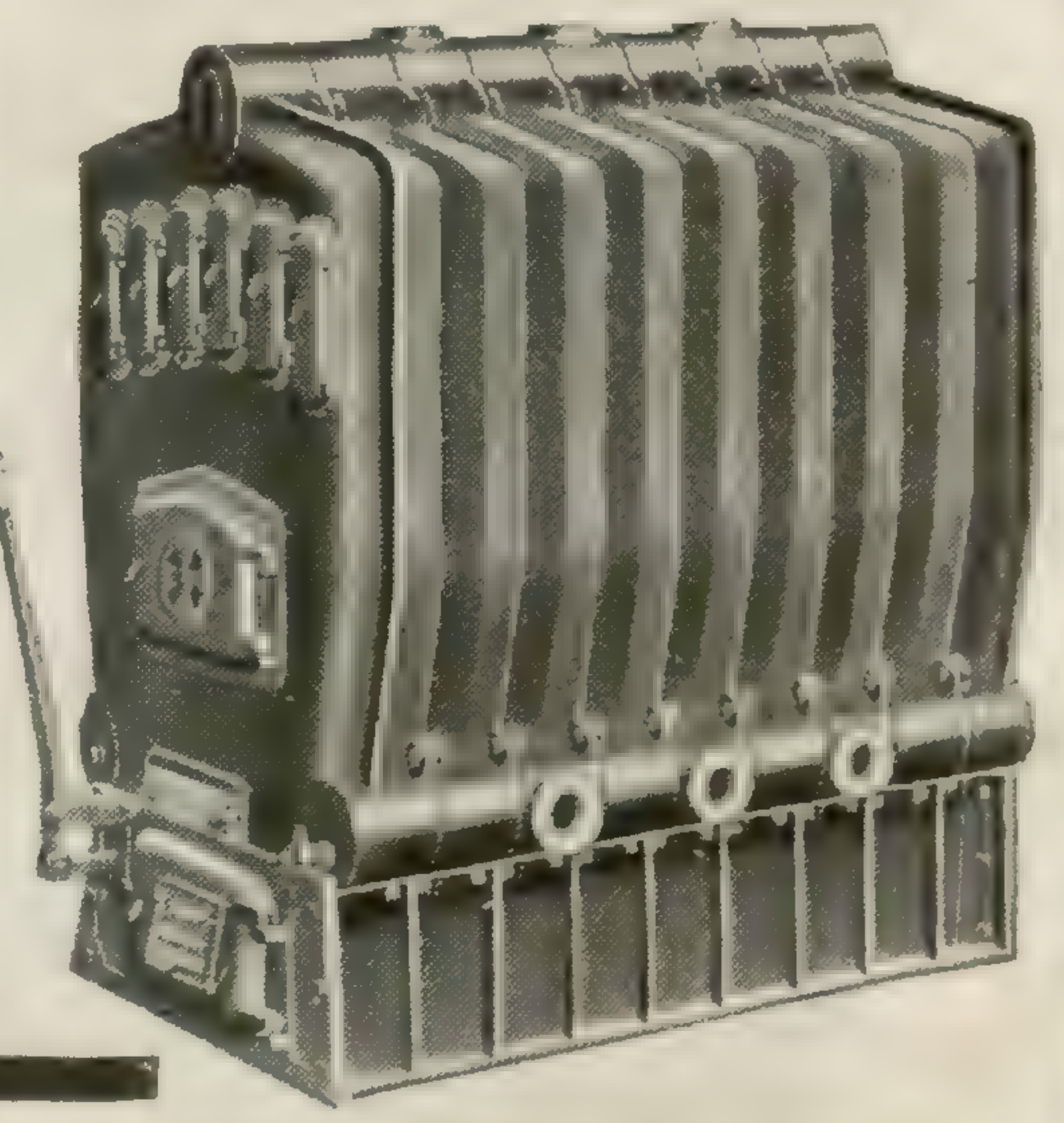

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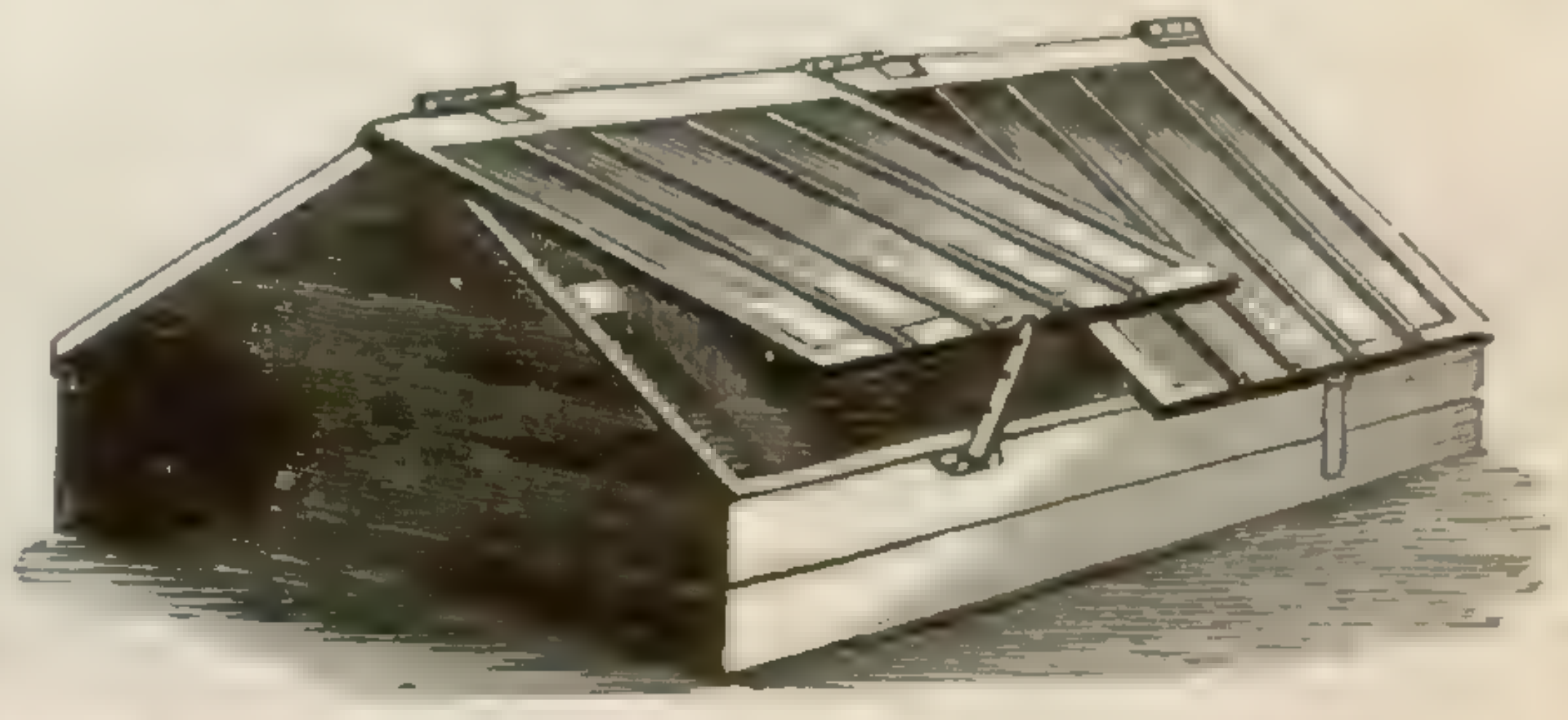

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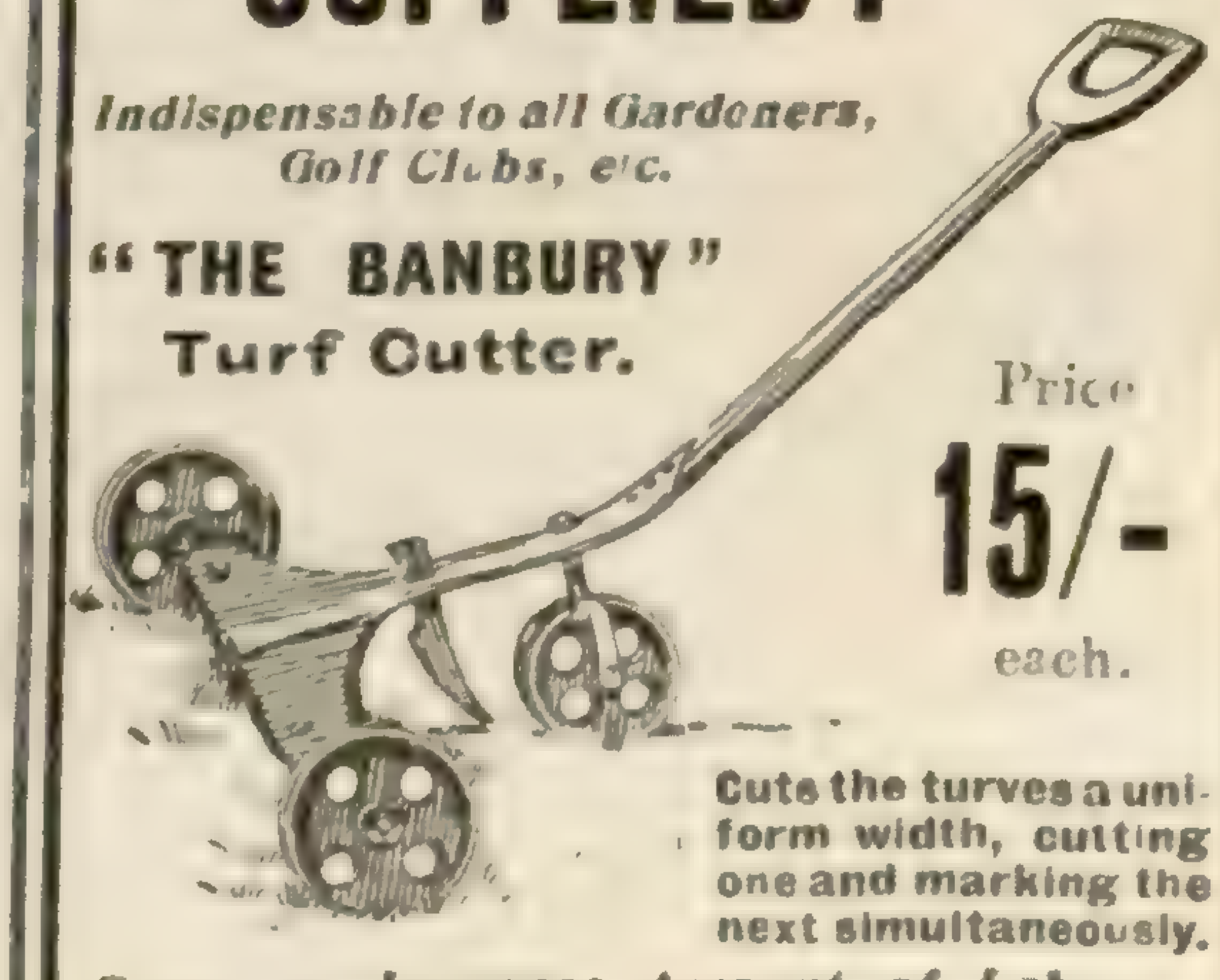

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HERTFORD GARDENS I.—Illustrated.

THE GARDENERS' MAGAZINE.

No. 2,927. Vol. LII.
Reg. at the G.P.O. as a Newspaper.

SATURDAY, DECEMBER 4, 1909. (10/6 per Ann. Post Free. To Foreign Countries, 15/-.) **Twopence.**

BARR'S CASH CLEARANCE SALE of Spring-flowering Bulbs. Daffodils, Hyacinths, Tulips, Polyanthus Narcissi, Irises, etc., all in best quality, and at greatly reduced prices. Clearance Lists ready December 4th, sent on application. BARR and SONS, 11, 12, and 13, King Street, Covent Garden, London.

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(See back page.)
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UNSURPASSED for all Horticultural Purposes.
CLAY and SON, Stratford, E.

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Holds the premier position amongst Carnation Specialists!
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FOR POTS AND GLASSES.
12 named Hyacinths in 12 varieties, 5/-.
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White, Rose-Pink, Yellow, Orange, Scarlet, Pink, and White.
Each colour, per dozen, 1/9; per 100, 10/6.

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Consider what is "saved" in heat and labour by this system, and what is gained in true beauty.
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For full advertisement see back page.

THE GARDENERS' ATTENTION will now be occupied with the cleansing of Fruit Trees and Plants. The dormant season is the time to wage war against Mealy Bug, Scale, etc. These pests can speedily be got rid of under glass by the use of XL ALL NICOTINE LIQUID INSECTICIDE. For preparing Fruit Trees and Bushes out of doors for a clean, healthy start next spring, nothing is so effectual as a good spraying after the leaves have fallen, with RICHARDS' XL ALL WINTER WASH, which will destroy American Blight, other insects, moss, etc., and make the bark clean and healthy. Can be obtained everywhere from the Horticultural Trade. G. H. RICHARDS, Manufacturer, 234, Borough High Street, London, S.E.

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The best New and Standard varieties of Narcissi, Tulips, &c.

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All the best New and Standard Varieties of Fruit Trees and Bushes.

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Orchids of Every Species.

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"White" Cattleyas and Choice Cypripediums are leading features. Inspection solicited.

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New and Standard varieties. Lists Free.

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Very Fibrous Loam, for Carnations, Roses, Vine Borders, Melons, Fruits under Glass, &c., &c.

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50,000 APPLES ON PARADISE
TRAINED TREES A SPECIALITY.
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OF
Herbaceous and Alpine Plants.

Very Choice Varieties in strong plants, in Collections to suit Customers, at extraordinarily low prices to clear.

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SAUCERS, SEED PANS, RHUBARB AND SEAKALE POTS, RUSTIC WARE, VASES, PEDESTALS, etc., etc.
Our Pots are Low in Price and Rich in Colour.
Amateurs should try our FAMOUS CRATES OF POTS,
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Specially Choice Hybrid Rhododendrons on own Roots.
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Write for price delivered any Station in England or Wales.
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THE "AFFORESTATION" BANNER UNFURLED.

QUALITY & HARDINESS

250 Acres of

Unsurpassed Nursery Stock

Grown on the Cold Exposed Derbyshire Hills.

SUITABLE FOR ANY CLIMATE.

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Specialities.

Rhododendrons, 40 acres.
500,000 Hardy Heaths.
Huge Quantities of fine healthy Larch and other Forest Trees.
Ornamental Shrubs, Climbing Plants.
Roses, Fruit Trees, etc.

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Range up to 1100 ft. above sea level. being the most exposed in the British Isles.

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MONDAY NEXT, Dec. 6th, at Half-past Ten o'clock.—Dutch Bulbs, large consignments of all varieties.

At Twelve o'clock.—New and Rare Perennials, Hardy Border Plants, Liliums, Gladiolus, etc.

At Half-past One o'clock.—1,200 Roses, Standard, Dwarf, Climbing, etc.

WEDNESDAY NEXT, Dec. 8th, at Twelve o'clock.—200 lots of choice Delphiniums, Pyrethrums, Asters, Iris, Amaryllis, Liliums, Gladiolus, etc.

At Half-past One o'clock.—4.500 Roses, Standard, Dwarf, Cimbing, etc., Standard and Pyramidal Fruit Trees, Ornamental Trees, Climbing and Flowering Plants.

At Five o'clock.—425 Azaleas of sorts, Rhododendrons, Camellias, 100 lots of Palms and Plants, Standard Bays, etc.

FRIDAY NEXT, Dec. 10, at Twelve o'clock.—Dutch Bulbs in variety, choice Hardy and Herbaceous Plants, Perennials, Liliums, etc.

At Half-past One o'clock.—4,500 Roses, Standard, Dwarf, Climbing, etc.

At a Quarter to Two o'clock.—Imported and Established Orchids in variety, Orchids in flower and bud.

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Unreserved Sale of Nursery Stock, including

TRIMMED SPECIMEN GOLDEN AND GREEN YEWS, etc.,

which have been prepared for removal; 550 Rhododendrons; 500 Lilac, and other Flowering Shrubs; 300 Retinosporas and Thujas; 800 Laurels; 650 Aucubas; 500 Poplars, Planes, Limes, etc.; 630 Golden, Silver and Green Hollies, 2 to 6 ft. Quantities of Conifers, and other stock.

MESSRS. PROTHEROE and MORRIS will SELL the above BY AUCTION, at Lee's Nursery, Hounslow Road, Feltham, on MONDAY, Dec. 13th, at Eleven o'clock, by order of Mr. R. Lancaster. On view. Catalogues had on premises: and of the Auctioneers, 67 and 68, Cheapside, E.C.

Without Reserve.
ST. JOHN'S NURSERIES, WORCESTER.
Re Messrs. R. Smith and Co., in voluntary liquidation.
THIRD UNRESERVED SALE of NURSERY STOCK, by order of the Receiver for the Debenture Holders.

MESSRS. PROTHEROE and MORRIS will SELL BY AUCTION, at the above Nurseries (easily reached from the Worcester Stations), on TUESDAY NEXT, Dec. 7th, and 3 following days, at Half-past Eleven o'clock. Large quantities of useful well-grown Nursery Stock, comprising:

50,000 FRUIT TREES IN VARIETY.

30,000 AUSTRIAN PINES AND SCOTCH FIRS, HANDSWORTH BOX, WILLOWS, AUCUBAS, Etc.

Large quantities of Specimen Conifers, in variety. Assortment of splendid Trees for Parks, Avenues, etc.

A fine collection of Herbaceous and Alpine Plants. Pot Plants, etc. May be viewed one week prior to sale. Catalogues of E. S. CHATTOCK, Esq.; Receiver on the premises; of Messrs. PINSENT and CO., Solicitors, 6, Bennett's Hill, Birmingham; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

100 NURSERIES, MARKET GARDENS, FLORIST AND SEED BUSINESSES TO BE DISPOSED OF.

MESSRS. PROTHEROE and MORRIS'S HORTICULTURAL REGISTER contains full particulars of the above, and can be obtained gratis at 67 and 68, Cheapside, E.C.

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Well-built modern Residence.

Ranges of modern Glasshouses, covering 60,500 superficial feet, with 200 Black Hambro' vines, in full bearing.

Complete water raising plant, with steel tower, mill, and pumping gear; tower tanks of 500 gallons, reservoir, etc.

Land 8½ acres,

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The soil is loam, and water is laid on.

The nursery is still being worked, and by judicious management would undoubtedly prove a very profitable investment.

Also two one-acre plots opposite.

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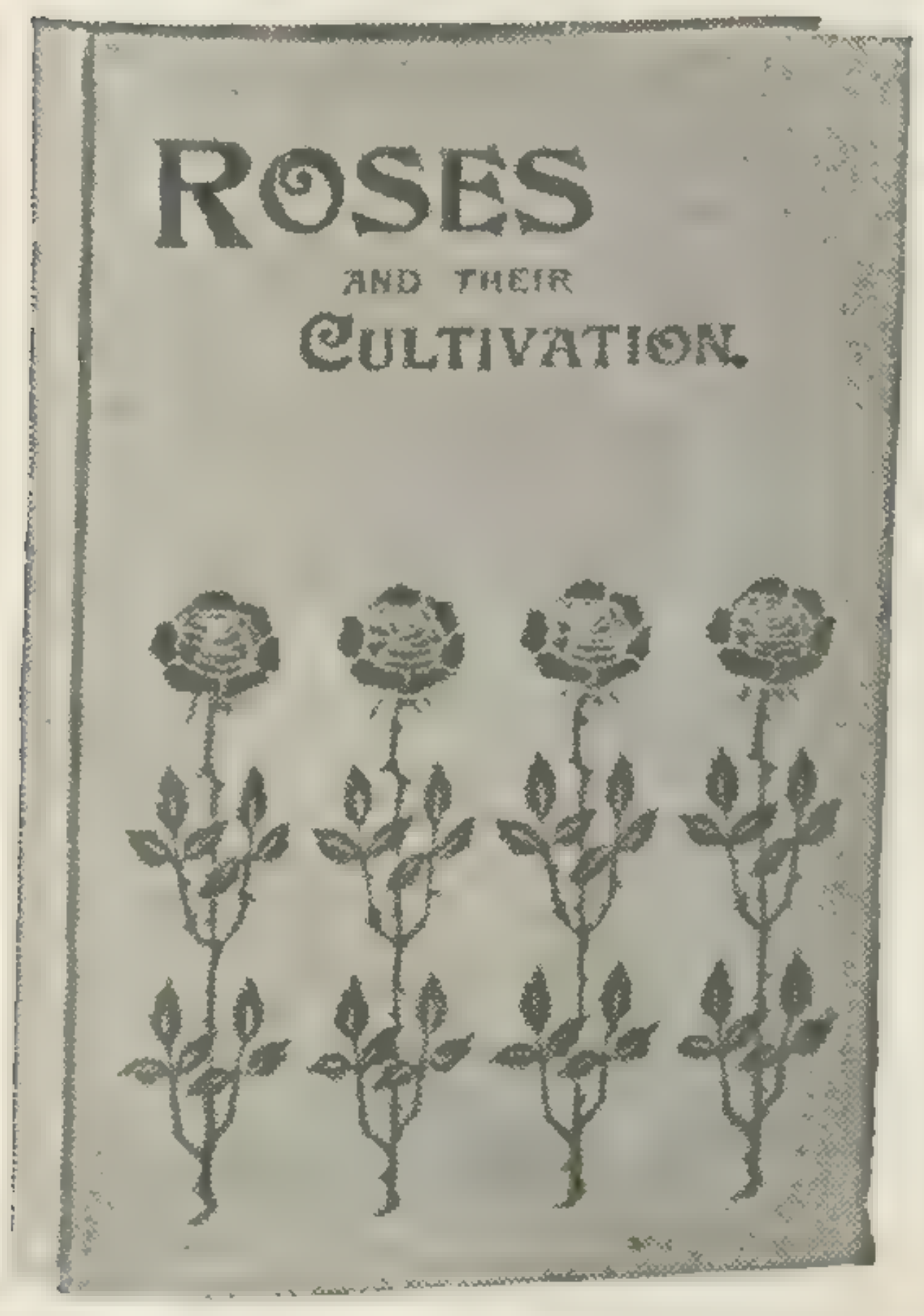

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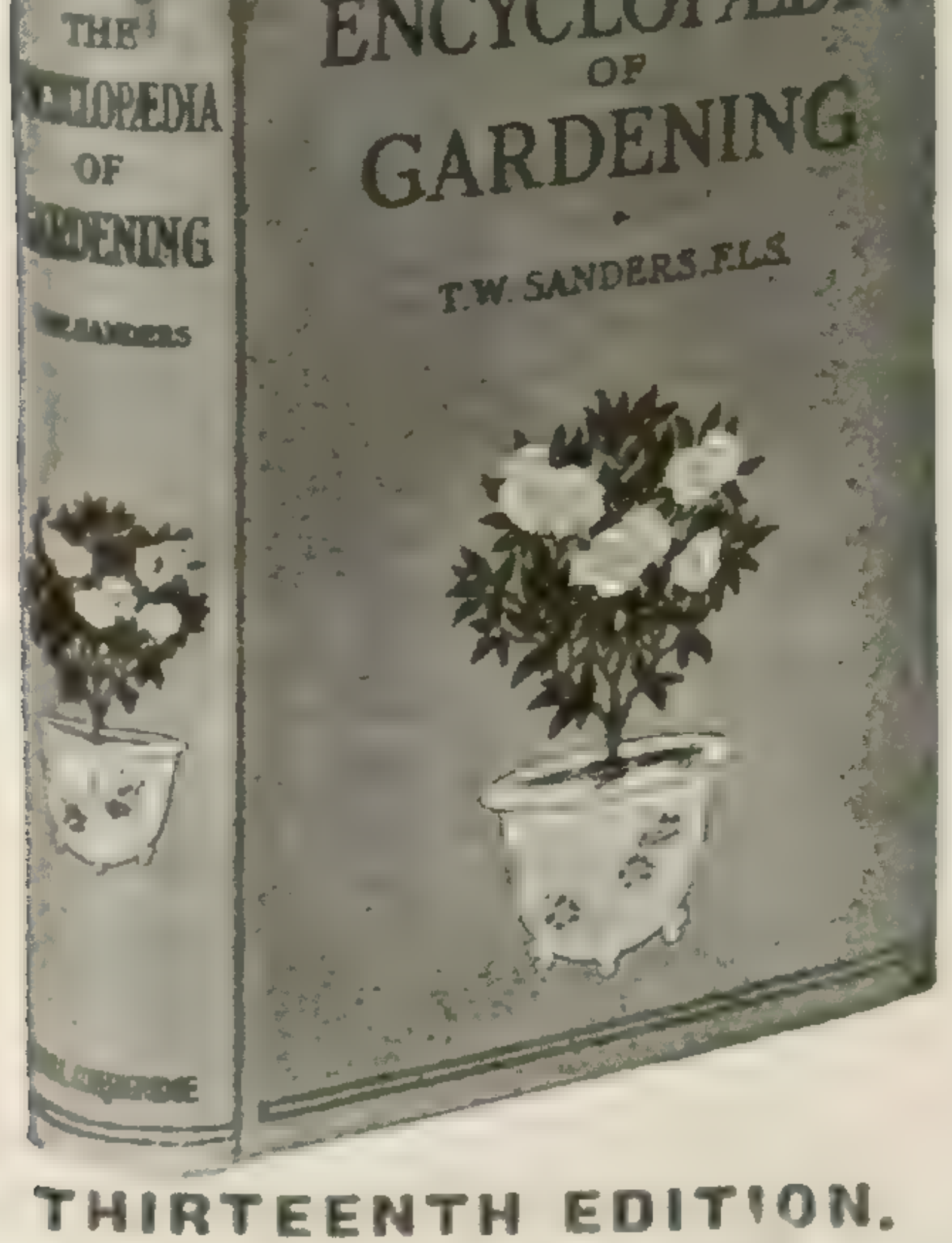

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VOL. LII.—No. 2,927. SATURDAY, DECEMBER 4, 1907.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Water.

If we place an ordinary tumbler of water before us as an inspiring agent for an article of horticultural interest, most of our friends would be apt to suggest a modification of its contents, and its subsequent imbibition, but in point of fact, to a mind scientifically disposed, that little volume of liquid, pure and simple, is far too much of a wonder to require such aid.

No other substance on earth appeals to us so much by its pervading nature, its essentiality to all life, its marvellous composition and its diversity of form. Practically, it is everywhere on the earth's surface. The greater part of that surface is covered with the oceans, seas, lakes, small or large, rivers, and streamlets, in which it is collected or flowing in its liquid form. The air itself, even over the most arid deserts, holds it in enormous quantities in suspension as invisible vapour. The soil beneath our feet and the rocks beneath that are all pervaded with it, and all the living organisms, plant or animal, owe their very existence to its presence in their veins or in the cells which form them. At the Poles and everywhere where high mountains exist, projecting their peaks high into the colder regions of the atmosphere, we see it in its solid form as ice or snow, built up of crystals of infinite beauty. Nor is this all, for the realms of cloudland show it again in the form of visible vapour, a suspended medium between the invisible aerial form of water and its liquid state. Nothing else in this world of ours presents itself familiarly to our senses with such diversity as water, though most of the earth's constituents, given a sufficiency of heat and an intensity of cold, are able to assume the same forms —solid, liquid, and apparently gaseous. This term "apparently gaseous," leads us to still another phase of water marvels. Water popularly is considered as the enemy of fire, but in point of fact, it is composed of two gases which are the very basis of fire itself, viz., oxygen and hydrogen. The chemist could easily decompose our tumbler of water into a large volume of these two gases in proof of this, and this being done could confirm the rest of our assertion by, after taking due precautions, applying a spark, when, with a violent explosion and a brilliant flash of flame, the water would resume its liquid form. The old idea, therefore, that water was an element is consequently seen to be false, since it is a composite of two gases. A curious fact in this connection is that, while these two gases combined as liquid water can be solidified as ice at 32 deg. Fahrenheit, singly they can only be frozen at an intensely low temperature, so low, indeed, that it is only in comparatively recent years that we have been able to freeze them solid at all. In the case of water, too, we find it the one great exception to the law that with increasing cold bodies continuously contract. Water does so as it approaches the freezing point, but just prior to its solidification or crystallisation, it expands, doubtless owing to some subtle arrangement of its molecules at the moment of solidifying. Superficially considered, this is an unimportant phenomenon, but, practically, we in these now temperate regions owe our existence to it. By virtue of this increase of bulk, ice is lighter than water, and consequently floats. By virtue again of this flotation, the ice formed in our winter seasons on our polar seas, lakes, and rivers, merely forms a crust which the summer sun can reach and melt. Even the great polar icebergs, which break away from the polar glaciers, are carried south or north, as the case may be, into warmer regions, and so are melted away. In this fashion the balance is maintained; but let us conceive what the result would be did ice sink as soon as formed. All our deep waters subjected to long periods of frost would be absolutely solidified, the polar seas would be blocked by the accumulated sunken bergs pushed ever forward by the spreading ice cap, and, as a consequence, the conditions of the old glacial epoch would exist far and away beyond the old regions of invasion, and only the tropical and sub-tropical regions would be available for civilised peoples. To bring the moral home to our horticultural readers, it is clear that, under such circumstances floral evolution would have gone on on very different and less generous lines than it has done, and that not only do we owe an immense debt to water as a vital factor in our plant culture, and in their very composition, but also another to the seemingly unimportant fact that water swells when it freezes.

MR. WALTER SPEED, V.M.H.

Mr. Walter Speed, V.M.H., who for a long number of years has held the important position of head gardener at Penrhyn Castle, in North Wales, is one of our ablest cultivators. The gardens at Penrhyn have a splendid reputation, and it is not so very many years ago that they were regarded as the best kept in Great Britain. Now, however, thanks to the example set by Mr. Speed and his noble employer, there are other establishments where an equally high standard of order, productiveness, and upkeep is maintained. In the general sense of the word, Mr. Walter Speed is not a specialist, but he has nevertheless a special liking for grapes and for roses, both of which he grows remarkably well. As a judge of grapes Mr. Speed holds a very high position, and it has been his lot to adjudicate in the championship grape class at Shrewsbury for many years in succession. Mr. Speed was one of the original recipients of the Victoria Medal of Honour in Horticulture, in 1897, and this award is itself sufficient evidence of his great ability.

Preserving the View of Windsor Castle.—At the meeting of the National Trust for Places of Historic Interest or Natural Beauty, held a few days ago, the members agreed to endorse "The appeal of the council of the National Trust, an appeal which has the support of his Majesty the King, for funds to purchase the land now offered for building lying between the Alexandra Gardens and the Curfew Tower at Windsor, in order that the greensward and trees may be preserved, and the beauty of the famous view of Windsor Castle from the Thames may thus be saved from serious injury." It appears probable that, failing the purchase of this land, the fine trees will be cut down, the spot built on, and the splendid view from the river, and also from the Eton side, will be utterly spoiled. A sum of £3,000 is required for the purchase of the land, and a subscription list has been opened. This has been headed by the King with a donation of £500, and the Prince of Wales has subscribed £250. The Mayor and Corporation of Windsor have promised to support the National Trust in the endeavour to raise the necessary funds.

Royal Gardeners' Orphan Fund.—We are glad to learn that the committee of the Bradford and District Chrysanthemum Society, as the result of their exertions at the recent chrysanthemum show, have been able to send a subscription of £7 to the above charity. We congratulate them upon their successful efforts in a good cause. When we were at the very pretty exhibition at Bradford we noticed that ladies were acting most efficiently at the Flower Stall on behalf of the committee. Would that other committees and their ladies would do likewise.

Jubilee Bulb Show in Haarlem, 1910.—We learn that the great bulb show to be held next year at Haarlem will be continued till May 29, 1910. The late tulips and the many other May-flowering bulbous plants, which will be one of the special features of the show, will not be in full glory before the second part of May, and consequently the continuation of the show till the end of May seems quite necessary. Moreover, this arrangement will enable the visitors to the Brussels International Exhibition, and especially the members of the Botanical and Colonial Agricultural Congresses, to visit Haarlem and its Jubilee Flower Show, for which they will receive special invitations. We have already mentioned that three special temporary shows will be held. A fourth exhibition of this kind is now fixed for May 20-22, 1910, when the Dutch Horticultural and Botanic Society will hold its usual spring flower show in the excellent buildings of the Haarlem Jubilee Show. We understand also that the British Horticultural Traders' Outing will be to Haarlem and Brussels in 1910.

The New Neill Prizeman.—The council of the Royal Caledonian Horticultural Society has unanimously awarded the Gold Neill Medal to the Rev. J. Aikman Paton, of Soulseat, Castle Kennedy, in recognition of the work he is doing in the hybridisation of tuberous-rooted solanums, and his efforts to secure thereby a race of disease-resistant potatoes.

Seeds for Distribution from Kew.—Seed lists will shortly be crowding in upon us, but among the many we shall not find one so peculiarly interesting as that just received from Kew, in the form of an appendix to the "Kew Bulletin." Like the trade lists, this one is dated for the coming year, and there is also the same suggestion to order early. The Kew list, unlike the trade catalogues, contains no prices—indeed, the seeds are free to certain folk. The list is of "Seeds of Hardy Herbaceous Plants and of Trees and Shrubs," all grown (with four exceptions) in the Royal Gardens, Kew, in 1909. These seeds are available only for exchange with botanic gardens, as well as with regular correspondents of Kew, and no application, except from remote Colonial possessions, can be entertained after the end of February.

Mr. F. W. Moore, V.M.H., curator of the Glasnevin Botanic Gardens, Dublin, has had the dignity of Master of Arts conferred upon him (honoris causa) by the University of Dublin. The honour is well deserved by Mr. F. W. Moore, and in conferring it the University has honoured itself.

Children at Flower Shows.—At many of the northern flower shows it is the practice of the committee to invite the local school children to visit the exhibition on the second day. This practice obtains at Nottingham, Sheffield, and York, and at the recent Leeds Show the Lady Mayoress made arrangements for a similar visit, and also offered prizes for the best essays written by the scholars, describing their visit. This early encouragement of a love for flowers is a fine idea, and should be widely copied. We should like to see some of the best essays written by the Leeds scholars

Perpetual Carnation Society.—The first exhibition of this society for the year 1909-10, to be held at the Royal Horticultural Hall on Wednesday next, promises to be a very interesting one. The carnation is becoming increasingly popular for winter flowering, and the competition for Lord Howard de Walden's splendid challenge cup promises to be very keen. The annual meeting and dinner will be held the same evening (December 8) at the Hotel Windsor. Those who propose to join the society should do so at once, so as to secure the fullest possible benefits from membership.

Transport of Flowers in Ice.—The native flowers of Western Australia that were sent to Mr. Chamberlain by Sir Gerald Strickland, Governor of the colony, reached London the other day in such excellent condition that they possessed much of their original freshness and brightness of colour. As in the case of the chrysanthemum blooms sent to Australia by the National Chrysanthemum Society, and the native flowers that were sent therefrom to the Royal Horticultural Society nearly a quarter of a century ago, the flowers received by Mr. Chamberlain were, previous to their dispatch, frozen in blocks of ice. They were brought to this country in one of the cool chambers of the s.s. Ophir.

A New Park for Harrow.—The Middlesex County Council proposes to purchase six acres of ground at Harrow, and this, together with twenty-one acres presented by a resident, will be converted into a public park.

Presentation to Mr. A. J. Hartless.—Until his recent appointment in connection with the University College Gardens, Reading, took Mr. Hartless from London to Berkshire, he was hon. secretary of the London branch of the British Gardeners' Association. That he performed his secretarial duties to the advantage of the association, and the satisfaction of the members was made very evident on Saturday last, when, laying aside business matters, the members of the branch gathered at Carr's Restaurant for a social evening, and the presentation of some tokens of regard to their late hon. secretary. The presentation, made by Mr. E. F. Hawes, consisted of three handsome bronze figures representing Commerce, Horticulture, and Agriculture. The former, the larger and central piece, mounted on a marble pedestal, had the following legend inscribed on an attached brass plate: "Presented to Mr. A. J. Hartless by members of the London Branch of the British Gardeners' Association, as a token of appreciation of services rendered as Secretary from 1907 to 1909."

York Chrysanthemum Show.—At this show, duly reported and illustrated in these columns, the takings at the door amounted to £256 1s., as against £253 7s. 1d. in 1908, and £249 15s. 1d. in 1907. On the second and third days the committee invited the scholars from the Blue Coat School, Grey Coat School, Certified Industrial School, St. Stephen's Orphanage, York Union, and Yorkshire School for the Blind, and these invitations were all accepted.

Fruit Culture at Bournville.—Writing from the Bournville Estate Office, near Birmingham, Mr. J. H. Barlow tells us that information has been received from twenty-one Bournville residents giving the weight of apples picked this year from the trees planted in their gardens. The result shows an average yield of 159lb. weight of apples per garden for the season. In one case the weight of apples this season from nine trees planted 11 years ago was 590lb., the amount realised by their sale being £2 18s. 11d., or at the rate of 1s. 1½d. per week throughout the year. There are over 700 houses with gardens and fruit trees at Bournville. The work of laying out and planting the gardens is done by the Village Trust; and the cost is reckoned as part of the cost of the house. From the particulars given it will be seen what a useful and remunerative investment fruit trees may become.

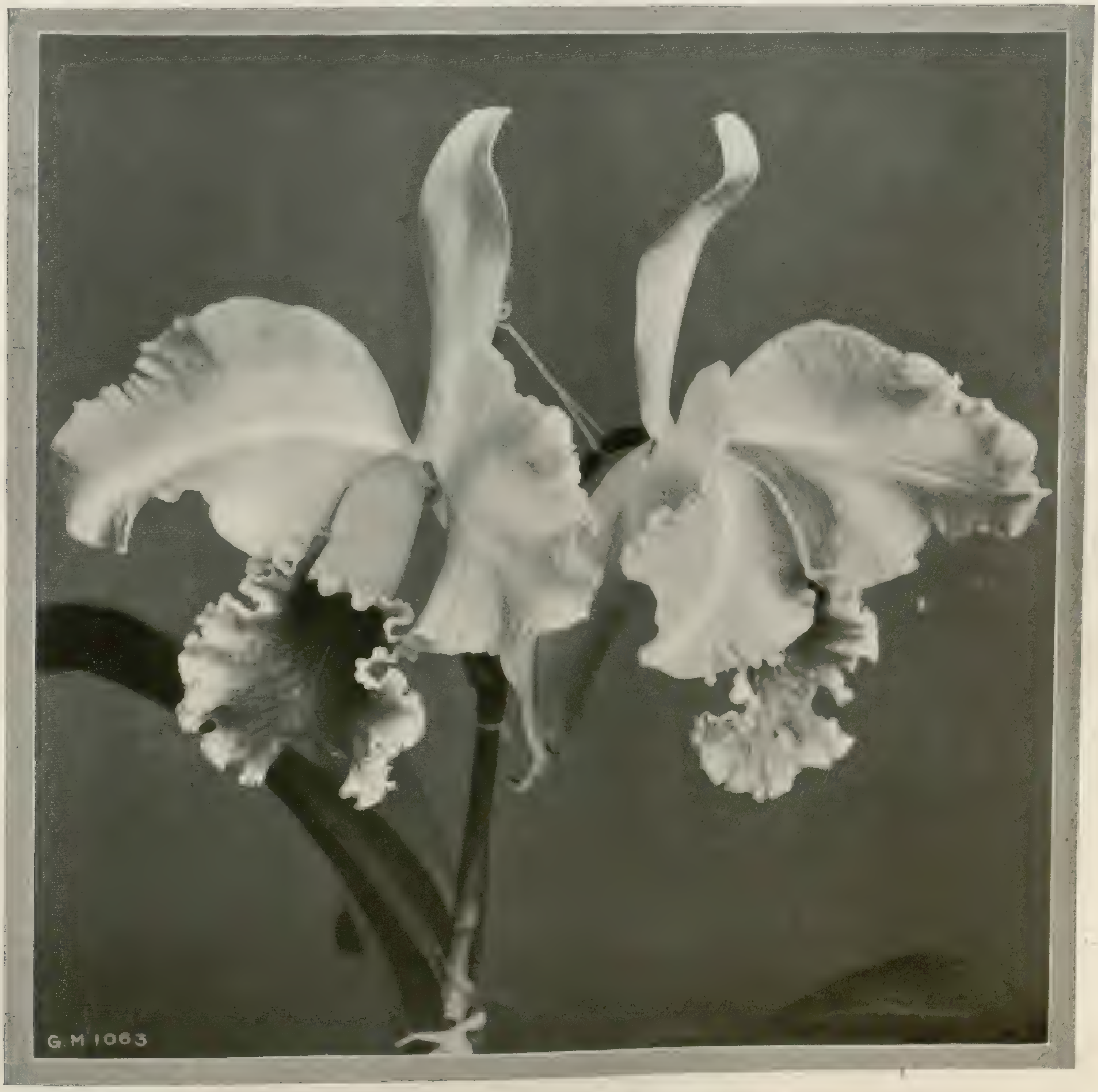
Reafforestation in France.—In one of the recent Foreign Office reports, dealing with the trade of Lyons, the great value of the work carried on, chiefly under the influence of the Touring Club de France, is pointed out. This club has promoted juvenile foresters' societies among the schools, and every member of these societies is bound to plant one tree per year in the commune. As a result, no fewer than 222,515 trees were planted in the Department of the Jura, and 110,800 trees in the Doubs during 1907. At Martignat, in the Jura, as a result of careful planting, the revenue from the forests now pays all local rates and taxes, and last year provided a bonus of 25 francs for each inhabitant of the commune.

Tree Planting on a Large Scale.—According to the "Scientific American," the Pennsylvania railway is planning to set out more than 1,000,000 trees. This will make a total of 3,430,000 trees planted in the last three years to provide for some of the company's future requirements in timber and sleepers. This constitutes the largest forestry plan yet undertaken by any private corporation. Heretofore the company's forestry operations have been confined to a limited area between Philadelphia and Altoona. This year, however, 65,000 trees are being set out on tracts of land near Metuchen and New Brunswick, N.J. In addition there are to be planted within the next month 207,000 trees near Conewago, Pa., 186,000 in the vicinity of Van Dyke, 334,000 at Lewistown Junction, 7,000 at Pomeroy, and 205,000 at Denholm.

NEW PLANTS, ETC.

CIRRHOPETALUM LONGISSIMUM.

A wonderful orchid, bearing an umbel of drooping flowers at the end of a long, slender semi-pendulous stem. Each flower is remarkable for the length and beauty of its lip, this organ being nearly eight inches long, tapering from about half an inch broad to a fine hair point. The colour is a lovely shade of flesh pink. F.C.C., R.H.S., November 23. Sir Trevor Lawrence, Bart., Dorking (orchid grower, Mr. W. White).



LÆLIO-CATTLEYA NELTHORPE BEAUCLERK.
Flowers pink, buff, and purple. F.C.C., R.H.S., November 23. Messrs. Charlesworth and Co., Haywards Heath.

CYPRIPEDIUM BOLTONI.

This shapely, distinct and beautiful cypripedium has descended from C. insigne Sanderæ, but the second parent is not known, though C. niveum is suggested. The flower is of fair size, and wholly white save for a few tiny purple specks at the base of the wavy dorsal sepal. The flower is of great substance, and the proportions of the oval lip are especially fine. F.C.C., R.H.S., November 23. Mr. W. Bolton, Wilderspool, Warrington.

LÆLIO-CATTLEYA BARBAROSSA WESTONBIRT VAR.

This is a bold and striking orchid derived from Cattleya Trianæ Imperator and Læliocattleya callistoglossa. The flowers are very substantial, large, and of fine colour. Sepals and petals are soft purple, and the big lip is rich crimson purple with a yellow throat. F.C.C., R.H.S., November 24. Lieut.-Colonel Holford (grower, Mr. H. Alexander), Westonbirt, Gloucester.

LÆLIO-CATTLEYA NELTHORPE BEAUCLERK.

A particularly pleasing orchid, the colouring being quite distinct and beautiful. The parents are L.-c. Gottoiana and Cattleya Enid magnifica. The flowers are large. The sepals are pink, and the broad petals are rosy-pink with a charming suffusion of buff spread across the centre. Lip purple, fringed, and margined with white. F.C.C., R.H.S., November 23. Messrs. Charlesworth and Co., Haywards Heath.

LÆLIO-CATTLEYA KING MANOEL.

This very fine orchid lacks something of size, but it is one of the most brilliant of orchids. The parentage is unknown, but probably C. Iris and L. cinnabarina have taken part in its production. The flowers are well posed, substantial, and shapely. Sepals and petals are vivid orange; lip rich maroon with a bright yellow across the narrow portion. A.M., R.H.S., November 23. Francis Wellesley, Esq. (gardener, Mr. Hopkins), Westfield, Woking.

ZYGO-COLAX CHARLESWORTHI.

In this hybrid the neat flowers have a greenish ground, heavily marked with red-purple. The lip is rich violet, finely edged with white. A.M., R.H.S., November 23. Messrs. Charlesworth and Co., Haywards Heath.

CATTLEYA DIRCE SUPERBA.

This has medium sized flowers of bright rosy purple hue, with deeper coloured lip. The parents are C. Vulcan and C. gigas. A.M., R.H.S., November 23. Lieut.-Colonel Holford.

NEPHROLEPIS SPLENDENS.

This is a distinct nephrolepis of graceful habit, and more erect than the recent introductions. N. splendens is a hybrid between N. recurvata and N. Bausei, and is suggestive of the latter. The fronds are about 18 inches to 2ft. long, and about five inches broad, much divided, and very elegant. A.M., R.H.S., November 23. Messrs. H. B. May and Sons, Edmonton.

CHRYSANTHEMUMS.

J. B. Lowe.—A brilliant single variety of large size, and carrying its blooms in good sprays. The colour is bright crimson with golden centre. The florets are rather pointed, but this does not detract from the beauty and effectiveness of the flower. A.M., R.H.S., November 23. Mr. H. J. Jones, Ryecroft Nursery, Lewisham

Mensa.—A beautiful single chrysanthemum with very large flowers of splendid form and substance, the florets being very broad and thick, and the outline of the flower quite circular. White with greenish yellow disc. A.M., R.H.S., November 23. Mr. H. J. Jones, Lewisham.

Mrs. W. Buckingham.—A very large, graceful single variety, of rich rosy-pink colour. A.M., R.H.S., November 23. Mr. L. R. Russell, Richmond.

Miss Lilian Bullivant.—A very elegant and pretty variety, bearing its shapely single flowers in good sprays. The colour, soft primrose, is very pleasing, and this, together with the substance of the flowers, should recommend the variety. A.M., R.H.S., November 23. Mrs. Bullivant (gardener, Mr. Cresswell), Eden Park, Beckenham.

PELARGONIUM HIS MAJESTY.

This is a magnificent new seedling zonal pelargonium, producing big trusses of immense blooms, many of them 3¼ inches across. The rich crimson-scarlet colouring is very fine, and is enhanced by the contrasting white eye. It is a single variety of great merit for winter-flowering. A.M., R.H.S., November 23. Mr. W. H. Page, Tangley Nurseries, Hampton.

CHRISTMAS ROSES.

Helleborus niger and its progeny have not inaptly been named "The Christmas Rose." Conceive but an ignorance of botany, and an intimacy with these beautiful hardy subjects, confined to their use as cut flowers, and the appellation Christmas rose appears most fittingly placed, the first name marking its season, the latter reminding us of its form and likeness to the summer roses of our hedgerows.

The Christmas rose is a lowly but intensely beautiful subject, and hardy in the strictest sense; as a pot plant it is most novel and distinct, requiring but warm greenhouse treatment in order to have the flowers in perfection at Christmas. Imported roots are most frequently employed for pots, and these generally give excellent results, their only drawback being that they have no foliage of their own to accompany the flowers. Where hellebores are extensively grown then home-grown roots will make the best material for pot culture, as it will then be possible to pot up the crowns and retain the foliage, which not only makes an effective setting to the flowers, but also renders the plants more serviceable, in that they may be used for isolated vases or bowls.

In either case, the crowns should be potted up during November or early in December, employing a rich compost of stiff loamy soil, and using pots rather larger than the crowns, as it is possible to obtain two years' service from the plants before repotting. Crowns large enough to fill an eight-inch pot will yield several dozen flowers, and as all the buds do not open at once, a succession is maintained, and the individual blooms remain effective for several weeks. As cut blooms the Christmas roses are in general request, especially for floral designs and all decorative arrangements requiring white flowers, so that, all points considered, it is a most economical subject for the winter months.

The type plant, Helleborus niger, is the most generous bloomer, but, unfortunately, the flowers are produced upon rather short stems, which diminishes their value for certain purposes. The largest flowered forms are major and maxima, and both varieties bloom before the type and carry their flowers upon stout stems which are often twelve inches in length. The large-flowered forms are much the best for pots, and when grown in the open and covered over with handlights, a supply of these flowers may be readily maintained from November till April.

Louth. Thomas Smith.

FORCING STRAWBERRIES.

Probably no forced fruits are more highly valued than strawberries, and as their forcing season is in many gardens about to commence, the subject is one of considerable moment to gardeners generally. Of the several matters connected with the forcing of the strawberry, no other has a greater effect upon the results than the condition of the plants, for unless these are satisfactory no subsequent treatment will wholly bring about satisfactory results. It will, then, be understood, that before anyone can become a successful forcer of the strawberry, the plants must be first skilfully prepared. Owing to the mild and wet weather experienced during the autumn the plants kept growing unusually late, but what effect that will have upon them when forced remains to be seen. It is likely to have a detrimental one upon the crops of those that are early forced.

The growing season for the year having now gone by, that part of my subject may be passed over, and reference be first made to the treatment that should be given during the time the plants are resting. If convenience is at command the best plan is to place them closely together, with their pots plunged in ashes in cool frames or pits, where they can be protected from harmful weather, and yet exposed to that which is favourable. Means of this kind should at least be found for plants that are intended for early forcing; but in cases where this cannot be done, the pots should be plunged out of doors in beds of ashes, and protection be given by coverings of bracken, straw litter, etc. The once commonly adopted plan of stacking the pots upon their sides cannot be recommended, as the plants often suffer from drought.

Before forcing commences advantage should be taken of an opportunity—when the soil is moderately dry—to top-dress with a compost of sound loam, mixed with broken horse manure, soot, and a suitable artificial compound. First free the plants of their useless leaves and surface soil. For early forcing we use plants in six-inch pots, and for late crops those in seven-inch pots. These are larger than some good cultivators recommend, but provided the runners are layered as soon as procurable, given good cultivation, and subsequently well cared for, pots of these sizes are then properly filled with roots, and during the fruiting season, if there is no other advantage further than that saved in watering, that alone is sufficient to recommend it.

For forcing we prefer to at once place the plants upon shelves near the glass in a light pit facing south, to the plan sometimes followed of first plunging their pots in a bed of warm leaves, in order to promote early root growth, for by so doing we avoid the chance of their receiving a check when they are removed from the warm bed; and, moreover, we have not seen, when observing the practice, any gain derived from the pots having been plunged. At the same time we are still old-fashioned enough in our practice to place a thin piece of turf under each pot, and believe sufficient benefit is derived from so doing to repay us for the trouble thus incurred. For late crops we prefer to place the plants upon shelves in a house with an eastern aspect, as here they escape the evils of being exposed to the direct force of powerful sunshine, and also those caused from the necessity of very freely ventilating the house.

In order to secure fruits of the best quality much pains must be taken in carrying out during the fruiting season the necessary cultural details. Watering is one of the principal of these, and it requires skilful attention to prevent the plants suffering from drought on the one hand, and too much moisture on the other, in like manner manures in the form of diluted liquids, or top-dressings of artificials, must be carefully applied from the time the flower spikes commence to form until the fruit begins to colour, and it is much better to administer these in a regular and moderate way than give more powerful applications at longer intervals of time.

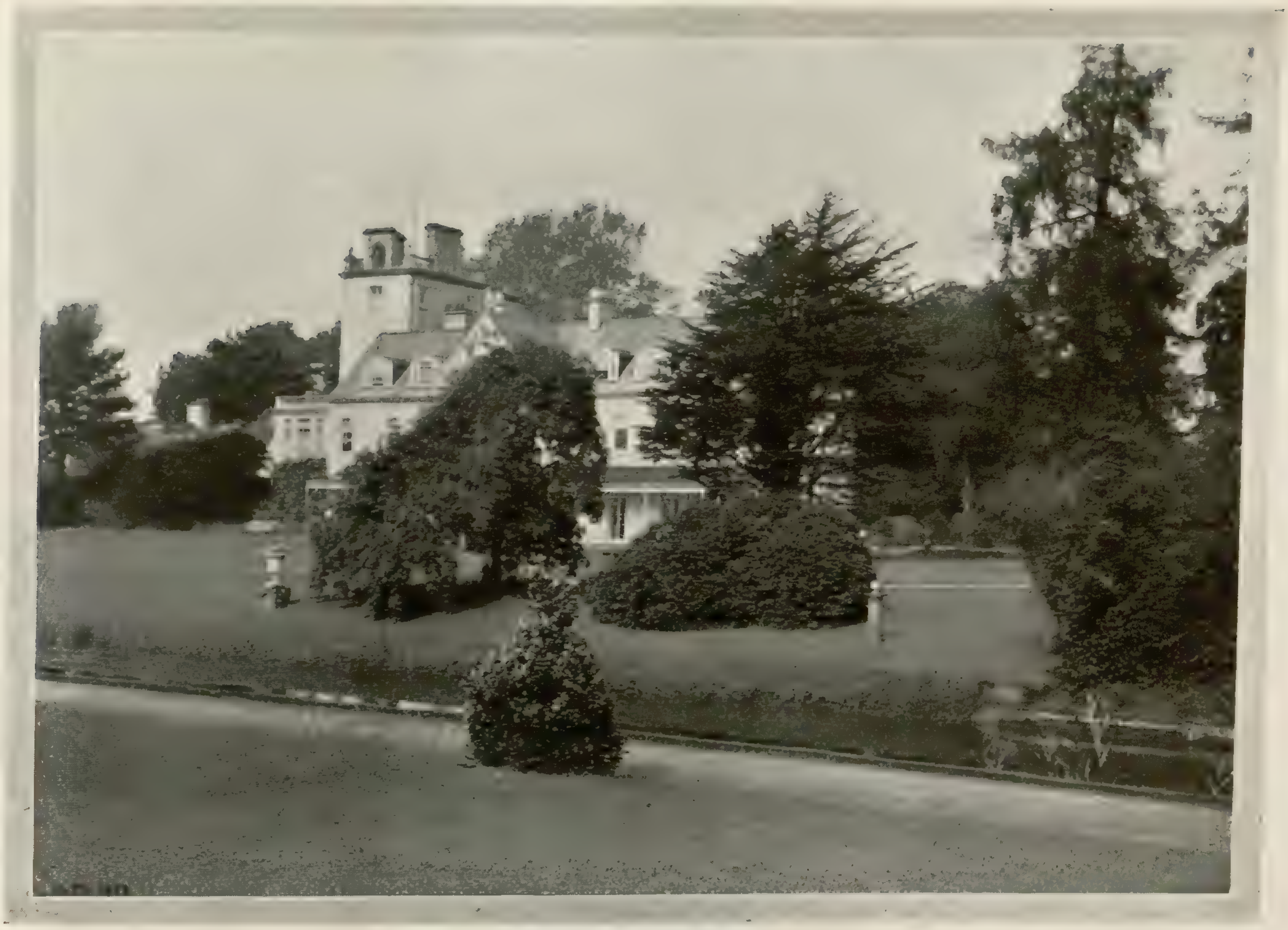
Thinning should be commenced by removing the weakest of the blossom buds as soon as they can be distinguished, and be completed once the leading fruits are formed, at which time they should be supported and fully exposed to the beneficial influence of sun and air. The size of the fruit greatly depends upon the extent to which it is thinned, and if that of the first quality is desired, plants in six-inch pots should not be allowed to carry more than five or six fruits each, while those in pots of the larger size should be reduced to seven or eight fruits; but if quantity is preferred to quality a greater number may be allowed.

The strawberry is very impatient of severe forcing, and consequently high temperatures should not be attempted, from artificial heat 50 degrees at night, with a rise of five degrees by day will suffice, with a corresponding rise from sun heat during the early stages of growth, but these figures should be slightly increased as soon as the blossoms open, and after the fruits are set, a still higher temperature can be upheld. The ventilation of the structure must be regulated according to external conditions, but at all times both by night and day, except in severe weather, should a greater or less amount of air be in circulation, and especially is this necessary while the plants are in bloom and the fruit is ripening.

Artificial aid should also be employed to ensure the perfect setting of the fruit, and for this purpose a rabbit's tail suits admirably. It is essential to the well-being of the plants that a tolerably moist atmosphere is maintained, but for obvious reasons this must not be overdone while they are in blossom, or when ripening their fruit; likewise, though they are greatly benefited when the weather is favourable by being daily syringed, this practice must be withheld during the same seasons. Red spider is liable to be troublesome, especially in hot, dry seasons, but if the foliage is properly syringed, and the other necessary cultural details carefully carried out, it will cause little trouble. Mildew will not be troublesome either if the hot water pipes are periodically painted with a mixture of flowers of sulphur and water. T. Coomber.

The Hendre Gardens.

Orchard Trees of apples, pears, plums, and sweet cherries which have plenty of space for development will not require much attention in the matter of pruning. The two chief points which should be kept in view when operating on these is, in the first place, to shorten the leading shoots just so much as will insure sufficient strength and rigidity in the branches as will enable them to carry a full crop of fruit without breaking down, or from being too easily swayed about by strong winds, or much loss of fruit may ensue. And, secondly, to keep the centres of the trees sufficiently open by a judicious thinning out of the weaker growths, to enable the sun and air to have full effect on all parts of the trees.—George Woodgate.



BRICKENDONBURY: SOUTH FRONT.

GARDENS ROUND HERTFORD—I.

In giving a short account of a few of the more noteworthy gardens round Hertford, the capital of one of the most interesting and beautiful of the home counties, it is pleasant to recall the fact that Hertfordshire has long been remarkable for the high state of development to which horticulture has attained within its boundaries. Great gardens, distinguished by their attractions, interest, and high keeping, abound on all sides, and if they are not enumerated as proof of the assertion it is because they would form so long a list as to be somewhat tedious. Nurseries are not less remarkable, as evidence of horticultural activity, and it is interesting to recall the fact that at Cheshunt and Waltham Cross are establishments which for about three-quarters of a century have occupied foremost positions in association with the commercial culture of roses, and have enriched our gardens with large numbers of beautiful varieties. A few miles distant are the Sawbridgeworth nurseries, which, for a period of fifty years or more, have been famous for the splendid results that have been obtained in the raising of new hardy fruits, notably pears, peaches, plums, and nectarines, that are now represented in all gardens in which any considerable share of attention is devoted to hardy fruit culture. On the other, or western, side of the county are the Great Berkhamsted nurseries, whence was distributed. a culinary apple that for about half a century has enjoyed a high degree of popularity, and, in its class, has no superior for small gardens. Hertfordshire is also obtaining importance as a great market gardening centre, and nowhere has the glass culture of plants, flowers, fruits, and early vegetables attained to such large proportions as at Cheshunt and some other places on its eastern boundary.

It would be pleasant to write of the many attractions Hertfordshire has to those who take an interest in outdoor life; of its delightful scenery, its invigorating air, and the suitability of its soil for the many ornamental and useful plants that usually have a place in the well-equipped garden, and to make some reference to the days when Hoddesdon, a few miles distant from the county town, was the great centre of the orchid cult. This would require considerable space, and, moreover, the object I have in view is not a sketch of the horticultural activities of the county, but a short account of some of the gardens which may be described as typical of the district of which Hertford is the centre. In commencing this pleasurable task it has been found necessary, owing to the large number of important gardens clustering round this old-time town, so rich in historical associations, to take a much smaller radius than usual, and to make no mention of several gardens deserving of the fullest notice. The great gardens of Panshanger, the seat of the Countess Cowper, are within the radius that has been adopted for the present purpose, but they were so fully illustrated and described in these pages by myself a few years since that it is not necessary to now refer to them, except to say that they abound in interest, not alone to the horticulturist, but to all who are able to appreciate the charms of an extensive garden of the highest class.

Brickendonbury.

This fine seat, the property of E. E. Pearson, Esq., is situate on high ground, some two miles to the south of Hertford, and deservedly enjoys considerable fame for the extent, beauty, and high keeping of its gardens. The mansion is a stately edifice, occupying one of the most charming positions in the county, and is approached by a noble avenue of limes about a mile in length. On the way to Brickendonbury one obtains some wide and beautiful views of the finely wooded and undulated land that forms so characteristic a feature of Hertfordshire, and especially noteworthy are the peeps that may be had in passing under the shade of the lime trees. The avenue terminates some distance from the mansion, and immediately the last of the trees are passed the lawns open out and form a fine expanse of velvety turf, on which are many handsome deciduous and evergreen trees and shrubs, big masses of hardy and tender plants, that, in their respective seasons yield so freely of their wealth of floral beauty as to give the visitors a foretaste of the pleasure the gardens are so well able to afford those who can enjoy to the full the more beautiful forms of plant and tree life. There are also in this part of the grounds some bold groups of shrubs with richly coloured foliage, that form a bright foreground to the stately trees that shelter the mansion on the north side.

On the south, or garden side of the mansion, a great breadth of turf slopes away to the water, of which a glimpse is obtained in the first of the several illustrations, and from the windows and the higher ground an uninterrupted view is obtained of a wide expanse of scenery, in which the Brickendon woods are conspicuous, of unsurpassed beauty. The broad belt of turf, which extends for several hundred yards to the left of the water, is separated from the park on its southern side by an elegant iron fence, and alongside this is a narrow border, which, during the summer season, is devoted to tender flowering plants. Last summer the subjects employed were white marguerites, scarlet zonal pelargoniums, and blue lobelias, and as the whole of the plants were perfect in development the effect was remarkably good. On the surface of the stream by which the lawn is intersected float some of the finest of the water lilies, and on the margin irises and other of the semi-aquatics grow vigorously, and bloom freely.

To the right of the mansion is a geometric flower garden, sunk below the surface, and this is furnished for the summer months with tender bedders, and this year the finest of the zonal pelargoniums with scarlet flowers were utilised. That the varieties had been well selected was evident from the fact that when we saw them in September the plants were producing a brilliant display of colour, notwithstanding the continuous rainy weather that had been experienced for at least a month previously. To the right of the mansion is the Dutch garden, which forms a very interesting and attractive feature. In accordance with the practice which obtained when this style of gardening was in vogue, the beds are enclosed with broad belts of closely clipped box, and in the beds are golden yews cut to various shapes and sizes, as so well shown in the accompanying illustration. Sharing the beds with the yews at the time the photograph was taken were upwards of two thousand tuberous begonias, which were flowering profusely, and produced a glorious display of colour. The prevailing colours were crimson, scarlet, red, and orange, and the majority of the plants were seedlings that represented a remarkably fine strain. We noticed a few beds filled with a small-flowered scarlet variety that has been grown at Brickendonbury for many years past, and is highly esteemed for its freedom of flowering and effectiveness. To the right of the Dutch garden the water runs in a northerly direction, and alongside it is a broad walk flanked by a flower border that last summer was filled with stocks, which, by reason of their splendid development, carried the mind away to the Scotch gardens, wherein stocks are grown with exceptional success.

DUTCH GARDEN WITH GOLDEN YEWS AND BEGONIAS, BRICKENDONBURY.

The greater portion of the pleasure grounds are to the east of the mansion, and here are many stately trees, charming vistas, great masses of roses, choice shrubs in great variety, herbaceous borders, and two gardens for roses. Here we have evidence of the many improvements that have been effected in the pleasure grounds since Mr. Pearson came into possession of the estate. Originally some parts of the pleasure grounds on the east and south sides were bounded by large trees and shrubs, but to open them out and remove any sense of restriction the boundary has been carried some distance into the park. At the eastern end the extension has been sufficient to give space for the formation of an avenue of Thuia Lobbi, a wide border for herbaceous plants, and a line of chestnut trees. On the south side the extension has been sufficient to give room for an avenue of chestnut trees, with turf between them, and a border, in which a hedge of the richly coloured rose Gruss an Teplitz is in process of formation. This hedge should, in course of time, form a fine feature, for it has a length of between three and four hundred yards. Wichuraiana and other suitable roses are trained up the stakes supporting the chestnuts, and these are now beginning to bloom freely, and produce an attractive display of flowers. Both Mr. and Mrs. Pearson would appear to have a strong affection for roses, for they have added a garden for rambling roses, of which an illustration is herewith given, and a garden for dwarfs and standards. The second of the two gardens has been established some years, and the standards have now formed large heads, and bloom with remarkable freedom. This garden is quite square, and is enclosed by a yew hedge about six feet high. The roses are arranged in beds on the grass, which is intersected by two gravel walks that cut the turf into four equal portions. This arrangement is an excellent one, for the garden can be visited without risk when the grass is wet, and the gravel is not sufficient to detract from the restful colouring so desirable in a garden of roses. The rambling rose garden is enclosed by a belt of trees of some height, and in the centre the beds are arranged in circles, and filled with ramblers trained to pillars and chains, and round the outer side are numerous oblong beds devoted to dwarf roses. All the pillars in the centre are of iron, and connected by means of light chains. When the whole of the framework is fully furnished, as will be the case next year, the pavilion will present throughout the season a remarkably attractive appearance. It may be of interest to mention that the centre pillar is fifteen feet high, the second circle of pillars ten feet, and those forming the outer circle seven feet high.

The glass department is extensive and fully in keeping with an establishment of the highest class. Suitably situate in the pleasure grounds is a handsome conservatory, wherein by means of divisional screens accommodation is provided for the cultivation of stove, intermediate, and greenhouse plants, and this accommodation is made full use of by Mr. R. Smith, who is not less successful in the cultivation of ornamental plants than of hardy and other fruits. Elsewhere are ranges of vineries and plant houses, and quite recently has been erected a block of medium-sized span-roof houses for the cultivation of melons and cucumbers, and the various decorative plants that require a position not too far distant from the glass, and in these also is abundant evidence of cultural skill of a high order.

Hardy fruit culture obtains prominent attention, and the fruit plantations and the trees that clothe the walls and flank the kitchen garden paths constitute a feature of much importance. The principal fruit plantation is situate on the west side of the kitchen garden, which adjoins the western side of the pleasure grounds, and is bounded on the east side by a wall devoted to fruit trees, and on the other three sides is open, and is thus fully exposed to atmospheric influences. The wall is about ten feet high, and supported on its outer side by buttresses three feet wide, and nine or ten feet apart. The use of the buttresses is due to the wall having been built many years ago alongside a ditch that a short time before had been filled in, with the result that as the soil settled down the wall lost its perpendicular, and had to be supported to prevent it toppling over. The spaces between the buttresses are occupied by peaches, nectarines, and apricots, which annually bear excellent crops, and over the buttresses pear trees are trained, three or four branches being taken up the slope, and other growths are trained horizontally. These trees bear well, and produce fruits remarkable for their large size and high quality. Pears are also largely grown in bush and pyramidal form, and with much success, and some of the trees are shown in the illustration herewith.

Apples occupy an important position in the plantations, in which they are grown as bushes and pyramids. They are also largely grown as espaliers, and alongside the principal walks in the kitchen garden are trellises clothed with trees, which bear freely and produce fruit of large size and high quality.

The trellises are of stout wire, with iron standards, and range between four and five feet high, and the trees are fan-shaped, as Mr. Smith considers that such trees are preferable to those in which the leading branches are trained horizontally. The whole of the trees have been planted by Mr. Smith within the past fifteen years, and many are the object lessons of value in hardy fruit culture that might be learnt in the course of an hour or so among the trees. To refer to cultural methods is not now possible, and those who have a wish to become acquainted with the principal points in Mr. Smith's practice may be referred to the GARDENERS' MAGAZINE for December 22, 1900, wherein they were dealt with at some length.

Brickendon Grange.

Some two miles beyond Brickendonbury, still continuing in a southerly direction, is Brickendon Grange, the seat of J. Trotter, Esq., who is well known in the district for the keen interest he takes in his beautiful gardens and horticultural matters generally. Between these two seats there is much scenery of the most charming description, and the great stretch of woodland immediately beyond the last-named forms a distinct feature in the landscape. The mansion is a handsome red brick structure, which has been greatly enlarged during the past year; it occupies a charming position on the high ground, and if the view is somewhat circumscribed in one direction by the woodlands that clothe the slopes of adjacent hills, views over a wide expanse of open country are obtained in other directions, and both the windows of the mansion and the garden terraces command one of the fairest prospects in the district, which is renowned for the beauty of its pastoral scenery.

RAMBLING ROSE GARDEN, BRICKENDONBURY.

Coniferous trees form a great and interesting feature of the gardens and grounds, and the pinetum, to which Mr. Trotter has made many important additions within recent years, extends over a considerable area, and contains many notable specimens. Some of the trees planted on the slopes devoted to the pinetum are of large size and finely developed, others are of medium size, and give promise of attaining a high state of development, while others are of a size that suggests their being the most recent additions to the collection, in which the owner takes so great an interest. Unfortunately so much of the occupants of the pinetum was not seen as one could have wished, owing to the unkind weather. Two attempts where made, but each day it rained heavily almost immediately the gardens were reached, and the few photographs it was possible to take were taken in the rain, with the aid of an umbrella. There is, near the entrance to the pinetum, a weeping spruce that has its main trunk so bent as to suggest from a distance some unknown and quaintly formed animal quietly browsing on the grass, and probably my readers may some day have an opportunity of seeing an illustration of it.

From the broad walk, immediately along the garden front of the mansion, the lawn slopes away to the west, and, as shown in one of the illustrations given herewith, this slope has been converted into a series of grass terraces by means of rocky banks, over which many alpine and other plants spread and display their varied charms. On the upper terrace are numerous beds, in which both spring and summer displays of flowers are produced, and elsewhere are many beds devoted to roses and various other plants, all of which contribute their full share to the attractions of the garden. The rock banks were of much interest, for banks formed in the same way are not common, and they have much to recommend them for positions where it is desired to avoid the appearance of formality. Growing on these banks were arabis, aubrietias, alyssums, cerastiums, helianthemums, veronicas, campanulas, and similar subjects. Planted in positions where they would not interfere with less vigorous neighbours are bold masses of the spur-valerian (Centranthus ruber), and a remarkably free blooming variety of Chrysanthemum Leucanthemum, which was collected by Mr. Trotter during a tour through Sweden.

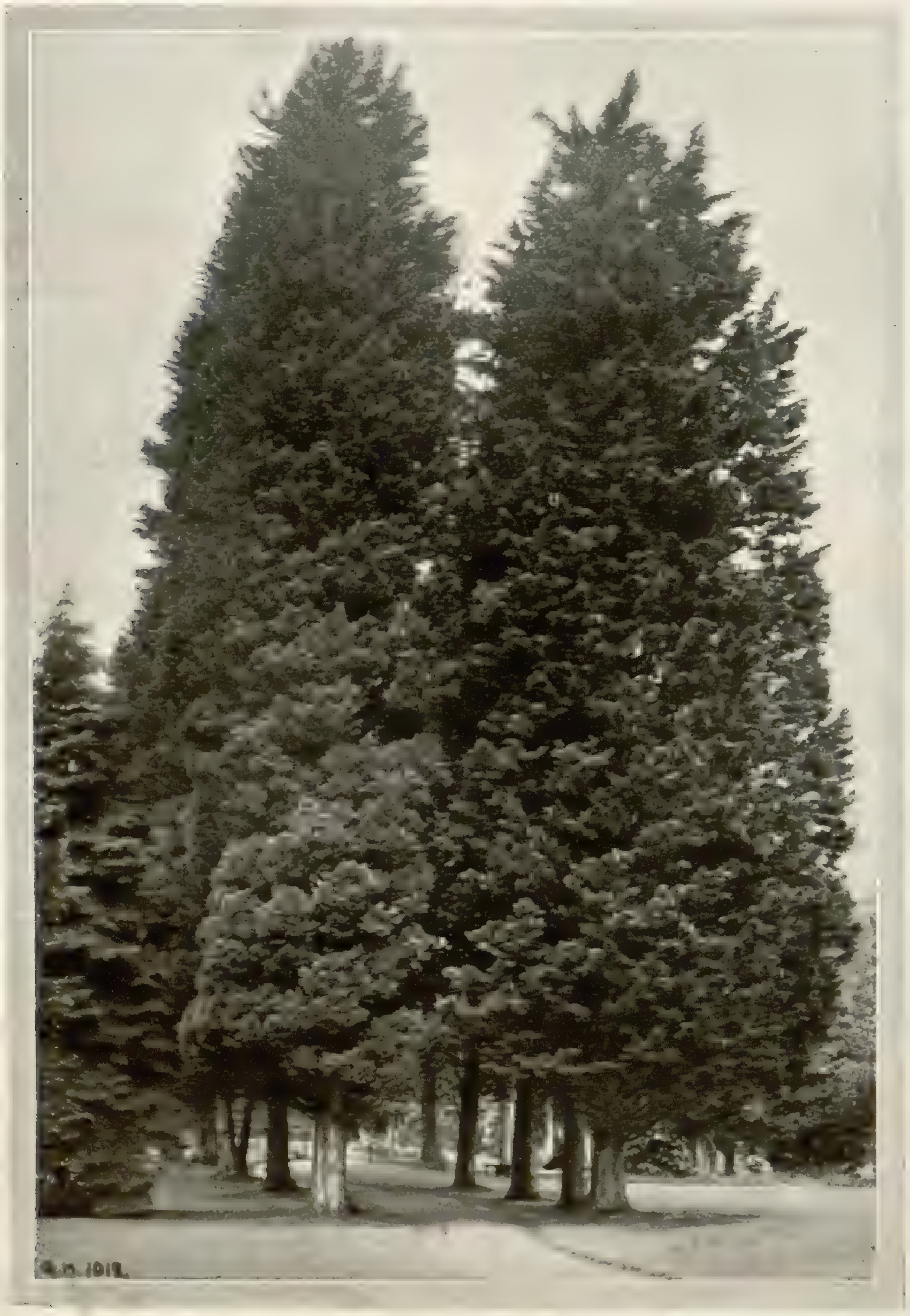
It would appear that a considerable number of the larger coniferous trees that beautify the grounds were planted by a previous owner some sixty years ago, who also planted an avenue of Cupressus macrocarpa extending some distance round the park. The trees that form the southern end are herewith illustrated, and remarkably fine specimens they are. They were, one might suggest, planted too closely together to ensure longevity, and in support thereof it may be mentioned that the two end trees, which have had full exposure on one side, are far superior in development and condition to the others.

On the opposite side of the pleasure grounds is a stream and pool adapted to the requirements of the various water-loving plants, and immediately beyond is one of the most delightful retreats from the sun on a hot summer's day that one could well imagine. On the sloping ground is a plantation or broad belt of Scots fir, probably formed some fifty or sixty years ago, and through this a path several hundred feet in length has been made by the cutting out of one of the rows of trees. The effect produced by the long lines of ruddy trunks is very pleasing, and the walk forms a very distinct, interesting, and useful feature.

The kitchen and fruit gardens are situate on the high ground to the north of the mansion, and here there is much to interest, for Mr. Cox, who has charge of the farm as well as of the gardens, has for very many years enjoyed a high reputation for his skill as a cultivator. For a long period he gave attention to chrysanthemums, and was recognised as a formidable competitor in the classes for Japanese varieties at Hertford and elsewhere. Now these attractive flowers are no longer grown for exhibition, and sweet peas and herbaceous plants, so far as competitive purposes are concerned, have taken their place. Consequently, it was not surprising to find some magnificent rows of sweet peas, in which all the finest of the varieties were

A PRODUCTIVE FRUIT BORDER, BRICKENDONBURY.

represented at their best, or a border of hardy flowers, in which the several kinds had attained a high stage of development. Neither the sweet peas nor the hardy plants are grown specially for the supply of flowers for exhibition, but Mr. Cox believes in so growing the several subjects under his care as to ensure them attaining to a high state of development. In giving practical expression to his views, which are those of other good cultivators, he knows that he obtains thereby finer sweet peas and more effective herbaceous borders, and is able to obtain collections for entering into friendly rivalry with his neighbours, should it be so desired, without any material reduction of material. I shall hope, when the season arrives for sowing sweet peas, to give an illustration of one of the rows, and a few particulars of Mr. Cox's practice, which, judged by the results, is a good one. There is no occasion to particularise the occupants of the border illustrated, but it must be said that it is rich in herbaceous phloxes which grow and bloom most satisfactorily under the conditions that obtain.



AVENUE OF CUPRESSUS MACROCARPA, BRICKENDON GRANGE.

Fanshawes.

Fanshawes, until recently the seat of Mrs. Hardcastle Sykes, adjoins the Brickendon Grange estate, and the two mansions are within a quite short distance of each other. This being the case, it will be readily understood that there is no great difference in the characteristic features of the scenery; and it will suffice to say that as Fanshawes occupies a position whence are obtained views over a wide range of country, the prospect is one that can hardly fail to be a constant source of pleasure to those who appreciate the charms of scenery of a distinctly rural character. The mansion, of red brick, is of noble proportions, and has a handsome elevation, and may well be described as one of the finest examples of the work of present-day architects in the county.

The grounds are extensive, tasteful, and admirably kept, and with their great breadths of turf, noble trees, bold masses of shrubs, pergolas, pillars, and groups of roses, and beds and borders of hardy and tender flowers, form an admirable setting to the mansion. On the north side the handsome porch, by which the mansion is reached from the carriage drive, is draped with the elegant Clematis montana and its charming variety rubens, and as they differ but little in vigour of growth, or in flower production, or time of blooming, the festoons of pure white and rich rose-coloured flowers produce a charming effect when yielding of their floral wealth. The walls on this side of the mansion are clothed with one of the best forms of the well-known Ampelopsis Veitchi, and the great mass of leaves present a refreshing appearance throughout the summer months, and when the breath of autumn has passed over them they assume such exceptionally brilliant hues as to produce a marvellously beautiful effect. On the other, or garden side of the mansion is a specimen of the beautiful rose Rêve d'Or, which is equally remarkable for its large size, and the profusion with which it produces its exquisitely coloured flowers. This specimen, of which an illustration is given herewith, is between twenty-five and thirty feet high, and its vigour suggests that it would very quickly extend over a much larger wall space were it available. Such vigour of growth and abundant flower production and ample leafage could, it need hardly be said, be only obtained by a knowledge of the peculiarities of the variety, which Mr. Croxford, the head gardener, evidently possesses, and skilful cultivation. Whatever may be the attention the tree has received it is amply justified by the results.

A broad walk extends along the whole front of the mansion and a short distance to the right of the fine specimen of Reve d'Or commences a pergola over which the finest of the rambling roses throw their long, slender shoots, and festoons of flowers. The first of the arches is festooned with the elegant Rosa polyantha simplex, and of the many hundreds of examples that I have had the pleasure of seeing, not one can be called to mind that quite equalled this. Rambling and other roses are excellently grown in masses and other ways in the grounds immediately surrounding the mansion, and very beautiful is the feature they form in the season of roses.

Coincident with the commencement of the pergola, there is a large recess, and between the rose supports and the walls of the mansion there is a spacious Dutch garden. The garden is sunk somewhat below the general level, and the sloping banks are clothed with dwarf rock plants of divers kinds, and very pleasing is the effect they produce. The beds are filled in autumn with spring-flowering plants, and in spring with summer flowers, and a succession of bloom is thus maintained over the longest possible period. Last summer the broad, sloping bank at the end of the garden next the mansion was planted with a scarlet zonal pelargonium, probably Paul Crampel, and very brilliant was the effect produced. Trained over a portion of the wall of the mansion alongside the Dutch garden was Clematis Henryi, one of the finest of the white varieties, producing a splendid display of its large, finely-formed flowers, and it was noticed as doing equally well on other aspects. Dorothy Perkins, Crimson Rambler, Jersey Beauty, and Cloth of Gold roses were also noticed as blooming profusely on the southern walls, and very bright was the effect they produced.

In a somewhat retired part of the grounds is a rock garden, wherein ample provision has been made for the successful cultivation of a good selection of alpine plants without the rock being at all obtrusive. On the mounds and sloping banks Anemone blanda, the blue and white forms, aubrietias in variety, alpine pinks, Welsh poppies, saxifrages, comprising both the mossy and silvery-leaved forms, lychnis, Tropæolum polyphyllum, the thymes, and a host of similar subjects form sheets of verdure and flowers, and in the lower parts the Japanese primrose, Kæmpfers irises, Delavay's incarvillea, and the large-leaved Saxifraga umbrosa luxuriate. Near at hand is an attractive border of hardy herbaceous plants, and not far distant was a border of the beautiful sweet pea Mrs. Hardcastle Sykes.

On the north side of the mansion considerable improvements have been effected within the past few years, and chief among them has been the formation of a large wild garden, wherein choice trees and shrubs have been arranged in an informal manner, and many thousands of spring-flowering shrubs planted. Running riot over a yew hedge, and producing a brilliant display of colour, was the beautiful Tropæolum speciosum. An enumeration of the many trees and shrubs that have been utilised in the planting of this interesting garden would probably prove tedious, and it must therefore suffice to say that rambling roses have been freely used by Mr. Croxford, some being trained up rustic poles, and others are running over masses of tree stumps. In an adjoining part of the grounds choice shrubs are freely represented, the finest of the rhododendrons being prominent, among the specimens being one of Pink Pearl, which last season produced fifty-nine trusses. There are also more than sufficient of the best of the lilacs, laburnums, pyrus, and syringas to show that trees and shrubs remarkable for the beauty of their flowers are fully appreciated.

FINELY-GROWN HERBACEOUS PLANTS, BRICKENDON GRANGE.

In walking through the kitchen garden and the plant and fruit houses that are located therein, much was seen of which some mention should be made, but I have already exceeded the space I had allotted for this set of gardens, and must, therefore, bring my observations thereon somewhat abruptly to a close. George Gordon.

*** The second of the two articles on the gardens round Hertford will appear in our issue of the 11th inst.

Begonias and Gloxinias.—At the time of storing these away many of the tubers were not ready to be shaken out of the pots; but by now all will be ready, and if they are attended to before commencing to clean the houses, much unnecessary shifting will be avoided. Shake all the soil from the tubers, and store them in a cool, dry place; if given too much warmth the tubers are apt to get very hard, and will not start so readily as when a cool, even temperature is afforded them.—T. Stevenson, Woburn Place Gardens.

HARDY SHRUBS FOR FORCING.

Experiments have proved that a considerable number of the more beautiful flowering shrubs are amenable to the artificial conditions necessary to the development and production of their flowers during the winter and dull season. Until recent years a few kinds only were employed, and these in a sparing manner, but we now find that large batches of each species are introduced into heat from time to time, resulting in a wealth of inflorescence and glorious display in both conservatory and rooms. This is maintained until the spring, or the season when they are available out of doors.

With regard to selection one cannot speak too highly of the vastly improved lilacs, which are finely represented in Dr. Lindley, Marie Legraye, Madame Lemoine, Charles X., Charles Buchner, and Virginale. Several new forms of the mock orange are eminently adapted for forcing, and the flowers they give are of a refined character. Philadelphus mexicanus, P. Gerbe de Neige, and P. Lemoinei erecta are altogether excellent. The numerous varieties and hybrids of Azalea mollis are invaluable, and readily respond to a temperature of 60 degrees, while as regards floriferousness we have nothing to surpass them among flowering shrubs or plants generally. Very fine must be written against the magnolias, M. conspicua, M. stellata, and M. acuminata being the best for the purpose.

Ever one knows that hydrangeas may be pressed into service, as they have come well to the fore in recent years, and the same applies to the double cherries, which give us flowers of great beauty. Cerasus japonica alba fl. pl., C. rosea plena, C. vulgaris fl. pl., and C. pseudo-cerasus James H. Veitch are all worth attention. The tree pæonies, improved forms of flowering currants (ribes), Staphyllea colchica, and shrubby spiræas, extend the list, not forgetting the beautiful and accommodating Deutzia gracilis and its varieties, D. Lemoinei and D. crenata flore plena, also Pyrus malus floribunda, and the double-flowered peach.

Then something must be said as to the correct way to proceed in order to bring about the best results with these plants. They should, as far as possible, be fairly well established in pots before they are forced. Such plants can be procured from the trade, but the cheapest method is to purchase a few plants of each kind early in the autumn, place them in pots immediately on arrival, and to keep them syringed overhead, and fairly close in a cold frame for a couple of months, or until required for forcing. Forcing is a very simple matter, provided a temperature of 60 degrees is maintained, together with spraying the plants overhead twice daily. Failure is out of the question. It should be explained that in giving the order for the shrubs it must be made clear to the vendor that vigour and a wealth of flower buds is essential to success.

It is a mistake to allow the plants to remain in the forcing house after the flowers have commenced to expand, as their season of beauty is appreciably lengthened if they are transferred to the cool greenhouse. It will occur to the cul-

ROCK TERRACE, BRICKENDON GRANGE.

tivator to apply a mild kind of stimulant when the plants commence to grow rapidly, and before they come into flower.

I would here emphasise the importance of treating these shrubs in a rational manner after they have flowered. To throw them underneath the stage of the house, or to leave them to the tender mercies of our climate in the open garden is a mistake, and I would advise their being kept under cover, and regularly watered until spring and danger of frost is past, when they should be given more roomy quarters and be plunged in an open position in the reserve garden. If sunk to the rims of the pots, and a heavy mulch of manure is placed over them in June, watering will be reduced to a minimum, and, further, the same should not be forced again for two years.

It will be readily seen that if a good collection of these shrubs is brought together a goodly array will be available each winter for forcing. Walter H. Aggett.

A SPLENDIDLY DEVELOPED SPECIMEN OF ROSE REVE D'OR, FANSHAWES.

Aster amellus Riverslea.—Riverslea is the name of a very fine variety of the popular Aster amellus, one of the starworts or Michaelmas daisies, which will never be superseded. As most readers are aware, A. amellus is a dwarf aster about a foot and a-half high, but the variety Riverslea grows about two feet, and is of a lovely rich blue, with a kind of carmine shade about it. It likes a good soil.—S. A.

FORGET-ME-NOTS.

There is assuredly no need for any introduction to the forget-me-nots or myosotis, which are valued highly for spring bedding and for garden decoration generally. Fashion, which has almost abolished many Victorian subjects from our gardens, has raised no finger against the myosotis, which still enjoy a measure of popularity which seems to assure them a certain future. Their delicacy of colouring has probably done much to save these subjects from the displeasure of fashion, while the appealing charm of the whole race has also assisted in keeping them to the fore with garden lovers. I do not know that any ideas of mine concerning myosotis for spring bedding would materially assist in the development of garden beauty, but it may be remarked that the soft azure blue colourings used in conjunction with the snowy grace of the single and double white arabis, or associated with white or pink tulips, are agreebly pleasing.

But it is out in the semi-wilderness (the wild garden) or in the rock and water gardens that one can realise the great possibilities of the myosotis. Here we get a wider, fuller phase of gardening which gives our subjects more latitude, more freedom, than the confined area of formal beds. M. palustris, the moisture-loving forget-me-not, is of great value for the water garden, where its free, graceful habit and hordes of tiny blossoms show to advantage along the marshy margins of the pools and in the shallow water. Indeed, it would be well to further popularise the fine varieties of M. palustris, such as alba, semperflorens, and those sterling forms of the latter, such as The Czar, Count Waldersee, and German Star, as they give a prolonged display of graduated colouring, which is of advantage to those in search of moisture-loving subjects. The delights of a half-shady pool, wherein calthas, bog primulas, hottonias, and many other subjects combine with the myosotis in gemming the margins and the water surface, must be known to be fully realised.

For the rock garden, who would miss the charm of the dainty little M. alpestris, which delights in a well-drained half-shady spot in the rock groupings. Its little white-flowered variety alba is also worthy of note, while the lovely deep blue, and superior M. rupicola, is one of the finest plants among miniature alpines. Other forget-me-nots suitable for the rock garden are the pretty dwarf New Zealander, M. pygmæa, the dwarf form of M. azorica known as the Empress Elizabeth, the charming little Genevan M. cæspitosa Rehsteineri, and the little Italian (M. Stabiana are all deserving of culture for the purpose named.

Now as to the wild garden. I should like to see M. sylvatica, the exquisite woodland forget-me-not, and its varieties naturalised and gracing the slopes and the lightly-wooded ground of the wild garden. There should be delightful stretches of blossom, aiding the narcissi, irises, anemones, foxgloves, campanulas, primulas, and other subjects in the making of those charming vistas of flowers which are the making of this part of the garden. M. sylvatica itself is enchanting when thus allowed free course, while its white variety alba and the improved forms, perfecta, Star of Love, etc., should be included if possible. The M. dissitiflora group might also be used in the embellishment of the wild garden.

In conclusion, the myosotis are also valuable for forming "drift lines," i.e., drifts of soft blue, running in broad irregular bands through groups of taller subjects, such as irises, hemerocallis, yuccas, lilies, and similar plants, which can be arranged in natural groups.

P. S. Hayward.

COTONEASTER MULTIFLORA

This deciduous species of cotoneaster is anything but well known in gardens, though it is one of the prettiest of all when in flower, and its fruits also make it worth growing. It is a Chinese shrub, and has been known under the names of C. reflexa and C. vulgaris var. glabrata, for, like the majority of the cotoneasters, it has been variously named on one occasion or another.

A strong-growing shrub, it forms a bush at least 10ft. or 12ft. high, with pendant secondary branches, from which the white flowers are borne in profusion during May. These flowers are succeeded by fruits the size of medium-sized peas, which, when ripe in August and September, are of a pleasing red shade, and are very conspicuous peeping out from amongst the green foliage. Like the other cotoneasters it thrives in light soil, and attains its maximum size in light but rather rich loam. To be seen at its best it must have plenty of room, and not be crowded by other shrubs. An occasional thinning out of the shoots is necessary, as it is apt to become very thick in the centre.

W. D.

MANURES AND MANURING.

In his presidential address to the British Association some years ago, Sir William Crookes drew public attention very forcibly to the possible early exhaustion of the natural deposits of nitrate of soda and guano, and pointed out that probably before long we would obtain our supplies of nitrate for manurial purposes by using water power to cause the nitrogen and oxygen of the air to combine together by electrical means.

This prediction of the great scientist is already in process of being fulfilled. Two different kinds of manure are now being prepared on a comparatively large scale by obtaining nitrogen from the atmospheric air, and with the aid of electric power causing it to combine with other chemical substances. One of these manures is known to agricultural chemists as "calcium cyanamide," to which the popular name "lime nitrogen" is being applied.

The other manure is called "basic nitrate of lime," which is similar to nitrate of soda, being a nitrate, but combined with lime instead of soda.

For many years past calcium carbide has been prepared in large quantities as a source of acetylene gas, which is now largely used as an illuminant. The carbide is prepared by means of the electric furnace, and its economical manufacture depends on a cheap supply of electricity. It is therefore prepared at places where electricity can be obtained cheaply by the use of water power. Carbide is now produced in great quantity in various parts of the world, and is a quite cheap substance.

The preparation of the two new nitrogenous manures, cyanamide and basic nitrate of lime, at prices which will enable them to compete with the older manures—sulphate of ammonia and nitrate of soda—depends upon a cheap supply of electricity, and these new manufactures, therefore, will probably grow up at places where plentiful water power can be obtained to generate electricity cheaply.

Cyanamide or lime nitrogen is a fine black powder containing from 19 to 21 per cent. of nitrogen, equal to 23 to 25½ per cent. of ammonia, practically, therefore, of the same percentage of nitrogen as ordinary commercial sulphate of ammonia. Cyanamide has a peculiar smell, which is due to the fact that it contains a little carbide, and gives off a little acetylene gas. The smell is much intensified when the material is moistened with water, as more acetylene is then given off. In appearance it resembles basic slag, and like that manure, is very dusty to sow on the land.

When applied to the soil by hand the cyanamide should be mixed with twice its weight of slightly damp earth, or with some other slightly damp substance like kainit. As is the case with nitrate of soda and sulphate of ammonia, cyanamide is soluble in water, and is, therefore, easily washed into the soil. When it is dissolved in the soil it at once begins to undergo change. Its nitrogen is not immediately of use to plants, but has to undergo a chemical change, first into ammonia, and then into nitrate, before it becomes available to the growing crop. Its action is therefore slower than that of nitrate of soda, or nitrate of lime, which are the most active and immediate of the nitrogenous manures. On the other hand, the action of cyanamide is more prolonged than that of nitrate, and in this respect it resembles sulphate of ammonia, but is rather slower and even more prolonged in action than that manure.

Cyanamide is not suitable for application to wet and sour soils, or to soils which contain a great deal of humus matter like peaty soils, where its action may be distinctly harmful instead of beneficial. On the other hand, it can safely be used for all ordinary loams and heavy clay soils.

In making manurial mixtures of cyanamide with phosphatic and potash manures it should not be mixed with superphosphate or dissolved bones. But it may safely be mixed with basic slag, bonemeal, and with all potash manures, such as kainit, muriate of potash, and sulphate of potash.

The other new top-dressing fertiliser, called basic nitrate of lime contains about 13 per cent. of nitrogen, and 25 to 30 per cent. of lime. It is a fine crystallised brownish compound of lime free from smell, and easily soluble in water, and is thus an immediately available plant food.

Nitrate of lime may be essentially compared with nitrate of soda, and from experiments already made with different crops it has been proved that nitrate of lime is fully equal to nitrate of soda as a manure in soils poor in lime. Where better results have been obtained by nitrate of lime than by nitrate of soda, the result is probably due to the lime of the calcium nitrate, for when slaked lime was added to nitrate of soda equally good returns were obtained. Consequently when lime is deficient in a soil it might be expected that calcium nitrate would be superior to nitrate of soda because of the lime it supplies to the land.

J. J. Willis.

Harpenden.

A CORNER OF THE ROCK GARDEN, FANSHAWES.

Chrysanthemums.—Many of the large-flowering varieties will now be past their best, and must be cut down. Place the stools in a cool house or frame where they can have all the light and air possible, as this is quite essential to ensure good strong cuttings. If infested with greenfly give a syringing with an insecticide; and if rust is prevalent, a spraying with sulphide of potassium (½oz. to a gallon of water) will be the first step towards checking this tiresome pest for the coming season.—T. Stevenson.

OWN ROOT ROSES.

Own root roses were in great favour some years ago, when roses were not worked so carefully and closely upon the roots of foster stocks as now. Manetti and De la Grifferaie were apt to overgrow many of our choicest varieties and thus throw up a large number of suckers that were very troublesome. In a large number of cases, too, the suckers were not recognised, and a considerable quantity of useless wood was grown. Our American friends go in largely for roses upon their own roots, and apparently these thrive better there than is the case in England.

With careful working there is little doubt the help of Rosa canina as a foster stock is a great advantage to the majority of naturally weak or indifferent growers. But the briar does not thrive so well upon a light porous soil as in a rather stiff compost, and it is often better to have a few roses upon their own roots instead.

One very great advantage of own root roses is the entire absence of stock suckers. But we need select carefully before growing large numbers in this way. Choose vigorous, or at any rate, very free growers. They can be rooted in the autumn in the open ground, or in pots during early spring. Some of the best results are obtained by taking cuttings from below the first blooms from under glass, when the wood is a little more than half ripened. Use a sandy compost, and put six or seven just inside the rim of a four-inch pot. Keep close for a few weeks, and the majority of them will root, after which they may be grown in the usual way. I am rather partial to some varieties in this form for pot culture. Perhaps the most generally useful varieties as own root roses are the Chinas, Mosses, and Provence, with the growing class of Wichuraianas and their hybrids; indeed, the last are often found rooting at the tips of their branches as freely as the blackberry. But we do not seem to have sufficient strength for some of our medium growers without the aid of some foster stock, and, as previously remarked, roses are generally worked in a much better way than formerly, being so closely upon the roots that very few suckers result.

A. Piper.

THE JASMINE.

(Concluded from page 931.)

The Turks cultivate the jasmine for the sake of its branches, of which the tubes of their summer tobacco pipes are as invariably made, as those for the winter are formed from the cherry tree. As the jasmine does not ripen its seed in our climate it is increased by layering down the branches, which take root in one year (as you will remember, the happy Tuscan girl found), which may then be cut from the old stock, and planted where they are to grow. It is also propagated by cuttings, which should be planted early in the autumn, and the earth covered with sand, ashes or sawdust to keep the frost from penetrating the ground. In situations where it is necessary to prune them, it must never be done until the end of March or when the frost is past. It should be observed that the flowers are always produced at the extremity of the same year's shoots, which are often cut off in the summer by those who are ignorant of its nature, and thus the plant is robbed of the power of treating us with its fragrant flowers. The common yellow jasmine, Jasminum fruticans, is a native of the South of Europe, yet it did not reach this country so early as the white jasmine, as Gerard tells, in 1597, that it had not been seen in this country, and Mr. Martin is therefore mistaken in his statement that it was cultivated by Gerard in that year. Parkinson tells us, in 1629, that the yellow jasmine "will well abide in our London gardens, and anywhere else." This shrub is easily increased by suckers or layers, but, being different of odour, it is much less cultivated than formerly. Sheep eat the leaves and young branches of this shrub when they find the chance with great delight. The Italian yellow jasmine, Jasmine humile, produces larger flowers than the common yellow variety, and is therefore preferred in the shrubbery, when it requires a southern aspect and sheltered situation. It was first cultivated with us in 1730, but its native soil still remains unknown; it acquired its name from being sent from Italy with orange trees, etc. The ancients employed the berries of the jasmine in their pretended divinations, and the oil obtained from the flowers was used in the baths of their ladies.

The flowers of one of the double varieties, known as "Moogree," are held sacred to Vishnu, and used as votive offerings in Hindu religious ceremonies. In China the flowers are used for scenting tea. The Spanish or Catalonian jasmine, Jasmine grandiflorum, grows wild in the Island of Tobago, and is very like Jasmine officinale, but differs in the size of its leaflets, the branches are shorter and stouter, and the flowers very much larger, and reddish underneath. By grafting it on two-year-old plants of Jasmine officinale an erect bush, about three feet high, is obtained, requiring no supports. In this way it is very extensively cultivated in Cannes and Grasse, in the South of France: the plants are set in rows fully exposed to the rays of the sun; they come into full bearing the second year after grafting: the blossoms, which are very large and intensely fragrant, are produced from July to the end of October, but those of August and September are the most odoriferous; an acre of land is said to yield about 500lb. of blossoms, each season, the value being from £25 to £35. The aroma is extracted by a process known as "enfleurage," i.e., absorption by a fatty body, such as purified lard or olive oil. Square glass trays, framed with wood, about three inches deep, are spread over with grease about half an inch thick, in which ridges are made to facilitate absorption, and sprinkled with freshly-gathered flowers, which are renewed every morning during the whole time the plant remains in blossom; the trays are fitted up in stacks to prevent the evaporation of the aroma, and finally the pomade is scraped off the glass, and melted at as low a temperature as possible, and strained. Three pounds of flowers will perfume 1lb. of grease. Syrup of jasmine is made by placing in a jar alternate layers of the flowers and sugar, covering the whole with wet cloths, and standing it in a cool place; the perfume is absorbed by the sugar, which is converted into a very palatable syrup.

In conclusion, I should like to give two or three quotations from the poets on the jasmine. I have already quoted from Sir Thomas Moore; again speaking of Eastern brides, he says:

"And brides as delicate and fair
As the white jasmine flowers they wear,
Hath Yemen in his blissful clime."

Cowper says:

"The deep dark green of whose unvarnished leaf,
Makes more conspicuous and illumines the more,
The bright profusion of her scattered stars."

Thomas Hood says:

"Jasmine is sweet,
And has many loves."

Then sweetly sings another, I know not who:

"Then let our shadowy beauty bloom
When the stars give quiet light,
And let us offer our sweet perfume
On the silent shrine of night."

And again:

"A starlike flower of snowy white,
Whose odours waken in the night,
And feed the passing breeze."

One quotation more before I conclude, and that will be from the pen of Mary Howett:

"To comfort man, to whisper hope,
Whene'er his faith is dim,
That He who careth for the flowers,
Will much more care for him"

Halstead. H. C. Philbrick.

FAGGOTS UNDER ASPARAGUS BEDS.

Some persons have very strange ideas regarding the draining of asparagus beds and the kind of material to use for the purpose. A few years ago a gentleman whom I knew very well, insisted upon having a layer of faggots under the new asparagus bed. The soil was naturally somewhat clayey, and required special treatment, but even without it very fine crops of this useful vegetable were obtained. The plants were grown in beds well raised, with fairly deep alleys between them. This method, however, did not meet with the approval of the owner, who said more drainage was necessary, and that faggots of wood, which were very cheap in that district, would provide a sound drainage. So the soil was removed to a depth of about 3ft., a layer of faggots put in, and the soil replaced on them, with a thick covering of littery manure. Strong asparagus crowns were duly planted, and for several years good crops of this popular plant were obtained. Then the trouble came in the form of a fine crop of fungus. The wood had decayed, and the usual result was experienced. Inexperienced cultivators should avoid burying wood in any soil where crops are to be cultivated. G. B.

SOME APPLES OF RECENT INTRODUCTION.

The hitherto long list of apples has recently been increased by a few varieties which give promise of ranking among the best, either for market or private use, as most of them have good size and colour.

One of the brightest in colour is Red Victoria, recently seen at the R.H.S. meetings, and judging from some of the fruit clusters shown it appears to be very prolific, so it has two excellent qualities to recommend it to the grower for market. I do not know its origin, but the fruits, in shape and rib, have a resemblance to September Beauty. For colour and size it may oust Ben's Red as a market fruit.

Encore is a variety which from its parentage and promise should prove a useful kind, while its late-keeping qualities and size increase its value. The variety named after the Rev. W. Wilks is another promising apple. The young trees recently shown at Vincent Square have indicated its cropping quality, while it has size and a pleasing exterior to recommend it.

Crimson Bramley appears to possess all the good qualities of the well-known Bramley's Seedling, with intense colour thrown in, so that it should be a fine market variety. Jersey Beauty is apparently an old Jersey variety known as Gros Rouget, and is recommended as a good bearer and late keeper; when well grown it is fit for dessert. Hector Macdonald, one of Mr. Ross's seedlings, is a remarkable cropper, of good size and appearance.

Norfolk Beauty comes from two good parents, and as I have had it the fruit resembles Warner's King, with a little of the keeping qualities of Dr. Harvey. I have not found it keep very much longer than Warner's King, but seasons are often responsible for keeping quality. Another large apple of the Warner's King type is Baron Wolseley; it comes in later than Norfolk Beauty, is equally as large, and carries more colour. It has the merit of being a good grower and cropper, and may prove a good exhibition fruit.

Star of Devon is a dessert variety, combining colour, good cropping, and late-keeping qualities. It is of pleasing flavour and good appearance. I have known the raiser make very good prices of this apple in late spring, and it should, therefore, prove useful either for market or private use. Lord Stradbroke is an apple of the largest size, a good keeper, and a good and healthy grower. King's Acre Pippin comes from a good stock, and should keep well; its flavour is good, it is of medium size and attractive appearance, and should prove a good addition to late-keeping dessert apples.

A good early dessert apple is Langley Pippin, of excellent flavour, good colour, and a free cropper; it is a very pleasant eating apple which should commend itself to all growers. A very promising variety which recently was honoured by the R.H.S. is St. Everard. Being a seedling of good parentage, if there is anything in heredity, this new apple should soon become a favourite. Two apples that have much to recommend them are Rival and Coronation; they are most beautiful in colour, especially the first-named, and both are of good flavour; they follow each other in season, and in good samples the colour alone should sell them. T. H. Slade.

PROFITABLE FRUIT GROWING for Cottagers and Small Holders of Land.—By John Wright, V.M.H. A Gold Medal Essay, written for the Worshipful Company of Fruiterers. Fully illustrated. Price 1s., by post 1s. 3d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

FORESTRY LECTURES AT ABERDEEN UNIVERSITY.

A course of lectures on forestry, to be delivered on Wednesday evenings during the winter months, in Aberdeen University, by Mr. William Dawson, M.A., B.Sc.(Agr.), lecturer in forestry, was inaugurated a few evenings since. This course was arranged on the representation of a number of young foresters and gardeners, and has had the active support of the northern branch of the Scottish Arboricultural Society. The lectures will deal with tree growth, aids and barriers to forest extension, forests and climate, etc.; trees, their identification, their habits, and life histories, sylviculture, pure woods, and mixtures, etc.; methods of regeneration, natural and artificial; rearing and management of forests; products of the forest, enemies of forest, and forest protection. Mr. Dawson has evinced great interest in the project, and has prepared a course of lectures which should prove of great interest and value. The attendance at the opening lecture was a splendid one. Mr. George Nicol, C.E., Aberdeen, harbour engineer, was called to the chair, and in opening the proceedings said he had come as a student, and as one who had to use wood after it had been grown and produced. He had much pleasure in introducing Mr. Dawson to that large audience.

Mr. Dawson, after a few preliminary remarks as to the benefits likely to accrue from an extension of our forest area, and the large amount of land in Scotland suitable for afforestation, proceeded to refer in a most interesting manner to the natural circumstances which aided or hindered tree growth, and said that from those conditions they could adduce reasons why the whole of the land available in Scotland was not afforested. The forester, he pointed out, must be a botanist, knowing especially the lower forms of plant life; a zoologist, a geologist, a practical mathematician, and a business man, to know how to secure the maximum of output with the minimum of cost. Hitherto in forestry the desirability of the kind of tree had been the guiding principle, and little attention had been paid to the suitability of its place of growth, but it was now recognised that the tree which best suited the situation was the best paying tree. Trees were by no means exorbitant in regard to soil, and no soil was so poor that it would not grow some kind of tree. Forestry began where agriculture stopped, and it must be remembered that agricultural land was not wanted or needed for forestry, and was, indeed, in some cases, unsuitable. The elm, ash, and sycamore were trees that needed the best land in the forestry sense, when agriculture had stopped. Then followed the oak, beech, sweet or Spanish chestnut, and silver fir. After those came the lime, elder, horse chestnut, spruce, and larch. On the poorest class of soil the poplars and willows grew, and, last of all, were the birch, stone pine, and mountain pine. It was a most fortunate circumstance that those trees in most demand in commerce were those that were easiest to satisfy with regard to soil, and the trees of our northern regions were satisfied with little. Of much greater importance than the chemical richness of the soil was its physical condition—texture, depth, and moisture. Some trees had the power of accommodating themselves to dry soils or to wet soils, but there were some which preferred such soils. They were accustomed to hear that willows, for example, would only grow on damp soil, but that was not the case—a fresh soil best supplied their needs.

With regard to atmospheric conditions, tree growth was dependent on a sufficiency of moisture, both atmospheric moisture and rainfall. In a year that had not been a dry one tree growth had been extra good, and, generally speaking, the increment in both young and old trees had been phenomenal. The question as to the influence of the forest on climate was a much-discussed one. The belief generally was that the influence of forests on the various factors that went to make climate was far-reaching and powerful, namely, that forests made climate milder, but it had been proved that the influence in this direction was much smaller than was supposed. The actual effect was small. So it was with the influence on temperature. Apart from the breaking of cold winds, the effect of forests on temperature was not great. The action of the forest was, however, certainly beneficial in minimising the effects of stormy winds. The direction of the wind was altered, and its intensity was also diminished. In this respect forests were of the greatest benefit to a country, and particularly to its agriculture. Another real benefit which an extensive forest brought was that it minimised the dangers of flooding. It was a fact that in districts where the upper reaches of rivers had been cleared of wood, floods were much more common, and the lecturer gave examples of this by pointing to several districts in Aberdeenshire where, since the clearing of the forests, flooding had been much more frequent. There was no doubt, however, of the beneficial influence of trees in purifying the air.

The lecture was greatly enjoyed by the large audience, and at the close the chairman highly complimented Mr. Dawson on the excellence of his lecture, and proposed a hearty vote of things to him—a compliment which was most enthusiastically awarded.

GALEGA HARTLANDI.

Hartland's goats' rue is a charming plant, which has steadily grown in the affections of all who have cultivated it. Even those who object to the frequent use of variegated-leaved plants are enthusiastic in favour of this flower, as a rule, and it is a highly admired border plant in many places. In its spring condition it is remarkable for the fine variegation of the leaves, this being of a clear white and green, becoming more creamy as time goes on. Later in the season the variegation is less marked, but in spring the plant is exceedingly pretty on account of the distinctness of the colouration.

When in bloom this goats' rue is equally fine, the flowers being what may be called a fine lilac and white. It grows about four feet high, and is a prettier plant altogether than any other galega in cultivation. It was first introduced by Mr. W. B. Hartland, of Cork, and in this galega he secured a notable acquisition. It can be easily grown in common soil, and is propagated by division in spring or after flowering. I have been told that a considerable number of the seedlings it produces are true to the parent, but I have no personal experience of this.

S. Arnott.

Forcing Shrubs.—The present is a very suitable time to lift or buy a stock of these. Lilacs, wistaria, and laburnums are best if prepared in pots a year or so beforehand, but Azalea mollis, Staphylea colchica, Spiraea confusa, the double flowering peaches, almonds, and cherries, Deutzia gracilis, and D. Lemoinei, magnolias, rhododendrons, etc., may all be lifted now and successfully flowered in pots during the spring months. Most of them should be potted in a fairly light compost of loam, leaf-soil, etc., in pots as small as they can conveniently be got into without injuring the roots too much. After potting thoroughly water them, and stand them out on ashes while the weather is open, as this tends to harden the wood. Fill in among the pots either ashes or leaves, the latter for preference, as this induces root action, and protects the pots from frost. Here they may be left until it is necessary to take them indoors for forcing.—T. Stevenson, Woburn Place Gardens.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

CATTLEYAS.—There are several hybrid cattleyas, lælio-cattleyas, and other allied orchids that have recently passed out of flower, and are rooting freely at the present time. Such plants should be examined, and where repotting is desirable, they should be attended to without delay. Cattleya labiata and C. Dowiana aurea, among the species, should also be examined at this season, and where actively rooting, should have their requirements attended to. C. Dowiana aurea resents any great bulk of potting material, and the plants are best accommodated in shallow pans, so that they may be suspended near the roof-glass. Give plenty of drainage, and use a lasting compost, so that the plants may be grown in the same receptacle for more than one year. I would advise a thorough watering immediately after they have been repotted in the case of the whole of the cattleya family. After this water must be given with discretion, only sufficient being necessary to keep the pseudo-bulbs and foliage plump. Cattleya Warscewiczi should be placed in a cooler, dry position, or, at least, in the coolest position that can be obtained in the cattleya house, as soon as the pseudo-bulbs are completed and they have finished rooting. I do not think that there is anything that will assist the flowering of the plants so much as retarding the growth and exposing the plants to ample light through the winter and spring months. The plants will only require sufficient root-moisture to retain the pseudo-bulbs plump.

WATERING AND DAMPING.—These are two of the most difficult matters to deal with during the winter season, and, with the different and ever-varying conditions of the outside atmosphere, more than ordinary forethought and discretion is required. To know when to give and when to withhold water is the art of orchid growing. There are more orchids ruined by careless watering in our warmer divisions than by any other means. There is one item in particular that should not be overlooked, and that is the temperature of the water used. It will frequently be found that, after a heavy shower of rain the temperature of the water will be many degrees below the temperature of the house. Melted snow naturally causes a chilling effect when it reaches the soft water tanks. It is advisable to test the temperature of the water, and where this is found low, sufficient warm water should be added to raise the temperature a few degrees above that of the house.

DAMPING must be governed by the outside prevailing conditions, as well as by the particular situations. There is one orchid establishment in the West of Scotland which I am acquainted with, where no damping whatever is necessary during the great portion of the year, as the outside atmosphere is so thoroughly saturated. Under ordinary conditions damping may be done immediately the normal temperature of the house has been reached. It should be done sufficiently early in the day to permit of the excess of moisture becoming distilled before night.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

POT ROSES.—Now that we have had a frost or two to remove the foliage from the pot roses, a batch of plants may be placed in a cool house, keeping them quite dry and cold for a week or two before pruning; after pruning they may be gradually inured to a little more warmth, but this for some time to come must be very slight, or weak shoots without any flowers will be the result. Tea and other roses planted out in a house should be ready for pruning, providing they have been kept dry at the roots for the past few weeks. After pruning the house should be thoroughly well washed down, and the walls, etc., whitewashed; and, if the plants have been infected with scale or red spider, a good washing with some approved insecticide will do much to keep them clean during the coming season. A top-dressing of good soil, with a little bone meal, should be given, and a thorough soaking of water, then the house will be ready for starting. Fire heat should not be necessary yet, though this will depend on the time or date that they are required in bloom.

FREESIAS.—The very latest batches of these should now be potted up and placed in a frame quite free from frost. The earliest batch should now be throwing up their flower spikes, and these may be advantageously given a little weak liquid manure, and be staked before the growths begin to fall about. If they are wanted in bloom by Christmas it may be necessary to push them on a little, but do not be too free with the fire heat or the blooms will be soft, and only stand a short time when cut.

LILIUMS, TULIPS, NARCISSI, and other forcing bulbs must be kept growing, and larger batches may be put in to take the place of chrysanthemums, etc., as these go out of bloom. The liliums, if flower buds are well forward, will stand a fair amount of heat, as also will tulips, and these latter must be pretty heavily shaded if good long foliage is required.

POTTING SOIL, ETC.—Up till the past week or two the very wet weather has in many instances delayed the cutting and storing of loam, but now that the ground has become somewhat drier no time should be lost in cutting the necessary supply, or in ordering the same. It is best if secured from fields where the cattle have been well fed for a few years, as it can then be stacked without the addition of manure, though the addition of a little lime at the time of stacking is, I consider, quite essential, as we are very apt to feed pot plants far more than those growing in the open ground, and without the addition of plenty of lime in the soil many manures are inoperative. Should the soil be poor or light, then the addition of some good short manure, such as horse droppings, etc., will greatly help it. Last year's leaf heap should now be turned over, and well broken up in the process, and, if possible, a portion of it wheeled indoors, as it will not be many weeks now before plenty of potting material will be required again, and this, if placed indoors a few weeks beforehand, will be in a much better condition for handling.—Thomas Stevenson, Woburn Place Gardens.

THE FLOWER GARDEN.

MULCHING.—Many plants will be considerably benefited if a covering of well-decayed manure is placed around them at this season, and while the weather is frosty, and wheeling is easily done, this work can be pushed forward. All of the roses, including the ramblers and those in the rose garden proper, should be now treated thus, as this not only protects, but gives the beds a neat appearance. Other plants include the ornamental vines and choice creepers, and at this season, after the herbaceous borders have been cleared of all the decaying growth, and neatly raked down, a mulching of old mushroom bed manure or leaf-soil will help to make these neat in appearance. Beds containing rhododendrons and other allied subjects should also receive a good coating of well-decayed leaf-soil, manure, and peat, and all newly transferred subjects, where possible, should be given similar treatment.

COLOURED STEMS.—The value of planting in masses for the purpose of creating a fine and brilliant effect in winter by means of groups of plants with coloured bark, is now becoming apparent. And this system can, and should be, practised in places of all dimensions, and as the majority of the subjects are fairly common very little expense need be incurred. By the sides of drives, and in open positions in the woodland, ideal places are found for these irregularly shaped beds. As in these situations, when the ground is covered with snow, and plenty of light is obtained, the colours show to the best advantage. Such beds may now be formed at any time when the weather allows, and to get the best results the soil must be well broken up. Add plenty of decayed leaves, garden refuse, and road scrapings, as ground of this description is often in a crude condition. The plants should be set about fifteen inches apart, and, each year, to get the best effect, just as they commence to break into growth in the spring, cut them down to the ground level. The willows answer particularly well to this treatment, and Salix viminalis (the common Osier), with yellow stems, and S. cardinalis, with red stems, are two excellent varieties to plant. The cornus, too, including Cornus alba and its varieties, soon establish themselves, as do also Spiræa Douglasi, the white-stemmed Rubus biflorus, and R. incisus, Rosa rubrifolia (syn. ferruginea , and also R. rugosa. The last two should only have the old growths removed. Populus alba pyramidalis, P. deltoidea aurea, and Pyrus nigra are also good.

PROTECTION.—All half-hardy subjects in pots are best plunged to the rims in finely sifted coal ashes, or in leaves. All subjects now occupying frames should be placed as closely together as possible, and strict attention be paid to protection each night. Admit air whenever possible, and during spells of bright weather remove the lights entirely, examine the plants, and water any that require it early in the day. Give a good covering of finely sifted coal ashes to kniphofias, etc., in the borders, heaping them well round the crowns to protect from frost. Place handlights over Christmas roses to protect and keep the flowers clean.—Edwin Beckett, Aldenham House, Elstree.

HARDY FRUITS.

PYRAMIDS AND BUSH - TRAINED TREES are often planted in the borders of the vegetable garden, and, as a result of the restricted area in which they are growing, hard pruning has to be resorted to to prevent them from outgrowing their position too rapidly. The leading growths should be cut back to within six inches, and all laterals to one and a-half inches of their base. This close pruning of some varieties encourages a superabundance of wood growths at the expense of fruit spurs, but this may be remedied by a judicious shortening of the main roots at this season.

ESPALIER AND CORDON TRAINED TREES that have filled their allotted space should have their leading and lateral shoots shortened back to within one and a-half inches of their base. Trees grown on these lines may be often seen with their branches overcrowded with fruit spurs, and this condition is not only detrimental to the health of the trees, but the fruit, owing to the absence of sun and air, cannot attain to the perfection it would otherwise do. If a few of the longest of these spurs be cut away each season the trees will be kept in a healthy and fruitful condition for many years. Young trees which have further space to cover should have their main shoots cut back so far as will ensure the pushing forth of the dormant buds next season, always pruning to a wood bud which is pointing toward the position the branch is to take. Treat the lateral growths as advised for the older trees.

PEACHES, NECTARINES, AND MORELLO CHERRIES produce their fruit on the young wood of the preceding season's growth. If these were disbudded as advised during the summer very little pruning will be necessary now. Cut away the old fruiting wood, and replace it with the young shoots which had been reserved for this purpose, keeping these on an average of six inches apart. The Morello cherry may have its young wood laid in a little closer than advised for the others, and all surplus growths pruned back to within an inch of their base, when they will develop into fruiting spurs. Endeavour to have the whole surface of the trees equally covered with young wood. Young trees should have all their main growths shortened back from one-half to one-third of their length, to ensure the centre being well furnished with young wood.

BLACK CURRANT GALL MITE.—Bushes badly infested with this plague should be dug up and carefully conveyed to the fire heap and burnt, while those with only a few enlarged buds should have these picked off and burnt.

REMINDERS.—When pruning be careful to remove from the trees all dead and decaying wood. Carefully collect all prunings and dead leaves and convey them to the fire heap to be burnt. See that permanent labels are properly fixed to all newly-planted trees before the name on the nurseryman's label is obliterated. Examine and remove every old tie that is at all likely to press into the bark during the next season, on trained trees, and when refastening allow ample room for the natural swelling of the branch. Select scions for grafting purposes, tie them up in small bundles, properly labelled, and lay them in by their heels in a cool border until required for use in the spring.—Geo. Woodgate, Rolleston Hall Gardens.

APPLE BRAMLEY'S SEEDLING

It would be difficult to say too much in favour of this apple, for its merits are numerous. It was found at Southwell, in Nottinghamshire, and sent out by Messrs. Merryweather and Son, who describe it as the finest apple on earth, and I am not disposed to question the correctness of the description. As a kitchen apple it has many merits. Its cooking qualities are undeniable, the fruit keeps quite firm under ordinary circumstances until April, it is of full size, and if there is an apple crop at all some are sure to be found on the trees of the variety. One especial point in its favour is its adaptability to all soils and situations, and its freedom from canker. The growth is vigorous and semi-drooping or horizontal, especially when grown as a standard or half-standard. This form of training appears to suit its habit of growth, and so does the horizontal espalier, where its branches can have a free run. In this way the trees come into bearing so much sooner. As a bush it is a little late in bearing, especially if it be restricted to space or subjected to much pruning. The natural tendency of the variety is to grow away quickly, and to soon cover a wide area. For planting in an exposed situation less fruit will be blown from the trees of Bramley's Seedling than from those of any other variety. Where a garden contains one or more "miffy" growing varieties my advice is graft the trees with Bramley's. As a market apple at Christmas time Bramley's is fast making a reputation, but, ordinarily, does not command the price its merits as a cooking apple deserve, but that is not the fault of the fruit.

E. Molyneux.

The Ox-eye Chamomile.—An old-fashioned flower is the Ox-eye Chamomile (Anthemis tinctoria), which makes a good border plant, and supplies us with multitudes of flowers resembling those of the yellow single marguerites, such as Cloth of Gold. The typical plant has finely cut leaves and pretty yellow flowers on longish stems. These reflex their petals at night, and are then less attractive. There is a white variety, called alba, which I do not care much for; a pale yellow one of some beauty, called pallida; a fine lemon-coloured one, which passes under the name of Buxton's variety; and a handsome one with canary-yellow flowers, called Kelwayi. The last-named is one of the very best. This anthemis likes a rather dry soil and a sunny position, and is propagated by division, seeds, or cuttings. The two first methods are for spring, and the last-named may be performed at any time from April to September, striking the cuttings of growths under glass.—S. Arnott.

THE PERPETUAL FLOWERING CARNATION SOCIETY.
GREAT WINTER SHOW OF CARNATIONS, ROYAL HORTICULTURAL HALL, Vincent Square, Westminster, S.W., WEDNESDAY, December 8th. Admission, 1 p.m. to 5 p.m., 1s.
Schedules and Particulars from the Honorary Secretary, Mr. HAYWARD MATHIAS, "Lucerne," Stubbington, Fareham, Hants.
ANNUAL DINNER, WINDSOR HOTEL, same evening, at 7 p.m. Tickets from Mr. E. F. HAWES, Royal Botanic Gardens, London, N.W.

HORTICULTURAL SHOW ADVERTISEMENTS are inserted in this column at Sixpence per line, the minimum charge being Two Shillings and Sixpence. Offices, 148 and 149, Aldersgate Street, London, E.C.

EXHIBITIONS AND MEETINGS.

◆

Royal Horticultural Society.

SCIENTIFIC COMMITTEE, November 23.

Present: Mr. E. A. Bowles, M.A., F.L.S. (in the chair); Messrs. C. Shea, A. Rolfe, W. Hales, E. M. Holmes, A. Worsley, S. U. Pickering, J. Fraser, J. T. Bennett-Poë, and F. J. Chittenden (hon. secretary).

POTENTILLA WITH VIRESCENT FLOWERS.—Mr. E. M. Holmes showed a flower of Potentilla sp. in which the carpels were leafy. He also reported that the acorns which stock refused to eat, shown by Mr. Bowles at a recent meeting, were those of Quercus pedunculata, and showed no morphological difference from the ordinary form of that plant.

MONSTROUS APPLE FLOWER. — Mr. Pickering showed the flower of Bramley's Seedling apple, to which he referred at a recent meeting having twenty-five petals, but otherwise completely formed.

GARDEN PANSIES.—Mr. Fraser referred to the degeneration of the flowers of garden pansies when allowed to seed themselves in cultivated ground. He found that bees, cabbage butterflies, and other insects, but especially the silver Y moth, visited them with great regularity, and it seems probable that the degeneration is due to crossing with other species.

CATTLEYA WITH DIPHYLLOUS GROWTH.—Mr. Hawkes, of Osterley Park Gardens, sent a growth of Cattleya Gaskelliana which had produced two leaves. This condition, Mr. Rolfe said, is probably a reversion to an ancestral type, and is occasionally seen in other monophyllous cattleyas. Mr. Hawkes also sent a vigorous shoot of Rochea (Kalosanthes) coccinea, having at the apex of the stem numerous shoots about 6in. long, instead of flowers. The committee thought that the condition was the result of growing the plant in a moist atmosphere, an opinion confirmed by the fact that roots had made their appearance at the apex of the main stem.

JUGLANS AILANTHIFOLIA FRUITING.—Mr. W. E. Gumbleton sent ripe fruits of Juglans ailanthifolia from his garden at Belgrove, Queenstown. This is the first time the tree has fruited since Mr. Gumbleton planted it thirty years ago. The fruits are dark and velvety in appearance, smaller than those of J. regia, and are borne six to eight in a raceme. Mr. Gumbleton said that, so far as he was aware, the tree had only once before fruited in the kingdom, at Abbotsbury, in Dorsetshire.

BITTER-ROT IN PEARS.—From Mr. R. B. Rogers, of Hexworthy, Launceston, came pears attacked by the fungus Glocosporium fructigenum, causing the "bitter-rot." It was stated that "the disease seems to begin as small rounded brown patches on the outside, and in some cases if these are cut out the rest of the pear is quite good, but in other cases, although the inside of the pear looks quite good, a strong bitter flavour goes right through it. The varieties which have suffered most are Thompsons, Fondante d'Automne, and Beurre Hardy; Louise Bonne has also suffered a good deal, and some other varieties slightly, but Durondeau not at all." The fungus is said to form canker spots on the stems, and these should be cut out and, with the pears, destroyed by fire. If thrown on the rubbish heap, or if the diseased fruits are allowed to rot on the ground, or are fed to pigs, there is a danger of the spores escaping and attacking the fruit next year. The spores produced on diseased fruits in the store are able to attack and cause disease in neighbouring fruits. The disease is to be kept in check by the destruction of the diseased fruits as recommended, and the spraying of the trees with potassium sulphide or ammoniacal copper carbonate. If, however, the trees are sprayed against "scab," that operation will tend to keep the "bitter rot" in check.

Colonial and Bottled Fruit Show.

The exhibition of Colonial fruits, held in conjunction with an exhibition of home-grown and bottled fruits, at the Royal Horticultural Hall from December 1 to December 4, was a very fine one, the hall being well filled, and the displays excellent in almost every case. It was certainly the finest display of its kind yet held, and the superb contribution from the Government and the different growers of British Columbia was worth a long journey to see.

In spite of the very wet weather there was a good attendance at the opening ceremony on December 1, when the Duchess of Argyll declared the show open.

We regret our inability to give a complete list of the medals awarded to the Colonial and other non-competing exhibitors, as these were not made public when our representative was compelled to leave, about 1.30 p.m., to go to press. Further, as prize slips had not been fixed to the class cards in the bottled fruit, jams, and jellies classes (competitive), we cannot deal with this part of the show at present, further than to say that this section was an admirable one, and showed a great advance over previous efforts.

The great feature of the exhibition was the superb displays made by growers in British Columbia. The Agent-General for the Columbian Government was responsible for a wonderful array of grand fruit, tastefully set up and comprising beautiful examples of such apples as Newtown Pippin, King of Tompkins County, Gravenstein, Spitzenberg, Cox's Orange Pippin, Emperor Alexander, Winter Banana (very large and showy), Rome Beauty, Blue Pearmain—a very effective apple, Northern Spy, Baldwin, Russet, and Wagner. Individual Columbian growers filled the whole of the top end of the hall with what, even for them, was an unusually fine display. We made special notice of Spitzenberg apple from Mrs. J. Smith, of Spencer Bridge; Peasgood's Nonsuch, from Mr. Lawes, of Enderby; Winter Banana apple, superb Russets, and Newtown Pippins, from the Okanagan Fruit Union; Rome Beauty and Russet apples from Messrs. Stirling and Pitcairn, of Kelowna; splendid Ribston Pippins, Blenheim Orange, and Gravenstein, from the Kootenay district; Winter Banana of immense size from Mr. Cooney, of Kamloops; Northern Spy from Mr. Webster, of Summerland; King of Tompkins County, from the Salmon Arm Farmers' Exchange; and equally fine fruits of this variety from Salt Spring Island. In every case the exhibitors showed splendid fruits, all grown on standard trees, and shown as packed in the original cases after travelling 6,000 miles by rail and steamer.

From New Brunswick's Produce Commissioner, 13, Victoria Street, came apples kept in cold storage since last June. The display was principally for the purpose of illustrating the great industries of the Dominion—i.e., wine-making, fruit culture, bee-keeping (the honey was fine), vegetable and fruit canning and bottling, and grain production, all of which the Government are fostering. Mr. W. Hubbard, Fredericktown, New Brunswick, contributed a collection of New Brunswick apples, but these did not compare favourably with the Columbian samples.

Dominican produce, brought together by Mr. A. E. Aspinall, West India Committee, Seething Lane, consisted largely of huge shaddocks, limes, lemons, oranges, and bread fruits. Montserrat sent cotton, guava jelly, limes, of course; while Trinidad sent a great variety of Colonial fruits, bottled and otherwise preserved, and baskets of yams, limes, King oranges, maize, eddoes, Brazil nuts, bananas, Cohune nuts, cocoa pods, papaws, shaddocks, and many other wonderful things in the way of fruits and nuts, shown with an accompaniment of bamboo canes of immense size, grass plumes, and crotons.

The Agent-General for Victoria, Melbourne Place, Strand, was responsible for cases of beautifully-prepared dried and crystallised fruits, the raisins, figs, apricots, and peaches being alike good. The big photographs representing fruit and cotton culture, and some of the beauty spots in Victoria, were very interesting.

The West Indian Produce Association, Fenchurch Buildings, Fenchurch Street, had a most varied exhibit, including Jamaica cigars of various kinds, fruit jellies, liqueurs (including the famous old Carribee), bananas, limes, shaddocks, oranges of many kinds, hot pickles, spices, tea, guava cheese, nuts, and edible roots. Cape wines and liqueurs were on view from Messrs. Westmacott and Co., Leadenhall Street, E.C. Messrs. A. W. Gardner and Co., Gamage Buildings, Holborn, contributed seedless oranges, fine samples, and grape fruits, from Jamaica. South African dried fruits and fruit rolls, produced by a woman on a South African farm, were interesting, but not particularly appetising in appearance.

An interesting collection of Colonial produce set up by the Army and Navy Auxiliary Co-operative Supply, Lim., Francis Street, Westminster, included Jamaica oranges, Claret bananas, Nova Scotian cranberries, Jamaica grape fruits, Barbadoes shaddocks, and Nova Scotian apples in quantity. Messrs. B. Shearn and Son, Tottenham Court Road, showed a collection of no fewer than twenty kinds of nuts, these including pistachios, hickory nuts, brazils, walnuts, almonds, butter nuts, lychees, cocoanuts, pine kernels, and other interesting things.

Messrs. James Veitch and Sons, Chelsea, presented a fine lot of home-grown apples and pears, and some finely-cropped trees of the late Calville Blanche apple; there were excellent dishes of Lane's Prince Albert, Washington, Bismarck, The Queen, Cox's Orange Pippin, Sandringham, Blenheim Pippin, and other excellent apples. Both home-grown and Colonial apples were presented by Messrs. Ambrose Palmer and Co., Upper Halliford, Shepperton, who also presented excellent bunches of Muscat of Alexandria, Canon Hall Muscat, Alicante, and Gros Maroc grapes.

Messrs. G. Bunyard and Co., Maidstone, put up a collection of English-grown fruits that for colour and fair size compared favourably with the Colonial samples, while their Uvedale's St. Germain, Marie Benoist, Verulam, Belle des Arbres, and Catillac pears were particularly good. From the Woburn Experimental Fruit Farm came the exhibit to which we referred in connection with the recent R.H.S. meeting. A non-competitive display of jams, fruit jellies, and bottled fruits was tastefully arranged, from the Studley Castle Horticultural College for Women.

Mr. W. Poupart, Twickenham, had a grand lot of bottled fruits on view, and where all kinds were fine it seems useless to particularise; but apricots, raspberries, Monarch plums, mulberries, cherries, and Pond's Seedling plums, all in glass-stoppered bottles, were beautifully clear and fine. Altogether this was one of the finest displays of finely-bottled fruits ever exhibited. Fruit jellies, lavender water, and table jams from the Elsenham Hall Estate, Stanstead, Essex, attracted a great deal of attention. Miss S. Miller, of Marlow, sent jellies, syrups, and other fruit preserves. Miss Martin, Auburn, New York, sent brandied fruits in quantity. Bottled fruits and jams from the Middlesex Jam Company, Brentford Bridge, Brentford, brought into prominence a great industry in the old Middlesex county town

Mr. Otto Henninger, Water Lane, E.C.; Messrs. G. Fowler Lee and Co., Reading; Messrs. Abbott Brothers, Southall; and Miss E. Bradley, Hollingbourne, Kent, all showed bottles, sterilisers, and fruit-bottling apparatus generally.

National Chrysanthemum Society.

The annual dinner of the National Chrysanthemum Society, held at the Holborn Restaurant on Monday evening, November 29, under the presidency of Sir Albert K. Rollit, LL.D., D.C.L., was a great success, as the attendance was larger than for several years past, and the floral decorations were splendid as set out by Mr. R. Felton, and consisted entirely of fine chrysanthemums.

After the loyal toasts had been honoured, the President presented the Society's fine cups and trophies to the Dulwich Chrysanthemum Society; Mr. T. Waller (Holmes' Cup, President's Cup, and Dean Memorial Medal); Mr. Higgs (Holmes' Cup for incurved for the twelfth time); Mr. Rigby (Icthemic Company's Cup), and Mr. H. J. Jones (Gold Medal for best trade exhibit at the Crystal Palace).

Mr. E. F. Hawes briefly proposed "The Donors of Special Prizes," thanking them for their kindness, and this was responded to by Mr. R. F. Felton.

Mr. J. W. Moorman very pleasantly and ably proposed "The Exhibitors and Affiliated Societies," and pointed out that this year there had been several new and eminently successful competitors, and the Society had also retained its old competitors, and been ably supported by the foremost trade growers, who invariably exhibited of their best. There were now a hundred and fifty affiliated societies spread over the whole world, all of whom were spreading abroad the cult of the chrysanthemum. He hoped that the numbers of competitors and affiliated societies would steadily increase. This toast was coupled with the name of Mr. H. J. Jones, who was accorded a very hearty reception when he rose to respond. He stated that during his twenty years' association with the Society as an exhibitor he had been awarded seventy gold medals. He thought the Society scarcely did all it should to encourage the small grower—he hoped the members would bear this in mind. He also pointed out that the N.C.S. Certificate was one of the most coveted awards at the shows of affiliated societies, and the increase of these societies meant an immense increase in chrysanthemum enthusiasts.

The toast of the evening, "The National Chrysanthemum Society," proposed by the President, was most heartily received. Sir Albert said the title of National was a good one because the Society had a long history, and did a national work. On its committees it had the services of the best experts, men who did not make awards in haste or give them too freely; indeed, only sixteen awards had been made from one hundred and forty-three entries. As regards the shows, though the Crystal Palace was not so get-at-able as one could wish, yet for space, light, and staging there was no place so fine. Sir Albert referred to several of the leading exhibits, and said that Mr. Higgs would not again compete for the Holmes' Cup, so that other growers would not have to fear such a capable grower in the future. The association of the trade with the Society was a most useful and excellent one, and he remarked that a society that helped the trade advanced business and generally extended the culture of the flower for market and home use was worthy of every help. The President referred to the educational work of the Society, and strongly urged that conferences and the publication of reports should be continued. They were also international, as in Mr. C. Harman Payne they had a foreign corresponding secretary who kept the members in touch with societies abroad. In the matter of finance the Society now saw that the money was forthcoming before they spent it; the order was economy with efficiency. He also pointed out that the chrysanthemum would not fall out of the ranks of Flora like other old florists' flowers, because it filled a place no other flower could do. Referring to the splendid floral decorations of the evening, Sir Albert made kindly reference to Mr. Felton's efforts, there and elsewhere. He urged that every member should do his or her part in extending the influence of the Society, and closed with a reference to the high æsthetic, refining, and moral influence exerted by the culture of the golden flower that was the basis of the highest order in the great eastern island Kingdom of Japan. He also claimed that the Society promoted good fellowship, and not the least of its useful functions was the annual dinner which brought them together that evening. He was glad to see so many ladies present, and he enlisted their services in the furtherance of flower culture. He also acknowledged the great services rendered by Mr. R. A. Witty (the secretary) and Mr. T. Bevan (the chairman). The latter replied to the toast, heartily thanked the president for his able speech, and said the committee and officers all did their best for the Society. He referred to the Society's work, and made special reference to the conference held at Essex Hall in October. He hoped that at the great Brussels International Show to be held in 1910 the members of the Society would put up a splendid exhibit of chrysanthemums to show our Continental friends what could be done at home —but he knew this would be an expensive proceeding, but what was done at Paris years ago could and should be done at Brussels next year.

As Sir Albert had to leave somewhat early, the toast of "The Chairman" was ably proposed at this stage by Mr. J. H. Witty, who referred to the many honours showered upon the president, and to the high position he held in the world of commerce, and also of horticulture. Sir Albert humorously acknowledged the toast, which was given with great heartiness and with musical honours.

The other toasts were "The Ladies and Visitors," proposed by Mr. J. T. Simpson and responded to by Mr. E. J. Husey, F.C.A. (the official receiver at the Crystal Palace); and "The Press," proposed by Mr. D. B. Crane and responded to by Mr. George Gordon, V.M.H., of the GARDENERS' MAGAZINE; and "The Secretary, Mr. R. A. Witty," proposed by Mr. G. Gordon.

The proceedings were enlivened throughout by vocal and instrumental music, given under the direction of Mr. H. Briden.

Beckenham Horticultural Society.

At the recent meeting Mr. G. B. Lees, of Oakwood Gardens, Chislehurst, lectured to a very full meeting on "Roses and their Culture," Mr. W. A. Murrells occupying the chair. The lecturer elected not to deal with the propagation of roses, this part of their culture, in his opinion, being best left to the trade. French, Irish, and English-grown roses were stated by the lecturer to each bear characteristics that he could recognise, even after two years planted. The rose garden, he considered, should be sheltered from south-west winds. The beds should be trenched to a good depth, and old mortar rubbish and charred material from the garden fire should be incorporated with the staple, if clayey. Bush roses were recommended to be planted two or three inches deeper than the junction of stock and scion. November was given as the best time for planting, but it was advised that, if planting was contemplated and could not be proceeded with till the spring, to buy in the plants in autumn and pot them for later planting.

A manurial preparation used by the lecturer as a fillip when the flower-buds are showing is as follows: Peruvian guano, 6 parts; bonemeal, 4 parts; nitrate of soda, 1 part; and basic slag, 8 parts; these to be mixed together. For mildew he advised the use of black sulphur applied with the Ideal bellows on damp mornings. Lifting and replanting should, he asserted, be more often practised —say, every four or five years. The lecturer did not deal with climbing roses, that subject being promised for a future evening. A good discussion followed, after which Mr. Lees was heartily thanked for his practical lecture.

Mr. Langford was awarded a special certificate for a collection of chrysanthemums in pots. The plants were in splendid condition, and carried magnificent blooms of Miss Nora Davis, Leigh Park Wonder, J. H. Silsbury, and Perfection, etc.

British Gardeners' Association.

At the last meeting of this association Mr. R. J. Frogbrook in the chair, it was reported that 360 circular letters had been issued to candidates at the recent Borough Council elections in reference to a minimum wage for gardeners. About 25 per cent. replied, nearly all in favour, while many were of opinion that a minimum wage of 30s. was too low.

Thirty-two new members were elected, bringing the total up to 1,594.

Bristol Gardeners' Association.

A crowded and enthusiastic meeting was held in St. John's Parish Room on November 25, presided over by Mr. S. Shaddick. A practical paper upon "Grapes" was given by Mr. Wilkinson, gardener to Mr. R. A. Gibbs, M.P., Tyntesfield. The paper was full of cultural hints, and the information given was much appreciated. Mr. Wilkinson said the construction of a vinery should be placed in the hands of a thoroughly practical and capable horticultural builder. A great mistake often made is to have the wires too near the glass. He advised a distance of not less than thirty inches as the best. This, he said, would prevent much burning of foliage and scalding of berries. A border 3ft. in depth was strongly advised, allowing 10in. for drainage. The border should, in Mr. Wilkinson's opinion, be above the general level, as it should allow for the more rapid escape of an excess of water. The lecturer named May and June as the best period in which to plant, transferring the young vines from 7in. pots. The canes, he suggested, should be stopped when 5ft., and laterals be pinched back at first leaf, preserving the foliage till the last. The vines should be cut down to within 3ft. of the ground at the end of the first year. Mr. Wilkinson recommended 50 deg. for starting black, and 55 deg. for Muscat grapes, gradually increasing the temperature as growth proceeds, drawing special attention to the stopping of growths at not less than four leaves beyond the bunch, and to the avoidance of excessive fire-heat.

The Chairman, and Messrs. Scott, Taylor, Candy, Wakefield, Curtis, Morse, Bird, Brooks, Bastin, Hayball, and Woodward took part in the discussion.

For two bunches of grapes, Mr. Wakefield was first; second, Mr. Shelton; third, Mr. Jennings. For orchids, Messrs. Gostling and Woodward were awarded three points each, Mr. Curtis two.

Twickenham Gardeners' Association.

At the meeting of this society held on Wednesday, November 17, Mr. W. E. Reeves presiding, a very interesting and instructive lecture on "Lawns" was delivered by Mr. Shipway, and illustrated by lantern slides. The lecturer dealt with his subject in a very concise and practical way, and this, with the numerous views, enabled those present to thoroughly understand the various points dealt with.

In the course of his remarks Mr. Shipway pointed out how necessary it was to properly prepare the soil if good results were to be obtained, by thoroughly cleaning the soil from weeds, and special care should be taken when importing fresh soil to see that it was not obtained from a place where weeds had been allowed to seed. Sometimes when the result was not satisfactory the seedsmen were blamed for supplying weed-infested seeds, whereas the weeds were usually imported with the soil. The lecturer stated that it was much cheaper to obtain a good lawn from seeds than by turfing. It had been proved at Messrs. Sutton's trial grounds that it was possible to obtain a lawn fit for play in eight months from the date of sowing.

The exhibits of chrysanthemums by Messrs. Weedon, Reeves, and Stalibrass were very meritorious. Votes of thanks concluded the proceedings.

Croydon Gardeners' Society.

At the recent meeting of this society Mr. Gibbs Box, Lindfield, gave a most instructive lecture on the cultivation of sweet peas. He advised that these charming flowers should have a good position in the garden, open to plenty of air, but sheltered from strong winds. The soil should be deeply trenched and the subsoil well broken up, at the same time incorporating a good supply of partly-rotted stable manure. A liberal dressing of bone-meal should be placed on this, and the ground left rough for winter rains and frosts to pulverise. In the beginning of March the soil should be levelled and given a dusting of superphosphate. Shallow trenches were advised for the plants, so that when the dry weather sets in and water has to be given it all goes to help the plant.

For early flowering about the end of June, seeds should be sown in October, about the first week. A good compost should be made, and good drainage put into the bottoms of 48's pots. Sow five or six seeds in each pot, and leave outside till severer weather sets in. When it does the pots should be stood in an unheated frame, admitting plenty of air. The lecturer found the seedlings would bear as much as 15 deg. of frost, that is if they have been kept properly in the earlier stages. Coddling is harmful. About the middle or end of March they should be planted out in the rows or clumps, without breaking up the soil in the pots. The space between each potful must be quite 18in.—more if plenty of ground is available. Short sticks should be put to the sides of the rows, and a dusting of lime given to prevent the attacks of slugs. By the beginning of June, if the weather is dry, watering must be commenced, using water exposed to the air for at least 24 hours. Following clear water, a little liquid stimulant should be given at intervals of 10 days, made from stable manure or artificials. Sulphate of ammonia, about 1-oz. to three gallons of water, is an excellent stimulant, but this should be varied with other compound chemical fertilisers.

Insect pests should be watched for, and syringing with extract of quassia be given as a preventive measure. Sweet peas are greatly subject to fungoid pests, according to the lecturer, and he had found Bordeaux mixture, syringed on the plants from May onwards would keep these in check. The dreaded streak disease, which has been so rampant this year, is another enemy to watch for; an early application of the foregoing mixture helping to keep this down. Some colours, especially orange, bleach badly in strong sunshine, and shading with loose tiffany must be resorted to. To obtain big exhibition blooms disbudding must be practised.

For later blooms seed should be sown in February in 60's, and afterwards removed to flowering quarters. March was suggested as quite early enough for outside sowing. Some seeds have very hard shells, and to insure quick germination they should be soaked for a few hours in water (about 75 deg.) until they swell.

The present-day demand, said Mr. Box, is for the Spencer type or those with waved standards, and the exhibitor must bear this in mind. Long stems and the greatest number of flowers on the stem are other considerations.

Mr. Box emphasised the fact that cross fertilisation is most fascinating, but the florist must be gifted with plenty of patience, and when a good thing is found in the seedlings is must be well tried before sending it out to the public.

Following a brisk discussion on the subject, the members, with unanimous accord, conveyed a hearty vote of thanks to the lecturer.

The Horticultural Club.

"CANADA OF TO-DAY."

On Tuesday, the 23rd instant, at the Hotel Windsor, after the usual monthly dinner of this club, at which Mr. Chas. E. Shea presided, Mr. Joseph Cheal gave a most interesting lecture on "Canada of To-day, Horticulturally and Generally, from the Atlantic to the Pacific," illustrating his address by a number of lantern slides of views taken by himself en route.

Commencing with a few views of New York City and of the Hudson River, he quickly passed on to Canada itself via Niagara, giving a vivid idea as he proceeded from city to city of the marvellous rapidity with which those cities had risen to importance, a few rude sheds by the side of a railway track being transformed in a very few years into a flourishing and populous town with wide thoroughfares, tram lines, and all the paraphernalia of civilisation. Views of the wild and splendid scenery of the Rocky Mountains taken in the train, and sometimes curiously evidencing the sinuous nature of the track by including the tail-end of the same train at almost right angles, interspersed with groups of settlers and natives, glimpses of fruit farms and irrigation works and of the associated buildings, vehicles and other details, to which a constant stream of anecdote and personal recollections added interest. Mighty trees 40 to 50 feet girth, and estimated as about 200 in height, were shown both growing and felled, in connection with the vast forests there, the views of which showed also now and again the dire effects of forest fires, the gaunt half-consumed trunks standing up ghastly and bare over scores of square miles. Mr. Cheal took the opportunity when there of visiting some of the settlers known to him prior to their leaving the old country. Most of them had done very well, and the moral undoubtedly to be drawn from their experiences is, that, given a fair constitution, a fund of common sense, and, above all, a determination to work hard, there was no better place than Canada for an energetic young man with a little capital to start with. Mr. Cheal's advice in this connection was that the young man should refrain from investing at all, until he had obtained practical experience by hiring himself out for a year or two, and so making himself thoroughly and personally acquainted with the nature of the climatic and the general conditions, while, if industrious and frugal, his original capital may have been increased instead of being swallowed up in paying for the experience essential for its proper utilisation. One thing is certain: the resources of Canada are enormous, as regards rich and fertile land, the main drawback being a low rainfall, and the consequent need in many parts of a good system of irrigation. The lecture was followed by a discussion, in which Mr. Griffiths, secretary to Lord Strathcona, High Commissioner of Canada, while confirming Mr. Cheal's observations, added some interesting data. These related more particularly to the vast areas of prairie land in Canada which formed, in his opinion, one of the greatest future fields of agriculture in the world. Here there was required no laborious clearance of forest, since trees there were none at all. The whole level expanse of thousands of square miles consisted of rich alluvial soil two to four feet deep, resting on clay, and only requiring to be "tickled with a plough, to laugh with a harvest." A vivid idea of this condition of affairs was shown at the Canadian Exhibition at the White City in 1908, where the prairie was shown in process of agricultural development, dotted with farms in all stages, from the wooden shanty to the comfortable family house, amid the waving crops that supported them. Mr. Griffiths referred to the contrast between the monotony of the prairie, with a horizon like that of the ocean itself, and the diversity of the mountain regions. The monotony, however, of the prairie, he said, was but a temporary sentiment, its magnitude eventually became attractive, and the dweller therein came in time to love it fully as much as a mountaineer can love his Alps.

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Reading Gardeners' Association.

In his remarks at the opening of the recent exhibition in the Town Hall, the President (Mr. Alderman Parfitt) stated that the Reading Gardeners' Association had, in the twenty-one years of its existence, grown from a promising infant into lusty manhood. The truth of this statement is more than borne out by the large gatherings assembling at the fortnightly meetings, and on Monday (November 22) this healthy indication was fully maintained by a large attendance, and by the addition of four new members to the roll of the association.

Mr. H. G. Drew, from the horticultural department of the University College, Reading, was the lecturer for the evening, and the President, who occupied the chair, in introducing Mr. Drew, remarked that, having lost an old friend from the College in Mr. Chas. Foster, the members would gladly welcome a new one in the person of the lecturer.

"Insect and Fungoid Pests of Fruit Trees, Their Eradication," was the subject of a thoughtful, instructive, and interesting paper. Mr. Drew commenced by saying that he did not propose to give an exhaustive and comprehensive list of the different concoctions by the use of which it was supposed that the great army of pests might be exterminated. Indeed, he believed it was a fact that many, in prosecuting a strenuous warfare against these enemies, were responsible for the slaughter of a good many friends. He was an advocate of commonsense cultivation, whereby the insect and fungoid foes were discouraged. Evidence was forthcoming that these pests had of late years been very considerably on the increase, but the lecturer did not think the increase was accounted for by climatic conditions and sunless and wet summers. It was on record that gloomy seasons were just as prevalent fifty years or more ago as in our own time. Mr. Drew stated that in his opinion the increase was largely accounted for by the more extensive breadths of trees grown nowadays, the extensive use of "dwarfing stocks," over stimulation in youth, planting too closely, indifference, want of recognition, too early fruiting, over-fruiting, etc., etc.

Mr. Drew then proceeded to inform his audience on the best way to combat the vast forces of insect and fungoid enemies arrayed against them, emphasising that good cultivation, proper attention to drainage, research, and cleanliness would go far to discourage the pests in obtaining a lodgment. At the conclusion of his paper, Mr. Drew satisfactorily answered the many questions and remarks addressed to him. The debate being sustained by the President, Messrs. Hinton, Loader, Wilson, Tunbridge, Exler, and others. A hearty vote of thanks to the lecturer brought the meeting to a close.

We learn that after payment of all expenses of the recent coming-of-age exhibition organised by the association, a net sum of upwards of £18 remains to be disposed of, at the discretion of the committee, between the two gardening charities.

Bournemouth Gardeners.

On Tuesday, November 16, a very interesting and instructive lecture, on "The Life, History, and Structure of a Fern," was given before a good attendance of members by Mr. F. J. Tauner, the borough bacteriologist. Mr. Tauner first read a paper giving a summary of the subject he was dealing with, and this preface prepared his audience and enabled the members to more fully understand the numerous diagrams of specimens which he displayed, and, further, to appreciate the wonderful construction of a fern, as seen in its various forms and stages of development under a powerful microscope. At the close of the lecture Mr. Tauner replied to several questions put to him by members, which enlightened them very much. A hearty vote of thanks was accorded the lecturer, and also Mr. Garner, the chairman.

TRADE NOTE.

A long and intimate association with carnations, particularly the winter-flowering kinds, has led Mr. M. Allwood to make various experiments with a view of saving some part of the vast amount of labour hitherto expended on tying. The outcome of these experiments is the Allwood Plant Support, which consists of a wire loop readily attached to a slender bamboo stake. Only one stick is necessary in each pot of carnations, and no ties are needed, as the wire loop surrounds and keeps the growths in place. The invention has the merit of simplicity and cheapness, and as it is long-lasting and easily adjusted it cannot fail to appeal to growers of carnations and many other subjects. It is sold by Messrs. Stuart Low and Co., Bush Hill Park Nurseries, Enfield.

Arum Lilies are now rapidly making growth, and in many instances producing spathes, so that, where possible, the plants should have plenty of room; and if the pots are full of roots, they will take plenty of water with a little stimulant once or twice a week.—T. Stevenson.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the Gardeners' Magazine, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the Gardeners' Magazine, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

The Editor will be glad to receive photographs of gardens, plants, flowers, trees, fruits, etc., for reproduction in the Gardeners' Magazine. He will also be greatly obliged by correspondents sending early intimation of interesting local events relating to horticulture. In sending newspapers containing matter to which they wish to draw attention, correspondents are requested to distinctly mark the paragraph.

PEAR SHOOTS.—D. C., Salop: We will have the matter investigated, and reply in an early issue. We do not remember to have seen anything quite like the specimens sent.

PRIMULA OBCONICA. — A. B., Ashbourne: Your strain is an excellent one so far as size of bloom and general robustness are concerned. The fact that the spikes rise tier above tier eventually is not, however, a new trait in the character of P. obconica, but is one quite common to a very large number of species of primula. You should endeavour now to secure similar robustness and size in other colour shades of this useful primula.

AWARDS TO SINGLE CHRYSANTHEMUMS.—H. W., Shotley: The next meeting of the National Chrysanthemum Society's Floral Committee will be held at Essex Hall, Strand, W.C., on Monday afternoon, December 13, and this will be the last meeting of the season. We have not space here to give all the particulars relative to the arrangements for exhibiting at the forthcoming meeting, but these can be obtained on application to Mr. R. A. Witty, Savernake Road, Gospel Oak, London, N. We may state, however, that exhibitors for awards should submit not less than three blooms of a variety, all to be in good condition, and if possible with foliage, in order to be eligible for a First Class Certificate; but two blooms only, if deemed worthy, may be awarded a Commendation. If a sport, blooms also from the parent stock for comparison. All seedling flowers must be named, as a means of future recognition. They also should state as far as possible in the case of new varieties the origin; if a sport, whether fixed or not; if a seedling, the parentage; and give any other information relating thereto that the exhibitor may possess. This information to be given to the Secretary in writing.

PIPING FOR INTERMEDIATE HOUSE.—A. R., Beeston: If you have sufficient boiler power for the whole range of glass then there is sufficient piping in the intermediate house to maintain a suitable temperature, but we rather gather that the boiler is scarcely equal to the task, and an increase of piping under these circumstances will not help matters. There is small wonder that many of the plants have a tired, dried-up look about them during winter, when you have to fire hard, because the heat rises directly under them and up between open staging. Cover the staging with slates, and lay shingle or small cinders over the slates, keeping it moist always, and the plants will be all the better for it.

ORDER OF FREE GARDENERS. — A. S. H., Ripon: So far as we understand it, the Order of Free Gardeners is conducted on lines similar to those of the Oddfellows and Foresters. Free Gardenery is more or less popular in the North Midlands, the northern counties, and in Scotland; but it is by no means confined to gardeners, any more than the Foresters' Order is confined to those connected with forestry. The Free Gardeners have seven hundred lodges, seventy thousand members, and a capital of £250,000.

NAMES OF PLANTS.

D. H. H., Coventry.—1, Juniperus chinensis; 2, Selaginella cæsia; 3, Pteris cretica; 4, Abies Veitchi; 5, Cupressus obtusa.

S. N. O., Leatherhead.—1, Calanthe Veitchi; 2, Nephrodium molle corymbiferum; 3, Adiantum Williamsi.

W. P., Harwich.—1, Masdevallia Harryana; 2, Selaginella Emileana; 3, Phyllanthus glaucescens; 4, Dracæna Sanderiana.

W. K., Guiseborough.—1, Pleroma macrantha; 2, Begonia Arthur Mallett; 3, B. socotrana; 4, Cypripedium Leeanum; 5, Eupatorium ianthinum.

NAMES OF FRUIT.

J. G., Forres.—1, Tower of Glamis; 5, Chaumontel; other specimens rotten or otherwise not identifiable.

J. S., Leamington.—1, Marie Louise; 2, Josephine de Malines; 3, Dutch Mignonne; 4, Swedish Reinette; 5, Royal Jubilee; 6, Egremont Russet.

G. B., Dublin.—See next issue; there is no need to send growths with apples and pears, but the specimens of fruit should be of good average size.

J. F., Suffolk.—1, Gascoigne's Seedling; 2, Gold Medal; 3, Gloria Mundi; 4, Bramley's Seedling; 5, King of the Pippins; 6, Bedfordshire Foundling; 7, Catshead.

W. A., Blisworth.—The pear is Hacon's Incomparable. The seedling apple closely resembles Brabant Bellefleur in appearance, but is not nearly so good in quality as that variety.

CHRYSANTHEMUM GEORGE HEMMING.

I shall be much obliged by your allowing me to correct a mistake made by Mr. E. Molyneux in his "Notes on New Chrysanthemums." He describes George Hemming as promising as a full-sized decorative variety. It is not a decorative variety, but belongs to the exhibition section of the Japanese, and has blooms of large size. It is, in fact, the largest Japanese chrysanthemum that I have raised, and on November 3 it received a first-class certificate from the National Chrysanthemum Society as an exhibition variety. One might well be excused for asking Mr. Molyneux whether he sees all the new chrysanthemums that he writes about. I am anxious that the mistake should be corrected in justice to myself as the raiser, and to Mr. Norman Davis, by whom it was distributed.

G. Mileham.

Evelyn House Gardens, Leatherhead.

Black Currants produce their finest fruit on the young wood, so sufficient of this should be reserved for next season's fruiting, and the surplus shoots pruned to within an inch of their base, and the greater portion of the old wood be cut away. Young suckers which have sprung up from the underground portion of the stem should be well shortened back to encourage them to push forth three or four strong growths, which will produce fruit in the following season.—G. Woodgate.

Early Carrots are much in request in most establishments. A mild hotbed, consisting of sweetened manure and a liberal proportion of leaves should be made, treading the whole firmly down to retain the heat. From six to nine inches of fine and rich soil may be placed thereon. As soon as the heat has settled down to a comfortable temperature sow the seeds in drills at twelve inches apart. The French type of carrots are the most suitable for forcing.—C. Flack.

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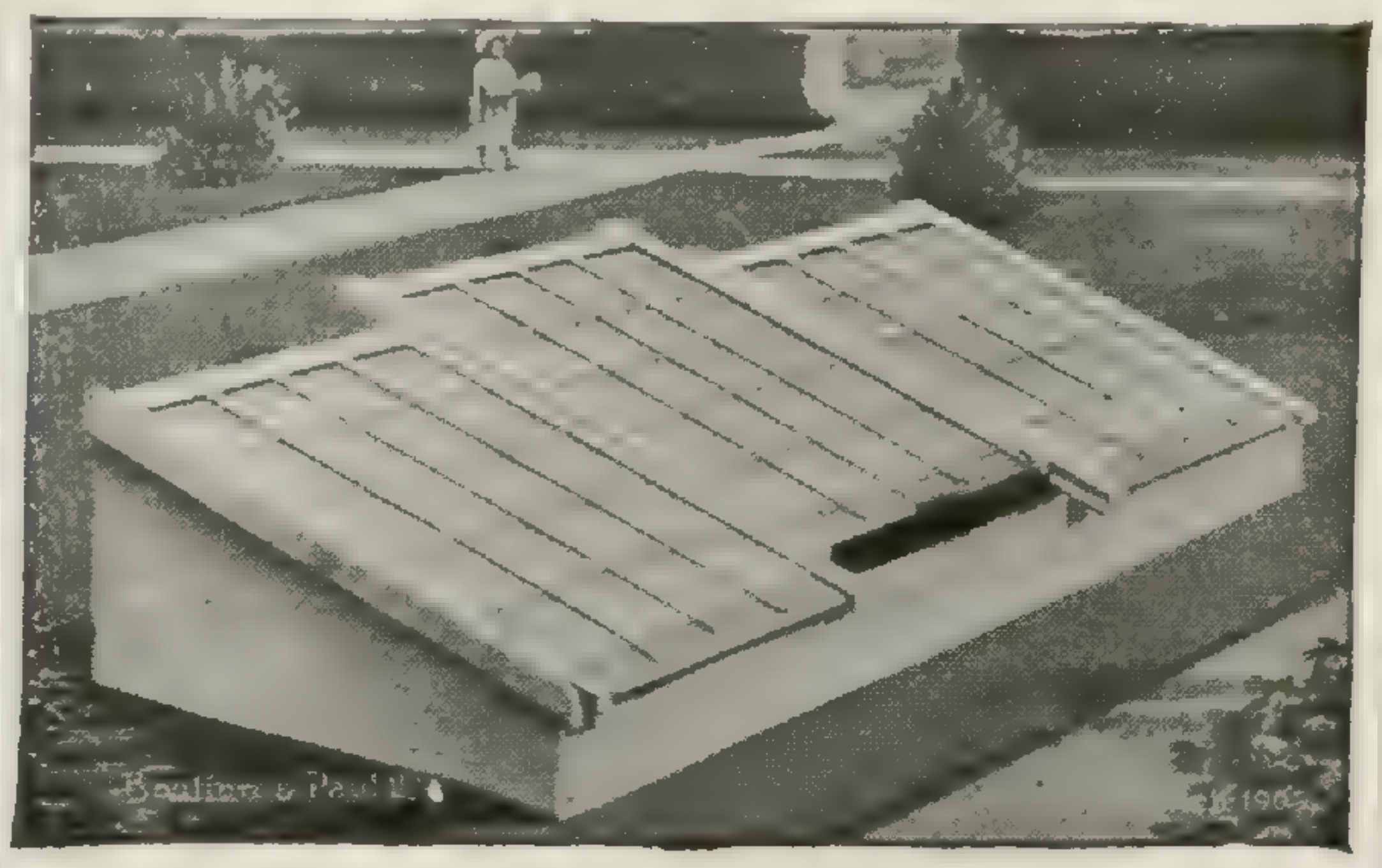

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NOTES OF OBSERVATION.

◆

Gooseberries and Red and White Currants are sometimes left until the spring before being pruned, with the idea of preventing a loss of buds by bullfinches, but I prefer to prune them at this time, and dust the bushes with a mixture of lime and soot a few times during the winter and spring, which makes the buds obnoxious to the birds. The leading growths on these should be left from six to eight inches long, and all the laterals pruned closely in to the cluster of buds, that is to within three-quarters of an inch from the base. Any young shoots which were reserved at the summer pruning for the purpose of replacin gold and worn-out branches should now be shortened to one-third of their length.—GEORGE WOODGATE.

Vines in Pots. — Where these are grown to give early supplies it is time to select those to be forced. Good well-ripened canes of Black Hamburgh, and if a white variety is desired, Foster's Seedling, should be selected. Muscat of Alexandria may be grown well in pots, but the vines must be started at a later period. The vines selected should be pruned at once, and a house facing south is the best for very early forcing, and a structure sunk several feet is perhaps preferable, as it is then much easier to maintain the proper temperature, and without so much fire heat. A slight hotbed, composed of tree leaves, such as oak or beech, will afford just such a gentle heat as is necessary to stimulate the roots into activity. The pots should be plunged to the rim, and, if at all dry, the soil should receive a good watering, and this will suffice for some time. The house should be closed, but fire heat must not be used for a fortnight at least. If there are sudden bursts of sunshine a little air should be given to prevent the temperature rising unduly high. On bright days the rods should be syringed. This produces a genial atmosphere, and should be done early in the afternoon.—W. A. COOK.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1909. NOVEMBER 21 TO NOVEMBER 27.	SUNSHINE.	TEMPERATURE OF THE AIR.			
		At 9 a.m.		Day	Night
		Dry Bulb.	Wet Bulb.	Highest.	Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Nov 21—Sunday	4 30	34	31	42	27
,, 22—Monday	5 30	32	31	40	30
,, 23—Tuesday	—	33	32	36	26
,, 24—Wednesday	1 24	32	31	40	29
,, 25—Thursday	—	37	36	43	32
,, 26—Friday	0 36	35	35	46	28
,, 27—Saturday	2 6	40	37	48	36
Means	(total) 14 6	34	33	42	29

DATE. 1909. NOVEMBER 21 TO NOVEMBER 27.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M.			LOWEST TEMPERATURE ON GRASS.
		At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	
	ins.	deg.	deg.	deg.	deg.
Nov. 21—Sunday	—	39	43	47	23
,, 22—Monday	—	38	43	47	21
,, 23—Tuesday	—	37	42	46	20
,, 24—Wednesday	- -	37	41	46	23
,, 25—Thursday	trace	37	41	45	28
,, 26—Friday	—	37	41	45	24
,, 27—Saturday	0.04	39	41	45	30
Means	(total) 0.04	38	42	46	24

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MARKETS.

◆

COVENT GARDEN.

Flowers.

A steady demand continues, but now and for the next week or two supplies will be kept back, where possible, for the Christmas trade.

		s. d.		s. d.
Acacia	per bunch	0 9	to	1 0
Adiantum cuneatum	per doz. bun.	5 0		9 0
Arums	per doz.	3 0		4 0
Asparagus	per bun.	1 0		2 0
Azalea	per bunch	1 0		1 6
Bouvardia	per bunch	4 0		6 0
Carnations	per doz, blms.	1 0		3 0
,,	per doz. bun.	8 0		12 0
,, Malmaisons	per doz.	6 0		10 0
Cattleyas	per doz.	12 0		14 0
Crysanthemums	per doz. bun.	2 0		5 0
Croton leaves	per bun.	1 0		1 6
Cypripediums	per doz. blms.	2 0		4 0
Eucharis	per doz.	2 0		3 0
French fern	per doz. bun.	0 6		1 0
Gardenias	per doz.	1 6		2 0
Lapagerias	per doz.	2 0		3 0
Lilac, French	per bun.	4 0		5 0
Lilium auratum	per bun.	2 0		3 0
,, speciosum	per bun.	1 6		2 6
,, longiflorum	per bun.	2 0		4 0
Lily of the Valley	per doz.	6 0		15 0
Marguerites, white	per doz. bun.	1 6		3 0
Mignonette	per doz. bun.	2 0		3 0
Odontoglossums	per doz. blms.	2 0		2 6
Pelargoniums	per doz. bun.	4 0		6 0
Roses	per doz.	1 0		4 0
Smilax	per doz trails	5 0		8 0
Statice	per doz. bun.	2 0		4 0
Tuberoses	per doz.	0 3		0 4
Violets	per doz. bun.	2 0		3 0

Fruits.

There is a brisk demand for fruits. Best apples, home and foreign, realise good prices, and oranges sell readily.

		s. d.		s. d.
Apples, English	per bush.	3 6	to	9 0
,, Californian	per case	8 0		9 6
,, Cox's orange	per ½-sieve	4 0		10 0
,, American	per barrel	12 0		16 0
,, Canadian	per barrel	14 0		20 0
,, Nova Scotian	per barrel	14 0		24 0
Bananas	per bun.	3 0		9 0
Cobnuts	per 12lb.	3 6		4 6
Figs	per doz.	0 9		3 0
Grapes, English	per lb.	0 6		3 9
,, Guernsey	per lb.	0 5		1 3
,, Almeria	per barrel	14 0		22 0
Lemons	per case	10 0		40 0
Melons, Valencia	per case	4 6		6 0
Oranges, Jamaica	per case	9 0		12 0
,, Jaffa	per case	7 0		10 0
,, Navels	per case	10 0		12 6
,, Denia	per case	14 0		17 0
Pears, English	per bush.	3 6		9 0
,, French Comice	per crate	5 0		10 0
,, Californian	per case	8 0		12 0
Pineapples	each	1 6		4 6
Walnuts	per 12lbs.	2 0		3 6

Vegetables.

Greenstuffs are firmer in price since the cold spell. Business is fairly good.

		s. d.		s. d.
Artichokes, Globe	per doz.	2 6	to	3 0
Asparagus, Paris	per bun.	3 0		4 6
Beet	per bush.	1 6		2 0
Brussels sprouts	per bush.	2 0		2 6
Cabbage	per tally	3 0		5 0
Carrots	per doz. bun.	1 0		2 6
Cauliflowers	per tally	5 0		10 0
Celery	per bun.	0 9		1 6
Celeriac	per doz.	1 6		2 6
Cucumbers	per doz.	1 0		3 0
Endive	per doz.	1 3		1 9
Horseradish	per doz. bun.	8 0		12 0
Leeks	per doz. dun.	2 0		2 6
Lettuce, English	per crate	1 0		1 6
Mushrooms	per doz. lb.	6 0		9 0
Onions, Valencia	per case	6 0		7 6
Parsley	per doz. bun.	2 0		2 6
Parsnips	per bag	2 6		3 0
Spinach	per ½-sieve	2 0		2 6
Seakale	per doz. pun.	16 0		18 0
Tomatoes, English	per doz. lb.	4 0		5 6
,, Canary	per case	10 0		15 0
,, Guernsey	per doz. lb.	2 6		3 6
Turnips	per doz. bun.	3 0		3 6
Watercress	per flat	4 0		6 0

LONDON POTATO MARKETS.

Prices are steady and supplies moderate for the season.

		s. d.		s. d.
Bedfords	per cwt.	2 6	to	3 0
Blacklands	per cwt.	2 6		2 9
Dunbars	per cwt.	4 0		4 6
Essex Kidneys	per cwt.	2 6		2 9
Kents	per cwt.	2 6		3 0
Lincolns	per cwt.	2 6		2 6
May Queen	per cwt.	3 3		3 6
Puritans	per cwt.	3 0		3 6
Sharpe's Express	per cwt.	3 0		3 3
Up-to-date	per cwt.	3 0		3 6

FORTHCOMING ENGAGEMENTS.

TUESDAY, December 7.—Royal Horticultural Society; Commitees meet at 12 o'clock; Lecture at 3 p.m. on "The Cooking of Vegetables," by Mr. C. Hermaan Seun; Scientific Committee at 4 o'clock.

WEDNESDAY, December 8.—Perpetual Flowering Carnation Society's Exhibition at Royal Horticultural Hall, Annual Meeeting and Dinner at the Hotel Windsor in the evening.

East Anglian Horticultural Club.

THURSDAY, December 9.—National Rose Society's Annual Meeting at the Westminster Palace Hotel, Victoria Street, S.W., at 2.30 p.m.; Conversazione at same place, 4.30 p.m. to 6 p.m.

FRIDAY, December 10.—Annual Meeting of the National Sweet Pea Society, Hotel Windsor, at 3 p.m.; dinner at 5.30 p.m.; and Sweet Pea Conference at 7 p.m.

MONDAY, December 13.—United Horticultural Benefit and Provident Society.

National Chrysanthemum Society, Floral Committee Meeting.

WEDNESDAY, December 14.—Royal Meteorological Society.

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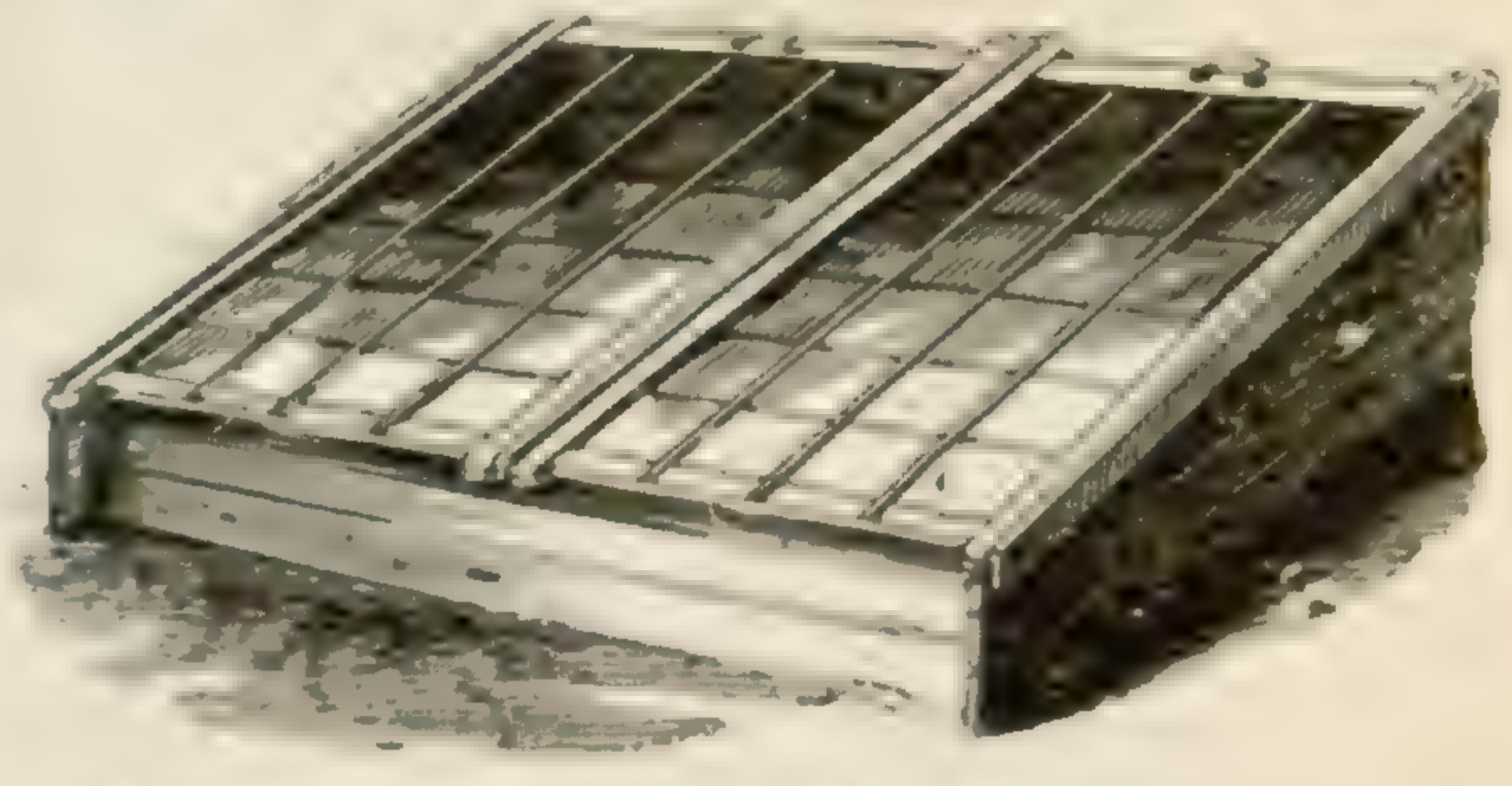

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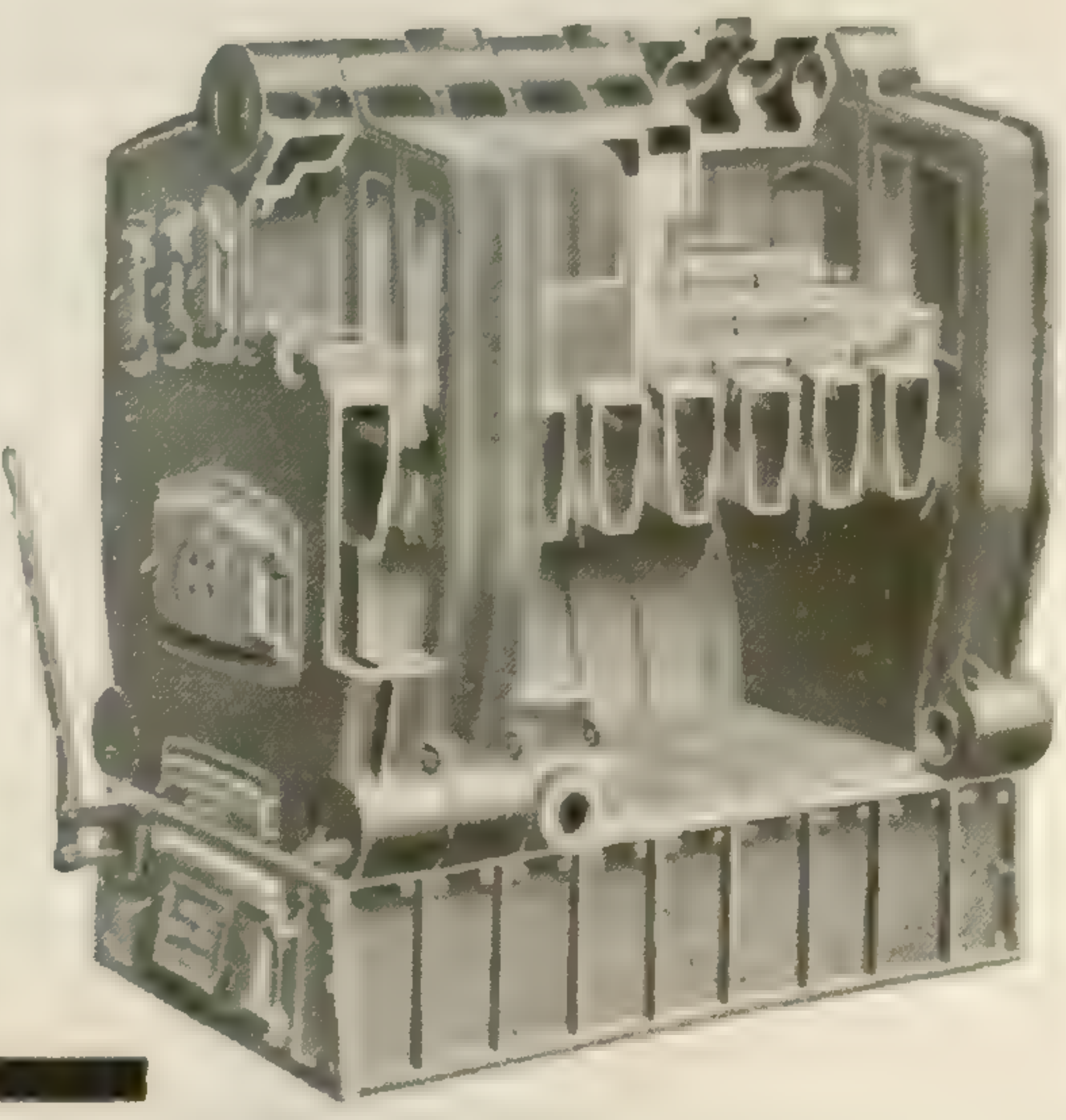

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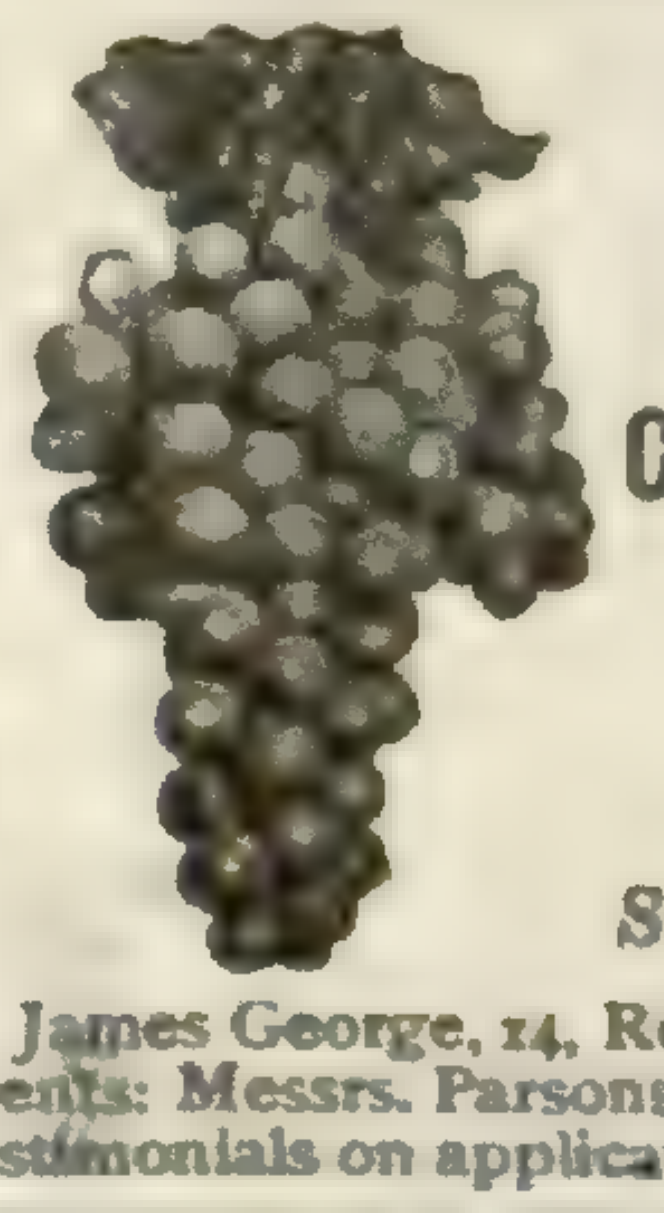

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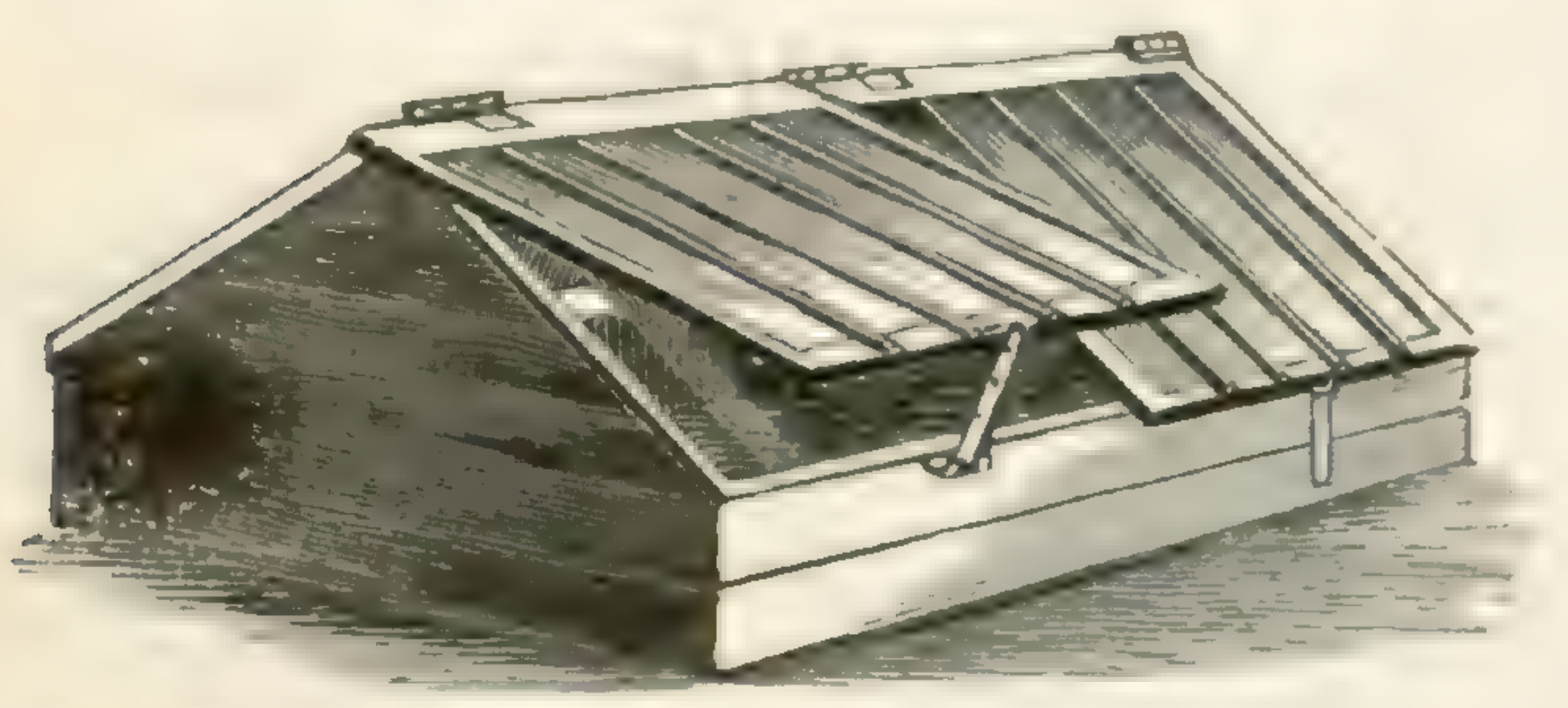

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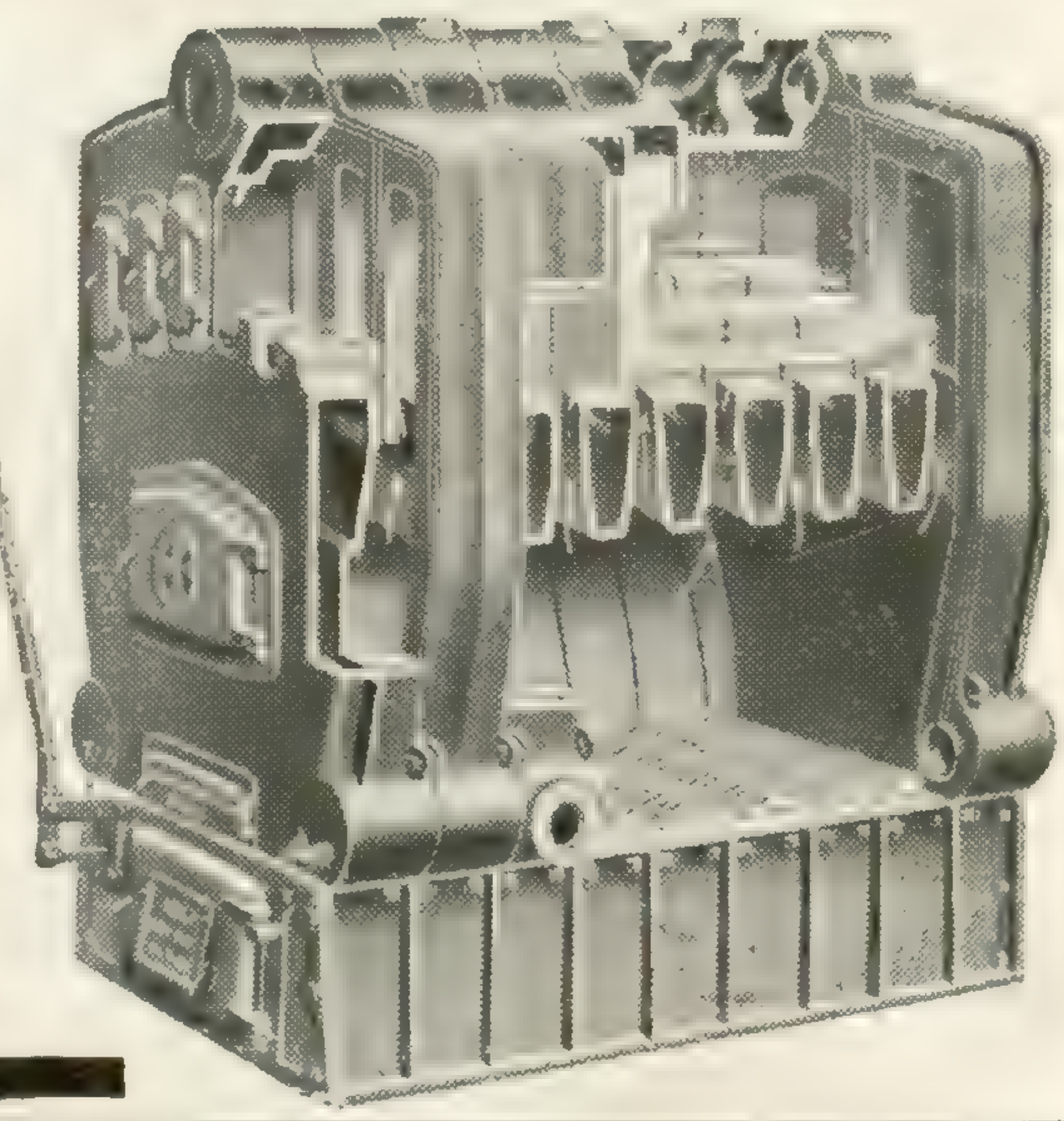

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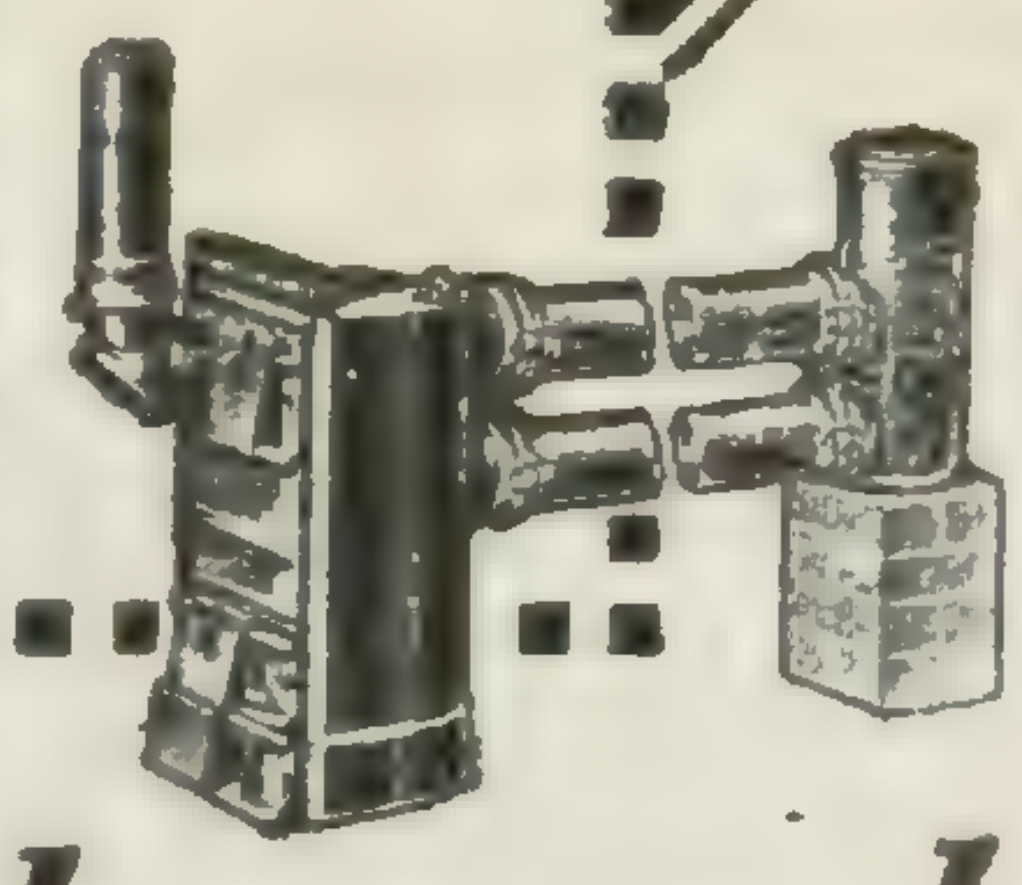

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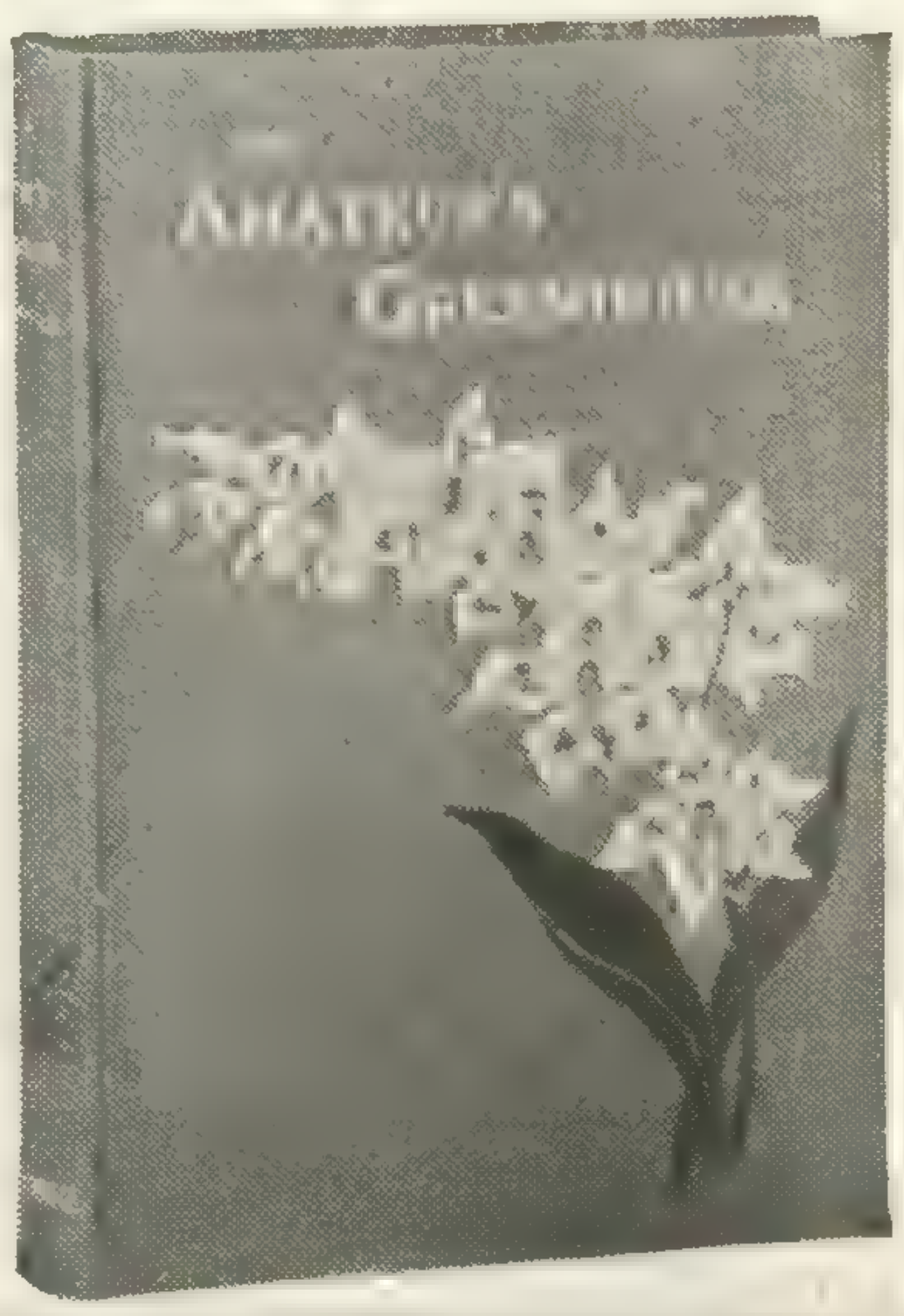

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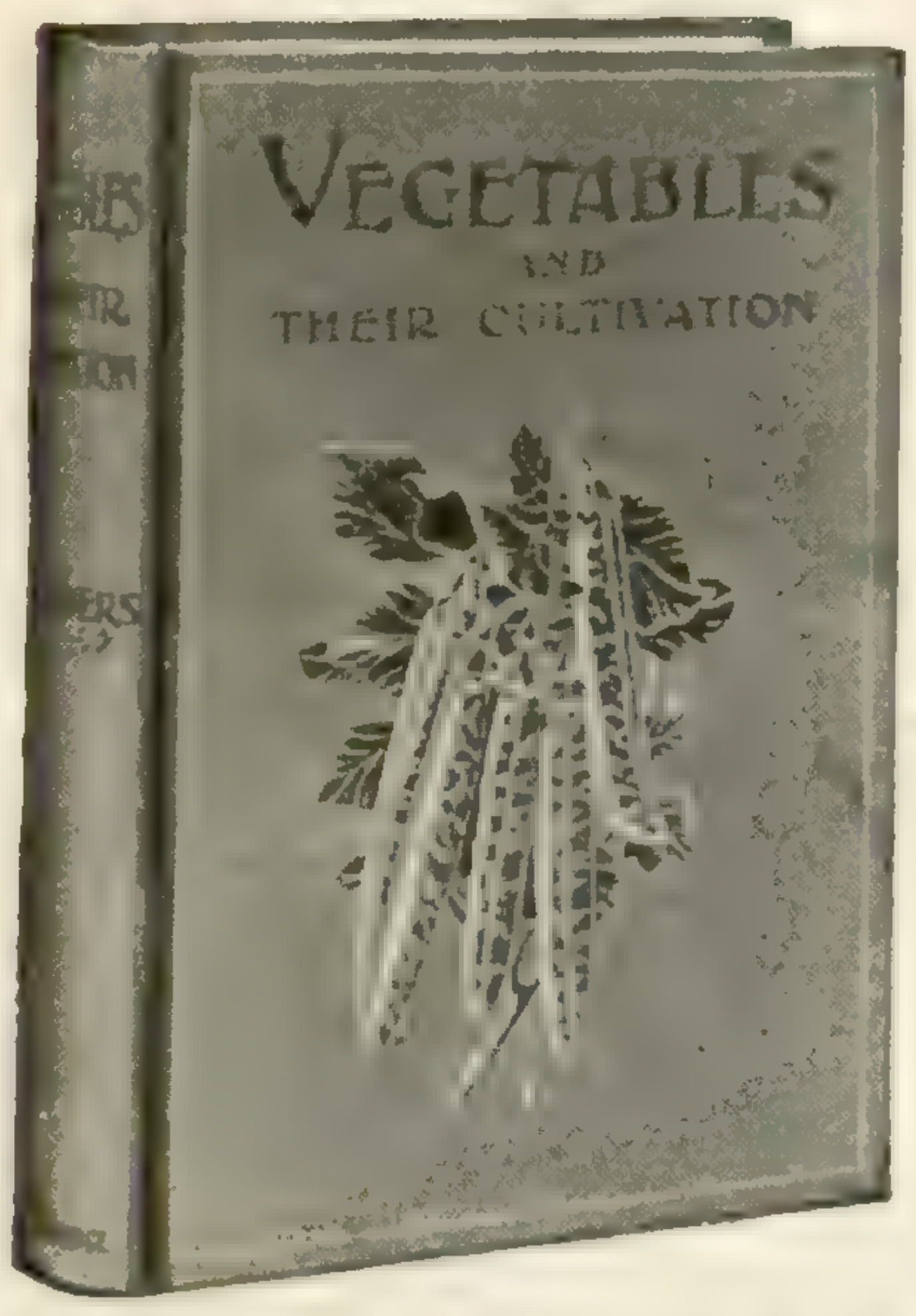

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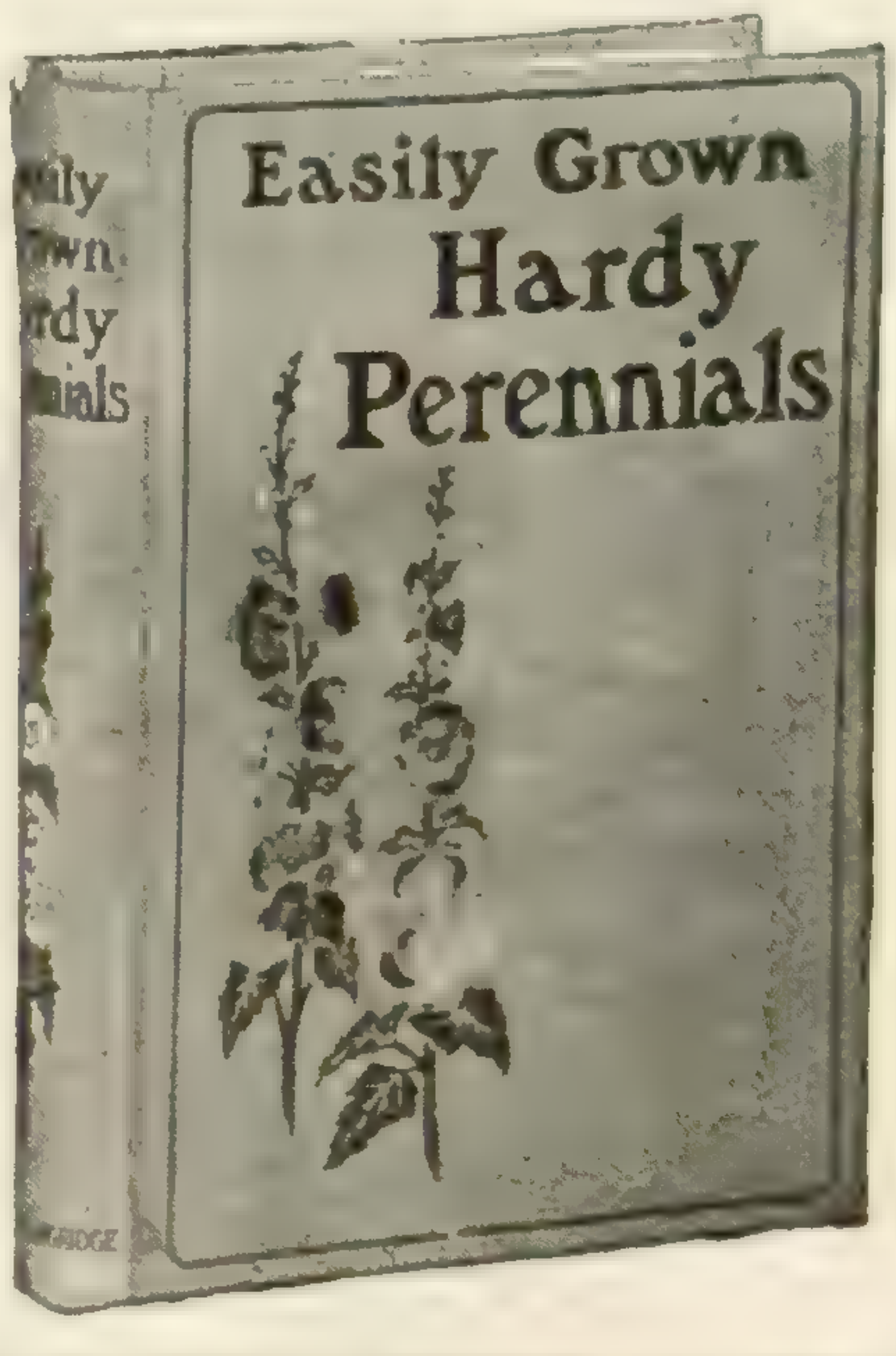

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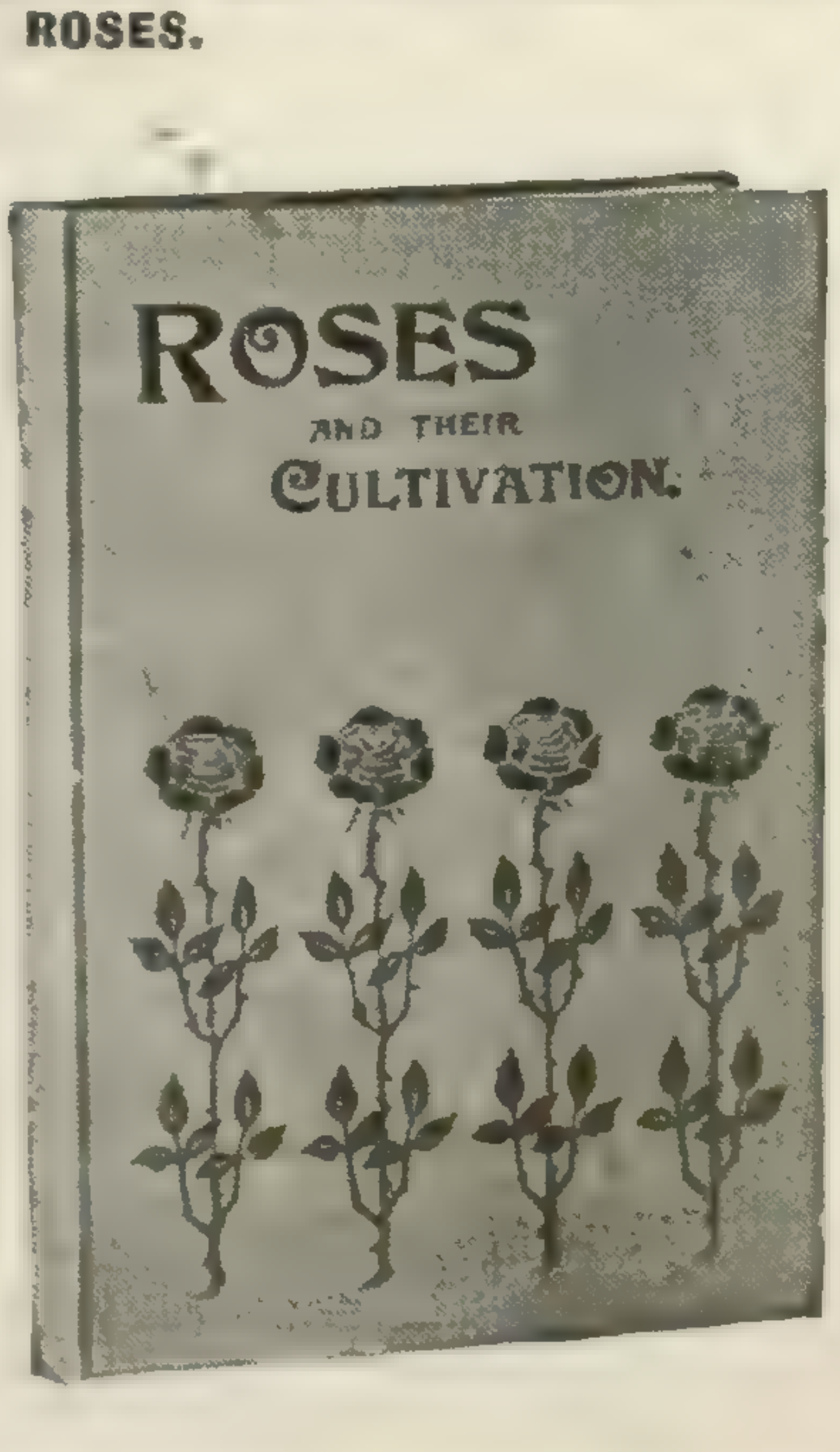
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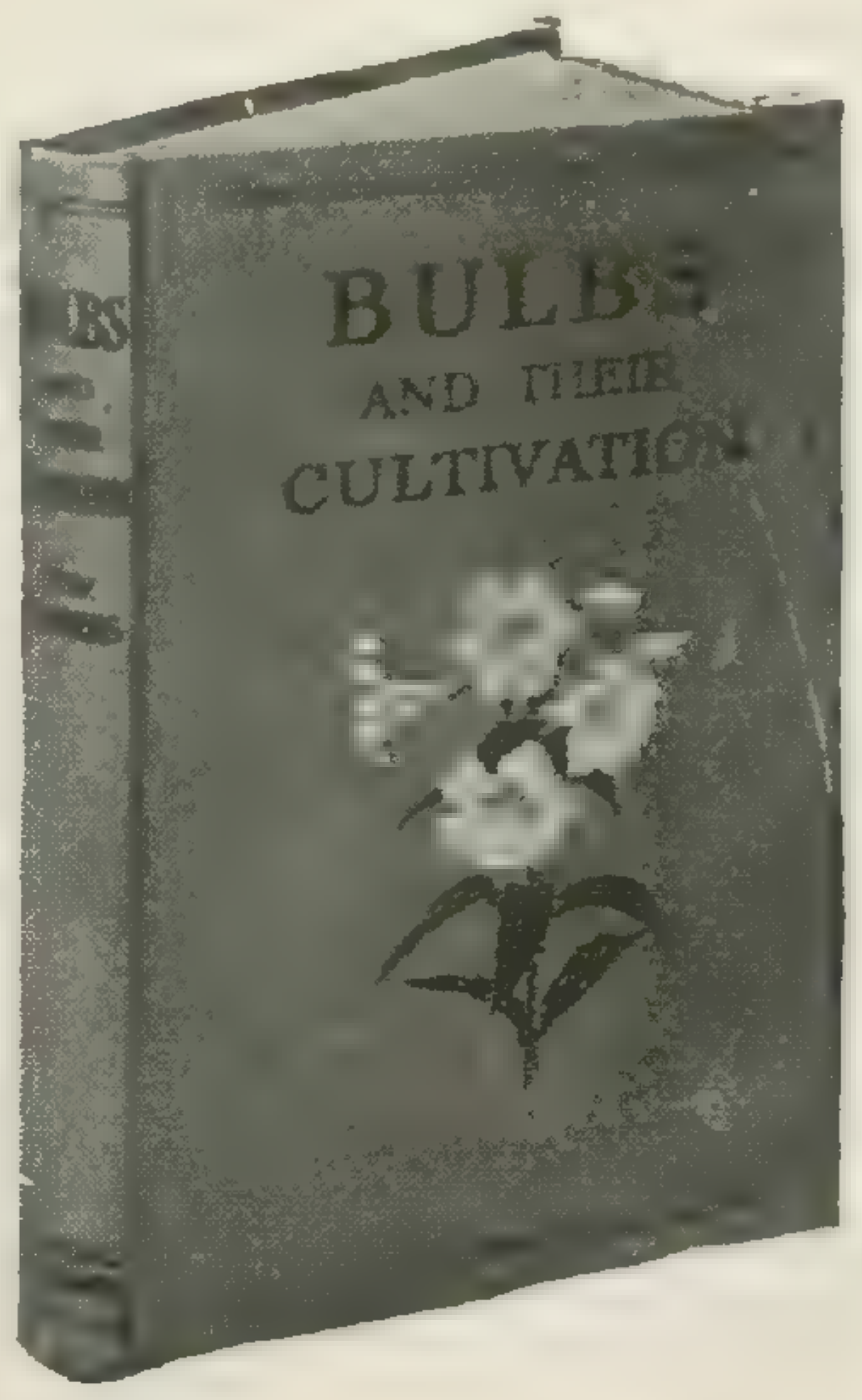

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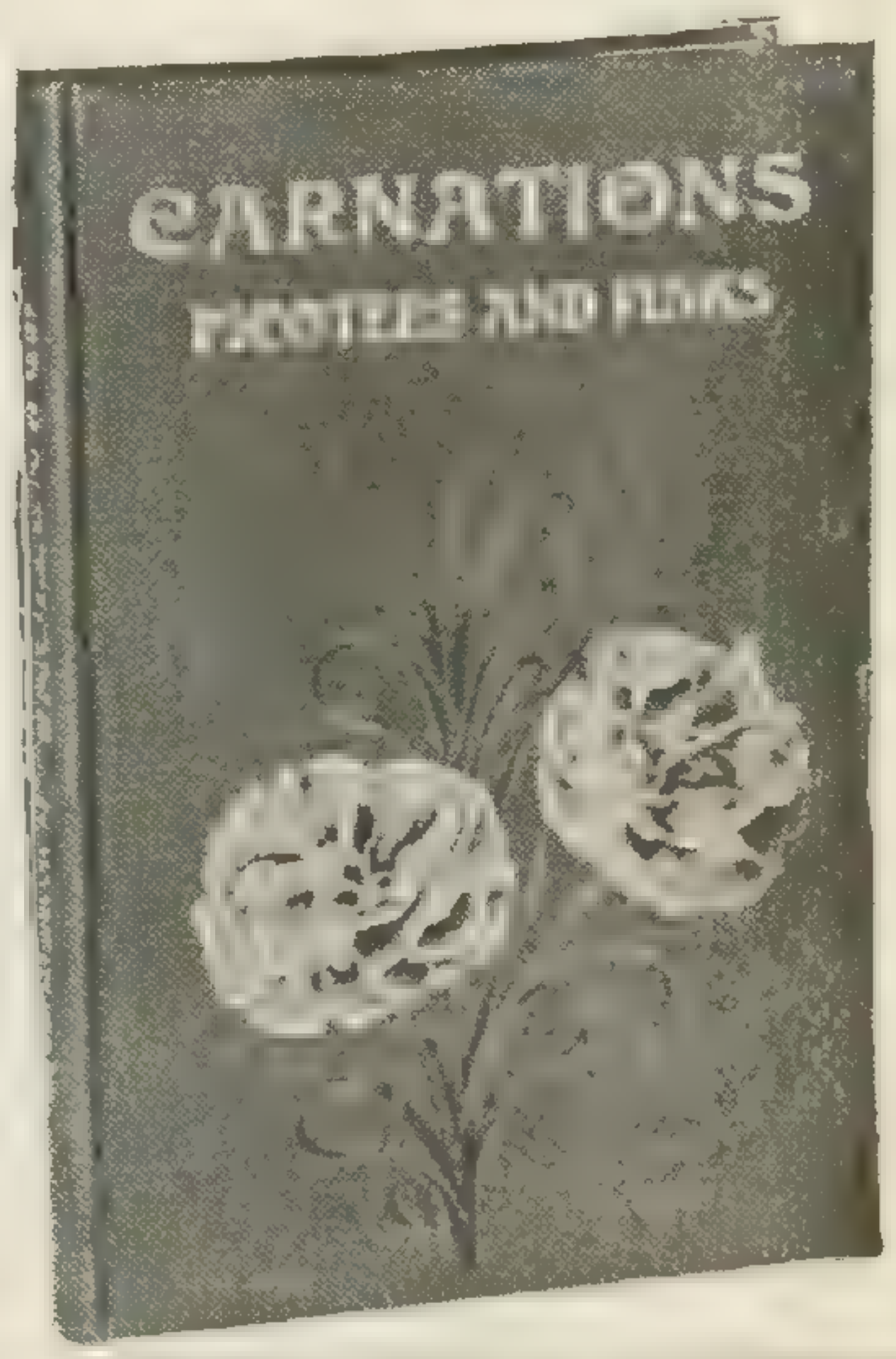

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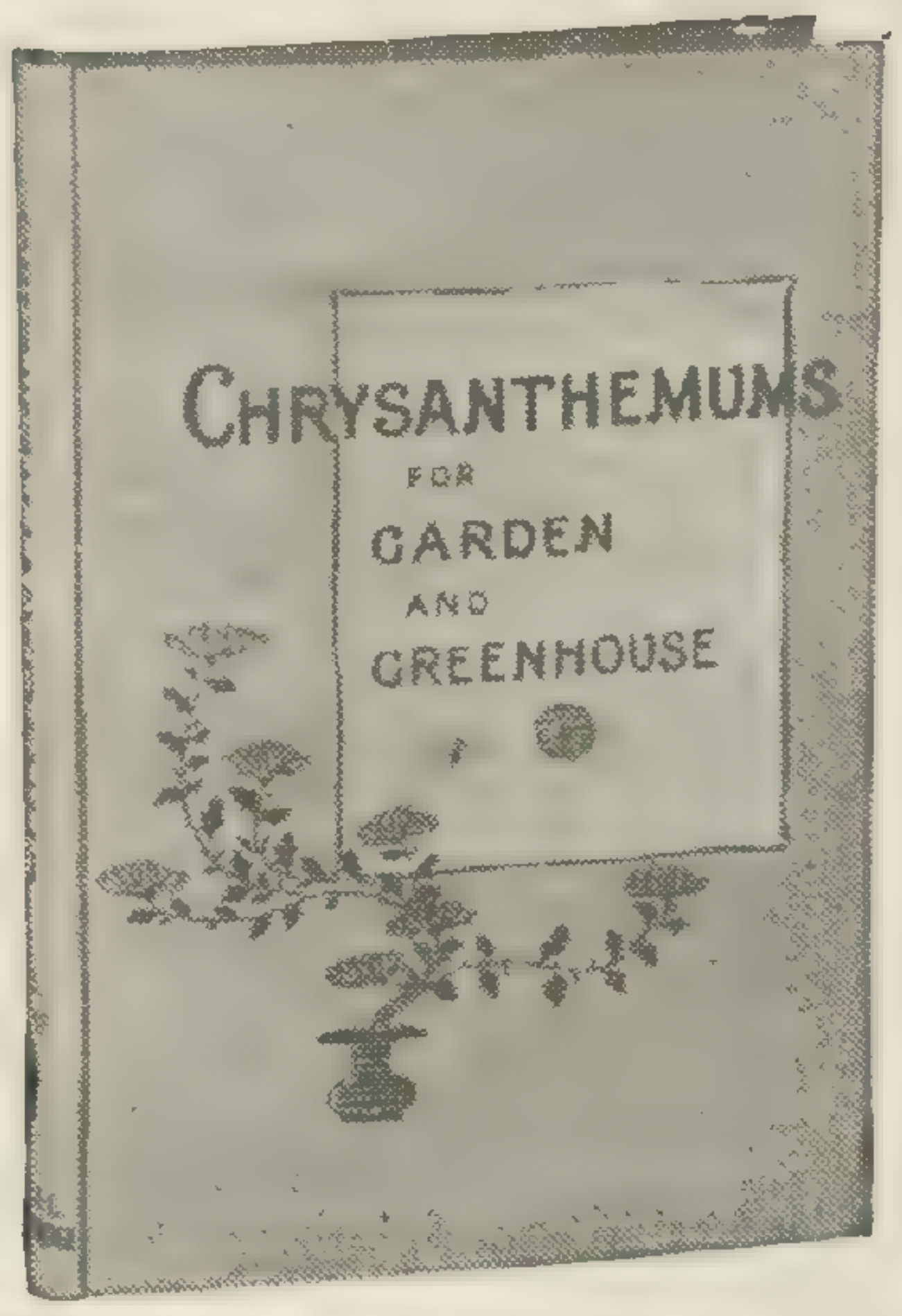

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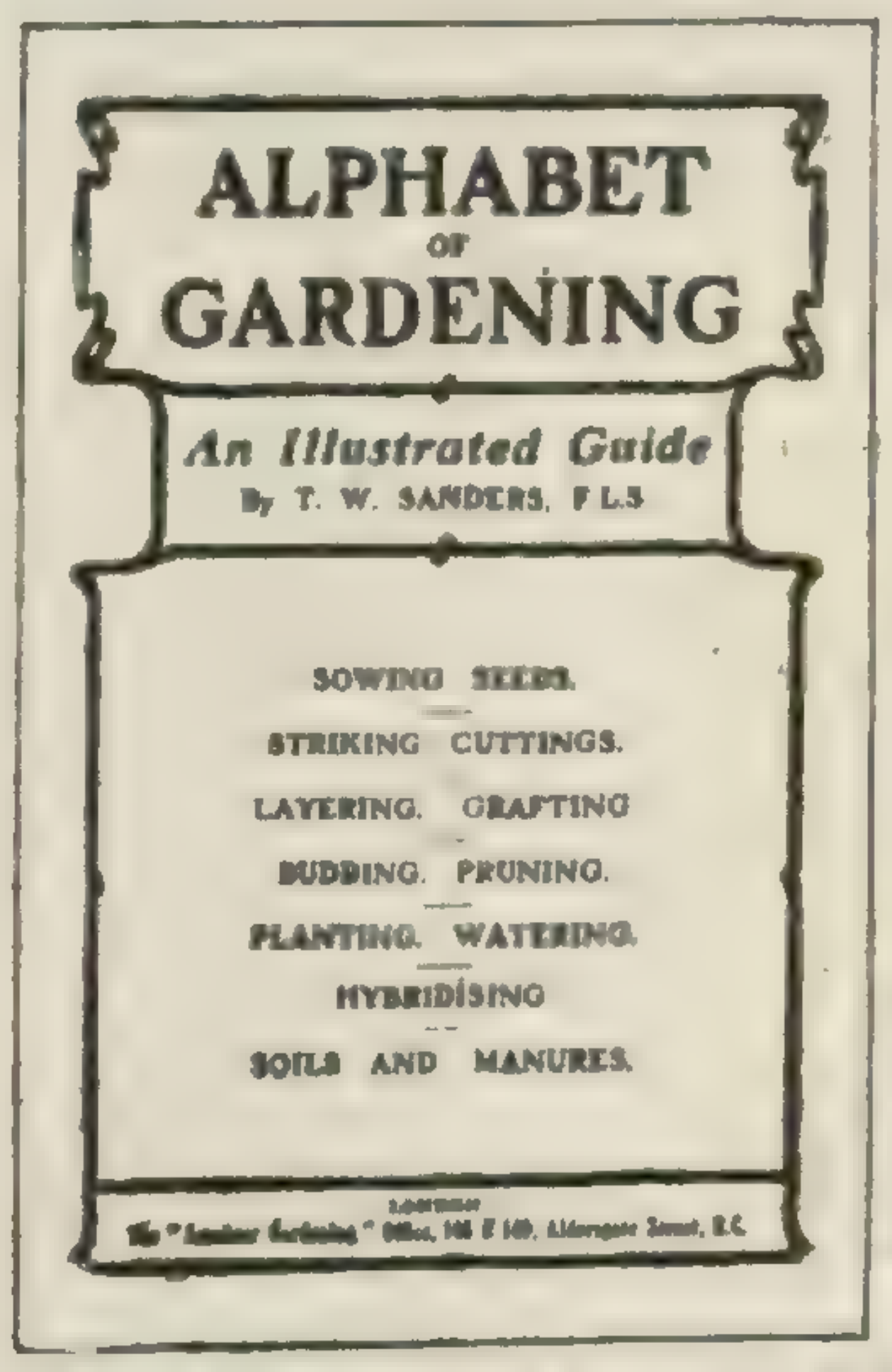

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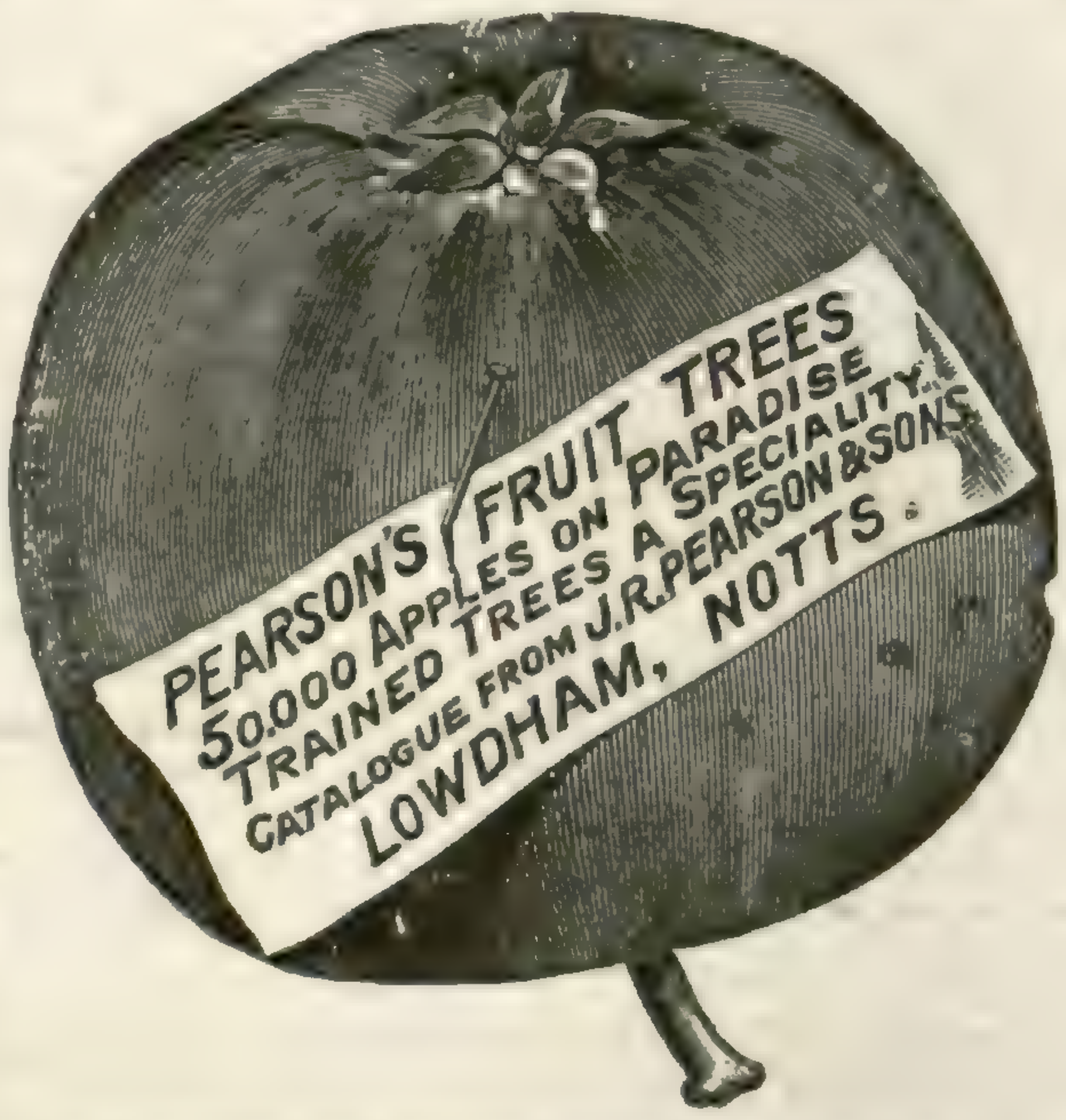
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THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Problems in Fruit Culture.

Those who have had any considerable experience in the cultivation of hardy fruits and have achieved success by adopting the orthodox practice and carrying out the several details in a careful manner, can hardly fail to be somewhat disconcerted by the results that have been obtained at the Woburn Experimental Fruit Farm. They will, in planting their trees, have been careful to adapt the depth of the holes to the individual trees, and to make them large enough to admit of the roots being spread out regularly on all sides. They will also also have been careful to make the soil firm about the roots without converting it into a solid mass. They will also have been not less careful to prune moderately and to enrich the soil with a suitable manure when they had reason to believe that it was becoming impoverished by the activity of the roots in taking up nutrient matter for the support of the heavily laden trees. In the results obtained at Woburn in the planting, pruning, and manuring of apple trees we have the suggestion that the care which growers have taken in carrying out these details have been unnecessary. As our report will have shown, Mr. Spencer Pickering, F.R.S., the director of the Woburn Experimental Fruit Farm, exhibited at the second of the two November meetings of the Royal Horticultural Society fruit produced by apple trees with which experiments in planting, manuring, and pruning had been conducted, and accompanying the exhibit was a pamphlet containing a summary of the results that had been obtained. The apples exhibited we learn from the summary, represented, both as regards total weight and size of fruits, the crops obtained during the past fifteen years from dwarf trees on the paradise stock under different treatment. The variety shown was Bramley's Seedling, but similar results, we are informed, were obtained with Cox's Orange Pippin and Pott's Seedling. Three hundred and sixty trees of each variety were planted in 1894 for the purpose of these experiments, a point of some importance as showing that the results have not been based upon the behaviour of a few trees. "The values of the crops were obtained by multiplying the total weight of fruit by the average weight of the individual fruits, and these values were in every case compared with that of the crops from similar trees under normal treatment, expressed as one hundred." Normal treatment is described as planting carefully, cutting back at once, afterwards pruning lightly every year, keeping the ground clean and giving a moderate dressing of a general artificial manure annually. There were four sets of trees in the experiments on planting, and the results are given as follows: Carefully planted, trenched (normal), value 100; carefully planted, untrenched, 209; carelessly planted, and neglected, 13; carelessly planted, and then tended, 105. Those figures show, if they show anything, that at Woburn trenching the ground was not only a waste of effort but injurious to the trees. We do not question Mr. Spencer Pickering's figures or the conclusions he draws from them, but we have a difficulty in reconciling the results obtained at Woburn with those obtained by ourselves in trenched ground, as compared with that dug over to the usual depth, and those that have come under our notice in large numbers of gardens in which hardy fruits are grown with exceptional success. In the experiments in manuring artificial manure or dung was used, the moderate dressing being one of, or equivalent to, twelve tons of dung to the acre. The heavy dressings consisted of two or three (in one case ten) times this amount. The values were: deficient or no dressing, 108; moderate dressing, 100, and heavy dressing, 100. We learn that, although the soil is by no means specially rich, these dressings, during fifteen years, have had no appreciable effect upon the trees or the crops. The results are to us surprising, if not startling, as doubtless they will be to not a few of our readers. We should have expected that trees in a rather strong soil, to which 540 tons of manure per acre had been applied in fifteen years would have made an excessive luxuriant growth, and presented a different appearance to those which had not received manurial assistance. In our experience in both light and heavy soils, there has been a very marked difference between apple trees that have received a little assistance from fertilisers and those which for some reason or other have been left to themselves. There can be no question that apple trees when upon the crab stock are able to extract large quantities of nutrient matter from the soil, as witness the growth of trees in orchards to which but little, if any manure is applied; but the trees with which the experiments were conducted at Woburn were on the paradise stock, which has a different root system. The values in root pruning were: no root pruning (normal), 100; root pruned every fourth year, 44; root pruned every second year, 7; and root pruned every year, 1½. They are not so striking as the others to which reference has been made, and as so well known, the advantages or otherwise of a pruning of the roots depends wholly upon the growth made by the trees. At Woburn one would hardly expect root pruning to be beneficial after being informed that an annual dressing of twelve, twenty-four, thirty-six, or 120 tons of manure per acre had no appreciable effect. In the experimental pruning of the branches, the values were: no pruning, 131; light pruning, 100; rather harder pruning, 71; hard pruning, 28; and summer pruning, 70. From these

MR. W. BATES.

results it appears, according to Mr. Pickering, that the less pruning done, consistent with keeping the trees sturdy and in shape the better. It is also stated that the average size of the fruit has not deteriorated through lack of pruning, whilst the trees have increased in size in proportion as pruning has been reduced. We are opposed to severe pruning of apple trees, but in our experience the best crops are those obtained where the pruning knife is used with moderation and care. Although Mr. Spencer Pickering has not done more than give the results of his experiments, the question he raises is, Should fruit trees be cultivated? and as this is a question that immediately concerns our readers we shall be glad to give publicity to the views of those who have given attention to the cultivation of hardy fruits.

Mr. W. Bates deservedly occupies a foremost position among practical horticulturists on the south-west side of the Metropolis, for while obtaining distinction by reason of his cultural skill and administrative ability in garden management, he has rendered good service in the cause of horticulture. For some years Mr. Bates was gardener at Cross Deep, Twickenham, and in that position he specially distinguished himself as a cultivator of chrysanthemums, and his services were in constant request as a judge at exhibitions of these flowers. He was not less successful as a grower of fruit, both in the open and under glass. Later on Mr. Bates took over the Cross Deep Gardens, and converted them into a market gardening establishment, and this he continues to carry on with the success that has characterised his various activities. As one of the founders of the Royal Gardeners' Orphan Fund, Mr. Bates continues to take an active part in the management of this excellent charity, and he is so seldom absent from the committee meetings that his record must be an extremely good one. This is a point of some interest, because Mr. Bates has for a considerable period fully accepted his responsibilities as a citizen, and taken a leading part in the work of the Twickenham District Council. There is no occasion to give a list of the offices he has held during the period he has been associated with that important body, but it must be said that three or four years since he had the honour of being elected chairman. For twenty years or more Mr. Bates has been a member of the committee of the Richmond Horticultural Society, and there are but few movements that have for their object the welfare of the Twickenham district and its inhabitants in which he does not render yeoman service.

Gift of Micro-Lepidoptera to the Nation.—We learn with much satisfaction that Lord Walsingham has generously presented his remarkable collection of Micro-Lepidoptera, or smaller moths, to the Natural History Museum. The collection which by Lord Walsingham's munificence comes into the possession of the nation has no equal in any part of the world as regards the number of species, and the specimens are in the best possible state of preservation. Eight years ago, when the collection was examined by one of the museum officials, it was officially reported that it contained 200,000 specimens. Large additions have been made to the collection since 1901, and the number of specimens is approximately now 260,000. To appreciate the importance of the gift, it is necessary to understand that the collection is the outcome of about 30 years unremitting endeavour and a large outlay on the part of Lord Walsingham, and also that by its transfer from Merton Hall to Cromwell Road, nearly 45,000 species of the smaller moths will be added to the national collection of these insects. Lord Walsingham has also presented his library dealing with the literature of the micro-lepidoptera.

Retirement of Lt.-Colonel J. J. Sexby, V.D.—We understand that Lt.-Colonel Sexby, who was appointed to the general superintendence of the Parks and Open Spaces under the London County Council about seventeen years ago, is retiring from that position in February of 1910. A good deal of speculation is going on concerning Colonel Sexby's successor, and the names of those put forward as possible are not a few. We can but hope that someone with considerable practical experience in horticulture will obtain the appointment.

November in the North.—The month of November, writes our Aberdeen correspondent, will be one to be remembered in the North of Scotland. Seldom has such damage been done to crops in that month. As is well known, a large breadth of country on the north-eastern side of Scotland depends a great deal on the potato crop. This crop has suffered severely from the extreme weather, and, although a few growers were successful in securing their produce, still a large acreage was exposed to the frost. As the result nearly one-third of the crop of potatoes will either have to be used for cattle feeding or go to waste. The temperature experienced during the month varied much. It was very mild on the 3rd and 4th, but there was an intense frost on the 15th, 16th, and 17th, and also some of less severity on a few other days. Snow fell on the 13th, 14th, and 15th, covering the ground to the extent of from four to five inches, and did not quite disappear till the 21st. The frost attained its maximum severity on the 16th and 17th. A good thermometer placed on the ground upon the snow on the 17th went down 24 degrees below the freezing point, while at Alford, the Midlands of Aberdeenshire, it fell on the same date 11½ degrees lower. According to the records, a severe frost, similar to that which occurred this year, was experienced in November, 1885, and, strange to say, it happened on the identical dates of the month.

Metropolitan Public Gardens Association.—At the monthly meeting of this association it was announced that trees will be planted and maintained by the Office of Works in the thoroughfares in front of the Victoria and Albert Museum; and that a legacy of £300 had been bequeathed to the association by Mr. E. L. Beckwith. It was agreed to provide the Middlesex County Council with a plan for the garden of Hogarth House, which has recently been presented to that body.

"Sprain" in Potatoes.—In the November issue of the "Journal of the Board of Agriculture," considerable space is devoted to diseases of potatoes, and special reference is made to specimens of potatoes sent to Kew suffering from a disease called "sprain." It is therein stated that perhaps the most constant symptom is the presence of small rust-coloured spots, scattered in greater or less abundance throughout the flesh. This appearance agrees with what is known as "internal disease" in the South of England, which, again, possesses many points in common with the disease of apples called "bitter pit," the precise nature of which is still obscure. In some examples mycelium is present in the tissue of the brown spots, and in such instances, under proper treatment, "winter-rot," caused by Nectria solani (Reinke), always develops. On the other hand, in some examples no mycelium can be detected, and, however long such specimens are kept under favourable conditions, no fungus appears. Five tubers said to show "sprain" were planted in the experimental ground at Kew. Each tuber was cut in two, and each one showed rusty patches in the flesh. Three months after planting two of the hills showed no haulms above ground, and, on digging down, the "sets" were found to be almost destroyed by winter-rot. On lifting the remainder at the end of September, the crop produced by four of the "sets" was found to be infected with "sprain"—i.e., the flesh showed small spots of a brown colour. Every tuber was cut and examined, and there was not a single one exempt. The old "sets" of these four roots were in a deliquescent condition, and teeming with the conidial form of winter-rot. The four remaining "sets" produced a perfectly clean crop. The "sets" were shrivelled, but showed no signs of winter-rot. This account agrees with what had previously been observed at Kew, namely, that the brown spotting of potato tubers is in some instances an incipient stage in the development of winter-rot, and as it is not at all probable that two distinct diseases presenting similar symptoms — rust-coloured spots—are present in potato tubers, it must be assumed that in some instance the disease is arrested in its preliminary stage.

The Seed Trade and Analysis.—At the annual meeting of the Seed Trade Association held at the Hotel Cecil on the 6th inst., with Mr. Edward Sherwood, the president, in the chair, the principal subject for discussion was the appointment of an analyst for the purpose of testing the purity and germinative powers of seeds for the members of the association. This some of the speakers felt would enable the members to know better what they were selling, and thus increase the confidence between them and their customers. Other speakers urged the desirability of deferring the appointment of an analyst for a time, but Mr. H. Le May said that the practice of sending seeds to Copenhagen or Zurich to be tested was far from satisfactory. In the result, it was decided on a motion proposed by Mr. Summer and seconded by Mr. Bell to leave the matter over for the present, and in the meantime to communicate with Professor Biffen, of Cambridge, for the purpose of ascertaining whether he would undertake the analytic work of the association.

The Special Gold Medal handed to Mr. H. J. Jones in the course of the prize distribution at the recent dinner of the National Chrysanthemum Society was presented to the society by Mesrs. Clay and Son, and offered for the best exhibit in the show. It is of interest that while no stipulation was made by Messrs. Clay and Son as to methods of culture, their well-known fertiliser was freely used in the production of the fine specimens of which Mr. Jones's display consisted.

Professor R. H. Biffen, M.A., Professor of Agricultural Botany at the University of Cambridge, has been appointed consulting botanist to the Royal Agricultural Society in the place of Mr. William Carruthers, F.R.S., who has resigned. The latter has held the position since 1871, and, in recognition of his valuable services, the Council of the R.A.S. has elected Mr. Carruthers an honorary Fellow and granted him a pension of £100 per annum.

The Value of Flower Shows.—In an editorial article dealing with the flower show recently held in the city, "The Chicago Tribune" gives the following: "The flower show has come to mean more than an exhibition of beautiful plants. To its æsthetic and artistic value it is adding more and more every year a practical and utilitarian worth. It would be impossible to weigh exactly the increased incentive towards home beautification which hundreds of Chicagoans find in each exhibition, but one seeing the crowds at the show, and observing the interest which they take in the displays, is conscious that a tremendous influence is exerted. When Chicago finally succeeds in its now painful search for rounded and complete municipal beauty it will be because each individual has contributed according to his ability and his opportunity, and these flower exhibitions are doing much to discover the individual ability and the individual opportunity. The horticultural society is striving consciously to bring this about, and not the less effectively because of the element of personal interest which enters into the efforts of flower sellers to create flower lovers."

Cider Orchards.—A correspondent of the "Times," in an interesting contribution on cider prospects for the season 1909-10, states that cidermakers are beginning to realise the necessity for substituting as quickly as possible for the old, worn-out orchards, young, scientifically-planned ones. The distribution of 2,500 young standard trees to the county councils of the principal cider-making counties by the National Fruit and Cider Institute last autumn, for the purpose of establishing experimental and trial vintage orchards, has done much to foster interest in the culture of vintage fruit. Attention is being paid to the vintage characters of the varieties selected for planting, and the quality of the cider in future years will benefit accordingly. The growers are also becoming alive to the fact that an orchard cannot be expected to be profitable if left to look after itself. Concurrently with the increased attention paid to the trees may be observed the greater care with which vintage fruit is being dealt with. The fruit also is no longer handled carelessly and roughly by the more progressive growers, so that it can now be stored for a longer period without decomposition, and can be brought to the press in better condition. There are thus indications that the various operations connected with cider-making are beginning to receive the care and attention required for complete success, and that those connected with the industry are realising the necessity of proceeding upon scientific lines.

Atmospheric Impurities and Vegetation.—In the course of a paper on "Air Pollution by Smoke," by Professor J. B. Cohen and Mr. A. G. Ruston, read at the Health Congress at Leeds, the authors pointed out that it is the tarry matter in the soot which causes the latter to adhere to and blacken buildings and vegetation. It is sometimes stated that it is the domestic smoke rather than industrial smoke which is injurious to plant life, on account of its higher content of tar. There is a certain justification for this statement, for the percentage of tarry matter in the total solid impurities is highest in the residential and lowest in the industrial areas, varying from 18 per cent. in the former to 4 per cent. in the latter. When, however, account is taken of the total tarry matter deposited each year, the industrial centres are responsible for the greater quantity, which reaches in some cases ten times the amount in the residential districts. The total sulphur, either as sulphurous or sulphuric acid, is everywhere high, but particularly in and near the chief manufacturing areas. It is the sulphurous acid which imparts to town fog its choking and irritating effects. The large amount of this acid present in fogs may be gauged from the fact that the hoar-frost collected during the dense fog of January 27 contained acid corresponding to 10.29 parts per 100,000. To show the injurious effect of sulphuric acid upon vegetation, Timothy grass was sown on May 12, 1908, in boxes 1ft. square, the soil being uniform. The seed was watered at a rate corresponding to the average rainfall of 25 inches with water containing different amounts of sulphuric acid. In the case of Leeds rain water and of those waters containing a higher degree of acidity, germination was distinctly checked, and the delicate green of the young grass quickly changed to yellow or brown. Grasses watered with water containing 32 parts per 100,000 were killed in a little more than three months, and with 16 parts per 100,000 in less than a year. Chlorides are found in large quantities in the industrial centres, where, expressed as common salt, they sometimes reach 3 or 4 cwt. per acre, a quantity which must be prejudicial to vegetation.

FRUIT TREE PLANTING.

The results obtained at the Woburn Experimental Fruit Farm by Mr. Spencer Pickering in the planting of fruit trees are of much interest, and the methods adopted are deserving of the fullest consideration. A little reflection will, in my opinion, bring clearly to the mind that too much value is set upon the methods generally advocated, especially when we see results obtained by what are condemned as "slipshod" systems of planting. For instance, I have planted thousands of forest trees, such as larch, pines, etc., and taken much pains to dig out the holes, breaking up the soil, and spreading out the roots carefully, and expecting and obtaining satisfactory results. On the adjoining estate planting was going on at the same time under what I thought very indifferent conditions. A triangular cut was made in the turf with a spade, the spit hoisted on one side sufficiently to enable the roots to be crammed into the hole under the spade, the turf fell back into its place when the spade was withdrawn, and the planting completed by a stamp with the heel to make the soil firm. The trees were neither upright or lying down, but they righted themselves in due course, and have grown equally well, or better, than those taken so much pains with thirty years since. Ample time has passed enabling one to note the result of both methods, and I am forced to the conclusion that we can be too particular in methods of planting. In fruit tree planting I think it is the same.

How the trees are managed afterwards is the all-important point in achieving success. After seeing forest trees grow so amazingly in very firm soil, it would appear we are inclined to leave the soil about fruit tree roots much too loose. In firm soil the roots do not run all over the place, as it were, at once, but they grow more slowly, and it is reasonable to suppose the growth of the tree will be more in accordance with root development.be much firmer, and, consequently, in a condition to give good results when the time to bear fruit arrives.

E. Molyneux.

TREES AND SHRUBS FOR WATER GARDENS.

The prominence which water obtains in modern gardening, when contained in formal tank or basin, or in natural pond or lake, places immense possibilities in the designer's hands, so that when skilfully introduced it imparts a degree of beauty and interest to a landscape that, under less careful treatment, might pass as commonplace. A well-watered stream is an inheritance, both to an estate and to the planter; its benefits directly appeal to the latter, beside the waterway and upon the banks he augments the woodland's charm, wedding the beauty of the exotic with that of our own wildlings. In the water flourish iris and meadow sweet, reeds and grasses, willow herb and lythrum; these are watched over from the banks by countless flowering trees and shrubs, while at varying seasons the woodland glades bedeck themselves with colours, due to the presence of many kinds of bulbous plants.

The question of suitable vegetation is one that amply repays mature consideration; as already indicated, the arborescent growth "in situ" comprising subjects indigenous to the locality, represented by deciduous hardwoods and evergreens, should, as far as practicable, remain. The undergrowth, where present, will consist of smaller native trees and shrubs, among which the mountain ash and sloe may be named as typical of the highest beauty in wild plants. Broad masses of trees, composed of a few distinct species, to form the main plantings, are always effective. Beech, sycamore, and Austrian pine attain to full development upon thin limestone soil; their close set branches and abundant leafage making them valuable as shelter subjects. Birch and Scot's fir succeed on light, dry soils, and are frequently found luxuriating on steep hillsides and glens. Elm, oak, and chestnut prefer deep, cool loams, while ash, alder, and willow frequent damp positions in hollows and by watercourses. These may fittingly be regarded as the fundamental species in planting water gardens, and when used in conjunction with larch and the various pines (coniferæ), and planted upon economic lines, will form, in the aggregate, an ideal background against which plants of an ornamental character will appear in striking relief. To many the true pines of the Northern forests appeal in their picturesque grandeur and beauty; indeed, few woods can compare with those in which the Stone, Corsican, or Scotch pine predominate, and where the ground is extensive that pure woods of these can alternate or lie side by side with the ordinary run of hardwood plantings, then a landscape of more than ordinary interest results.

It is, however, among deciduous trees that the planter has greatest latitude for producing colour effects, as here the accumulated wealth of three Continents lie to his hands, and it is noticeable of our average climate that it admits of healthy development of the majority of these exotics, so much so that in most seasons we are able to appreciate and enjoy their beauty to the fullest. The American acers and oaks, amelanchiers, cratægus, catalpa, gymnocladus, liriodendron, liquidamber, robinias, and walnuts, to some extent indicate the wealth of flowering and foliage trees capable of doing excellent service in water gardening: in some respects these are rivalled, and as flowering subjects probably excelled by the cherries, peaches, prunus, and pyrus from China and Japan, yet it is impossible to dispense with any of them, and until we banish from our gardens such coarse things as cherry laurel, privet, and box, there need be no faltering of that spirit which discriminates between things coarse and refined in gardening, choosing that which most delights the eye. A group of flowering cherries would be singularly incomplete were the double form of our native gean unrepresented; as a specimen it is marvellously effective, the flowers in their absolute purity being suggestive of a winter snow scene.

Of trees which grow in the wettest parts Taxodium distichyum and the Babylonian willow are well known examples: of the latter the annularis form is a striking subject. There are also dwarf willows, like Salix alba britzensis, alba, vitellina, canadensis, and dahpnoides, which, if pollarded every year in spring will produce a thicket of slender rods with highly coloured bark, and form conspicuous objects in the winter landscape.

Dry banks and sandy wastes can always be profitably planted with leguminous subjects, of which the broom and gorse are well known instances. To the same family belong Cytisus Andreanus and its improved forms, Mayfly, Firefly, and Butterfly; these are forestalled in their flowering season by Cytisus præcox and its forms, and are succeeded by C. Carlieri in midsummer, and the sweet-scented Spartium junceum carries its golden blossoms well into autumn. Like the foregoing, Colutea arborescens, istria, and bullata are tall-growing subjects, which, with indigofera, flower from midsummer till autumn. Among dwarf-growing and prostrate brooms the best include Beani and Kewense, both hybrid brooms of rare beauty, Schipkensis, and in Genista pilosa, prostrata, radiata, tinctoria fl. pl. we have good subjects for draping rockwork. Genista hispanica is an extremely neat and compact shrub, and quite indispensable as a subject for covering banks. Where-ever leguminous shrubs succeed there also will the rock sprays or cotoneasters; the branches of adpressa, congesta, and rupestre are sensitive to contact, as they follow the surface of the ground. Cistus, olearia, and tamarisks are other genera suitable for a like position. Evergreen shrubs play an important part in water gardening: many of them are first-rate flowering subjects, while their leaves are generally attractive, and in winter they present a furnished appearance. Viburnum tinus and Garrya elliptica are good midwinter flowering plants; aucubas, pernettyas, skimmias, and Arbutus unedo are conspicuously bright at that season by reason of their coloured fruits. Gaultherias, kalmias, euonymus and bamboos illustrate the variety of evergreens that succeed under the shade of trees. Azara microphylla is a distinct evergreen, producing small yellow flowers in May, which load the air with a vanilla-like perfume. Choisya ternata has white, orange-like flowers in clustered heads. Osmanthus ilicifolius purpureus, Berberis Knighti, Daphniphyllum glaucescens, escalonias in variety, benthamia, carpentaria, ceanothus, daphne, ligustrum are typically representative of the best evergreen shrubs.

Of deciduous shrubs spiræas are essentially at home beside water; their flowering period extends from quite early in spring till late in autumn. Arguta forms a small bush, densely twiggy; canescens, prunifolia fl. pl., and Reevesiana all make large bushes with graceful arching branches; discolor is fastigiate in growth, but when in flower it appears like a cascade of blossom; ossurgens and Aitchisoni are strong growers, with pretty, compound, rugose leaves, both of which flower in late summer. From midsummer till autumn the various forms of Spiræa callosa produce their flowers, the variety Anthony Waterer being the best. THOMAS SMITH.

Walmsgate Gardens.

EXHIBITION ROSES.

An Amateur's Analysis.

It is helpful to the exhibitor to keep a record of the roses he stages at the exhibitions; it is a method of testing the value of a rose for exhibition purposes. As has been stated in previous years, it has been our practice to take down the names of the roses staged **by us as soon as the judging is over**, and catalogue them at the close of the season. The exhibitions attended this year were fewer than usual, partly owing to the lateness of the season. We could not show before July, and even then it was frequently a question of "Hobson's choice," the difficulty being to obtain the varieties; the roses were not at their best until the month of August. The subjoined list is naturally affected both by the lateness of the season and by the number of plants of each variety grown. On the other hand, the list of roses tabulated is not confined to those exhibited on a single day, but of those staged at eight of the principal shows, ranging from July 2 to September 16.

It is the fashion in some quarters to regard exhibition roses as unsuitable for garden cultivation, but a glance at the list below will show that the first eight on the list are good roses for the non-exhibitor. Exception, perhaps, might be taken to Bessie Brown, because of the blooms hanging their heads and being impatient of wet. But surely we can forgive its pendant habit, knowing that the finest flowers of this variety are produced this way. And as to the wet, a shade or two will meet this difficulty. The growth of Bessie Brown is so active, and it is such a free and continuous bloomer, that lovers of roses for the garden and house decoration would be ill-advised to reject it.

Position.	Name.	No. of times Exhibited
1.	Bessie Brown	14
2	Dean Hole	13
2	Frau Karl Druschki	13
3	Caroline Testout	12
3	Mrs. Theodore Roosevelt	12
4	Earl of Warwick	11
4	Lady Ashtown	11
5	Florence Pemberton	10
5	Helen Keller	10
5	Mildred Grant	10
6	Alfred K. Williams	9
7	Horace Vernet	7
7	Lohengrin	7
8	Mme. Jules Gravereaux	6
8	William Shean	6
8	White Maman Cochet	6
8	Mamie	6
8	Her Majesty	6
8	Marquise Jean de Chataigneraye	6
8	Avoca	6
9	Souvenir de Pierre Notting	5
9	Ulrich Brunner	5
9	Charles Lefebvre	5
9	Hugh Dickson	5
9	Mme. Charles Crapelet	5
10	Mrs. John Laing	4
10	Francois Michelon	4
10	Suzanne Marie Rodocanachi	4
11	George Laing Paul	3
11	Gustave Piganeau	3
11	Mrs. W. J. Grant	3
11	Freiherr von Marshall	3
11	Maman Cochet	3
11	Gustave Grunerwald	3
11	W. R. Smith	3
11	Alice Lindsell	3
11	Lady Moyra Beauclerc	3
11	W. E. Lippiatt	3
12	E. Y. Teas	2
12	Laurente Carle	2
12	Rosamene Gravereaux	2
12	Farben Konigin	2
12	Mme. Leon Pain	2
12	M. H. Walsh	2
12	Mme. Maurice de Luze	2
12	Mrs. E. Mawley	2
12	Mrs. John Bateman	2
12	Mrs. Isabella Milner	2
12	Marie Baumann	2
12	George C. Waud	2
13	Comtesse de Nadaillac	1
13	Kaiserin A. Victoria	1
13	Mrs. E. J. Holland	1
13	Perle von Godesberg	1
13	Konigin Carola	1
13	Comte Raimbaud	1
13	Marshall P. Wilder	1
13	Mme. Hoste	1
13	Lady Ursula	1
13	Dr. O'Donel Browne	1
13	Beauty of Waltham	1
13	**Mrs. Alfred Tate**	1
13	Mme. Hausmann	1
13	Papa Lambert	1

VARIETIES EXHIBITED IN TREBLE CLASSES.

Position.	Name.	No. of times Exhibited
1	Lady Ashtown	3
1	Dean Hole	3
1	Frau Karl Druschki	3
2	Bessie Brown	2
2	Mildred Grant	2
3	Earl of Warwick	1
3	Hugh Dickson	1
3	Florence Pemberton	1
3	Horace Vernet	1
3	Souvenir de Pierre Notting	1

VARIETIES EXHIBITED IN BOXES OF ONE VARIETY.

Bessie Brown
Mme. Jules Gravereaux.
Florence Pemberton.
Hugh Dickson.

JOSEPH H. PEMBERTON.

GRAPE MELTON CONSTABLE

We seldom hear or see anything of this grape now, yet it came out with a big flourish of trumpets several years ago, and many growers, myself included, thought it might become a useful addition to popular varieties. I am afraid, however, that many have been disappointed with its quality and behaviour. With one or two other professional men I tasted this grape when the last of the R.H.S. fruit shows were held at Chiswick, and from the flavour of the berries thought it would be worth growing. We could not ascertain at the time whether the vine which produced these bunches was grown on its own roots or inarched. From my experience of this grape I should say the bunches were cut from an inarched vine, as there was a flavour in the berries that I have never found in the grape when grown on its own roots.

A year or two after the Chiswick Show I exhibited some good bunches at one of the principal shows in the West of England. They were much admired, and the result was that many vines were planted in that part of the country. The flavour of these grapes differed from those tasted at Chiswick, but the berries were larger.

I have grown the variety in early, late, and mid-season houses, but must confess it has not come up to my expectations, in fact, on its own roots I do not consider it any better than Gros Colmar. Inarched it is worth cultivating, and those wishing to grow this variety will find that the most satisfactory way of doing so. So grown, the flavour is improved, it colours well, and the berries are large, and those who like to have a big-berried bunch for the table will find it useful for the purpose. It would be interesting to know the parentage of this grape, for, if a sport, it appears to me to have reverted, and if a seedling it does not show much trace of good parentage.

T. H. SLADE.

BAYFORDBURY.

GARDENS ROUND HERTFORD—II.

Bayfordbury.

For a long period Bayfordbury, the fine seat of H. Clinton Baker, Esq., has been remarkable for the extent, beauty, and interest of its gardens, and for the distinctness and attractions of its arboricultural features. One might go back for at least a hundred years and find evidence of strenuous endeavour on the part of the owner to enrich the gardens and grounds with the most beautiful and interesting trees and shrubs that had been introduced to this country. At later periods may be found proofs of a desire to maintain the fame of the seat for its horticultural features, and at the present time the visitor will not be left in any doubt as to the keen interest which the present owner takes in his possessions. Mr. H. Clinton Baker is the local secretary for the Hertford district of the National Rose Society, and it is not, therefore, surprising to find a large space devoted to a rose garden, and plants in so vigorous a condition as to suggest their capability to produce flowers of so high a quality as to render good service in a keen competition. Mr. Clinton Baker is not less interested in alpine plants, and is so well acquainted with the finer kinds that a walk through the well-furnished rock garden under his guidance will produce so delightful an impression upon those who are interested in rock plants that it will not be readily forgotten.

While devoting close attention to his roses and rock plants and the gardens generally, Mr. Clinton Baker takes an especial interest in the arboricultural features of his extensive estate, and particularly in the magnificent cedars of Lebanon and other trees that constitute so great a charm of the pleasure grounds, and the pinetum that was formed by his grandfather, W. R. Baker, Esq., early in the last century. Evidence of the interest that is being taken in the coniferous trees at Bayfordbury is found in the fact that Mr. Clinton Baker has added all the finest of the coniferous trees of recent introduction to the pinetum, and has written an important work relating to conifers. This is published under the title of "Illustrations of Conifers," and has special reference to the trees grown in the Bayfordbury collection.

Of much interest to the tree-lover are the ten fine trees of the Cedar of Lebanon, which were planted in the pleasure grounds in 1765, to commemorate the building of the mansion. These, it may be mentioned, were nine years old at the time of planting, and had been raised by the Rev. W. Uvedale, son of Dr. Uvedale, from seed of the historic old cedar in the Palace grounds at Enfield, which was planted by the last-named about one hundred years before. The Enfield cedar, one of the oldest of the trees of its kind in the United Kingdom, was, according to "Trees of Great Britain and Ireland," supposed to have been raised by Dr. Uvedale from seed given him by Evelyn, but the evidence on which this supposition is based, is of the slenderest, and it should be remembered in connection therewith that Evelyn makes no mention of the Cedar of Lebanon in his "Silvia," which was published in 1664. However that may be, the Bayfordbury cedars are remarkable for their splendid development, and are of considerable interest from the fact that an accurate account has been kept of their rate of growth, showing girth since 1790. The figures relating to all the trees are of interest, but for the present purpose it will suffice to give the rate of the increase in the girth of two, the figures being taken from Mr. Clinton Baker's book:

	No. 3 at 5ft.		No. 4 at 5ft.	
	ft.	in.	ft.	in.
1790	4	10	3	11
1804	7	0	6	0
1825	11	1	9	6
1837	13	0	11	2
1863	16	2	14	6
1878	18	0	16	7
1900	19	5	18	0
1907	20	0	18	11

The average height of the trees is 87ft.

It is possible these cedars, which were then 77 years old, induced W. R. Baker, Esq., the grandfather of the present proprietor, to give his attention to coniferous trees, but whether that was the case or not, the fact remains that he had so strong a predilection for them that in 1837 he commenced the formation of the pinetum, which now has for many years formed so important a feature of the Bayfordbury grounds. He selected a site on the hill on the far side of the park, about half a mile distant from the mansion. The site has a western aspect, and to shelter the trees from the easterly and north winds, a belt was formed on the east side with Pinus austriaca and P. larico. The trees with which the pinetum was furnished were selected in consultation with J. C. Loudon, and they all made excellent progress until the winter of 1844, when 37 degrees of frost were experienced, and many of the Mexican kinds were killed. One might give a long list of the species that are now represented by specimens in a high state of development, but it must suffice to say that in the collection is a tree of Pinus ponderosa that was planted in 1838, and is now over 100ft. high, and has a girth of 9ft. 7in., and the specimen of Abies orientalis is of great height and perfect in contour. Since Mr. H. Clinton Baker's succession to the estate, he has enriched the pinetum with a considerable number of beautiful species that have been introduced to this country within a comparatively recent period, and as these are now well established and in a thriving condition they promise to add greatly to the interest and attractions of the collection in a few years hence. Very interesting are the three specimens of the dwarf growing Pinus pumila, which was sent from Japan to this country by Captain L. Clinton Baker, R.N. Four plants were sent, and of these one is in the Royal Gardens, Kew. Captain Clinton Baker was the first to send from Japan to this country dried specimens of Pseudotsuga japonica, of which living plants are now growing freely in the pinetum here.

FAMOUS CEDARS, BAYFORDBURY.

In returning from the pinetum to the pleasure grounds, it soon becomes evident that they are especially rich in the choicer kinds of trees and shrubs. In area the grounds are proportionate to the stately mansion, and on these great breadths of closely-shaven lawn are deciduous and evergreen trees of stately proportions, and associated with them and occupying positions specially adapted to their requirements, are many of the choicer kinds. These include such beautiful subjects as Eucryphia pinnatifida, Carpenteria californica, Cæsalpina japonica, Davidia involucrata, remarkable for its large white bracts, Sciadopitys verticillata, Azara microphylla, and the beautiful and rare Rhododendron campylocarpum, and R. Thomsoni. Noteworthy also are Bignonia grandiflora, which, trained over the front of the mansion, grows freely and blooms profusely; a fine specimen of the Judas Tree, a large example of Magnolia grandiflora, which annually produces a wealth of its large, pure white fragrant flowers; Rhus cotinus, one of the largest of the examples that have yet come under the notice of the writer, Arbutus Menziesi, equally remarkable for its yellow fruit and coffee-coloured bark, and Juglans cinerea, or the grey walnut, which has a height of 35ft.

On the south side of the grounds, and occupying a somewhat secluded position is a charming rock garden, in which are many of the most beautiful of the denizens of the Alps in a thriving condition. This garden, as will be seen from a glance at the accompanying illustration, is simple in design, but in every way suitable for the successful cultivation of a comprehensive collection, and admirably adapted to the display of their distinctive charms to the best advantage. To the writer this rock garden is of special interest, as a proof that a large collection of the finest of the alpine plants may be grown to the highest perfection and fully enjoyed in a garden in which but a very small quantity of rock is used. At no great distance from the rock garden is that devoted to roses, and the beds, pillars, and festoons of these fragrant flowers show that the relative merits of varieties and their cultural requirements are fully understood by Mr. Clinton Baker and Mr. O. Catling, his able gardener.

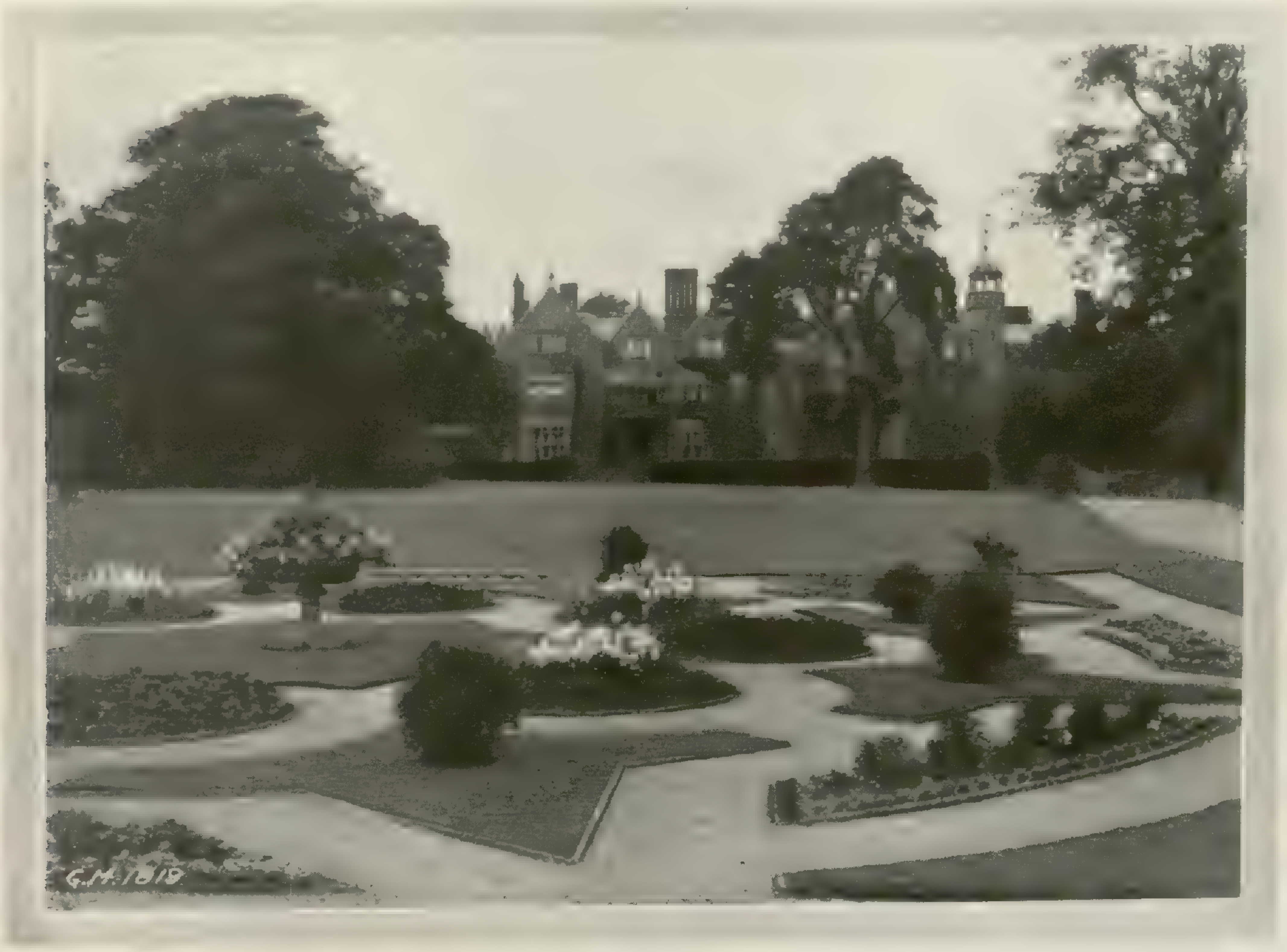
The orchard house at Bayfordbury will strongly appeal to those who are concerned with the cultivation of choice fruits, because of its usefulness and the success achieved by Mr. Catling in its management. The structure is 80ft. long, 12ft. wide, 10ft. high at the back, and 6ft. at the eaves, and is unheated except that a few small oil stoves are used when the trees are in bloom. The trees are mostly grown in pots, and the fruits include Alexander, Alexandra Noblesse, Barrington, Crimson Galande, Dymond, Early York, Gladstone, Golden Eagle, Hale's Early, and Sea Eagle peaches; Lord Napier, Pine Apple, River's Early, and Spenser, nectarines; Early Rivers' and Governor Wood cherries; and Belgian Purple, Grand Duke, and Oullin's Golden Gage plums. With this selection an abundant supply of peaches and nectarines is obtained from early in July till the middle of October; the first of the peaches to reach maturity is Alexander, and the last Golden Eagle. The cherry trees are taken out of doors when the fruit has been gathered, but the other trees remain under glass throughout the year, some of the peach trees being 30 years old, and, in common with those of the others, have borne good crops annually.

Goldings.

Between one and two miles to the north of Hertford is Goldings, the seat of the Hon. Mrs. Smith, which has long enjoyed considerable fame for the extent and high keeping of its gardens, and certainly at no period has the fame been higher than at the present time. One can speak with something, more than the usual degree of confidence upon this point, for many years have elapsed since the writer first made his acquaintance with this domain. At that time the mansion was within a quite short distance from the high road that intersects the property, but since then the old mansion has been replaced by a new one, and by setting it farther back to the south-east, and diverting the road to the north, an immense improvement has been effected, and greater privacy has been given to the largely extended grounds. Not the least of the improvements has been the widening of the river

ROCK GARDEN, BAYFORDBURY.

that passes through the estate on its way to effect a junction with the Lea, and bringing it into greater prominence in the prospect obtained from the mansion and the high ground contiguous thereto. Beautiful as is the scenery of Hertfordshire, it is extremely doubtful whether a more delightful landscape could be found than that formed by the meadows and woodlands that extend from the boundary of the pleasure grounds for a distance of several miles in a southerly direction. The writer is well acquainted with the county, and knows of none that can surpass it in loveliness.



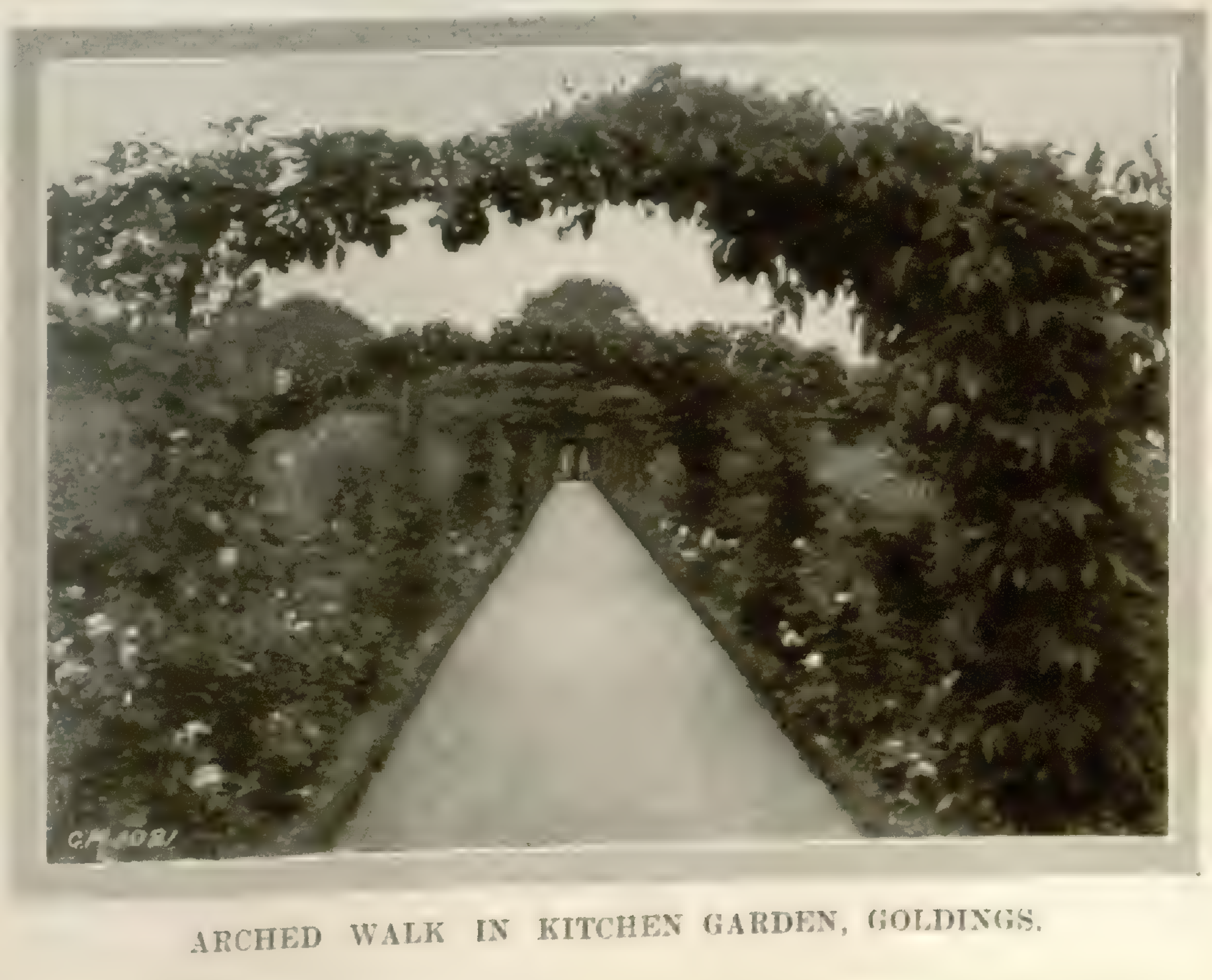
GEOMETRIC FLOWER GARDEN, GOLDINGS.

In effecting a change in the site of the mansion care was taken to preserve the arboreal features of the pleasure grounds, and, as a consequence thereof, they are rich in trees of noble proportions and other arborescent attractions. The magnificent purple beech, so conspicuous on the left side of the illustration of the geometric flower garden and mansion, is so large in size and perfect in development that probably it has but few equals among the many fine examples of this beech in parks and pleasure grounds. This tree, in common with the mansion, suffers somewhat from the photograph having to be taken in the forenoon instead of early in the morning before the sun had proceeded far on its journey southwards. The mansion, which stands on the far side of a broad terrace, also loses somewhat in stateliness owing to the illustration showing it as seen from a much lower level, this being necessary for the purpose of including the flower garden and a considerable part of the pleasure grounds in the picture. To the left of the wide expanse of open lawn the grounds are finely wooded, with numerous grass and other walks, a goodly number of finely developed specimen trees and shrubs, open spaces for the enjoyment of garden games, and structures in which to retreat from sun or rain, as may be necessary. On the high ground that rises from the other side of the mansion are two remarkably fine examples of the Cedar of Lebanon, one of which is illustrated herewith, and other interesting trees. This cedar is about 80ft. high, and has probably occupied its present position close upon a century.

Not far distant from the cedars are broad belts of shrubs, in which are deciduous and evergreen kinds representative of the finest forms that have yet been introduced to British gardens. There is no occasion to enumerate the many fine kinds represented, and it is well that this is the case, for they would form a rather lengthy list, and as space would not admit of reference to their distinctive characteristics, the string of names would probably be somewhat tedious. Beyond them is a border of great breadth devoted to the massing of hardy and other flowering plants, and on one side it is bounded by a high wall clothed with rambling and other climbing roses that produce a glorious display of colour, and are wondrously attractive during the season in which roses yield most freely of their wealth of floral beauty.

On the other side of this high wall are the fruit and kitchen gardens and here, as elsewhere, we find unquestionable evidence of the skill and administrative ability of Mr. Burbidge, who has charge of the large home farm as well as of the gardens. While one is impressed by the cultural skill that is met with on all sides, the efforts that have been made to render this attractive as well as useful are not likely to be overlooked, or the success that has been achieved likely to fail in obtaining appreciation. The broad central walk that extends the whole length of the gardens is flanked on either side by a border of roses, in which the finest of the hybrid teas have, judging from their robust state of health and abundant flower production, found quarters in every way adapted to their requirements. At intervals the walk is spanned by arches on which roses, apple, or pear trees, or climbers with ornamental foliage, obtain support. The arches that span other walks are devoted to pears and apples, and very attractive is the appearance they present when the fruits are taking on the bright colours that indicate approaching maturity. One of the walks is beautified by overarching vines of various kinds, and, while appreciating the refreshing green leaves, during the summer it is not difficult to imagine how brilliant must be the colour effect when the breath of autumn has passed over the foliage. The results obtained at Goldings by the use of arches in enhancing the attractions of the fruit and vegetable department are such as to suggest that the example here briefly referred to is one that might be generally followed. It is, of course, necessary the arches should be wide enough and high enough, to prevent them interfering in any way with a free passage under them.

The glass department is so extensive and skilfully managed as to form a feature of much interest and to render it extremely difficult to refer to it in a comparatively few words. The two principal peach houses, each eighty feet long, are furnished with trees planted by Mr. Burbidge, and now fill the allotted space and produce heavy crops of splendidly finished fruits. The fig house was of much interest for the trees were yielding heavy crops, and much of the success that is achieved here is attributed to maintaining a rather drier atmosphere than is usually considered desirable, and in keeping



ARCHED WALK IN KITCHEN GARDEN, GOLDINGS.

the wood rather thin. In the four or five spacious vineries one saw crops of Muscat of Alexandria, Black Hamburgh, Madresfield Court, and other well-known varieties that indicated skill in grape growing of a high order. The crops of tomatoes and melons in other houses were not less remarkable in their way, and with regard to these it may be mentioned in passing that Mr. Burbidge favours the cordon system of culture.

Carnations and roses are extensively grown under glass, and orchids and decorative plants generally receive a full share of attention. In addition to several plant houses in the kitchen garden there is a large conservatory attached to the mansion, which is devoted to palms, bamboos, and other plants remarkable for their elegance or nobility of aspect, and flowering plants, chrysanthemums being freely used in the autumn.

A NOBLE CEDAR OF LEBANON, GOLDINGS.

Presdales.

Presdales, the charming residence of A. G. Sandeman, Esq., occupies a commanding position on the high grounds to the south of the town of Ware, and is well known throughout the district for its great natural advantages, and for the relatively large extent, the manifold charms, and the excellent condition of its gardens. From the mansion, the terrace, and the higher parts of the pleasure grounds the prospect is delightful, and this is all the more remarkable from the fact that Ware is situate in a stretch of flat meadow land, through which the River Lea flows on its way to the sea. It is also a point of some interest that while the mansion is within a mile or so of Ware, not a glimpse is obtained from its windows of the private residences within or around the town, or of the many buildings devoted to commercial activities, among which the production of malt is prominent. It is of interest, as evidence of the grounds having been designed and laid out by a master of the art of landscape gardening. As a matter of fact, the grounds were originally laid out by Mr. Robert Marnock, and the success achieved was certainly commensurate with his high reputation. Since the property has come into the possession of Mr. Sandeman, who takes the keenest interest in his beautiful gardens, they have been greatly extended, and materially improved, by Mr. George Paul, V.M.H., who, Mr. Sandeman informed the writer, had assisted Mr. Marnock in carrying out the original design.

On the south-west front is a fine breadth of turf, intersected by the carriage drive, and here are many splendidly developed specimens of coniferous and other ornamental trees. Especially noteworthy are the fine examples of Cedrus Deodara, C. atlantica glauca, Cupressus macrocarpa lutea, twenty feet or more in height, and forming a veritable pillar of gold; C. Lawsoniana adpressa, C. Lawsonia lutea, C. thyoides variegata, and Picea magnifica. There are also on the lawn several bold groups of coniferous trees and shrubs, in which Thuja occidentalis, Cupressus Lawsoniana, and the forms with golden foliage are conspicuous. At intervals in front of the broad shrubbery borders that bound this lawn are pillars of rambling roses, such as Dorothy Perkins, Aimee Vibert, and Crimson Rambler, and finely developed specimens of lilacs, Caragana pendula, gold and silver variegated hollies, Magnolia conspicua, M. Lennei, copper beech, and one or two of the more ornamental of the oaks; Salix Vitellina pendula, one of the most elegant of the weeping willows, of which an illustration was given in these pages in one of the October issues of the GARDENERS' MAGAZINE. On this side of the grounds is an iris garden, which is well able to afford an immense amount of interest and pleasure to those who fully appreciate the charms of these exquisitely beautiful flowers. Here all the best forms of the several types are represented, and these suggest, from their appearance, that they have been placed under the conditions most favourable to their full development, and to their annually producing a rich display of colour.

The general character of the grounds on the north-east side of the mansion is shown in the accompanying illustration, and therefore a brief description will suffice. On the broad terrace are numerous specimen conifers of various kinds, notably Abies nobilis, Cupressus Lawsoniana lutea, Cupressus Lawsoniana viridis, and Abies pectinata, beds of Retinospora plumosa aurea, golden box, Euonymus radicans variegata, and various flowering plants, of which the zonal pelargoniums were especially noteworthy. The wall in front is clothed with ivy, and in the border at its foot are dwarf roses, which grow vigorously and bloom profusely, and violas, which also produce a fine display of flowers throughout the season. The attractions of the terrace garden are further enhanced by the remarkably fine specimens of Agapanthus umbellatus, which have long been occupants of the gardens, and annually give an ample return for the care bestowed upon them. On the south-east side of the mansion is a very fine specimen of Magnolia grandiflora, which reaches to the eaves and covers about two-thirds of the area.

On the lawn, to the left of the terrace garden, looking towards the mansion, there are numerous pillars of roses which are now well furnished, and as the varieties are of the best they are immensely attractive during the summer months. Here also are standard wistarias, fine specimens of Paulownia imperialis, Clerodendron trichotomum, and a host of other good things, some rare and some in general cultivation, but all highly meritorious.

Immediately below the terrace are masses of golden yews, golden box, and a few other subjects, and highly effective is the richly coloured leafage under the influence of the summer's sun, while in no way wanting in attractiveness in the dullest of weather. Just beyond these is the small lake, of which an illustration is given. The origin of this piece of water is due to a desire to provide an ample supply of water within a short distance of the mansion in case of fire; and in its formation Mr. Sandeman was careful to have it so arranged as to present a more or less attractive appearance throughout the year. On the surface of the water small wildfowl disport themselves, and on the margin are large numbers of the most beautiful of the free-growing moisture-loving plants in a robust state of health.

The firs that are seen in the water scene extend for some distance along the boundary of the pleasure grounds, and form an excellent shelter from the north and east winds, while giving a distinctive character to the scene. On the other side are finely developed oaks and other deciduous trees, and great masses of choice rhododendrons that are at all times attractive, and produce a rich display of colour in their season of flowering.

PRESDALES.

There are other features of much interest in the pleasure grounds, as, for example, the large screen that has been formed for breaking the view from the carriage drive. This has been made to not only accomplish the object in view in its erection, but to provide support for a choice selection of climbing roses, clematises, honeysuckles, and the golden-flowered Kerria japonica.

The kitchen garden, with its remarkably fine collection of apple, pear, and other fruit trees is some distance from the mansion, and on the way thither one passes through a splendidly furnished rose garden, and under a pergola, over which many of the most beautiful rambling roses throw their slender flower-laden growths in graceful profusion. Alongside the principal walk are pillars of roses connected with chains, which, as will be seen, are hidden by the growths, and form a series of festoons of roses of the most delightful character. Beyond is the commencement of the pergola, richly draped with roses, and as the visitor passes through the structure he obtains several charming peeps of the wild garden, to a part of which the pergola forms an admirable boundary. The dwarf roses are grown in circular and oblong beds on the turf, to the right of the festoons illustrated, and judging from the appearance of the numerous varieties represented the position is in every way well suited to their requirements. Conspicuous among them were such well-known varieties as Madame Abel Chatenay, Mrs. J. W. Grant, La France, Captain Hayward, and Caroline Testout, and a goodly number of the newer forms that have proved of value in the embellishment of the flower garden.

The fruit trees have been mentioned as forming a great feature in the kitchen garden, and it must be said that another feature of much interest within the spacious walled enclosure is the large border devoted to hardy perennials. Both afford many excellent object lessons, and it is very difficult to bring the notice of these beautiful and interesting gardens to a close without referring to them in some detail.

Poles.

About one and a-half miles to the north of the town of Ware, and probably double that distance from Hertford, is Poles, the seat of Mr. E. S. Hanbury, who, like his grandfather, the late Mr. Robert Hanbury, has a strong sympathy with the various aspects of horticulture. In extending and beautifying his gardens he has been ably assisted by Mrs. Hanbury, whose taste has left its mark in every quarter. When the writer first became acquainted with the Poles gardens they were remarkable for their collections of orchids and miscellaneous tropical plants, and as both collections contained many specimens that were remarkable either for their rarity or exceptional development, they brought them much fame. In those days the denizens of tropical regions were regarded with much favour by horticulturists of all grades, and they proved of so much interest to the younger gardeners that few, indeed, of those who were engaged in establishments within a convenient distance, failed to take advantage of any opportunities they may have had for visiting the gardens. Heat-loving plants no longer predominate, nor are the pleasure grounds resplendent with the brilliant hues of zonal pelargoniums and other summer bedders, yet at no time have the gardens been richer in interest or possessed greater charms. The changes that have been made are, of course, exactly what one might have expected in gardens whose owners are well-known for their taste and the gardener for his ability. As in other great gardens, showy summer bedders have been replaced by the finest of hardy perennials and roses, and a considerable proportion of the plants from the tropics have had to make way for Malmaison and perpetual-flowering carnations, and the many other subjects suitable for decorative purposes or the production of flowers for use in a cut state. Fruit culture, always a strong feature at Poles, would appear to have been extended, and certainly it has been improved in accorddance with the more advanced views that obtain with regard to this important branch of the art of gardening.

The way from Ware leads through shady lanes and pretty country, and the charming walk or drive we enjoy in the course of this short journey, gives an admirable foretaste of the charming character of the grounds and the prospect obtained when we arrive at Poles. The handsome modern mansion in red brick stands on a terrace of so great a width that it might almost be described as a plateau, and from the magnificent promenade that skirts its south-east side views of surprising beauty are obtained over the well-timbered park. The terrace is continued some distance in a north-east direction beyond the mansion, and the broad walk has a breadth of turf on either side; and set back a short distance from it on the north side is a pleached alley of limes, which reminds one of the old Elizabethan gardens, and forms

IN THE ROSE GARDEN, PRESDALES.

at once a distinct feature and cool retreat from the summer's sun.

Below the principal terrace is a belt of grass broken up into comparatively small areas, with beech hedges kept sufficiently low to prevent their tops interfering in any way with the view from the terrace. In the several spaces between the hedges there are beds of roses, and with reference to the varieties, it may be said that those in which high quality in the flowers is combined with freedom of blooming were evidently given the preference. The selection made in planting the beds was certainly exceedingly good, and the great masses of roses bloom so profusely throughout the summer as to form a delightful feature. The terrace wall that bounds these areas is clothed in part with a small-leaved ivy, and in part with clematis in variety, and with this brief statement of fact it will not be necessary to do more than say that the general effect is quiet and harmonious.

The terrace terminates at its north-east end with a magnificent oak, and, proceeding in a westerly direction towards the kitchen garden, a fine specimen of the elegant Acer polymorphum attracts attention. Not far distant is a large example of a very distinct variety of the common laurel, with long, narrow, and curiously twisted leaves. Continuing in the same direction, the yew garden is passed, and this, briefly stated, consists of a considerable area enclosed by clipped yew hedges, in which are fruit trees, chiefly apples, and flowering shrubs, the philadelphus being especially deserving of mention for their high development, both as regards growth and flower production. The whole of the area has been freely planted with bulbs, and the glorious display of daffodils, etc., in spring is one not readily forgotten by those who have participated in the pleasure it is so well able to give. The borders outside the kitchen garden have been thrown into the pleasure grounds, and the area once devoted to vegetables has been turfed over, and at intervals large beds of herbaceous pæonies have been formed, and, as indicated by their robust state of health, produce a glorious display of colour in the early days of the summer season. The wall that forms the background to the pæonies is devoted to cordon pears, and these serve to show in a marked manner that Mr. Church, the gardener, is a master of fruit culture as of all other matters appertaining to his art.

On the western side of the grounds is an extensive pinetum, in which are many notable specimens of some fifty or sixty years' growth. One might be excused for lingering among the trees and referring to them in some detail, but for the present purpose it will suffice to mention that there are exceptionally fine specimens of the Cedar of Lebanon and its glaucous variety, Cedrus atlantica, Wellingtonia gigantea, of great height and perfect in contour, Biota orientalis aurea, B. orientalis pendula, an extremely elegant form, Abies cephalonica, A. orientalis, two firs possessing much beauty, Golden Yew, and a dwarf-growing form of the yew Taxus baccata Dovastoni with horizontal branches, those of the Poles specimen having a spread of thirty-six feet. It may be mentioned as evidence of the attractions of the grounds that on the boundary of the widespreading lawn are large masses of rhododendrons that bloom with remarkable freedom, and that in the shrubbery borders there are large numbers of deciduous kinds that claim attention by reason of the great beauty of their flowers. Evidently, the usefulness of the finest of these was recognised many years ago at Poles, for the greater proportion of specimens are of comparatively large size.

Within the kitchen garden is much to interest the visitor, for the walls are clothed with trees that reflect skill of a high order, and quarters occupied with crops of much excellence. Here also are large beds of roses alongside the principal walk, numerous pillars supporting a selection of the finest rambling roses, and a spacious border of hardy perennials, which is singularly attractive for a long period. At the point where the main walk is intersected by a cross walk are arches of roses, and these supporting the luxuriant growths of Gloire de Dijon, Dorothy Perkins, Crimson Rambler, and Carmine Pillar constitute a very attractive feature of this department.

The glass department is fully equal to the requirements of an establishment of the first class, and in walking through the numerous vineries, peach houses, melon houses, tomato houses, and the several structures devoted to ornamental plants of various kinds, it is not difficult to see that Mr. Church has achieved much success in their utilisation.

George Gordon.

A PRETTY WATER SCENE, PRESDALES.

A BEAUTIFUL SHRUB FOR AUTUMN.

The charm of autumn tints in foliage or berry is so great that he must indeed be a peculiar individual who cannot appreciate the diversity of colouring afforded by hardy trees and shrubs. It is somewhat remarkable that although one seldom takes up a gardening paper in which there is not a note on the charm of this or that shrub or tree, no mention is ever made of the truly magnificent colouring of the foliage of Euonymus alata. Of the large numbers of trees and shrubs grown here that are more or less beautiful during autumn, nothing, to my mind, compares with this. I refer to the actual colouring of the leaves, and not to its beauty as a shrub. The colours of the leaves in autumn vary from a beautiful cherry-red to crimson, and when the sun is shining on them the effect is simply glorious.

A nurseryman recently told me that this shrub is not particularly well known. We are fortunate in having fifty plants. At present the species is "on trial" in the nursery, where it was planted to test its merits previous to being transferred to pleasure grounds if considered worthy. After my appreciative reference to the effective colouring of its leaves, it is hardly necessary to say that it has satisfactorily come through the trial, and a position assigned it in the grounds, to which it will be removed shortly. The examples are now from two to three feet high, but not bushy. In future, some of the growths will be pinched and stopped to induce them, if possible, to assume a bushy habit.

The euonymus are usually not particular as to soil, but, like most things, repay for good treatment. It is thriving here in a rich loam. We have not yet increased our stock by propagation, but cuttings of most varieties strike readily if the tips are taken from ripened branches and inserted in sandy loam, and kept moist by occasional spraying.

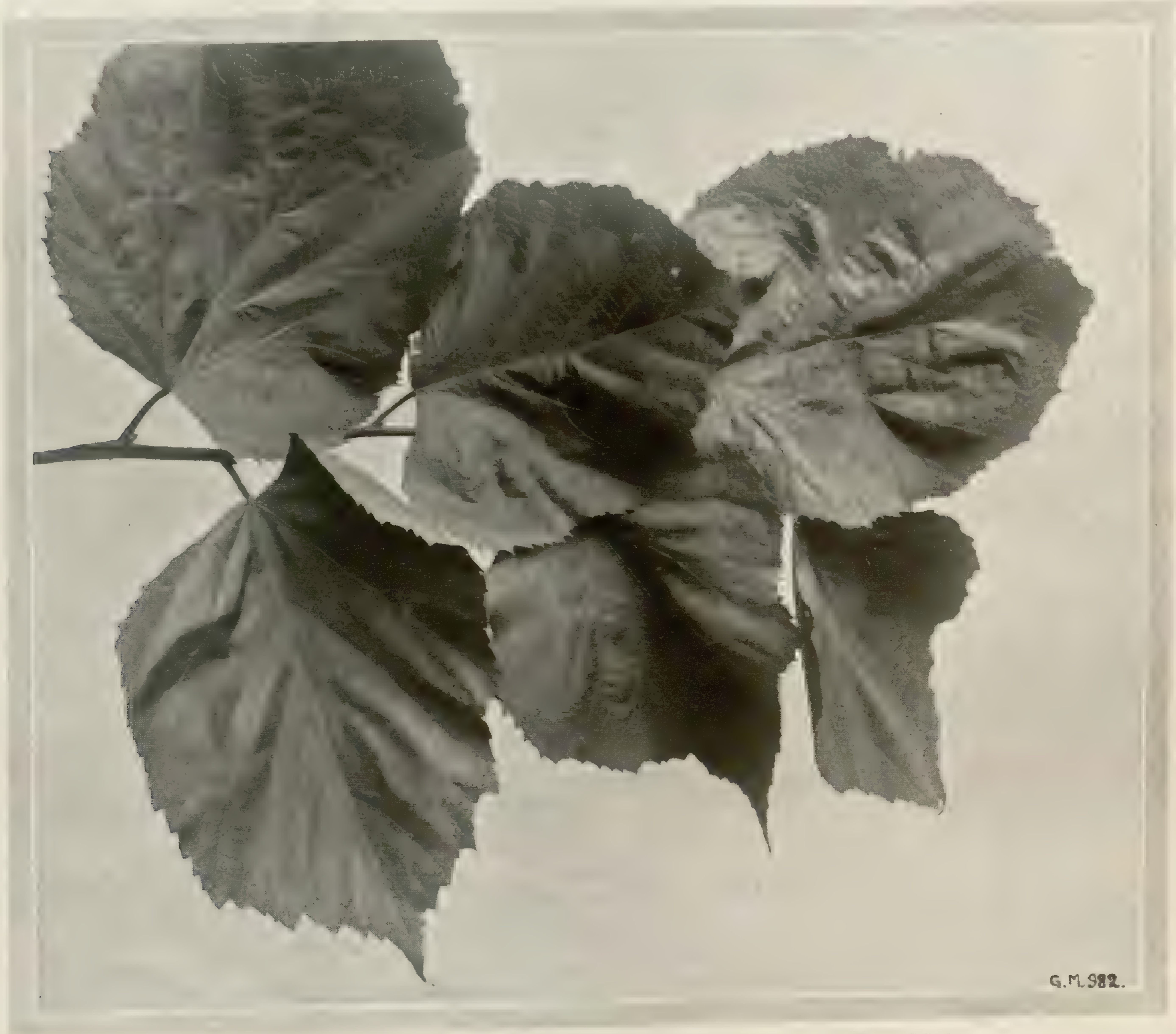
Unfortunately, the great drawback to trees and shrubs grown for their autumn tints is the comparatively transitory nature of the colour effects, as a few sharp frosts are sufficient to greatly hasten defoliation. A. Cobb.

Duffryn Gardens, Cardiff.

Chrysanthemum Howard Gould.—This Japanese chrysanthemum has been exhibited in England as Bessie G. Payne, but, having been named Howard Gould in America, it will henceforward be known under the latter name. Mr. C. H. Totty has his lists printed, and therefore to give it the name of Bessie G. Payne here would cause some confusion. This variety is being sent out by Messrs. W. Wells and Co., is quite one of the best of this season's novelties, and as such won the silver medal in Edinburgh. The full-sized blooms have wide, slightly drooping florets that curl upwards at the tip, and have an extra full centre. The colour is a golden chestnut with a reverse of old gold. I would strongly advise exhibitors to add this to their collection.—E. Molyneux.

UNCOMMON LINDENS.

The lindens, or lime trees, may be classed purely as decorative trees in this country, for the timber, such as it is, which is put on the market, is hardly worthy of consideration. Time was when really good linden, or lime, wood commanded a very good price, as the best was in demand for the keys of good pianos; owing, however, partly to inferior wood being grown, and to no notice being taken of supply and demand, the wood has now been, to a great extent, supplanted by other kinds, and it rarely fetches more than firewood price in England. It is still used in some places for toy making, and for manufacturing small domestic articles, such as spoons, butter bowls, butter prints, etc., but there is no real demand for it. For ornamental purposes, however, some of the lindens have much to commend them.



A LARGE LEAVED LINDEN (TILIA AMERICANA LAXIFOLIA)

As grown by Messrs. Paul and Son. The leaves as illustrated are less than one-half normal size.

The common Lime, Tilia vulgaris, however, is not the kind of tree to plant indiscriminately, for it has the defect of commencing to lose its leaves very early in autumn, or, rather, during late summer, for in the event of a moderately dry summer it is not uncommon for a lot of the leaves to fall during August and early September. There are, moreover, other limes that have a distinctly more ornamental appearance, therefore it is unnecessary to depend on the common kind for general planting.

Tilia americana, the "Basswood" of North America, is a distinct-looking species, by reason of its very large heart-shaped leaves. Although the leaves of the type are large, they are surpassed in size by those of some of the varieties. A very striking one was exhibited at one of the Horticultural Society's meetings lately by Messrs. Paul and Son, of Cheshunt, under the name of T. a. laxifolia, and a figure of it accompanies this article. The leaves are large, cordate, and handsome. Another variety with large decorative foliage is known as T. a. Moltkei. The leaves of this sometimes measure seven inches each way across the blades. Unfortunately T. americana and its varieties are frequently grafted on to stocks of one of the European limes, and the union is not a happy one, for the American species grows in bulk more rapidly than the stock, and the result is a gouty-looking trunk.

T. argentea, the White Lime, is found in Eastern Europe, where it forms a good-sized tree up to fifty feet or more in height. Under cultivation it forms a rather stiff habited tree of ornamental appearance on account of the silvery character of the cordate leaves. The white colour is most strikingly developed on the undersurface, but the upper surface is also of a greyish hue. It is a fairly well known tree.

T. dasystyla, a Caucasian species, is one of the most ornamental of all the limes, and is, in fact, one of our most ornamental trees. It has the advantage over other limes of keeping its foliage clean throughout summer, and never appears to accumulate honeydew as the others do. The tree is of graceful outline, with moderate-sized leaves of a dark glossy green. It grows naturally into a tall, upright tree, and is an excellent subject for avenues. Occasionally it is met with under the name of T. euchlora.

T. mandschurica, like several other Manchurian trees and shrubs, has the defect of commencing to grow very early in spring, and for this reason the young shoots and leaves are frequently crippled. Where it does escape late frosts, however, it is a handsome tree, by reason of its large heart-shaped leaves, which are sometimes from eight to nine inches long, and almost as wide. It is not to be recommended for general planting on account of the defect already alluded to, but for sheltered places in the milder counties it is worth trying.

T. Migueliana is a comparatively new species, which is found in both China and Japan. It was originally described by Maximowicz, who obtained his specimens from the latter country. Subsequently Dr. Henry found it in the province of Hupeh, in China. It has ovate-lanceolate leaves, with serrated margins. They are green above and silvery and pubescent beneath. From what can be seen from young plants it promises to be an ornamental tree of free habit.

T. mongolica is another new species, which is found in South Mongolia. It forms rather slender growths, reddish-brown in colour, with prominent reddish buds. The leaves are cordate, with deeply serrate, and, in some instances, lobed margins. They are thinner than those of most limes, and quite distinct in appearance.

T. petiolaris is an Eastern European species, allied to T. argentea, but less silvery in appearance. It forms a handsome tree, with bold foliage, which keeps its colour well right on into autumn. It is useful either as a specimen or avenue tree.

T. platyphylla is one of the commonest of all limes, and is one of the subspecies into which T. europæa is divided. Many varieties are known, of which asplenifolia, with curiously cut leaves; aurantia, with yellowish leaves; filicifolia nova with the foliage divided into unequal sized segments; pyramidalis, of fastigiate habit; and tortuosa, with curiously twisted branches are the most distinct.

In addition to those mentioned there are, of course, many other lindens in cultivation, the object has, however, been to enumerate those which are specially worth attention. W. Dallimore.

GREENHOUSE FLOWERS AT KEW.

The beginning of December is by no means regarded as a gay period in the greenhouse, yet a walk through that structure at Kew reveals the fact that there is even then a considerable choice of flowering subjects.

Begonias.

Of course, the ubiquitous variety Gloire de Lorraine is freely represented, both as bushy plants and in suspended baskets. The blush-tinted form, Turnford Hall, is also in good condition. The Brazilian Begonia Haageana, with clusters of large blush-coloured blossoms studded with red hairs, is very distinct and pleasing, while Begonia semperflorens gigantea, a large, bold growing variety, with deep rose-coloured blossoms, and the smaller Corbeille de Feu, must on no account be passed over. The most striking feature in begonias just now is, however, furnished by the various hybrids that have been obtained between B. socotrana and the tuberous-rooted varieties. When B. socotrana was first introduced, nearly thirty years ago, it was considered likely to prove of great value to the hybridist, but we had to wait some time for successful results. Such varieties as Elatior, Ideala, Mrs. Heal, Success, and Winter Cheer are, however, well worth waiting for. If there is one thing still wanting in this section it is a variety whose flowers are of a bright scarlet colour, without any tinge of carmine.

Veronicas.

Within the last few years the merits of the garden varieties of veronica as flowering plants for the greenhouse at this season have been made more prominent, and a representative collection makes a good show at Kew. Noteworthy among those now in flower are: Admiration, purple, shaded violet; Attraction, deep violet; Diamant, bright crimson; Eveline, salmon-pink; Gabrielle, rose-pink; La Seduisante, violet-purple, bronzy foliage; Reine des Blanches, white; and Valerie, blue.

Abutilons.

There is a quite extensive group of abutilons, all comparatively small plants, with single, upright stems, grown in five-inch pots. They are flowering freely, and are certainly very pretty. The best scarlet appears to be Red Gauntlet, the best white Boule de Neige, and the best pink Rosæflorum. I did not note any yellows, the best of which, as far as my experience goes, is Golden Fleece.

Bouvardias.

These are represented by many varieties, among which the vivid scarlet tint of President Cleveland stands out most conspicuous. It is somewhat singular that the two most popular scarlet-flowered varieties of the present day should have been sent to this country from such long distances, as President Cleveland hails from the States, and the other, King of the Scarlets, was raised in Australia. Other notable varieties are Alfred Neuner, double white; Hogarth flore plena, double red; jasminiflora alba odorata, white, tinged pink, large flower; Mrs. Robert Green, light salmon-pink; Priory Beauty, pink; Pride of Brooklyn, white; and Humboldti corymbiflora, which flowers earlier, pure white.

Zonal Pelargoniums.

These are more appreciated as winter-flowering plants than they once were, and though there is not a large quantity at Kew their vivid tints cause them to stand out in a marked manner from one end of the structure to the other.

Hard-wooded Plants.

The foremost heath now in bloom is the ever-popular Erica hyemalis, of which perfect little examples in five-inch pots are at this season familiar objects in Covent Garden Market. Many such are at Kew, and, in addition, there are larger bushes full of bloom which are very striking, and serve to show this heath in a new light. It is the only greenhouse kind just now at its best, for Erica caffra and Erica gracilis are nearly over, and Erica melanthera is only unfolding its earliest blossoms. The distinct white-flowered Erica colorans is also in bloom. In addition to the heaths there is a collection of epacris, with their bright-coloured blossoms; Acacia platyptera, whose golden balls are borne on curiously winged branches; Grevillea alpina, with curious flowers, in colour greenish-yellow and red; Phylica capensis, a heath-like shrub, with little rounded heads of tiny white flowers; Bauera rubioides, a twiggy Australian shrub, with saucer-shaped blossoms about half an inch across, and pink in colour; and Crowea saligna, which flowers freely in a small state, the blossoms being of a clear bright pink colour. The "Dictionary of Gardening" gives summer as its season of flowering, but it is just now in full bloom at Kew.

Eupatoriums are generally regarded as winter-flowering plants for the greenhouse, the earliest to bloom being E. riparium, and E. odoratum or Weinmannianum, as it is often called. A very pretty kind just coming into flower is E. Purpusi monticola, more often grown in gardens as E. petiolare. The flowers, borne in crowded heads, like a little daisy in form, are, when partially opened, pink in the centre, shading off to white. After expansion the flowers become white. These heads of flowers are disposed in branching corymbs, and when at their best they make a goodly show.

K.

Early Peas.—Where peas are required early, and the accommodation of glass will allow, a sowing may be made now in well-drained pots about eight inches in diameter to avoid stagnant moisture at the roots. The soil must be porous, and rich. An important point in the cultivation of this crop is that the plants have a position where they will enjoy the greatest amount of light possible, and be grown slowly in a low temperature. Unless attention is given to this point poor results will follow. Lightning is a good variety for this mode of culture.—Charles Flack, Cholmondeley Castle Gardens.

WORK FOR THE WEEK.

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THE ORCHID HOUSES.

WINTER FLOWERING CYPRIPEDIUMS.—As plants of this section pass out of flower, they should be examined, and if any need potting, it is desirable that any work that can be done should be attended to at this season, thus relieving the pressure of work at the spring season, when so many matters demand attention. The culture of winter flowering cypripediums is now so generally understood that details of culture seem somewhat out of place; but for the sake of those readers who have not had experience, it is still more out of place to assume that these details are known to everyone. Practically the whole of this section are strong rooting and vigorous growing orchids, such as require an ample rooting space and liberal treatment throughout the year. It is desirable that perfect drainage should be afforded, so that stagnation is impossible.

POTTING MATERIAL.—We have next to consider that such plants do not need annual repotting after they have grown into a reasonable size. It is thus desirable that the potting material used should consist of material of a lasting nature. We find that a suitable compost consist of equal portions of turfy loam and good fibrous peat, with a little chopped sphagnum moss and sufficient coarse sand and finely broken crocks added, to render the compost free and porous. In preparing the compost it is well to grade it, so that the larger and coarser portions can be selected for the big specimens, and the finer material for the smaller plants. The compost should not be too dry when used, or, on the other hand, too wet, or it will "bind" in the process of repotting.

PREPARING THE PLANTS.—There is always some difficulty in detaching the roots of these cypripediums, if they have become at all pot-bound, from the sides of the pots. If they are watered a day or two before they are repotted, it will generally be found that the roots can be detached readily. As soon as the plants have been turned out of the pots, carefully remove all the old potting compost and decaying material from among the roots. A point to be observed in repotting specimens of this type is that the centre of the plant is made good. The plants naturally make their growth towards the rim of the pots, and their tendency is to become hollow in the centre. It is well nigh impossible to rectify this, except at the time when the plants are repotted. It is obvious therefore that where plants have matted, entangled roots, these must be disentangled, and such divisions made as will make the centre of the pot the best furnished. There are also many old back growths that are a greater hindrance than assistance to the plants; these should be removed altogether, and if the variety is of sufficient merit to warrant an increase of stock, such growths, if put into small pots, will in due course emit young growths. When repotting, make the compost moderately firm round all large specimens. Mound it slightly towards the centre, and finish with the compost about an inch below the rim of the pots. Water with rain water as soon as potting is completed, wetting the compost thoroughly.—H. J. Chapman, Oakwood Gardens.

STOVE PLANTS.

GLOXINIAS.—Give frequent attention to these fine flowering plants, and see that they are not suffering from drought, or being injured, as sometimes happens, from over-excitement owing to their too close proximity to the hot-water pipes. Where successional batches are grown, and an early one is required, the plants that first show signs of growth should be selected and potted. Use a compost of about equal parts good turfy loam and fibrous peat, nicely broken up, with a little leaf-soil, and plenty of gritty sand. Do not make the compost too fine. Place the pots on a bed of cocoanut-fibre refuse, in a structure where a temperature of about 60 deg. is maintained. Give close attention to watering, because it will be some time before the tubers make many roots; occasional damping of the pots and their surroundings will be all that is really necessary. Seeds of a good strain should be obtained ready for sowing early in the New Year.

PRUNING.—Stove plants that require pruning should have that operation performed before they start into growth, but where due attention was given to stopping while growth was in progress, little pruning will be required. However, Allamandas, Bougainvilleas, and Ixoras have frequently to be cut back, and if required for early flowering this should now be done. Root action at this season being very slow, repotting should not be attempted until growth has well started.

EUPHORBIAS.—The gorgeous bracts of Euphorbia pulcherrima, when required for the embellishment of the warm conservatory, or any similar purpose, should be preserved for as long a time as possible, by maintaining a warm and fairly dry atmosphere, and keeping the roots sufficiently moist to prevent the foliage from flagging, otherwise the leaves will turn yellow and fall, and the beauty of the plants be considerably reduced. As soon as the bracts fall water should be gradually withheld from the roots, and the plants be rested by laying the pots upon their sides in a temperature of from 50 to 55 degrees until early in April, which is a suitable time to afford the plants more warmth, in order to promote growth. Euphorbia jacquinæflora, after having flowered, should be kept moderately dry before being cut back.

GENERAL WORK.—Preparations for having all stove plants thoroughly cleaned should now be made, before young and tender foliage appears, because the latter is so easily damaged by handling, syringing, or even fumigation. It is not less necessary to have all materials for potting, such as soil, pots, crocks, etc., under cover, so that everything is clean and in the best possible condition for use when required. At this season of the year the outside thermometer should always be consulted, and the weather prospects considered, so that we may not unduly excite plant life with an excess of fire heat.—Wm. Fyfe, Lockinge Gardens.

FRUITS UNDER GLASS.

THE EARLY VINERY.—If frosty weather prevails, and the temperature cannot be kept up to 45 or 50 deg., turn on just enough fire heat to obtain that temperature in order to excite the buds. If this is not done the vines will remain stationary. Great care should be taken that the pipes are only just warmed, as forcing must be very steady, and any great amount of heat will prove disastrous.

LATE HOUSES.—It will be an advantage to prune all vines as soon as possible after this date, and any grapes left must be cut and put in bottles of water. They should be cut with a good piece of stem attached, that the bunch may hang quite clear of the bottle. The grape room should be kept quite dry, and at a regular temperature of 50 deg. Muscat grapes having a south aspect should be cut now, especially in the Southern Counties, or they will begin to deteriorate. All vines should be allowed to have a rest previous to pruning, and I would warn the inexperienced that if any heat has been applied to the houses as a means of keeping it warm, the house should be thrown open for a week or two before pruning, or the vines may bleed, and if this happens it is difficult to stop.

FIG HOUSE.—The figs should now be pruned, have all their old ties cut, and the branches tied up in bundles. Then give the glass and woodwork, walls, etc., a thorough cleaning. After this tie in all the main branches with fine tarred string at regular intervals, the smaller shoots being tied with raffia. When pruning cut away all worthless shoots, and lay in only those that are fruitful; these will be found studded with small embryo fruits all along the extremities. Allow plenty of room for foliage development. Figs must not be too crowded or failure will result. The fig trees that make rank growth are rarely prolific, and must be checked by root-pruning, or running a wall up in front of the roots. The latter method has been found very effectual in several cases, and has soon brought an unproductive tree into one of extreme fertility. In some cases the variety may be at fault for forcing purposes, but if Brown Turkey or Bourjassotte Grise are used no difficulty will be found; and to these varieties may be added Negro Largo, Pingo de Mel, Castle Kennedy, and Violette Sepor, which will form a good succession, either planted out or in pots or tubs.

CHERRIES.—These should be cleaned and pruned, though, if treated on the lines advised, very little pruning will be necessary at this date. Cherries resent the knife very much. All the ties should be renewed, and the wood cleaned with some insecticide before being retied with new string and raffia. The border should not be too rich for the well-being of the cherry, as it is rich food that causes over-much growth; and consequently, if the grower is not careful, severe pruning is necessary. The soil should be composed of old loam and mortar rubbish, and this will be found a good compost for either planting or top-dressing; the soil should be rammed hard. Cherries will do well in pots, and it is a good way to grow them thus, as the house can then be made use of for other purposes when the cherries have fulfilled their mission. I prefer the cordon-trained trees, and consider the best fruit is gathered from them. Pot culture also allows a greater number of successional varieties to be grown. Amongst some of the best cherries are Early Rivers, a beautiful fruit of large size and delicious flavour, and a good grower; Bigarreau de Schreken, a fine bearer and beautiful fruit; Frogmore Early Bigarreau, extra large and of good flavour; Waterloo, very fine; May Duke; Elton, a fine cropper, and of excellent flavour. The house should be kept quite cool until a start is made, which should be about the middle of January. A cherry house is a great asset in any garden, the fruit being most popular. By gentle forcing fruits can be obtained some weeks in advance of the outdoor supply, and so enable the cherry crop to extend from the end of April until the end of September in the Southern Counties. —W. A. Cook, Leonardslee Gardens.

THE KITCHEN GARDEN.

TOMATOES.—To obtain a batch of strong plants for producing early fruit in the spring a sowing of seed should be made about this date. At this time of year I prefer to sow the seeds in thumb-pots that are filled with a light, sandy compost, placing three or four seeds in each pot. When the young plants have appeared the strongest one should be retained and the others removed. A shelf that is situated near the glass in the cucumber house provides a good position in which to grow the plants along sturdily. Sunrise is a satisfactory variety for early fruiting, as it sets its flowers better than many others, and matures its fruit in quantities if the plants are grown in 7in. pots and lightly fed with stimulants.

ASPARAGUS.—Crowns will yield to forcing better as the season advances, and the produce will be stronger; but the scarcity of outside vegetables often necessitates large quantities of crowns being lifted for early forcing. Where this is so, a mild hotbed consisting of sweetened manure and leaves should be made up in a pit, where a command of steady heat can be obtained from hot-water pipes. When the heat from the fermenting material has settled down to about 75 deg. plant the crowns in about 6in. of soil, and almost any kind of soil will do for this purpose. Water with warm water, maintain a moist atmosphere, and a temperature not exceeding 60 deg.

SEAKALE.—The plants that have been grown from throngs for forcing in the mushroom house have, owing to the rains, done exceptionally well this season. They will now be fully matured, and the greater part may be lifted from the ground. The larger roots should be shortened and kept, to be made into throngs at convenience for next season's supply. These, as well as the crowns, will keep without harm if laid in moist ashes. The permanent beds of seakale will be ready to have the foliage cleared away, and, if necessary, any blank spaces may be planted up. As a prevention against damage from slugs, etc., give the crowns a covering of coal ashes. Beds of this kind are often valuable in giving strong and succulent produce towards the end of March and the two following months.

EARLY CARROTS.—For the production of an early supply of this important crop a hotbed should be made up of sweetened manure and leaves, treading the whole firmly and evenly during its formation. Rough deal frames with good lights are suitable. Place from 6in. to 9in. of fine, rich soil in the frame, and when the heat from the hotbed has settled down to a comfortable warmth sow the seeds in drills 12in. apart. The French Shorthorn type of carrot is the best for this form of culture. As soon as the young plants are up do not allow them to become spindling in growth by unduly forcing them, but admit air to the frame whenever the weather is favourable.

EARLY BORDERS.—At the beginning of the new year these will be requisitioned for the sowing and planting of early crops. So far as is possible these valuable sites should be cleared of any existing plants, and the borders manured, deeply dug, or trenched, according to their condition. Dressings of wood ashes or rich sandy soil are often valuable in warming up and adding to the productive power of these positions, especially if the land is at all heavy.—Chas. Flack, Cholmondeley Castle Gardens.

EUPHORBIA JACQUINIÆFLORA.

The long sprays of brilliantly red flowers of this plant makes it very valuable for decorative purposes in winter time. The plants may be grown in comparatively small pots, but the best results follow when they are put in sufficiently large pots to allow of strong stems being secured prior to the formation of the flower buds without the cultivator having to feed highly. Very fine examples may be grown by planting them in a small pit about one foot deep, and the same in width, the compost being a rich, light loam two parts, peat and leaf-soil two parts. The soil should be made moderately firm around the roots of the plants.

In a garden in one of the northern counties in which I served as a young gardener they were put out in a narrow border, as here mentioned, at the back of a pine stove, and the shoots were trained over a slightly curved trellis. This treatment suited them admirably, judging from the number of long spikes of blossoms. Some of the specimens formed several side branches, which also flowered freely. Clear soot water proved very beneficial, the leaves quickly assuming a very dark green hue. G. B.

The Yield of Potatoes in Great Britain this year is estimated by the Board of Agriculture at 6.39 tons per acre, as compared with 6.97 tons per acre last year. Last year's yield was a record one, and this year's yield has only been exceeded six times during the twenty-four years that have elapsed since the official returns were first collected in 1885.

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EXHIBITIONS AND MEETINGS.

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Potatoes at Bingley Hall, Birmingham.

NOVEMBER 27 to DECEMBER 2.

Ten classes were provided for potatoes at the 61st cattle show held as above, the number of tubers in competition being about 800 specimens, the whole fairly bright and shapely.

For a dozen dishes there were seven exhibits, the premier award going to Mr. Thos. Bannister, Malthouse Farm, Marston Green, who set up a very level lot, comprising Duchess of Cornwall, King Edward VII., Table Talk, British Queen, Mr. Bresee, Record, Empress Queen, Goldfinder, Factor, Tremendous, and Up-to-date; Mr. J. W. Needham, Wildsworth,' Gainsborough, second, his best being Up-to-Date, Mairsland Queen, Royal Kidney, Gold Reef, King Edward VII., Northern Star, Factor, May Blossom, Monarch, and Daniel's Sensation; the third prize was well merited by Mr. W. Coleman, an amateur, 4, Hunter Street, Buckingham, whose tubers were shapely, though scarcely so bright as those in the other winning sets; he had Eightyfold, Peckover, King Edward VII., Duchess of Cornwall, Queen of the Veldt, Up-to-Date, Table Talk, Sutton's White City, Eldorado, Factor, Superlative, and Dalmeny Beauty. For six dishes, Mr. Needham headed the list, and here his best sets were King Edward VII. and Factor; Mr. Coleman second, his White City, Mr. Bresee, and Peckover being specially strong; Mr. J. Neaverson, Eye, Peterborough, third; seven entries. For pairs of white and coloured potatoes six exhibited, Mr. Coleman led with Purple Perfection and Mr. Bresee, Gen. Roberts, and Superlative; Messrs. Neaverson and Needham taking the lower awards; while for four varieties, suitable for farm or field culture, five quartets were staged, Mr. Coleman again leading with shapely tubers of White City, Duchess of Cornwall, Superlative, and Factor, Messrs. Bannister and Needham following.

There were seven couplets of White Kidney potatoes, Mr. J. Needham securing the first and second prizes with remarkably good specimens of Factor and King Edward VII.; the Duke of Portland, Norton, Mansfield, third. There were eight exhibitors of two varieties of round forms, and Mr. Neaverson was first for Table Talk and Hackney, with Mr. Coleman a close second for Purple Perfection and Table Talk, Mr. Bannister third. Ten entrants staged one dish of Kidney potatoes, Mr. Neaverson first for King Edward VII., Mr. Needham second for the same; while eight single dishes of rounds were in competition, Table Talk securing the prizes to Mr. Bannister and Mr. Robert Cock, Rossall Grange, Fleetwood. Mr. Benjamin Parker, Scotforth, Lancaster, secured a premier for the handsomest dozen with Rival; Mr. Needham second with King Edward VII. The class for any variety not in commerce was poorly contested, the Duke of Portland coming first with a shapely kidney named Welbeck Seedling; Mr. Needham second with Rival.

Trade exhibits were fairly numerous. In the gallery, Messrs. E. Webb and Sons, Stourbridge, made a noble display of farm, grass, and garden seeds, their collection of potatoes including Up-to-Date, British Queen, The Dean, Industry, Goldfinder, Chieftain, Stourbridge Glory, King Edward VII., Express, Colonist, Record, and Queen of the Veldt. Messrs. Dicksons, Lim., made a show of grasses and clover seeds, etc. The King's Acre Nursery Company, Lim., Hereford, set up some five dozen varieties of highly-coloured apples, which for size, shape, and brilliance, fairly-well matched the near-by display of the British Columbia Government. Messrs. Dickson and Robinson, Chester, presented farm seeds and roots; Messrs. White Brothers, Evesham, sent seed potatoes; Messrs. Little and Ballantyne, Carlisle, showed Scotch seed potatoes, seedling fir trees, etc.; Mr. R. W. Green, Wisbech, had Scotch seed potatoes in variety; Mr. T. A. Scarlett, Edinburgh, sent potatoes; Mr. A. Findlay, Markinch, showed home-raised varieties of potatoes. On the ground floor Messrs. Fotheringham and King, Dumfries, showed potatoes, and Mr. A. W. McAlister, Dumfries, had a very large collection of seed potatoes in variety.

Colonial and Home Bottled Fruit Show.

The following is the official list of awards made by the Royal Horticultural Society on December 1:

COLONIAL FRUITS.

Gold Medals.—The Permanent Exhibition Committee of Trinidad, for fruits and preserves; the Government of British Columbia, for apples; the Permanent Exhibition Committee of Trinidad, for fruit; West Indian Produce Association, for a collection of fruits and vegetables.

Silver-gilt Knightian Medal.—Permanent Exhibition Committee of Dominica for a collection of fruits and vegetables; Province of New Brunswick, for apples; Botanic Station, for citrus fruits; Okamagan Fruit Union, B.C., for apples; Mr. B. Shearn, for nuts; the Jamaica Agency, for a collection of fruits and vegetables; Barbados, for a collection of fresh fruits and vegetables; the Jamaica Agency, for jams, etc.

Silver-gilt Banksian Medals.—Mr. John Smith, B.C., for apples; Kaslo District Association, B.C., for apples; Messrs. Stirling and Pitcairn, B.C., for apples; the Roseau Valley Fruit Company, for preserved fruits and jams.

Silver Knightian Medal.—The Permanent Exhibition Committee of Montserrat, for a collection of fruits and vegetables; Wall House Estate, Dominica, for limes; Victoria District, B.C., for apples; Salt Spring Island, B.C., for apples; Mr. C. T. Cooney, B.C., for apples; the New Zealand Government, for a collection of fruits, etc.; Government of Dominica, for fresh fruits and vegetables.

Silver Banksian Medal.—Mr. F. A. Hubbard, Burton, Sunburg Co., N. Brunswick, for apples; Mr. C. W. Peters, Queenstown, Queen's Co., N. Brunswick, for apples; Mr. H. Belyea, Lower Gagetown, Queen's Co., N. Brunswick, for apples; Mr. J. G. de Gannes, Trinidad, for oranges; Messrs. Gordon Grant and Co., Trinidad, for limes; Mr. J. G. Haines, Trinidad, for cocoanuts; Mr. Gordon Grant, Trinidad, for cocoanuts; the Victorian Government, for preserved fruits; Messrs. E. Westmacott and Co., for Colonial-grown tinned fruits; the Victorian Government, for preserved vegetables; the Roseau Valley Fruit Company, for jams, etc.; Mr. W. Pattinson, for banana specialities; the Army and Navy Auxiliary Stores, fresh fruits and vegetables; Government of Jamaica, for fresh fruits and vegetables.

Bronze Banksian Medals.—St. Arment Estate, Dominica, for oranges; Everton Estate, Dominica, for oranges; Corona Estate, Dominica, for oranges; Carholm Estate, Dominica, for limes; Mr. J. J. Brown, Trinidad, for cocoanuts.

COLONIAL PRESERVES.

Gold Medal.—West Indian Produce Association, Fenchurch Street.

Silver-gilt Knightian.—Messrs. B. Shearn and Son, Tottenham Court Road.

Silver Knightian Medal.—New Zealand Government; Messrs. E. Westmacott and Co.

Silver-gilt Banksian Medal. — Jamaica Agency.

Silver Banksian Medal.—Victoria Government (2); Roseau Valley Fruit Company (2).

ENGLISH FRUIT.

Silver-gilt Hogg Medal.—Messrs. James Veitch and Sons, Chelsea, for apples; Messrs. George Bunyard and Co., Maidstone, for apples.

Silver Banksian Medal.—Messrs. Ambrose, Palmer, and Co., Grosvenor Street and Halliford, for English and Colonial fruit.

FRUITS BOTTLED IN PURE WATER.

Display of home-bottled British-grown fruits in pure water, open.—Mr. W. Poupart, Twickenham, award included in gold medal; Swanley Horticultural College, silver-gilt Banksian medal.

Twenty-four bottles, including twelve different kinds at least (amateurs).—First prize, a Mercia sterilizer, presented by Miss Bradley, won by Mrs. Banks, 102, Park Street, W.; second prize, Mrs. E. Beckett, Elstree.

Eighteen bottles, including nine different kinds at least (amateurs); no entries.

Twelve bottles, including six different kinds at least (amateurs); first prize, Mr. H. Tobutt, Wallington; second prize, Mrs. M. Palmer, Darlington.

Six bottles, including four different kinds at least (amateurs); first prize, Mrs. Hartshorn, Bond Street, W.; second prize, Mrs. W. H. Plowman, Westminster.

FRUITS BOTTLED IN SYRUP.

Display of home-bottled British-grown fruits in syrup (open); first, Mr. W. Poupart, Twickenham, the award for this included in gold medal.

Twenty-four bottles, including twelve different kinds at least (amateurs); first prize, a Mercia steriliser, presented by Miss Bradley, won by Mrs. V. Banks; second prize, G.P.O. Refreshment Club.

Eighteen bottles, including nine different kinds at least (amateurs); first prize, Miss E. G. Cook, Ashford; second prize, Viscountess Galway, Bawtry.

Twelve bottles, including six different kinds at least (amateurs); first prize, Mrs. F. L. Pike, King's Langley.

Six bottles, including four different kinds at least (amateurs); first prize, not awarded; second prize, Mrs. W. H. Plowman, Westminster.

VEGETABLES.

Home-bottled vegetables (amateurs), eight bottles, including four different kinds at least; first prize, Mrs. E. Beckett; second prize, Mrs. V. Banks.

JAMS, JELLIES, ETC.

Jams in clear glass jars or bottles (open) (jellies excluded), made of British-grown fruits only, including eight different kinds at least; silver-gilt Banksian medal, to Messrs. W. Miles and Co., Hove, Sussex.

Eighteen one pound clear glass jars or bottles of jam (jellies excluded), made of British-grown fruits only, including nine different kinds at least (amateurs); first prize, Mr. E. G. Badcock, St. George's Square, S.W.; second prize, Mrs. E. Beckett, Elstree.

Fruit jellies and fruit cheese, in clear glass jars or bottles, including six different kinds at least.—Silver Knightian medal, Swanley Horticultural College, Kent; silver Banksian medal, Miss Cook, Ashford Farm.

Twelve one-pound clear glass jars or bottles of fruit jellies and fruit cheese, including six kinds at least (amateurs); first prize, Mrs. Banks; second prize, Miss M. G. Thompson.

Miscellaneous collection of home-bottled produce, pickles, sauces, etc. (amateurs); silver-gilt Knightian medal to Mrs. V. Banks.

Miscellaneous class for preserving appliances, bottles, etc. (open); gold medal to Mr. W. Poupart, Twickenham; silver Knightian medal, to the French Flint Glass Bottle Company; silver Banksian medal, to Mr. G. O. Henninger, Great Tower Street, E.C.; bronze Banksian medal, to Messrs. Abbott Bros., Southall; and silver Knightian medal, to Messrs. Fowler, Lee, and Co., Reading.

Non-competitive exhibits.—Silver Knightian medal, to Messrs. D. Politi and Sons Highbury; silver Banksian medal, to Mrs. S. Miller, Marlow; to Miss Martin, New York; and to the Middlesex Jam Company Brentford.

Royal Horticultural Society.

The meeting held on December 7 was not nearly so extensive as its immediate predecessors, but an excellent display was provided, consisting largely of orchids, begonias, carnations, chrysanthemums, and brassicas.

FLORAL COMMITTEE.

Messrs. H. Cutbush and Son, Highgate, set up a capital group of perpetual carnations, showing numerous seedlings and fine vases of White Enchantress, Winsor, Mrs. Burnett, Rosine, Rose Doré, Victory, Harlowarden, Aurora, Enchantress, and the yellow Grace Gilbert. Messrs. J. Peed and Sons again contributed alpines, their encrusted saxifrages being most interesting. The zonal pelargoniums staged by Messrs. H. Cannell and Sons, Swanley, provided a fine bit of colouring, their Clevedon and Jupiter being especially brilliant. Single and thread petalled chrysanthemums from the same firm were also very bright and interesting.

Winter-flowering begonias were again well shown by Messrs. James Veitch and Sons, Chelsea, their batches of Winter Cheer, Julius, Ensign, the brilliant Mrs. Heal, the old Adonis—one of the first of this set, and the new Elatior. Mr. W. H. Page, Tangley Nursery, Hampton, put up one of his fine displays of beautiful carnations and liliums staged in fine vases; Rose Pink Enchantress, Winsor, Victory, Harlowarden, May Day, and Mrs. T. W. Lawson. were carnations shown by Mr. Page in fine style. Mr. T. W. G. Williams, Bromyard, sent a few good single chrysanthemums, and Messrs. J. and F. Chatfield, Southwick, showed the hairy Japanese variety, named Thorny Glory.

Mr. Frank Brazier, Caterham, put up a large and bright exhibit of Japanese and single chrysanthemums. Messrs. Stuart Low and Co., Enfield, brought up carnations growing in pots, staging both seedlings and popular varieties. The central display in the hall was set up by Messrs. S. Low and Co., Enfield, who arranged their carnations in a very pretty way, in vases and bowls, in association with ferns and moss. Mr. L. R. Russell, Richmond, presented hardy evergreens, ornamental shrubs in variety, ivies. and eleagnus predominating.

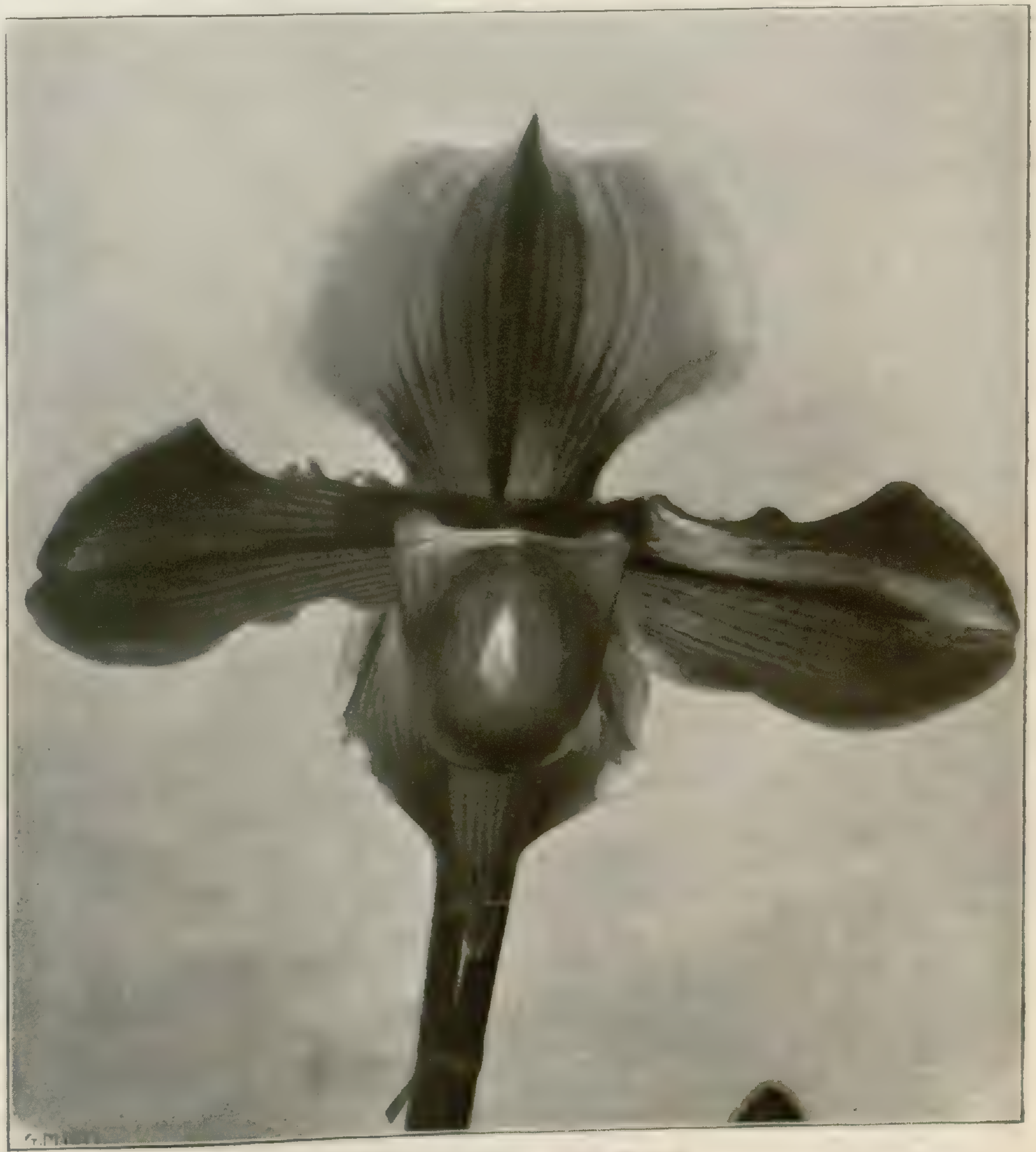
The Rev. E. H. Buckstone, Derby, showed a bank of cyclamens, setting forth well-grown examples of these very useful flowers, and including such varieties as Vulcan, White Butterfly, Giant Pink, and Giant White, all beautifully flowered. Mr. Camm, gardener to W. Astor, Esq., Taplow, showed a couple of dozen very finely flowered plants of the effective Giant Salmon cyclamen. Some wonderfully fine carnation blooms were brought over by Mr. H. Burnett, from Guernsey. Here were lovely examples of Enchantress, Aurora, Mrs. H. Burnett. Mikado, the blush-tinted Countess of March, the yellow Fortuna, Mikado, Winsor, Snow Queen, Afterglow, Rose Doré, and the new American Alvina, and several yellow and fancy seedlings.

The chrysanthemums from Messrs. W. Wells and Co., Merstham, made a good show, and included Japanese, single and incurved varieties; Miss Muriel Smith, the glorious yellow R. F. Felton, and the fine single Merstham Jewel, were all well represented in this useful display. Mr. Bradford, gardener to E. H. Brown, Esq., Roehampton, filled one table with well-grown plants of Begonia Gloire de Lorraine, Cypripedium insigne, and poinsettias, associating these with ferns and palms. Messrs. W. Cutbush and Son, Highgate, sent finely-berried hollies in variety, and the bright Hippophæ rhamnoides laden with orange-coloured fruits. Messrs. H. B. May and Sons, Edmonton, submitted a collection of nephrolepises, Stag's Horn ferns, heaths, Plumbago rosea, and Begonia Turnford Hall.

ORCHID COMMITTEE.

Mr. Hopkins, gardener to Francis Wellesley, Esq., Westfield, Woking, brought up well-grown and nicely-flowered plants of Cypripedium Thalia The Baron, C. The Emperor, C. Etoniense, C. Elatior splendens, and C. Memoria Martyni. Mr. H. Alexander, orchid grower to Lieut.-Colonel Holford, Westonbirt, showed Cypripedium Draco, C. Arethusa, C. Dawn—very fine, and C. Euryades leopardinum. From Messrs. J. and A. A. McBean came the lovely Cattleya Trianæ alba Kathleen. From Messrs. Stuart Low and Co., Bush Hill Park, Enfield, came Cypripedium Actæus superbum Drewett's var.; C. Leeanum Staffordianum, C. Beryl, C. insigne Blanche Moore, and a few other orchids.

Cypripediums were well shown by Messrs. J. Cypher and Sons, Cheltenham, the pick of a good set being C. insigne Harefield Hall, C. Mdme. Jules Hye. C. F. Sander, C. Leeanum Cypher's var., and C. Miss Louisa Fowler. Messrs. Mansell and Hatcher, Rawdon, Leeds, submitted Maxillaria elegantula; M. grandiflora, Cypripedium Niobe, C. triumphans Jules Hye's var., and C. insigne Sanderæ. Mr. G. Day, gardener to H. S. Goodson, Esq., Putney, put up a very bright collection of orchids, showing C. insigne Sanderæ largely, with various other C. insigne forms, odontoglossums in variety, lælio-cattleyas, etc., all well arranged with ferns. Mr. Edward V. Low, Vale Bridge, Haywards Heath, brought up Cypripedium Tityus, C. Actæus Langleyensis, C. Olivia, Oncidium ornithorhynchum album, etc.



CYPRIPEDIUM THE LION.

A.M., R.H.S., December 8. Messrs. Sander and Sons, St. Albans. Flowers deep rose, green, and brown.

Messrs. Charlesworth and Co., Haywards Heath, presented a very bright lot of orchids, showing the vivid Lælio-cattleya Cappei, L.-c. Sunray, L.-c. Pandora, and L.c. Lydia, as well as Cattleya Venus, C. Octave Doin, Calanthe Wm. Murray, C. Veitchi, Odontoglossum seedlings, finely blotched, and Vanda lamellata Boxalli.

Messrs. Sander and Sons, St. Albans. showed Cypripedium Lion (A.M.), a handsome flower; C. Alcibiades Illustrious—a grand orchid, but so much like a C. Alcibiades already certificated, that it gained no award; it had a dorsal sepal nearly 3½ inches across. Other cypripediums were well shown by the St. Albans firm, and so were Lælio-cattleya Cornelia, and odontoglossums in variety. Mr. Maurice Mertens, Ghent, brought over some beautiful seedling odontoglossums.

FRUIT AND VEGETABLE COMMITTEE.

A remarkable display of brassicas, showing the wonderful range of variation obtained by selection and cross-breeding from Brassica oleracea, was submitted by Messrs. Sutton and Sons, Reading. The wild type was shown, and a whole series of kales, including the variegated varieties, Purple Flanders, Palm Tree, Lark's Tongue, Jersey Kale, and the modern exquisitely curled forms. There were also the cross between a cabbage and Brussels sprouts, the cross between the savoy and Brussels sprouts, and a new Couve Tronchuda, with a fine cabbage-like heart. Brussels sprouts, in fine form and variety, were staged, with savoys and cabbages of many kinds and shapes. Autumn Protecting broccoli, and such uncommon brassicas as Chou Moellier, and Chou de la Sarthe. It was a vastly interesting exhibit, consisting of fifty distinct varieties of Brassica oleracea, many of them raised by the Reading firm.

Mr. E. Beckett, V.M.H., gardener to the Hon. Vicary Gibbs, Elstree, Herts, showed splendid samples of Labrador, Green Curled, Russian, Drumhead, The Sutton, Cottagers, A1., Scotch, and variegated kales, arranged in big piles, fresh, and tempting, and showing the range and value of the somewhat despised kale group of brassicas. Messrs. B. Shearn and Son, Tottenham Court Road, presented a collection of nuts, and Miss Martin, Willowbrook, New Jersey, contributed brandied fruits, preserves, and pickles.

Mr. Beckett scored for both red and white celery, in the competitive class; he was also first prizewinner for three kinds of beet, three of carrots—a fine set, for Brussels sprouts (stems and picked samples), endive, and savoys.

AWARDS.

No first-class certificates were awarded on this occasion.

Award of Merit. — To Cypripedium The Lion, from Messrs. Sander and Sons, St. Albans.

To Chrysanthemum Kathleen May, from Mr. H. J. Jones, Ryecroft Nursery, Lewisham.

To Chrysanthemum Mrs. W. Parker, from Mr. Frank Brazier, Caterham.

MEDALS.

Silver-Gilt Knightian.—To Messrs. Sutton and Sons, Reading, for a collection of Brassicas.

Silver-Gilt Banksian.—To Mr. H. Burnett, Guernsey, for carnations; to Mr. W. H. Page, Hampton, for carnations and liliums; to Messrs. James Veitch and Sons, Chelsea, for begonias.

Silver Flora Medal. — To E. H. Brown, Esq. (gardener, Mr. Bradford), Roehampton, for begonias, etc.; to Messrs. Cutbush and Son, Highgate, for carnations and hollies; to Rev. E. H. Buckstone, Derby, for cyclamen; to Messrs. Charlesworth and Co., Haywards Heath, for orchids; to H. S. Goodson, Esq. (gardener, Mr. G. Day), for orchids.

Silver Banksian.—To W. Astor, Esq. (gardener, Mr. Camm), Taplow, for cyclamen; to Messrs. Stuart Low and Co., Enfield, for carnations; to Messrs. H. Cannell and Sons, Swanley, for pelargoniums and chrysanthemums; to Messrs. J. Cypher and Sons, Cheltenham, for orchids; to Messrs. Mansell and Hatcher, Rawdon, Leeds, for orchids; to Mr. E. Beckett, V.M.H., Aldenham House Gardens, for kales.

Perpetual-Flowering Carnation Society.

This society held a capital show on December 8 at the Royal Horticultural Hall. The competition was better than usual, and the flowers were excellent, many of them being of wonderful size and colour. Both amateurs and traders showed of their best, and the display was very interesting.

OPEN CLASSES.

Mr. C. F. Waters, Deanland Nurseries, Balcombe, secured the chief award for a display of cut carnations arranged on a space 10ft. by 3ft.; he put up a very pleasing exhibit, in which were good vases of Victory, Mrs. H. Burnett, Mrs. Patten, Enchantress, Mikado, Rose Pink Enchantress, Rose Doré, and Aurora; Mr. S. Mortimer, Farnham, was a close second.

The American Society's Cup for the best three bunches of American carnation novelties was won by Messrs. Bell and Sheldon, Castel Nurseries, Guernsey, with Pink Delight, Winona, and May Day.

In the open section for vases of twenty-five flowers the competition was moderate. Mr. W. H. Lancashire, Victoria Vineries, Guernsey, led for a white variety with White Perfection; Mr. D. M. Collins, Swanley, second; and Messrs. Bell and Sheldon third, each with White Perfection. Blush or light pink—Messrs. Bell and Sheldon first with a lovely vase of Winsor; Mr. Lancashire second with Enchantress; Mr. D. M. Collins third with Enchantress.

Rose or salmon—Mr. Lancashire first with Rose Doré; Mr. A. F. Dutton second with May Day; and Messrs. Bell and Sheldon third with Mrs. Burnett. Deep rose or cerise—Messrs. Bell and Sheldon first with Afterglow, very fine; Mr. Lancashire second with Mrs. T. W. Lawson; Mr. C. Engelmann third with Afterglow. Crimson—Mr. Lancashire first with President, extra good; Mr. C. Engelmann second with Carola; Mr. A. Smith, Enfield Highway, third with Union Jack. Scarlet — Messrs. Bell and Sheldon first with grand blooms of Britannia; Mr. Lancashire second with Robert Craig; and Mr. Engelmann third with Britannia. Any other colour or fancy—Mr. Lancashire first with the crimson-flaked Emperor, a new seedling; Mr. C. Engelmann second with Vinca, a red-purple self. Any variety not in commerce—Mr. C. Engelmann first with Carola; Mr. A. Smith second with Empire Day and Mr. J. Green, Wisbech, third with a white seedling.

AMATEURS.

Mr. Usher, gardener to Sir Randolf Baker, Bart., Ranston, Blandford, won the gold medal for a display of cut flowers arranged on a space 6ft. by 3ft. He had an arch of blooms, with vases of White Perfection, Apple Blossom, Winsor, Enchantress, Mrs. Burnett, Dahaim, etc., beneath, and every flower was a good one. Mr. P. Wilkinson, gardener to Sir Daniel Gooch, Bart., Hylands, Chelmsford, second; and Mr. F. May, Houndswood, Radlett, third.

In the smaller vase classes for amateurs six blooms were required. White—Mr. A. E. Usher first (and special) prize with White Perfection; Mr. A. Grubb second; and Mr. J. Vert, gardener to Lord Howard de Walden, Audley End, Saffron Walden, third, each with White Perfection. Blush or light pink—Mr. Usher first with Enchantress; Mr. Vert second; and Mr. G. West, gardener to F. Ricardo, Esq., The Friary, Old Windsor, third, each showing Enchantress. Rose or salmon—Mr. Usher first with Rose Doré; Mr. E. Thayer, gardener to Mrs. Barron Newell, Woodstown, Rossdaff, second with Mrs. H. Burnett; and Mr. West third with Winsor. Deep pink or cerise—Mr. Usher first with Mrs. T. W. Lawson; Mr. Vert second with Aristocrat; Mr. West third with Mrs. Lawson. Crimson—Mr. Usher first with President; Mr. Vert second with Crimson Glow. Scarlet—Mr. Grubb, gardener to C. F. Raphael, Esq., Porter's Park, Shenley, first with Britannia; Mr. West second; and Mr. Vert third, each with Britannia. Any other colour—Mr. Usher first with Imperial; Mr. Vert second with Lord Charles Beresford, pink flaked; Mr. Thayer third with Ceres.

Mr. Usher led for a vase of twelve blooms in six varieties, and was followed by Mr. Vert; and Mr. G. Johnson, gardener to Lord Burnham, Hall Barn, Beaconsfield. Mr. G. H. Lawrence, Stratton, Godstone, had the best three white flowers, the best three blush flowers, and the best three scarlet blooms.

GROUPS AND PLANTS.

Lord Howard de Walden's silver gilt challenge vase, offered as first prize for a group of perpetual carnations, was won by Mr. A. Grubb, gardener to C. F. Raphael, Esq., Porters Park, Shenley, with a set of well-grown plants prettily arranged with maidenhair ferns. He had Winona, Britannia, White Perfection, Rose Doré, and Enchantress in fine condition.

Mr. Usher scored for six plants, distinct, showing well-developed examples of Imperial, Winsor, Rose Doré, Rose Pink Enchantress, and Mrs. H. Burnett; Mr. J. Vert, second, and Mr. Grubb, third. Mr. Usher was also first for three plants, followed by Mr. Vert and Mr. Grubb.

Mr. Usher scored for three plants of seedlings, and was first in two other classes for specified varieties, six blooms in a vase, where prizes were given by Messrs. S. Low and Co., and Mr. H. Burnett.

DECORATIVE EXHIBITS.

In the table decoration class Messrs. R. F. Felton and Sons, Hanover Square, were first-prize winners, with an excellent design in blush and crimson flowers; Mrs. Alex. Robinson, Park Hill, Carshalton, second with blooms of Mrs. H. Burnett, the corner stands arching inward gracefully; Mr. A. E. Usher, gardener to Sir Randolf Baker, Bart., Ranston, Blandford, third.

Mr. Grubb scored for six buttonholes for gentlemen, followed by Mr. Usher and Mr. J. Dudney. For ladies' sprays, Mr. Usher was a good first, with Messrs. R. Felton and Sons, second, and Mr. Grubb third. For a carnation bouquet Messrs. Bell and Sheldon were first, using flowers of Mrs. H. Burnett; Mr. Dudney second, and Mr. J. Green third. Mr. Robinon and Mr. Dudney were first and second for a basket of carnations.

Mr. Felton's prize for a vase of three dozen blooms, arranged for decorative effect, was won by Messrs. Bell and Sheldon, Guernsey, with a handsome vase of Britannia; Mr. H. J. Dudney, Erith, second for mixed flowers, and Mr. W. H. Lancashire third with Mrs. H. Burnett.

NON-COMPETITIVE.

Mr. C. Engelmann, Saffron Walden, had a very large display of carnations, showing these in vases of various sizes. His new Carola, deep crimson, was very effective, and on either hand were such charming varieties as O. P. Bassett, Pink Delight, Mrs. T. W. Lawson, Rose Pink Enchantress, Imperial, Beacon, and White Perfection, as well as numerous seedlings. Messrs. Young and Co., Hatherley, Cheltenham, exhibited large stands of Enchantress, Britannia, Lady Audley Nield, and various seedling carnations.

Growing plants of Mrs. H. Burnett, freely-flowered, were set up by Mr. Johnson, gardener to Lord Burnham, Hall Barn, Beaconsfield. Mr. T. Williams, Oxford Road, Ealing, showed carnations in rustic vases. Mr. James Green, Wisbech, contributed good vases of Enchantress, White Perfection, Britannia, Rose Pink Enchantress, etc.

A number of exhibitors who were contributing to the Tuesday meeting allowed their exhibits to remain for this show, and these included Messrs. H. B. May and Sons, Edmonton; Messrs. Stuart Low and Co., Enfield; Messrs. Wm. Cutbush and Son, Highgate; Messrs. B. Shearn and Son; Messrs. Jas. Veitch and Sons, Chelsea; Mr. W. H. Page, Tangley Nurseries, Hampton; Messrs. W. Wells and Co., Merstham; Mr. H. Burnett, Guernsey; Messrs. Sutton and Sons, Reading; and Mr. L. R. Russell, Richmond.

MEDALS.

Gold.—Mr. C. Engelmann, Saffron Walden.

Silver-Gilt.—Mr. W. H. Page, Hampton; Mr. H. Burnett, Guernsey.

Silver. — Messrs. W. Cutbush and Son, Highgate; Messrs. Stuart Low and Co., Enfield; Messrs. Young and Co., Hatherley; Mr. J. Green, Wisbech; and Lord Burnham (gardener, Mr. Johnson), Hall Barn, Beaconsfield.

Smithfield Club Show.

The great exhibition of fat stock, produce, and implements, which was held in the Agricultural Hall, Islington, during the past week, was in most respects very similar to the shows of previous years. Well-known firms occupied their usual stands, and displayed their specialities in their accustomed manner. It must, however, be added that, in point of quality and individual merit, the exhibits bear striking testimony to the immense improvements that have been effected by skilful and careful workers in their several spheres.

The exhibits of direct interest to horticulturists were, as usual, located in the extensive gallery, and, in our opinion, the show would have been well worth a visit, even were there no more to see than the splendid exhibits of vegetables, roots, and fruits which were here staged by the leading firms from all parts of the kingdom.

It is with particular pleasure that we record the fact that on Monday his Majesty King Edward VII. made a tour of the galleries, and showed much interest in the exhibits of Messrs. Sutton's, Webb's, King's, and Carter's roots and vegetables, and also the fruit exhibited by the Government of British Columbia. We were also pleased to meet a larger number of gardeners than usual.

Among the many good things to be seen on the elaborate stand erected by Messrs. Sutton and Sons, Reading, we particularly noticed the potato Sutton's White City, and a number of yellow-fleshed varieties, which were shown as "connoisseur's potatoes," it being claimed that they are of particularly fine flavour. Mushrooms, onions, tomatoes, and many other first-rate vegetables were to be seen on the stand, which was made the more attractive by the introduction of some fine cyclamen and a few other plants. Messrs. Webb and Sons, Wordsley, Stourbridge, had capital examples of many newer varieties of potatoes. Webb's New Guardian, Colonist, and Chieftain were three that we made special note of. Onions, and, in fact, most vegetables were represented by perfect specimens.

Messrs. Fidler and Sons, Reading, brought a grand lot of potatoes, their Charles Fidler occupying a prominent position. Lady Llewelyn and Eclipse are two good kidneys shown on this stand.

Another capital display of potatoes and other vegetables was made by Messrs. J. Carter and Co., High Holborn. Their swedes and mangels were also marvellous specimens. Messrs. Harrison and Sons, Leicester, brought capital onions, carrots, and beetroot. They had also some excellent potatoes, and their corn and peas were excellent samples.

Messrs. J. K. King and Sons, Coggeshall, had quite a number of potatoes of recent introduction. King John, King of Potatoes, Lord of the Isles, and Rentpayer were prominently displayed and highly spoken of.

A small exhibit of remarkably bright and well-grown fruit was arranged by the Government of British Columbia. The King's Acre Nurseries, Lim., Hereford, staged about eighty dishes of apples, embracing the most popular and the newest varieties. The dessert apple William Crump, was well shown. This is a fruit of capital shape, and pretty appearance. We are also able to say that the flavour is good, and the fruit keeps well.

Messrs. W. Horne and Sons, Cliffe, Rochester, had both fruit and trees on view, and we noticed Charles Ross, Rev. W. Wilks, and Rival among the apples staged. Messrs. W. Seabrook and Sons, Chelmsford, put up a fine lot of fruit, principally apples, but including a few good pears. Messrs. Dicksons, Lim., Chester, had, in addition to potatoes and apples, a good collection of young forest trees. Young larch, Douglas fir, spruce, and other useful trees were shown as lifted, and there were also thorns and privets for hedging.

Birmingham Gardeners' Association.

There was a goodly muster of the members at the fortnightly meeting held on Monday, November 29, in view of the attendance of Mr. William Partridge, manager to Messrs. Southall Bros. and Barclay, Lim., Birmingham, manufacturing chemists, to demonstrate "Photographic Studies in Natural Colours." The chairman, Mr. T. Humphreys, presided. Mr. Partridge, who is a well-known expert in this highly interesting department of photography, prefaced his remarks by declaring that it afforded him peculiar pleasure to appear before a body of florists, who would naturally much appreciate coloured photographs of the flowers they cultivate. After minutely explaining, with the aid of coloured diagrams thrown upon the screen, the process of securing the required colours, etc., the essayist's splendid representations of the rearranged rhododendron garden in the Botanical Gardens, Edgbaston, evoked much acclamation, so beautifully defined were the various colours presented. Pictures were also given of such collections of orchids, carnations, and tulips, staged at the recent summer shows held in the gardens in question, the delineations of which were exquisite in the extreme. Supplemental to the foregoing were a series of ancient and historical residences with their flower gardens, old-fashioned thatched cottages, and other stone-built and stone-roofed cottages which so abundantly characterise the Cotswold Hills district in Gloucestershire. Especially interesting was the picturesque village of Broadway, the residence of Madame de Narvarro (Mary Anderson) of histrionic fame.

The finale of the lantern slide demonstration was a view of the unique luncheon table floral decoration in the Birmingham Council Chamber on the occasion of the visit of King Edward VII. and Queen Alexandra to inaugurate the new University last summer.

In response to a hearty vote of thanks, Mr. Partridge remarked that it would afford him great pleasure to revisit the Cotswold scenes next summer in company with the members on the occasion of the annual outing, as suggested by one of the members.

National Chrysanthemum Society.

There was a really delightful display of flowers at the meeting of the Floral Committee held at Essex Hall on December 1. Mr. G. Ferguson, The Hollies, Weybridge, showed some delightful singles. Mr. H. W. Thorpe, Worthing, contributed a splendid lot of decorative or market varieties, all of fine type, and in varied colours. Messrs. W. Wells and Co., Merstham, showed several excellent single and decorative varieties, and other exhibitors were Mr. Powell, of Ryde; Mr. H. J. Jones, Lewisham; Mr. N. Molyneux, Wickham; and Mr. Chatfield, Southwick, Essex.

National Vegetable Society.

A committee meeting of the above society was held on the 7th inst. at the Royal Horticultural Society's Hall, Westminster, the following members being present: Mr. Alex. Dean, V.M.H. (chairman), Messrs. E. T. Cook, R. Hooper Pearson, Owen Thomas, V.M.H., E. Beckett, V.M.H., C. Foster, S. Mortimer, Jacques, C. Harvey, and G. Wythes, V.M.H.

The Treasurer reported that several gentlemen had become vice-presidents, and others new members. Mr. Gibson, a member of the committee, reported that the Duke of Portland, K.G., had kindly promised to give ten guineas for a first prize for twelve distinct varieties of vegetables at the forthcoming show, and that he wished the new society every success, and would give the same amount annually. The Chairman reported that the Royal Horticultural Society had kindly granted the use of the hall for the show on September 28, 1910, but as the hall was engaged for the next day, it was necessary to clear the exhibits at the close of the show. The prize list was then considered. The Treasurer stated that Messrs. Hudson, "Country Life," and Mr. E. T. Cook would give the prizes for eight varieties of vegetables of rare kinds not much grown, the amount being seven guineas. The Chairman offered £5 in prizes for allotment holders in the county of Surrey for six dishes of vegetables, the vegetables, when the show was over, to be sent to London hospitals.

Messrs. R. Sydenham, Lim., Birmingham, offered prizes amounting to nearly £30 in three classes, the amounts for the several classes being most liberal. Messrs. Dobbie, Rothesay, also gave valuable prizes for their vegetable specialities, amounting to £20; these are mostly single dish classes, and they will include two lots of potatoes. Messrs. Dickson and Robinson, Manchester, also offer substantial prizes, amounting to £21, for their own specialities; these are largely single dish classes.

Messrs. Wood and Sons, Wood Green, will give liberal special prizes for vegetables grown with their fertilisers, to the amount of £20. The Right Hon. Lord Northcliffe, through Mr. Foster, kindly promised valuable prizes to small holders to encourage good culture and other points.

Messrs. Barr and Sons, King Street, Covent Garden, offer prizes to the amount of six guineas for their best dwarf beans, cabbage, broccoli, cauliflower, carrots, lettuce, beet, and onions. Mr. Geo. Monro, V.M.H., kindly gives five guineas for six dishes of tomatoes, distinct varieties.

Messrs. H. Cannell and Son, Swanley, Kent, also give prizes for the best-flavoured vegetables, naturally grown. Messrs. G. Massey, Spalding, and Messrs. Cheal and Sons, Crawley, Sussex, offer several prizes, Messrs. Cheal giving £4 for eight kinds of vegetables. Messrs. Clay and Son, Stratford, have promised prizes. Messrs. Clibran, Altrincham, Cheshire, gave prizes for celery, £3 10s.

Messrs. Sutton, Reading; Messrs. Carter's, High Holborn; Messrs. Webb and Sons, Stourbridge; and Messrs. Veitch and Sons, Lim., Chelsea, will subscribe to the funds of the society. A sub-committee was formed to prepare the schedule of prizes, which will be ready early in January.

It will be seen that so far upwards of £140 are offered, and this, with the society's prizes, should ensure a display of vegetables from all parts of the country.

Beckenham Horticultural Society.

On Friday, December 3, Mr. Charles Foster, Director of the Horticultural Experimental Station at Guildford, lectured on "French and English Methods of Growing Vegetables," the chair being occupied by Mr. Cardross Grant, vice-president of the society. This lecture had been looked forward to with great interest, and a crowded room resulted. The lecturer dealt with the various crops grown in frames and under cloches, and named the best varieties for the purpose. For lettuce Golden Ball and Golden Queen had proved the most profitable; radishes, French Breakfast and Scarlet Olive; carrots, Nantes and Champion Horn; cauliflower, Dwarf Erfurt, Snowball, and Magnum Bonum; turnips, Milan. These were not so tractable under frame culture as the aforementioned crops, any check causing them to flower prematurely. Then mint, tarragon, potatoes, endive, chicory, climbing French beans, seakale, asparagus, etc., were all instructively discussed. The lecturer treated his subject perhaps more from a commercial point of view than otherwise, and pointed out that in intensive culture "there was money in it," but it wanted the right men at it, i.e., good, intelligent gardeners, but he did not hold out much hope for the amateur. Mr. Foster certainly scored a point when he drew from his bag samples of beautifully blanched endive and Golden Ball lettuce, and held them up for inspection, and asked, "How many in the room can put a salad equal to this on their employer's table to-day. How many?" Only one ventured a reply to this effect, "that some employers did not care for cabbage lettuce." Mr. Foster knows that some do care for them, as those shown by him were a sample of thousands for which he finds a ready market. Mr. Foster was so plied with questions, and he so anxious to give all instructions possible, that the meeting did not terminate till ten p.m., when most hearty thanks were tendered to Mr. Foster for a lecture bristling at all points with sound, practical teaching.

Remarkable Wheat Crop at the Garden City.—As showing how small holdings can be made to pay, an experiment recently made by three men at Letchworth (Garden City) is of interest. Two acres of land were rented and heavily manured with stable manure from London costing 5s. 2d. per ton, then ploughed, and cropped with potatoes for the first year. The yield was good, the potatoes selling at £4 10s. per ton, which cleared all expenses of seed, labour, rent, etc. The following November one and a-half acres were sown with Dutch "Wilhelmina" wheat, two bushels to the acre, the seed costing 7s. per bushel. The crop was phenomenally good, and, after being thrashed, has yielded over 60 bushels to the acre. Several quarters of the wheat have already been sold at 50s. per quarter, which is 16s. above market price of wheat to-day. If the whole of the wheat is sold at this price the income will be £18 5s. This small experiment clearly shows that wheat growing can still be made to pay in this country.

NEW BOOKS.

AMATEUR GARDENING CHRISTMAS NUMBER.

(W. H. and L. Collingridge, 148 and 149, Aldersgate Street, E.C. Price 6d.; post free, 8½d.

The annual issue of our spirited contemporary "Amateur Gardening," that is especially associated with the Christmas season, has once more made its appearance on our table, and the success achieved in previous years ensured a hearty welcome from us. It not only received a warm welcome, but the anticipations we had on opening its pages were fully justified before we had proceeded far in a critical examination of its contents. The literary matter we found so abounding in interest, and the illustrations so rich in attractions that were we to institute comparisons between the present issue and the Christmas Numbers of our contemporary that have preceded it, we should not hesitate to say that on this occasion all previous efforts of a similar character have been surpassed. There is, however, no occasion for comparisons; we are alone concerned with the number now before us, and with reference to it we should say that those who are wise enough to purchase the number will find delightful entertainment in the numerous interesting articles that have a place in its pages. Some will find an immense amount of pleasure in the picture supplement, which contains scenes at home and abroad illustrating happy childhood, young maidens, and old age associated in pleasing harmony with beautiful flowers and charming vegetation, features which combine to represent a garden of delight in the seasons of spring and summer. In a word, we have portrayed, life in its happiest and brightest moods that lead us on in a vein most conducive to the full enjoyment of the Christmas season. Others will perhaps derive more pleasure from the several illustrated articles on such subjects as "The Mimicry of Plants," "Life Story of the Beech," "Nature's Leaf Embroidery." Others again will enjoy to the full the whole of the Christmas fare so liberally provided, and they will certainly be wise in so doing. With the number is issued a double-page illustration in colours, entitled "The Little Gardener," from a water colour drawing by Miss Jessie Currie.

BRITISH YEAR BOOK OF AGRICULTURE, 1909-10.

(Vinton and Co., Lim., 8, Breams Buildings, Chancery Lane, E.C.). Price 5s. net.

This comprehensive and admirably-prepared work should prove of immense value to all who are in any way concerned with agriculture and the industries associated therewith. The work is divided into seven sections, and these are devoted to societies and institutions; educational matters; diseases of animals; importation and exportation of animals; agricultural publications; markets sales, and prices; statistical, legal, and general information; Colonial agriculture; list of shows and agricultural who's who.

THE MONTHS OF THE YEAR.

By the Rev. Pemberton Lloyd, M.A. (W. H. and L. Collingridge, 148 and 149, Aldersgate Street, E.C.). Price 5s. net.

This is not a book on gardening or farming in which the work to be done in the garden or on the farm is duly set forth. Neither is it a book devoted to the various means of recreation that have of late years obtained so firm a hold upon the people of this and other countries. It is not the less useful on that account, and it is certainly far more interesting. It might, perhaps, be described as a series of essays in which everything relating to outdoor life in its broadest sense in each of the twelve months is described in a manner at once fresh and entertaining. However the book may be described, there can be no question as to its originality, freshness, and usefulness, or of the remarkable literary ability displayed by the author. The traditions and poetry associated with each month are fully dealt with, and form delightful reading; the various aspects of animal and plant life are passed under review, and in each month there is much that is of interest relating to garden and other games, and to other forms of recreation that are then uppermost in the mind of those who regard some form of healthy exercise as essential to the full enjoyment of life.

We have evidence on every page that the author was well equipped for the task he set himself in preparing "The Months of the Year," and a close examination of the contents has impressed us with the remarkable success he has achieved. It is a book that can be highly recommended to those who take an interest in outdoor life, and the work of the printers and publishers has been so admirably accomplished as to render it most suitable for a Christmas present.

NATIONAL ROSE SOCIETY'S CATALOGUE.

(E. Mawley, V.M.H., Hon. Secretary, National Rose Society, Rosebank, Berkhamsted). Price 2s. 6d. to non-members.

The new edition of the catalogue of roses that has been issued to the members of the National Rose Society is on much the same lines as the edition immediately preceding it; but it has been thoroughly revised, and somewhat enlarged. As representing the work of the leading amateur and professional rosarians in the United Kingdom, the catalogue should prove of immense value to the general body of rosarians, both in making selections of varieties for various purposes, and as a guide to classification.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

DATE. 1909. NOVEMBER 28 TO DECEMBER 4.	SUNSHINE.	TEMPERATURE OF THE AIR. At 9 a.m. Dry Bulb.	TEMPERATURE OF THE AIR. At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Nov. 28—Sunday	—	48	47	52	40
,, 29—Monday......	—	51	50	52	48
,, 30—Tuesday	6 48	41	39	48	39
Dec. 1—Wednesday .	—	43	42	48	39
,, 2—Thursday ...	—	39	38	53	38
,, 3—Friday..	5 42	41	37	44	39
,, 4—Saturday ...	1 12	40	39	44	37
Means	(total) 13 42	43	42	49	40

DATE. 1909. NOVEMBER 28 TO DECEMBER 4.	RAIN.	TEMPERATURE OF THE SOIL AT 9 A.M. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	LOWEST TEMPERATURE ON GRASS.
	ins.	deg.	deg.	deg.	deg.
Nov. 28—Sunday	0.01	40	42	45	37
,, 29—Monday...	0.26	43	43	45	44
,, 30—Tuesday......	0.01	43	44	45	34
Dec. 1—Wednesday.	0.16	42	44	45	34
,, 2—Thursday ...	0.41	41	44	45	32
,, 3—Friday........	0.38	43	44	45	36
,, 4—Saturday ...	0.01	41	44	45	30
Means ...	(total) 1.24	42	43	45	35

On the night of the 2nd inst., much damage was done to trees by the gale.

GRAPES AND HOW TO GROW THEM.—An illustrated guide to propagation, culture, and management in vineries, greenhouses, and in the open air. By J. Landell, F.R.H.S. Price 1s. net, by post 1s. 2d.; cloth, 1s. 6d., by post 1s. 8d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

NEW PLANTS, ETC.

CHRYSANTHEMUMS.

Eva Smith.—A large pure white incurved variety of good size and excellent form. It has medium sized florets that overlap pleasingly. A useful late variety. F.C.C., N.C.S., December 1. Mr. N. Molyneux, Wickham, Hants.

Russet.—A very pretty market variety of Japanese form. It has good stems and substantial florets, and is of very bright bronzy red colour. F.C.C., N.C.S., Dec. 1. Mr. H. W. Thorpe, Worthing.

Mrs. Rolfe.—Another useful late decorative variety with medium sized Japanese blooms of lovely flesh-pink colour, light tinted with green in the centre. Commendation N.C.S, December 1. Mr. H. W. Thorpe, Worthing.

Mrs. Goddard.—This decorative or market variety has fair sized elegant flowers of a telling shade of reddish bronze. Commendation N.C.S., December 1. Mr. H. W. Thorpe, Worthing.

Silver Tip.—A delightful decorative Japanese variety of beautiful form and charming colour. The latter is deep reddish rose with silver tips to the central florets. F.C.C., N.C.S., December 1. Mr. H. W. Thorpe, Worthing.

Mrs. G. Ferguson.—A lovely pure white single variety of excellent form and substance, broad petalled, and free. Commendation, N.C.S., December 1. Mr. F. Smith, gardener to G. Ferguson, Esq., The Hollies, Weybridge.

Queen of the Solent.—A pretty single decorative variety, with about four rows of petals. It is of a lovely soft pink shade. F.C.C., N.C.S., December 1. Mr. A. J. Powell, Goldsworth Grove, Ryde, Isle of Wight.

Baldock's Crimson.—A brilliant and rich crimson decorative variety of excellent Japanese form, and with good foliage, solid blooms, and good stems. Fine for market, but apparently not good in spray form. F.C.C., N.C.S., December 1. Mr. F. H. Ladds, Swanley.

Miss Muriel Smith.—A beautiful and very elegant decorative Japanese variety, entirely of a rich old rose shade. It has excellent stems and neat foliage. F.C.C., N.C.S., December 1. Messrs. W. Wells and Co., Merstham.

Miss Kathleen Wells.—A large Japanese single variety of great beauty and effectiveness. The big flowers are bright red-crimson with a yellow shaded zone round the disc. F.C.C., N.C.S., December 1. Messrs. W. Wells and Co., Merstham.

Mensa.—We have already described this very fine white single variety. Commended, N.C.S., December 1. Messrs. W. Wells and Co., Merstham.

FORTHCOMING ENGAGEMENTS.

MONDAY, December 13.—United Horticultural Benefit and Provident Society.

National Chrysanthemum Society, Floral Committee Meeting.

WEDNESDAY, December 14.—Royal Meteorological Society.

Chrysanthemum H. W. Thorp.—This white-flowered incurved variety reminds one of Empress of India in its form and general appearance, except that the petals are not so wide as in well cultivated flowers of that old favourite.—E. M.

Books as Christmas Presents.—"When in doubt, give a book," is good advice for those puzzling their brains to think of suitable Christmas presents for their friends. A book is always welcome, particularly if it is one that deals with the recipient's business or hobby. For this reason, those who have friends who are connected with, or who go in for gardening, cannot do better than send to the publishers of the GARDENERS' MAGAZINE, 148, Aldersgate Street, London, for a copy of the Christmas catalogue of books on gardening, etc. These range in price from 1s. to 7s. 6d. each, and are reliable and up-to-date.

ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149. Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

WEEPING TREES.—C. E. H., Barnsley: Weeping trees are obtained by budding a pendulous variety upon a suitable stock. For instance, the weeping ash is naturally pendulous, and would be difficult to grow into good form if on its own roots, but budded on to a young ash of ordinary type, it quickly becomes a graceful specimen.

GARDENING IN RUSSIA. — F. L., Bohrrpobo: We shall be glad to do our best for you, but if the garden is of large size it will be practically impossible to deal with the matter in this column, and it would be necessary for someone who understands the climate and general conditions to inspect and report upon the place ere the matter could be carried to a successful issue. However, send the plan, and particulars of climate, position, and shelter, and we will advise you as to what will be the best course to pursue.

CLEMATIS.—E. R. S., Harpenden: The variety of clematis named Venus Victrix, belongs to the C. lanuginosa type. All the members of this group flower on their comparatively short summer growths, and therefore they need little pruning beyond an occasional thinning out of the shoots. All the lanuginosa class are very suitable for cultivation in an unheated greenhouse.

CORDON GOOSEBERRIES.—S. E. L., Morden: Single cordons should be planted a foot apart; double cordons two feet apart; and triple cordons a yard apart. This is, of course, a general rule, and one that may be modified according to circumstances. If summer pruning is carried out promptly and efficiently, and the land is not especially strong, then ten inches apart will serve for single cordons.

VERY FRAGRANT ROSES.—A. L. F., Dunstable: There is a very great deal of difference in the kind and quality of the fragrance of roses. Some varieties are quite scentless. The National Rose Society has drawn up a list of sweetly scented roses, which is as follows: Alfred Colomb, Cherry Ripe, Commandant Felix Faure, Common Provence, Dupuy Jamain, Exposition de Brie, General Jacqueminot, Heinrich Schultheis, Johanna Sebus, La France, Mdme. Isaac Pereire, Marie Baumann, Mrs. John Laing, Paul Jamain, Rosa Mundi, Senateur Vaisse, Ulrich Brunner, and Zephirine Drouhin.

MELON CULTURE.—H. L., Sevenoaks: The matter has been dealt with at length in our columns, and on numerous occasions. Briefly put, a suitable compost for melons is prepared with fibrous loam, and one-sixth part each of well-rotted manure and leaf-mould, with a little lime rubbish. To obtain ripe fruit in May or June, sow the seed in January or February in small 60-sized pots, one seed in each, and place where the seed will have the assistance of a good bottom heat. Shift into five-inch pots as soon as the plants have made their first rough leaf, previously warming the compost. In about six weeks plant in the beds, which should be made a few days beforehand for the soil to become warmed. Put them two feet apart along the middle of the bed, and train the plants up the trellis until they reach the top, when the points must be nipped out to promote the production of fruit-bearing laterals. Stop these shoots at the third leaf beyond the fruit-bearing flower, to the stigma of which pollen must be applied when fully developed. Leave four fruits to each plant, and remove the others when they are swelling freely. Maintain a temperature of 70 deg. by night and 80 deg. by day, and a moist atmosphere; water moderately, and carefully ventilate. Support the fruits by strands of bast, and when they begin to ripen reduce the supply of water to the roots, and increase the ventilation, but do not keep so dry at the roots as is generally the case. Later crops require similar treatment, and as there is less difficulty attending their production they are preferable for amateurs. Good varieties are: High Cross Hybrid, and Late Perfection, green flesh; Gunton Orange and Syon Perfection, scarlet flesh; and Frogmore Orange, Hero of Lockinge, and The Countess, white flesh.

DISEASED CELERY.—A. V., Barcombe: Your celery is suffering from a very bad attack of one of the celery leaf spot diseases, probably Septoria petroselini var. Apii, though some of the spots suggest the American disease, Cercospora apii. Remove and burn all diseased portions at once. It is in damp seasons that the disease becomes dangerous, and spreads with remarkable rapidity. It is very doubtful at this stage whether spraying will check the disease, as this should have been done earlier. Try spraying with sulphide of potassium, one ounce to 2½ gallons of water. First of all lift and burn the diseased plants, and then use up those next to the diseased ones on either side, and spray the rest, putting up canvas or other shelter to prevent rains from washing the solution off directly.

NAMES OF PLANTS.

Under this heading we can only undertake to name species and well marked varieties of plants, and not florists' flowers. Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one correspondent.

SURREY. — Pittosporum tenuifolium is the name of the plant, sprays of which were used for table decoration.

A. C., Torquay.—1, Cephalotaxus Fortunei; 2, Cephalotaxus pedunculatus; 3, Cupressus sempervirens; 4, C. Lawsoniana; 5. Libocedrus chilensis; 6, Cryptomeria japonica.

D. B., Wellingborough. — 1, Cattleya Trianæ; 2, C. Harrisonæ; 3, a hybrid from Cypripedium Spicerianum, probably a form of C. Niobe; 4, Begonia fuchsioides; 5, Selaginella Kraussiana.

J. B., Hayle.—1, Ilex aquifolium ferox argentea; 2, I. a. variety; 3, I. a. aurea marginata; 4, I. platyphylla Lawsoniana; 5, I. a. aureo medio picta; 6, Thuya plicata; 8, Thuya plicata; 9, Cupressus Lawsoniana erecta viridis; 10, Picea excelsa; 11, Ilex Perado; 12, Euonymus microphyllus.

NAMES OF FRUITS.

When sending fruits for naming, will our readers be good enough to send good specimens, as without these it is not possible to accurately determine the varieties. Pack firmly, using light tin or wood boxes, and send not more than six varieties at once. Label each specimen and enclose letter with the fruit, whether a separate notification is sent or not. Address the packages to the Editor, GARDENERS' MAGAZINE, as advised in the notice at the head of "Answers to Correspondents."

G. B., Dublin.—Josephine de Malines.

W. B., Heston.—1, Lane's Prince Albert; 2, Sandringham; 3, Blenheim Pippin.

S. L. B., Diss.—1, Cox's Orange Pippin; 2, Tyler's Kernel; 3, Court of Wick; 4, Peasgood's Nonsuch.

T. M. H., Carisbrooke.—1, Gravenstein; 2, King of the Pippin; 3, Roundway Magnum Bonum; 4, Beurré d'Aremberg.

W. W. J., Exeter.—1, Cellini; 2, King of Tompkin's County; 3, Bramley's Seedling; 4, Catillac; 5, Dutch Mignonne; 6, Alfriston.

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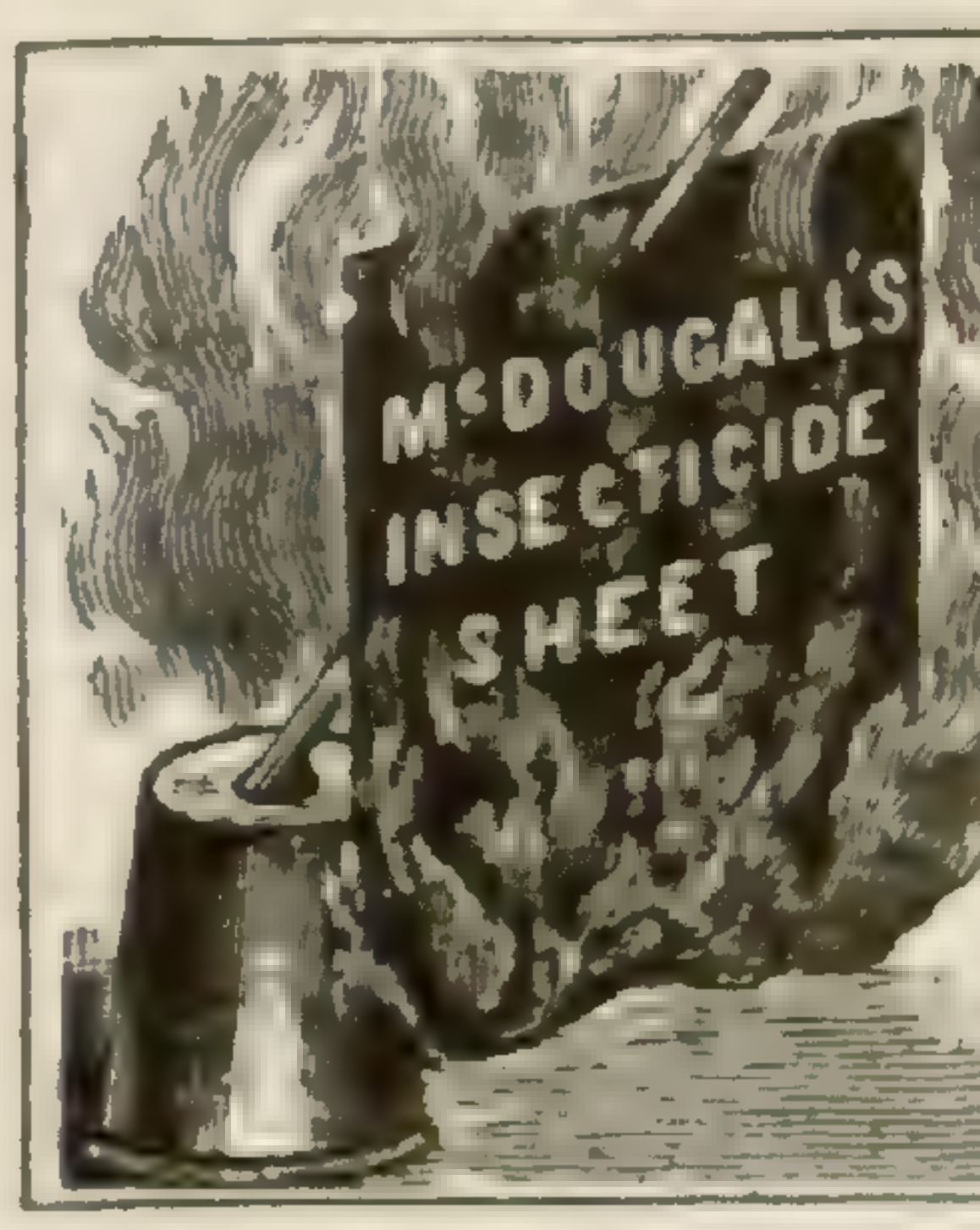

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CATALOGUES RECEIVED.

WM. LUMLEY, DAWN NURSERIES, DENVILLE, HAVANT.—A neat little list of new sweet peas, and with a selection of the best older varieties. The varieties are described and the list is handy for the pocket.

ROBERT BOLTON, WARTON, CARNFORTH.—An important catalogue of sweet peas, including the raisers and the American novelties, as well as the outstanding varieties previously introduced. There are numerous illustrations.

S. F. RICHMOND, OSSETT, YORKS.—A briefly descriptive list of new and standard varieties of chrysanthemums.

HERBERTS PARK POTTERY COMPANY, DARLASTON, STAFFS.—A useful illustrated catalogue of plain and ornamental garden pottery, including artistically designed window boxes, plant stands, etc.

F. S. VALLIS BROMHAM FRUIT FARM, CHIPPENHAM.—A select list of choice Japanese chrysanthemums, with four new varieties for 1910.

H. CANNELL AND SONS, SWANLEY.—A chrysanthemum list including a number of new early and single varieties, and eight Australian-raised Japanese varieties for 1910.

HOBBIES, LIM., DEREHAM.—An illustrated and descriptive list of roses.

J. M. THORBURN and CO., BARCLAY STREET, NEW YORK.—A list of American seeds, including trees and shrubs, flowers, and vegetables.

LITTLE and BALLANTYNE, CARLISLE. — This catalogue gives ample evidence of the fact that the firm specialises in forest and ornamental trees, shrubs, and fruit trees.

AMOS PERRY, ENFIELD.—Plants for the rock garden and the herbaceous border are admirably listed and described in what is entitled an "Abridged" catalogue. We look forward to Mr. Perry's unabridged catalogue.

H. LANE and SONS, GREAT BERKHAMSTED.—The red-covered departmental catalogue includes the hardy trees and shrubs, rhododendrons, and azaleas stocked by this firm. The green-covered catalogue includes roses and fruit trees.

W. LEGGETT, WEST BERGHOLT, COLCHESTER.—A very neat and well-arranged catalogue of roses.

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DEALERS IN DEATH.—An illustrated account of the poisonous flora found in hedgerow, mead, and woodland in the British Isles.

GARDEN BEAUTIFUL IN WINTER.—A charming story, descriptive of the pretty effects obtained in gardens during Winter by the formation of frosts crystals on the leaves of plants (with pictures).

THE ORDER OF THE THISTLE.—The Thistle as the emblem of self-defence, dignity, and strength. Illustrated.

OUR OLD GARDENS.—A delightfully written essay on the charm and beauty of old-time gardens.

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Asparagus	per bun.	1	0		2	0
Azalea	per bunch	1	0		1	6
Bouvardia	per bunch	4	0		6	0
Carnations	per doz. blms.	1	0		3	0
,,	per doz. bun.	9	0		12	0
,, Malmaisons	per doz.	6	0		10	0
Cattleyas	per doz.	12	0		14	0
Chrysanthemums	per doz. bun.	3	0		7	0
Croton leaves	per bun.	1	0		1	6
Cypripediums	per doz. blms.	2	0		4	0
Eucharis	per doz.	2	0		3	0
French fern	per doz. bun.	0	6		1	0
Gardenias	per doz.	1	6		2	0
Lapagerias	per doz.	2	0		3	0
Lilac, French	per bun.	4	0		5	0
Lilium auratum	per bun.	2	0		3	0
,, speciosum	per bun.	1	6		2	6
,, longiflorum	per bun.	2	0		4	0
Lily of the Valley	per doz.	6	0		15	0
Marguerites, white	per doz. bun.	2	0		3	0
Mignonette	per doz. bun.	2	0		3	0
Narcissus	per doz. bun.	3	0		5	0
Odontoglossums	per doz. blms.	2	0		2	6
Pelargoniums	per doz. bun.	4	0		6	0
Roses	per doz.	1	6		4	0
Smilax	per doz trails	5	0		8	0
Tuberoses	per doz.	0	3		0	4
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,, Californian	per case	8	0		9	6
,, Cox's Orange	per ½-sieve	8	0		10	0
,, American	per barrel	12	0		16	0
,, Canadian	per barrel	12	6		23	0
,, Nova Scotian	per barrel	12	6		23	0
Bananas	per bun.	3	0		9	0
Cobnuts	per 12lb.	4	6		5	6
Chestnuts	per bag	7	0		17	0
Figs	per doz.	0	9		3	0
Grapes, English	per lb.	0	8		4	0
,, Guernsey	per lb.	0	5		1	3
,, Almeria	per barrel	12	0		24	0
Lemons	per case	8	0		25	0
Melons, Valencia	per case	4	6		6	0
Oranges, Jamaica	per case	9	0		12	0
,, Jaffa	per case	7	0		10	0
,, Navels	per case	10	0		12	6
,, Denia	per case	14	0		22	0
Pears, English	per ½-bush.	3	0		4	0
,, French Comice	per crate	5	0		10	0
,, Californian	per case	8	0		12	0
,, American	per barrel	18	0		22	0
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Brussels sprouts	per bush.	1	9		2	6
Cabbage	per tally	3	0		5	0
Carrots	per doz. bun.	1	6		2	6
Cauliflowers	per tally	5	0		9	0
Celery	per doz. rolls	5	0		12	0
Celeriac	per doz.	1	6		2	6
Coleworts	per tally	2	0		4	0
Cucumbers	per doz.	1	0		3	0
Endive	per doz.	1	3		1	9
Horseradish	per doz. bun.	8	0		12	0
Leeks	per doz. bun.	2	0		2	6
Lettuce, English	per crate	1	0		1	6
Mushrooms	per doz. lb.	6	0		9	0
Onions, Valencia	per case	6	0		7	6
Parsley	per doz. bun.	2	0		2	6
Parsnips	per bag	2	6		3	0
Spinach	per ½-sieve	2	0		2	6
Seakale	per doz. pun.	16	0		18	0
Tomatoes, English	per doz. lb.	4	0		5	6
,, Canary	per case	12	0		15	0
,, Guernsey	per doz. lb.	2	6		3	6
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May Queen	per cwt.	3	3		3	6
Puritans	per cwt.	3	0		3	6
Sharpe's Express	per cwt.	2	9		3	6
Up-to-Date	per cwt.	3	3		3	9

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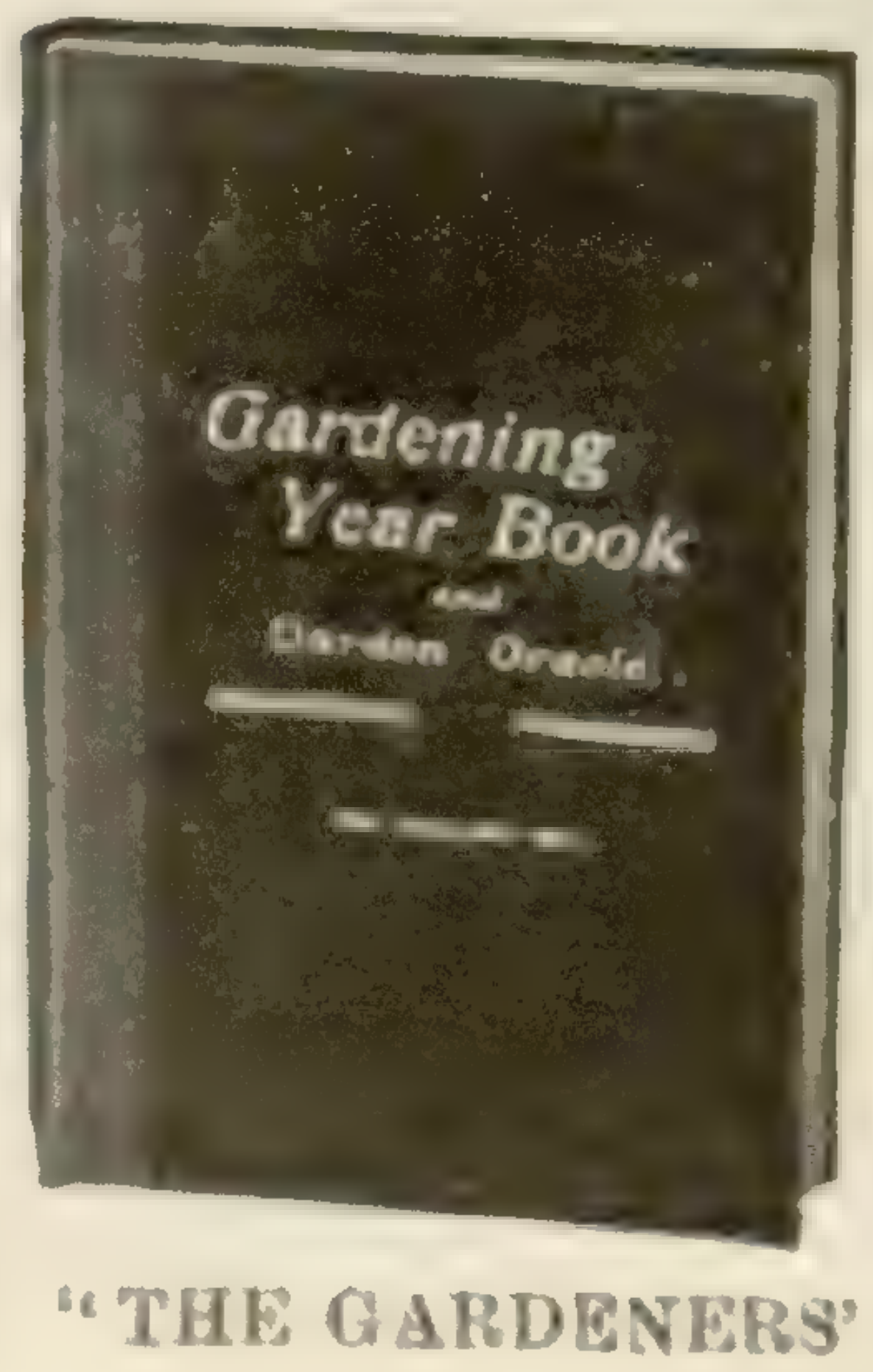

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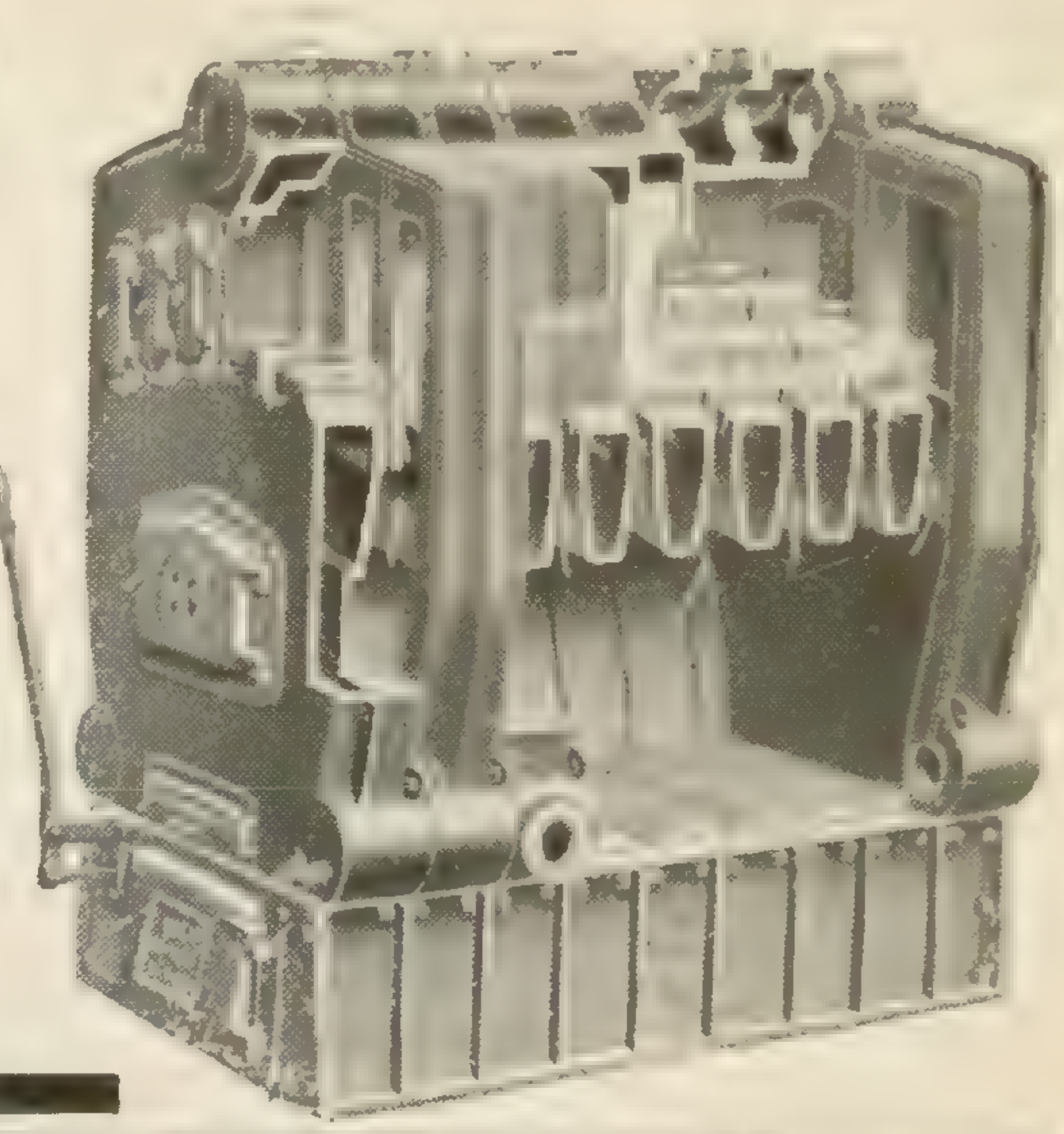

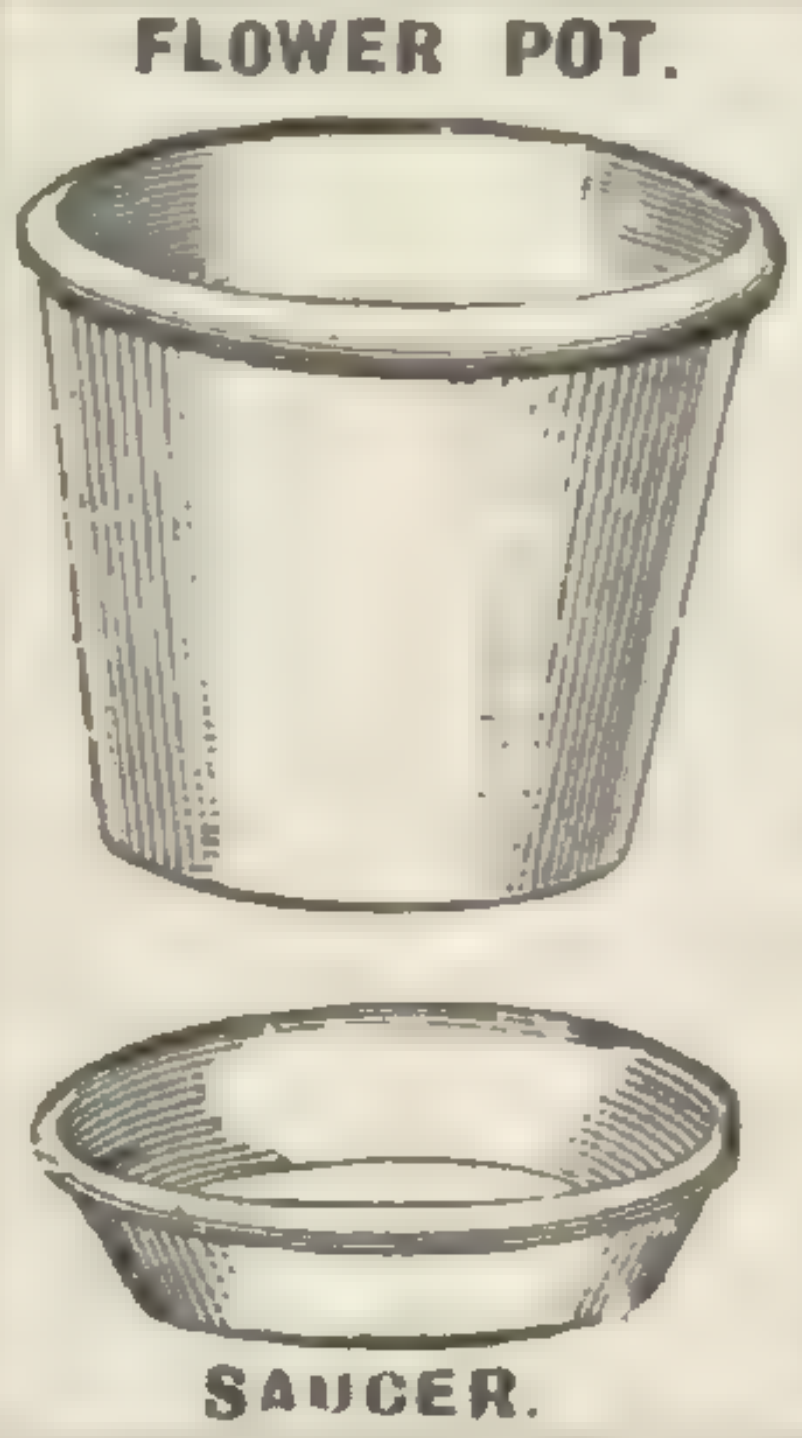

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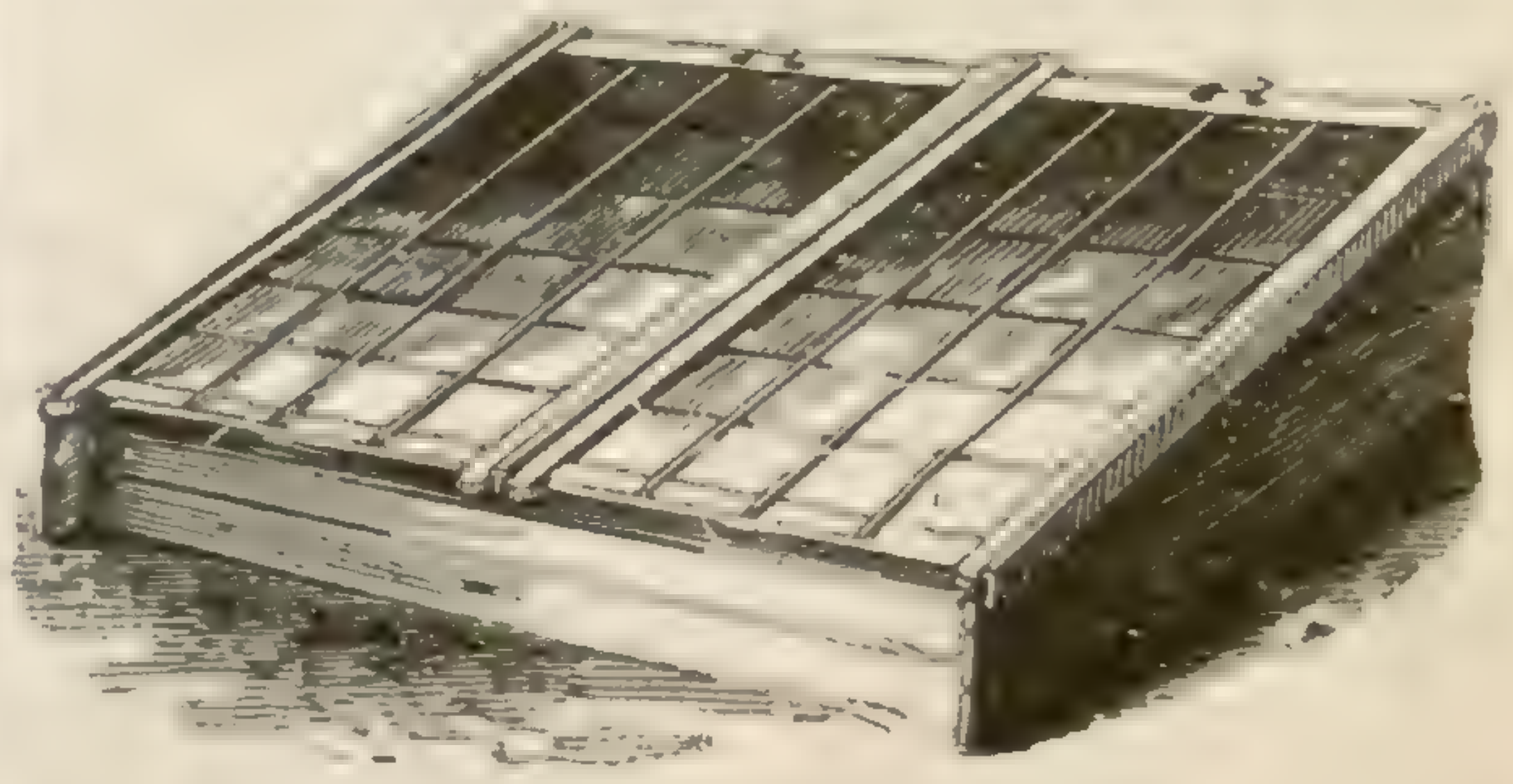

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VOL. LII.—No. 2,929. SATURDAY, DECEMBER 18, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

National Rose Society.

The report and financial statement which the Council of the National Rose Society presented to the members assembled in annual meeting, were so eminently satisfactory that it was not surprising they should have been unanimously passed without comment other than expressions of approval of the splendid work that had been accomplished. The outstanding feature was, perhaps, the enormous increase in membership. During the year 900 new members joined, or an increase of 115, as compared with 1908, bringing the total, after allowing for deaths and resignations up to 3,797 members, a total that must exceed the anticipations of the most optimistic of those who looked for a material accession of strength from the adoption of an expansive policy. Twenty years ago there were probably not more than 500 members on the society's books, and five years since the number was only 1,308, these figures being of interest as showing that during the last-named period there has been an increase of 2,489 in the list of members. Under any circumstances, we should derive much gratification from being able to record a large increase in the strength of a society engaged in promoting the advancement of an important branch of floriculture. But in this case we are especially pleased because the growth of the society proves to demonstration the soundness of the views we have so persistently urged upon societies engaged in the furtherance of floricultural and horticultural pursuits. As will be remembered by our readers, we have strongly advised societies that are more or less of a national character to take a broad view of their duties, and endeavour to accomplish something beyond the holding of an exhibition annually. It may not be possible to do much; but if the members who are not exhibitors have evidence of an endeavour to assist them in their hobby, their interest in the society is greatly increased, and one result of this is usually an accession of new members. Twenty years ago the only publication of the National Rose Society was the schedule of prizes, but now it issues several publications annually, all of which are more or less interesting and useful. In the development of the new policy the society had to begin in a small way, and for a time the members provided the necessary funds out of their own pockets. Two or three editions of the catalogue were published by means of funds raised by private subscription. For a long period the society limited its endeavours to what are commonly known as exhibition roses, and very attractive were the exhibitions to the general public; but when a policy was adopted that embraced encouragement to all classes of roses, the popularity of the shows, both in London and the provinces, increased at a rapid rate. Last year the attendances at the metropolitan and provincial shows established records. The first of the two exhibitions mentioned, though highly successful, was hardly so extensive as some of the competitive gatherings in recent years, and it was decidedly below the average in the quality of the blooms. The backwardness of the season is assigned as the cause of this falling off, and the severe frost in May and the low temperature that was experienced until the end of June, unquestionably prevented the general body of exhibitors staging so freely or so well as usual. It should, however, be remembered that July 2 is too early a date on which to obtain a thoroughly representative exhibition of roses of the highest class, excepting in a season in which the climatic conditions are especially favourable to an early development of the blooms. The falling-off in the quantity and quality of the blooms is exactly what might have been expected, for on few occasions during the past thirty-five years have the exhibitions held on July 1 or 2 been equal to the average. We are pleased to see that the Council is busily engaged in building up a substantial reserve fund, and we trust there will be no relaxation of effort until it reaches at least £2,000. The object of the National Rose Society is of course, to encourage the cultivation and development of the rose; but it should not be difficult to see that a society with a reserve fund proportionate to its responsibilities and operations is in a far better position to accomplish useful work than one which has to send the hat round or materially curtail its activities after the sun has hidden his face behind a cloud for a short period. We might give many examples in proof of this, but for the present purpose it is sufficient to mention the fact that the Council of the National Rose Society fully appreciate the importance of a strong financial position.

MR. WILLIAM COLLINS.
Secretary of the United Horticultural Benefit and Provident Society.

Mr. William Collins,

a well-known figure in the horticultural world, began his gardening career before he was twelve years of age, in a clergyman's garden in Sussex, where he remained for some few years, and then went to Arundel Castle Gardens, where he remained for three years. He then went to Messrs. B. S. Williams and Sons' nursery at Holloway for a time, and from thence passed on to become foreman at Danesbury Park, Welwyn. His next move was as head gardener at Highbury Grange, where he remained for two years, leaving to become head gardener at Chesterford Park in Essex. From Chesterford he went to Harewood, near Bletchingley, and thence to Merton Abbey, Surrey, where he remained nearly five years, as gardener to H. Clark, Esq. Leaving there he became engaged to J. Seligman, Esq., Lincoln House, Clapham Park, S.W., with whom he remained for six and a-half years, and then entered the service of A. A. Vlarts, Esq., Clapham Park, where he was head gardener for nearly sixteen years, until Mr. Vlarts died and the establishment was broken up. It was during the time he was there that Mr. Collins was elected secretary of the United Horticultural Benefit and Provident Society, which was at that time a very small affair, and he was well able to do all the work of the society during his evenings. He has held this important position now for nearly twenty-three years, and during that time has had the pleasure of seeing the society gradually advance to its present dimensions and position, and he hopes to see it increase still further in numbers and prosperity. Mr. Collins is always ready to assert that the success of a society does not altogether lie with a secretary, but with a good working Board of Management, and the general co-operation of the members. We agree, but all the same, we ourselves believe that the success of a society that is soundly based and well managed lies more with the secretary than with any other member of the administrative body. Therefore, we wish to pay our tribute to Mr. Collins' secretarial ability and his constant kindly good humour. Mr. Collins has been a member of the United Horticultural and Benefit Society exactly forty years, and secretary for twenty-three years, and though during that period he has been the channel through which enormous sums have passed for sick pay, and almost numberless acts of benevolence, Providence has been so kind to him that he has never missed a committee meeting and never drawn a penny in sick pay from the society. May he long continue in health and strength.

"**The Gardening Year Book for** 1910" is now published, and will be found to admirably fulfil its purpose, which, briefly stated, is to give trustworthy information on all matters relating to the garden and its management. We shall take an early opportunity of referring to the issue and its contents, but we would now mention that a page with ruled paper is provided for each month of the year for the making of garden memoranda.

Foreign Fruits were imported in somewhat larger quantities in November than in the corresponding month of last year, and one of the most notable increases was in the imports of apples. The aggregate imports of these fruits was 702,079 cwt., of the value of £424,064, or an increase in quantity of 85,869 cwt., and in value of £59,348. Bananas were also received in larger quantities, the total having been 435,814 bunches, of the value of £124,900, the increase in number being 21,382 bunches, and in value £2,935. Grapes show an increase in quantity of 1,678 cwt. and in value of £881, the total having been 94,866 cwt., of the value of £98,555. Large as was the quantity of grapes, it was less than half the imports in November, 1907. Lemons were imported in rather larger quantities, but there was a falling-off in the imports of oranges, and also in the various kinds of nuts. Pears were received in smaller quantities, the total imports having been 44,934 cwt., of the value of £34,463, or a decrease of 3,459 cwt., and a reduction in value of £6,464. In the imports of plums there was a big increase, the aggregate having been 2,658 cwt., of the value of £1,437, against 57 cwt., of the value of £40, in the corresponding month of last year. The value of enumerated fruit amounted in the aggregate to £21,820, or an increase of £1,397. The total value of the fruit imports was £1,135,335, as compared with £1,116,206 in November, 1908.

Royal Horticultural Society.—There will be no show on Tuesday next (December 21) at the Horticultural Hall, but the committees will meet upstairs for the purpose of dealing with novelties.

London Gardens on Vacant Land.—Presumably, as the result of the success that has been achieved by Mr. Fels in utilising vacant land in the Metropolis, the "City Gardens" movement has been adopted by the Church Army as a means of helping the unemployed by converting vacant and it may be unsightly land into productive gardens. The Ecclesiastical Commissioners have generously placed at the disposal of the Church Army two plots in Westminster, and when ready the sites will be let free of rent in plots of about one-eighth of an acre to deserving men. A few days since the movement was inaugurated by the Lady Mayoress, who planted a cabbage in the Stillington Street Garden, and briefly explained the scheme, which we hope will prove a complete success.

Windsor Chrysanthemum Society.—The King has given a new silver challenge cup to this society to take the place of his Majesty's trophy, which was won outright by Mr. T. Stevenson, at the exhibition held in November.

R.H.S. Exhibitions and Meetings, 1910.—The following are the arrangements made by the Royal Horticultural Society for next year, but they are, we are informed, still subject to modification. Spring Bulb Show, March 8; Exhibition of Vegetables grown under Intensive Culture, March 23; Auricula Show, May 3; Carnation Show, May 19; Exhibition in Temple Gardens, May 24, 25, and 26; Holland Park Show, July 5 and 6; Sweet Pea Show, July 12 and 13; Carnation Show, July 26; Autumn Rose Show, September 15; Vegetable Exhibition, September 28; British Fruit Show, October 13 and 14; Exhibition of Bottled Fruit, December 6. The Fruit, Floral, and Orchid Committees will meet January 11 and 25, February 8 and 22, March 8 and 22, April 19, May 3, 17, and 24, June 7 and 21, July 5 and 19, August 2, 16, and 30, September 13 and 27, October 11 and 25, November 8 and 22, and December 6. The annual meeting will be held February 8.

Fruit Culture in the North.—At a conference of delegates from the more important horticultural societies in Northumberland, held at Hexham, it was decided to hold a fruit congress and exhibition in that town next year, and the dates fixed are October 20, 21, and 22. The promoters of the meeting have already obtained promises of co-operation, and among those who have undertaken to read papers are Professor Theobald, of the Wye College, who will deal with insect pests, and Mr. H. Somers Rivers, of Sawbridgeworth, who will take as his subject "Stocks for Fruit Trees." The Rev. J. Bernard Hall, of Corbridge, is the honorary secretary, and will be pleased to hear from those who may be desirous of assisting in bringing the congress and exhibition to a successful conclusion. Sub-committees have been formed for dealing with finance, exhibition, congress, reception, railway arrangements, and other matters.

An Interesting Orchid Case.—On Monday last, before Judge Lumley Smith, K.C., Mr. J. F. Alcock, of Berkhamsted, brought an action against Mr. Francis Wellesley, J.P., of Woking, in the City of London Court, to recover £100 for breach of warranty. The plaintiff's case was that he purchased a plant, at the sale of Mr. Wellesley's collection, described in the auctioneer's catalogue as Cypripedium insigne Francis Wellesley, but which, when it flowered, he considered was C. insigne Harefield Hall, and therefore worth only from two to five guineas, whereas the plaintiff had paid 80 guineas for it. The defendant's case was that the plant had not yet become strong enough, after division and potting, to produce the true character of C. i. Francis Wellesley. Judgment was given for the plaintiff for £70, and costs, in one action, and £25 in another action. Our readers may be interested to know that C. i. Francis Wellesley was illustrated in the Gardeners' Magazine of February 8, 1908.

Instructor in Horticulture for Norfolk.—The Norfolk County Council have just appointed Mr. H. Goude, of The Grange Gardens, Old Catton, Norwich, out of sixteen applicants, unanimously to the post of horticultural instructor for the county. During the several years that Mr. Goude has been in the district he has done much good work in the local gardening societies, and has been a most successful exhibitor.

Vegetable Imports in November were much larger than in the corresponding month of last year. Potatoes show an increase in quantity of 47,315 cwt., and in value of £7,981, the aggregate imports having been 174,401 cwt., of the value of £26,683, and of this quantity 139,148 cwt., of the value of £19,628, were received from France. The imports of onions were very large, the total being 837,517 bushels, of the value of £107,037, as compared with 620,202 bushels, of the value of £101,037. The imports of onions for the eleven months ending with November were 6,958,137 bushels, of the value of £1,144,994. The value of unenumerated vegetables show an increase of £5,550, the total having been £25,109. The imports of tomatoes were 59,578 cwt., of the value of £46,813, these figures indicating a decrease in quantity of 14,714 cwt., and in value of £11,833. The total value of the vegetables imported during November was £205,642, which is certainly a very large sum to pay foreign growers for products, which, with the exception of tomatoes, can be successfully grown in this country.

Staffs in Botanical Departments.—In an appendix to the "Kew Bulletin," a list is given of the staffs of the Royal Botanic Gardens, Kew, and of botanical departments, establishments, and officers at home and in India and the Colonies in correspondence with Kew. The list is somewhat lengthy, and is of much interest, more particularly to those who are concerned with the botanical work that is being done in Great Britain and her possessions and Colonies. We note among the names of the assistants in the herbarium at Kew that of Miss J. J. Clark, B.Sc. There are now three ladies on the herbarium staff.

New Irish Public Park.—The Corporation of Bangor, co. Down, Ireland, having offered a premium for the best design for laying out their park, a large number of designs were submitted, and that of Messrs. J. Cheal and Sons, of Crawley and London, was awarded the first premium.

ROYAL BOTANIC SOCIETY.

In our issue for November 13 we published a letter that had been written by the Rev. W. Wilks, secretary of the Royal Horticultural Society to the Duke of Teck, G.C.V.O., president of the Royal Botanic Society, with reference to the Gardens of the last-named society. Mr. Wilks suggested in his letter that a committee from the Council of each society be formed, and that the two committees meet to consider and discuss any proposals which might be made for securing the preservation of the Regent's Park Gardens for horticultural purposes.

This suggestion was acted upon, the two committees were appointed, and a meeting was held at the Horticultural Hall, Westminster, on November 24. Since the meeting the following correspondence has taken place between the two societies. The first communication, dated November 26, is:—

A Memorandum from the Royal Horticultural Society

Consisting of a skeleton outline of a suggested working arrangement between The Royal Horticultural and the Royal Botanic Societies.

POSITION OF AFFAIRS.—A circular issued by the Royal Botanic Society's Council on November 6, 1909, describes the position thus: "The R.B.S. will come to an end. . . within four weeks' time unless. . . a sum of £2,000. . . is immediately paid."

In a previous official statement sent out by the R.B.S. the expendiuture for the year 1908 is shown to have been £6,290, and the receipts £4,503, that is to say, there was a loss of £1,787, or of £1,053 even if the £734, the interest paid on debentures, be deducted; and, looking back on the previous balance-sheets, the R.B.S. appears to have been working for some time at an annual loss. The Council of the R.B.S. is therefore amply justified in their "apprehended close of the Gardens" and the consequent loss of all the Fellows' rights and privileges, and enjoyment therein.

OBJECTS AIMED AT.

1. To safeguard and secure in perpetuity all existing rights and privileges of the Fellows of the Royal Botanic Society in the Regent's Park Gardens.

2. To secure the continued use of the Gardens for the service of horticultural and botanical science.

3. The constitution and establishment of one great united Horticultural and Botanical Society for the Metropolis and Kingdom.

SCHEME.

(a.) A new society of similar or joint name to be formed under the auspices of the R.H.S., each of the contributing societies nominating members of council in proportion to the number of existing Fellows.

(b.) The R.B.S., with the assent of the Department of Woods and Forests, to sublet or assign their lease to the new society for the full term of such lease (less one month), the Department of Woods and Forests agreeing to accept payment of rent from the new society and giving it their receipt in discharge.

(c.) A covenant to be inserted in the assignment that the joint society is to give up the Gardens and buildings at the close of the lease in as good a state of repair as when assigned.

(d.) The Fellows and Associates of the R.H.S. to rank as Fellows and Associates of the new society on the same terms and conditions, and with the same privileges as attach to them as Fellows and Associates of the R.H.S.

(e.) The Fellows and debenture holders of the R.B.S. to rank as Fellows of the new society on the following conditions:—

1. Subscribing Fellows to pay to the new society the same rate of subscription they at present pay to the R.B.S., and to retain all their existing privileges at Regent's Park and have added thereto all the privileges of the R.H.S. as well.
2. Life Fellows and Debenture Holders to retain all their existing privileges at Regent's Park, and have added thereto the rank and privileges of Life Fellows of the R.H.S. as well.

(f.) At the termination of the Lease all Life Fellows and Debenture Holders of the R.B.S. to cease to rank as Fellows of the R.H.S. unless the lease be renewed.

FINANCIAL ASSISTANCE.

1. The question of the possibility of the R.H.S. affording immediate financial assistance to the R.B.S. does not rightly come under a scheme suggested for the purpose of maintaining the rights and privileges of the Fellows of the R.B.S. in perpetuity and securing the upkeep and present user of the Regent's Park Gardens.

2. The President of the Royal Horticultural Society nevertheless would bring before the Council and Fellows of his Society the apparent necessity that some financial assistance should be given, but he wishes it to be distinctly understood that he has no power whatever to pledge the Society to agree to this proposal.

NOTE.

The suggestions embodied above are in no sense offered as an ultimatum, but as forming a convenient basis for further friendly negotiation, and in the hope that the Fellows of the R.B.S. would prefer such a scheme rather than that their Society should perish, and they themselves lose all their rights and privileges therein.

The Royal Botanic Society's Reply

to the suggested agreement between the Royal Botanic Society and the Royal Horticultural Society is as follows:

The Special Committee of the Royal Botanic Society appointed to confer with the Special Committee of the Royal Horticultural Society, wish at the outset, to acknowledge their very frank and courteous reception on the occasion when they met by invitation at the Royal Horticultural Society's Hall in Vincent Square. And the Special Committee, as desired, accept as a basis for further friendly discussion between the two societies, the memorandum received by them on the 27th inst.

As regards the memorandum itself, they cannot help saying that its shape leaves something to be desired. As regards, for instance, the circular of November 6, to which prominence is given in the memorandum, it was explained at the interview that circumstances had altered considerably since that circular was written.

The actual position of affairs would seem to be as follows:

The Royal Botanic Society is emerging from a critical financial position, but is gathering its forces together. And with the support and self-sacrifice of its Fellows, and the considerate action of the debenture holders, is now in a better position relatively than for some years past. Prompt financial assistance would, of course, further improve matters. The Royal Botanic Society has possession of admittedly the finest garden in London, which, if lost, could never be replaced, and the prospects of the society for next season are good.

The Royal Horticultural Society is in a strong financial position, and has a hall in Vincent Square, where flower shows are held fortnightly, supported by a brisk trade element.

On the other hand, the Royal Horticultural Society has no garden of its own in London, and depends for its more important gatherings on the friendly aid of the owners of the Temple Gardens or of Holland House, or on the hire of grounds such as those of Chelsea Hospital, etc.

Turning to the memorandum itself, it is not clear whether there are intended to be three societies "in perpetuity," namely, the Royal Botanic Society, the Royal Horticultural Society, and "The Great United Society," or only one society. And if only one, what is to become of the rights, properties, and incidents of the two other societies?

As to the mutual extension of the privileges of each society over the territories of the other, it is necessary to remember how this would operate in practice. One society has (say) for the purpose of argument, 1,100 Fellows, and the other has (say) 11,000 Fellows, and the smaller society has a garden, whilst the larger society has none.

Again, the effect of vesting the ownership or management of the gardens in the larger society, whether by sub-lease, transfer, or otherwise, unless the matter was very carefully arranged beforehand, would be that the smaller society would be submerged and swamped in the larger body, and it would cease to have practically the same enjoyment of what are now its own gardens.

Under the heading of "financial assistance," it is to be gathered that the Royal Horticultural Society do not think this rightly comes within the scheme at all. The President generously expresses his willingness to lay the matter before the Council and Fellows of the Royal Horticultural Society, "but has no power whatever to pledge the society to agree to this proposal."

If, therefore, the negotiation is to proceed with hope of useful results, the Special Committee invite the Royal Horticultural Society to make their proposals more clear and definite, especially as to finance.

Without interfering with the constitution or independence of either society, it would, of course, be possible to arrange for the Royal Horticultural Society to enjoy similar facilities at Regent's Park to those which they have had in previous years at the Temple Gardens or Holland House or Chelsea Hospital. And the Special Committees of the Royal Botanic Society would cordially consider any proposition in that respect for the ensuing season of 1910.

PEARS VERSUS TOMTITS.

There have been seasons when the pear crop has been seriously jeopardised by the presence of the tiny, but often destructive, tomtits. By a curious coincidence, though the birds were, during the past season, numerous, as they always are in the vicinity of gardens, they gave no occasion for the slightest anxiety about the pears, though they certainly did about the pea rows in the kitchen garden. It is well known what a partiality there is for sunflower seeds on the part of tomtits, and as there were goodly quantities of these, both annual and perennial, in fairly close contiguity to the fruit garden, it has occurred to us that possibly this accounts in some measure for the passing immunity of the pears. We have observed them actively engaged in taking seed from the sunflower heads, not only last autumn, but in other years as well, but it has not previously occurred to us that the growth of these flowers outside the pear plantation may be an easy and effective means of decoy. Many devices are adopted to protect pear crops from their ravages, including a cardboard disc placed over the stem of each fruit, so that they cannot reach to sample the pear. That these birds are useful agents in clearing trees of obnoxious insects at some period of the year is pretty common knowledge, but there are many pear growers who would choose the insect pest as the lesser of two evils. It proves once again that no uniformity of habit occurs in the life of birds in respect of their food, and this applies to other birds. It would be interesting to learn whether other readers have experienced this same immunity this year, and what may be the contributing causes for such lessened attention on the part of the birds. We may be in error by inferring that the sunflower harvest so engaged the birds that they deferred their annual visit sufficiently to allow of the ingathering of the pear crop, and so obtained a maximum of the season's yield. W. Strugnell.

IMPERFECT SEEDING OF WAVED SWEET PEAS.

The following is the text of the paper read by Mr. William Cuthbertson, J.P., (of Messrs. Dobbie and Co.), at the conference of the National Sweet Pea Society on the 10th inst.:

Those of you who remember the story of "The Vicar of Wakefield" will remember how smoothly ran the career of the family until the eldest son left Oxford and the elder daughter came to a marriageable age. You will remember the loss of the vicar's fortune, and the other remarkable adversities which followed in its train—the selling of the horse by Moses for £3 5s. 2d., which, instead of bringing home in cash, Moses (who was the second son of the family) converted, at the instigation of a sharper, into "a gross of green spectacles."

Now for 200 years the career of the sweet pea ran its course as unperturbed as did the family life of the Vicar of Wakefield at first. But we are now embarked on trying times—and all our troubles date from the advent of Cole's Countess Spencer, but I am sure we can follow the simile of the Vicar of Wakefield a little further. The story ends as all good stories ought to end—most of the characters got married, and lived happily ever afterwards! I am sure something good is also in store for us sweet pea growers. Out of our troubles our flower will emerge like gold from the furnace of the refiner.

In the early days we dealt with certainties. In these days we deal with uncertainties. Speaking of certainties, reminds me of a visit I once paid to my friend Mr. R. Sydenham. He took down a great volume in which he had entered up for years all the sweet peas he had sent to be grown in America, and with that exactitude for which "Robert" is famous, he had scheduled the produce of every seed sent. For example, he bought 100 packets of a novelty, and he knew almost to a pound how much seed he was going to get back, and that it would be practically true. So did all of us. My firm's practice was to sow four ounces to 100 feet, and we knew what the produce would be in five seasons out of six. But all that is changed. We have entered on the "green spectacle" period. In the few minutes at my disposal I shall endeavour to show as clearly as I can by means of photographs and some flowers which have been kindly sent me by the Rev. Macduff Simpson, of Eldrom, the essential differences between the old and the new type of sweet peas, and in conclusion state why, in my opinion, the waved or Spencer type seeds so imperfectly.

Last season was altogether an abnormal one, and I am not therefore disposed to argue from the experience of it, but if we look at an average season I think you will agree with me if I put it that on an average the old type seeds ten times better than the Spencer type. Having said that I have not said all, because a number of the finest Spencers are far below the average, and are nearer being twenty times worse seeders. Think of Etta Dyke and Dorothy Eckford—Clara Curtis and Mrs. Collier or James Grieve—the King and King Edward VII.—Mrs. Chas. Foster and Lady Grisel Hamilton—Earl Spencer and Henry Eckford—Mrs. Hardcastle Sykes and Prima Donna!

Let me explain the process of fertilisation, i.e., what must actually take place before we can have any seed at all in any of the types.

The essential organs of the flower consist of the anthers (stamens) containing the pollen, otherwise the male organs. You see the stigma (pistil) attached to the ovary, the female organ. Now the pollen must be transferred from the anthers to the stigma. Unless this happened there could be no seed. The pollen escapes from the anthers at a very early stage, as all of us know who have tried artificial cross-fertilisation. In the old type of sweet pea the pollen escaped and could not help coming immediately in contact with the stigmatic point, as they were all squeezed up together. In many of the Spencer or waved forms the stigma from the very earliest stage has grown out beyond the anthers. It is quite apparent, therefore, that the chances of fertilisation are much reduced when this condition of things exists. The old type and the Unwin type cannot help being prolific. They are abundantly self-fertilised before they expand. The pollen grains, after attachment to the stigma, begin to grow. They produce a tube which pushes its way down through the tissues of the style (the style is that long upright portion extending from the stigmatic point to the entrance of the ovary). This is a very marvellous process. It is said to be directed and induced to do this by chemical stimulus—otherwise chemiotactic influence. At any rate it is done, and those who have a good microscope can easily observe for themselves, as I have often done, the beginnings of the growth of the pollen tubes. On an ordinary microscopic slide place a drop or two of a weak solution of sugar and water, and into this place a few grains of pollen (if in a moist chamber so much the better). In a suitable temperature these grains will begin to produce their tubes in 45 to 60 minutes, actually while you sit and watch them. Well, this tube extends right down through the tissues of the style to the entrance to the ovary, and there is directed towards a micropyle (a narrow opening into a young ovule) in which resides the nucellus containing the embryo sac and ovum. The generative cell from the pollen grain passes down the pollen tube, and coalescing with the oosphere or female organ, marks the beginning of a new independent life—otherwise a fertile seed.

You can readily understand how this delicate process can be adversely influenced by cold wet weather, either in its preliminary or secondary stage, and especially in the case of Spencer flowers with their more open keels.

Let me now return to the position of the stigma in the flower of the Spencer varieties. You will observe that it protrudes beyond the anthers. In some flowers it seems to do this right away from the beginning, and may be seen slightly protruding in the earliest bud stage. My theory regarding this is as follows: We all know that the anthers dehisce, that is, shed their pollen in the very earliest bud stage of the flower. Unless, therefore, the point of the stigma, in pushing its way to the outside position just referred to, gets coated or partly coated with pollen, the flower runs an exceedingly poor chance of producing seed. If the stigma has not been pollinated before it protrudes, what chance has it of being pollinated afterwards? Very little indeed. It is not in the nature of pollen to rise above its own level. It is subject to the same law of gravitation as other things, and, consequently, will drop down into the keel and lie there without having an opportunity to fulfil the function for which it was made.

Some people argue that sweet peas are pollinated by wind-borne or insect-borne pollen, and that accounts for the variations we get in so many stocks of Spencer sweet peas. I have not been able to subscribe to this theory, because I think I have had as large an experience as most, and have not observed it happen in practice. The plan we adopt at Mark's Tey is to grow the different varieties in lines of 100ft. long. There may be four lines of The Marquis, followed closely by four lines of Countess Spencer, then four lines of Helen Lewis, and so on. If the wind or insect theory of cross-fertilisation held good we should not get pure seed, but as a matter of fact we do. Then again it is suggested that in America there must be insects, unknown in this country, at work there to give us the fine variations we so frequently get! I should like to have Mr. Burpee's or Mr. Morse's opinion on this point. Fifty years ago so extremely careful an observer as Charles Darwin wrote: "Whatever the cause may be, we may conclude, that in England the varieties of sweet peas never or very rarely intercross. But it does not follow from this that they would not be crossed by the aid of other and larger insects in their native country."

Before concluding, there is another condition of things which I must speak of—the liability of the pods after they are formed to rot off. Last season this was particularly noticeable. Close to the footstalk the pods became brown, as if attacked by a fungus. When this happened the pods were doomed. It was only a matter of a few days until they dropped off. This remark reminds me of something else. After the petals dropped on some varieties—notably on Earl Spencer and Edrom Beauty—the young pod appeared all right, but on the slightest touch it dropped off. I remember one evening Mr. William Heal and I were examining some rows at Mark's Tey, and he remarked, "You have a good promise here." I took out a pencil and walked along the row, merely touching the young pods with it, and quite 50 per cent. of them dropped. I think the abnormally cold weather had much to do with this.

To sum up, I must put as the first and foremost cause of imperfect seeding in Spencer varieties—the open keel in conjunction with the protruding stigma, otherwise imperfect fertilisation. Then the extreme sensitiveness of the type to adverse weather conditions. Its very shape, the large waved standard, makes it much more sensitive than the old type. How often have we noticed in bad weather the standard almost rotting and falling down and clasping the keel and pod! Sunshine supervening after such conditions made the standard adhere to the keel and pod as if they had been glued round them, and they could only be removed by being pulled sharply.

Permit me, in conclusion, to say that to all but the seed-grower this non-seeding is an advantage. It means a longer continued period of bloom, and this must enhance the value of the sweet pea as a decorative object. The consolation I would offer the seed-grower is this. The choicest things in the world—the things most worth having—are the things most difficult to get. Nature seems to decide for us that the more perfect we make her productions from our point of view, the more difficulty we shall encounter in reproducing them. This law holds good right through the floral world.

LINARIA GLOBOSA.

This is a very pretty little toad-flax of a quite different habit from Linaria cymbalaria, which is often called the Kenilworth ivy, although it is said to be simply a variety of that charming, if common, trailing plant. Anyone who has seen and examined the little Linaria globosa has, however, grave doubts as to the close relationship supposed to exist, and these feelings of scepticism are increased by the knowledge that L. globosa comes true from seeds. It is a bonny little pot plant, and is a gem for the rockery, seeing that it makes close rounded masses of pretty glaucous green leaves, and gives a wealth of little lilac flowers. It is a charming rockery plant, especially in dry soil, which it much prefers, and where it is less likely to die out than in stiff and wet soil. Seeds of this pretty globe toad-flax are obtainable, and increase of stock can also be effected by means of division before or after flowering. As a dainty little plant it will be welcomed by many.

S. Arnott.

Figs growing in the colder districts will require some protection from severe frosts, and one of the most convenient methods to adopt for this purpose is to loose the branches from their supports and tie them up in convenient bundles, which should be encased in straw or bracken, afterwards making them secure from damage by rough winds or snow by refastening them to the wall.—Geo. Woodgate.

CHRYSANTHEMUMS IN CONSERVATORY DECORATION.

In presenting an illustration of a remarkably successful example of the use of chrysanthemums in beautifying the conservatory there is no occasion to refer to the value of these flowers for decorative purposes under glass. The fact is fully recognised by all who are fortunate in the possession of glass structures that are devoted to plants from temperate regions or are engaged in their management. They are indeed so highly appreciated that there are but few conservatories in which chrysanthemums are not freely used in the production of colour effects in the autumn. It is also a matter of common knowledge that groups of chrysanthemums are almost invariably seen at the autumn shows, and that they frequently form an attractive feature.

A TASTEFUL ARRANGEMENT OF CHRYSANTHEMUMS, ASTON ROWANT.

It might indeed be said that of the several classes of flowers to which attention is given at the present time, not one has been so freely utilised in the formation of decorative groups in the conservatory as the chrysanthemum in its diversity of form and colouring, and that on no one class of flowers has so much artistic taste been shown in the endeavour to display its charms to the best advantage. At the autumn shows much has been done with a view to present groups of chrysanthemums to public notice in a tasteful manner, but the efforts that have been made have not been invariably successful. In too many cases the exhibitors have failed in their endeavour, and the lessons to be learnt from a considerable proportion of the groups have been of a negative rather than of a positive character. The failing of exhibition groups has been overcrowding, and for this the exhibitors have not been wholly to blame. Committees and judges have something to answer for. The former, owing to the pressure on their space have limited the exhibitors to an area whereon a really tasteful arrangement is practically impossible, and the latter have in not a few cases given too much encouragement to masses of colour. There is no occasion to labour this point, but it must be said that it would have been an enormous advantage, if it had been possible for committees generally to have allowed more space for groups, and given definite instructions to judges to regard overcrowding as a serious defect. Had this been done we should have seen much less crowding at exhibitions, and certainly a greater number that would have served as models for the use of chrysanthemums in the conservatory.

Happily cultivators have not in the arrangements of chrysanthemums in the conservatories under their charge endeavoured to imitate the style characteristic of so many of the groups seen at the exhibitions. Consequently, in visiting gardens in the season of chrysanthemums many have been the opportunities for seeing chrysanthemums under conditions favourable to the full enjoyment of the varied charms of the flowers. The successful example in the conservatory at Aston Rowant, the charming seat of Sir William and Lady Plowden, of which an illustration is given herewith, is especially deserving of attention. It brings into strong relief the desirability of giving each plant sufficient room for the display of its distinctive characteristics, and it affords unquestionable evidence of the increased interest and attractiveness of displays in which the several sections are associated. Here there is a happy combination of the leading Japanese varieties with blooms so highly developed that they would have done good service on the exhibition stage, and also of the best of the single varieties. It is, of course, not uncommon to see in conservatories several sections in harmonious association, but the illustration in no way loses in value as an educational factor in consequence thereof. It should be added that since the photograph was taken the plants of scandent habit with which the conservatory is furnished have filled their allotted space, and the general effect at all seasons is greatly enhanced. G.

DECEMBER IN THE ROSE GARDEN.

With the exception of being rather wet we have had a good time for moving rose trees, and the work should be finished in all but a few cases. I am not much in favour of late December or January planting, preferring to have planting done by mid November, while the soil is still fairly warm; or else wait until late in February or early in March, when plant life generally is once more becoming active.

There can be little doubt that early planting is best, as the roots commence to grow at once, and can thus help against the drying effects of frost and wind. On the other hand, if we can procure plants that came through the winter untouched they will do well from March planting, provided they are looked after in the matter of firm treading and careful mulching. One cannot always choose an ideal time, but even up to the end of April plants from pots can be used, and the price, especially for the popular tea scented and hybrid teas, is not much greater.

A little protection during this month is useful; at all events, it is better to have material ready to hand, as any day may see a complete change in the weather. Too many over protect or else leave it alone entirely. I do not practice tying straw around our plants, as if they were immense wine bottles. The slightest break against wind and severe frost is all that is needed in the majority of cases. Oftentimes, I have traced failure, especially among dormant-budded plants of the previous season, to heavy mulchings of manure during winter. When most wanted this is not much protection, because its tendency to hold moisture increases the danger from frost. Light litter may be very well while the atmosphere is quiet, but when the piercing and frost-laden winds prevail this is always carried to some sheltered corner of the garden, or against the hedge, where it is useless. It is also subject to saturation, like the manure, and I am convinced wet and frost combined are the greatest difficulty we have to contend against. Use twigs of birch, spruce, or similar trees. They are easily procured, can be stuck into the ground with little trouble, do not retain the wet, and allow free passage of air; nor do they drift into useless corners. Earthing up the dwarf plants should always be practised. This is almost certain to keep the base of your plants safe, no matter how severe the winter. It also aids in throwing off superfluous wet around this most vital part of roses.

CARNATION PINK DELIGHT.

As shown by Messrs. Bell and Sheldon at the Perpetual-flowering Carnation Society's Exhibition.

It is usual at this time of year to trim up the beds a little, such as removing dead wood, a few weeds, and general rubbish. After the worst of this has been raked off some growers dig between the plants. I would like to warn them against the use of spade or spud too deeply. Give a slight dressing of manure, and then turn the ground over just sufficiently to bury this. Frequently a large number of valuable roots near the surface are torn off through deep digging. Moving the soil in winter is no doubt beneficial in several ways, but it cannot assist the rose.

When the weather is dry, and not too cold, much may be done among pillar roses and those upon pergolas. The latter may be strengthened and generally repaired, while a considerable amount of rose wood can generally be cut away now, and thus ease the work during March and April, which invariably brings on so many things that must be attended to at once.

When building a pergola do not spend so much thought upon making it neat and tidy in itself. Oftentimes a rougher built structure not only suits the purpose better, costs much less in labour, etc., but has a far better effect. However ornate the structure itself may be, this is soon hidden when the plants grow, and they must grow more or less at random if the best effect is to be secured. By all means have several extra strong supports, or the whole will be coming down just as the plants are at their best and needing a great deal of support. So long as it is strong, I think the rougher the better. Small, spray-like pieces of wood or thin laths are useless. We want solidity, and then the plants will afford much support to themselves from their stronger growths.

Roses may have a very taking appearance among other subjects upon pergolas, and are undoubtedly helped by a few clematis, honeysuckle, etc., but it is not an easy task to use the knife properly among mixed subjects, and we have such a choice among roses alone that I would endeavour to keep to them as much as possible. The dead wood of climbers like Clematis Jackmani twines around the rose growths so that it is difficult to remove.

Uckfield. A. Piper.

VASES OF CARNATIONS.

The highly successful exhibition held by the Perpetual-flowering Carnation Society at the Horticultural Hall on the 8th inst., was fully reported in our last issue, and we have now the pleasure of illustrating two of the vases of flowers that were shown. Pink Delight, which forms the first illustration, is a comparatively new pink variety that has been introduced from America, and has the promise of becoming popular among growers on this side of the Atlantic. The vase of flowers of this variety was one of the three for which Messrs. Bell and Sheldon, Guernsey, were awarded the cup presented by the American Carnation Society for three vases of carnation novelties raised in America. The other illustration is given for the purpose of showing how highly attractive mixed carnations are when the colours are well selected and tastefully arranged. As colour is essential to a full appreciation of the charm of arrangements of carnations in which several distinct varieties are used, an illustration in black and white must fail somewhat in its purpose, but it will be useful as an indication that a very charming effect may be produced otherwise than with blooms of one variety. This vase was second in the competition for the prizes offered by Mr. Felton for thirty-six blooms arranged for decorative effect, and the exhibitor was Mr. J. Dudney, Erith, who may be congratulated on his success in deviating from the usual practice in the display of these flowers.

An International Rose Congress will be held at Paris in the summer of 1910, under the auspices of the National Horticultural Society of France and the French Rose Society. The subjects arranged for discussion are: (1) Synonyms of roses; (2) The best remedies for the fungoid diseases of roses; (3) The best roses introduced to commerce in 1907; (4) The most suitable terms for describing the heights of roses; (5) The influence of magnesia as a plant food in rose culture; and (6) The employment of roses in garden decoration. The papers bearing on these subjects must reach the office of the National Horticultural Society of France not later than March 31, 1910. Awards will be made to the best papers by a committee composed of members of the two societies, under whose auspices the congress will be held.

INFLUENCE OF STOCK ON SCION.

There are few members of the craft who have not some little hobby which they like to follow. With some it is grafting, and the trees grafted are generally fruit trees. There is much to be said in favour of heading back large trees of inferior varieties, or of those which may not be in request, and placing on such cutbacks grafts of superior varieties.

There is, however, not always that due consideration given beforehand as to how such unions of stock and scion will affect the after-crop, and this is one of the weak points in the procedure. Fortunately, most of this heading back and grafting is practised on orchard trees, although other forms of trees are operated on, and at times so-called dwarfing or early fruiting stocks are used for garden trees. If such dwarf stocks are of the best for the purpose there is less to say against the practice than in the case of orchard trees, as with the dwarf or trained trees there is only the stock, pure and simple, whether it be the broad-leaved English or other paradise stock. The best stocks should be used, but these are supposed to be absorbed by the trade, which may be a wise provision.

As during winter the grafts are generally selected the selection should be such that the best results may be obtained from the grafting, and, having made the selection of grafts, or, rather, the varieties, note should also be made of the trees and varieties intended to be used as stocks. One of the first considerations is that the trees reserved for heading back should be not too old, and perfectly clean and healthy, free in every respect from woolly aphis and canker. There should also be some selection as regards affinity of qualities, as this is one of the influences likely to assert itself in the quality of the after crop.

Generally, too much weight is attached to the fact that the tree intended for the stock is a strong, free-growing kind, and herein lies one of the principal objections to such trees being used. A tree that corresponds more nearly in many ways to the variety from which the graft is taken is most likely to give the best results. A strong-growing variety as a stock might produce a heavier weight of fruit, but probably at the expense of flavour.

I have recently been examining and tasting some apples which have been grown on trees that had been cut back and grafted. The scions were from one of the best dessert apples in cultivation, and the stock was also one of the best culinary kinds we have, but the fruits were almost uneatable, and I question whether, if they had been used for cooking, they would have been more satisfactory.

Here then was so much loss of time and labour in the grafting of such varieties through using unsuitable stocks. It may have been done with the best of intentions, but without due consideration of the natural influences which might be brought into operation. I have seen many instances of such unions in the West, and have been surprised that more pains have not been taken in the process of selection, but thought is not always given to the "survival of the fittest."

It is reminiscent of commencing hybridisation by a method that is ten years behind the times instead of using the material of the present day. It can scarcely be expected to make much progress working on such lines. T. H. Slade.

ASTER ALPINUS.

Ere the glamour of the autumn-flowering starworts fades from our memory, it may not be inappropriate to bring the merits of the dwarf alpine species before the notice of readers of the Gardeners' Magazine. These are suitable for the majority of gardens, requiring but ordinary cultivation to bring them to perfection, and their floral beauty is of so high an order among hardy plants bearing "daisy" flowers that only a very few equal them in individual beauty and refinement.

Aster alpinus and its varieties have long been known to gardens; the type has purple flowers some two inches across, and these are borne singly upon stiff stems some nine inches in height; the leaves are lanceolate, broader toward the point, which is somewhat blunt. A. alpinus speciosus is a most desirable plant, and in this form the ray petals are bright purple, while the central disc is orange; the individual flowers measure three inches in diameter, and are freely produced, singly, upon stiff stems that vary in height from twelve to fifteen inches. A. alpinus albus is a white variety, but it is neither so reliable or so effective as the purple varieties.

These dwarf asters grow freely when planted upon the dry slopes of rockwork, and, once established, they prove most reliable and generous subjects. When in bloom, during June and July, the great daisy-like flowers of A. alpinus speciosus stand out quite distinct, and, when suitably placed, these composite flowers provide a marked contrast to the various tufted and creeping subjects which adorn the rock garden.

As edging plants they introduce a quite new and distinct note in the garden scheme, but when employed in this manner on no account must they experience a surfeit of moisture during winter, while some measure must be employed to ward off the attacks of slugs, otherwise the floral display will be endangered, as these enemies are extremely partial to the crowns. Aster alpinus is readily raised from seeds sown under glass in spring, the seedlings being pricked out into boxes and hardened off in frames before planting out. It is also increased by division of the crowns in early autumn or during spring.

Thomas Smith.

Walmsgate Gardens.

A BEAUTIFUL VASE OF MIXED CARNATIONS.
Shown by Mr. Dudney at the Winter-flowering Carnation Society's Exhibition.

WINTER-FLOWERING BEGONIAS.

The winter-flowering begonias to which present reference is made are a distinct and increasingly popular class, and do not include either the winter-flowering species or the Gloire de Lorraine family, for the latter must now be regarded as a family, seeing there are so many varietal forms.

The Veitchian race of winter-flowering begonias is comparatively new to the majority of growers, and yet the earlier hybrids were raised over twenty years ago by Mr. John Heal, V.M.H., Messrs. J. Veitch and Son's clever hybridiser, to whose skill this race is entirely due. Rather more than twenty years ago I was with Mr. Heal in the Chelsea Nurseries, and took a modest part in the propagation of these earlier varieties, and I have never been able to quite understand the reason why these beautiful and extremely useful begonias have come so slowly into popularity. Perhaps the chief reason has been a want of care during the resting period, a period that lasts throughout springtime, and, further, the earlier varieties were too often regarded as winter flowering representatives of the tuberous varieties, and treated accordingly to a severe "drying off" or resting process, and this they could not stand. The tuber is small, and, in some cases, not much more than a thickened rootstock or crown, consequently severe drying under the stage or in a cupboard was more than they could stand. An intermediate temperature is advisable, growing on, resting, with a drier atmosphere during the latter period, and an occasional watering at wide intervals to keep the tuberous portion from shrivelling up entirely.

A FINE COLLECTION OF WINTER-FLOWERING BEGONIAS.
Shown by Messrs. J. Veitch and Sons, Lim., at a November Meeting of the Royal Horticultural Society.

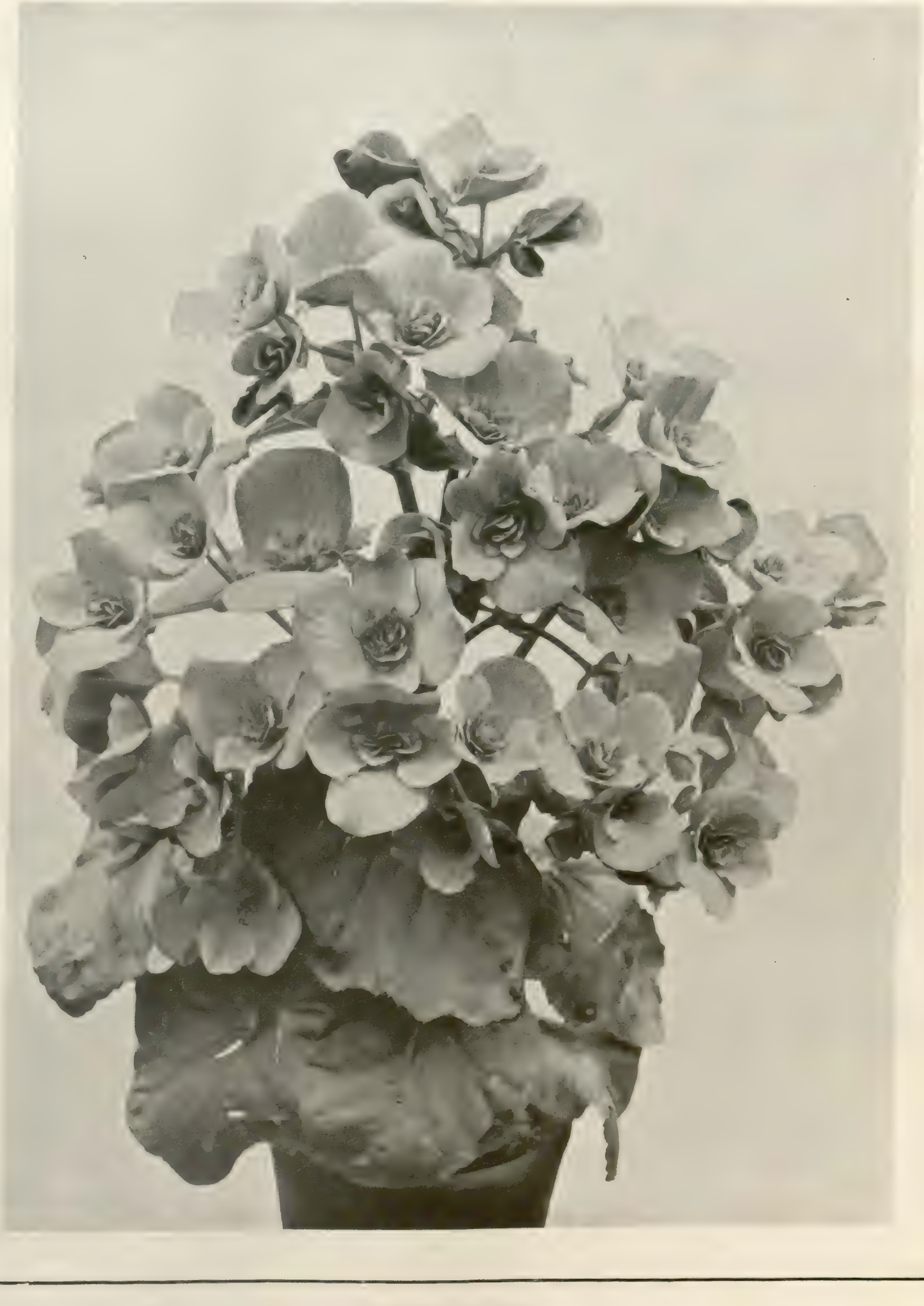
The resting period is the critical one, and, unfortunately for these begonias, it comes at a period when gardeners are intensely busy, but upon the care bestowed at that season the success or failure depends. Plunging the store pots in larger ones, with cocoanut fibre refuse packed between the two pots, and kept just moist, affords an easy method of keeping the tubers from harm either by drought or excess of moisture.

When the resting plants start into growth again all is plain sailing. Propagation by cuttings of the young shoots, or tops of young rooted plants, is a quite easy matter, if small pots, very sandy soil, and a close frame in the propagating pit are provided, and sufficient moisture afforded. Large pots are a mistake, as the plants respond readily to feeding, and a very fine example can be grown in a 32-sized pot. Charming late-struck plants in small sixty-sized pots, suitable for table decoration, can be easily produced.

Those who have not seen the splendid exhibits of these carmine, rose, or crimson-scarlet flowered varieties made by Messrs. James Veitch and Sons, Chelsea, will be interested in the accompanying illustration of a display made recently at the Royal Horticultural Hall. Several well-known gardeners have also exhibited similar varieties in fine form lately, notably at Norwich, Hitchin, Sheffield, York, and Edinburgh. This quite disproves what I was once told, i.e., "John Heal raised them, and only John Heal can grow them." The long houses full of variously-sized plants of these begonias at Messrs. Veitch's Feltham nurseries also disproves this statement, for, presumably the plants are grown for sale, and not for the personal pleasure of the members of the firm and staff; indeed, the amount of stock is always an excellent indication of popularity.

Begonia socotrana, introduced from Socotra, by Professor Bayley Balfour, in 1880, laid the foundation of the race; crossed with the tuberous Begonia Viscountess Doneraile, it gave B. John Heal, the first socotrana hybrid. This variety very rarely produced a female flower, and its blooms, of rosy-carmine hue, lasted a very long time even in the none too clear atmosphere of Chelsea. It gained an A.M., R.H.S., on October 13, 1885, and though still grown, it stands little chance against the later varieties. B. Adonis came next, and was derived from an orange-scarlet tuberous begonia crossed with B. John Heal. It is a fairly strong grower, and has large carmine flowers, but it, too, is passing out of cultivation. B. Winter Gem was obtained by crossing B. socotrana with a crimson-scarlet tuberous variety, and it was, indeed, a little gem, producing vivid crimson-scarlet flowers in midwinter, but, alas! it was difficult to grow, and is now very rarely seen, but it is a lovely thing when successfully managed.

B. Mrs. Heal was, and is, a great success, and resulted from a crimson-scarlet tuberous variety crossed with B. socotrana. It is a fine grower, and has large scarlet flowers of great brilliance. One of the very best of the set. It gained an A.M. on October 15, 1895, and a fortnight later B. Success secured a similar award. The latter has rosy-crimson semi-double flowers with a pale yellow centre. B. Ensign followed, and secured an award in November, 1896; it has large carmine-scarlet, semi-double flowers. Both Success and Ensign were raised by crossing a rose-coloured semi-double tuberous variety with B. socotrana. B. Julius is an outstanding variety, with light rose-pink flowers often two and a-half inches across. B. Winter Cheer is still larger, being about three inches across, rather less than semi-double, and bright rosy-carmine. These varieties gained awards late in 1897; the former had a semi-double white, and the latter a semi-double crimson tuberous variety as one parent, with B. socotrana as pollen parent. B. Winter Perfection, with bright rose-pink flowers, was introduced in 1898; Ideal, a dwarf rosy-carmine, in 1901; B. Elatior in 1906, and the new B. The Gem gained an A.M. in November last, and is not yet in commerce. In every case B. socotrana has been one parent, so that these begonias are hybrids, and not merely selections or cross-breds from seedlings of hybrids. B. Agatha and B. Agatha com-



BEGONIA ELATIOR.

A beautiful winter-flowering hybrid raised by Messrs. J. Veitch and Sons, Lim., and bearing bright rose-carmine flowers.

pacta, also raised at Chelsea, belong to the B. Gloire de Lorraine group, and have, in each case, a fibrous-rooted begonia as one parent.

A good selection of the foregoing would be Elatior, Julius, Mrs. Heal, Success, Winter Cheer, and Winter Perfection.

C. H. Curtis.

GARDENERS' IMPROVEMENT SOCIETIES.

The recent meeting in London in connection with the various improvement associations for gardeners, does not appear to have advanced matters very much for the general body of those connected with them. Matters in connection with those interested in the art and science of gardening are moving very rapidly, and it is clearly apparent on every hand that the future will be in the hands of those men who have a clear knowledge of the important matters in their work.

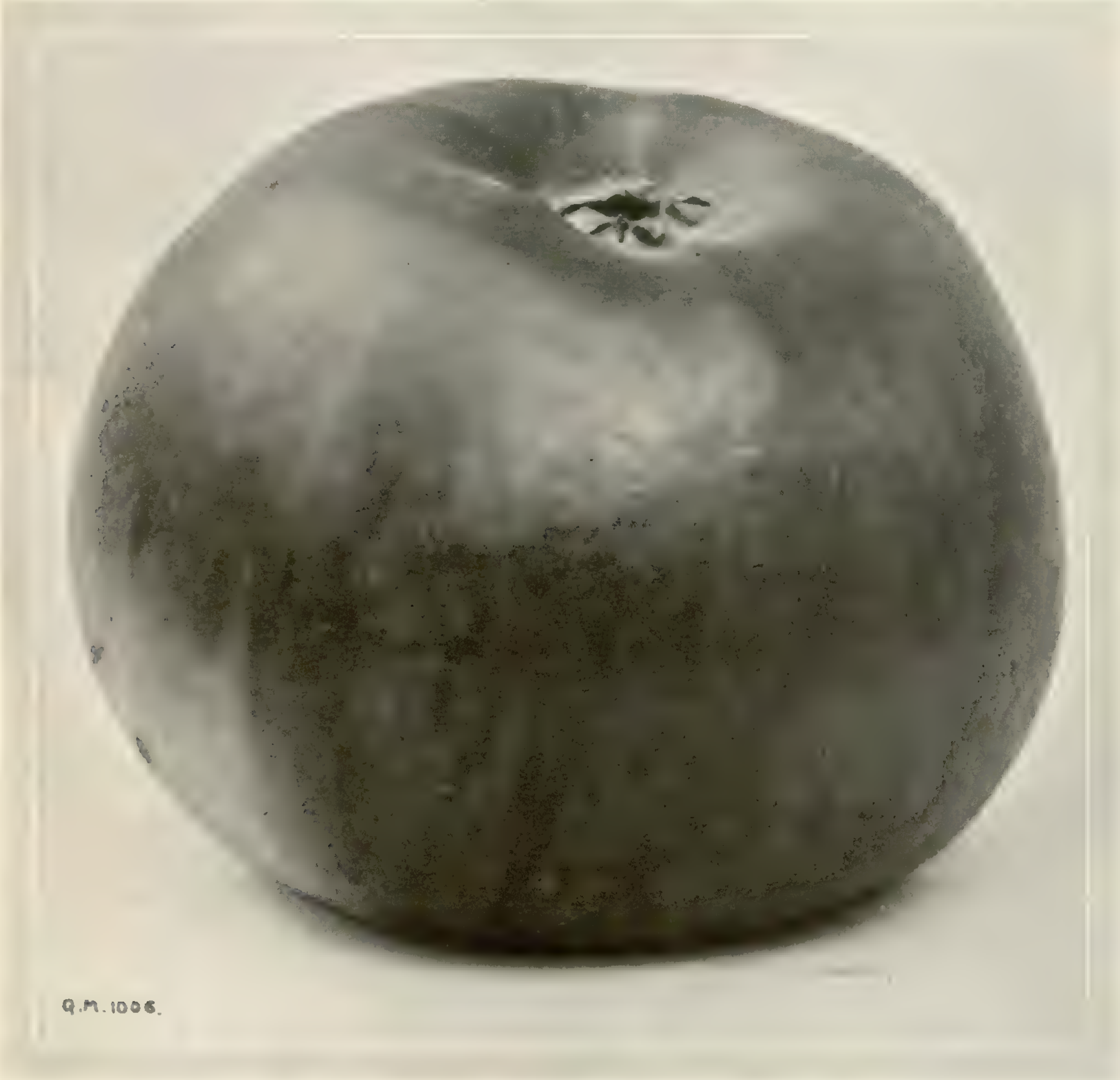
At the present time many associations do little else but listen to papers read either by their own members or those from societies of a similar nature. Many of the papers read are excellent, and well thought out, but it rarely happens that there is much time for discussion afterwards, and very frequently it is only a few of the leading men who have anything to say after the lecturer has finished. I think the greatest good that could be done in connection with such societies as these would be the organisation of classes for the young members. These young men look forward to the time when they will be recognised heads of our leading country establishments, or fill other openings which appear to be widening every year. What is being done by these societies to open out and broaden the views of these young members who have joined them, hoping to benefit thereby? Single lectures upon given subjects are useless to them from an educational standpoint, because there is not sufficient time to deal thoroughly with any one subject. The lectures given are often, educationally, of more value to the lecturer than to the audience, and thus they do some good. The details of many are only grasped by experienced gardeners who have been grinding slowly through the mill of routine work, and have encountered various checks, which, when overcome, have left them wiser, more fully equipped, and better able to avoid future disasters.

We move faster in the present day in many ways, but from an educational standpoint, as regards the finished article in gardeners, I do not think the general hothouse system of development brings out all that is best in a man's character, and until a man takes as much interest in the soil of his flower or kitchen garden, as in his various pot mixtures, his success will never be what it might.

Now, if all these societies were to organise classes specially for their young members, I feel perfectly sure that they would assist such members to arrive at definite conclusions about their work years sooner than it is now possible for them to do. They should be taught how to learn, and if men well versed in given subjects, and connected with each association, were asked to conduct six or a dozen lectures upon a subject, there would be some possibility of the members getting a grip of their work. There are many men in the gardening world at the present day who have learnt much by having to impart their knowledge to others, and I venture to say that they are few who would not acknowledge such benefit. Of course, whether such classes were a success or not would depend entirely upon the teacher; but, properly directed, nothing but good could come of such work. That it would be appreciated by genuine young gardeners need not be doubted. Once they are shown the quickest and correct way of acquiring knowledge upon important matters dealing with their work, it is quite astounding how eager they are to go deeper into their subjects.

Many scoff at "theory," as it is termed, but the worker who has a good basis of "whys" and "wherefores" and intelligently applies them, will work out his own salvation. The mere theorist in horticulture must ever go to the wall, he is useless in such a profession, and must always fail in dealing with practical details. The young gardener begins at the right end, viz., the practical end, and providing he is well drilled in a good vegetable, fruit, and flower garden, interested in his work, inquisitive about it, and anxious to do all work entrusted to him in a thorough manner, he will some day be a credit to the craft. Such opportunities for helping young men, who are too ill-paid in many cases to pay for receiving tuition, ought not to go unnoticed, more especially in largely populated centres. Of course, young men attending such classes should take notes, subject themselves to being questioned, and in turn be allowed to ask questions. Possibly they would be glad to subject themselves to an examination on paper upon the subject dealt with. All these things are simple to arrange, and would, I believe, be popular with young gardeners connected with these associations. At present the young men feel hopelessly outclassed by the older members, and for other reasons are sometimes afraid to express their views. Given encouragement, their latent qualities will develop, and daily work will be more of a pleasure to many than it now appears to be.

Guildford. C. Foster.



APPLE, RIVAL.

A distinct variety, equally suitable for culinary purposes and dessert, raised by Mr. C. Ross, and introduced by Messrs. J. Cheal and Sons.

APPLE RIVAL.

This handsome apple, although of recent introduction, has been in cultivation a sufficient length of time to be submitted to a thorough test, under varying conditions of soil and climate, two important factors in determining the merits of apples and other hardy fruits. It is one of the several useful varieties raised by Mr. Charles Ross, and is described as having originated as a cross between Peasgood's Nonsuch, so well known for its large size and attractive colouring, and Cox's Orange Pippin, which in its season has no equal in flavour. If in the production of this variety the veteran raiser was not successful in obtaining an apple of the size and colour of Peasgood's Nonsuch with the rich flavour of Cox's Orange Pippin, he succeeded in obtaining one that is of much merit. The fruits are, as already intimated, attractive in appearance, being of good size, shapely, and bright red on the side next the sun, and the flesh is of excellent flavour. The variety belongs to the class of apples that are adapted for both culinary purposes and dessert, and well coloured examples of medium size are remarkably attractive when seen undere artificial light. The tree is of free growth, has an upright habit, and is an excellent cropper, and well suited both for garden and orchard culture. Rival was submitted to the Royal Horticultural Society's Fruit Committee on the occasion of the meeting held October 9, 1900, when an Award of Merit was made in its favour, and it was distributed by Messrs. J. Cheal and Sons, of the Crawley Nurseries.

AUTUMN COLOURING.

This has, I believe, been generally considered a bad year for autumn tints, and certainly with me in the Cotswolds the colours have been much less bright than usual, but I am sorry to say they never are very good in my garden, and what I should like to know is whether autumn leaf colouring is caused by soil or temperature, or situation, or by a combination of all three.

I find many people who are interested in their gardens pay little or no attention to autumn colouring, but I think that anyone who has the scope ought to plant for autumn effect. I have planted a considerable number and variety of shrubs, which, in many places, put on gorgeous tints in autumn, but with me are often most disappointing. My soil is strong loam and clay, and my garden, although 550 feet above the sea, lies low, and near a river. I have hitherto regarded the lowness of the situation and the strong soil as the cause of things failing to colour well, but, on the other hand, I have visited places with all kinds of soils, and have sometimes found the leaf colouring as bad, and worse, than with me. Elms never colour well with me, though I have seen them in other places on similar soils a magnificent colour. Of course, one may often see two elms growing side by side in a hedgerow, one a beautiful golden colour, and the other quite green. It is the same with the English maple, which is often so fine in the Cotswold hedgerows—no two of them are alike.

This autumn I went over to the Batsford Park gardens to see a specimen of Rhus cotinoides which had turned the most gorgeous and indescribable colour I have ever seen, but it was the only one of perhaps a dozen plants which had coloured at all. I have only one plant of this variety, and it has never coloured at all. Rhus cotinus is disappointing, although I have seen it finely coloured in some gardens.

Vitis Coignettæ, which is very fine at Batsford, hardly colours with me, though it has grown 50 or 60 feet high. On the other hand, Vitis Thunbergi was quite good this year.

Berberis Thunbergi colours very finely with me in one part of my garden, but in other parts, not more than 50 yards away, it hardly assumes its autumnal tints. The liquidambers and scarlet oaks are, perhaps, the most satisfactory and consistent colourers in my garden, and when the leaves do turn they hang on for a long time, right up to the end of November. The Japanese maples are occasionally very fine, but sometimes most disappointing, and this year, for instance, they shed their leaves before they were nearly at their best. Parrottia persica is sometimes splendid, but failed to colour this year.

Euonymus alatus is very fine in some gardens, but has never been any good with me, nor has Berberis virescens, which I have sometimes seen very richly coloured. I think the best thing with me this year in the way of shrubs was Prunus sinensis fl.-pl., which was a lovely shade of pink – in fact, I have never seen it so good before. Other subjects, to mention a few at random, which are generally more or less good, are Spiræa prunifolia fl.-pl., Pyrus arbutifolius, Euonymus europæus and atropurpureus, Viburnum opulus, some of the Japanese cherries and bird cherries, maples in variety, tulip trees, azaleas, Rhus glaber, and Andromeda arborea. On the whole, I should award the palm to Berberis Thunbergi, which begins to turn scarlet with me early in August, and continues till November.

But the question is what causes this colouration? Of course, I know that things generally colour best on poor soils, or, at any rate, do not colour properly until they are well established and have exhausted the soil they are growing in, but even then they are not always satisfactory, and I am inclined to think myself that individual shrubs may vary in the same way as any other individual plants, such as a delphinium or a hollyhock may vary from seed—some may be good and some not worth keeping. However, I should be glad if someone who has had more experience than I have, and who has more scientific knowledge, would enlighten me. M. F.

APRICOTS UNDER GLASS.

Inexperienced cultivators are very liable to make a mistake in their treatment of apricot trees under glass by forcing them unduly.

I would like to draw attention to two excellent varieties for growing under glass, and to give inexperienced cultivators a few hints on their management. In the first place I would point out that both varieties make strong growth in an ordinary good soil, and that it would be inadvisable to construct for them a too rich border.

Healthy trees must be planted, and in a careful manner, to avoid bruising the bark. If the soil is at all deficient in lime procure some old mortar rubble and brick ends; break up the latter, pound them with a heavy hammer, and, together with the lime rubble, mix one bushel with seven bushels of fibrous loam. The drainage must be good and efficient, the rooting medium about twenty-two inches deep. All the new compost below the roots of the trees must be made thoroughly firm while it is in a medium state of moisture; especially is it harmful to make it firm while very wet. Spread out the roots evenly, and then make the soil very firm around them, also keep the structure cool and well ventilated. In summertime be content with sturdy, short-jointed shoots, as they are the best, and avoid as much as possible late autumn growth. When the trees are in good fruiting condition do not give too much artificial heat, but be lavish with ventilation while the flowers are open and the resultant fruits are ripening.

The two varieties I refer to are New Large Early and Royal. The former has very large, clean fruit, and the flavour is very rich. The fruit ripens well. Royal follows in ripening, and the fruits of this variety are large, juicy, rich, and of good colour. I have grown both with much success under glass with other varieties.

Geo. Garner.

ANTHEMIS BIEBERSTEINI.

Although it is not everyone who admires the anthemises, or chamomiles, there are several of the species which merit the favour of cultivators of hardy flowers. They have, as a rule, remarkably pretty, finely divided, and, frequently, silky or silvery foliage, while the flowers in the majority are of considerable beauty.

Anthemis Biebersteini, which is figured herewith is one which is usually a favourite with those who cultivate it, either in the rock garden or grown in pots in a frame to be taken into the alpine house to flower. This species is a native of the Caucasus, and has been in cultivation in this country for a considerable time. It is perfectly hardy with us, and forms a neat growing plant composed of a number of white and silky leaves divided in a pinnate manner, and giving in themselves a pleasing aspect to the plant. From this rise stems bearing yellow flowers, which are large for the size of the plant, and, although not in the first rank of floral beauty, are usually admired by the owner of the plant and his friends. The height of the plant is usually about a foot, but it is frequently exceeded in rich soil.

ANTHEMIS BIEBERSTEINI.
Flowers yellow.

Bieberstein's chamomile is easily cultivated in a soil composed of sandy loam and leaf-soil, with some grit added, although it is not particular in this respect. It prefers a sunny and rather dry position, and is increased by means of seeds sown in pots or pans, in the usual compost for hardy flowers, and by cuttings or division. The latter may be done in spring or immediately after flowering is over. As a rock garden or border plant Bieberstein's chamomile deserves the consideration of intending planters.

S. Arnott.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

TEMPERATURE.—The temperature of each department of the orchid houses should now be reduced to the minimum degree. This will avoid, to some extent, fluctuations, but as the outside atmosphere is so liable to frequent and rapid changes, the temperature inside the houses must of necessity be affected, one has to be constantly on the alert to counteract these varying conditions and to minimise, as far as possible, any undesirable conditions caused thereby. It is a considerable advantage where there is an ample provision of hot-water piping. There is then never that dry, smelling heat, which is so undesirable. It is all very well for the builder, at the time of erecting glass-houses, to state that the amount of piping is ample for any demands. Pipes cost money and are a big item when contracting for new glass-houses. Ample piping not only diminishes the undesirable conditions always in evidence on a cold night where the heating surface is limited, but, what is still a greater consideration in after years, the cost of fuel is very considerably reduced, and, with diminished labour, removes the anxiety from those who have to look after fires and the well-being of the plants. The advantage of lath roller blinds on the roofs of the houses cannot be overestimated, especially in exposed positions; letting them down at dusk is of considerable advantage on cold and especially windy nights.

CLEANSING THE ROOF GLASS.—In the neighbourhood of London, after a fog, the glass becomes so thickly coated with dirt that it resembles slates. With so much deposit it is desirable that it should be removed as soon as possible, so that all the advantages of the little available light may be afforded the plants. I have found that the brushes used by railway carriage cleaners are the most useful for this purpose, but care must be observed to prevent any back-wash being forced through the laps of the glass, as water and dirt combined falling on the foliage and young growths of the plants is very undesirable. In more favoured districts considerable advantage is afforded to the plants by washing the outside glass at the present season, choosing a mild day for the work. The dirt should not be permitted to enter the soft-water tanks, so that all down spouts should be stopped and the gutters cleaned.

EXHIBITING ORCHIDS.— Taking plants out of the houses for show purposes in another item that requires some forethought. I find that plants can be taken and brought back over hundreds of miles (in my own case they are frequently three days in transit) with little or no ill-effects. I find that if they are allowed to become reasonably dry, very little danger is experienced, and especially is this the case with tender subjects, if precaution is also taken to place them in the cool odontoglossum house for a day or two previously to their being packed for the show. I have also found this method particularly beneficial in the case of calanthes for use in the house.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

CHRISTMAS DECORATIONS.—The festive season is almost upon us, and at most places in the country preparations are in hand for the entertainment of visitors, consequently gardeners will have their hands full, and where the conservatory is attached to the house every care must be taken to make it as bright and attractive as possible. The structure should be thoroughly overhauled and the plants rearranged, and if the colour scheme can be carried out in red and white it will then be as bright as is possible to make it, and quite in keeping with the season of the year. The season having been a wet one, chrysanthemums are generally late, and there should be a good batch of white varieties to draw from. Amongst other tall white flowers in bloom now are Lilium speciosum album, Lilium longiflorum, and arum lilies, whilst among the dwarfer plants are Begonia Turnford Hall, carnations, freesias, and Roman hyacinths. All these, if judiciously arranged with salvias, poinsettias, euphorbias, etc., should make a good show and last in good condition for at least a fortnight. If the conservatory or winter garden is used for sitting-out in the event of evening parties or dances, care must be taken to keep it at an even temperature. If lower than 60 deg. it is not at all comfortable; from 65 to 70 deg. is about the best temperature, and though this does not suit the plants and flowers, personal comfort is the one thing to be considered at such a time.

BULBS.—All the earlier batches of bulbs should now be examined, and as many of them as are well rooted should be removed from the ashes. As they are taken out, wash the pots and stand in frames where they can be shaded for a few days until the foliage becomes green and hard. Batches should be systematically brought forward into the houses ready for replacing the others as they go out of bloom.

CINERARIAS, PRIMULAS, and CYCLAMEN that are progressing towards the flowering stage will all benefit by an application of artificial manure. A small amount should be carefully sprinkled over the surface of each pot, afterwards giving just sufficient water to wash it in.

CHRYSANTHEMUMS.—Where these are intended to be grown for large blooms no time should now be lost in securing a batch of cuttings, starting with the varieties that are late in opening and those that require to be run on to the second crown to produce good free-opening blooms. Firm, stocky cuttings should be procured, and if possible should be inserted singly in thumb pots, using a light compost of one part each of loam, leaf-soil, and silver sand, afterwards plunging the pots to the rim in cocoanut fibre in a frame, on an old hotbed that has just a little heat left in it, or, of course, they may be put in a close frame in a cool house. The former method I prefer, but great care must be taken not to let the cuttings become frozen, or it will very much weaken them, so mat up carefully each night, whether frosty or not, as prevention is better than cure.—Thomas Stevenson, Woburn Place Gardens.

THE FLOWER GARDEN.

DEEP CULTIVATION.—This is just as important in the production of first-class flowers as in other branches of gardening, and one which will more than repay for the what may seem to be extra time and labour spent. It is a good idea to work a small portion well each year, rather than attempt more than one can manage, and make a poor job of it. The value of deep tillage is often proved in a dry season, when, during prolonged drought, the roots have a free run, and a greater depth from which to derive the moisture necessary. Deep tillage, together with good mulching on the surface, are worth a great deal more than frequent waterings on a shallow, barren soil. Any borders or parts of the garden now devoid of plants can be treated, and, whether dry or trenched, let the work be well done. If planting is to be deferred until the new year, leave the surface in as rough a condition as possible.

THE HERBACEOUS BORDERS.—Where it is intended to renew these, the present affords an opportune time for the work, and when the newly-moved ground has settled planting may be done again, providing the ground is not too frosted. Great care should be exercised in removing the occupants and keeping them safe, together with their labels, or much confusion will arise. They must be either temporarily laid in or else be well covered, and laid out under a wall or skeleton frame, as near the work as convenient. Commence by opening out a good trench, and place a good layer of partially-decayed refuse in the bottom, adding other suitable materials as the work proceeds, according to the nature of the soil one has to deal with. When the work is finished, a good dressing of soot will be advantageous, and it should be allowed to remain on the surface for a few days prior to being forked over ready for the re-planting. Before the latter work is commenced, however, one must have an idea of what will be required and the system to be employed, otherwise there will be hopeless muddle. As with all other work, the most important thing to do is to have the general outline sketched out, and leave details to the last. The heights of the various plants, colour, size of the clumps, blending of the colours, and season of flowering have all to be considered. A word as to dividing the old stools. Do not chop away at these with a spade, but divide them by inserting two forks back to back, and then forcing them apart. Plant fair-sized, healthy pieces, make them firm, and label neatly as the work proceeds. Neatly rake down the border when completed, and apply a light covering of old mushroom-bed manure.

BEDDING PLANTS.—To keep these in the healthiest possible condition they must be thoroughly examined, rearranged, and relieved of decaying leaves. Especially does this apply to standard plants of heliotropes, swainsonias, pelargoniums, fuchsias, etc., which are held in reserve for another year. Boxes of cuttings of bedding pelargoniums will require similar attention, so will calceolarias, pentstemons, echeverias, etc. Air should be admitted whenever possible, and water sparingly given. All plants in cold frames should be made thoroughly secure against frosts each night.—Edwin Beckett, Aldenham House Gardens.

HARDY FRUITS.

VINES.—These should be pruned if the weather is favourable; cut all lateral shoots back to a couple of eyes. Young rods which have been left for extension or for replacing worn-out branches should be shortened back to three or four feet, according to their strength. Give the rods a couple of sprayings, with an interval of three days between each, with the liver of sulphur emulsion, which will assist to keep red spider in check—the worst enemy of outdoor vines. Remove a little of the old surface soil, and add some good turfy loam, in which finely-broken old mortar, wood ashes, and a little vine manure have been incorporated, afterwards mulching with farmyard manure.

QUINCES AND MEDLARS do not require much pruning, but some of the smaller wood from the centre of the trees should be removed to prevent overcrowding, and the leading shoots be shortened a little to strengthen the branches. Trees in bearing require some extra assistance to enable them to produce choice fruits, and this is best applied in the form of a good dressing of farmyard manure at this season, with the addition of several applications of liquid manure during the summer.

DAMSONS are a most useful fruit, and are generally much appreciated, and more especially so when the plum crop is below the average. The trees should have a little of the spray wood removed from among the branches each season to allow the air and sun to penetrate to all parts of them. A good sprinkling of lime should be applied to the surface every alternate season, lightly pointing it in with a garden fork, and if the trees have borne good crops of fruit a dressing of manure over the roots will prove beneficial.

WALL TREES.—As the work of pruning and refastening is finished, collect all prunings and dead leaves and burn them, and then lightly dig over the surface with a garden fork, being careful at the same time not to damage any of the young fibrous roots. On most soils an annual dressing of fresh lime, soot, and wood ashes will prove beneficial to the trees. The older trees, which are in full fruiting condition, should have, in addition, a light sprinkling of one of the well-known fruit manures to maintain them in a healthy and fruitful condition. Young trees and others which are making too much growth should not have manure applied to them.

FRUIT ROOM.—Keep the atmosphere cool and dry by admitting a little air whenever the outside conditions are favourable; remove all fruits which show the least signs of decay, and endeavour to use up the several varieties in their proper season. Labels, with the name of the variety, and the period when it is most fit for use written upon them, are very useful as reminders.

LIQUID MANURE.—At this season of the year there is generally an abundance of this useful commodity, and it should not be allowed to run to waste. Trees which are well established and in a good fruiting condition, will be greatly benefited by a few good soakings during the winter, but it should not be applied in a too strong state, nor when the soil is frozen.—GEO. WOODGATE, Rolleston Hall Gardens.

THE MANAGEMENT OF FORESTS.

In the series of lectures now being delivered by Mr. William Dawson, M.A., B.Sc. (Agr.), lecturer in forestry at the Aberdeen University, under the auspices of the Aberdeen and North of Scotland College of Agriculture, none has yet proved more delightful and instructive than that given on "The Management of Forests." There was, as usual, a large and highly-interested audience, comprising foresters, assistant foresters, gardeners, estate factors, and many engaged in legal offices in the City of Aberdeen, having factorial or estate management duties as part of their business.

Mr. Dawson, in his introductory remarks, spoke of the natural and artificial methods by which forests were established and regenerated. When all was said and done, the naturally regenerated wood, he pointed out, was the exception and not the rule, and artificial regeneration was the system likely to remain. There was a choice of two methods: They might sow the seeds where they were to spring up, or they might sow the seeds in specially prepared gardens or nurseries, and, after a certain number of years, plant out the young trees. The first-mentioned method, he showed, could scarcely be adopted in regard to the afforestation of sand dunes and shifting sandhills. As the method employed in dealing with these sandhills was somewhat exceptional, he described the process adopted in sowing or planting grasses, erecting palisades, etc., so that the sand might be, as far as possible, prevented from moving. The sowing or planting of trees then proceeded, the result being that even where there were shifting sands, the ground was firmed up and woods were reared successfully to produce an excellent crop of valuable timber. Mr. Dawson, in this connection, pointed to the destruction that had been done to much valuable agricultural land on the shores of the Moray Firth, and to the steps taken to have sand dunes fixed along those shores, and also at Cruden Bay, by planting trees.

There was also a strong movement afoot in outlying parts of Germany, the lecturer said, for the afforestation of old agricultural land which had become deteriorated and where it no longer paid to grow agricultural crops. There were certain areas in our own country where land of that class might be profitably utilised for the growing of timber. The "ball-planting method" adopted by the German Government was described, the young trees in this case being transferred to the place where they were to be set with a considrable ball of earth attached to the roots, and planted in holes prepared for them. That method, although more expensive than others, was generally found to be very satisfactory. Another method of planting described was that known as "notching." The "T" notching method was still a favourite in many places, but did not give such satisfactory results as it ought to give.

Mr. Dawson then proceeded to refer to the much-discussed question of the distance trees ought to be planted from each other. The former method was all in favour of wide planting, and it had been advocated that oaks ought to be set 40ft. apart. So with conifers it had been the rule to have them planted wide apart. Nowadays, however, the pendulum had swung to the opposite extreme, and trees were planted closely. By means of the lantern the lecturer showed at this stage, very clearly, the results of open and close plantation—the former encouraging the tree to send out numerous wide-spreading branches and diminishing the amount of good timber available, and the latter giving tall, straight, uniform trunks, without knots in the timber. It was necessary in good afforestation, the lecturer emphasised, not only to start the forest close, but to keep it close, in order to have the most satisfactory results. To give a tree plenty of room meant that it would develop naturally, and the forester did not wish that, because it not only took up much more room, but it did not become a good timber tree. It might be said that the branches could be pruned, but pruning was expensive, and it was impossible entirely to control the pruning so as to get rid of the branches altogether, and, in any case, pruning generally left its mark upon the timber.

If they planted 200 trees on an acre, where they looked for a crop of 200 trees, there would be no opportunity of selecting, whereas, if they had 4,000 trees planted on an acre they could select only those trees to remain to the end that would be the best timber trees. Admirable illustrations were shown on the screen of trees in close plantation. The object of the practical forester, Mr. Dawson showed, was to deprive the tree of the amount of space it demanded, and in that way thinning must be very moderate if the best results were to be obtained. The thinning might be a little heavier during the last fifteen years of the forest's growth than at the beginning.

In concluding his lecture, Mr. Dawson dealt with the subject of replanting. The generally accepted idea for long had been that after a wood had been cut down the ground required a rest for seven years to replace the waste of plant food, and make up for the degeneration of soil. That idea of rest, the lecturer pointed out, was based on faulty observation. It was seen that conifers did not grow on ground when planted so soon as trees had been immediately felled, but that was due to the ravages of the pine beetle, which appeared in the stumps of old trees, and which fed upon young trees. In the course of a few years the stumps became no longer habitable for these beetles, and it was noticed that after the beetles had taken their departure young trees grew. Nowadays they had methods by which the ravages of the beetle could be counteracted.

In regard to transport, that was of more importance than the timber itself, on account of the expense involved. Here were shown various slides with forest tramway rail "shoots" by which logs were sent rapidly down a mountain side, and also methods of transport by log-rafts. In this country transport by water used to be quite common, the Dee and the Spey being rivers on which much of this work was done.

The usual votes of thanks were accorded to Mr. Dawson, and in reply, Mr. Dawson thanked the audience for turning out in such large numbers, and for listening to his lecture so attentively.

Growth of the United States Fruit Industry.—Twenty years or so ago the United States imported fruit to the value of about £4,280,000, and exported fruit valued at about £625,000. In 1907 the fruit imports were valued at about £7,293,405, and exports at £3,646,702. During twenty years the increase of imports has been 80 per cent., and the increase of exports 540 per cent., notwithstanding the increased domestic consumption.

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EXHIBITIONS AND MEETINGS.

National Rose Society.

The annual meeting of the National Rose Society, held at the Westminster Palace Hotel, Westminster, on Thursday, December 9, in the afternoon, was well attended, almost all the prominent trade and amateur rosarians being present, and the proceedings were characterised throughout by excellent good humour and friendliness.

The minutes of the previous annual meeting were taken as read, and after the notice convening the meeting had been read, the annual report was presented by Mr. E. Mawley, V.M.H., the veteran hon. secretary, and Mr. G. W. Cook, hon. treasurer, presented the statement of accounts.

ANNUAL REPORT.

In presenting their report the committee have pleasure in stating that during the past twelve months more new members have joined the society than in any previous year, showing that their efforts on behalf of those interested in roses and rose culture in this country and elsewhere are becoming each year more generally known and appreciated. In fact, in the last four years the society has more than doubled its membership.

The Metropolitan Exhibition again took place by the kind permission of the President and Council of the Royal Botanic Society in their delightful gardens in Regent's Park, the date of the show being July 2. This, the leading exhibition of the society, proved as varied and interesting as ever. Owing, however, to the backwardness of the season, the display of roses was not quite as extensive as usual, and the general quality of the blooms was below the average standard. In other respects this must be regarded as having been a most successful show, the attendance of visitors being the largest, the tents the cleanest and best, and the refreshment arrangements more complete and satisfactory than at any previous exhibition. For the fifth year in succession Her Majesty the Queen, the Royal patroness of the society, paid a visit to the exhibition soon after it was opened—an honour greatly appreciated by all present.

The committee, in carrying out the arrangements for the show, were, as on previous occasions, ably supported by the secretary, assistant secretary, the superintendent of the Gardens, and other members of the staff of the Royal Botanic Society.

The Provincial Show was held at Luton, in conjunction with the Luton and District Sweet Pea and Rose Society. This was, with one exception, the largest exhibition the society has yet held in the provinces, while the general quality of the flowers was in advance of that at the Metropolitan Show held a fortnight earlier in the month. The thanks of the committee are due to the president, Mr. Francis Crawley, and the other officers of the Luton Society, as well as to the local committee, for the excellent arrangements made for the exhibition, and more particularly to Mr. R. H. Marks, the senior hon. secretary, who took such a leading part in carrying out those arrangements. There was a very large attendance of visitors.

The sixth Autumn Show of the Society took place in the Royal Horticultural Hall, Vincent Square, Westminster. It was of about average extent, and was noteworthy for the keenness of the competition in the leading class for nurserymen, no fewer than thirteen exhibits being on that occasion staged. During the year new and carefully revised editions of the "Handbook on Pruning Roses" and the "Official Catalogue of Roses" were issued to the members, in addition to the "Rose Annual for 1909." In mentioning these publications the committee feel that they cannot too warmly thank the members of the Publications Committee for the time and care they devoted to their preparation and improvement.

At the last annual general meeting Mr. G. W. Cook, previously one of the hon. auditors, was unanimously appointed the hon. treasurer of the society, Mr. Charles Brannan, chartered accountant, being shortly afterwards engaged as auditor.

Six new rose and other horticultural societies have become affiliated during the past year, bringing up the total number of societies in affiliation to the National Rose Society to 55. The committee record with regret the death of Mr. T. B. Hall, of Rock Ferry, in Cheshire. Mr. Hall was for a long time a member of the committee, and for many years a leading exhibitor at the Society's exhibitions, and in 1887 and 1888 carried off the Society's Jubilee Challenge Trophy.

FINANCE.

The amount received in gate money from the general public at the exhibition in the Royal Botanic Gardens exceeded that at any previous exhibition held by the society. The receipts from all sources during the past year, including a balance from the previous year of £427 8s. 2d., amounted to £3,151 6s. 4d., and the expenditure to £2,714 15s. 10d., leaving a balance at the bankers' and in the treasurer's hands of £436 10s. 6d. after £300 had been placed to the reserve fund. The reserve fund now stands at £750.

MEMBERSHIP.

During the past twelve months exactly 900 new members joined the society, or 115 more than in the previous year. Allowing for the losses by death and resignation, the total number of members is now 3,797. Taking the year as a whole, between two and three members a day have, on an average, been added to the list of membership.

INCREASE IN MEMBERSHIP SINCE 1904.

	1904.	1905.	1906.	1907.	1908.	1909.
No. of Members	1,308	1,637	2,034	2,484	3,150	3,797
Net increase ...	304	329	397	450	666	647

ARRANGEMENTS FOR 1910.

The Metropolitan Exhibition will again be held in the Royal Botanic Gardens, Regent's Park, the date fixed for the exhibition being Friday, July 8. The Provincial Show is not yet arranged. Arrangements have been made with the Royal Horticultural Society to hold the Autumn Show in the Royal Horticultural Hall, Vincent Square, Westminster, on Thursday, September 15. During the coming year the following publications will be issued to the members:—The "Rose Annual for 1910," and new and revised editions of the "Hints on Planting Roses" and the "Enemies of the Rose."

To the donors of special prizes the committee offer their grateful acknowledgments, and also to those hon. local secretaries, who, by their zeal and activity, have assisted so much in promoting the interests of the Society. They especially desire to mention Mr. H. E. Molyneux (Purley), the President (Stratfieldsaye), Mr. R. E. West (Reigate), and Dr. A. H. Williams (Harrow), as having been the most successful in obtaining new members. The committee feel they cannot close this report without tendering their warmest thanks to Miss Willmott, V.M.H., vice-patroness of the Society, for her kind services during the past year.

The President, Rev. F. Page Roberts, who presided, moved the adoption of the report briefly, and it was seconded by Mr. E. J. Holland, and carried. We may point out the chief items of expenditure during the year were: Printing, stationery, etc., £640 18s. 8d.; postage and telegrams, £232 8s. 9d.; show expenses, £440 1s. 11d.; prizes, £818 3s. 7d.; invested in Consols, £300; office expenses and honoraria, £230.

Mr. Mawley was voted a honorarium of £100, together with grateful appreciation of his services.

A formidable looking list of alterations to the rules and bye-laws was presented, and each and all of them was moved by Dr. A. H. Williams, and mostly seconded by Mr. Shea. But these alterations were not of a revolutionary character. They transformed the General Committee into a Council, thus adding dignity to the governing body, which will now consist of forty elected members and the officers of the Society; they defined the various standing committees (previously sub-committees) and their functions; they legalised the appointment of local hon. secretaries as well as the bye-law that insists that "in all boxes for single blooms the tubes must be five inches apart each way from centre to centre of the tubes"; and, finally, they altered the numbering of various rules so as to group these in better order. There was very little discussion, though minor points and possibilities were raised, and the alterations were all adopted.

Messrs. Strange and A. Turner, the scrutineers, reported that the house list of officers and committee had been adopted.

Then followed a delightful incident, i.e., the presentation of the first Dean Hole Memorial Medal to the Rev. J. H. Pemberton, for conspicuous service as an author and exhibitor in connection with the rose. The President very pleasantly made the presentation; Mr. E. Mawley epitomised Mr. Pemberton's history as a rosarian, and everyone acclaimed the medallist, who very feelingly and modestly acknowledged the presentation, referring to his long association with the late Dean Hole, and to the fact that the great credit for his own success as a rose exhibitor was due to the work of his "head gardener" —his sister, Miss Pemberton.

Dr. Shackelton proposed, and Mr. C. E. Shea seconded, a vote of thanks to the chairman, which was most heartily accorded.

Instead of the annual dinner a conversazione was held at the Westminster Palace Hotel at the conclusion of the business meeting. Music and light refreshments were provided, and there was a large gathering of members and their friends, the proportion of ladies being very considerable. The opportunities which the conversazione afforded rosarians to meet and chat with each other appeared to be much appreciated. The arrangements, we would add, were such as to bring much credit to the president and hon. secretary, who were mainly responsible for them.

National Sweet Pea Society.

This young society held its annual general meeting at the Hotel Windsor, Victoria Street, Westminster, on Friday, December 10, at three o'clock. There was a large attendance, and, owing to the unavoidable absence of the President, Sir Randolf Baker, Bart., Mr. Horace J. Wright presided.

The minutes of the previous annual meeting were taken as read and other preliminaries were quickly disposed of. The Hon. Secretary then read the Report of the Committee for 1909, of which the following is an abridgement:

REPORT FOR THE YEAR 1909.

At the end of the year 1908, the society had 779 members on its books and 51 societies in affiliation. During the year just ended no fewer than 280 new members have joined the society, a few of these having entered for the coming year. There have been several losses from death and removal, and again a number of members have failed to respond to the several requests for payment of subscription. After deleting the latter, the membership stands at 938, while the number of affiliated societies is 101.

The President for 1909, Sir Randolf Baker, Bart., is a great lover of sweet peas, and his flowers have achieved success in many a keen competition. He has rendered the society valuable assistance in many ways and his year of office will be long remembered. Mr. H. J. Wright, formerly hon. secretary, fulfilled the office of chairman of committee in a most able manner and kindly presented a handsome silver cup for competition at the London show. Mr. N. N. Sherwood, V.M.H., and Mr. E. Sherwood (treasurers), and the hon. secretary, have each had a considerable increase of work and have carried out their many duties cheerfully and efficiently.

In conjunction with the Saltaire Rose and Horticultural Society, the Provincial Sweet Pea Show was held in Saltaire Park, Saltaire, on July 13, but the somewhat early date, coupled with the lateness of the season, resulted in a comparatively poor display. The growers in the Lake District and others from Surrey and Hampshire showed well, and the Provincial Cup was again won by Mr. T. Stevenson. Mr. P. H. Illingworth, M.P. (President), Mr. A. Jowett (chairman), and Mr. E. A. Wright (hon. secretary), did all in their power to make the show a success.

Held on Thursday, July 23, at the Royal Horticultural Hall, Westminster, the society's London show was a great success. There were nearly two hundred exhibitors, and in the small growers' section the competition was very keen. Palms were kindly lent by Messrs. W. Cutbush and Son, and the music gallery was decorated florally (for the first time) by the hon. secretary and Mr. H. D. Tigwell. The attendance was a record one, and £38 10s. was taken at the doors.

The society's trials were not so entirely successful this year as they have been in previous seasons, owing to the vagaries of the weather. Thanks are due to the Council of the University College, Reading; to Mr. Charles Foster and to Mr. Drew, for the conduct of the trials. There were three hundred and fifty varieties or stocks of sweet peas on trial at Reading.

The work of the Floral Committee has been unusually heavy The members paid two visits to Reading and held one meeting in London. They made awards sparingly, drew up a list of Too-much-alike Varieties, and made a selection of the best varieties (in commerce) of each colour for the guidance of members. The following awards were made at Reading: First-class Certificate to Trial No. 186 (this the committee considered a perfect stock of Clara Curtis), from Mr. W. J. Unwin, Histon, Cambs.; Award of Merit to Charles Foster (Trial No. 7), from Mr. Robert Bolton, Warton, Carnforth; Award of Merit to Edrom Beauty (Trial No. 250), from Mr. A. Malcolm, Duns; Award of Merit to Mrs. W. J. Unwin (Trial No. 289), from Mr. W. J. Unwin; Award of Merit to Dazzler (Trial No. 334), from Mr. C. W. Breadmore, 120, High Street, Winchester; Award of Merit to Sunproof Crimson (Trial No. 338), from Messrs. Dobbie and Co., Rothesay; Highly Commended to Mrs. Watson (Trial No. 86), from Mr. R. Bolton, Carnforth; Commendation as a Market Variety to Mercia (Trial No. 136), from Messrs. G. Stark and Sons, Great Ryburgh; Commendation as a Garden Variety to Colleen (Trial No. 305), from Mr. William Deal, Brooklands, Kelvedon.

The forthcoming "Annual" will be larger than any of its predecessors, but there will be no advance in price.

THE NEW CERTIFICATE.

Miss Williamson has designed the new certificate which will be issued to affiliated societies, and will serve as an award either in conjunction with the society's medal or distinct therefrom. As a slight acknowledgment of her assistance the committee has presented Miss Williamson with a suitably engraved silver-gilt medal. Miss J. Cuthbertson was awarded a gold medal for her services in compiling the "Catalogue of Sweet Peas."

The committee has been fortunate enough to secure the Royal Horticultural Hall for the purpose of a two days' show in 1910, and the dates already fixed for the London exhibition are Tuesday and Wednesday, July 12 and 13. No provincial show will be held next year. Mr. Charles Foster will again superintend the trials, which will be conducted at the Times Experimental Station, Sutton Green, near Guildford. Then also, immediately the new committee is formed, it will proceed to appoint a special sub-committee for the purpose of investigating the various diseases to which sweet peas are liable.

FINANCE.

The turnover of the society for the year was £710 19s. 2d. The chief items on the revenue side are: Balance for 1908, £32 8s. 11d.; subscriptions, £315 5s.; affiliated societies, £48 16s. 6d.; trials charges, £39 12s. 6d.; gate money, £38 10s.; prize fund and Saltaire contribution, £129 8s. 6d.; sale of annuals, £26 8s.; advertisements in publications, £42 3s. 6d. On the expenditure side the leading items are: Medals, £58 0s. 6d.; trials expenses, £37 2s. 7d.; printing and stationery, £240 8s. 2d.; postages, carriage, etc., prizes, London and Saltaire, £134 14s.; honorarium to hon. secretary, £26 5s.; grant for office room, fire and light, £20; balance in hand, £84 18s. 9d.

The Chairman moved the adoption of the report and balance-sheet, pointing out the work and advance of the society. Mr. A. Dean, V.M.H., seconded the motion, and made special reference to the great increase of affiliated societies, and the admirable work of the Floral Committee. The motion was carried unanimously.

There were numerous resolutions put and carried, and the chief speakers were Mr. W. Cuthbertson, Commander Humphery, Mr. John Collingridge, Mr. S. B. Dicks, Mr. J. S. Brunton, Mr. A. Ireland, Mr. C. W. Breadmore, Mr. J. H. Dick, Mr. Shane. The chief matters dealt with were: thanks to officers and committee; the election of Mr. N. N. Sherwood, V.M.H., as president for 1910; election of Commander Humphery, R.N., as chairman for 1910; Mr. Edward Sherwood as treasurer; election of Mr. R. Gluyas as auditor; and election of Mr. C. H. Curtis as hon. secretary, accompanied by a honorarium of £32 10s. for his services in 1909. A new rule was also adopted, which debars members of committee from re-election if they make fewer than two attendances. The majority of the old members were re-elected on committee.

Mr. S. B. Dicks' proposal that the old minute and signature books and copies of all publications of the society should be placed in a safe at one of the depositories was heartily agreed to. Mr. Leak suggested a reorganisation of the colour classification, and as he is now a member of committee he will bring the matter up for discussion.

A vote of thanks to the chairman concluded the proceedings.

DINNER.

Under the genial presidency of Commander Humphery, R.N., about three dozen members dined together after the annual meeting. There was little speechifying, the toasts being "The King," "Success to the N.S.P.S.," and "The Chairman." The latter urged the adoption of the sweet pea as the Imperial Floral Emblem.

CONFERENCE.

Nearly sixty members gathered in the North Room of the Hotel Windsor at seven o'clock for the conference proceedings. Mr. H. J. Wright presided. The papers read were "The Imperfect Seeding of Waved Sweet Peas," by Mr. William Cuthbertson, J.P.; and "Sweet Pea Names and Naming," by Mr. W. J. Unwin. These two excellent papers we hope to print in extenso.

An interesting and brisk discussion followed each paper. Mr. Cuthbertson's reasons for imperfect seeding (illustrated by diagrams) were closely followed. More open positions and less feeding were suggested as inducements to better seeding, while the opinion that the waved varieties were more succulent and lacked sexual vigour was freely expressed.

Mr. Unwin's hope that names should not be multiplied unduly was heartily endorsed, and Mr. Foster protested against distinctive names for a highly selected stock of a variety. The evidence given that varieties gaining awards this year at Reading are being listed for sale by a certain seedsman whereas these novelties have not left the hands of the raisers and cannot be offered by them owing to short stock, raised a very strong protest. Both Mr. Cuthbertson, Mr. Unwin, and others asserted that it was impossible for anyone to sell these novelties, as they held the entire stocks of those for which they gained awards, and therefore to list them and supply seeds purporting to be those of the novelties in question was a great wrong.

We congratulate the society upon its work, and especially upon the vigour of its conference proceedings, and we echo the opinion expressed by the chairman that a conference may be an annual function. We may add that every member attending the annual meeting was furnished with a copy of the report, balance-sheet, and the programme for the day; and that each member attending the conference received a printed copy of each paper, and so was able to follow the speakers readily.

Wootton Gardeners' Association.

At a meeting held under the presidency of Mr. Joseph Stoney on the 2nd inst., a lecture was delivered by Mr. O. Horton, superintendent of Calderstones Park, Liverpool, on "Flowering Trees and Shrubs." The selections given were adapted to moderate surroundings. Methods of propagation and soils most suitable for them were detailed, and special reference was made to those kinds of trees and shrubs that can be successfully grown in the neighbourhood of Liverpool. Details were given as to position and grouping to give the best results.

At the request of Mr. Haigh, the lecturer gave a list of hardy shrubs suitable for forcing, and also replied to numerous questions and criticisms by those present.

A cordial vote of thanks was tendered to the lecturer for his valuable paper.

Perpetual-Flowering Carnation Society.

Following its annual show on December 8, many members of this society dined together at the Hotel Windsor, under the presidency of Mr. J. S. Brunton, who established a record by inducing the speakers to so limit their remarks that twelve speeches were made just inside fifteen minutes. The toasts given were "The King," "The Judges," "The Exhibitors," "The Visitors," and "The Press," the speakers being the Rev. J. Jacob, and Messrs. C. H. Payne, Wallace, H. Mathias, S. Mortimer, E. F. Hawes, C. Engelmann, L. Cook, and C. H. Curtis.

The annual meeting followed immediately upon the dinner, and after the usual preliminaries, Mr. Hayward Mathias, the hon. secretary, read the report, and Mr. Laurence Cook, hon. treasurer, presented the balance-sheet, which were as follows:—

REPORT FOR 1909.

Your committee have much satisfaction in recording the steady increase in the membership of the society. The fact that the new members are for the most part amateurs would seem to show that the policy of your committee in increasing the number of classes and prize money in the section of the schedule confined to amateurs is judicious and beneficial to the Society.

Various schemes for the advancement of the sphere of usefulness of the society have been under consideration during the past year, but the carrying of many of these schemes into effect has been, so far, impossible owing to the lack of the necessary funds. Your committee again desire to express the earnest hope that each member of the society will do his or her utmost to enrol new members.

Your committee trust that the "Year Book" of the society which will be published early in 1910, will prove useful, especially to the amateur section of the society.

During the past season the suitability of the perpetual-flowering carnation for open-air culture has been tested at the Royal Botanic Gardens, Regent's Park, and the report of the trial will be made in due course.

Your committee have concluded that in future it will be to the advantage of the society to close the financial year on October 31, and a balance-sheet for the period from January 1 to October 31, 1909, is accordingly presented.

The membership roll of the society at October 31, 1909, was as follows:—Total at December 31, 1908, 166; admissions to October 31, 1909, 75; resignations, 11—total, 230, or a total increase in membership, and that in 10 months only, of 64.

The artistic and valuable challenge vase, presented to the society by the president,

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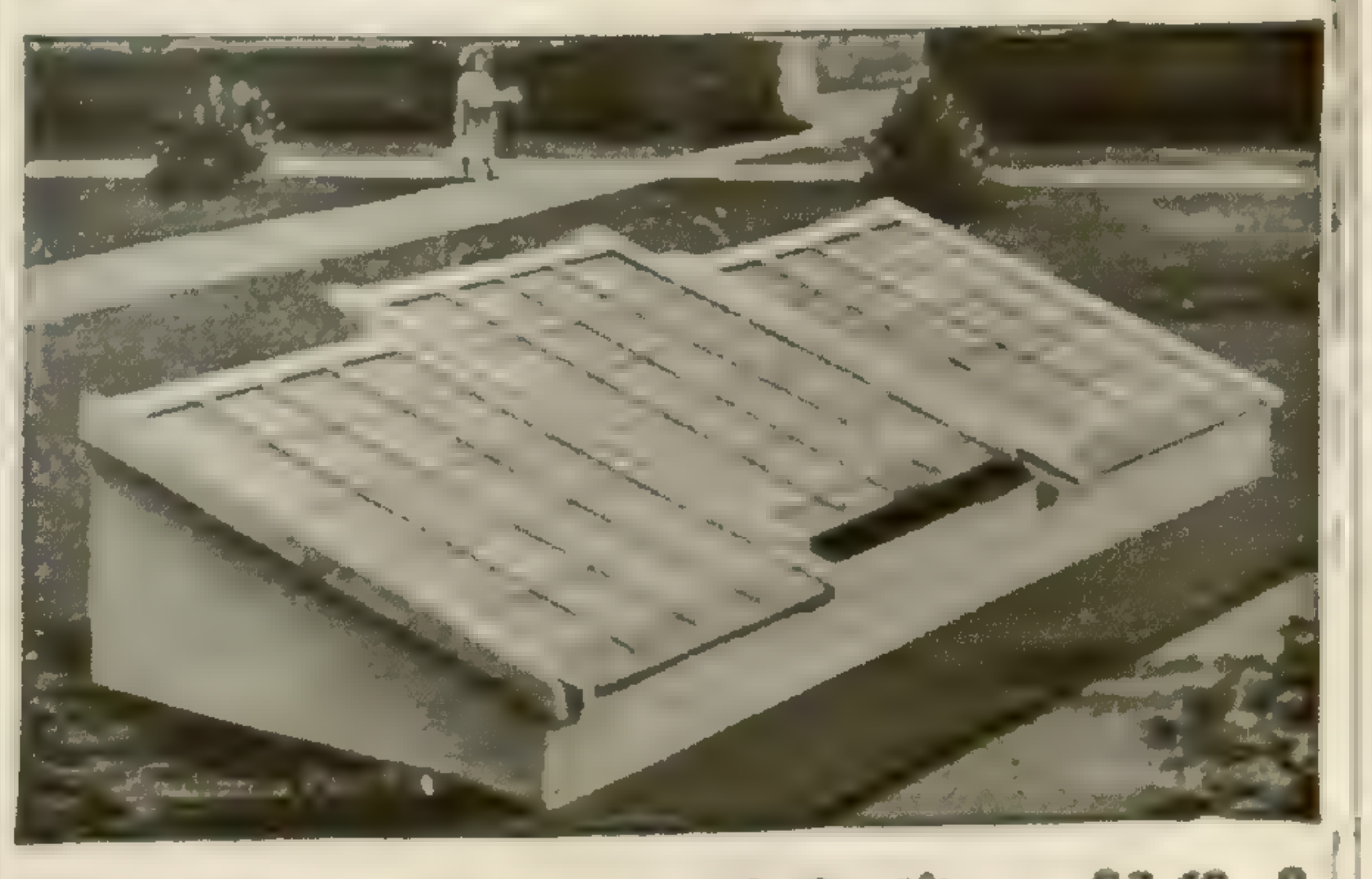

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the Right Hon. Lord Howard de Walden, and the challenge cup, presented by the American Carnation Society, were first competed for at the March, 1909, show. The vase and cup were on view during the show, and were very greatly admired by the carnation growers present. The committee are much indebted to these donors, as also to those who during the past year have so generously offered specials for competition among the members. The committee take this opportunity of inviting others who may be willing to give specials for competition, at the 1910 shows, to communicate with the hon. secretary, as these specials are undoubtedly a great help in the successful financing of the society.

The cordial thanks of the society are due, and are hereby tendered, to the Horticultural Press for their very great assistance in bringing the aims of the society to the notice of the public, to the judges for their gratuitous services at the exhibitions, and to Mr. Curtis and Mr. Pinches for auditing the society's accounts.

FINANCE.

The turnover of the society for the year was £153 6s. 5d. The chief sources of income were: Subscriptions, £83 4s. 8d.; gate money, £12 7s.; advertisements, £11 1s.; and balance brought forward, £25 2s. 3d. On the expenditure side, prizes come to £64 7s. 7d.; exhibition expenses and advertisements, £11 18s. 10d.; printing, stationery, insurance, etc., £43 9s. 4d.; leaving a balance of £28 11s. 5d. to carry forward for next year.

The adoption of the report was moved by Mr. J. S. Brunton, who briefly reviewed the society's work, and referred to the hopes for the future, especially referring to the proposed new "Annual," which would be free to members, and on sale at 1s. to non-members. Mr. W. H. Page seconded the motion, and the report was adopted. On the motion of Messrs. Sherwood and Blick, the balance-sheet was adopted.

A slight alteration of one rule was passed enabling the committee to close its year and accounts on October 31 of each year instead of on December 31.

Thanks to the officers and committee were heartily welcomed. Lord Howard de Walden was re-elected president; Mr. J. S. Brunton, as chairman; Mr. S. Mortimer, as vice-chairman; Mr. Hayward Mathias, as hon secretary; Mr. Laurence Cook, as hon. treasurer; and Messrs. Curtis and Pinches, as auditors. Most of the retiring members of committee were re-elected, with Mr. Burnett at the head of the poll.

A vote of thanks to the chairman concluded the very pleasant proceedings.

Bournemouth Gardeners' Association.

On December 7, Mr. G. Chapman, Stanley Green, Poole, gave a very interesting and instructive lecture on the "French Intensive Culture of Vegetables," before the members of the Bournemouth Gardeners' Mutual Improvement Association. Mr. Chapman dealt principally with the financial side of the subject, and his foreman, a very able Frenchman, gave some excellent cultural details; thus the members present had the question of intensive culture of vegetables placed before them in a plain, concise manner by experts who did not attempt to argue that every French garden was a gold mine.

At the beginning of his lecture Mr. Chapman strongly condemned the absurd booming of the French system in certain quarters, and effectively criticised some of the statements made that seven hundred pounds, and more, could be realised per acre. Because so much money was made from the growing of a certain number of plants on a given space, it did not follow, said the lecturer, that the same sum, in proportion, could be realised from an acre. It often happened that a glut was caused by a number of cultivators sending consignments at the same time, of the same kind of vegetable or salad, to the same market, and then prices dropped very much. Owing to certain articles being written booming the French system of culture, many quite inexperienced persons had been led to believe that anyone could make a fortune out of a very small garden, said Mr. Chapman, and he gave several instances, and referred to the great number of letters he had received on the subject.

One old lady wrote stating that she had a capital of twenty-five pounds, and quite believed that she could make a living by investing the sum in a French garden and by giving sewing lessons in her spare time. This was one instance given proving how misleading the articles were, and the false hopes they raised in many people's minds.

The garden which Mr. Chapman manages is, he said, being conducted as an experiment, but on commercial lines, with a view to the teaching of the system to other people; and he maintained that, at the expiration of two or three years, the concern would be a very good paying one. He had come to the conclusion that from sixty to seventy pounds per acre could be realised as profit from this system of culture when once a garden was rightly established.

The lecturer gave useful hints as follows: The site must be an open one, that is, open to the sunshine, but sheltered from cold winds; light, air, artificial shade when required, good heating material, which means the best stable manure easily procurable. In Paris, said the lecturer, the best horse manure can be procured at two shillings per ton; but he had to pay five shillings per ton for it. Another cause of handicapping British growers was the fact that in France the sun's rays in January were much stronger than they were in England; and, although frosts were often more severe in France in January than in this country, the growers in France were enabled to place their produce on the English market quite a fortnight before we were.

The lecturer strongly urged his audience not to embark upon the French system of cultivation unless they had plenty of capital and were able to engage expert labour. A very free discussion took place; many questions were asked and very intelligently replied to; the French foreman to Mr. Chapman giving some most useful replies. All the members felt that they had listened to a very instructive lecture, and passed a hearty vote of thanks to Mr. Chapman, his foreman, and Mr. Chamberlain, who presided.

East Anglian Horticultural Society.

The annual meeting was held on the 8th inst. at the Boar's Head Hotel, Norwich, when a large number of local horticulturists assembled. Mr. W. L. Wallis, secretary, presented the annual report of the past year's work of the club. Among the losses through death was Mr. T. G. Bishop, who was manager at Messrs. Daniels Bros.' Nursery, and had contributed some useful papers to the society. The membership naturally had fluctuated somewhat owing to removals, but there were now upon the books a membership of 337, which places this society as one of the first of its kind in the kingdom. The finances are in a sound condition, the year concluding with a balance at the bank, etc., of £134 15s. 7d. Assistance had been granted to distressed gardeners, which is one of the good objects of the society. The monthly exhibitions had been a great feature, larger entries being received, and the quality of the exhibits well maintained, thus giving educational lessons of good culture to the young members.

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Christmas Presents

Essays from various members, and lectures had been given monthly, and the subjects dealt with had been fully discussed by the members.

Mr. W. Shoesmith, gardener to F. W. Harmer, Esq., Cringleford, won for the first year the silver challenge cup presented by J. J. Dawson Paul, Esq., and he also takes the championship of the club by reason of having secured the most points at the year's exhibitions.

The other useful sides of the work are all mentioned, including the splendid library, which is of great service to the young gardeners. This report was unanimously adopted.

Mr. J. Powley said he wished, owing to advancing years, to vacate the presidential chair, which notification was received with regret.

Mr. T. B. Field, Ashwellthorpe Hall Gardens, was elected president, and Mr. L. Smith, Shotesham Park Gardens, vice-president. Mr. Charles Daniels was re-elected treasurer, and, amid great applause, the popular secretary, Mr. W. L. Wallis, 12, Royal Arcade, Norwich, was re-elected. Messrs. F. Neave, T. Notley, C. H. Fox, F. Williams, W. Endersby, W. Laws, and J. Clements were elected upon the committee for a term of three years.

There was a fine display of flowers, fruits, and vegetables upon the exhibition tables. Begonias were well shown, and a plant of the newer type Ideal, from Mr. W. Shoesmith, was a fine example of skilful culture. Grapes from Mr. Palmer were well coloured. Mr. W. Laws, gardener to G. E. White, Esq., Eaton, staged a bunch of seedling tree carnations of his own raising, these were all good types, non-splitters, but required more pronouncement in the colour. Messrs. Hobbies, Lim., Dereham, had a beautiful display of the best single decorative chrysanthemums. Messrs. Daniels Bros.' class for their leek Champion was well filled, and some fine examples were staged. The Secretary read out a list of lectures and essays for 1910.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1909. December 5 to December 11.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Dec. 5—Sunday	6 6	33	33	45	31
,, 6—Monday	3 36	34	34	42	33
,, 7—Tuesday	—	34	34	37	31
,, 8—Wednesday	6 0	31	31	40	31
,, 9—Thursday	2 48	32	31	46	30
,, 10—Friday	—	46	46	48	32
,, 11—Saturday	—	46	45	46	46
Means	(total) 18 30	36	35	43	33

Date. 1909. December 5 to December 11.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
Dec. 5—Sunday	0.11	39	43	45	25
,, 6—Monday	0.06	39	42	45	25
,, 7—Tuesday	—	38	42	45	24
,, 8—Wednesday	—	38	41	45	23
,, 9—Thursday	0.04	36	41	44	21
,, 10—Friday	0.20	38	40	44	29
,, 11—Saturday	0.02	41	41	44	44
Means	(total) 0.43	38	41	45	27

FORTHCOMING ENGAGEMENTS.

TUESDAY, December 21.—Royal Horticultural Society: Meeting of Fruit, Floral, and Orchid Committees at Noon.

ANSWERS TO CORRESPONDENTS.

R. H. S. BULB SHOW.—H. G., Gillingham: You can obtain the fullest particulars of the bulb show to be held by the Royal Horticultural Society next spring, from the Secretary, Royal Horticultural Society, Vincent Square, Westminster.

GOOSEBERRY CUTTINGS.—S. E. F., Peasenhall: This matter should have been dealt with earlier. However, if the ground is not frozen, and has been well dug and made firm again, proceed at once to select long, straight prunings, and reduce these to a length of sixteen inches each. Carefully remove all the buds, with the exception of four at the top, and then insert the cuttings firmly, six inches apart, in rows about a foot apart. Lift and transplant next autumn.

PROPAGATION OF NEW VARIETIES OF POTATOES.—R. C. K., Southam: New varieties of potatoes can be propagated with astounding rapidity by those who are experienced. The tubers will be placed in boxes, and covered with light, sandy soil about the end of February, and placed in a temperature of about 60 deg. If the soil is kept moderately moist new growth soon commences. As the shoots attain a length of between one and two inches, they are carefully detached from the tuber with finger and thumb, and put singly into small pots. A second crop of shoots quickly follows, and, if these are removed in the same way they will be followed by a third and so on, until the tuber is exhausted. To show what can be accomplished by this method of propagation, it may be mentioned that in the spring of 1904 a gardener was given a tuber of the famous Eldorado, weighing one ounce, and from this tuber he raised about 650 plants. Under normal conditions, a potato tuber produces one shoot from each of the more prominent eyes; but when the growths are removed in the manner here described, all the eyes start into growth and produce several growths, in some instances from twelve to fifteen being obtained from a single eye. Immediately the young plants are established, they should be removed to cooler quarters, and grown as cool as is consistent with safety from frost until they are hardened off, ready for planting out. In not a few instances, plants raised by this rapid method of propagation prove unsatisfactory, owing to their being subjected to a high temperature and a close atmosphere during their earlier stages of growth.

HIGH-PRICED CRIMSON ORCHID. — L. H., Chelmsford: Your description is not sufficiently clear to enable us to determine the orchid to which you refer, but we believe you must mean Odontioda Charlesworthi, a bigeneric hybrid exhibited at the Temple Show in 1908. We do not know what price was paid for the quite small specimen shown, but it was generally understood that the sum was £1,000. The plant carried a spike of three flowers, and three buds, the flower being rich crimson-scarlet all over, save for the yellow crest. Odontioda Charlesworthi was figured in the GARDENERS' MAGAZINE of June 13, 1908, and fully described in the issue of June 6, 1908.

DOUBLE ARABIS FOR SPRING BEDDING.—W. H. C., Coventry: You are quite right, and we think your employer must have some other plant in his mind when he condemns the double white arabis for spring-flowering. Some of the most charming effects are produced by the use of double white arabis as a ground-work for bulbs. Both yellow and scarlet tulips, especially the late varieties, look well when flowering above the beautiful white mass of bloom produced by the arabis. Another pretty combination would be Muscari Heavenly Blue, and the double white arabis, the brilliant blue of the former looking very distinct above the white flowers. Point out the double arabis to your employer in the spring.

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if you have plants anywhere in the garden; if not, induce him to visit some park or garden where it is used in association with bulbs. Do not feel over-much grieved because your employer has objected to this or that plant; the matter may be one of taste or mistaken identity. In the former case you must submit, with as good a grace as possible, but in the latter case you can easily provide the remedy.

CYANIDING FOR THE DESTRUCTION OF MEALY BUG.—A. W., Wokingham: Where vineries are infested with mealy bug fumigation with cyanide is a most successful method of destroying the pest. The vines must be dormant, and the vinery at a temperature of 50 to 55 degs. There are special apparatus designed for the use of this deadly poison, but they are not necessary, though very useful. Cyaniding is so poisonous that we do not recommend it except in the hands of the most careful growers, as the least carelessness may mean death to the operator. The leaflet of the Board of Agriculture on the subject states that the following quantities may be taken as a standard for use:—Potassium cyanide, 1 part; sulphuric acid, 1½ parts; and water, 3¾ parts. One ounce of cyanide per 400 cubic feet of space in the vinery appears to be the right amount for a dormant plant like the vine. The leaflet goes on to explain that the glasshouse or other place to be treated must be rendered as air-tight as possible. The sulphuric acid should be poured very carefully and slowly into the water, which may be put into an earthenware vessel, e.g., a large jam jar. The cyanide of potassium, wrapped in thin blotting paper, should then be dropped into the now diluted sulphuric acid. The vessel into which the cyanide is dropped must be so near the door that it can be reached by the outstretched arm of the operator, who should immediately shut the door and close up its chinks by paper previously prepared. Another and better method is for the operator to introduce the cyanide to the diluted sulphuric acid through a window, the cyanide being placed at the end of a long rod or stick, or be lowered into the acid by means of a string and pulley. The window must be closed immediately after the addition of the cyanide, so that the operator may escape the fumes. Strawson recommends the pouring of the diluted acid from a bottle fitted with a cork in which two slits are cut, one to let in air and the other to allow an even stream to flow upon the cyanide, the object being to provide a slow and even disengagement of gas. The bottle should be arranged so that it can be tilted up when all is ready. We may add that for glasshouses the latter method is preferable, the cyanide being placed in an enamelled or earthen vessel in such a position that when the bottle of diluted sulphuric acid is tilted the acid is steadily poured into the cyanide. It is an easy matter to fix the bottle in a little wooden cage, suspended between two uprights, and attach a cord to the base of the cage, so that the latter can be readily tilted. Everything being in position and the house made as airtight as possible, the cord should be passed through the keyhole of one of the doors; the operator must then go outside the house, shut the door, stop up the cracks with gummed paper, pull the cord (or cords, as it is better to have several bottles of acid and bowls of cyanide in a good-sized house), and keep away for an hour. At the end of this period if any ventilators can be opened from the outside, open them, but do not inhale the escaping fumes. As much ventilation as possible should be given, but no one should enter the house for at least another hour. Cyaniding should be done in the evening and during still weather.

NAMES OF PLANTS.

A. C., Winchfield.—1, Oncidium flexuosum; 2, Pteris longifolia; 3, Begonia Rex.

F. E. R., Rickmansworth. — 1, Begonia fuchsioides; 2, Exacum affine; 3, Salvia splendens.

H. Y., Stevning.—1, Calceolaria Burbidgei: 2, Cypripedium Leeanum; 3, C. insigne, a dark spotted variety; 4, Lælia anceps.

NAMES OF FRUIT.

F. E. S., Horsham.—1, Lane's Prince Albert; 2, Dumelow's Seedling.

R. D. E., Devonport.—1, Adam's Pearmain; 2, Bramley's Seedling.

H. R., Wolverton.—1, Beurre d'Aremberg; 2, Catillac; 3, Ribston Pippin.

MARKETS.

◆

COVENT GARDEN.

Flowers.

Business continues to improve, and the demand for carnations, liliums, narcissi, roses, and other choice flowers is fairly brisk.

		s. d.		s. d.
Acacia	per bunch	0 9	to	1 0
Adiantum cuneatum	per doz. bun.	5 0		9 0
Arums	per doz.	3 0		4 0
Asparagus	per bun.	1 0		2 0
Azalea	per bunch	1 0		1 6
Bouvardia	per bunch	4 0		6 0
Carnations	per doz. blms.	1 0		3 0
,,	per doz. bun.	9 0		12 0
,, Malmaisons	per doz.	6 0		10 0
Cattleyas	per doz.	12 0		14 0
Chrysanthemums	per doz. bun.	3 0		7 0
Croton leaves	per bun.	1 0		1 6
Cypripediums	per doz. blms.	2 0		4 0
Eucharis	per doz.	2 0		3 0
French fern	per doz. bun.	0 6		1 0
Gardenias	per doz.	1 6		2 0
Lapagerias	per doz.	2 0		3 0
Lilac, French	per bun.	4 0		5 0
Lilium auratum	per bun.	2 0		3 0
,, speciosum	per bun.	1 6		2 6
,, longiflorum	per bun.	2 0		4 0
Lily of the Valley	per doz.	6 0		15 0
Marguerites, white	per doz. bun.	2 0		3 0
Mignonette	per doz. bun.	2 0		3 0
Narcissus	per doz. bun.	3 0		5 0
Odontoglossums	per doz. blms.	2 0		2 6
Pelargoniums	per doz. bun.	4 0		6 0
Roses	per doz.	1 6		4 0
Smilax	per doz trails	5 0		8 0
Tuberoses	per doz.	0 3		0 4
Violets	per doz. bun.	2 0		4 0

Fruits.

Choice dessert apples are in good demand at good prices. Grapes show an improvement, and oranges meet a brisk demand.

		s. d.		s. d.
Apples, English	per bush.	3 6	to	9 0
,, Californian	per case	8 0		9 6
,, Cox's Orange	per ½-sieve	8 0		12 6
,, American	per barrel	12 0		16 0
,, Canadian	per barrel	12 6		23 0
,, Nova Scotian	per barrel	12 6		23 0
Bananas	per bun.	3 0		9 0
Cobnuts	per 12lb.	4 6		6 0
Chestnuts	per bag	7 0		17 0
Grapes, English	per lb.	0 10		5 6
,, Guernsey	per lb.	0 6		1 6
,, Almeria	per barrei	12 0		24 0
Lemons	per case	8 0		25 0
Melons, Valencia	per case	4 6		6 0
Oranges, Jamaica	per case	9 0		12 0
,, Jaffa	per case	7 0		10 0
,, Navels	per case	10 0		12 6
,, Denia	per case	14 0		21 0
Pears, English	per ½-bush.	3 0		5 0
,, French Comice	per crate	5 0		10 0
,, Californian	per case	8 0		12 0
,, American	per barrel	18 0		21 0
Pineapples	each	1 6		4 6
Walnuts	por 12lbs.	2 0		3 6

Vegetables.

Supplies are plentiful, and the demand is good.

		s. d.		s. d.
Artichokes, Globe	per doz.	2 6	to	3 6
Asparagus, Paris	per bun.	3 0		4 6
Beet	per bush.	1 6		2 0
Brussels sprouts	per bush.	1 9		2 6
Cabbage	per tally	3 0		5 0
Carrots	per doz. bun.	1 6		2 6
Cauliflowers	per tally	4 6		9 0
Celery	per doz. rolls	5 0		12 0
Celeriac	per doz.	1 6		2 6
Coleworts	per tally	2 0		4 0
Cucumbers	per doz	1 6		3 0
Endive	per doz.	1 3		1 9
Horseradish	per doz. bun.	8 0		12 0
Leeks	per doz. bun.	2 0		2 6
Lettuce, English	per crate	1 6		2 0
Mushrooms	per doz. lb.	6 0		9 0
Onions, Valencia	per case	6 0		7 6
Parsley	per doz. bun.	2 0		2 6
Parsnips	per bag	2 6		3 0
Spinach	per ½-sieve	2 0		2 6
Seakale	per doz. pun.	16 0		18 0
Tomatoes, English	per doz. lb.	4 6		6 0
,, Canary	per case	12 0		15 0
,, Guernsey	per doz. lb.	2 6		4 0
Turnips	per doz. bun.	3 0		3 6
Watercress	per flat	4 0		6 0

CATALOGUE RECEIVED.

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Situations Wanted.

COLONEL TEMPEST-HICKS, C.B., Barnet, highly recommends his late GARDENER (Head); life experience in all branches; age 32; married. Apply C. GRUBB, East View, Grimsargh, Preston.

GARDENER (Head).—Advertiser seeks RE-ENGAGEMENT in first-class establishment, where several are employed; life experience, and thoroughly practical in all branches; five years as head in last situation; can be strongly recommended. Apply DUNKLEY, The Gardens, Mill House, Bourne End, Bucks.

HER GRACE THE DUCHESS of DEVONSHIRE wishes to recommend J. THOMPSON to any Lady or Gentleman requiring the services of a HEAD GARDENER, where several are kept; 20 years' experience in all branches. Holker Gardens, Cark-in-Cartmel, Lance.

GARDENER (Head of two or good Single-handed); good all-round experience with Vines, Cucumbers, Tomatoes, Fruit, Flowers, Lawns, and Vegetables; married, two children; excellent references. B. KILLINGWORTH, 15, Queen's Road, Upper Norwood, S.E.

GARDENER (Head Working), age 30, practical Man all branches, seeks SITUATION as above; highest references as to character and abilities. J. HEARN, Grendor Underwood, Aylesbury, Bucks.

GARDENER (Head Working, where several are kept); life experience in all branches; 10 years last place; used to Growing for Exhibition choice Flowers, Fruit, and Vegetables; age 30; married when suited. H. J. KING, 1, Pretoria Cottages, West Lane, S. Hayling, Hants.

GARDENER (Head Working).—Thorough practical experience in all branches of the profession, Inside and Outside; good references; married, no family. W. S., 16, Warwick Place, Maidstone, Kent.

GARDENER (Head Working, where others are kept); married; 30 years; thoroughly experienced in all branches, Inside and Out; good references. SAUNDERS, 70, Shrublands Avenue, Berkhamsted.

GARDENER (Head Working, where two or more are kept); 23 years' practical experience Inside and Out; age 37; abstainer; married, two children. Mr. SIMMONS, Head Gardener, Tandridge Court, Oxted, Surrey, will be pleased to recommend A. CAMP as above.

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GARDENER (Single-handed or otherwise) seeks SITUATION; seven years present place; age 28; married; good references. Apply W. BULL, Gardens, Launde Abbey, Leicester.

GARDENER (Single-handed, with help, or good Second), married, age 29, life experience in all branches, early and late forcing; good testimonials; can be highly recommended. GARDENER, Junction Road, Cowley, Oxford.

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For DECEMBER 25, 1909.

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THIS COUPON, duly filled up, should be forwarded not later than Tuesday for the next issue.

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THE GARDENERS' MAGAZINE, December 25.

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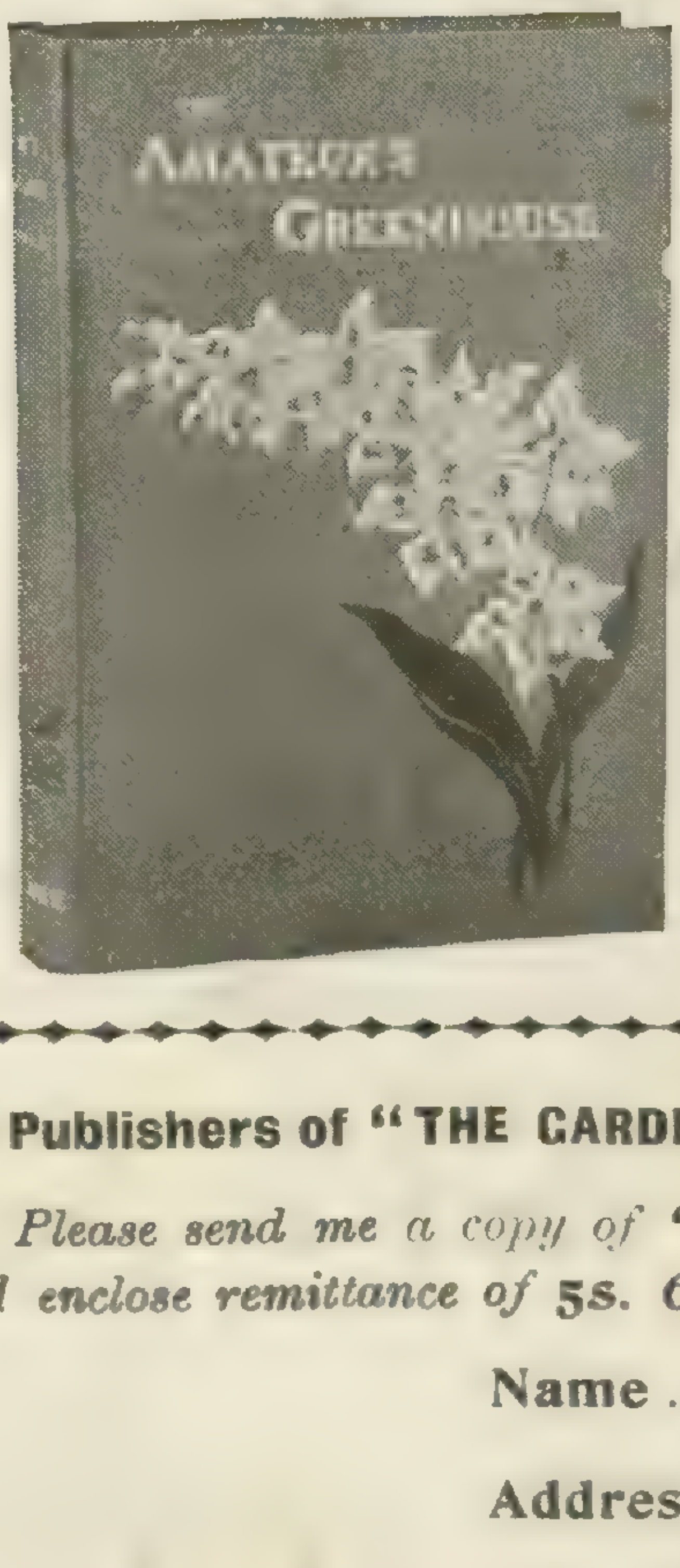

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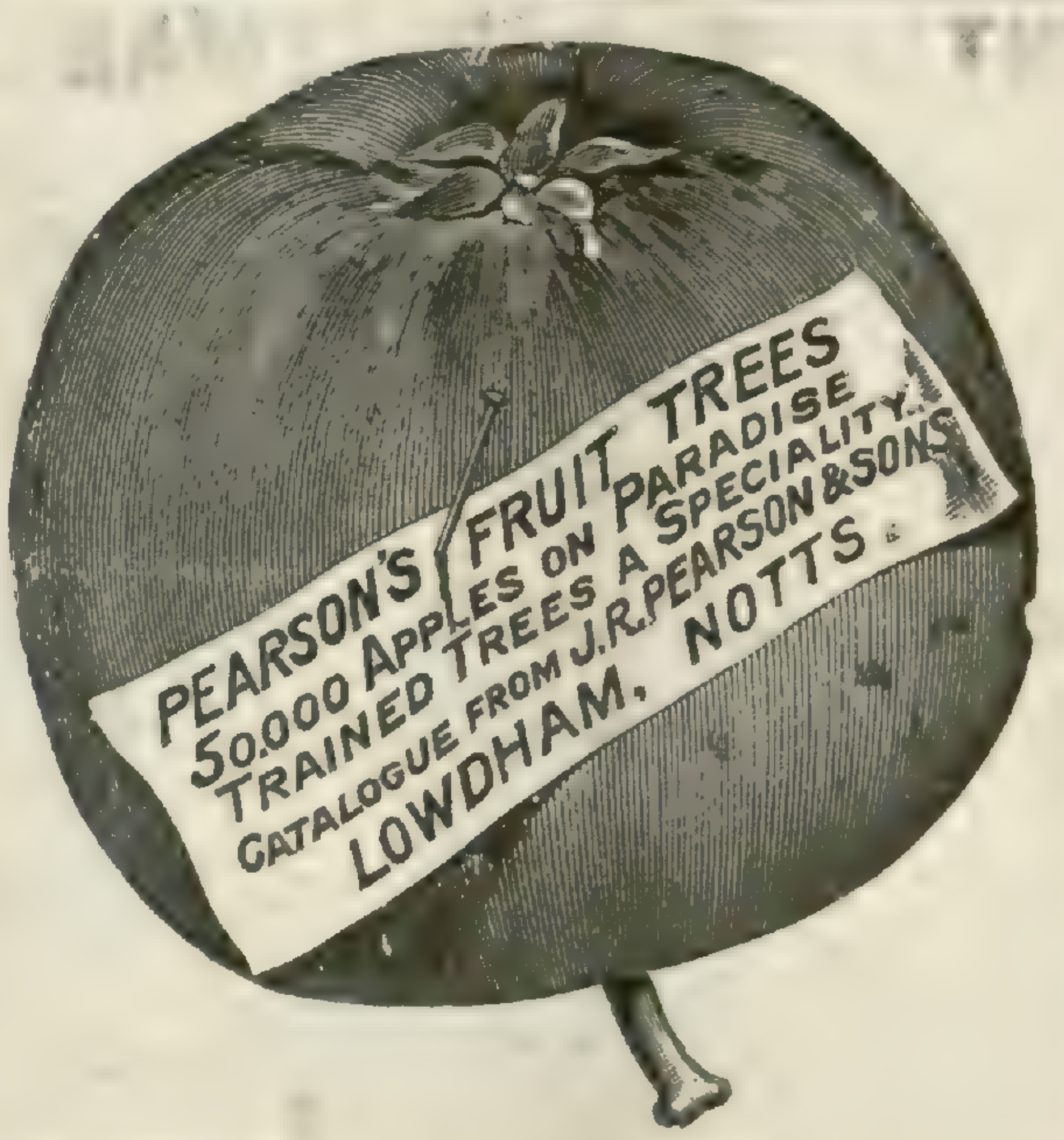
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VOL. LII.—No. 2,930. SATURDAY, DECEMBER 25, 1909.

THE GARDENERS' MAGAZINE.

NOTES OF THE WEEK.

Nuts.

Fruits, taking the word in its popular sense, as representing edible products of trees, bushes, or smaller plants, evolved in conjunction with their seeds rather than the actual seed itself, which is the fruit proper in the botanist's eyes, may be roughly divided into two classes, protected and unprotected. The unprotected section embraces all those in which the seed is associated with attractive pulp, designed to act as a lure to frugivorous birds or other animals with a view to dissemination of their indigestible seeds far and wide. The seeds in these cases are usually small and hard, protected by tough coats, and in themselves inedible, so that in the few cases where selective cultivation has eliminated them altogether, their loss is considered an advantage rather than otherwise. With the protected section of fruits, an opposite set of conditions prevails. Here it is the actual seed which is edible, and hence, since in the plant world the preservation of the seed from destruction is a first essential, we find it clothed in shells and skins, and fortified against would-be devourers in precise proportion to their capacity for attack, evolution in this case, as in all others, having provided only for the preservation of the fittest. Nature, howeverever, has not been content, in the great nut tribe of which we treat, with mere hardness or thickness of the protecting shell or shells, but, in some cases, has provided these with acrid and repellent juices. Let anyone gather an unripe filbert, half enswathed in its thick, juicy, semi-foliose husk, and by biting that husk, see how intensely sour a juice it contains, and we can easily see how unlikely it is to fall a prey to squirrel or other depredator at that stage. At that stage, moreover, it is all green, to match the colour of the leaves, while, when the autumn comes, and the nut is ripe, it assumes a brown tint, which, when it falls, is admirably adapted to conceal it among the brown leafy debris then covering the soil. The chestnut works, so to speak, on similar lines, but varies them by arming its outer husk with a chevaux de frise of thorns. The walnut, besides having its strongly flavoured outer husk and its intensely hard inner one, has adopted in addition a very bitter skin as a final protection to the precious seed inside. In the almond we see an interesting link between the two fruit sections we treat of, the protected and unprotected, since, as the almond proper, we see a nut-like fruit, with a single seed (sometimes double), protected by a hard woody shell and a fleshy outer one, quite on walnut lines. The almond, however, is the parent of our choicest peaches, nectarines, and apricots, the delicious pulps of which are merely the modified almond husk, precisely as all our apples and pears represent the modified seed vessels of hips and haws and other hard berries of the great rose family. Naturally, in those parts of the world where frugivorous birds and animals are larger and stronger, or, as in the case of monkeys, more cunning than our native fauna, the nut family has had to meet the case by the evolution of harder shells, precisely on the lines of the evolution of our armour-plated ships as the means of attack have been improved. Hence we find the cocoanut not only encased in an intensely hard shell, but further protected by a thick fibrous outer one, which must involve a considerable amount of labour to penetrate, to say nothing of the internal armour-plating then met with. This outer husk, however, probably plays two protective parts, since as the nuts, as a further protective device, are produced at the top of the palm, probably several scores of feet in height, its fall, if not so protected, upon hard ground, would almost inevitably shatter it to pieces. As a rule, the nut is an individual seed, but some of the tropical ones, such as the brazil nut, and the less familiar tapucaia nut, are, as their form indicates, contained to the number of a score or so in one bomb-like enveloping shell of intense hardness and considerable thickness, so that this, conjoined with the equally hard or leathery shells of the individual seeds within, secure at least that if they become the prey of monkey or other animal, the marauders shall pay for their crime in advance by a period of hard labour.

MR. GEORGE MILEHAM.

Mr. George Mileham, by reason of the great success he has achieved in the improvement of the Japanese varieties, occupies a prominent position among raisers of chrysanthemums, and his achievements are of additional interest from the fact that they have been accomplished in conjunction with the performance of the duties associated with the management of a gardening establishment of the first rank. Mr. Mileham has been head gardener at Emlyn House, Leatherhead, the residence of A. Miller, Esq., since 1888, and during this period he has distinguished himself as a cultivator of double and single primulas, cyclamen, Begonia Gloire de Lorraine, zonal pelargoniums, for which he has obtained many awards at the leading exhibitions, as well as for groups of plants arranged for effect, and fruit of various kinds, and for chrysanthemums. Fourteen years ago Mr. Mileham turned his attention to the cross-fertilisation of chrysanthemums, with a view to raise new and improved Japanese varieties, and the first of the forms from which he saved seed was the variety known as Lady E. Saunders. Sixteen seedlings were raised, and these included A. G. Miller, which at that time was regarded as possessing much merit. The success achieved was sufficient to encourage further effort, and since then Mr. Mileham has raised some seedlings annually, and of these a goodly proportion have had First Class Certificates conferred upon them by the Floral Committee of the National Chrysanthemum Society. Many of the varieties occupy a leading position at the present day, as evidenced by their inclusion in so large a number of the winning stands at the exhibitions. Especially noteworthy among the varieties that we owe to Mr. Mileham are Mrs. G. Mileham, Mrs. A. T. Miller, Miss Olive Miller, Miss Dorothy Oliver, W. Beadle, F. W. Leaver, G. Mileham 1908, James Lock, Beecham Keeling, Exqusite, Lady Edward Letchworth, and George Hemming, the last-named being a fine variety that received a First Class Certificate at the National Chrysanthemum Society's exhibition in November last. Mr. Mileham considers his greatest success in one season was in that in which he exhibited Mrs. A. T. Miller and Miss Elsie Miller at the Crystal Palace, and Miss Dorothy Oliver at a meeting of the Royal Horticultural Society, the first two receiving First Class Certificates, and the last-named an Award of Merit.

Florists' Workshops and the Factory Act.—It is notified in the current issue of the "Gazette" that the Home Secretary, pursuant to section 3 (3) of the Rules Publication Act, 1893, made on the 13th inst. an Order under section 59 of the Factory and Workshop Act, 1901, rescinding as from January 1 next, the Order made by him on October 13, 1908, granting a special exception to florists' workshops under section 46 of the said Act and so much of the Order made by him on October 13, 1908, granting a special exception under section 45 of the said Act, as relates to florists' workshops.

Presentation to Mr. James Grieve.—A few evenings since a large and representative company of nurserymen and gardeners assembled at the Royal British Hotel, Edinburgh, to do honour to Mr. James Grieve, of the Redbraes Nursery on the completion of 50 years' activity as a nurseryman in Edinburgh. Mr. James Whytock, Dalkeith, presided with his customary ability. A testimonial was presented to Mr. Grieve by Mr. D. W. Thomson on behalf of the subscribers, this consisting of a gold watch and chain and a purse of £50. In making the presentation Mr. Thomson referred to the splendid work Mr. Grieve had accomplished in the course of his long and active life, and to the high esteem in which he was held by horticulturists generally. Mr. Grieve, who received a hearty reception, suitably acknowledged the honour done him. A few months since we gave a portrait of Mr. Grieve and a brief sketch of his work.

Movement of Plants.—At the monthly meeting of the Sheffield Microscopical Society a very interesting lecture on the "Movements of Plants" was given by Mr. A. W. Bartlett, of the Sheffield University. He said the growth of plants was affected by gravity and light. Many plants had by habit a climbing growth. This was of great advantage to them because they were able to reach the same height as trees and shrubs and so expose their leaves to the sun, and their flowers to the activities of insects. Various plants had totally different ways of climbing, that of the hop being the most peculiar. That plant for a certain period grew straight up from the ground. Afterwards the top of the stem bent in a horizontal position, and revolved three or four times each day. Some plants moved in a certain direction, like the hands of a clock; others moved in an entirely different direction. Climbing plants were only able to climb upright, or nearly upright, objects. That was to their advantage, as they always climbed towards the light and sun. Leaves also were partly acted upon by gravity and partly by light.

The National Rose Society will next year hold its provincial show at Salisbury, on Wednesday, July 13. Unfortunately, it will, in some degree, clash with the Wolverhampton Flower Show, at which roses are usually well represented, but we understand that the local conditions rendered the holding of the show on the date fixed necessary.

"**Botanical Magazine.**"—The issue for the current month contains coloured illustrations of the following plants: Parthenocissus tricuspidata, which is our old friend Ampelopsis Veitchi, or A. Veitchi, under a new generic name; Asparagus tetragonus, a South African species, which thrives in the temperate house at Kew, and has been found useful for training up pillars in the greenhouse and conservatory; Prunus maritima, a distinct species, which grows freely on the sands of the Atlantic seashore from New Brunswick to Virginia, U.S.A., and should be useful for planting on the sea coast in this country; Opuntia imbricata, an interesting Mexican species, with cylindrical growths and bright rose-coloured flowers; and Euryops virgineus, a South African species, which was first introduced to this country as far back as 1821. It forms a neat shrub, ranging from one to two feet high, and produces a profusion of bright yellow flowers.

The Gardening Year Book for 1910, as already mentioned in these pages, has been published within the last seven days, and we again refer to the fact for the purpose of saying that the demands upon the publishers have been such as to show that the popularity of the book continues in an upward direction. The continued increase in an annual publication that has reached its fifty-second year is of much interest as evidence of the care that is taken to keep the immense amount of information it contains fully abreast of the times; and to add from time to time such new features as are likely to add to its interest and usefulness. As in previous years, "A Year's Work in the Garden" is described in a series of monthly chapters, and a page of ruled paper is provided in each month for memoranda relating to the garden. New plants, orchids, flowers, fruits, and vegetables are concisely described and many are illustrated. The chapters on hardy border flowers, conservatory plants, fruits, and vegetables afford the fullest information on the selecting of the finest kinds and growing them to the highest degree of perfection. The chapters on insect pests and fungoid diseases afford much information on the identification and life history of the many enemies of plant life and the best means of combating them. To those who are interested in horticultural societies and public parks the directories of these will be of much value, for they are full and trustworthy. The book, neatly bound, is published by Messrs. W. H. and L. Collingridge, 148 and 149, Aldersgate Street, E.C., and the price is 1s. net, or post free, 1s. 3d.

New Botanical Laboratories at the University College, Gower Street, were formally opened on the 16th inst. by Dr. D. H. Scott, who was received in the Flaxman Gallery by Professor J. W. Hill, Lord Reay, and others. After having been conducted through the laboratories, Dr. Scott proceeded to the botanical lecture room, and delivered an address having special reference to the botanical work at University College. He said that botany at that college had always been regarded as equal in importance to other sciences, and the foundation of the botanical department dated from the foundation of the college itself. The first elected professor was Sir W. Hooker, and the first acting professor was John Lindley, who was succeeded by Professor Daniel Oliver, who in turn was succeeded by the present holder of this office, his son Professor F. W. Oliver. Dr. Scott referred to his own association with the college, and, after directing attention to the wide range covered by botanical studies at the present day, concluded by formally declaring the new laboratories open for use. The new department of botany compares favourably with the old one, especially in regard to compactness and the excellent lighting of the series of large working rooms on the side facing north. In all there are fifteen rooms in the department, and on the south side of the corridor there are elementary and advanced laboratories, each seating forty students, a research room for original investigations, especially in anatomical and microscopic work, and a chemical physiology room, with benches for twenty-four workers; while on the north side are the departmental library, the apse room which is to be used as an herbarium and ecology room, a central store for material of all sorts, with a small greenhouse beyond, and an attendant's room and workshop.

Woodford Horticultural Society has had a very successful year. At the recent annual dinner, over which Mr. J. Gurney Fowler, J.P., presided, Councillor S. J. Hann stated that the society commenced the year's work with £153 in hand, and completed it with a balance of £187. It would be an immense advantage were the majority of local horticultural societies in so satisfactory a financial condition as the Woodford Society.

New Seed Catalogues.—The new seed catalogues for 1910 are beginning to arrive, and in another week or so we shall be almost inundated with them. They are of all sizes, shapes, and thicknesses, variously arranged and illustrated, and all are of more or less interest. The leading firms are usually the first in the field, and the catalogues of Messrs. Sutton and Sons, Reading; Messrs. James Veitch and Sons, Chelsea; Messrs. E. Webb and Sons, Stourbridge; Messrs. Dicksons, Chester; and Messrs. Dickson and Robinson, Manchester, all arrived well in advance of the Christmas festivities.

"**Journal" of the Board o Agriculture.**—The issue for the current month is devoted almost exclusively to agricultural matters, and contains much that is of interest to those engaged in the work of the farm. Of the articles deserving of special attention mention may be made of those dealing with pig keeping, wild white clover, the lapwing or plover, British crops of the current year, and agricultural instruction at Oxford.

Single White Banksian Rose.—Mr. E. H. Woodall contributes the following interesting note on the single white Banksian rose to the current issue of the Journal of the Royal Horticultural Society. "A curious fact concerning the Banksian rose has this year come to light. The double white form of Rosa Banksiae was introduced to Kew in the early part of the nineteenth century, in 1815, but William Kerr, according to a note in the "Botanical Register," had it in cultivation as early as

1807. The double yellow was introduced some years later, and the single yellow only made its appearance about 1870. The typical form, the single white, remained unknown, though many inquiries were made for it in France, where these climbing roses abound in every garden in the Riviera, as well as in Italy and Switzerland. Four years ago I found a rose growing on the wall of Megginch Castle, Strathtay, Scotland, which seemed to me a very slender-growing form of R. Banksiae. Captain Drummond, of Megginch, told me it was a rose that his ancestor, Robert Drummond, had brought with other plants from China the year his brother, Admiral Sir W. Drummond, had cruised in the China seas, in 1796. This old rose had been repeatedly cut to the ground by severe winters, and rarely if ever had been known to flower. The impression, however, was that it was white and very small. Captain Drummond kindly gave me cuttings, which I took to Nice, and this year they flowered, proving themselves to be the typical single white Banksian rose so long sought for and hidden away in this nook of Scotland for more than a hundred years. The introduction of the Banksian rose, therefore, is due to Robert Drummond, of Megginch, who brought it from China in the year 1796."

Bishops Stortford Horticultural Society.—At the adjourned annual meeting of this society, Mr. G. Sheeter was elected president, Mr. W. Smith chairman and vice-president, Mr. J. L. Glasscock chairman of committee, and Mr. F. Glasscock vice-chairman.

The Harry Veitch Portrait.—The Rev. W. Wilks and Mr. H. B. May write: We have the pleasure to inform you that the response to our suggestion was so liberal that we have been enabled not only to have the portrait of Mr. Harry J. Veitch painted by the eminent artist Mr. Hugh G. Riviére, but are also able to present to Mrs. Veitch a replica of it by the artist's own hand, and a photogravure of it to every subscriber. The portrait will be hung for inspection in the great hall of the Royal Horticultural Society, Vincent Square, S.W., on Tuesday, January 25, 1910, and the replica will be presented to Mrs. Veitch at a small dinner, to be held on the same evening.

R.H.S. Journal. — Part II. of Volume XXXV. of the Journal of the Royal Horticultural Society has been published, and is remarkable for its interest. The more important of the contributions include "Rock Gardens," by Mr. R. Lloyd Praeger; "British Pansies," by Mr. E. Drabble; "Water Plants," by Mr. F. W. Moore; "Some Lessons from Alpine Plants," by Mr. A. Chilton Brock; "Bees in Relation to Gardening," by Mr. W. F. Reid; and "The Gardens of Lake Como," by Mr. J. Hudson. The issue also contains the reports on the trials of cabbages and lettuces at Wisley, and descriptions by Mr. F. J. Chittenden of a disease of Lavatera trimestris and of antirrhinum.

Checkmating the Asparagus Beetle.—The asparagus beetle (Crioceris asparagi) annually does much damage to the asparagus plant in various parts of the United Kingdom, and it is therefore a matter of considerable importance that cultivators should be acquainted with the best methods of checking its ravages. Dr. F. H. Chittenden, of the United States Bureau of Entomology, reports an experiment which shows that arsenate of lead may be used with success in combating the beetle. A mixture was prepared with arsenate of lead and water, the proportions being 1lb. of the former to 20 gallons of the latter, and the plants were thoroughly sprayed with it. Most of the larvæ were destroyed, and to rid the beds of those which escaped, and others that developed within the next few days, a second application was made a week later. For this the spraying mixture was used rather stronger by reducing the water to 15 gallons, while the quantity of arsenate of lead was the same. The asparagus did not appear to have been injured by either spraying, although the growths were thoroughly saturated. In a second experiment but few dead larvæ could be found after one thorough spraying. Subsequent sprayings were, however, found necessary, as beetles came from neighbouring gardens while the growing plants presented fresh unsprayed foliage for the pests to live upon.

CHOICE VEGETABLES FOR WINTER USE.

During the dull winter months, when the weather is cold, there is not much choice of outside vegetables, therefore recourse must be had to artificial means of production; usually there is not much difficulty in keeping up a supply of peas, French beans, globe artichokes, and other tender kinds till the middle of November, in favourable seasons, without the aid of fire heat, but after that date it is seldom that any of the above-named are procurable unless there be an unlimited quantity of pits at command, therefore where a constant supply of such things are needed preparations must be made in advance.

French Beans.

French beans that were sown a couple of months ago will now be coming into bearing, and will succeed those sown in pits during August and the early part of September. There is not much difficulty in growing French beans where nice, light, well-heated pits are at command, but where one has to depend on growing them in pots in makeshift places they seldom pay for the trouble bestowed on them during the short days of November, December, and January, but as the days lengthen they grow more robust, and will set their flowers more freely, and on that account are more to be relied upon. Where the family is small, and the requirements are not such as to need special structures set apart for the production of these choice vegetables, there is no necessity to make such elaborate preparations for their growth in advance, but where there is a large establishment to be kept going such things as French beans, asparagus, seakale, and the like are in constant request during the winter and early spring months.

Asparagus.

Asparagus is readily produced, for it only takes a few days from the time the crowns are lifted until the growth is ready for use, provided one can have command of well-heated pits in which a gentle hotbed can be made, but where one has to depend on fermenting material alone to generate the requisite heat to promote a healthy growth the case is different.

To produce nice green tender heads there must be a free circulation of air night and day, and this cannot be maintained when the glass has to be covered at night with mats or other material to keep up the requisite temperature. Those pale, half-blanched heads find but little favour with those who have been accustomed to having nice green tender ones similar to those cut from the open ground during the month of May. To grow sufficient crowns to lift each year for forcing it is necessary to set apart a piece of ground for that purpose, and sufficient seed should be sown to give a supply of plants. Strong crowns are essential, and as these cannot be produced in less than three years some idea of the space required for their growth may be formed by the quantity of roots lifted each season. Bought roots are seldom satisfactory for forcing as these are often lifted a considerable time before being forced, and have, on that account, lost some of their vitality. Where roots can be lifted and transferred directly to the forcing pit the results are generally more to be relied upon. Having prepared the bed for the reception of the crowns the roots should be spread out evenly over the surface, and covered with about four inches of fine soil; when this is completed give a liberal watering, and close the pit entirely until growth commences, after which there should be a circulation of air night and day, so long as the temperature does not fall below 55 degrees, but if it can be kept up to 60 degrees so much the better, as this, with a steady bottom heat of about 65 degrees, will ensure an active growth. Should it be found necessary to increase the temperature this can readily be done, provided the heating apparatus is capable of doing its work, and where forcing to any extent has to be carried on there should be ample means provided. In case of severe weather it is well to have sufficient crowns covered with litter, so as to exclude the frost, otherwise they cannot be lifted as they are required.

Seakale.

Roots of seakale may be had at all seasons of the year, for since retarding the crowns has been practised they are procurable at any time. It is, however, seldom that seakale is in demand when there are plenty of fresh green vegetables to be had, and as such kinds as peas, French beans, cauliflowers, and the like may be obtained in May seakale is seldom in request afterwards. It is usually from November through the dull months that this vegetable is in the greatest demand. To grow fine crowns for forcing it is necessary to have fertile land. The most simple way to grow them is to make cuttings of the long fleshy roots, which are broken off when the crowns are lifted. The upper portion being cut horizontally and the lower diagonally, so as to facilitate planting in spring. If these roots are covered with short litter, so as to exclude the frost, the upper end will have callused over by the time the ground is ready for planting them in March. When intended for lifting the sets should be planted in rows about two feet apart, allowing ten inches between the sets. Several growths will be produced from each of these, and when it is seen which is the strongest all but the one should be rubbed off. If the ground has been liberally manured and deeply dug the plants will not require any further aid, with the exception of being kept free from weeds during the early stage of growth, for as the season advances there will be sufficient foliage to cover the ground. After the first severe frost the roots may be lifted and taken to the forcing shed, where a temperature of about 60 degrees can be maintained. As the season advances growth will push more readily, therefore a less quantity can be introduced at shorter intervals. There are several varieties of seakale, but the best we have grown is one named Baddards; this sheds its foliage earlier than the old purple, and for this reason can be lifted sooner, which is an advantage to those who have no means of refrigerating the crowns.

H. C. PRINSEP.

Buxted Park Gardens.

WART DISEASE OF POTATOES.

The Board of Agriculture have addressed the following important letter, dated November 22, to occupiers of land infected with the Wart, or Black Scab, Disease of Potatoes:

I am directed by the Board of Agriculture and Fisheries to inform you that they have for some time past been engaged in investigating the nature of the potato disease, known as Wart Disease, Black Scab, Cauliflower disease, etc., which was present in your potatoes this year, and they have endeavoured to discover some remedy. As you are no doubt anxious to avoid a repetition of the disease among your potatoes, I am directed to send you the following information:

Experiments on wart disease were carried out on behalf of the Board by the staff of the Education Committee of the Lancashire County Council, of the Harper Adams Agricultural College, Shropshire, and of the Holmes Chapel Agricultural College, Cheshire. The experiments were made on infected land at five places. In each experiment tests were made (1) on the effect of possible remedies; (2) on a number of varieties of potato, in order to ascertain whether they did or did not contract disease.

Three possible remedies, viz., sulphur, quicklime, and soot were applied, but in every case they failed. No one of them prevented the crop from being badly diseased. Sulphur was also tried on many allotments and gardens, but in nearly every case without success. It is possible that in another season better results might be obtained, but it is clear from the experience of 1909 that when ground is infected, the use of sulphur, lime, or soot, cannot be relied upon to save potatoes from wart disease.

The trials with varieties were more successful. The following sorts were tested and were found to be attacked by wart disease: Up-to-Date, Northern Star, King Edward VII., Eldorado, Royal Kidney, British Queen, Talisman, Epicure, Sharpe's Express, May Queen, Ninetyfold. All were badly affected, though some were worse than others.

The following sorts were tested and were found to be not attacked by wart disease: Langworthy, What's Wanted, Golden Wonder, Sutton's Abundance, Findlay's Conquest, and (?) Snowdrop.

Snowdrop was not grown at all the centres. It was found that the stock of this potato was not true, a kidney form (probably true stock) was quite free from disease, but an oval form was diseased. In many cases information has reached the Board that Snowdrop is free from wart disease, and in other cases disease has been reported. This variety should therefore be regarded with suspicion. True stocks are probably safe, but there would seem to be some difficulty in securing Snowdrop potatoes true to type.

Traces of disease were found on one or two plants of Abundance and Conquest at one centre, but it is possible that the affected plants were "rogues," for not a trace of disease was found on these varieties at other centres, although growing on soil on which almost every plant of Up-to-Date was diseased.

No trace of disease was seen on Langworthy, What's Wanted, and Golden Wonder. These three sorts all belong to a type of potato formerly well known as Clarke's Maincrop. The first two are much alike; the third is a brown skinned potato of good quality grown in some parts of Scotland, but not yet common.

Of the various sorts which were not affected by disease, Conquest and Snowdrop are early, and others late in ripening.

Growers who have infected soil should procure seed of one of the sorts that do not contract disease. Conquest would probably prove best for early use, and Langworthy as a late or field potato.

This letter is being sent to you before the information is made public, in order that you may at once take steps to purchase the seed you require for next year.

Growers, where land is infected, should avoid not only Up-to-Date, but all varieties of the same class, that is, varieties having the same kind of haulm and flower, such as Factor, Table Talk, Dalhousie, Highlander, Mayfield Blossom, Duchess of Cornwall, Hero; they should similarly avoid potatoes of the same type as British Queen, Royal Kidney, or any other of the affected varieties.

The importance of following this advice cannot be too strongly insisted upon. Wart disease is not very widely spread in Great Britain, but it is very bad in allotments and gardens in most places where it has appeared. No ordinary crop is liable to be attacked by it except the potato, and if everyone plants, either disease-resisting varieties of the potato, or some other crop on his holding, it is likely that the disease will die a natural death and disappear. But it must be borne in mind that to secure this, no potatoes that are liable to attack should be planted in infected ground for many years.

T. H. ELLIOTT,
Secretary.

A WONDERFUL GROUP OF CYPRIPEDIUMS.

I have on many occasions referred in the GARDENERS' MAGAZINE to the value of winter-flowering cypripediums for cultivation in the neighbourhood of large towns and in smoky manufacturing districts, but I never felt this claim to be so great as I did at the Manchester and North of England Orchid Society's meeting held in the Coal Exchange, Manchester, on December 16.

Some dozen or more groups of orchids were exhibited, and many of these consisted wholly of cypripediums. There were exhibits from amateurs who do not employ a gardener as well as from the prominent growers, such as Mr. O. O. Wrigley, of Bury, who had some hundreds of flowers displayed in a tastefully-arranged group. But it was to the remarkable group of cypripediums sent from the collection of Samuel Gratrix, Esq., West Point, Whalley Range, Manchester (gardener, Mr. G. Shill), that my attention was particularly directed. In all my experience I have never seen such a quantity of remarkably choice kinds displayed together, and the society's gold medal was never more deservedly given than on this occasion.

To enumerate the whole of these good things would occupy more space than would be convenient for a note of this description, but as I hope to make a future reference to this remarkable collection, I will only here mention a few of the most notable kinds. There were C. The Lion (recently figured in "G. M."), C. Beryl (Mrs. Mostyn x C. Beckmanni), C. Eboracum and the var. C. E. West Point variety, which is more densely spotted and of better form than the typical variety; C. F. W. Ashton, C. Thalia gigantea, C. Thalia Mrs. Frances Wellesley, and C. Thalia West Point variety, the latter as displayed being superior to the two first-mentioned varieties of C. Thalia; and C. villosum Mrs. Cary Batten, a most remarkable form.

C. aureum Golden Glow was another remarkable variety. The C. insignes included C. i. Bohnoffiana, C. i. Salletense giganteum, and C. i. Sanderæ. The most distinct among the C. Leeanums were C. L. Carona and C. L. Gratrixiæ. C. A. J. Balfour, C. Falshawiensis, C. Ursula, C. St. Albans, C. Miss Cann, C. Germain Opoix, C. San-acderæ Cockson's var., C. Eve, and several forms of C. Hera were all shown, and these names will serve to indicate the high quality of the exhibit.

The whole of the plants were well grown, and the flowers fine in substance, reflecting the greatest credit upon Mr. Shill's ability in producing, even under unfavourable atmospheric conditions, flowers of such quality that they were the envy of all.

Oakwood Gardens. H. J. CHAPMAN.

ITALIAN GARDENS.

The issue of the GARDENERS' MAGAZINE for October 30 was particularly interesting to me, as it contained four magnificent views of celebrated Italian gardens and a very instructive article thereon by Mr. C. T. Druery. There is small wonder that fair and sunny Italy should be so much to the front with its gardens when it takes such a leading place in the countries of Europe in regard to pictures by the great masters, most of them Italians; with its architecture, as exhibited by its splendid cathedrals, such as St. Peter's, Rome, and the famous structure at Milan; with its music, as represented by the most famous operas ever composed; and with its sculpture, which is incomparable.

The first thought that suggests itself on looking at the splendid views is the tremendous cost in labour and material to produce such lovely gardens.

In laying out the gardens illustrated, the principle of "this will be near enough" or "that will do," never obtained. "Near enough" would not do. What a lesson for us to emulate in our British gardens. I am perhaps personally more interested in this subject because, at one etsablishment in which I served there is a large Italian garden, a copy of one of the celebrated gardens of Italy. The cost for stone work was very heavy, and every detail was worked out with marvellous accuracy. The fact that most of the celebrated gardens of Italy date from the 15th and 16th centuries, demonstrates the fact that the work was done well. The ponds for water were well made, regardless of expense, and the stone work has withstood the test of time.

A lesson we may learn from these, perhaps to us somewhat formal gardens, is that in such gardens neatness and tidiness must prevail, for the whole appearance would be entirely spoiled if disorder prevailed. Mr. Druery has told us that probably the number of such splendid gardens in Italy is not more than 200 all told. Only fancy! two hundred of these splendid gardens! What a vast sum of money must have been expended on them. It is rather remarkable that there seems to be a paucity of landscape gardeners in the present twentieth century, and it is rather a sad thought that we must copy fifteenth and sixteenth century gardens. During the 19th century only four or five great landscape gardeners made a lasting name in Britain, but I sometimes think that lack of funds to carry out the work has cramped the ideas and plans of some of our foremost men in this profession.

No doubt in years long passed by the garden or pleasaunce was more thought of and appreciated than it is to-day, as the tendency was to stay at home and enjoy the pleasures of the garden in close proximity to the dwelling-house. Now, with rapid means of locomotion, visiting different parts of the country is so easy, and there are so many and diverse ways of spending time that the garden from the æsthetic or beautiful point of view is not so much thought of.

The Italian gardens teach us that gardening was a great deal thought of and cared for, and to make our gardens popular now we cannot do better than try to keep them as tidy as possible, and as interesting as we know how, and this can only be done by assiduous and constant attention to every detail of good management.

Cheshire. W. M.

DECEMBER PLUMS.

The last month of the year would not appear to be a good time for a supply of fresh plums for the home garden, and yet there is nothing new or novel in a supply at such a date. December plums may suggest the popular name of Coe's Golden Drop as the supply of such fruit, because it is remembered how adaptable is that variety in the hands of some. Wrapped in soft tissue paper, placed in a cool dry room, they are said to keep for a surprising length of time after they are gathered. Personally, we have failed to gain that pleasant record from a practice so simple, but this, we are assured, was due to the want of a suitable store in which to place these late-gathered plums.

It is true that all seasons are not alike, and, consequently, their influence on late fruit of any kind varies. Thus, while normal summer and autumn weather would aid maturity in tree and crop, one naturally assumes that untoward weather would carry with it an opposite influence. It might be assumed that the summer and autumn of 1909 would be anything but favourable for retarding such a perishable fruit as the plum, yet it has proved favourable, of course, to a limited extent.

Golden Drop has, in defiance of the abnormal weather which we have grown accustomed to this year, had a more than usually prolonged season, but it is not the only variety which has continued. Coe's Late Red, a variety not regarded as of high class, has afforded December supplies. Wall trees having effective shelter from frosts have given us these late supplies this year, and though the cold season hindered the swelling of the fruit to full size, selections could be made both for culinary and dessert use. In the kitchen, possibly, the greater appreciation was shown because of the limitation of the supply from the garden at that time. For this purpose, however, the supply was not limited to this variety, for Wyedale, grown on standard trees, afforded a considerable contribution to the bill of fare, and even after being gathered for some days there was freedom from decay and loss. Except in gardens having a great extent of walls it would not be profitable perhaps to grow either Wyedale or Late Red, the space being fully utilised for other kinds. The greater risks that come from standard trees are sharp frost and heavy gales, but where there is the demand, and the available ground, certainly these are varieties as accommodating as they are dependable.

Ickworth Imperatrice is a plum the modern school of gardeners do not recognise with the same degree of appreciation as obtained in bygone days. Though they were expected to have shrivelled skins when retained for late dessert, the plums were recognised as natural sweetmeats at the table. Heavy supplies and corresponding low prices of grapes have removed these small-sized plums with shrivelled skins from their once favoured and exalted station. Their value now counts only in the matter of variety and extent of the dessert which the garden itself supplies. Grapes, no doubt, are more digestible, but plums are not grapes, nor grapes plums, each have their own peculiarities, and are favoured by varying palates, and the dessert table furnished with both kinds of fruit in December causes critical comment as well as due appreciation from those privileged to sit at it.

It would appear somewhat extraordinary, at any rate to many, that such apparently ungenial weather as we have had should permit of successive gatherings of plums extending to the end of November and the early days of December, when, in other and apparently more favourable autumns, this is so distinctly unavailing.

W. Strugnell.

Rood Ashton Gardens.

APPLE BELLE DE BOSKOOP.

This is an apple suitable alike for table and kitchen use, but it has not yet become as well known as it deserves. It is a large apple, in season from October to February. It has a russety skin, but in good seasons it is handsomely striped. A free bearer, of fine flavour, and making, on the paradise stock, an excellent tree for garden culture, Belle de Boskoop should appeal to amateur cultivators. When in bloom it is a striking object, as the flowers are very large and white. Although 1909 cannot be regarded as a first class apple season, the variety we now figure has been frequently and well shown. Our illustration is from a fruit supplied by Messrs. G. Bunyard and Co., Maidstone.

APPLE BELLE DE BOSKOOP.
As exhibited by Messrs. G. Bunyard and Co.

Tamarisk Manna is, according to Mr. D. Hooper, a substance obtained from Tamarix gallica and T. articulata, but whether produced by insect agency or as a natural secretion of the plant, has not yet been determined. In the extraction of the substance the usual method is to pound the leaves and branches, and it has been found that the saccharine matter contained in the manna is cane sugar.

WHO SHOULD GROW PERPETUAL-FLOWERING CARNATIONS?

The answer to the above question is obviously, "everyone who has a greenhouse," and no self-respecting gardener can hope to be considered as keeping up with modern times who does not cultivate some of these, the choicest gifts of Art and Nature.

Two questions are always asked by prospective growers: Will the carnations grow with other plants, and do they require much heat? As a general rule, I would answer the first question in the affirmative, but would add that, if the requirements of the carnation are made the first consideration, many other subjects will live neighbourly with them. In fact, I have known of cases where Arum lilies, and even roses, have been grown in the same house as perpetual flowering carnations, and very praiseworthy results have followed. Of course, in such cases good results would be the exception, not the rule.

Any greenhouse with a fresh, airy, normal atmosphere, where there is good light, and where a temperature of between 40 and 50 deg. can be maintained, will produce most excellent results. Few are the greenhouses where such conditions cannot be obtained. It is simply a matter of the necessary will being required to find the way.

A house, or even part of the same, filled with carnations, will prove far and away more enjoyable and attractive than a miscellaneous collection, which as a rule rarely pleases. We too often hear the lame excuse, "Oh! carnations won't grow in my district." Such a person undoubtedly lacks the determination of the proverbial Bruce's spider, and that alone is the reason for his not cultivating this glorious plant. The mistaken idea that carnations are more subject to disease than other plants is entirely unfounded, and, when the simple requirements of their culture are more generally understood, we shall hear less mention of disease.

All of us remember how that a few years ago chrysanthemum diseases were the one topic of conversation in the horticultural world; and so much was written about them; but now there is little, if any, mention made of them. Not that the danger of disease is less, but that the prevention of it is better understood. So with perpetual-flowering carnations. Plants grown under healthy, normal conditions do not become affected. Too often we deceive ourselves, like some people who always imagine they are ill, and are perpetually taking medicine for diseases which, in reality, do not exist. So with carnations. The timid way in which their cultivation is undertaken, every spot on the leaves being put down to some awful disease, and causing a fear that the plant will die, is unbecoming to both professional and serious amateur growers.

I will say this, and in following articles prove it, that in any greenhouse where good chrysanthemums or any winter-flowering plant can be grown, perpetual-flowering carnations can be cultivated with success, if their simple requirements are studied.

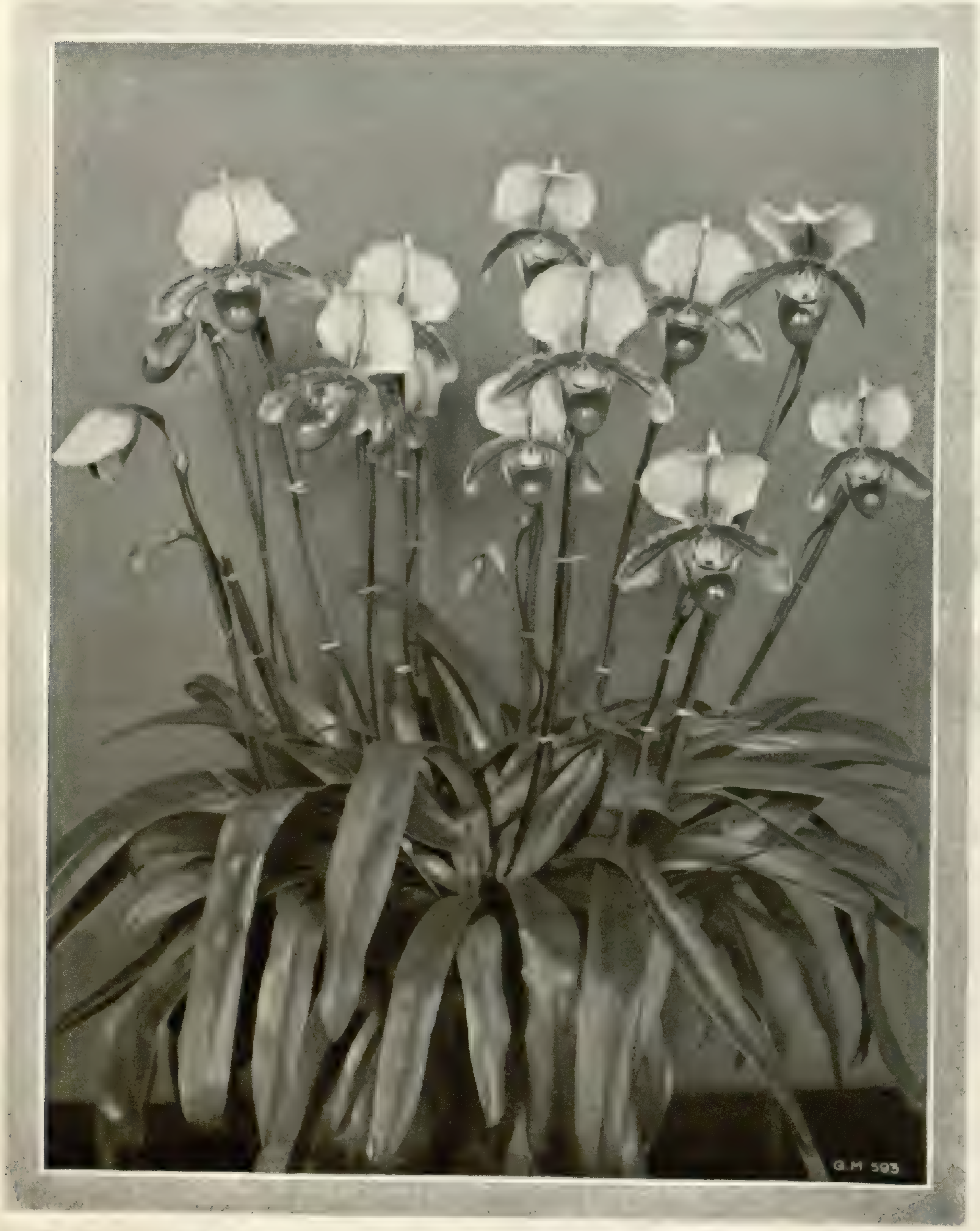
You must not work too much by rule of thumb in the matter of temperature, watering, ventilation, etc., but try to meet the requirements of your own case. For instance, if your house is of heavy structure the light will naturally be bad. To counteract that, you must grow your plants with as much ventilation as possible, and less artificial heat—say 40 deg. at night and from 45 to 50 deg. during the day. You must not stop your plants quite so late, but have them in bud in September, thus producing a continuous crop of flowers all the winter.

On the other hand, I know of establishments where carnation blooms are not required until after the festive season. In such a case the plants would be stopped later, and left in a mildly-heated frame until required to flower.

Why the perpetual-flowering carnation is pre-eminently a plant for the private garden is this: It will produce a succession of choice flowers for nine months out of the twelve. This in itself should commend it. My one desire is to convince readers that this beautiful flower is as indispensable to the greenhouse as the rose is to the flower garden or the potato to the vegetable garden.

Montagu C. Allwood.

LAWNS.—Those who desire to make a new lawn or bowling green, or to renovate and maintain existing ones in good condition, can have no better guide than "Lawns and Greens," by T. W. Sanders, price 1s. net, by post 1s. 2d.; bound in cloth 1s. 6d., by post 1s. 9d., from W. H. and L. Collingridge, 148, Aldersgate Street, London.



A FINE SPECIMEN OF CYPRIPEDIUM LEEANUM VAR. CLINKABERRYANUM.

THE MANURING OF LAWNS.

Lawns in connection with some large private gardens and many public parks are maintained in first-class condition, being treated in a rational manner and with due regard to all requirements. Unfortunately, this state of affairs is not general, and the question how to improve and renovate lawns that have deteriorated and have lost that delightful elasticity which is characteristic of and identified with well-kept swards, is frequently put. There is an erroneous idea prevalent amongst amateurs, and not a few of the rank and file, that manures tend to encourage coarse grasses and weeds at the expense of the finer and legitimate lawn grasses. This is not, however, supported by facts, for while the first-named are deep-rooting, and consequently range far and wide for food and support, the creeping species among the poas and fescues are entirely dependent upon food that exists on, or very near to, the surface.

It is easily understood that the cutting and removal of the grass each week and at times more frequently during some eight months of the year, cannot but impoverish the soil, and while no one would dream of expecting good results or a satisfactory crop in other directions without annual dressings of manure, the necessity for such dressings is often ignored entirely as regards the lawn. It is quite true that where the natural soil is a good loam, and retentive, or similar material has been added in the formation of the lawn, no appreciable difference will be detected for a year or two, even in the absence of manure, and this fact proves a great stumbling block to many.

Artificial manures are found to do all that is required on loamy soils, but must be supplemented by dressings of short manure, which should be passed through the screen in dealing with sandy and porous ground. This should be applied immediately after the mowing is completed for the season, and if well brushed in, and washed by rains, the material is speedily lost to view. Nitrogenous manures are known to encourage the grasses and to depress the clover; therefore, dressings with sulphate of ammonia should not be given at a very early date, otherwise valuable material is wasted, for being readily soluble, it is soon carried away into the subsoil, and altogether beyond the reach of the plants it is intended to benefit. Hence the importance of very small and frequent applications dating from the time of resumed activity. I have seen as much as two ounces per square yard being applied, but experience has taught me that it is preferable to employ only one-third of that quantity at intervals of a fortnight and during or following closely upon showery weather.

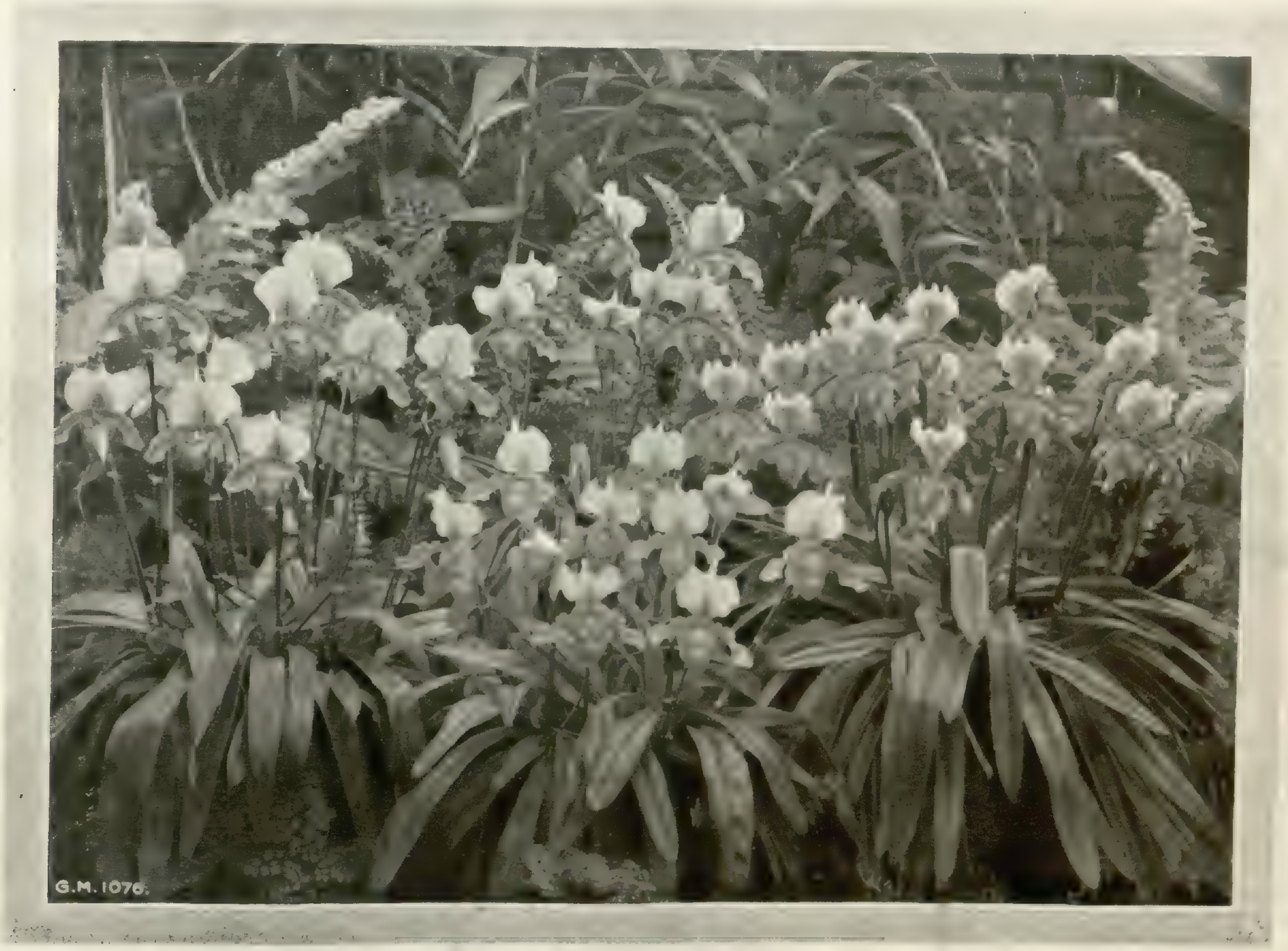
Sulphate of potash is an excellent stimulant, and, as it is not assimilable as plant food for some time after application, late autumn is a suitable time to apply it. Chimney soot and lime are both of great value upon low-lying and damp ground. In some instances the lawn suffers from improper, or an absence of, drainage, and under these conditions, it will be a constant source of trouble and anxiety, and the finer and desirable grasses refuse to thrive and die off in patches. But if the work and expense in connection with efficient drainage is too serious an undertaking, I would advise that light and frequent dressings of lime and soot mixed be applied from time to time throughout the autumn, winter, and spring. Its effects are very beneficial and most pronounced.

Bermondsey. Walter H. Aggett.

WINTER-FLOWERING CYPRIPEDIUMS.

After the chrysanthemums have passed away in all but the larger establishments, and before forced bulbs and shrubs have become general, few subjects, if any, are so valuable and delightfully interesting as the winter-flowering cypripediums. Taking only those that succeed in a comparatively cool house, where the winter temperature ranges at about 50 degrees, descending to 45 degrees perhaps on a few rare occasions when the weather is very bitter, but rising to 60 degrees and upwards when the sun shines and the wind is not keen, there is a host of varieties and hybrids to select from, and the interest can be maintained at a small cost from November to March.

Of course, Cypripedium insigne will form the basis of the collection, no matter how large or how select, for even though the ordinary type be ruled out of order, there will be a selection of named varieties (I believe there are nearly two hundred varieties now, so that we may look forward to a National Cypripedium insigne Society), that will include some of the beautiful yellow and almost spotless forms, such as C. i. Sanderæ, C. i. Sanderiana, C. i. Ernesti, C. i. Youngiana, etc. Then, too, there will be examples of C. Leeanum, the insigne-Spicerianum hybrid that is now represented by many varieties, of which C. L. magnificum, C. L. superbum, and C. L. Clinkaberryanum are excellent. C. Tityus, C. Euryides, C. œnanthum superbum, C. Actæus, C. Milo, C. Hitchinsiæ, C. nitens, and C. Prospero are a few of the other hybrids to be obtained at a reasonable price for flowering during the dreary months of the year.



WINTER-FLOWERING CYPRIPEDIUMS.
Varieties of C. insigne and C. Leeanum, grown by Mr. H. J. Chapman, at Oakwood, Wylam, the residence of Mrs. Norman C. Cookson.

The flowers of all these cypripediums last a long time in good condition, remaining in beauty for four or six weeks, and even longer in some cases. For personal adornment there is hardly a flower that lasts so well as one of these cool cypripediums; if carefully handled, it may be worn to church on two successive Sundays and to business each day between, if put in water on reaching and returning from the office. An amateur with a small glasshouse could scarcely do better than make a hobby of these lady's slipper orchids, as he will find them of surpassing interest and usefulness, and capable of yielding far more pleasure than a collection of varied plants, composed of half-dozens of many kinds and varieties.

C. H. C.

VINES AT REST.

Though during the vine's season of rest its cultural needs are comparatively few, and, possibly, to some of its cultivators, uninteresting also, there are, all the same, some very important items to be considered, which, if neglected, more or less impairs the plant's vitality, in accordance with the degree to which the neglect is allowed to extend.

Owing to the natural appearance of a vine throughout its dormant season the inexperienced cultivator in particular is liable to overlook the necessity of proper attention; to give but one example, it is by no means an uncommon thing to observe pruning being left undone until an untimely date, with the result that the vines suffer. It has occurred to me that a few notes upon this subject may prove useful to some readers of the GARDENERS' MAGAZINE; especially to amateurs and the younger members of the craft.

In all cases, provided the vines are cleared of fruit, pruning should take place as soon as the leaves fall, as the sap will be then entirely concentrated upon the vines' requirements for next season, and none be wasted (as in the case when late pruning is practised) upon wood and buds that are to be cut away, or, as sometimes happens, for a "bleeding." In the case of vines that provide late crops the fruit should be gathered and stored in the grape room by the end of December, and even in the case of earlier houses it is better, after the leaves have matured, to relieve the vines of any remaining fruit, rather than leave the fruit to sap the vines' energies, and also deprive them of the benefit of a long perfect rest.

The temperature is again of considerable importance, and should be kept at a low degree, the ventilators being left fully opened both by night and by day when the weather is mild, and closed only during spells of severe weather, for moderate degrees of frost are harmless to vines during their resting period. Much mischief may be easily, and unwittingly done in cases where tender plants are wintered in vineries, by artificial heat being injudiciously employed with a view to safeguard the plants during severe weather. By this means the vines are excited, and the buds swell, and subsequently, under altered conditions of weather, when the houses are again opened, the vines receive a rude check.

Obviously, inactivity of growth, lack of leaf respiration and evaporation, decrease of sun power, etc., the vines' demand for root moisture is small during its season of rest, compared to that required in the time when growth is active, but at the same time the borders should be kept moist throughout. Inside borders, especially those of late vineries, which have been left unwatered for weeks for the sake of the better keeping of the fruit, should, as soon as the fruit is gathered, receive attention in this respect.

T. COOMBER.

The Hendre Gardens.

THE MAIDENHAIR TREE.

Although sparingly represented in the gardens of this country, Ginkgo biloba, or, as popularly designated, the maidenhair tree, is one of the most beautiful of the many ornamental trees at the command of the planter, and it is unsurpassed in interest, as one of the connecting links between the conifers of past ages and those which now clothe large areas of the earth's surface. At present the ginkgo is known only as a native of China, but in the earlier periods of the history of the crust of the earth it had a much wider range, and the genus was not then, as at the present time, limited to one species, but contained several. In the remarkable coalfield of Vancouver Island, which, as Dawson observes, was formed before the Rocky Mountains or the Himalayas had reared their giant peaks and ridges, there are remains of Ginkgo biloba, and other members of the genus. Therefore, the tree takes us back to the time when the cycads and conifers were growing in close association, and the giant reptiles, iguanodon and hadrasaurus roamed over the face of the earth, feeding upon the leaves and fruits of such trees as flourished in those parts specially suited to their habits. It is a matter of something more than passing interest that the ginkgo so plentiful in the Meozoic flora should now be represented by but one species, and that limited to Eastern Asia. More especially is this a matter of interest when it is remembered that it will grow, although it rarely fruits, in most parts of temperate regions, and that in America it flourishes as far north as Montreal. The investigations of Dawson have revealed the fact that in the Meozoic period it occupied all these regions, and even Siberia and Greenland, with many and remarkably distinct species. In this respect it has much in common with the Tulip Tree (Liriodendron tulipiferum), which is the sole representative of a large number of species that once extended over a wide area of the earth's surface, and is now confined to the eastern side of America. Also with Sequoia (Wellingtonia) gigantea, which, with S. sempervirens, is confined to a few districts in California, although in the distant past these two, with other species, formed enormous forests in the northern hemisphere.

The ginkgo first became known to European science by the account given by Kæmpfer—who had discovered the tree in Japan, twenty-two years previous—in his "Amænitates Exoticæ," published in 1712. Owing to its having been first found in Japan it was for a long period supposed to be indigenous to both China and Japan, although Siebold, who resided some years in the latter country, stated in his flora that the Japanese considered the tree to have been introduced from China at a remote period. It is now regarded as a native of Northern China. The date of the introduction of the ginkgo into Europe cannot be exactly determined. Loudon suggests that it was introduced into Holland between 1727 and 1734, and his suggestion is based on the estimate made by Dr. Kops, at the beginning of the last century, of the age of a tree growing in the Utrecht Botanic Garden, and the trade between the Dutch and Japanese at that time.

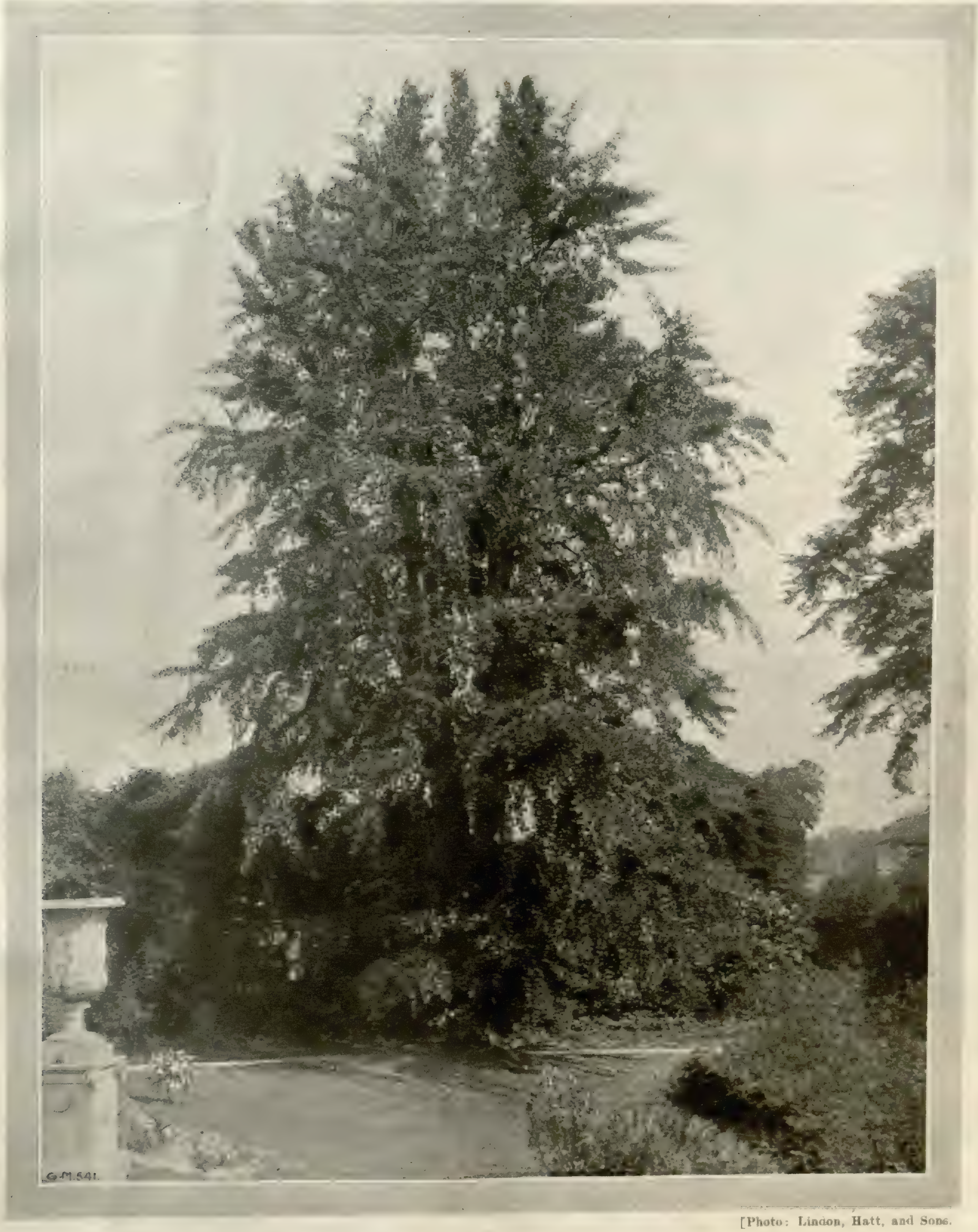
The year of the introduction of the ginkgo into this country is generally given as 1754, and this may be regarded as approximately correct. To Gordon, the proprietor of the Mile End Nursery, belongs the credit of introducing so handsome and interesting a tree into Great Britain, and raising a stock. In 1771 Gordon sent a plant to Linnæus, who, in his "Mantissa," published in the same year, described it under the name of Ginkgo biloba. Five years later Smith renamed the tree Salisburia adiantifolia, because of the generic name being "uncouth and barbarous," and for a long period it was the most generally known as salisburia. At the present time, and properly so, the name given by Linnæus is more fully recognised. According to Loudon, it was sent to Rouen in 1776, and taken to Paris in 1780: to Schönbrunn by Messrs. Loddiges in 1781, and to America by Mr. Hamilton in 1874. These figures are interesting inasmuch as they show that if the Britishers cannot claim to have introduced the tree to Europe, a prominent part was taken by them in its distribution over the European and American continents. The manner of the introduction of the ginkgo to the Parisian gardens is worth being mentioned as showing the improvement in the method of transacting business that has been made within recent times. The story as related by André Thouin, in the course of a lecture at the Jardin des Plantes, is given at some length in Loudon's "Arboretum," and, briefly summarised, is as follows: In 1780, a Parisian amateur, named Pétigny, visited England for the purpose of seeing some of the principal gardens, and among those visited was that of a commercial gardener who had five plants of Ginkgo biloba, which was still rare in England. These five plants had been raised from nuts the gardener had received from Japan, and he asked a high price for them. However, after a full dinner and copious supplies of wine, the seller became more moderate in his price, and sold the five plants, which were growing in one pot, for twenty-five guineas. The purchaser promptly paid the money and carried off his purchase. The next morning, with a clearer head, the English gardener recognised the mistake he had made, and endeavoured to buy the plants back, offering the twenty-five guineas he had received for one of them. It is said that all the trees originally distributed in France were propagated from the five plants introduced by Pétigny. This story may have some foundation in fact, but the probability is that the plants sent from this country to France were obtained in the usual way from Mile End, where, at the time, Gordon had, presumably, a considerable stock.

A SPRAY OF THE MAIDENHAIR TREE.

The first of the ginkgos to flower in Europe was the specimen in Kew Gardens, which bloomed in 1795. A few years later a tree flowered in the gardens of Ham House, and subsequently several trees flowered in botanic and others gardens on the Continent. All the trees that bloomed previous to 1814 were males, and in this year M. de Candolle discovered female flowers on a tree at Bourdigny, near Geneva, which he assumed was planted between 1767 and 1797; but, according to a letter in the volume of the Gardeners' Magazine for 1836, from Mr. Blakie, who went from England to Switzerland as a botanical collector, and resided some time at Bourdigny, it was planted in 1790. After M. de Candolle had discovered the female tree he distributed cuttings to the more important botanic gardens in Europe. These appear to have failed to root, and in 1830 M. Delille, director of the Montpelier Botanic Garden, received two cuttings from M. de Candolle, which he grafted on two male stocks. Two years later these grafts had made sufficient growth to enable M. Delille to obtain sufficient shoots with which to cover a tree fifty feet high with grafts. In the following year the grafted tree produced one imperfect fruit, and in 1835 perfect fruits were obtained, and from these plants were raised. With regard to the presence of female trees in this country, it may be mentioned that it is not known how many were originally raised from nuts by Gordon, who was mainly instrumental in distributing it in this country, but it is known that a very large proportion of his stock was raised by means of layers of a stool of the male form.

It is evident that at one time the ginkgo was grown in China and Japan chiefly for the sake of its nuts, and, according to Dr. Abel, they were frequently offered for sale in the Chinese markets, but he failed to ascertain whether they were used as food or as medicine. According to Kæmpfer they were used by the Japanese in the preparation of several dishes, their use being due to the supposition that they aided digestion. Thunberg states that even the fleshy part of the fruit was eaten in Japan, although rather insipid and bitter.

In briefly referring to the position the ginkgo should occupy in the garden, we need only take into consideration its ornamental appearance when grown under conditions favourable to its full development. The ornamental character of a well-developed specimen is very high, and in proof of this it will suffice to direct attention to the specimen herewith illustrated which forms so attractive a feature of the gardens of Blaise Castle, near Bristol, the residence of Mrs. Harford. Here we have a tree rising to a height of eighty feet or so, and furnished throughout with widespreading and extremely graceful branches, and elegant sprays of leaves that rival in beauty the fronds of Adiantum farleyense. Added to this, the leaves are throughout the summer of a bright refreshing green hue, and when their development is complete, and the breath of autumn has passed over them, they assume a rich yel-



[Photo: Lindon, Hatt, and Sons.

A MAGNIFICENT SPECIMEN OF THE MAIDENHAIR TREE (GINKGO BILOBA)

Growing in the gardens of Blaise Castle, Bristol, the residence of Mrs. Harford.

low colour. It is true the autumn colouring is not of long continuance, as the separation layer is quickly formed, and the leaves fall in a comparatively short time after they have undergone their change of colour.

The adaptability of the ginkgo to general cultivation is very great, for, provided the soil is fairly well drained, it will grow vigorously, whether it be light or comparatively heavy. A deep, well-drained loam is an ideal soil for the tree, but, like so many other occupants of the garden, it will thrive under conditions that fall considerably short of the ideal. The advantages of an open position need not be insisted upon, for unlike the other conifers, it will thrive in town gardens that are restricted in area, and where the atmosphere is by no means free from the impurities injurious to plant life. Its immunity from injury by the latter is due to the tree being free from the resinous properties that characterise other conifers, and as the surface of the leaves is firm and glossy, dust and particles of soot that may obtain lodgment are quickly washed off during a shower of rain.

GEORGE GORDON.

GERANIUM SANGUINEUM.

We find among our native crane's bills a few plants which must be recognised as good garden flowers, and among these Geranium sanguineum and its varieties generally receive a hearty welcome. Probably the typical plant, which is so common by the seashore in many parts of Great Britain, is not so generally known to amateurs as one would expect, and in all likelihood its more general cultivation would have been advanced had it been believed a native of some foreign land, and not of our own islands. But it is not a whit the less beautiful, because it may be met with in thousands on some parts of our coasts. The colour is not devoid of a slight magenta shade, which makes it unwelcome to some, but the plant, with its finely formed leaves and its large flowers, of a magenta-crimson, and from six to ten inches high, is a good occupant of the border or the rockery.

The variety album, which originated in the South of Scotland, is a very beautiful thing, which would, in some cases, almost suggest that it may be a hybrid. The leaves are more deeply cut, and the white flowers scattered over a good plant remind one almost, at a distance, of white butterflies poised upon a bush of green. This is a really fine subject for the border or rockery. In the variety lancastriense, called sometimes simply G. lancastriense, we have a gem among low-growing plants, and one which, curiously enough, does not seem so common as at one time. It comes from Walney Island, near Barrow, and in its native locality seems to vary slightly. A few forms of this are now coming into the market, I understand, but none will surpass that which we have known for years, this having delicate flowers of pink or rose, with darker veins running through the petals. It is much dwarfer than the others.

These three varieties all prefer a somewhat sandy and stony soil, and do best with full exposure to the sun. They seem to come almost true from seeds. I have never found seedlings of the white variety produce any but white flowers, and seedlings of the Walney Island variety reproduced themselves perfectly as well. These crane's bills can be raised from seeds sown in spring in the open or under glass, and they may be increased by division as well.

S. ARNOTT.

THE ROCK GARDEN IN DECEMBER.

December is essentially a time of rest in the rock-garden, the stillness and calm of the dying year pervade the scene, and plant life seems to be at a standstill. But in reality it is not so. Growth above ground is practically at its lowest ebb, and yet the minute thread-like rootlets are still being pushed out from many plants, and the bulbous subjects are busy underground in anticipation of the first spring days.

A glance around the rock garden at the present moment reveals many things. The chief feature is the way the rocks show their true outlines now that the foliage of the many deciduous subjects has fallen, and the dead flower stems have been removed. Clear and distinct, the rugged, grim, grey, and bronzed boulders show up unshrouded, save for the dark, deep colourings of mountain pines, cupressus, retinosporas, ivies, berberis, and similar trees and shrubs.

One can now estimate the relative beauty of the foliage exhibited at the present season. The trees and shrubs rank first, and just now show to the utmost advantage. Pinus montana and P. cembra, the sturdy branching species from the Alps, cap the highest projecting points with their differing shades of green. The bluish-silver shade which one gets in those charming Japanese pines, P. parviflora and P. densiflora is very effective, and the value of the prostrate junipers, such as J. sabina, J. tamariscæfolia, etc., for draping crags and boulders, is immense.

While lacking the space for a detailed description of the rock garden's trees and shrubs, I would draw attention to the charms of the New Zealand veronicas during the dull months. The intensely interesting variations of leaf-formation and colouring makes for the general interest and charm of the garden. The blue shades one finds in V. pimeoloides and others; the grey-greens of V. decumbens, V. carnosula, and V. Stuarti; the deep, intense greenery of V. buxifolia, V. Traversi, etc., combined with the purplish hues of some of the finer hybrids, as well as the specific forms, tends to enrich the rock-garden considerably. This fact, together with the varied leafage, ranging from the small, dense foliage of V. cupressoides, and V. epacroidea, to the willow-leaved V. salicifolia and V. Dieffenbachiana, give a wondrous diversity.

Hardy azaleas and rhododendrons as yet show but little sign of the glories to come, but the cotoneasters and some of the berberis are exhibiting some warm tones amongst their leafage. Other shrubs and plants which one notes with anticipation for later beauty are Camellia japonica, in its red, white, and pink varieties; the charming Daphne Cneorum, D. Blagayana, D. Mezereum, etc., and the varied ericas.

Just now one can realise the advantages of many of the sedums, saxifrages, and kindred rock-dwellers for forming hillocks, mounds, and rosettes of foliage. Mossy saxifrages, with their deep-green masses, are almost as valuable at the present moment as they are in May, when full of blossom. The silvered forms are very effective, gleaming from the nooks, crannies, and ledges; while the diverse, many-hued sedums, in red, green, grey, and bronze, add to the charm of the almost flowerless garden.

Here and there may be a stray viola, a patch of Potentilla alba, or a mass of Polygala chamæbuxus and its variety purpurea, or the rising stems of Helleborus niger are seen in the sheltered nooks; but there is little else to attract attention in the way of blossom. The "sheathed" bulb-leaves are pushing through the dark soil; muscaris and galanthuses, irises and leucojums are noted among the rising forms; and, in addition, the dark-green sword-leaves of the ramosus group of gladioli are plainly visible. All these speak of better days and bright blossoms in store.

Any pruning necessary to the well-being of the more robust rock shrubs can be done at the present time, as one is more fully able to study their lines and proportions against the rugged rock-formation, and to prune accordingly. Furthermore, one can now spare the time for a light top-dressing among the varied plants. A mixture of loam, decayed leaf-soil, and mortar-rubble will be found to suit the requirements of the majority; while for those that dislike lime one can substitute sand for the mortar-rubble, and of course give an allowance of broken peat for those subjects which revel in peat.

Thus it will be seen that the rock-garden is not devoid of interest at this season, and the work that can be done now should be pushed rapidly forward.

P. S. HAYWARD.

CANKER IN APPLE TREES.

It may be of interest to many readers of the GARDENERS' MAGAZINE if I state briefly how I cured a bad case of canker in an apple tree some few years since. The tree in question had attained a height of about 14ft.; it was a half-standard, with a beautifully-balanced head; the variety Cox's Orange Pippin. The rooting medium was rather clayey, but not excessively so. The roots were carefully examined; a few of the larger ones had penetrated the uncongenial subsoil, and these were cut back. The remainder of the roots were left intact, and the trench made was refilled with better loam, mixed with some of the original soil. The new compost was made very firm indeed.

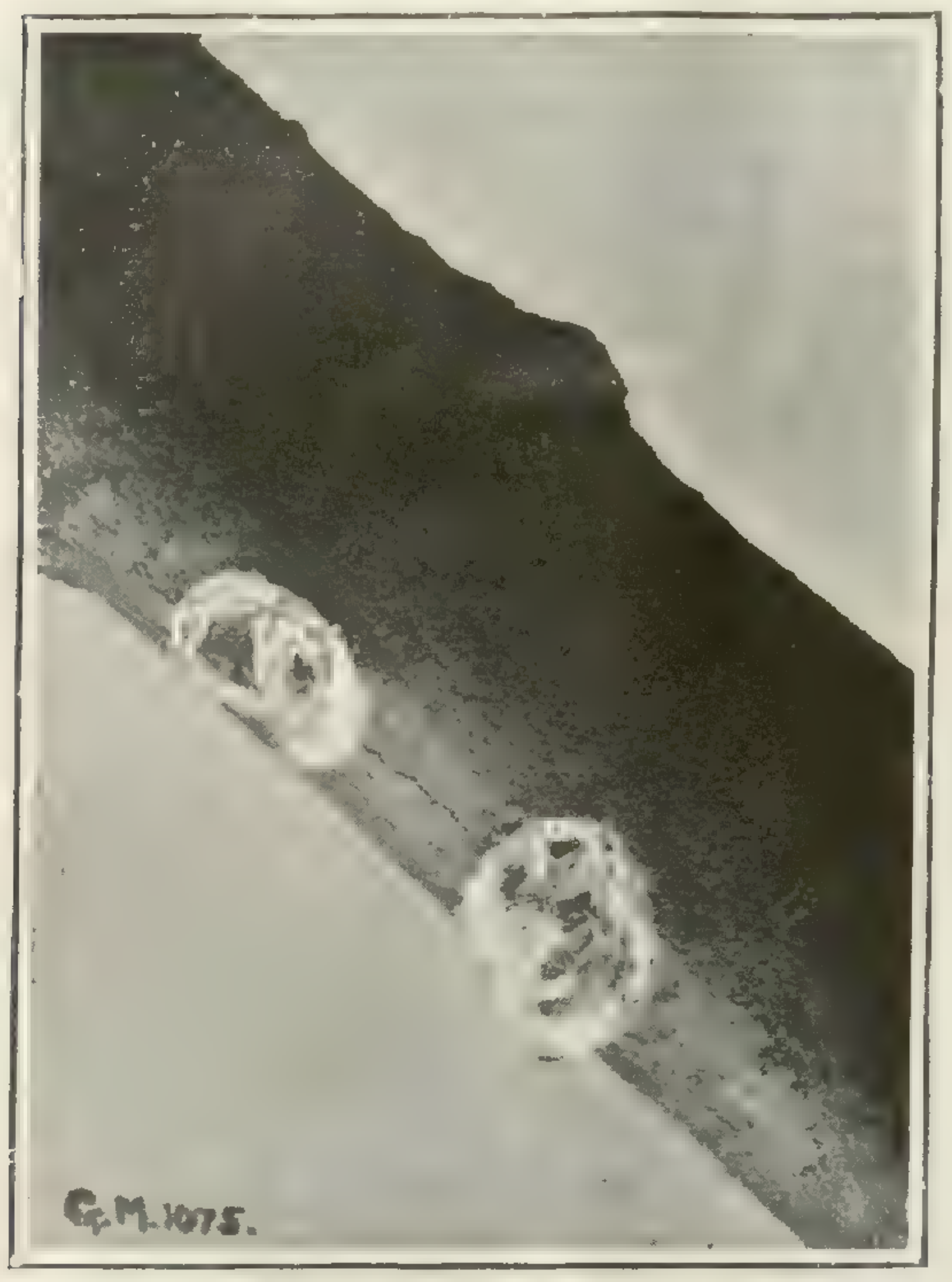
Then the branches which were cankered were dealt with. Some of them were so badly affected that perforation was complete, and the worst parts were those where the branches joined the main stem or trunk. All the affected or cankered portion was cut away with a sharp knife, and then the wounds were dressed with fir-tree oil in a crude state. The cut parts at once turned brown, but commenced to heal quickly, and at the end of two or three years all the wounds had disappeared, the holes had closed up, the whole of the bark was clean and free from canker, and the tree annually bore nice crops.

GEO. GARNER.

Filberts.—On properly-trained specimens what pruning is necessary is best done in the spring, when the small scarlet flowers are visible, but all suckers should be removed at this season, and a good dressing of farmyard manure be placed over the surface as far as the roots extend. If growing in the cultivated portion of the garden the manure may be slightly pointed in with a garden fork. Bushes which are allowed to grow in a more natural way should have a portion of the older wood cut out each year to prevent overcrowding; all the suckers must be removed unless any are wanted to replace worn out branches, when a few of the strongest should be reserved and shortened back one-third of their length; apply manure as advised for the trained bushes.—GEO. WOODGATE.

THE ROSE AS A TOWN FLOWER.

Before it is too late in the season I would like to draw attention to the rose as a town flower. All growers will readily admit that the rose thrives much better in country than in town atmospheres, but many a fine and pleasing show has been obtained almost in the heart of towns with a little care and due regard to the varieties selected. Indeed, I may say the main point lies in selection. However good your soil, you are not likely to obtain satisfactory results from A. K. Williams, Niphetos, Souvenir d'Elise Vardon, Grace Darling, and suchlike growers; but substitute for these Ben Cant, Frau Karl Druschki, G. Nabonnand, and Conrad Ferdinand Meyer (which give approximate colours), there is no reason why you should not succeed. And it is the same with almost all classes or sections of the rose: some varieties are eminently suitable, and a very great proportion are the reverse.



PROPAGATION OF MISTLETOE.
Fig. 1. First stage.

I do not care to pen notes in the form of a catalogue, and will merely remark that most up-to-date lists from the growers note a few of the best for towns. At all events, discard any described as moderate in growth, and stick closely to the more vigorous sorts.

Of course, we need to select as light a position as possible, and yet avoid the keen draught of corners. The soil and drainage need care, more so than in the open country, and it is well to dig deep enough to be certain of what these consist. There are many surprises when deep digging in suburban gardens. Often there is excellent soil a little below the surface; in short, the same that was market garden or meadow land only a few years ago. On the other hand, we too often find wretched stuff that it is an insult to ask a weed to grow in, and that has only been surfaced over a few inches, or, at most, a foot. This must be removed, the drainage made fairly free, and a good loam provided. This is labour well spent, for even if you do not want roses, or fail with them, you benefit any other crop you may select. Avoid soot among manures for town use, as there is too much of that already. Good farmyard or stable manure, with fresh loam, or the first spit of turf where possible, are great factors towards success.

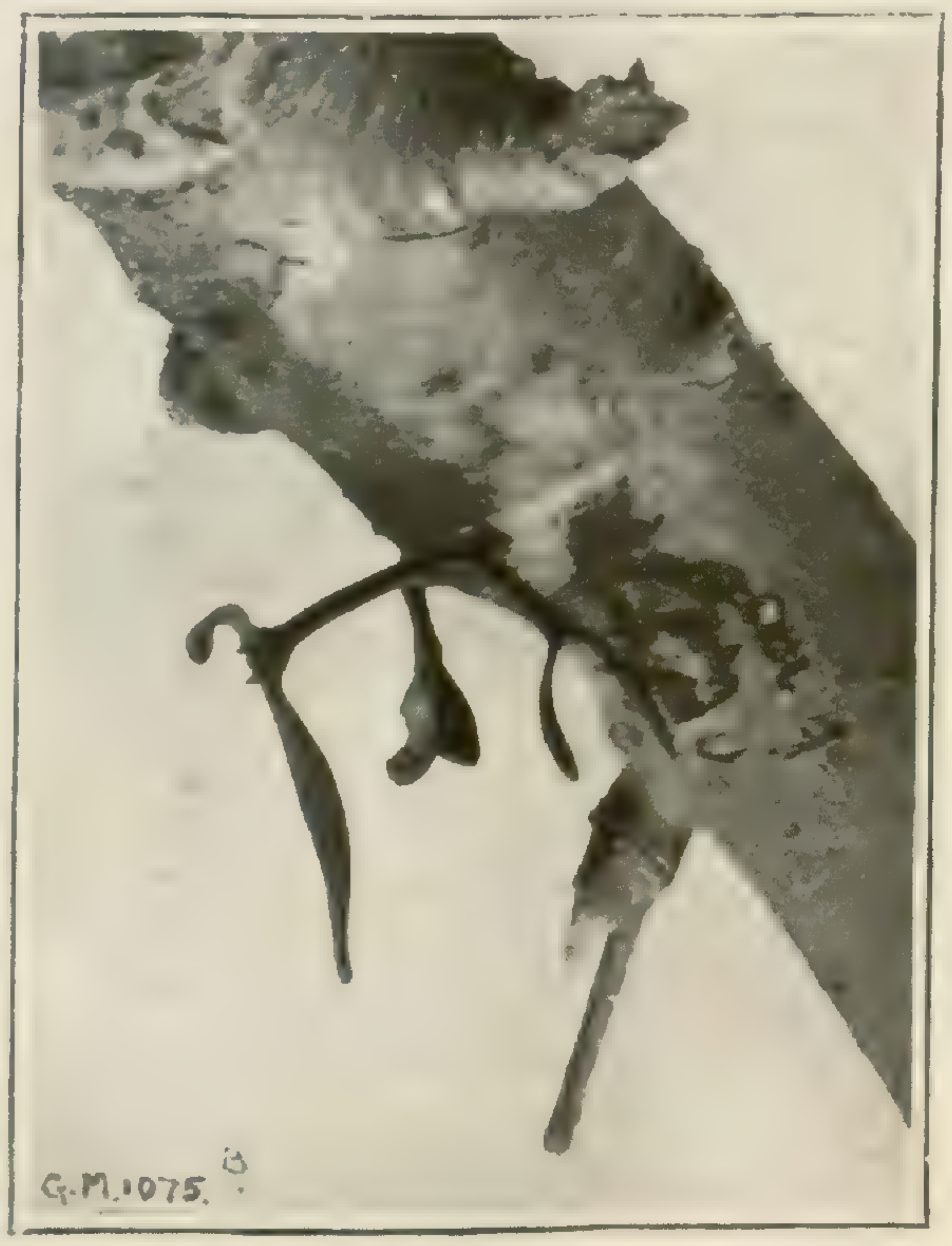
That roses can be grown in a town is proved by the excellent flowers town and suburban members of the National Rose Society so often set up, frequently securing the silver medal for the best bloom of its class in the whole exhibition. But it is not the superb show blooms I am dealing with just now, but with varieties that give us a quantity of pleasing flowers, with the delicious perfume and charm possessed by so few other subjects. If we select strong growers, and do not prune quite so hard as usual, I am certain as much pleasure can be derived from roses as from any other flowering shrubs in towns.

Uckfield. A. Piper.

PROPAGATION OF MISTLETOE.

Mistletoe, which is found growing wild in the South and Midland Counties, is never so found in the North of England, but has been most successfully propagated artificially in many places. The best trees for the purpose of host plants are apples, pears, thorns, or peaches. The berries are not sufficiently ripe for propagation until late in April, and, though the birds will have feasted on them ever since Christmas, a few are always left on the tips of the branches, where there is no firm standing place for the feathered thieves, who greedily eye the luscious fruit.

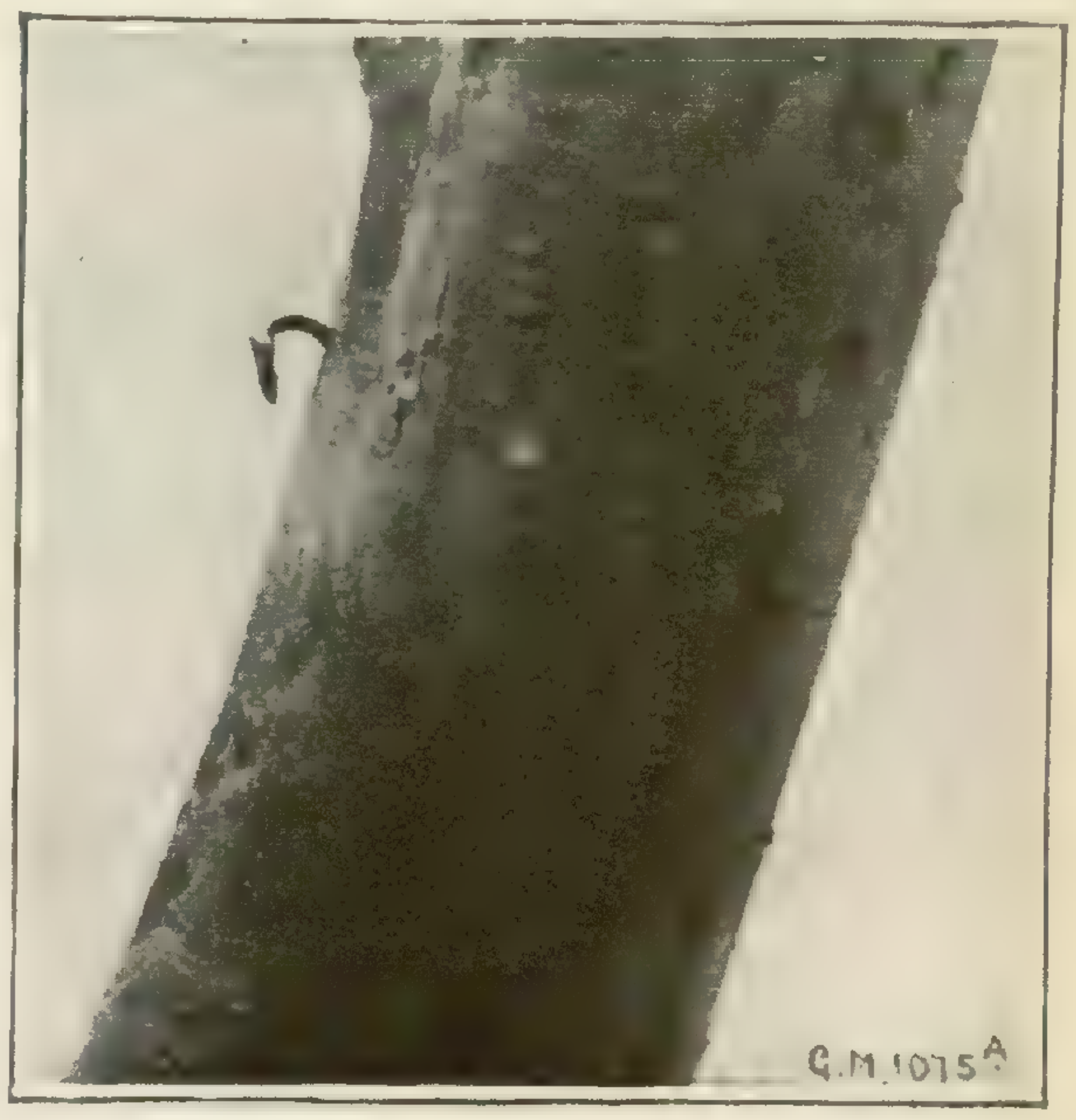
A berry, pressed on to the roughest bark of the young wood of the tree chosen for the trial, soon hardens, and the seed enclosed begins to cling to the bark. The writer has found scraping the bark lightly on the under side with a penknife—(see Fig. 1)—and then pressing the berry on, a more reliable method than even the two-year-old wood, as the bigger branch is less easily damaged. At the end of a few months the seed will have thrown out a tiny hook—(see Fig. 2)—green, and turning to the bark. Many months pass, and the hook falls off, and the amateur believes his effort has failed; but, as the year passes, the branch is seen to be swelling—very suggestive of a vaccination—and two years after the attempt was made two points of bright green gradually unfold from the swelling branch into a tiny spray of leaves, and the mistletoe is an established fact. Both male and female plants must be in the same garden, or no berries will appear. The female growth is lighter, smaller in leaf, and not such a dense mass as the male. Martia.



PROPAGATION OF MISTLETOE.
Fig. 3. Third stage.

THE GARDEN PAINT POT.

At various times nearly everything appertaining to horticulture is treated on in the Gardeners' Magazine, but I do not remember ever seeing an article dealing with the paint pot or can, which is the receptacle for the paint with which the gardener paints his wooden labels or tallies that are to carry the names of his plants.



PROPAGATION OF MISTLETOE.
Fig. 2. Second stage.

In most cases white paint is used for the purpose. A little white lead is mixed to the proper consistency with linseed oil and turpentine. Some people prefer red lead, in which case the paint is of that colour when mixed with the same ingredients. Probably most gardeners agree that white paint looks best, as when written on with a proper Wolff's garden pencil the writing is very plain, far more legible than when written on red lead paint.

Labels can be bought ready painted on one side for writing on, but I prefer to paint ours as we want them, as when written on damp paint the pencil marks better than on the dry paint.

The most important part in painting labels is not to put much paint on, the usual plan being to make a little pad of cotton wool and wipe the paint well into the label, leaving a very little on when finished. When laid about these little pads become dry and hard, then they should be burnt and a new pad made. It is always the best plan to have a very small supply of paint in the can or pot, as then if an accident occurs there is not a very great spill, and, consequently, not much paint to clean up.

The new garden boy generally makes a very great mistake when he is told to paint a label, as he tries to pile the paint on; so much, indeed, that in attempting to write on it the pencil ploughs through the paint and makes miniature furrows. The same individual is rather sceptical as to the amount of paint there should be in the pot. Before now he has returned with the announcement that "the pot is empty," as he did not understand the small quantity in the bottom. As the lad gains experience, and has seen a filled pot belch forth its contents from a foot to a yard across the potting bench, he will understand the wisdom of only mixing a small quantity at a time. W. M.

Cheshire.

There is no better guide to the kitchen garden than Vegetables and their Cultivation, by T. W. Sanders. It is a complete treatise on the general management of the garden, and the successful culture of vegetables, saladings, and herbs for home use. Price 5s. net, by post, in box 5s. 6d., from W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London.

WORK FOR THE WEEK.

THE ORCHID HOUSES.

SEED SOWING.—There are differences of opinion among those who are actively engaged in orchid hybridisation and in the rearing of orchids from seeds; and different methods are adopted. There is also a difference with reference to the question of sowing seeds in the depth of winter. There can be no question that difficulties have to be contended with when seeds are sown of some classes of orchids during the months of November, December, and January. There is very little benefit from light during the greater part of the months in the germination of the seeds and the development of growth in young seedlings, even in the most favourably placed situations. Yet I consider it advisable to make small sowings from the seed-pods in which the seed ripens. In the case of the majority of plants ripening their seeds during the winter months it will be difficult to easily remove other than a small portion of the seed. This can be shaken out and sown, the remaining portion of the pod should be carefully tied round with tissue paper, so that any seed ripening afterwards may be secured. It is a good plan to thus secure the pods without removing them from the mother plant; but in case this cannot be conveniently done the pods may be cut and placed in shallow pans with sufficient white or tissue paper placed around and at the bottom of the pans to prevent any loss of seed. The top of the seed vessel should be left exposed to the light and air in the house in which the plant has been grown; this will assist in properly maturing the seed, and will permit of the moisture escaping from the decaying husks of the seed vessel, which, if tied in any way close, has a tendency to become mouldy, which is anything but beneficial to the ripening of seed. In the case of cypripediums, I do not think there is any great advantage in refraining from sowing all the seed immediately the seed is ripe. There is one most essential point to be observed, and that is, "Never to place all the eggs in one basket." We frequently sow seeds from the same pod of a cypripedium or other orchid on, say, six or more pots, and perhaps we only induce the seed to germinate on one or two pots. In some cases we have perfect germination on one pot and failure on all the others, notwithstanding we have carefully prepared the seed beds and used the same material. The reason why this should be I have not been able to ascertain. I would also advise that in the case of the epiphytal kinds, such as those orchids allied to the cattleya family, they should be placed in a position near the light, especially for the first two or three weeks, instead of being placed in the propagating case in the usual way. While in this position careful observation is necessary to prevent the seed becoming dried, but at the same time they must not be at all times in a saturated state. I find that seed pans treated in this way and removed to the propagating cases towards the end of January are more satisfactory than is the case when they are placed under the warmer, moist conditions from the commencement.—H. J. Chapman, Oakwood Gardens.

CONSERVATORY AND GREENHOUSE.

HIPPEASTRUMS.—If early flowers are required, a few of the strongest plants that do not need repotting may be introduced into heat. Remove as much of the soil as can be taken away without damaging the roots, and see that the drainage is efficient, and then top-dress with fresh loam, leaf-soil, and sand, with the addition of a little artificial manure. If given a good watering at once very little more water will be required for some time. Plunge the pots in a bottom heat of about 65 deg. with a top heat some 10 deg. lower, and by frequent syringing and damping maintain a moderately moist atmosphere. Many of the plants that were raised from seeds sown early in the year will now be in condition for potting previous to flowering. Use six-inch pots, and provide a good drainage of clean crocks, and use the same compost as advised above. In transferring the plants into larger pots take care not to bruise the roots; remove a little of the surface soil, so that the bulbs will be about two-thirds clear of the surface soil after the potting is completed. Thrips are liable to cause much damage to the plants at this stage, and often before the young growth appears; therefore, fumigate once a week with some approved material.

STREPTOCARPUSES resting under cool and dry conditions, may soon be shaken out and repotted in a mixture of loam, leaf-soil, and sand, with broken charcoal added. Give a light position in an intermediate house.

HEAT AND MOISTURE. — During the winter months, when fire heat has constantly to be provided, and, in many instances with insufficient piping the atmosphere becomes very dry. When plants are grown for the beauty of foliage some moisture-holding material for the plants to stand upon is of considerable advantage. The moisture rising from the surface of the stage upon which the plants are standing has a good effect upon the plants, as the moisture collects upon the underside of the leaves and acts as one of the best means of keeping insects in check, providing the most natural conditions for healthy growth. When open stages are used the effect of any dry air passing upwards is bad, causing the incessant use of the syringe to keep the plants in anything like a healthy condition, and even then the growth produced is not satisfactory.

ALLAMANDAS. — If required for very early flowering these, provided the wood is well ripened, may now be pruned. Cut back last season's growth to about three buds from the base, give sufficient water to moisten the soil, and stand the plants in a light position near the glass. Syringe daily, and when the new growths are two or three inches long repot if necessary, or take away the surface soil and top-dress with good loam, sand, and some artificial fertiliser.

COLEUS THYRSOIDEUS. — Plants now freely developing their flowers make capital companions for the poinsettias and white and yellow chrysanthemums. The coleus will require constant attention in the matter of watering, feeding, and ventilation, and, under favourable conditions will continue in bloom for a considerable time.—W. Fyfe, Lockinge Park Gardens.

FRUITS UNDER GLASS.

EARLY VINERY.—This should now have an increase of temperature, 55 deg. by day and 50 by night being the most suitable. See that the rods are kept moist by syringing twice daily, the first time early in the morning and the second at 2 p.m., and all dry places should be sprinkled in addition in the evening. If the borders are in a good condition, and were well watered at the commencement, they will not need watering for some time.

STRAWBERRIES.—A good batch of these may now be introduced either in a small house specially provided for them, or into the vinery or peach house, as they do not harm anything at this stage. Place the pots on stages near the glass; examine the roots for worms, and if the soil is loose ram it as firmly as possible. A very good place to start strawberries is a frame, the pots being stood on a bed of leaves.

TOMATOES.—These are fruiting nicely and setting well; still admit a little air at the top, and maintain the temperature between 55 and 60 degrees when the plants will continue to flourish. As the flowers open in the middle of the day brush them lightly with a rabbit's tail. This will assist in fertilising them; and be careful to only give just as much water as is required.

LATE VINERIES.—If all the grapes are not cut by the end of the year, no time should be lost in cutting and placing the ends of the laterals in bottles of water. Then prune the vines and clean the interior of the houses. New borders should be made ready for planting in spring, and the soil should be mixed several times. Refrain from making large borders all at once.

PEACH HOUSES.—The pruning of the trees and the general cleaning of the houses should be pushed on as fast as possible, as the opening days of spring bring an increase of work. I like to have my houses attended to by the end of the year. I have given hints for the early houses, and later houses need to be carried out on the same lines. In pruning, thin the wood sufficiently to give room for fruit and leaf development; in doing this you leave room to train a new branch for the succeeding year. If the cultivator has one fruit in every area nine inches square he will have a very heavy crop. One fruit to a foot square is a very fine crop.—W. A. Cook, The Gardens, Leonardslee, Horsham.

THE KITCHEN GARDEN.

CUCUMBERS.—In order to have early plants for putting out for spring cropping, a sowing should be made now. Place each seed singly in a three-inch pot filled with a light sandy soil. Afterwards plunge the pots in a hotbed with a temperature ranging from 75 to 80 degrees. As soon as the seeds have germinated and the plants are nicely up, place them in the strongest light near the roof glass, with a temperature of 65 to 70 degrees, that is charged with a humid atmosphere. Pot the plants on as required until they have attained strength and produced two or more rough leaves, when they will be ready for planting out over a hotbed. A good type of Telegraph or Lockie's Perfection are good varieties to grow for a private establishment.

POTATOES.—To produce the first supply of new potatoes, make a plantation of tubers in 10-inch pots. Use a turfy loam that has been laid by for some time, and lighten it with sand and leaf-mould to form a free and open compost. Good sized tubers that have one or two sturdy leading shoots should be selected. In potting, leave a sufficient space for the top-dressing which is necessary when the plants have become firmly established and forming their new tubers. A position in a newly started vinery or peach house will afford them an excellent position during their early stages of growth. Watch that the plants do not become drawn through insufficient light. A commencement may also be made with this crop by making up hotbeds under either pits or frames, for the reception of the tubers later. Good selections of the short-topped kidneys are very suitable for forcing.

SALADS.—If manure and leaves have been made ready, the forcing of salads may be commenced in frames on hotbeds. Lettuce and radishes are easily brought forward with a little skill in watching over details. Make the hotbeds from a liberal proportion of leaves, and use sweet, rich soil in which to grow the crops. If young plants of lettuce are at hand, they will be found very valuable for pricking out over the beds as soon as they are ready to receive them. Mustard and cress, too, may be successfully grown in quantity in small frames over hotbeds with very little trouble and labour. Continue to place endive and chicory in the mushroom house to blanch, and if there is sufficient to spare of partly grown outside lettuce, plant a quantity in boxes and place them to blanch in a similar position. If given plenty of water they will form small heads which will assist the salad and be appreciated.

FRENCH BEANS.—With the advent of longer days, larger and more remunerative crops can be produced. Make a good sowing in 7 or 8-inch pots now, and place them in the forcing house. They may be grown on shelves near the glass if 60 degrees of temperature can be maintained in the house.

WORK IN GENERAL.—As these notes appear the year 1909 will have finished its course, and all further arrangements will be directed to next season's supply and demand.—C. Flack, Cholmondley Castle Gardens.

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EXHIBITIONS AND MEETINGS.

Royal Horticultural Society.

As the Royal Horticultural Hall was occupied by a toy fair on December 21, there was no exhibition of flowers, fruit, and vegetables on that date, but arrangements were made for the Standing Committees to meet and consider any new things placed before them. Some of the members of the Floral Committee came long distances, over 150 miles in one case, they signed the attendance book, and wished each other the compliments of the season, peeped in at the few orchids set up in the Council Room, looked in at the toy fair, and then went their way.

ORCHID COMMITTEE.

There was a good attendance of the members of this committee and about eighteen plants were shown. The members appeared to have been filled with the spirit of the season, for they granted five First-class Certificates, one Award of Merit, and one Certificate of Appreciation.

Messrs. Charlesworth and Co., Haywards Heath, showed the beautiful Odontioda Charlesworthi, carrying a spike of eight brilliant crimson-scarlet flowers; Zygocolax Charlesworthi rubida (F.C.C.), and an interesting plant named Oncidium hybridum (C.A.), the result of crossing Oncidium tigrinum and O. lamelligerum. This is the first oncidium hybrid artificially raised. Messrs. Sander and Sons, St. Albans, brought up a superb plant of Odontoglossum Harryano-crispum Bruggense illustris, carrying a magnificent spike of fifteen flowers, each of grand size and substance, and splendidly coloured with red-chocolate on a yellow-tinted ground, the lip being white with purple and chocolate marks. The flowers were five inches deep, and the dorsal sepal an inch and a quarter across; the same firm showed Dendrobium Phalænopsis Schroderianum album Sander's var. (F.C.C.), the finest white form we have seen. The fine Cypripedium Mrs. F. Sander (F.C.C.), with broad white dorsal sepal and pale yellow-green lip and petals, was also shown by this firm. A fine spike of Cypripedium Sedeni was shown by Mr. L. Lawrence, Shoreham.

Mr. Day, gardener to H. S. Goodson, Esq., Putney, showed Cypripedium Bellatrix, parentage unknown; and C. Lusitania, a bold flower of C. insigne descent. Mr. Alexander, grower to Lieut.-Colonel Holford, Westonbirt, Gloucester, brought up the bold and effective Cypripedium Alabaster magnificum (A.M.); and C. Caruso, the latter a fine hybrid between C. J. Howes and C. insigne Harefield Hall.

From Messrs. Armstrong and Brown, Tunbridge Wells, came the lovely white form of the beautiful Brasso-cattleya Thorntoni, name B.-c. Thorntoni alba. Mr. Hopkins, gardener to Francis Wellesley, Esq., Westfield, Woking, brought up Cypripedium Hercules, with a flower of wonderful size and substance; and C. Germaine Opoix var. Imperialis.

Odontioda Keighleyensis Fowler's var. (F.C.C.), with a graceful spike of sixteen flowers and buds, the flowers of bright orange-scarlet hue, was submitted by Mr. Davis, gardener to J. Gurney Fowler, Esq., Glebelands, South Woodford.

Lælio-cattleya Firmini (L.-c. Ceres var. Queen Wilhelmina crossed with C. aurea) was shown by Mons. Firmin Lambeau, Brussels (F.C.C.); this has yellowish sepals and petals suffused with rose, and a lovely yellow, rose and crimson-purple lip. Cattleya Percivaliana alba, Clifton's var., a charming white form with yellow-throated lip was brought up by Messrs. Stuart Low and Co., Bush Hill Park, Enfield.

SCIENTIFIC COMMITTEE, Dec. 7.

Present: Mr. J. T. Bennett-Poë, M.A. (in the chair); Messrs. A. Worsley, J. Fraser, L. Crawshay, J. Douglas, W. Cuthbertson, R. Hooper-Pearson, W. E. Ledger, and F. J. Chittenden (hon. sec.).

LOBELIA THAPSOIDEA.—Mr. Worsley showed flowers of this species, a tall growing plant reaching 7ft. in height, seeds of which he had collected at the summit of the Organ Mountains, in Mexico.

SAXIFRAGA TRIDACTYLITES.—Mr. J. Fraser showed specimens of this plant growing vigorously in a pot, reaching a size considerably greater than that attained in its usual habitat, the tops of walls and similar places in the British Isles. The seed had been collected at Weybridge, and the plants were now commencing to flower. He remarked that the plant had a wide distribution through the north temperate zone, and that although in this country it was confined to such situations as the tops of walls, on the Continent it grew among pasture plants and appeared able to compete with them.

PSYCHOTRIA JASMINIFLORA.—Foliage cut from a seedling of this plant raised by Mr. George Lee, of Clevedon, was sent illustrating the difference between the juvenile and adult forms of leaves, the latter being much broader in proportion to their length than the former, and also considerably larger. The seed had been produced eight years ago by a plant at Clevedon, and it appears rare to find it fruiting in this country, though the plant is often cultivated under the name of Gloneria jasminiflora.

TREES ATTACKED BY VOLES.—Examples of maiden apple trees with their bark bitten off below ground level all round the stem and the roots eaten, were received from Chard, Somersetshire. The committee was of opinion that the damage was the work of field voles. It was pointed out that the best way of checking the spread of these pests was by encouraging owls and kestrels. They may sometimes be trapped by digging pits wider at the bottom than at the top, and they may be driven away by injecting carbon bisulphide into the soil at the rate of about ½oz. to the square yard, or by the use of paraffin poured in small quantities around the trees, taking care not to touch them with it.

MALFORMED CYCLAMEN. — From — Rickards, Esq., of Usk Priory, Monmouth, came a malformed cyclamen, having the sepals developed into foliage leaves.

Forestry Lectures at Aberdeen University.

The last of the series of lectures on forestry which has been delivered during the past two months in Aberdeen University by Mr. William Dawson, M.A., B.Sc. (Agr.), was given on Wednesday evening the 15th inst. Throughout the course there have been exceptionally large attendances, and on several occasions standing room was at a premium, the lectures having aroused great interest and conveyed much valuable information to those attending them. They dealt lucidly, if briefly, with a great subject in a popular manner, and at each lecture the chair was taken by a gentleman of standing and eminence in the city or county of Aberdeen. Designed for those desiring a general knowledge of forestry and natural history in relation to the forest, the lectures dealt with such interesting matters as tree growth, aids and barriers to forest extension, forests and climate, trees—their identification, their habits, and their life histories; sylviculture—pure woods and mixtures; methods of regeneration—natural and artificial; rearing and management of forests, products of the forest, enemies of the forest, and forest protection.

As was befitting the occasion on Wednesday evening, the chair was occupied by Mr. Sydney J. Gammell, of Drumtochty and Countesswells, a gentleman who owns great areas of forest lands in Aberdeenshire and Kincardineshire, and who is also president of the northern branch of the Royal Scottish Arboricultural Society.

Mr. Dawson referred at the outset to the literature that existed in regard to the question of forestry, and afterwards dealt with the chief points of practical importance in the management of woods. He mentioned the remedies that should be adopted in protecting woods against the legion of enemies—namely, ground game, insects, parasite fungi, fires, and high winds. In conclusion Mr. Dawson advocated a system of forestry with reference to the felling and floating of trees. The system he would adopt was to cut annually the amount produced annually.

The series closed with a hearty and enthusiastic vote of thanks to Mr. Dawson for his most interesting and instructive lectures.

Birmingham Gardeners' Association.

At the fortnightly meeting held on December 13, the members listened to an interesting exposition by Mr. J. Stoney, Instructor in Horticulture to the Staffordshire Education Committee, on "Some Diseases and Insect Pests of the Garden." Mr. T. Humphreys presided.

It was Mr. Stoney's initial appearance before the society. The lecture was instructive and illustrated by a well-mounted series of insects and their larvæ, and also of specimens of gall-affected tree leaves. Time, however, would not allow of descriptive remarks pertaining to the latter, but Mr. Stoney promised to advert to them on some future occasion. Remedies were given for the prevention and destruction of insect pests, and for the prevention and cure of fungoid diseases that attack fruit trees and vegetables. The lecturer, however, referring to that comparatively new disease, the Potato Scab, confessed his inability to prescribe an effective antidote for it, neither had he as yet heard of one, though the subject had engaged the earnest attention of scientists and others. It was the opinion of some that the casing of the resting spores had so far resisted chemical applications. Mr. J. Webb remarked that he was cognisant of a somewhat remarkable circumstance connected with a severe attack upon a plot of potatoes last year, grown by a cottager in the district, while the adjoining plots on either side remained immune. Last spring the cottager applied a thick dressing of street sweepings that were impregnated with the gas-tar coating of the streets, potatoes were again planted on the same plot, and the ensuing crop was entirely free from disease, the assumption being that the gas-tar must have been a potent remedy. A remarkable fact, however, remains to be noted, viz., that the crops of potatoes this season upon either side of the immune plot were badly diseased, and the ground had not been manured with tarred street sweepings.

Cardiff Gardeners' Association.

The members of the above association paid their annual visit to the Central Free Library on the 7th inst., with the kind permission of the Libraries' Committee of the City Council, to inspect the extensive and valuable collection of books relating to horticulture and kindred subjects. The books were admirably arranged in groups, each group dealing with a particular subject. Mr. J. Mountney presiding.

Mr. Farr, the chief librarian, met the members, and in a brief introduction welcomed the association, and pointed out the recent additions which had been made to the library since the last visit, which included a large collection of pamphlets on agricultural and horticultural subjects issued by various Government departments and colleges in different parts of the British Empire and the United States.

A very pleasant and profitable evening was spent in inspecting the different volumes, and at the close, on the proposition of Mr. C. Lewis, seconded by Mr. Malpass, Mr. Farr was thanked for the excellent arrangements he had made for the members, and his kindness in explaining various matters in connection with the books.

Reading Gardeners' Association.

At the fortnightly meeting, held in the Abbey Hall, on Monday, the 6th inst., there was not such a good attendance as has been recorded on recent occasions. The President, who occupied the chair, facetiously remarked that perhaps some of the members felt a little nervous, as there was to be no regular subject, the evening being devoted to impromptu speaking.

The minutes of the last meeting were read and confirmed, and the Hon. Secretary presented the balance-sheet of the recent exhibition duly audited, which showed, receipts, £32 10s. 8d.; expenditure, £13 15s. 2d.; net proceeds, £18 15s. 6d. The latter sum has since been augmented by a generous donor (not a member of the association) of £1 4s. 6d., to make the amount an even sum of £20, by which the Gardeners' Royal Benevolent Institution, and the Royal Gardeners' Orphan Fund will benefit.

With the object of encouraging impromptu speaking a number of questions had been prepared, each bearing a number. The Chairman then drew from a batch of tickets bearing corresponding figures, and the holder of the number called, immediately rose and spoke on the subject named on his question paper. The programme worked out remarkably well, as apart from the regular speakers at the meetings, several members not frequently heard, notably some of the younger gardeners, were induced to display some of their oratorical powers. After the questions were exhausted, debate was invited, and an exceedingly instructive hour ensued.

Mr. Parfitt being obliged to leave early, the chairman of the committee (Mr. A. F. Bailey) presided during the latter part of the evening.

Royal Scottish Arboricultural Society (Aberdeen Branch).

The annual general meeting of this society was held in the Music Hall Buildings, Aberdeen, on Saturday afternoon, 11th inst. Mr. Sydney J. Gammell, of Drumtochty and Countesswells, president of the branch, presided over a large attendance of the members (and also a number of the public, who were admitted after the general business had been transacted), who came to hear a lecture by ex-Lord Provost Sir John Fleming, of Dalmuinzie.

Mr. George D. Massie, hon. secretary, submitted the annual reports, which showed that the branch was in a flourishing condition, and these were unanimously adopted.

Office-bearers for the ensuing year were elected as follows: President, Mr. Sydney J. Gammell; vice-presidents, Dr. James W. H. Trail, Professor of Botany in the Aberdeen University; Mr. John Michie, M.V.O., factor to the King on the Balmoral estates; Mr. A. Forbes Irvine, of Drum; and Mr. C. S. France, F.B.S., Aberdeen. The following gentlemen were added to the committee: Sir John Fleming, Mr. Alexander Dewar, factor to Sir John Gladstone, of Fasque; Mr. George Wyllie, forester to Mr. W. E. Nicol, of Ballogie; and Mr. Thomas Duff, factor to Laura Lady Grant, Huntly Lodge. Mr. Massie was unanimously reappointed secretary and treasurer.

Birmingham Chrysanthemum Society.

The annual dinner of the Birmingham and Midland Counties Chrysanthemum, Fruit, and Floral Society, was held on the 9th inst. at the Exchange Restaurant, Stephenson Place. Mr. Walter Jones (chairman of the society) presiding over a goodly number of guests.

The toast of "The Society and Officers," was proposed by Mr. R. A. Felton, who said he considered every class of business man should have a hobby, and he did not think that there was one which could be more fascinating and desirable than the cultivation of chrysanthemums. He considered their society did a considerable amount of good for the city, but that it did not receive the support it deserved. What he heard was that the last exhibition, although an excellent one, had not turned out a great financial success. To discontinue the society's work, he said, would be a calamity, and he earnestly hoped that new financial support would be forthcoming. Mr. T. Humphreys (the treasurer), who responded, said it was necessary a change should take place in the society's finances; when they looked at the list and saw there were only 350 subscribers they were surprised that the society, which had been in existence for fifty years, should have only this comparatively small number of supporters. Something would have to be done to stop the leakage. A guarantee fund was started last year, but it had not realised what the committee anticipated. In speaking further, the Treasurer observed that this year the society had lost one of its silver challenge cups, owing to it having been won outright by Mr. C. V. Powell, Hereford. The cup was presented to Mr. Powell by the chairman, who subsequently expressed the hope that some public-spirited citizen or company in Birmingham would give another cup in the place of the one they were parting with. Other speakers included Messrs. William Spinks, Alfred Cryer, J. H. Goodacre, John Hughes, W. H. Morter, A. R. Brown, and G. Pressley. The proceedings were enlivened by an excellent repertoire of vocal and instrumental talent.

United Horticultural Benefit and Provident Society.

The monthly committee meeting of this society was held at the Royal Horticultural Hall on Monday, December 13. Mr. C. H. Curtis presided. Four new members were elected, and one nominated. The sum standing to the credit of the late Mr. J. C. Tallack in the society's books, viz., £39 1s. 6d., was granted to his widow. Three members, over 60 years of age were granted their interest, as per Rule 18. Two distressed members were relieved from the benevolent fund. The sick pay since the last meeting was £44 7s.

British Gardeners' Association (London Branch).

The monthly meeting of this branch was held at Carr's Restaurant on December 9. Mr. E. F. Hawes presided.

The financial statement made by the treasurer regarding the smoking concert held on November 27, showed that the total receipts amounted to £4 6s., and the expenses incurred to £1 8s., leaving a balance in hand of £2 18s. This will be used to carry on the work of the branch. The concert having proved such a social and financial success, it was proposed by Mr. Andrews and supported by the chairman and Mr. Winter, that a Bohemian concert be held in March next at Essex Hall. The proposal was favourably received by the meeting, and the matter will be considered by the committee in due course.

It was announced that, as a result of the paper given by Mr. Hawes at last month's meeting, on "State Recognition of Horticulture," a sub-committee has been formed by the executive council with a view to taking some definite action in the matter. Considerable interest was shewn in the answer to the following problem submitted: "An oval bed, 16ft. by 12ft., is to be planted with bulbs placed 6in. apart; how many bulbs will be required?" The answer given by Messrs. Andrew Barnes and Tidy were 600 bulbs; the correct figures being 603.1872.

The Chairman then called upon Mr. Cockram, who gave an address upon "Battersea Park," dealing with its most interesting features. The discussion which followed was taken part in by Messrs. Gorham, Barnes, Winter, Tidy, and Feltham. The meeting concluded with a hearty vote of thanks to the speaker for his interesting paper.

Chester Paxton Society.

The annual general meeting was held on Saturday last, Mr. A. W. Armstrong presiding. The Hon. Secretary and Treasurer (Mr. G. P. Miln), presented a report of the year's transactions. This showed the affairs of the society to be in a healthy condition, both financially and as regards numerical strength. Comment was made on the recent exhibition of fruits and chrysanthemums as being the best and most successful since the inauguration of the society; and also on the satisfactory course of winter lectures.

The respected President (Mr. T. Gibbons Frost, C.C.), was re-elected, as were also the vice-presidents, Major MacGillycuddy, J.P., and Mr. James G. Frost, J.P. Mr. A. W. Armstrong was re-elected chairman of committee, and Mr. G. P. Miln, hon. secretary and treasurer, with Professor R. Newstead, M.Sc., etc., as consulting naturalist. The following were appointed as the local Executive Committee for the ensuing year: Messrs. N. F. Barnes, J. Clack, O. Edwards, W. Evans, T. Gilbert, H. Lawson, W. H. Little, S. May, E. Palin, W. Pringle, W. Reeves, Jos. Ryder, W. Seddon, E. Stubbs, R. Wakefeld, J. Weaver, and J. Wynne. Appointments were also made on the committee for the outlying districts in Cheshire and North Wales.

Bristol Gardeners' Association.

A meeting of this association was held on December 9, at St. John's Parish Rooms, presided over by Mr. E. T. Parker, and supported by Dr. Shingleton Smith. A special feature was a magnificent collection of zonal pelargoniums staged by Messrs. Garaway, containing all the leading varieties, those worthy of special mention being King Victor, Arabic, Cymrix, Hibernia, Carmania, President McKinley, and Duke of Bedford. In addition there was a bamboo stand filled with Improved Raspail. The exhibit was deservedly awarded a special certificate. The lecturer was Mr. Gostling, gardener to Mr. A. G. Groves, Horfield Lodge, who read an interesting paper upon "Manure as the Gardeners' Friend." The lecturer said since the introduction of mechanical traction there was becoming a greater difficulty in obtaining animal manure, consequently artificial manures were in greater demand. Mr. Gostling recommended nitrate of soda for onions and cabbage, and superphosphate for potatoes, he also caused astonishment by naming fir needles as being beneficial as a fertiliser for the latter vegetable. He was questioned as to whether a dressing of turpentine would not have the same result. A good discussion followed, taken part in by the chairman and Dr. Smith, and Messrs. Curtis, Candy, Binfield, Shelton, Scott, Levick, Jennings, Harford, House, Garnish, Holbrook, and Woodward. Hearty votes of thanks were accorded to lecturer and chairman. An invitation was given to the association by Mr. Groves to view his collection of hybrid cypripediums. For two cypripediums Messrs. Gostling, Jennings, and Curtis were placed in the order of their names.

Liliums.—L. Harrisi, L. Longiflorum, L. speciosum, L. auratum, etc., etc., should be potted up as soon as received from the nurseryman, using a compost of good turfy loam with the addition of leaf-soil, silver sand, and broken charcoal to keep it porous; some growers advise the use of peat for liliums, and it may be useful where the loam is of a very close nature, but otherwise it is not necessary. The size of pot they should be potted in must be determined somewhat by the size of the bulbs, and for what they are used when in bloom. For general conservatory use they are either potted singly or three in a pot, though if required for filling large vases when in bloom then from five to nine bulbs may be used. In most cases, room should be left for a top-dresing of soil when the young roots push out from the stem just above the bulb. After potting place in a frame, and water in, afterwards covering the pots with leaf-mould or old fibre. — Thomas Stevenson.

NEW BOOKS.

WARLEY GARDENS IN SPRING AND SUMMER.

By Ellen Willmott, F.L.S., V.M.H. (Bernard Quaritch, 11, Grafton Street, New Bond Street, W.). Price, one guinea net.

Warley Place has long been known far beyond the boundaries of the United Kingdom as the home of the most distinguished lady horticulturist of this or any other country; and its gardens have become famous for their beauty and interest. They are especially remarkable for the large number of rare and beautiful hardy and other plants that have found a home within them, and for the immense amount of pleasure they are so well able to give to those who have the privilege of visiting them when the flowers of spring and summer are yielding the most freely of their varied charms. Knowing how great is the interest that Miss Willmott takes in horticultural matters generally, and that her gardens are veritable treasure houses of choice plants, we are in no way surprised that there should have arisen a strong desire among flower lovers to learn something more about the Warley Gardens than is to be obtained from the plants that are from time to time submitted to public notice at the exhibitions. This desire has not been the outcome of idle curiosity, and we have therefore more than the ordinary degree of pleasure in calling attention to the eminently successful endeavour that Miss Willmott has made to enable the garden-loving community to participate in some degree with her in the pleasures the Warley Place Gardens are so well able to give. The handsome folio containing forty finely-executed illustrations of the more characteristic features is assured of a hearty welcome wherever Miss Willmott and her gardens are known.

The book may not perhaps fully satisfy those who wish to obtain information relating to the Warley Place Gardens beyond that which the remarkably fine illustrations are able to give. We should have enjoyed a description of the gardens, an account of the process of development, and a reference to each of the features illustrated. They would certainly have furnished reading of much interest, and some that would have been useful to those engaged in the solution of the problems involved in the cultivation of many of the more beautiful forms of plant life. There is, however, no occasion to dwell upon this point, and in enjoying the series of illustrations which are from photographs taken by Miss Willmott, the mind is not likely to be diverted from the pleasure they are so well able to afford or the lessons they teach.

The first of the illustrations is that of Warley Place, with its ivy-clad walls and fine old trees that occupy a prominent position in front of the mansion. This is followed by an illustration of a glorious display of crocuses, which is of much interest as showing how delightful is the effect produced by these bulbs when planted in suitable positions. Not less interesting is the picture of daffodils clustering around an old oak in the wild garden. The several views of the rock garden are so beautiful that one could wish they could be referred to in detail, but that not being possible it must suffice to mention those in which dog's-tooth violets, alpine primroses, ramondias, harebells, and mountain pinks are the most conspicuous. Not less beautiful or interesting are the several water scenes, and the illustrations of borders of hardy perennials. One of the finest of the illustrations and certainly one that appeals very strongly to us is that of Nankeen lilies, for in this we have pictorial effect and technical skill combined in a marked degree.

As this is a time for making presents, we would mention that we know of no book that would be more suitable for giving to a friend who takes an active interest in his garden. But probably the majority of those who add it to their library will agree with us that it is essentially a book to buy, and keep, as the enjoyment it affords is not likely to be soon exhausted.

METEOROLOGICAL OBSERVATIONS.

TAKEN IN THE R.H.S. GARDENS AT WISLEY, SURREY.

Height above Sea-level, 150 feet.

Date. 1909. December 12 to December 18.	Sunshine.	Temperature of the Air. At 9 a.m. Dry Bulb.	At 9 a.m. Wet Bulb.	Day Highest.	Night Lowest.
	hr. m.	deg.	deg.	deg.	deg.
Dec. 12—Sunday	—	35	35	42	35
,, 13-Monday......	—	42	41	42	35
,, 14—Tuesday	—	40	38	40	38
,, 15-Wednesday .	—	38	35	38	34
,, 16-Thursday ...	—	33	33	42	33
,, 17-Friday.. ...	0 42	39	39	42	34
,, 18-Saturday ...	2 0	39	38	41	37
Means	(total) 2 42	38	37	41	35

Date. 1909. December 12 to December 18.	Rain.	Temperature of the Soil at 9 a.m. At 1 ft. deep.	At 2 ft. deep.	At 4 ft. deep.	Lowest Temperature on Grass.
	ins.	deg.	deg.	deg.	deg.
Dec. 12—Sunday	0.05	41	42	44	35
,, 13-Monday....	—	41	42	44	35
,, 14—Tuesday......	—	40	43	44	33
,, 15—Wednesday.	0.04	40	43	44	36
,, 16—Thursday ...	0.18	38	42	44	30
,, 17—Friday........	0.54	39	41	44	31
,, 18—Saturday ...	—	40	42	44	36
Means ...	(total) 0 81	39	42	44	34

CATALOGUES RECEIVED.

SUTTON AND SONS, READING.—Splendidly got up, as usual, finely and freely illustrated, the seed catalogue for 1910 is as interesting as any previous issue. The firm's specialities are well portrayed, and there are coloured illustrations of sweet peas and antirrhinums.

JAS. VEITCH AND SONS, LIM., KING'S ROAD, CHELSEA.—In this seed catalogue the Veitchian specialities in vegetables and flowers receive prominent attention, and a large number of these as well as other excellent varieties are illustrated. The descriptions are excellent, and there is a fine coloured plate of new Hybrid Gerberas.

E. WEBB AND SONS, WORDSLEY, STOURBRIDGE.—This new seed catalogue opens with a list of kinds and varieties of vegetables suitable for intensive or French gardening. There are 159 pages of matter, interesting and instructive, and freely illustrated.

DICKSONS, LIM., CHESTER.—A comprehensive catalogue of flower and vegetable seeds, flower roots, and sundries. Well arranged, illustrated, and indexed.

DICKSON AND ROBINSON, CATHEDRAL STREET, MANCHESTER.—In its new seed catalogue this firm makes a special feature of onions, peas, and lettuce, while primulas form a leading item in the extensive flower seed division.

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ANSWERS TO CORRESPONDENTS.

Editorial Communications should be addressed to the Editor of the GARDENERS' MAGAZINE, 148 and 149, Aldersgate Street, E.C.

Secretaries of horticultural societies are invited to send early notification of forthcoming exhibitions and meetings, and are requested to advise us concerning changes of dates.

Specimens of plants, flowers, and fruits for naming or opinion should be sent to the Editor of the GARDENERS' MAGAZINE, "Endsleigh," Priory Park, Kew, Surrey, and as early in the week as possible. All parcels must be sufficiently prepaid.

CHICORY.—A. F. A., Oswestry: Chicory is very useful for winter salads, and it presents no difficulties in the matter of cultivation. Seeds should be sown thinly at the end of June or quite early in July, and the seedlings thinned out as soon as they can be properly handled, to a foot apart. In a hot, dry season a few plants will run to seed, but under good treatment and early thinning the great majority will make strong crowns that will remain, seakale fashion, after the leafage falls away in late autumn. These crowns and roots are lifted and put a few at a time in a mushroom house or other dark comfortably warm place, where they will produce crisp, well blanched leaves that are a fine addition to the salad bowl during winter.

SHREDS FOR WALL TREES.—S. P., Guernsey: Shreds for the purpose of fixing fruit trees, etc., to walls, may be obtained from the various sundriesmen who advertise in our columns. Those so purchased are treated with some preservative that lengthens their life considerably. Where there is time to do so it is a good plan to loosen a good deal of the growth of wall fruit trees each season and re-nail to the wall in regular fashion, at the same time relieving the trees of unnecessary growth. This loosening of the growths also enables the operator to use insecticides if these are necessary, or their uses seem desirable by way of preventive. We think most people cut up old clothes to provide shreds for wall trees.

SWEET PEA TRIALS IN 1910.—T. P., Worcester: We thought this matter had been made quite plain. The National Sweet Pea Society's trials of new sweet peas will be held in 1910 at the Times Experimental Station, Sutton Green, near Guildford, and will be conducted by Mr. Chas. Foster. The charge for new varieties is 2s. 6d. each, and for tests of purity of stock 5s. each; the names of the varieties, together with the charges for the trials, should be sent at once, or at any rate, very early in the New Year, to Mr. C. H. Curtis, hon. secretary, Adelaide Road, Brentford; and the seeds, together with a colour description of each variety, should be sent at the same time to Mr. Foster. Mr. Curtis will send you full particulars and instructions on this and any other matter relating to the N.S.P. Society.

"DRYING OFF" ODONTOGLOSSUMS.—A. F. H., Farningham: The old ideas that all orchids need a very high temperature to grow in, and very dry resting conditions, have long been exploded, and with greater attention to natural conditions, and consequently to cultural requirements, orchid culture is now no awful mystery, but a part and parcel of the routine work in every large establishment that is skilfully managed. The deciduous dendrobiums and the beautiful little pleiones may be instanced as kinds that need a very decided season of rest and dry conditions of root and atmosphere during that period. In the case of odontoglossums, anything approaching a "drying off" process would inevitably result in failure and loss, except with the O. grande group, which do prefer much drier resting conditions, and have a more decided resting period than the rest of the odontoglossums. In the case of O. crispum, and the large number of species and hybrids that are associated with it under cultivation, there is no period of the year when the plants need to be subjected to a dry atmosphere and absence of water at the roots. Even when there is no new growth apparent, and no spikes are being pushed forward, the plants must not be kept dry or they will lose their leaves and have their constitution impaired. At such a time, of course, the amount of water necessary is much smaller than when new growth and new roots are active.

TRIALS OF ROSES.—M. M. G., Leicester: We believe that the only public trial of roses yet conducted were those that attracted so much attention in 1909 in the Bagatelle Gardens, Paris. So far our own National Rose Society has not moved in this matter. If it would hold an independent and public trial of either Hybrid Tea or Rambling roses, we are of opinion the society would be doing excellent work, and the varieties would be judged on their merits in comparison one with the other, and their characters in the matter of continuity of blooming, growth, colour, fragrance, hardiness, etc., could be better gauged thus, by an independent jury, than in any other way.

BOSKOOP GIANT BLACK CURRANT.—W. G., Matlock: Although this variety seems far less liable to the attacks of the black currant bud mite than others, we cannot say that it is entirely immune. It is our experience and the experience of others that the variety does occasionally become attacked lightly. The variety grows strongly and bears freely, and the berries are of fine size. For the garden it is a fine black currant, but we doubt its value for market because the large berries are so luscious that they are liable to break when packed in sieves for market, especially if they have a considerable journey either by road or rail before reaching the market. If you have a local market, then the difficulty disappears.

SMALL FRUIT CULTURE IN SUSSEX.—D. H. D., Crawley: The matter is of very great importance, and would require more space to answer than we can afford under the heading of "Answers to Correspondents." The subject of "Small Fruit Growing in Kent" has been very ably dealt with in detail by Mr. C. H. Hooper in the November (1909) issue of the "Journal of the Board of Agriculture," a copy of which may be obtained through any bookseller or newsagent for 1d. As this contains the kind of information you need, and has reference to the neighbouring county, we advise you to obtain it.

NAMES OF PLANTS.

Under this heading we can only undertake to name species and well marked varieties of plants, and not florists' flowers. Specimens should be packed in stout boxes with damp (not wet) moss, or some leaves, as packing material, to ensure their reaching us in a fresh state. It is essential that flowers must accompany specimens of flowering plants, that fern fronds be fertile, and that numbers be firmly attached to the specimens so that they can be seen without any untying. We cannot promise to name more than six specimens at one time from any one correspondent.

J. G., Levenshulme.—1, Solanum capsicastrum; 2, Ardisia crenulata.

H. P. A., March.—1, Helleborus niger; 2, Physalis Franchetti; 3, Cattleya Trianæ.

L. D. M., Oxford.—1, Salvia angustifolia; 2, Cypripedium insigne; 3, Erica gracilis; 4, Sparmannia africana.

F. P. S., Morpeth.—1, Pelargonium Lady Plymouth; 2, P. crispum; 3, Linum trigynum; 4, Gymnogramma Mayi.

W. F., Norwich.—1, Selaginella cæsia; 2, S. Kraussiana aurea; 3, Zebrina pendula; 4, Phrynium variegatum; 5, Cupressus Lawsoniana; 6, Maxillaria variabilis.

NAMES OF FRUITS.

When sending fruits for naming, will our readers be good enough to send good specimens, as without these it is not possible to accurately determine the varieties. Pack firmly, using light tin or wood boxes, and send not more than six varieties at once. Label each specimen and enclose letter with the fruit, whether a separate notification is sent or not. Address the packages to the Editor, GARDENERS' MAGAZINE, as advised in the notice at the head of "Answers to Correspondents."

E. B., Everton.—1, Norfolk Beefing; 2, Court Pendu Plat.

G. E. C., Weybridge.—1, Newton Wonder; 2, Dutch Mignonne.

O. D. K., Ipswich.—1, Bismarck; 2, Blenheim Pippin; 3, Court of Wick.

S. S. R., Southend.—1, Sykehouse Russet; 2, Golden Noble; 3, Catillac; 4, King of the Pippins.

MARKETS.

COVENT GARDEN.

Flowers.

An excellent demand has prevailed and the market has been particularly busy. Supplies large and good and prices fair.

		s.	d.		s.	d.
Acacia	per bunch	0	9	to	1	0
Adiantum cuneatum	per doz. bun.	3	0		9	0
Arums	per doz.	4	0		6	0
Asparagus	per bun.	1	0		2	0
Azalea, Ghent	per bunch	1	0		1	6
Bouvardia	per bunch	4	0		6	0
Camellias	per doz.	1	6		2	6
Carnations	per doz. blms.	1	0		3	0
,,	per doz. bun.	9	0		12	0
,, Malmaisons	per doz.	6	0		10	0
Cattleyas	per doz.	12	0		14	0
Chrysanthemums	per doz. bun.	3	0		7	0
Croton leaves	per bun.	1	0		2	6
Cypripediums	per doz. blms.	2	0		4	0
Eucharis	per doz.	3	9		4	0
French fern	per doz. bun.	0	6		1	0
Gardenias	per doz.	2	0		3	6
Lapagerias	per doz.	2	0		3	0
Lilac, French	per bun.	4	0		5	0
Lilium auratum	per bun.	2	0		3	0
,, speciosum	per bun.	1	6		3	6
,, longiflorum	per bun.	4	0		8	0
Lily of the Valley	per doz.	8	0		15	0
Marguerites, white	per doz. bun.	3	0		4	0
Mignonette	per doz. bun.	2	0		3	0
Narcissus	per doz. bun.	3	0		6	0
Odontoglossums	per doz. blms.	2	0		2	6
Pelargoniums	per doz. bun.	4	0		8	0
Roman Hyacinths	per doz. bun.	10	0		15	0
Roses	per doz.	1	6		5	0
Smilax	per doz trails	5	0		8	0
Tuberoses	per doz.	0	3		0	4
Violets	per doz. bun.	2	0		4	0

Fruits.

There has been a very brisk demand during the week and large supplies were cleared almost day by day at good prices.

		s.	d.		s.	d.
Apples, English	per bush.	3	6	to	9	0
,, Californian	per case	8	0		10	0
,, Cox's Orange	per ½-sieve	8	0		12	6
,, American	per barrel	12	0		18	0
,, Canadian	per barrel	12	6		23	0
,, Nova Scotian	per barrel	12	6		23	0
Bananas	per bun.	3	0		9	0
Brazil Nuts	per cwt.	33	0		45	0
Cobnuts	per 12lb.	4	6		6	0
Chestnuts	per bag	7	0		10	6
Grapes, English	per lb.	0	8		4	6
,, Guernsey	per lb.	0	6		1	3
,, Almeria	per barrel	12	0		24	0
Lemons	per case	8	0		23	0
Melons, Valencia	per case	4	6		6	0
Oranges, Jamaica	per case	9	0		12	0
,, Jaffa	per case	7	6		10	0
,, Navels	per case	10	0		12	6
,, Denia	per case	12	6		30	0
,, Tangerines	per box	0	8		1	3
Pears, English	per ½-bush.	3	0		5	0
,, French	per crate	5	0		8	0
,, Californian	per case	8	0		12	0
Pineapples	each	1	6		4	6
Walnuts	per 12lbs.	2	0		3	6

LONDON POTATO MARKETS.

There are ample supplies, but trade shows a marked improvement.

		s.	d.		s.	d.
Bedfords	per cwt.	2	6	to	3	6
Blacklands	per cwt.	2	6		2	9
Dunbars	per cwt.	4	6		4	9
Essex Kidneys	per cwt.	2	6		2	9
Kents	per cwt.	2	6		4	0
Lincolns	per cwt.	2	6		2	6
May Queen	per cwt.	3	3		4	0
Puritans	per cwt.	3	0		3	6
Sharpe's Express	per cwt.	2	9		3	6
Up-to-Date	per cwt.	3	3		3	9

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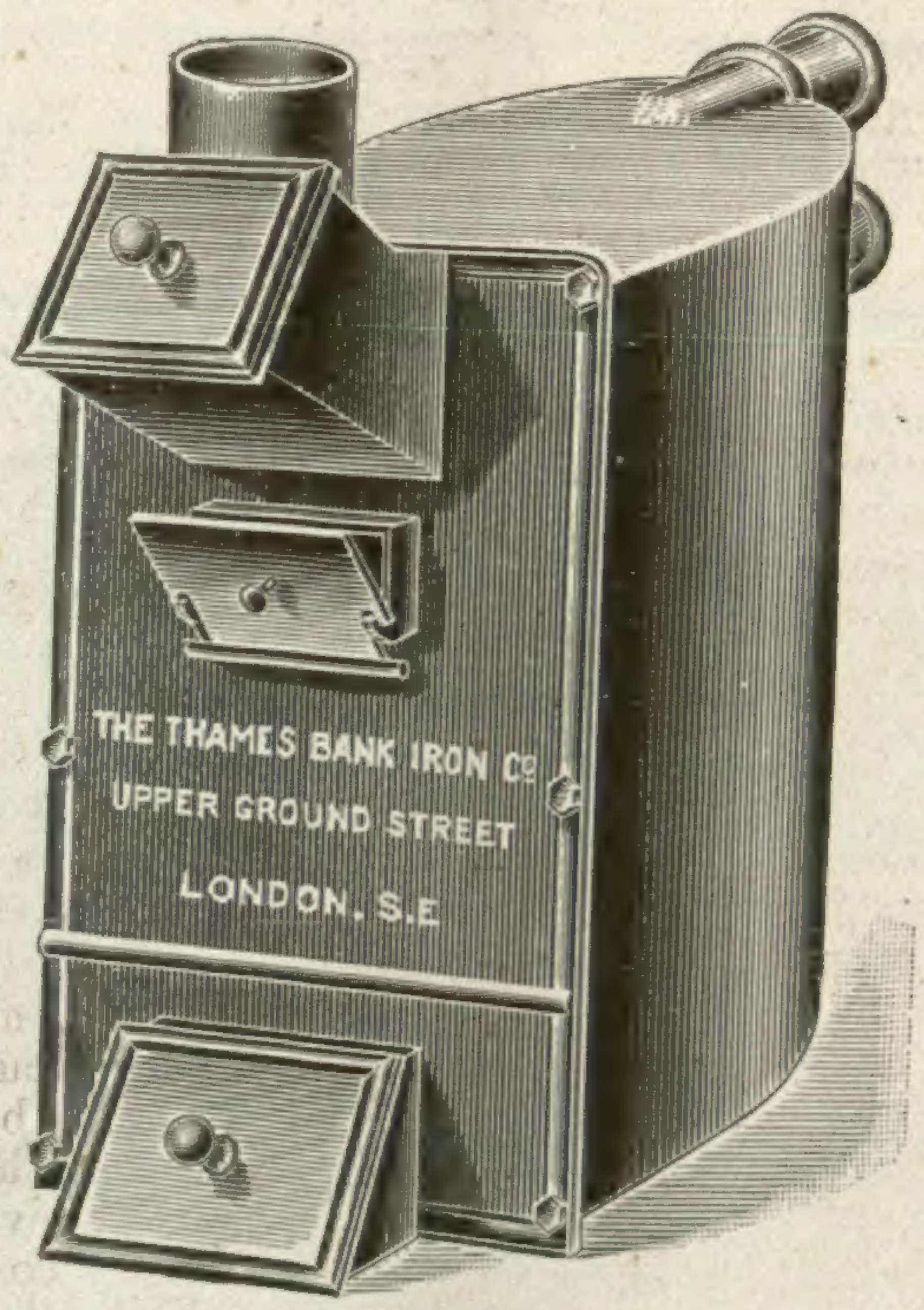

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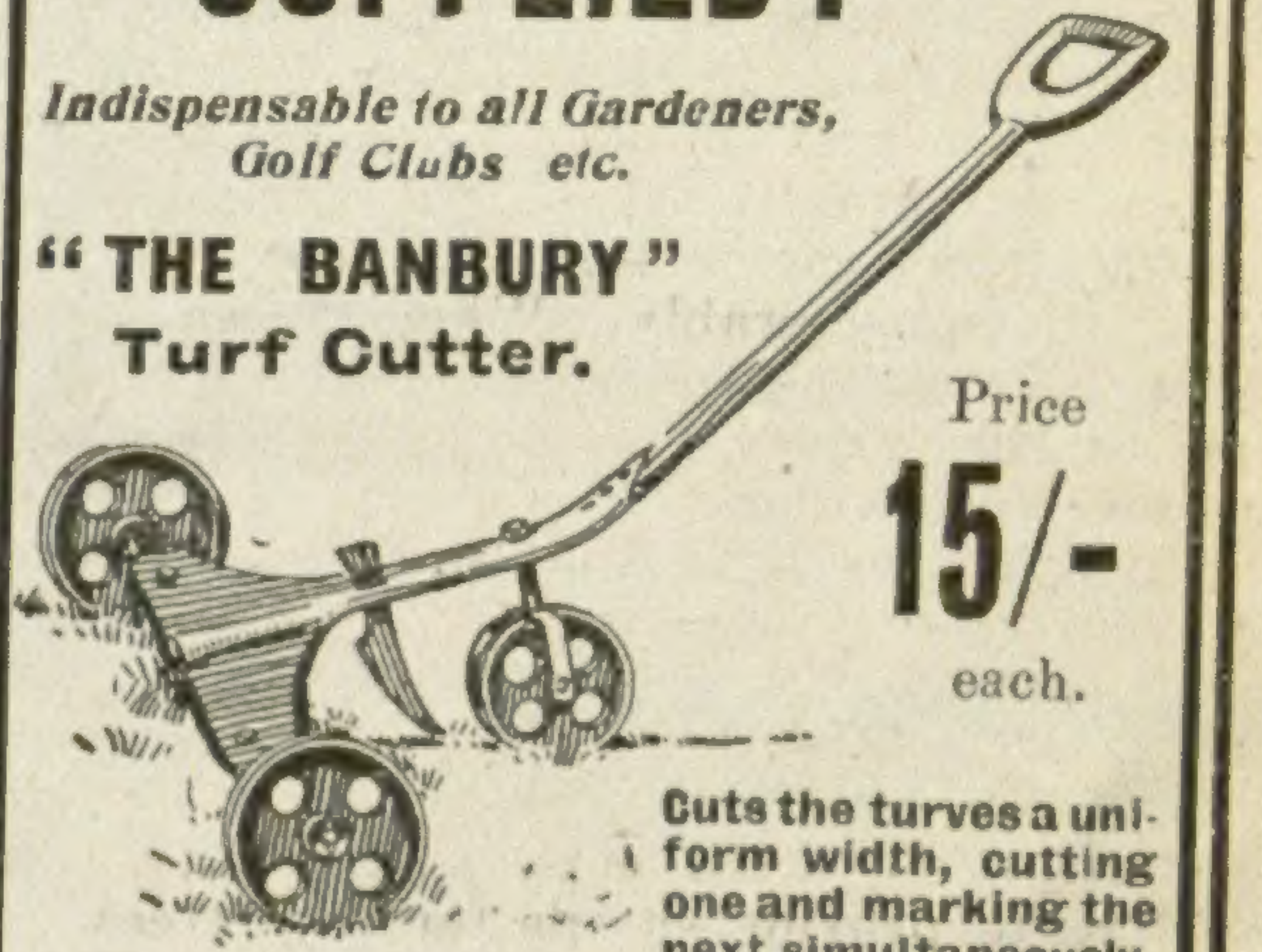

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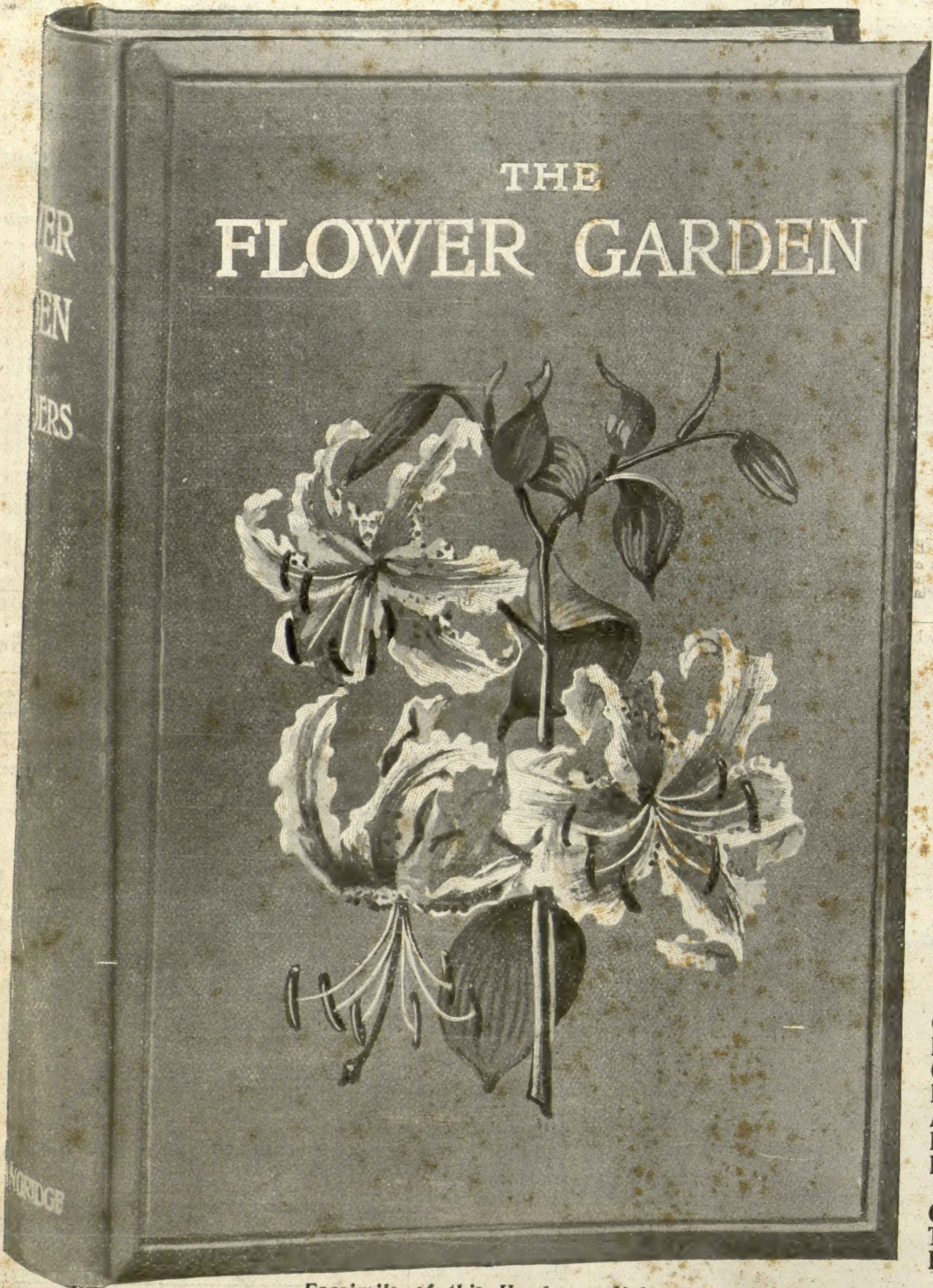

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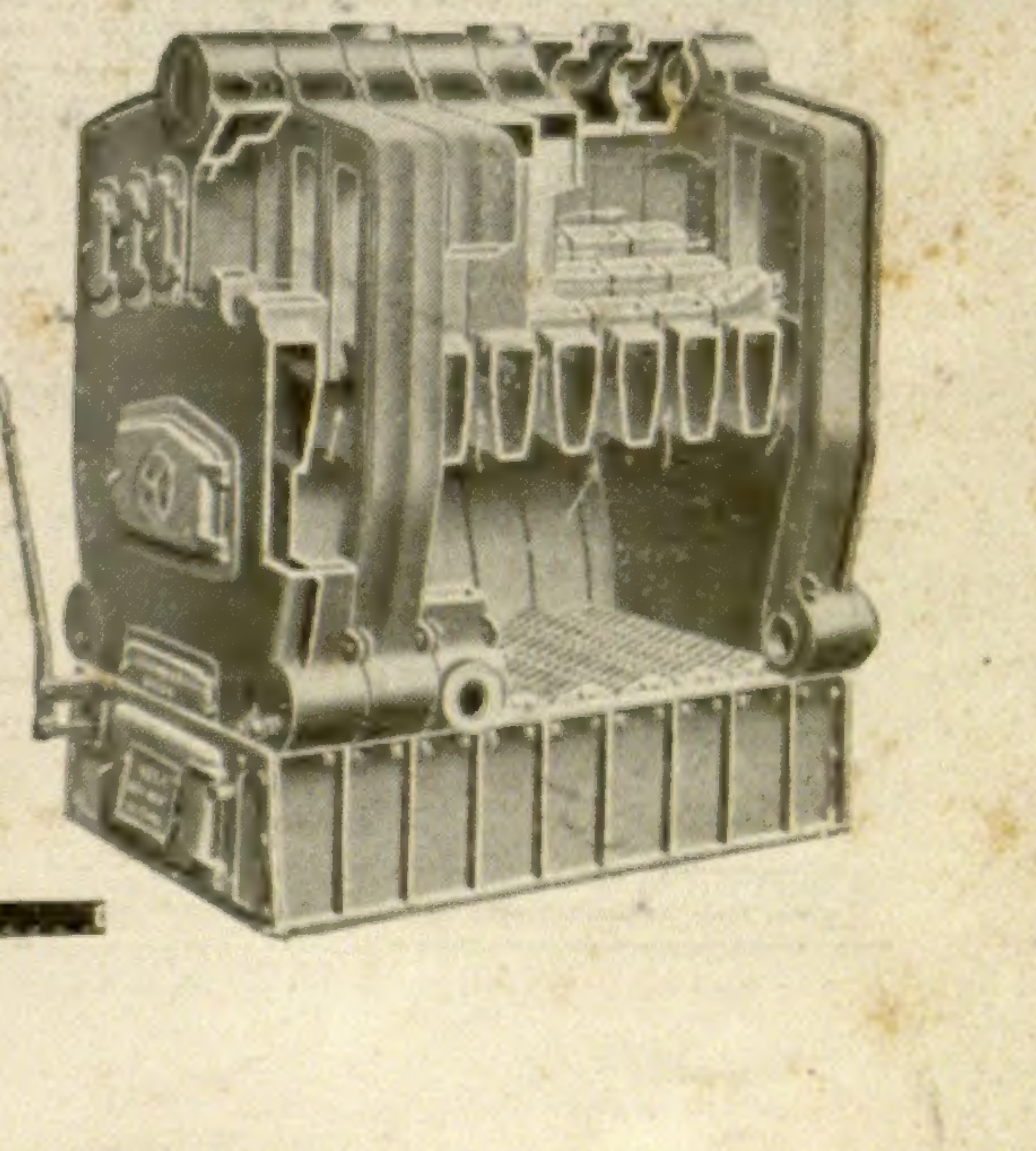

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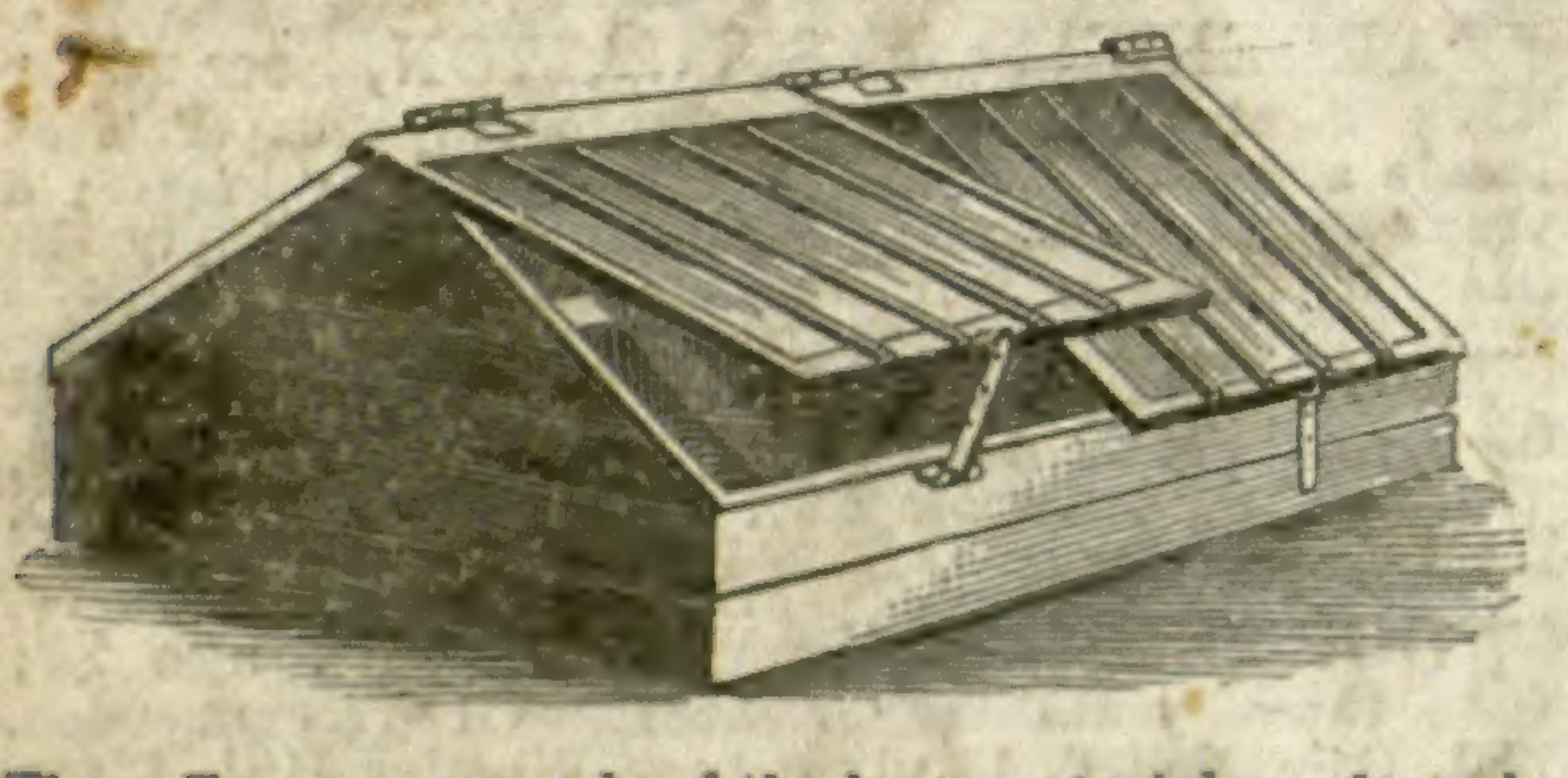

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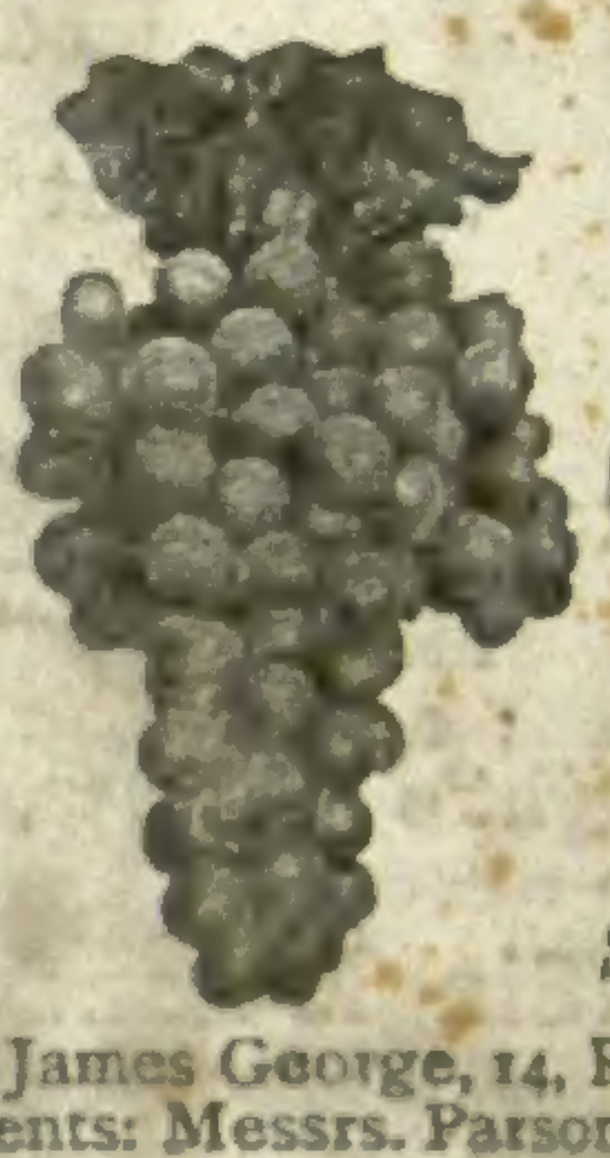

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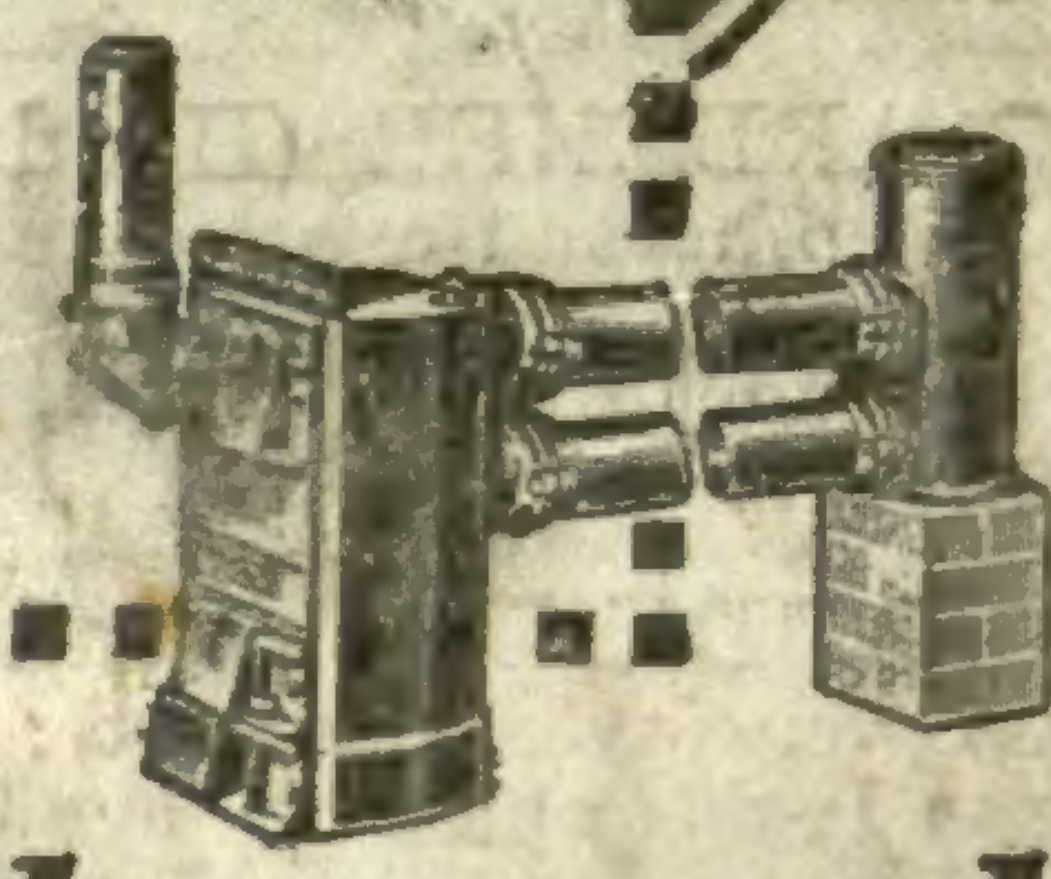

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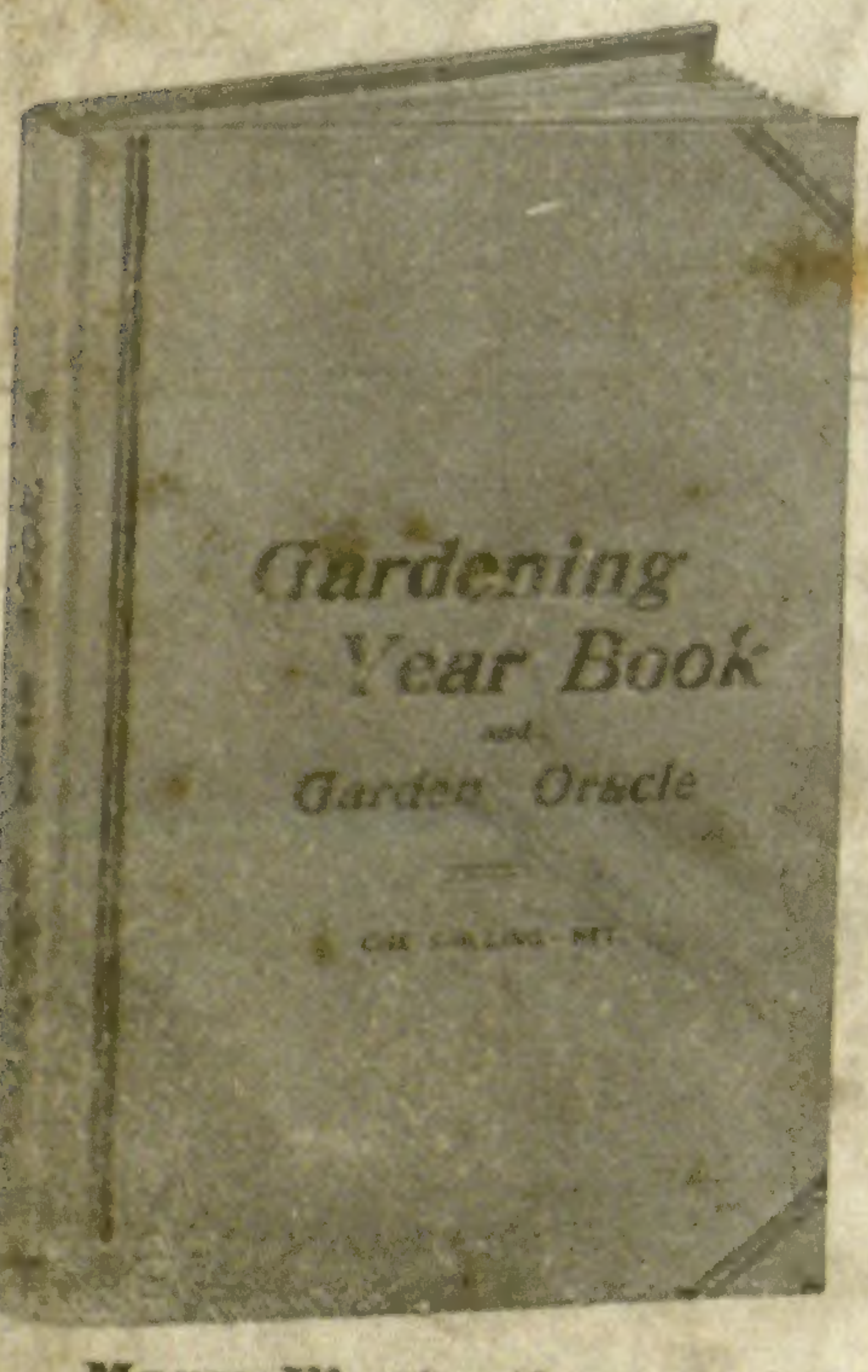
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